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FINAL RCRA FACILITY INVESTIGATION REPORT NAS FORT WORTH TX
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NAVAL AIR STATION
FORT WORTH JRB
CARSWELL FIELD
TEXAS

DEPARTMENT OF THE AIR FORCE
UNITED STATES OF AMERICA
MCMXLVII

ADMINISTRATIVE RECORD
COVER SHEET

AR File Number 671

File:
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FINAL RCRA FACILITY INVESTIGATION REPORT
SWMUS 11, 32, 36, AND 51
NAS FORT WORTH JRB, TEXAS

Prepared for
U.S. Air Force Center for Environmental Excellence
Brooks AFB, Texas

Contract Number F41624-95-D-8005

March 2001

HydroGeoLogic, Inc.
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RESPONSES TO COMMENTS
DRAFT RCRA FACILITY INVESTIGATION REPORT
SOLID WASTE MANAGEMENT UNITS 11, 32, 36, AND 51
NAS FORT WORTH JRB, TEXAS
MARCH 2001

Introduction:

AFCEE conducted a technical review of the subject document submitted by HydroGeoLogic, Inc. The document was reviewed for technical adequacy and completeness. Overall, the document is adequate to meet the scope of work, however there are some issues that should be addressed before it is finalized. These issues are detailed in the following comments.

Specific Comments:

Comment 1 *Page 1-6, Section 1.3.2, third paragraph, last sentence. Please remove the dash after "analyte".*

Response **The change has been made as requested.**

Comment 2 *Figure 2-4. Please change "HM-11" to "HM-111" to be consistent with Cross Section Figure 2-5.*

Response **Figure 2.4 has been changed as suggested.**

Comment 3 *Page 3-9, Section 3.2.4.3, second paragraph, second sentence. If possible, it is recommended that the Phase II Arsenic detection from the WHGLTA030 soil sample be re-analyzed using Method SW7060A as was done for groundwater. This may assist in defending an argument for not delineating the Arsenic detection.*

Response **The Phase II soil sample was collected from WHGLTA030 in May 2000. As a result, the 6-month holding time for the soil sample has expired. However, in order to provide a stronger argument for closure, additional text has been included in Section 6.4. To review this text, please see the response to Comment 5.**

Comment 4 *Page 3-9, Section 3.2.4.4, second paragraph. Please include Method SW7060A in the bulleted list of analyses.*

Response **The change has been made as suggested.**

Comment 5 *Page 6-3, Section 6.4, first sentence. Please indicate whether SPLP analysis was performed on the Phase II delineation Arsenic detection above background.*

Response **SPLP analysis was not performed on the Phase II sample as the result for arsenic (9.4 mg/kg) is below the site specific MSC (14.9 mg/kg) established at SWMU 51. The first paragraph of Section 6.4 has been revised to include the following information for clarity. Section 5.4.1 has also been revised to contain similar text for consistency throughout the document.**

"Concentrations of arsenic were detected at 9.4 mg/kg in both the Phase I surface sample collected from BHGLSWMU51006 and the delineation sample collected from WHGLTA030. These concentrations of arsenic are below the site specific MSC established at SWMU 51 of 14.9 mg/kg. Arsenic was detected below background in the other two Phase II delineation samples collected in the same area, including the delineation sample collected from BHGLSWMU51012 which was advanced in the direction of surface runoff. No concentrations of arsenic were detected above background in samples collected from the 5-foot intervals of the Phase I borings advanced at the site. As a result, no pattern of release for arsenic could be established in the Cluster 1 area of SWMU 51, and further delineation of arsenic was not conducted."

Comment 6 *Page 6-3, Section 6.4, third sentence. It is recommended that the Contractor add a sentence stating that Arsenic was non-detect at the 5-foot interval.*

Response **As arsenic was not detected above background in the 5-foot intervals of the Phase I soil borings, samples were not collected at the 5-foot interval for arsenic during Phase II. However, the text in Section 6.4 has been revised to include a statement that there were no detections of arsenic in the 5-foot intervals of the Phase I borings. Please see the response to Comment 5 for an example of the revised Section 6.4 text.**

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS AIR FORCE CENTER FOR ENVIRONMENTAL EXCELLENCE
BROOKS AIR FORCE BASE TEXAS

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23 March 2001

MEMORANDUM FOR RAY RISNER (TNRCC)

FROM: HQ AFCEE/ERD
P.O. Box 27008
Fort Worth, Texas 76127-0008

SUBJECT: Naval Air Station Joint Reserve Base
Formerly Carswell AFB
TNRCC Solid Waste Registration No. 65004
TNRCC Hazardous Waste Permit No. HW-50289
EPA ID No. TX0571924042
Final RCRA Facility Investigation Report,
SWMUs 11, 32, 36, and 51, NAS Fort Worth JRB, Texas

Dear Mr. Risner,

Two copies (one original and one copy) of the Final RCRA Facility Investigation Report requesting closure of Solid Waste Management Units 11, 32, 36, and 51 are enclosed for your review per the TNRCC RCRA permit No. HW50289 for NAS Fort Worth JRB, Texas. Additional copies of the Final Report are also being sent to the TNRCC Region 4 Office and to EPA Region 6.

Should you have any questions regarding this letter, please contact me at (817) 782-7167.

Sincerely,

Michael R Dodyk

Michael R Dodyk, P.E.
Restoration Team Chief
NAS Ft. Worth JRB

Printed on Recycled Paper

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TNRCC Region IV
Tim Sewell (letter only)

FINAL RCRA FACILITY INVESTIGATION REPORT SWMUS 11, 32, 36, AND 51 NAS FORT WORTH JRB, TEXAS

Prepared for

U.S. Air Force Center for Environmental Excellence
Brooks AFB, Texas

Contract Number F41624-95-D-8005

Prepared by

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March 2001

REPORT DOCUMENTATION PAGE

Form Approved

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13 ABSTRACT (Maximum 200 words)

This document presents the Final RCRA Facility Investigation Report for SWMUs 11, 32, 36, and 51, located at the Naval Air Station Fort Worth Joint Reserve Base, Texas. Field observations and analytical results included in this RFI Report indicate that a release of hazardous constituents listed in 40 Code of Federal Regulations Part 264, Appendix IX has not occurred to the environment at SWMUs 11 and 36. There is some evidence of release at SWMUs 32 and 51; however, analytical results indicate that these releases pose no threat to human health or the environment Based on this information, no further action is warranted, and the subject sites are recommended for closure.

14 SUBJECT TERMS	15 NUMBER OF PAGES
	16 PRICE CODE

17 SECURITY CLASSIFICATION OF REPORT	18 SECURITY CLASSIFICATION OF THIS PAGE	17 SECURITY CLASSIFICATION OF ABSTRACT	20 LIMITATION OF ABSTRACT

PREFACE

This document contains the Final Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) Report for solid waste management units (SWMUs) 11, 32, 36, and 51 at the Naval Air Station (NAS) Fort Worth Joint Reserve Base (JRB), Texas.

HydroGeoLogic, Inc. (HydroGeoLogic) prepared this report under contract to the U.S. Air Force (USAF) Center for Environmental Excellence (AFCEE), Contract No. F41624-95-D-8005, Delivery Order No. 0015, in support of the Air Force Installation Restoration Program (IRP).

Responsible key HydroGeoLogic personnel are as follows:

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This contract will be administered by the Defense Contract Management Command (DCMC), 10500 Battleview Parkway, Suite 200, Manassas, Virginia, 22110. The Contracting Officer is Mr. Cliff Trimble. The Contracting Officer's Representative is Mr. Don Ficklen (210/536-5290), representing the AFCEE Environmental Restoration Division (ERD), located at Headquarters AFCEE, 3207 North Road, Brooks Air Force Base (AFB), Texas 78235-5363.

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LIST OF ACRONYMS AND ABBREVIATIONS

AFB	Air Force Base
AFBCA	Air Force Base Conversion Agency
AFCEE	U.S. Air Force Center for Environmental Excellence
AFP 4	Air Force Plant 4
AGE	aerospace ground equipment
AOC	area of concern
ASTM	American Society for Testing and Materials
bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene, and xylenes
CFR	Code of Federal Regulations
cm/sec	centimeters per second
COPC	contaminant of potential concern
CSM	conceptual site model
DCMC	Defense Contract Management Command
DPT	direct push technology
DQE	data quality evaluation
DQO	date quality objective
DRMO	Defense Reutilization and Marketing Office
EDD	electronic data deliverable
EDS	Environmental Data Services, Inc.
ERA	Environmental Restoration Account
ERD	Environmental Restoration Division
ERPIMS	Environmental Resources Program Information Management System
ft/d	feet per day
°F	degrees Fahrenheit
gpd/ft^2	gallons per day per square foot
HW	hazardous waste
HSA	hollow-stem auger
HydroGeoLogic	HydroGeoLogic, Inc.
IRP	Installation Restoration Program
IT	International Technologies Corporation

LIST OF ACRONYMS AND ABBREVIATIONS (continued)

JP-4	jet propulsion (grade-4) fuel
JRB	Joint Reserve Base
LCS	laboratory control samples
MEK	methyl ethyl ketone
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
MQL	method quantitation limit
MSC	medium-specific concentration
MS/MSD	matrix spike/matrix spike duplicate
NAS	Naval Air Station
NFA	no further action
NGVD	National Geodetic Vertical Datum
NPDES	National Pollution Discharge Elimination System
OVM	organic vapor monitor
OWS	oil/water separator
PAH	polynuclear aromatic hydrocarbon
PCB	polychlorinated biphenyl
PD-680	petroleum naphtha
PST	petroleum storage tank
QAPP	quality assurance project plan
QA	quality assurance
QC	quality control
RCRA	Resource Conservation and Recovery Act
RFA	RCRA Facility Assessment
RFI	RCRA Facility Investigation
RRS	risk reduction standard
SDG	sample delivery group
SPLP	Synthetic Precipitation Leaching Procedure
SVOC	semivolatile organic compound
SWMU	solid waste management unit
TARA	Toxicology and Risk Assessment
TCE	trichloroethene
TNRCC	Texas Natural Resource Conservation Commission

LIST OF ACRONYMS AND ABBREVIATIONS (continued)

TPH	total petroleum hydrocarbons
TWC	Texas Water Commission
USAF	U.S. Air Force
USEPA	U.S. Environmental Protection Agency
VOC	volatile organic compound
WAA	waste accumulation area
WP	work plan

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TAB

SECTION 2.0

FINAL RCRA FACILITY INVESTIGATION REPORT
SWMUs 11, 32, 36, and 51
NAS FORT WORTH JRB, TEXAS

1.0 INTRODUCTION

The Texas Natural Resource Conservation Commission (TNRCC) requested that the USAF investigate SWMUs located at what is currently NAS Fort Worth JRB, Fort Worth, Texas. NAS Fort Worth JRB was formerly known as Carswell AFB. The TNRCC requested that an RFI be conducted at SWMUs 11, 32, 36, and 51 to determine whether any hazardous constituents listed in 40 Code of Federal Regulations (CFR) Part 264, Appendix IX have been released into the environment. Phase I of the RFI field effort consisted of soil characterization and was originally conducted at the subject sites in May and June of 1999. Based on the results of the original investigation, Phase II soil sampling was performed in April 2000. Groundwater monitoring wells were installed and sampled during the Phase II investigation in May 2000, and a second round of groundwater samples were collected in October 2000. Field observations and analytical results included in this RFI Report indicate that a release of hazardous constituents listed in 40 Code of Federal Regulations Part 264, Appendix IX has not occurred to the environment at SWMUs 11 and 36. These two SWMUs are recommended for no further action (NFA) and closure under risk reduction standard (RRS) 1. There is some evidence of release to soils at SWMUs 32 and 51; however, analytical results indicate that these releases pose no threat to human health or the environment. Based on this information, NFA is warranted, and SWMUs 32 and 51 are recommended for closure under RRS 2.

1.1 PROJECT BACKGROUND

Carswell AFB was officially closed on September 30, 1993. A parcel of the former base, now known as NAS Fort Worth JRB, has been transferred from USAF to U.S. Navy management. Before complete property transfer can be accomplished, required environmental investigations of potential contamination related to USAF activities occurring prior to September 30, 1993 on NAS Fort Worth JRB property are to be completed, and contaminated sites remediated.

On February 7, 1991, the former Carswell AFB (NAS Fort Worth JRB) was issued a RCRA hazardous waste (HW) permit (HW-50289) by the Texas Water Commission (TWC). This permit requires a RFI of all SWMUs and areas of concern (AOCs) listed in Permit Provision VIII, as well as those SWMUs and AOCs subsequently added to the list, in order to determine whether any of the hazardous constituents listed in 40 CFR Part 264, Appendix IX have been released into the environment.

In accordance with permit HW-50289, an RFI was conducted on a total of 14 SWMUs and 2 AOCs at NAS Fort Worth JRB, Texas (HydroGeoLogic, 1999a). The SWMUs and AOCs included in the RFI served mainly as waste accumulation areas (WAAs), which stored HW

before it was either disposed of in landfills, reused on base, or processed through the Defense Reutilization and Marketing Office (DRMO) for off-base recycling or disposal.

The initial phase of the RFI was conducted at the subject SWMUs during May and June of 1999 in an effort to obtain closure under the TNRCC RRS program. As a result of the initial field investigation, 9 of the 16 sites required further investigation and/or remediation before closure could be requested. As a consequence, a second round of sampling was conducted at SWMUs 5, 6, 11, 12, 31, 32, 36, 51, and 61 in April, May, and October 2000. Four of these sites, SWMUs 11, 32, 36, and 51, are the subject of this RFI Report.

This RFI Report demonstrates that SWMUs 11, 32, 36, and 51 pose no significant risk to human health or the environment and provides justification for NFA and closure in accordance with RRS guidelines. SWMUs 11 and 36 show no evidence of a release to the environment, and are recommended for closure under RRS 1. Although there is some evidence of release to the soils at SWMUs 32 and 51, these releases have been delineated and pose no significant risk to human health or the environment. As a result, SWMUs 32 and 51 are recommended for closure under RRS 2. This investigation was managed by the USAF under the Environmental Restoration Account (ERA). The primary regulatory programs that govern the RFI and closure of these sites are RCRA and the TNRCC RRS program. The TNRCC is the lead regulatory agency for activities conducted at the subject sites.

1.2 SITE IDENTIFICATION AND DESCRIPTION

The areas of interest for this RFI Report are four SWMUs located throughout the NAS Fort Worth JRB installation. The SWMUs listed below are identified as they appear on the TNRCC letter dated March 2, 1995.

- SWMU 11 (Building 1617 WAA)
- SWMU 32 (Building 1410 WAA)
- SWMU 36 (Building 1191 WAA)
- SWMU 51 (Building 1190 Central Waste Holding Area)

SWMUs 32 and 36 were listed in permit HW-50289 for corrective action; SWMU 51 was added to the permit in the TNRCC letter dated April 22, 1994. The March 2, 1995, TNRCC letter to the Air Force Base Conversion Agency (AFBCA) listed all of the sites, including SWMU 11, for inclusion into the permit requirement for investigation and/or corrective action.

In 1990, new metal storage sheds designated as WAAs were built at SWMUs 11, 32, and 51 in order to be in compliance with Permit HW-50289. Each storage shed was assigned a new, individual building number. These new WAA buildings are listed on Table 1.1 along with a summary description of each SWMU. The new WAA buildings at SWMUs 11 and 32 are currently used for the storage of HW. Although not a designated storage area, SWMU 36 continues to serve as a storage location for waste oil and fuel containers under Navy management. Following the 1989 RCRA Facility Assessment (RFA), wastes were removed

from SWMU 51 (A.T. Kearney, 1989). SWMU 51 no longer serves as an active WAA at NAS Fort Worth JRB.

The location each SWMU in relation to the base is presented on Figure 1.1. Table 1.1 provides a summary description of the waste handled at each SWMU and lists the current status of each site.

1.2.1 SWMU 11

SWMU 11 is located adjacent to Building 1617 at the intersection of D and 1st Streets. This SWMU, which has operated from approximately 1982 to the present, was described as an outdoor container storage area for wastes generated by operations within Buildings 1617 and 1619.[1] Building 1617 housed the paint shop and the electronics shop. Paint shop personnel painted B-52s, KC-135s, and FB-111 training units. Waste paints (polyurethane, 120 gallons/year; enamel, 60 gallons/year) and thinners (120 gallons/year) were stored in a plastic drum at the WAA and were disposed of as HW. The electronics shop produced printed circuit boards. This process generated approximately 96 gallons per year of a waste solution consisting of 1 part sodium persulfate to 7 parts water each year. This waste solution was stored in a plastic drum at the accumulation site and was disposed of as HW. In addition, an unspecified amount of spent etchant was also stored at SWMU 11 (USAF, 1989).

SWMU 11 consisted of an uncovered 8- by 5-foot concrete pad surrounded by a wooden fence. Fifty-five gallon drums were stored on top of two wooden pallets. Waste from this area was transferred by truck to the central waste holding area (SWMU 51) (A.T. Kearney, 1989). The current shed, WAA 1618, was built on top of the former site and is currently managed by the 301st Air Reserve. Past and current photographs of SWMU 11 are shown in Figure 1.2.

1.2.2 SWMU 32

SWMU 32 is located southeast of Building 1410, between Perimeter Road and 3rd Street. This SWMU operated from the early 1940s to the present and managed waste generated by the battery shop, the engine shop, the bearing shop, and the wheel and tire shop located within Building 1410. The engine shop, which was responsible for the repair of TF33-P3 and J57 engines, was equipped with a 25-gallon petroleum naphtha (PD-680) tank and a 30-gallon Safety Kleen tank. The shop also used a fuel manifold test stand containing 10 gallons of calibrating fluid that was collected in a 500-gallon bowser located at the former SWMU. The bearing shop was equipped with five 7-gallon tanks containing the following: carbon remover, PD-680, fingerprint remover, and 7808 oil. These tanks were changed on a monthly basis. All oil-based chemicals were placed in the 500-gallon bowser and the PD-680 and carbon remover were drummed separately. These shops generated approximately the following amounts of wastes each year: 550 gallons of 7808 engine oil, approximately 200 gallons of carbon and

[1] Although the 1989 RFA did not associate Building 1619 with SWMU 11, Alan Flolo from the AFBCA confirmed its association.

fingerprint remover, 300 gallons of PD-680 (Type II), 125 gallons of waste jet propulsion (grade-4) fuel (JP-4), 60 gallons of stripper, 24 gallons of hydraulic fluid, and unspecified amounts of calibrating fluid, trichloroethene (TCE), and SE-377E™. Waste battery electrolyte, generated at the battery shop, was neutralized and disposed of down the sanitary sewer (USAF, 1989).

SWMU 32 was an outdoor, uncovered container storage area with a concrete base approximately 1 foot thick. The waste from the Engine Shop was stored in 55-gallon drums on top of wooden pallets along with waste from the wheel and tire shop. In addition to the 55-gallon drums, this unit also contained a 500-gallon tank. Sand bags piled two high were stacked along the perimeter of the unit. Wastes from this unit were disposed of by contractor removal through DRMO (A.T. Kearney, 1989). A new storage shed, WAA 1415, was built on top of the northern end of the former SWMU in 1990, and is currently used by the Marines. Past and current photographs of SWMU 32 are shown in Figure 1.3.

1.2.3 SWMU 36

SWMU 36 is located on Haile Drive, southeast of Building 1191 in the corner of the parking lot. This SWMU stored waste from two shops located in Building 1191 identified as the vehicle maintenance shop and the allied trades shop. In addition, SWMU 36 also received waste from the fire truck maintenance shop within Building 1425, and the vehicle maintenance shop inside Building 1065. Vehicle maintenance shop personnel maintained government vehicles and heavy equipment. 7808 Engine oil (1,800 gallons/year), waste oils and transmission fluids (3,000 gallons/year), hydraulic fluids (384 gallons/year), waste fuel (240 gallons/year), mogas (75 gallons/year), and waste antifreeze (600 gallons/year) were emptied from the vehicles into pans that were then emptied into 55-gallon drums designed to hold each individual waste. Once full, the drums were taken to the central waste holding area (SWMU 51). A waste oil contractor pumped waste oil out of the drums at the accumulation site. Waste fuel and approximately 300 gallons/year of battery acid were sent to DRMO for disposal. According to a 1989 investigation, the waste antifreeze was kept on-site until the City of Fort Worth Wastewater Treatment Plant approved its disposal into the sewer system. Allied trades shop personnel performed vehicle body work and painting. Waste paints and thinners (120 gallons/year), and PD-680 (Type II) (150 gallons/year), were drummed and disposed of as HW along with the wastes from the vehicle maintenance shop.

Fifty-five gallon drums containing leaded and unleaded waste oil, mogas, and antifreeze were formerly stored at SWMU 36. Some drums rested on pallets while others were placed directly on the asphalt parking lot (USAF, 1989). Although this area is no longer a designated WAA, drums of waste fuel materials were noted during the 1999 Phase I investigation. Although no drums were observed in this area during 2000 field activities, wheeled containers identified as "Diesel Fuel," "Unleaded Gasoline," and "Contaminated Fuel Oil" were present at the site. The wheeled containers appear to be well maintained, and no staining or odors were noted in the immediate area. Past and current photographs of SWMU 36 are shown in Figure 1.4.

1.2.4 SWMU 51

SWMU 51 was located within the fenced area surrounding Building 1190 at the intersection of Knights Lake Road and Warehouse Street. This SWMU was used as a central waste holding area until construction was completed for a DRMO storage facility. Fifty-five gallon waste drums were grouped in three different clusters within the fenced area. Cluster 1, located next to the western fence, comprised approximately 50 empty drums, which may have contained traces of solvents, fuels, and oils used on base. Cluster 2, located in the center of the fenced area, consisted of approximately 60 drums of wastewater from facility monitoring wells. Cluster 3, located adjacent to the Building 1190 oil/water separator (OWS) (SWMU 52), consisted of approximately 15 drums containing, PD-680 and xylene, placed on wooden pallets on top of asphalt (A.T. Kearney, 1989). A new storage shed, WAA 1189, was built on top of the Cluster 2 area in 1990. There is no waste currently stored in this area. Past and current photographs of SWMU 51 Clusters 1, 2, and 3 are shown in Figures 1.5a, b, and c, respectively.

1.3 REGULATORY REQUIREMENTS

The overall objective of this project is to obtain closure of the subject SWMUs under the TNRCC RRS program. An overview of the RRS program is presented in Section 4.1 of the RFI Work Plans (WPs) (HydroGeoLogic, 1999a). In addition, the SWMUs at NAS Fort Worth JRB are subject to the specific requirements of RCRA Permit HW-50289. These sites are typically very small and each SWMU only received wastes produced from the industrial practices conducted within the associated building. As a result, a large soil boring network and the full suite of Appendix IX analyses were not justified at the majority of these sites. The Air Force has provided justification for a reduced list of soil and groundwater analytical requirements for this RFI in a letter to the TNRCC dated April 20, 1999. This letter is included as Appendix A.

The RFI was designed to meet the requirements of Permit Provision VIII of RCRA permit HW-50289. The RFI WPs and this RFI Report have been prepared using guidance documents from the IRP, RCRA, the U.S. Environmental Protection Agency (USEPA), and the TNRCC RRS program.

1.3.1 Project Documents

This RFI was conducted in accordance with the RFI WPs prepared by HydroGeoLogic dated May 1999 (HydroGeoLogic, 1999a) and the WP Addendum dated April 2000 (HydroGeoLogic, 2000a). The RFI WPs contain the Field Sampling Plan, which was followed during all sampling activities. The Final Basewide Quality Assurance Project Plan (QAPP), prepared by HydroGeoLogic dated February 1998 (HydroGeoLogic, 1998), was used as guidance for managing specific quality assurance (QA) and quality control (QC) procedures as well as analytical data generated from the original May/June 1999 RFI. The 1998 QAPP was revised and reissued in March 2000 as the Final 2000 Basewide QAPP (HydroGeoLogic, 2000b), and this was the QA/QC guidance document used for the May, June, and October

follow-on RFI activities. Project analytical data generation and assessment were designed to achieve data quality goals in accordance with the applicable edition of the Basewide QAPP.

1.3.2 Risk Reduction Standards

To determine if a release has occurred at any of the SWMUs, the results from samples collected from the sites were compared to predetermined RRS 1 values. For metals, the RRS 1 values were obtained from the base-specific background values for groundwater, surface soils, and subsurface soils as presented in the Final Basewide Background Study (Jacobs, 1998). For organic analytes, RRS 1 values were determined using compound-specific method quantitation limits (MQLs), as defined in the TNRCC Interoffice Consistency Memorandum (TNRCC, 1998a) and its Erratum Sheet (TNRCC, 1998b).

The Texas Risk Reduction Rules (30 TAC §335 Subchapter S) require that any analytes detected at concentrations above the applicable RRS 1 value be compared to available medium-specific concentrations (MSCs). The MSCs presented in tabular form in 30 TAC §335.368 are used to determine if detected contaminants pose a threat to human health or to shallow groundwater. Based on the anticipated future site uses and practices at SWMUs 11, 32, 36, and 51, the RRS 2 values used for these SWMUs were the groundwater MSCs for industrial use and the soil MSCs for industrial use based on groundwater protection. Note that no MSC has been established for total petroleum hydrocarbons (TPH). The RRS 2 value used for TPH was derived from the TNRCC action level for coarse-grained soils from the Petroleum Storage Tank (PST) Division (TNRCC, 1996a).

In some instances during the RFI, analytes were detected at a site above both the RRS 1 value and the soil MSC for groundwater protection. In selected cases, the Synthetic Precipitation Leaching Procedure (SPLP) was performed on aliquots of the affected samples, and the resulting extracts were analyzed. If all results for SPLP extracts at a site were below the analyte industrial groundwater MSC, a site-specific soil MSC for groundwater protection was developed for that analyte. This analyte and site-specific soil MSC was set to the value of the highest detection of that analyte in any site sample.

1.4 INVESTIGATION STRATEGY

The RFI was designed and conducted to achieve the following objectives:

- Determine if a release from any of the SWMUs has occurred.
- To characterize the nature and extent of any contamination encountered; if necessary, additional rounds of sampling were performed to accomplish this objective.
- If necessary, utilize SPLP to provide site-specific MSCs.

Prior to initiating the intrusive investigation at the subject sites, the structural integrity of each WAA storage shed's walls and floors was examined for cracks or gaps. As each shed's integrity appeared to be intact, intrusive activities did not take place within any of the WAA storage sheds.

Field tasks used to characterize each site included advancing continuous-core direct push technology (DPT) soil borings in order to collect soil samples. This soil sampling method was used to determine the lithology of native soils and the nature and extent of any surface and subsurface contamination. At sites where a WAA storage shed was built over a former SWMU, the soil borings were placed as close to the shed's walls as possible.

Phase I soil samples were collected from each soil boring in 5-foot intervals from the ground surface to the top of the water table in order to determine the nature and extent of any surface and subsurface contamination. During Phase II, additional soil samples were collected in order to provide additional site data in order to confirm Phase I detections or to delineate specific contaminants of potential concern (COPCs) to RRS 1 concentrations. Phase II soil samples were collected at the depth intervals associated with the corresponding Phase I detections.

During Phase II of the RFI, a total of six monitoring wells were installed using a hollow-stem auger (HSA). As these sites are very small, one monitoring well was installed downgradient at each of SWMUs 11, 32, and 36, and three monitoring wells were installed downgradient from SWMU 51. Soil samples were collected during the installation of each monitoring well for COPCs associated with Phase I detections. Two rounds of groundwater samples were collected from both new and existing wells at each site. Groundwater samples were analyzed for those COPCs identified in the Phase I soils.

As previously noted, each SWMU received various types and amounts of HW throughout its respective period of operation. In order to determine if the subject SWMUs present a threat to human health or the environment, essential information regarding each site was obtained. This information includes:

- The lithology of soils to the top of the water table or refusal beneath each SWMU.
- The nature of wastes stored at each SWMU.
- An assessment of potential contaminant impacts on the quality of soil and groundwater within and around each SWMU.

1.5 DATA QUALITY OBJECTIVES

The data generated by this project are of sufficient quality and quantity to meet the overall project objective, which is to determine if a release has occurred at any of the subject sites, to determine if any identified releases have an impact on human health and the environment, and

to request closure of SWMUs 11, 32, 36, and 51 under the TNRCC RRS program. Data from the following categories were required for this study:

Site Characterization - Data were used to evaluate physical and chemical properties of soil and groundwater. The data were also used to characterize the nature and extent of any contaminants detected.

Health and Safety - Data were used to establish the level of protection needed for the sampling team and other site-related personnel. These data were gathered by the use of organic vapor monitors (OVMs) during intrusive activities.

A combination of screening level data and definitive level data was used during this RFI. Health and safety data were collected as screening data. All field samples were analyzed following USEPA SW846 protocols. The definitions of screening data and definitive data, as established by the Data Quality Objectives Process for Superfund Interim Final Guidance (USEPA/540/G-93/071, 1993) are described below:

- Screening Data with Definitive Confirmation - Screening data can be generated by rapid, less precise methods of analysis with less rigorous sample preparation. Sample preparation steps may be restricted to simple procedures such as dilution with a solvent, instead of elaborate extraction/digestion and cleanup. Screening data provides analyte identification and quantification. Although the quantification may be determined using analytical methods with QA/QC procedures and criteria associated with definitive data, screening data without associated confirmation data are not considered to be data of known quality.

- Definitive Data - Definitive data were generated using rigorous analytical methods, such as approved USEPA reference methods. Data are analyte-specific, with confirmation of analyte identity and concentration. These methods produce tangible raw data (e.g., chromatograms, spectra, digital values) in the form of paper printouts or computer-generated electronic files. Data may be generated at the site or at an off-site location, as long as the QA/QC requirements are satisfied. For the data to be definitive, either analytical or total measurement error must be determined.

The methods of analysis selected for samples collected from NAS Fort Worth JRB produced screening as well as definitive data. The data generated by the laboratory analysis of samples were sufficiently sensitive to allow comparison of the results to the TNRCC RRS. The 1998 and 2000 Basewide QAPPs describe each analytical method that was performed as part of the investigation and outlines the QA measures followed by the contract laboratory. A data quality assessment of the analytical data collected during this RFI is presented as Appendix B.

1.6 REPORT ORGANIZATION

The remainder of this document is divided into the following sections:

Section 2.0 summarizes the installation and site-specific environmental settings for this RFI.

Section 3.0 summarizes activities that were conducted during this RFI. These activities included inspection of each WAA storage shed and the collection of soil and groundwater samples for analysis.

Section 4.0 presents the results of the RFI and assesses the potential releases to the environment.

Section 5.0 presents a discussion and evaluation of the results presented in Section 4.0.

Section 6.0 presents the conclusions of the RFI and recommendations for closure based on the results presented in Section 4.0.

Section 7.0 presents the references associated with the preparation of this report.

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TABLES

Table 1.1
Current SWMU Summary
NAS Fort Worth JRB, Texas

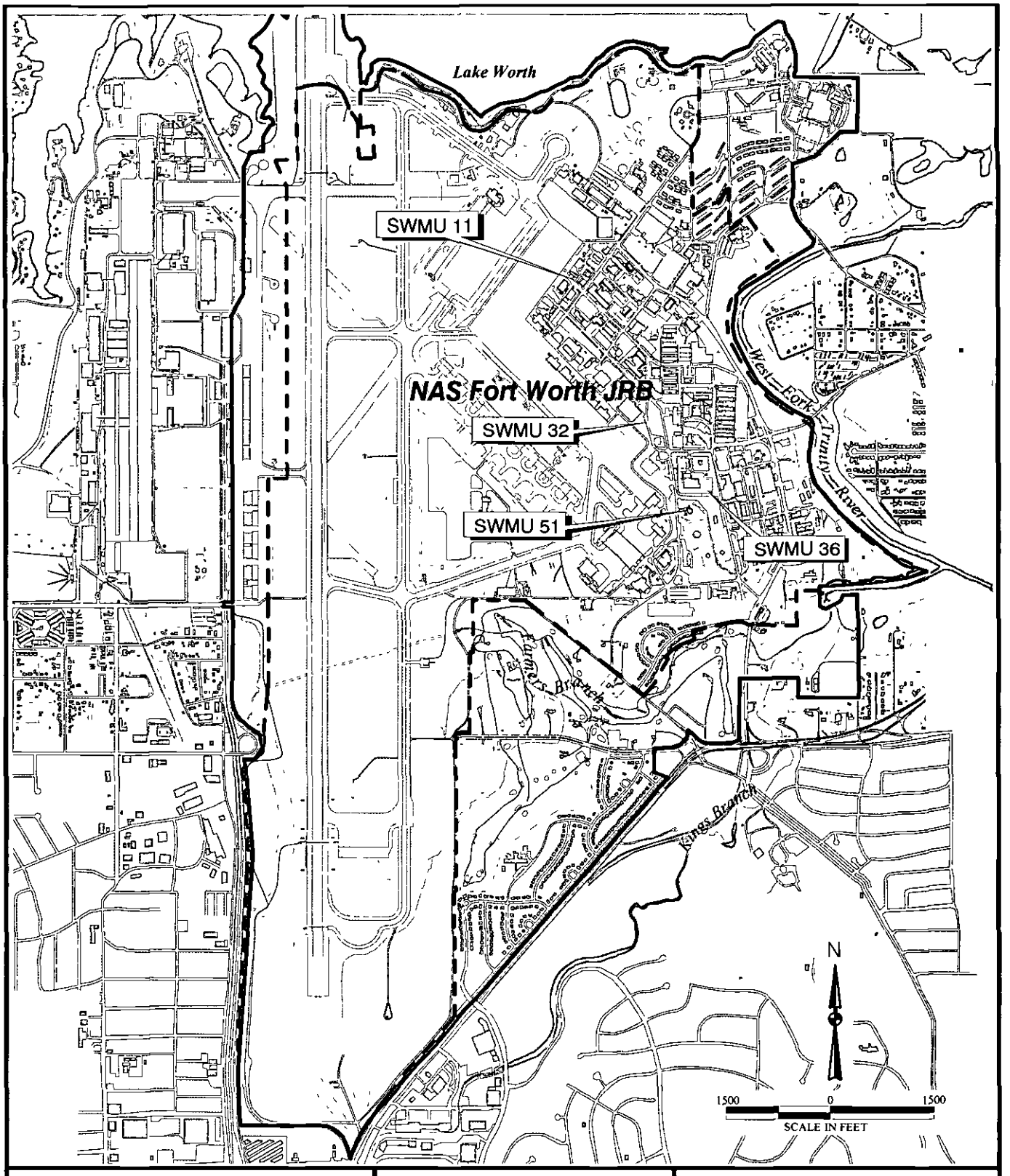
SWMU/ WAA	Waste Source:	Operational Period	Materials Received	Status
SWMU 11 WAA 1618	Building 1617 and 1619 Paint Shop Electronics Shop	Approx. 1982 - Present	Waste paints: Polyurethane (120 gal/yr) - drummed Enamel (60 gal/yr) - drummed Thinners (toluol [toluene], methyl ethyl ketone (MEK), isopropanol, naphtha, xylene)(120 gal/yr) - drummed Sodium persulfate solution (96 gal/yr) - drummed Spent etchant, lacquer thinner/ink residue (unspecified amount) - (unspecified container)	WAA 1618 was built in 1990 on top of the former SWMU and is managed by the 301st Air Reserve.
SWMU 32 WAA 1415	Building 1410 - Battery Shop Engine Shop Bearing Shop Wheel and Tire Shop	Early 1940s - Present	7808 engine oil (550 gal/yr) - drummed PD-680 (Type II) (petroleum naphtha solvent)(300 gal/yr) - drummed JP-4 (125 gal/yr) - fire training area Multi-sheen (stripper) (60 gal/yr) - down drain Hydraulic fluid (24 gal/yr) - bowser Calibrating fluid (unspecified amount) - 500-gallon bowser Carbon remover (cresylic acid) (unspecified amount) - drummed Fingerprint remover (degreaser) (unspecified amount) - drummed Battery electrolyte (500 gal/yr) - neutralized, sanitary sewer TCE (unspecified amount) - unspecified container Possible spent batteries (unspecified amount) - unspecified container SE-377E (solvent) (unspecified amount) - unspecified container	WAA 1415 was built in 1990 at the northern end of the former SWMU and is currently managed by the Marines.
SWMU 36	Building 1191 - Vehicle Maintenance Shop Allied Trades Shop Building 1425 - Fire Truck Maintenance Shop Building 1065 - Vehicle Maintenance Shop	Approx. 1982 - Present	7808 engine oil (1800 gal/yr) - unspecified container Battery acid (300 gal/yr) - DRMO Leaded and unleaded waste oil (1800 gal/yr) - drummed Waste automotive fuel (240 gal/yr) - drummed Antifreeze (600 gal/yr) - drummed Waste paints and thinners (toluol [toluene], MEK, isopropanol, naphtha, xylene) (120 gal/yr) - unspecified container Waste oils and transmission fluids (3000 gal/yr) - drummed PD-680 (Type II) (petroleum naphtha solvent) (150 gal/yr) - drummed Mogas (75 gal/yr) - drummed Hydraulic fluids (384 gal/yr) - drummed Safety-Kleen (solvent) (500 gal/yr) - tank serviced by contractor	Drums of waste fuel materials were stored in this area in 1999 No drums are currently stored at this site; however, waste fuel containers are periodically stored in the area by the Navy.

Table 1.1 (continued)
SWMU and AOC Summary Table
NAS Fort Worth JRB, Texas

SWMU/ WAA	Waste Source:	Operational Period	Materials Received	Status
SWMU 51 WAA 1189	WAA 1189 served as central waste holding area.	Approx. 1982 – 1990	Received unspecified quantities of various wastes from throughout the base, stored in three separate areas throughout the SWMU. Cluster 1· empty drums which may have contained traces of solvents, fuels, oils used on base Cluster 2· wastewater from facility monitoring well - drummed Cluster 3· PD-680, xylene – drummed	WAA 1189 was built in 1990 in the central area of the SWMU This area is currently maintained by the AFBCA and is no longer in use.

Sources:
A T. Kearney 1989, RCRA Facility Assessment, PR/VSI Report, Carswell Air Force Base, Fort Worth, Texas
CH2M HILL, 1984, Installation Restoration Program Records Search for Carswell Air Force Base, Texas
The Earth Technology Corporation, 1993, Basewide Environmental Baseline Survey, Carswell Air Force Base, Texas
U.S Air Force Occupational and Environmental Health Laboratory, Human Services Division, 1989, Hazardous Waste Technical Assistance Survey, Carswell AFB, Texas

FIGURES



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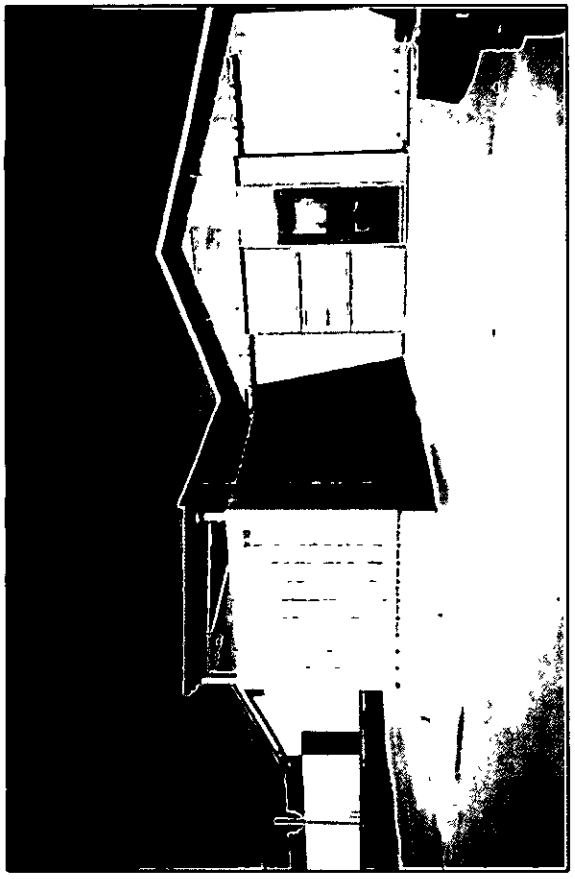
Legend

NAS Fort Worth JRB Boundary

Former Carswell AFB Boundary

Figure 1.1

SWMU Locations
NAS Fort Worth JRB, Texas



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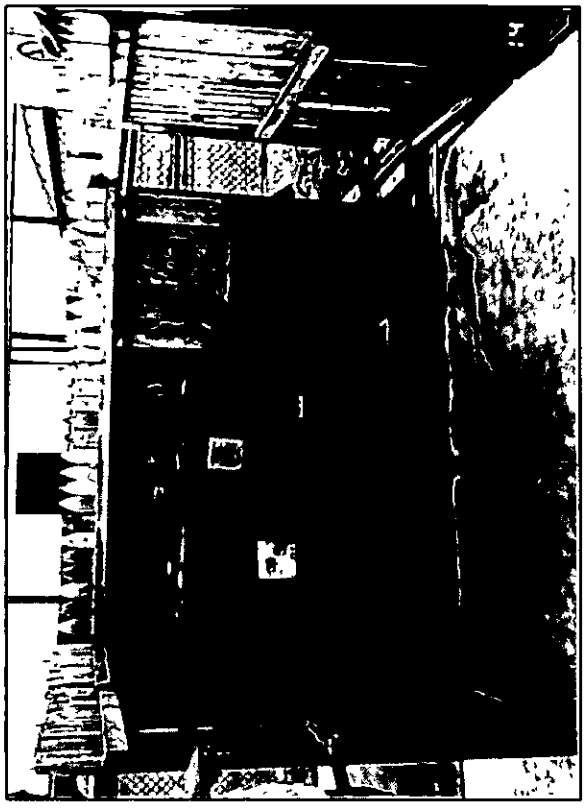

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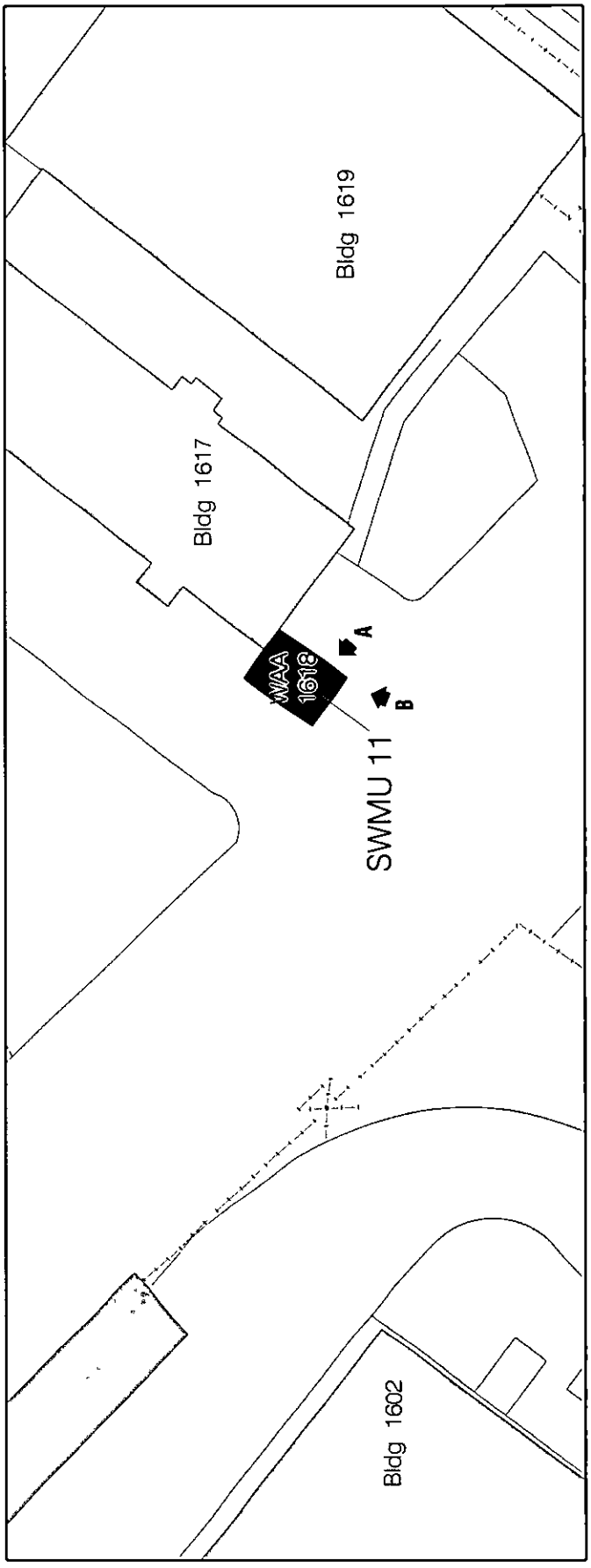

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Figure 1.2
Photos and Location Map — SWMU 11

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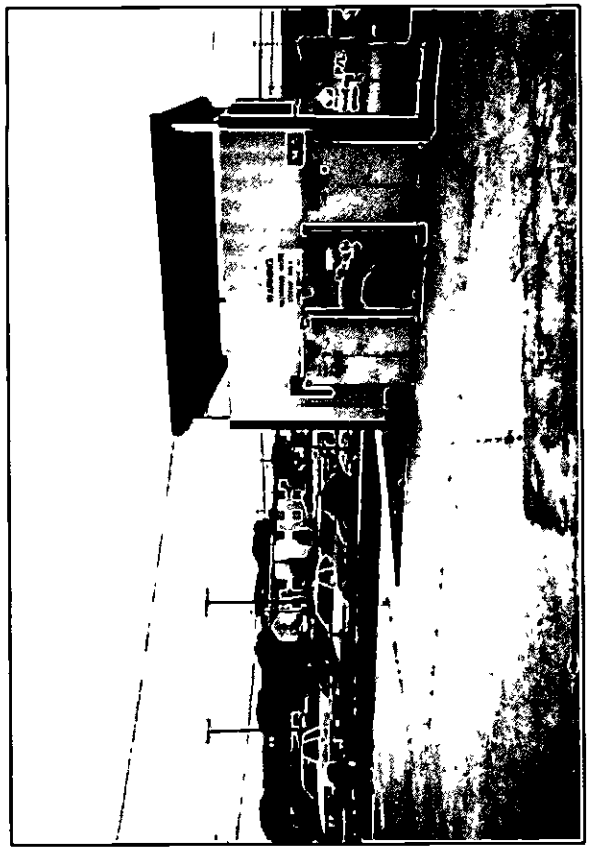

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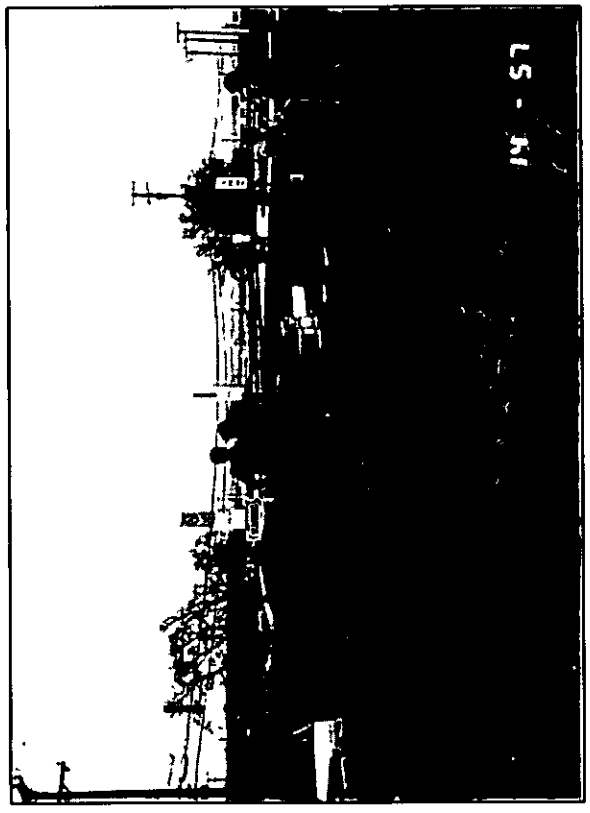

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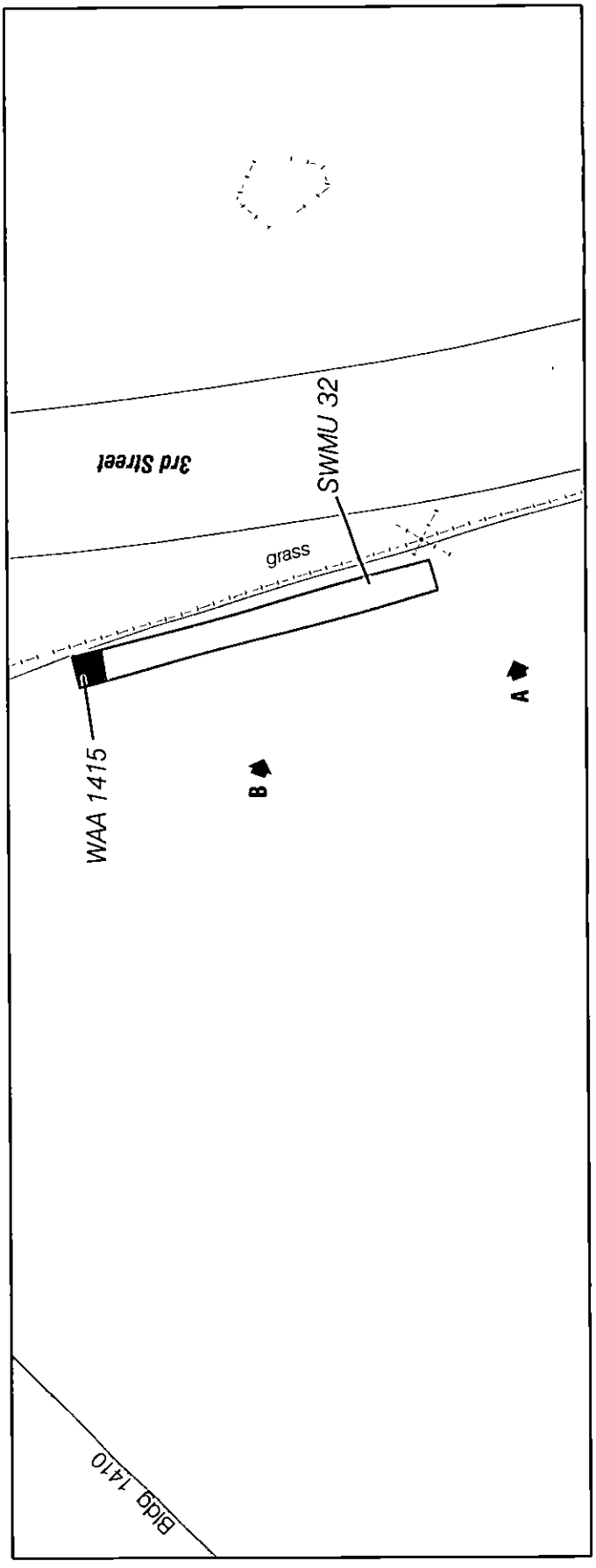

Figure 1.3
Photos and Location Map — SWMU 32

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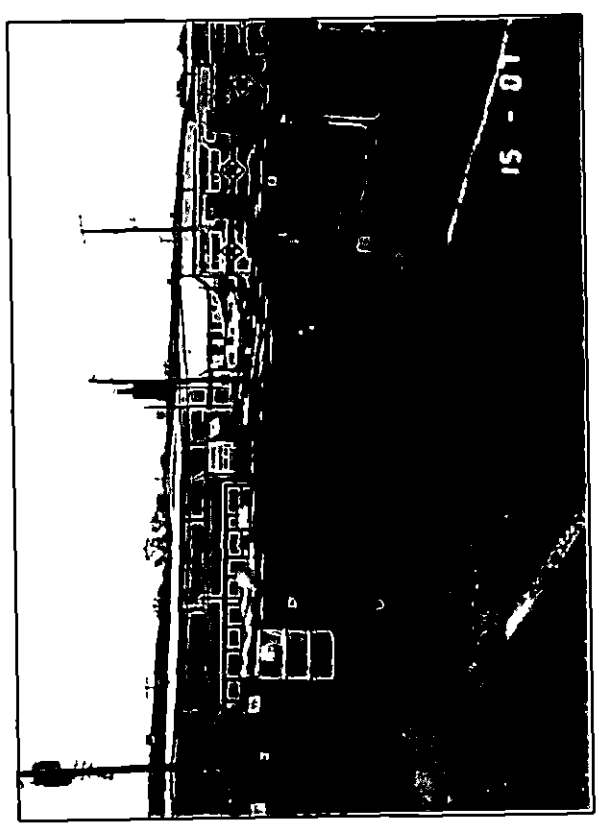

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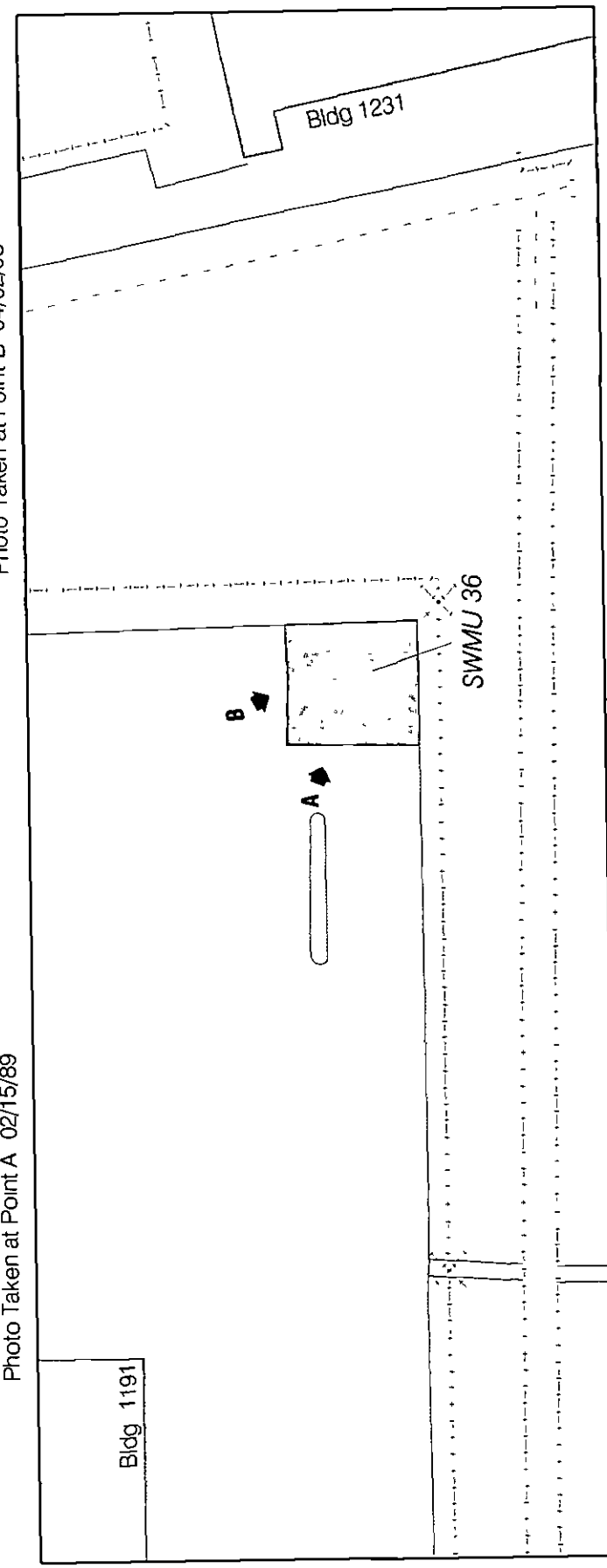

Figure 1.4
Photos and Location Map — SWMU 36

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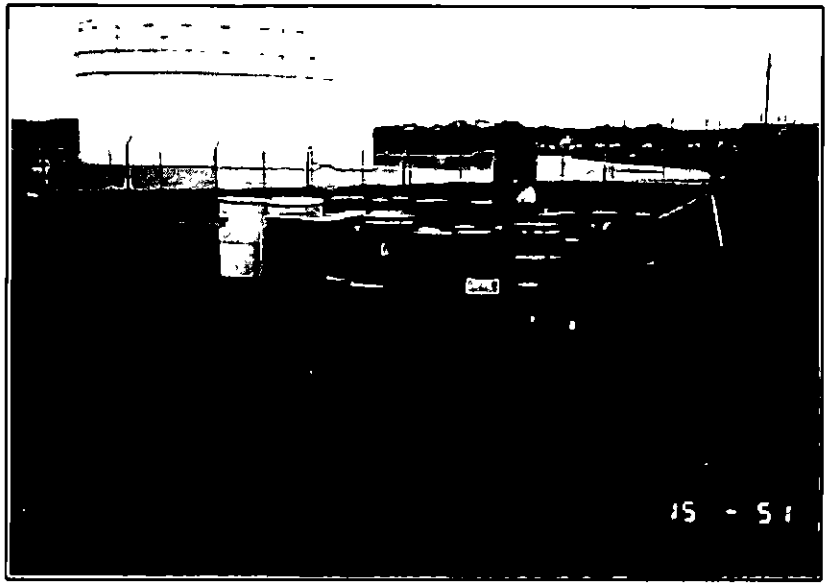

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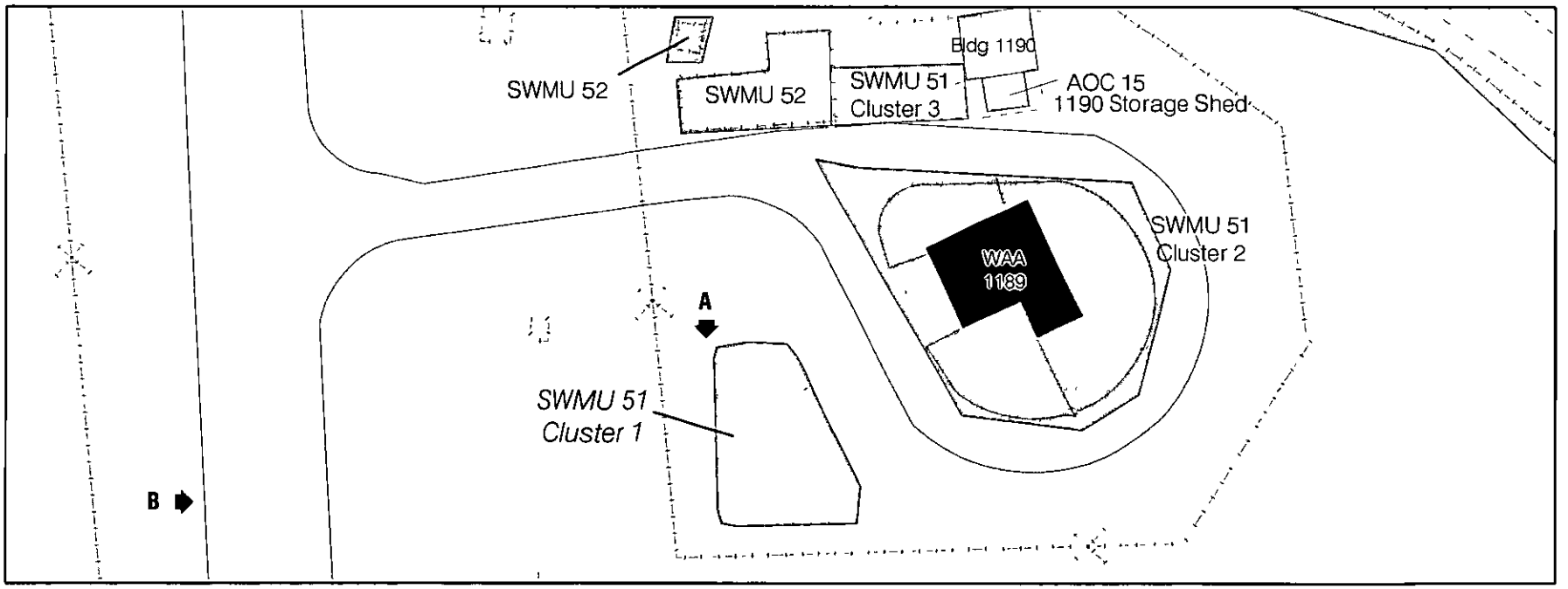

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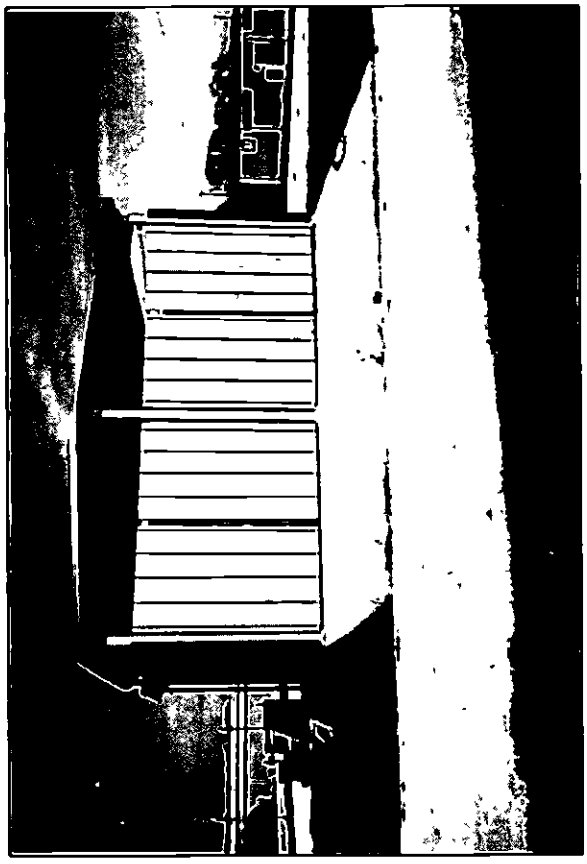
Figure 1.5a Photos and Location Map SWMU 51—Cluster 1



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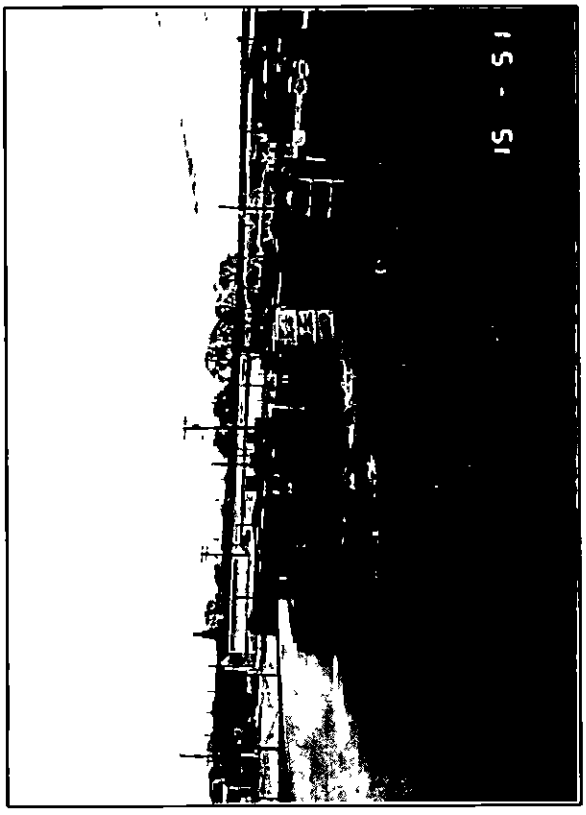

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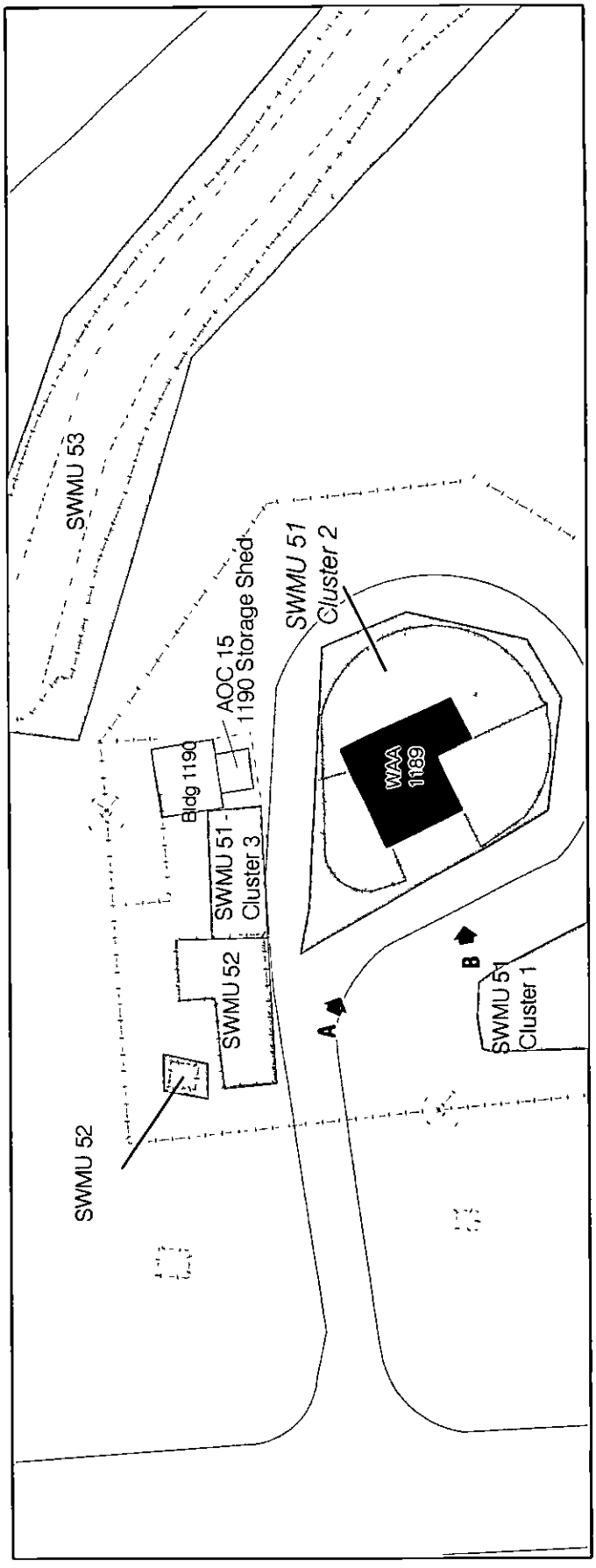

Figure 1.5b Photos and Location Map SWMU 51—Cluster 2

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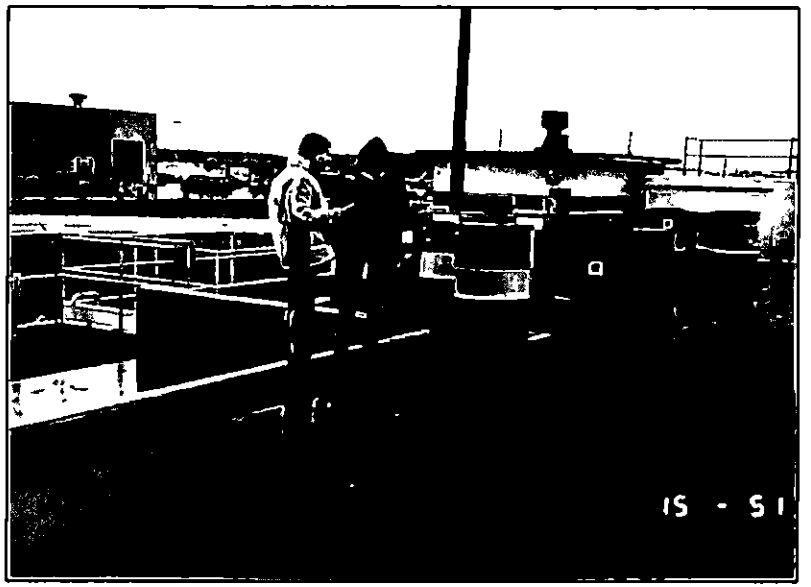

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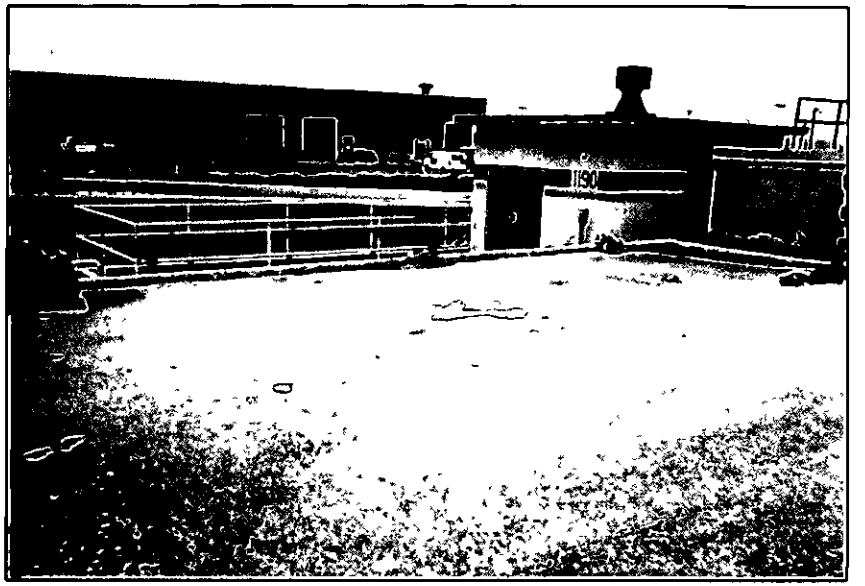

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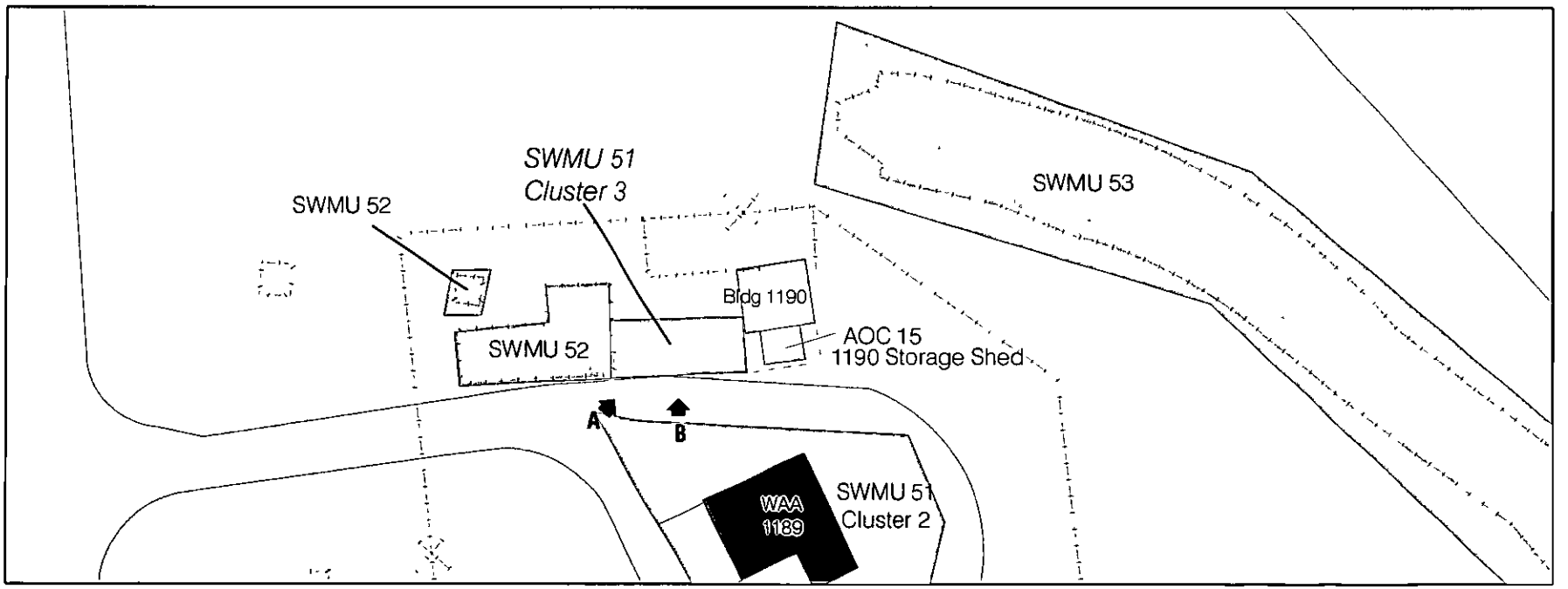

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Figure 1.5c **Photos and Location Map SWMU 51—Cluster 3**

TAB

SECTION 2.0

2.0 SUMMARY OF EXISTING INFORMATION

The climate, physiography, geology, hydrology, biology, and demographics of the NAS Fort Worth JRB area are described in the following sections.

2.1 INSTALLATION ENVIRONMENTAL SETTING

2.1.1 Physiographic Province

NAS Fort Worth JRB is located along the border zone between two physiographic provinces. The southeastern part of the base is situated within the Grand Prairie section of the Central Lowlands Physiographic Province. Most of NAS Fort Worth JRB is located within this province. This region is characterized by broad, eastward-sloping terrace surfaces that are interrupted by westward-facing escarpments. The land surface is typically grass covered and treeless except for isolated stands of upland timber. The northwestern part of the NAS Fort Worth JRB area is situated within the Western Cross Timbers Physiographic Province. This area is characterized by rolling topography and a heavy growth of post and blackjack oaks (Radian, 1989a,b). Surface elevations for this region range from about 850 feet above National Geodetic Vertical Datum (NGVD) west of the base to approximately 550 feet above NGVD along the eastern side of the base. Figure 2.1 is a section of the Lake Worth, Texas, U.S. Geological Survey topographic map showing the relief of the NAS Fort Worth JRB/Air Force Plant 4 (AFP 4) region.

2.1.2 Regional Geology

The geologic units of interest for the region, from youngest to oldest, are as follows: (1) the Quaternary Alluvium (including fill material and terrace deposits), (2) the Cretaceous Goodland Limestone, (3) the Cretaceous Walnut Formation, (4) the Cretaceous Paluxy Formation, (5) the Cretaceous Glen Rose Formation, and (6) the Cretaceous Twin Mountains Formation. A generalized cross section of the geology beneath NAS Fort Worth JRB is presented in Figure 2.2 (Radian, 1989a,b). The areal limits of surface exposure of these units at NAS Fort Worth JRB are shown in Figure 2.3. Cross section locations and individual cross sections at NAS Fort Worth JRB are presented in Figures 2.4 through 2.7 (CH2M HILL, 1996). The regional dip of the stratigraphic units beneath NAS Fort Worth JRB is between 35 and 40 feet per mile in an easterly to southeasterly direction. NAS Fort Worth JRB is located on the relatively stable Texas Craton, west of the faults that lie along the Ouachita Structural Belt. No major faults or fracture zones have been mapped near the base.

2.1.3 Groundwater

The water-bearing geologic formations located in the NAS Fort Worth JRB area may be divided into the following five hydrogeologic units, listed from the shallowest to the deepest: (1) an upper perched-water zone occurring in the alluvial terrace deposits associated with the Trinity River, (2) an aquitard of predominantly dry limestone of the Goodland and Walnut

Formations, (3) an aquifer in the Paluxy Sand, (4) an aquitard of relatively impermeable limestone in the Glen Rose Formation, and (5) a major aquifer in the sandstone of the Twin Mountains Formation Each of these units is examined more explicitly in the following paragraphs. The relationship between these hydrogeologic units and geologic units is illustrated in Figure 2.8 (Radian, 1989a,b).

2.1.3.1 Alluvial Terrace Deposits

The uppermost groundwater in the area occurs within the pore space of the grains of coarse sand and gravels deposited by the Trinity River. In some parts of Tarrant County, primarily in those areas adjacent to the Trinity River, groundwater from the terrace deposits is used for irrigation and residential use. Groundwater from the terrace deposits is rarely used as a source of potable water due to its limited distribution and susceptibility to surface/storm water pollution (CH2M HILL, 1984).

Recharge to the water-bearing deposits occurs through infiltration from precipitation and from surface water bodies. Extensive on-site pavement and construction restricts this recharge. Additional recharge, however, comes from leakage in water supply lines, sewer systems, storm drains, and cooling water systems. In 1991, this leakage was calculated to be in excess of approximately 115.5 million gallons for NAS Fort Worth JRB and AFP 4 (General Dynamics Facility Management, 1992). This inflow of water to the shallow aquifer effects local groundwater flow patterns and contamination transport, along with increasing hydraulic head, which acts as the force to potentially drive water into lower aquifer systems. The estimated hydraulic conductivity of the alluvial aquifer is 4.57 gallons per day per square foot (gpd/ft^2) (Radian, 1989a,b).

This flow between aquifers is restricted by the Goodland/Walnut Formations; therefore, the alluvial terrace groundwater is not hydraulically connected to the underlying aquifers at NAS Fort Worth JRB. The primary water flow in the terrace deposits is generally eastward toward the West Fork Trinity River, although localized variations exist across the entire site. The hydraulic gradient across the base is variable, reflecting variations in the flow direction and localized recharge. Discharge from the aquifer occurs into surface water on-site, specifically Farmers Branch Creek.

Potentiometric maps of NAS Fort Worth JRB and AFP 4 alluvial terrace groundwater are presented as Figure 2.9 and Figure 2.10. Both the January 1999 and July 2000 groundwater elevation data show an easterly trend in groundwater flow over the area of NAS Fort Worth JRB toward the West Fork Trinity River (HydroGeoLogic, 1999b,d).

2.1.3.2 Goodland/Walnut Aquitard

The groundwater within the terrace deposits is isolated from groundwater within the lower aquifers by the low permeability of the Goodland Limestone and Walnut Formations. The primary inhibitors to vertical groundwater movement within these units are the fine-grained clay and shale layers that are interbedded with layers of limestone. Some groundwater

movement does occur between the individual bedding planes of both of these units, but the vertical hydraulic conductivity has been calculated to range between 1.2E-09 centimeters per second (cm/sec) to 7.3E-11 cm/sec for the NAS Fort Worth JRB and AFP 4 area. This corresponds to a vertical flow rate that ranges between 1.16E-03 feet per day (ft/d) to 5.22E-03 ft/d (ESE, 1994).

At the AFP 4 "window area," the Goodland/Walnut aquitard is breached, and the alluvial terrace groundwater is in direct contact with the groundwater in the Paluxy aquifer. Several wells and borings have been advanced at NAS Fort Worth JRB to the Goodland/Walnut aquitard. There is no evidence that a similar window exists on the base property. All five monitoring wells that fully penetrate the Paluxy aquifer on NAS Fort Worth JRB property are represented in cross sections (Figures 2.5 through 2.7). These wells are USGS01P, USGS05P, USGS06P, USGS07P, and Paluxy 1 (P1).

2.1.3.3 Paluxy Aquifer

The Paluxy aquifer is an important source of potable groundwater for the Fort Worth area. Many of the surrounding communities, particularly White Settlement, obtain their municipal water supplies from the Paluxy aquifer. Groundwater from the Paluxy is also used in some of the surrounding farms and ranches for agricultural purposes. Due to the extensive use of the Paluxy aquifer, water levels have declined significantly over the years. Water levels in the NAS Fort Worth JRB vicinity have not decreased as much as in the Fort Worth area due to its proximity to the Lake Worth recharge area and the fact that the base does not obtain water from the Paluxy aquifer. Drinking water at the base is supplied by the city of Fort Worth, which uses Lake Worth as its water source. The groundwater of the Paluxy aquifer is contained within the openings created by gaps between bedding planes, cracks, and fissures in the sandstones of the Paluxy Formation. Just as the Paluxy Formation is divided into upper and lower sand members, the aquifer is likewise divided into upper and lower aquifers. The upper sand is finer grained and contains a higher percentage of shale than the lower sand. In 1989, Radian estimated the hydraulic conductivity and transmissivity to be 130 to 140 gpd/ft^2 and 1,263 to 13,808 gpd/ft^2, respectively.

2.1.3.4 Glen Rose Aquitard

Below the Paluxy aquifer are the fine-grained limestone, shale, marl, and sandstone beds of the Glen Rose Formation. The thickness of the formation ranges from 250 to 450 feet. Although the sands in the Glen Rose Formation yield small quantities of groundwater in the area, the relatively impermeable limestone acts as an aquitard, restricting water movement between the Paluxy aquifer above and the Twin Mountains aquifer below.

2.1.3.5 Twin Mountains Aquifer

The Twin Mountains Formation is the oldest and deepest water supply source used in the NAS Fort Worth JRB area. The Twin Mountains Formation occurs approximately 600 feet below NAS Fort Worth JRB, with a thickness of between 250 to 430 feet. Recharge to the Twin

Mountains aquifer occurs west of NAS Fort Worth JRB, where the formation out crops. Groundwater movement is eastward in the downdip direction. The Twin Mountains groundwater occurs under unconfined conditions in the recharge area and becomes confined as it moves downdip. Transmissivities in the Twin Mountains aquifer range from 1,950 to 29,700 gpd/ft^2 and average 8,450 gpd/ft^2 in Tarrant County. Permeabilities range from 8 to 165 gpd/ft^2 and average 68 gpd/ft^2 in Tarrant County (CH2M HILL, 1984).

2.1.3.6 Water Well Survey Results

An inventory of water supply wells within a one-half-mile radius of the NAS Fort Worth JRB boundary was conducted by HydroGeoLogic in 2000. Figure 2.11 illustrates the locations of 97 wells that were identified from TWC records. No active water wells are located on NAS Fort Worth JRB property. Water is supplied to the base by the city of Fort Worth, which obtains water from Lake Worth.

2.1.4 Surface Water

The topography of NAS Fort Worth JRB is fairly flat except for the lower lying areas along the tributaries of the Trinity River. The land surface slopes gently northeastward toward Lake Worth and eastward toward the West Fork Trinity River. Surface elevations range from about 690 feet above NGVD at the southwest corner of the base to approximately 550 feet above NGVD, along the eastern side of the base.

NAS Fort Worth JRB is located within the Trinity River Basin, adjacent to Lake Worth. The lake is a man-made reservoir created by damming the Trinity River at a point just northeast of the base. The surface area of the lake is approximately 2,500 acres. Lake Worth receives a limited amount of storm water runoff from NAS Fort Worth JRB during and immediately after rainfall events. Elevation of the water surface is fairly consistent at approximately 594 feet above NGVD, the fixed elevation of the dam spillway. Part of the eastern boundary of NAS Fort Worth JRB is defined by the West Fork Trinity River. River flow is towards the southeast into the Gulf of Mexico. Because the Trinity River has been dammed, the 100- and 500-year flood plains do not extend more than 400 feet from the center of the river or any of its tributaries.

Surface drainage is mainly east towards the West Fork Trinity River. The base is partly drained by Farmers Branch Creek, a tributary of the West Fork Trinity River. Farmers Branch Creek begins within the community of White Settlement and flows eastward. Just south of AFP 4, Farmers Branch flows under the runway within two large culverts identified as an aqueduct. Most of the base drainage is intercepted by a series of storm drains and culverts, directed to OWSs, and discharged to the West Fork Trinity River downstream of Lake Worth. A small portion of the north end of the base drains directly into Lake Worth.

NAS Fort Worth JRB currently has three storm water discharge points that are subject to National Pollution Discharge Elimination System (NPDES) requirements. Each discharge point is monitored weekly for chemical oxygen demand, oil and grease, and pH. The permit has

been violated on numerous occasions. In 1979, these violations prompted the USEPA to formally demand a corrective action (CH2M HILL, 1984). Several additional sampling points were established to determine the flow of pollutants onto and off of the base. Samples were collected for a variety of parameters (spills, fish kills, odors, and oil sheen) as circumstances dictated (Radian, 1989a,b).

2.1.5 Air

The climate in the Fort Worth area is classified as humid subtropical with hot summers and dry winters. Tropical maritime air masses control the weather during much of the year, but the passage of polar cold fronts and continental air masses can create large variations in winter temperatures. The average annual temperature in the area is 66 degrees Fahrenheit (°F), and monthly mean temperatures vary from 45°F in January to 86°F in July. The average daily minimum temperature in January is 35°F, and the lowest recorded temperature is 2°F. The average daily maximum temperature in July and August is 95°F, and the highest temperature ever recorded at the base was 111°F. Freezing temperatures occur at NAS Fort Worth JRB an average of 33 days per year (TNRCC, 1996b).

Mean annual precipitation recorded at the base is approximately 32 inches. The wettest months are April and May, with a secondary maximum in September. The period from November to March is generally dry, with a secondary minimum in August. Snowfall accounts for a small percentage of the total precipitation between November and March. Thunderstorm activity occurs at the base an average of 45 days per year, with the majority of the activity between April and June. Hail may fall 2 to 3 days per year. The maximum precipitation ever recorded in a 24-hour period is 5.9 inches. On the average, measurable snowfall occurs 2 days per year (TNRCC, 1996b).

Lake evaporation near NAS Fort Worth JRB is estimated to be approximately 57 inches per year. Evapotranspiration over land areas may be greater or less than lake evaporation depending on vegetative cover type and moisture availability. Average net precipitation is expected to be equal to the difference between average total precipitation and average lake evaporation, or approximately minus 25 inches per year. Mean cloud cover averages 50 percent at NAS Fort Worth JRB, with clear weather occurring frequently during the year. Some fog is present an average of 83 days per year. Wind speed averages 7 knots; however, a maximum of 80 knots has been recorded. Predominant wind direction is from the south-southwest throughout the year (TNRCC, 1996b).

Air quality in the Dallas-Fort Worth area meets USEPA National Ambient Air Quality Standards for carbon monoxide, nitrogen dioxide, sulfur dioxide, and respirable particulate matter. However, ozone levels exceed national standards, and the ozone pollution level in the area has a Federal classification of moderate. During 1996, ozone measurements showed an arithmetic mean concentration of 0.033 parts per million in North Tarrant County. Actual exceedances of the national standards for ozone concentrations were calculated to be 2 days for the measurement station in North Tarrant County. Additional control measures are being

implemented as a result of 1990 Federal Clean Air Act mandates to bring the area into compliance with the national standard (TNRCC, 1996b).

2.1.6 Biology

Approximately 374 acres, or 14 percent, of NAS Fort Worth JRB is considered unimproved, indicating the presence of seminatural to natural biological/ecological conditions. The base lies in the Cross Timbers and Prairies Regions of Texas, where native vegetation is characterized by alternating bands of prairies and woodlands. Native and cultivated grasses such as little bluestem, Indian grass, big bluestem, side oats, grama, and buffalo grass cover the higher elevations on the base. Forested areas occur primarily on the lower land and along the banks of streams. Common wood species include oak, elm, pecan, hackberry, and sumac. Several non-native species such as catalpa and chinaberry are common (Radian, 1989a,b).

Typical wildlife on the base includes black-tailed jackrabbits in grassy areas along the runway. In addition, there are cotton-tail rabbits, gray squirrels, and opossums in the wooded areas. Common birds include morning doves, meadowlarks, grackles, and starlings. Hunting and trapping are not allowed on the base, but in the nearby rural areas they are a very popular form of recreation (Radian, 1989a,b).

Reported game fish include black bass, sunfish, and catfish, all of which can be found in Lake Worth, Farmers Branch Creek, and one small pond located on base near the golf course equipment shed. According to the Texas Department of Parks and Wildlife and the U.S. Fish and Wildlife Service, there are no threatened or endangered species known to occur on NAS Fort Worth JRB. None of the federally listed endangered plant species for Texas are known to occur within 100 miles of Tarrant County. Of the federally listed endangered animals species, only the peregrine falcon and the whooping crane are known to occasionally inhabit the area; however, none of these is suspected to reside in the vicinity of NAS Fort Worth JRB (Radian, 1989a,b).

2.1.7 Demographics

The following sections describe the regional and site-specific demographics as they relate to the Fort Worth, Texas area and NAS Fort Worth JRB.

2.1.7.1 Regional Demographics

Approximately 1,278,606 people reside within Tarrant County, Texas (U.S. Department of Commerce, 1996). Of this population, 485,650 reside within the city limits of Fort Worth. Several smaller cities and villages make up the remainder of the population. The communities of White Settlement, Lake Worth, Westworth Village, River Oaks, and Sansom Park lie within a 3-mile radius of NAS Fort Worth JRB. The following populations that reside in the cities and villages are based on 1994 census data· White Settlement (city) 16,502; Lake Worth (city) 4,694; Westworth Village (town) 2,502; River Oaks (city) 6,747; and Sansom Park (city)

4,136 (U.S. Department of Commerce, 1994). Six schools are within a 2-mile radius of NAS Fort Worth JRB; the closest is 0.5 miles south (Rust Geotech, 1995).

The area surrounding NAS Fort Worth JRB is highly urbanized due to its proximity to the city of Fort Worth. The area is comprised of a combination of residential, commercial, and light industrial properties that employ the majority of local residents (Rust Geotech, 1995).

2.1.7.2 Site-Specific Demographics

The current full-time population at NAS Fort Worth JRB is approximately 3,600 people, comprising 400 officers, 1,400 civilians, and 1,800 active reservists. Part-time military reservists will increase this population to over 6,000 military personnel (CH2M HILL, 1996).

Approximately 86 percent of NAS Fort Worth JRB has been developed by way of buildings, roads, parking lots, runways, and housing and recreational areas. On-site activities include various maintenance, inspection, and support activities for fuel systems, weapons, jet engines, aerospace ground equipment (AGE), and specialized ground equipment (HydroGeoLogic, 1999b).

2.2 SITE-SPECIFIC ENVIRONMENTAL SETTING

The following sections describe the site-specific environmental setting of NAS Fort Worth JRB.

2.2.1 Site-Specific Soils

The U.S. Soil Conservation Service has identified four major soil associations in the area of NAS Fort Worth JRB. The first association is the surficial soils of the nearly level to gently sloping clayey soils of the Sanger-Purves-Slidell Association. Second is the Aledo-Bolar-Sanger Association, which is located within the southwestern portion of the Sanger-Purves-Slidell Association and is characterized as an increasingly loamy clayey soil of gentle to moderate slope. The third association, the Bastsil-Silawa Association separates the Sanger-Purves-Slidell Association from the Frio-Trinity Association. The Bastsil-Silawa Association is characterized as a sandy clay loam of nearly level slope (ESE, 1994). The clayey soils of the Frio-Trinity Association make up the fourth soil association and are located along the flood plain of the West Fork Trinity River. The areal limits of each of these soil associations and their occurrence on-site are shown in Figure 2.12.

2.2.2 Site-Specific Geology

The majority of NAS Fort Worth JRB is covered by alluvium deposited by the Trinity River during flood stages. The Quaternary Period alluvium (Holocene Epoch) occurs downstream from the Lake Worth Dam in the current flood plain of the West Fork Trinity River, on the east side of the facility. Older alluvial deposits and terrace deposits (Pleistocene Epoch) also occur on-site. The alluvium is composed of gravel, sand, silt, and clay of varying thicknesses

and lateral extent. The thickness of these materials ranges from 0 to 60 feet. Fill material is also included within these deposits where landfills, waste pits, excavation sites, and other construction activities have altered the original land surface. This fill material is made up of clay, silt, sand, and gravel mixtures, but may also contain debris and other waste (Radian, 1989a,b).

Below the alluvial terrace deposits are the Cretaceous-age Goodland and Walnut Formations, which form the bedrock surface beneath NAS Fort Worth JRB. Both formations consist of interbedded, fossiliferous, hard limestone and calcareous shale. The upper formation, the Goodland Limestone, is exposed on the southern portion of the base, south of White Settlement Road. The Goodland is a chalky-white, fossiliferous limestone and marl. The thickness of the Goodland Limestone ranges from 20 to 25 feet. Below the Goodland Formation is the Walnut Formation (or Walnut Clay). The Walnut Formation is exposed in a small area along the shores of Lake Worth and Meandering Road Creek. This formation is a shell agglomerate limestone with varying amounts of clay and shale. It ranges in thickness from 25 to 35 feet throughout the site except where erosion has produced a few thinner areas. Subsurface investigations have located troughs and paleochannels that are eroded into the top of the bedrock at NAS Fort Worth JRB. These paleochannels are typical of an erosional surface modified by fluvial processes and are filled with sand and gravel deposits ranging in thickness from 15 to 35 feet (CH2M HILL, 1996).

Below the Walnut Formation is the Paluxy Formation (or Paluxy Sand). The Paluxy Formation underlies all of NAS Fort Worth JRB. The formation consists of several thick sandstone layers that are separated by thin, discontinuous shale and claystone layers. Sandstones in the formation are primarily a fine-to coarse-grained sand with minor amounts of clay, sandy clay, pyrite, lignite, and shale. The lower section of the Paluxy is generally coarser-grained than the upper section (CH2M HILL, 1996). Total formation thickness ranges from 130 to 175 feet, with variable thickness and occurrence of individual layers across the site. Only one unit in this formation, a shale/silty shale, can be extensively mapped across the base.

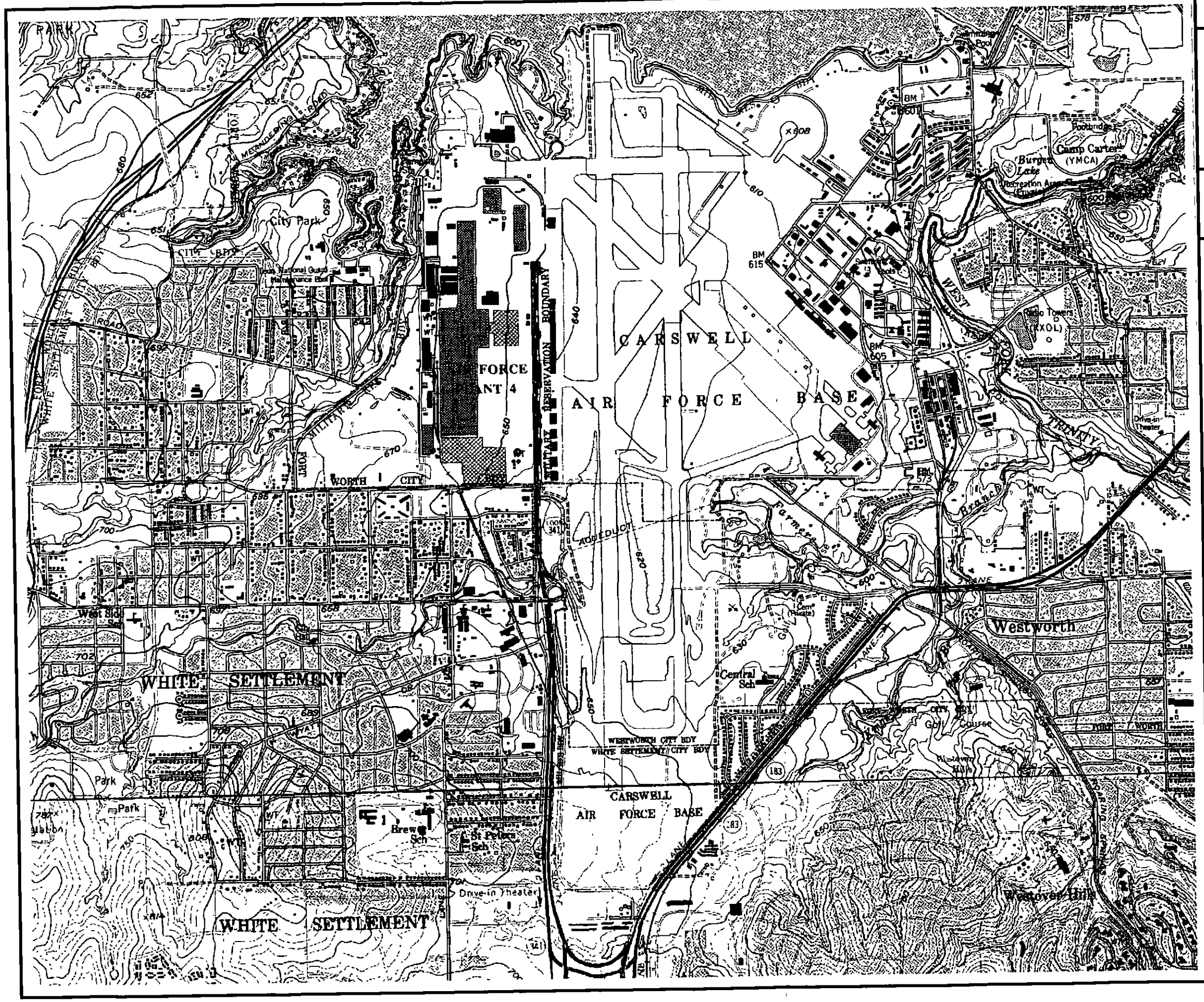
The older Glen Rose and Twin Mountains Formations are not exposed at NAS Fort Worth JRB. The Glen Rose Formation consists primarily of calcareous sedimentary rock and some sands, clays, and anhydrite. The Glen Rose caps the Twin Mountain Formation, which is the oldest Cretaceous Formation in the NAS Fort Worth JRB area. The Twin Mountain Formation consists of a basal conglomerate of chert and quartz, grading upward into coarse- to fine-grained sand interspersed with varicolored shale.

FIGURES

Figure 2.1

NAS Fort Worth JRB Regional Topographic Map

Air Force Center for Environmental Excellence



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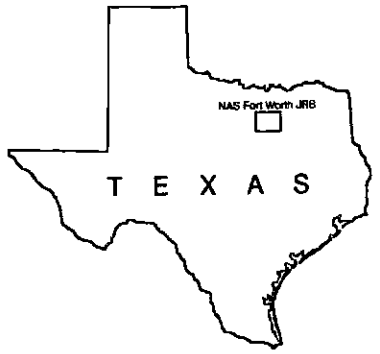
Site Location



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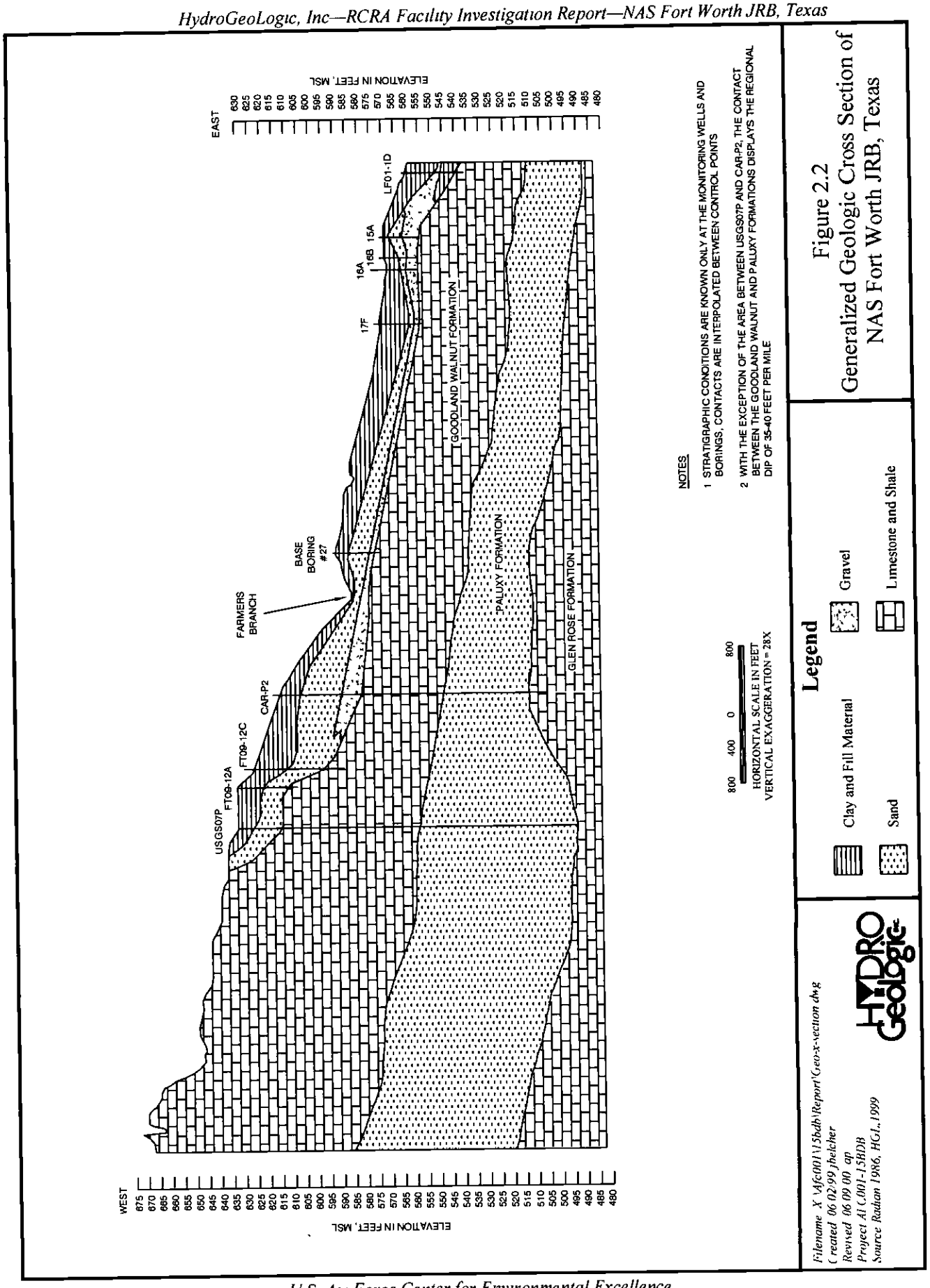
HYDRO Geologic


WEST
EAST
ELEVATION IN FEET, MSL
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FT09-12A
FT09-12C
CAR-P2
FARMERS BRANCH
BASE BORING #27
17F
16A
16B
15A
LF01-1D
GOODLAND WALNUT FORMATION
PALUXY FORMATION
GLEN ROSE FORMATION
NOTES
1 STRATIGRAPHIC CONDITIONS ARE KNOWN ONLY AT THE MONITORING WELLS AND BORINGS, CONTACTS ARE INTERPOLATED BETWEEN CONTROL POINTS
2 WITH THE EXCEPTION OF THE AREA BETWEEN USGS07P AND CAR-P2, THE CONTACT BETWEEN THE GOODLAND WALNUT AND PALUXY FORMATIONS DISPLAYS THE REGIONAL DIP OF 35-40 FEET PER MILE
800 400 0 800
HORIZONTAL SCALE IN FEET
VERTICAL EXAGGERATION = 28X
Legend
Clay and Fill Material
Gravel
Sand
Limestone and Shale
Figure 2.2
Generalized Geologic Cross Section of NAS Fort Worth JRB, Texas
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Revised 06 09 00 ap
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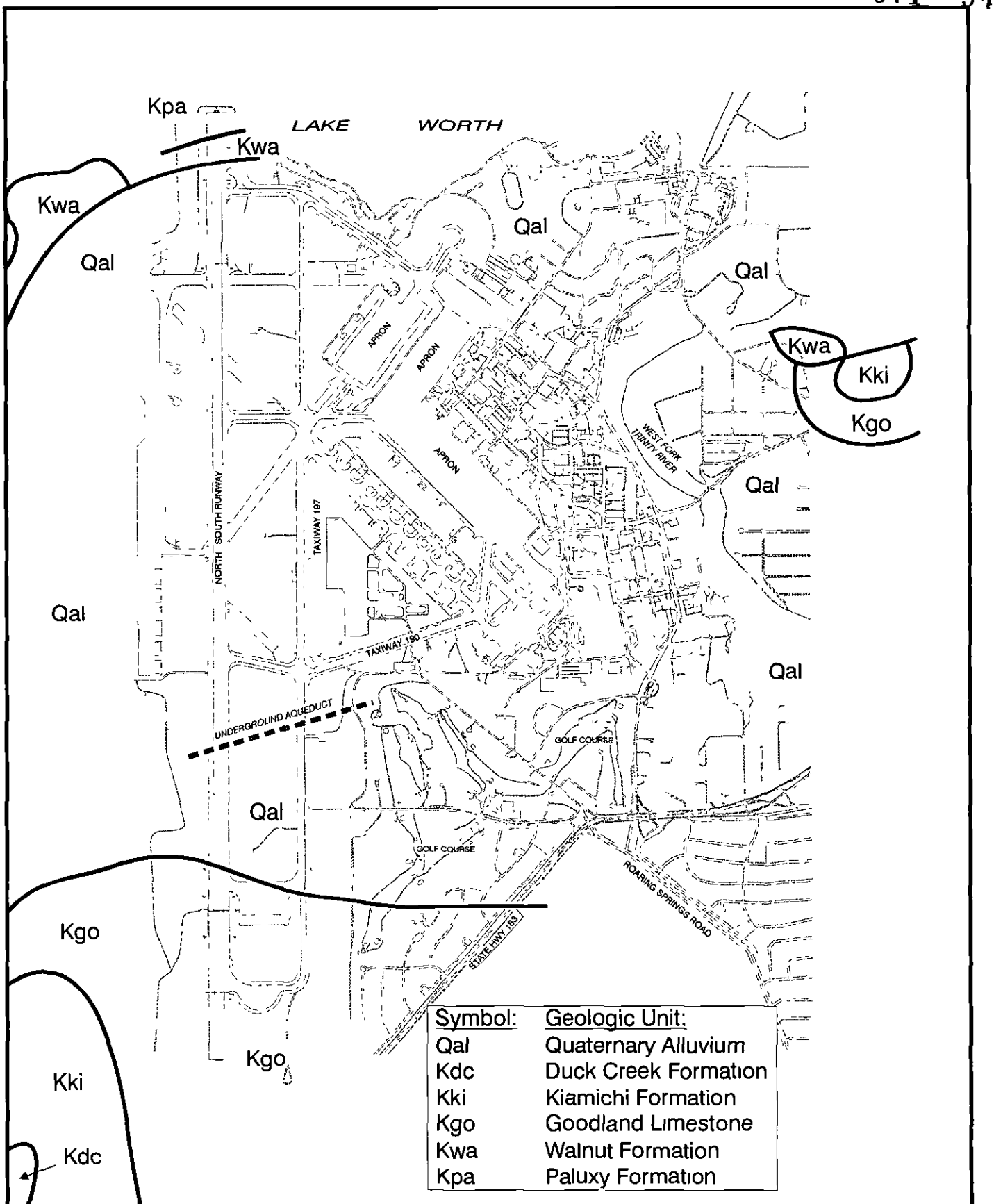
Source Radian 1986, HGL, 1999
HYDRO Geologic



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Project AFC001-15BDB
Revised 06/09/00 ap
Map Source Radian, 1989

HYDRO GeoLogic INC

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SCALE IN FEET

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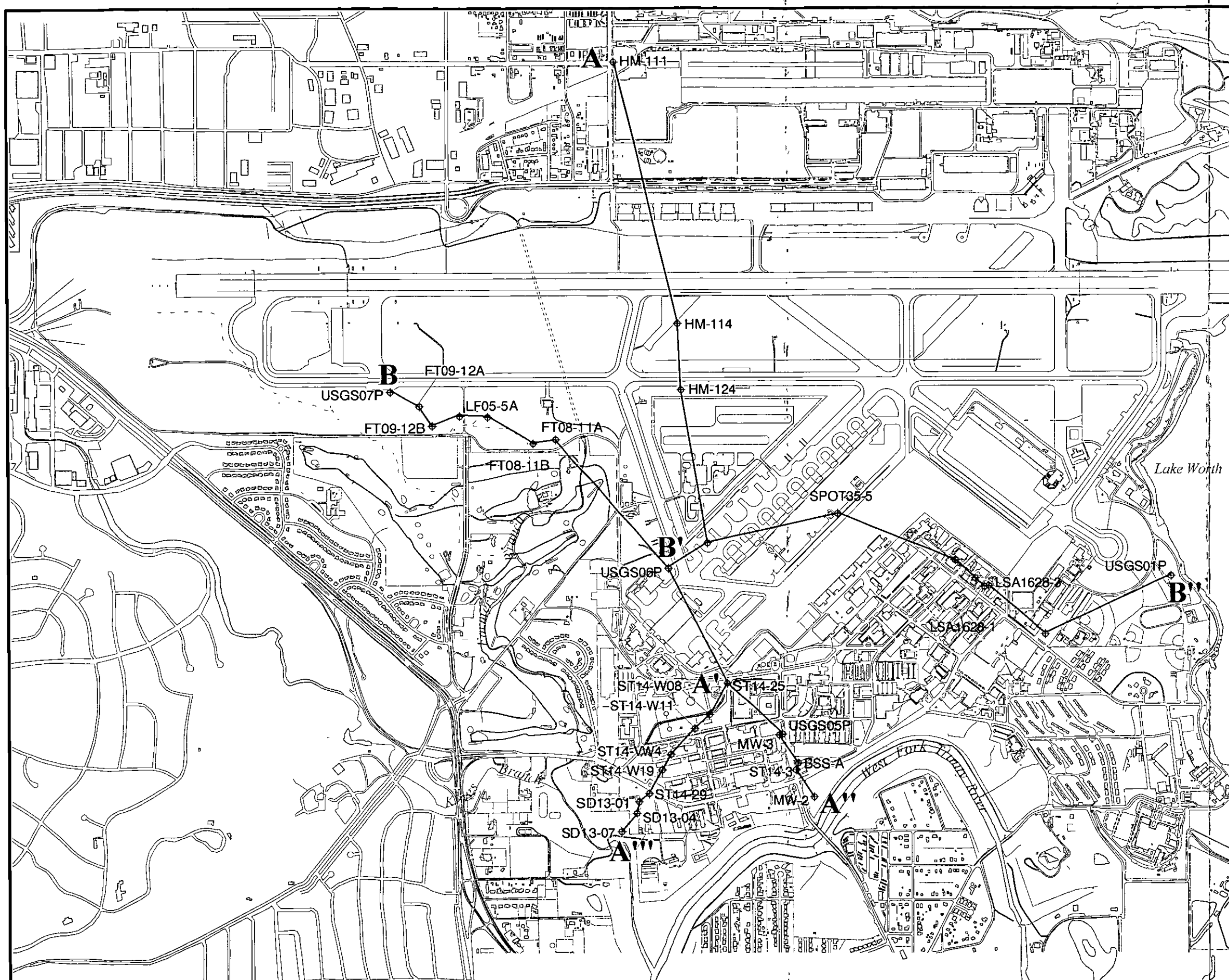
Figure 2.3
Areal Distribution of Geologic Units of NAS Fort Worth JRB, Texas



HydroGeoLogic, Inc —RCRA Facility Investigation Report
NAS Fort Worth JRB, Texas

Figure 2.4

Cross Section Location Map

U.S. Air Force Center For Environmental Excellence

Legend

⊕ Boring Location

A——A' Cross Section Line

N

0 650 1300 2600

SCALE IN FEET

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Project AFC001-15BDB
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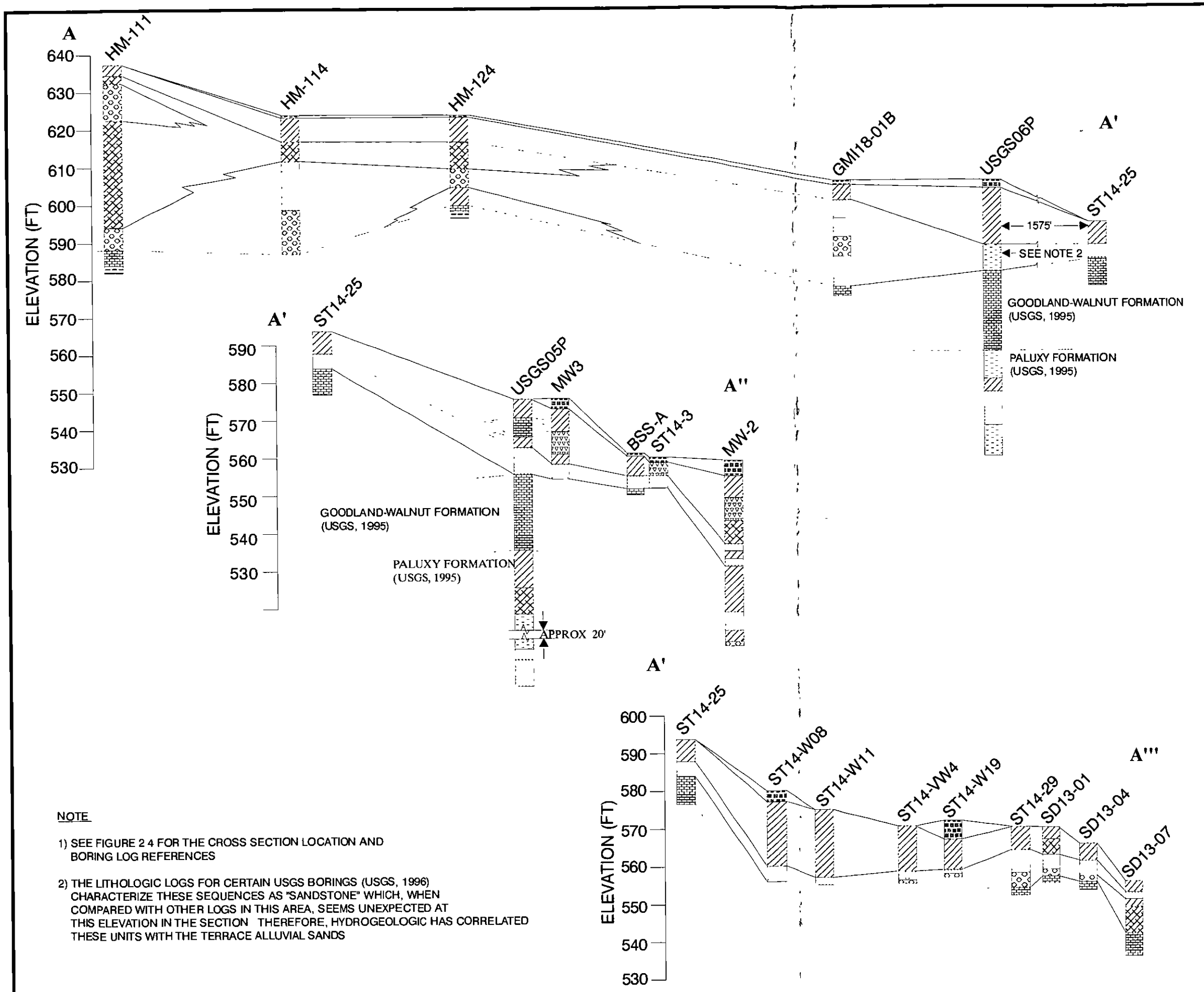
Revised 03/13/01 jb
Map Source HydroGeoLogic, Inc , ArcView GIS Database, 2001 Jacobs, 1996

HYDRO GeoLogic INC



NOTE

1) SEE FIGURE 2 4 FOR THE CROSS SECTION LOCATION AND BORING LOG REFERENCES

2) THE LITHOLOGIC LOGS FOR CERTAIN USGS BORINGS (USGS, 1996) CHARACTERIZE THESE SEQUENCES AS "SANDSTONE" WHICH, WHEN COMPARED WITH OTHER LOGS IN THIS AREA, SEEMS UNEXPECTED AT THIS ELEVATION IN THE SECTION THEREFORE, HYDROGEOLOGIC HAS CORRELATED THESE UNITS WITH THE TERRACE ALLUVIAL SANDS

HydroGeoLogic, Inc—RCRA Facility Investigation Report
NAS Fort Worth JRB, Texas

Figure 2.5

Cross Sections A-A', A'-A'', and A'-A'''

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Legend

- Stratigraphic Contact
- Inferred Stratigraphic Contact
- Fine- to Coarse-Grained Sand, Clayey Sand, Silty Sand, Gravelly Sand
- Clay, Silty Clay, Sandy Clay
- Silt, Clayey Silt, Sandy Silt
- Gravelly Clay or Clay w/Limestone
- Fill, Soil, Gravel, Rock
- Coarse Gravel, Silty Gravel, Sandy Gravel
- Limestone
- Claystone/Mudstone/Shale
- Sandstone

0 600 1200
HORIZONTAL SCALE IN FEET

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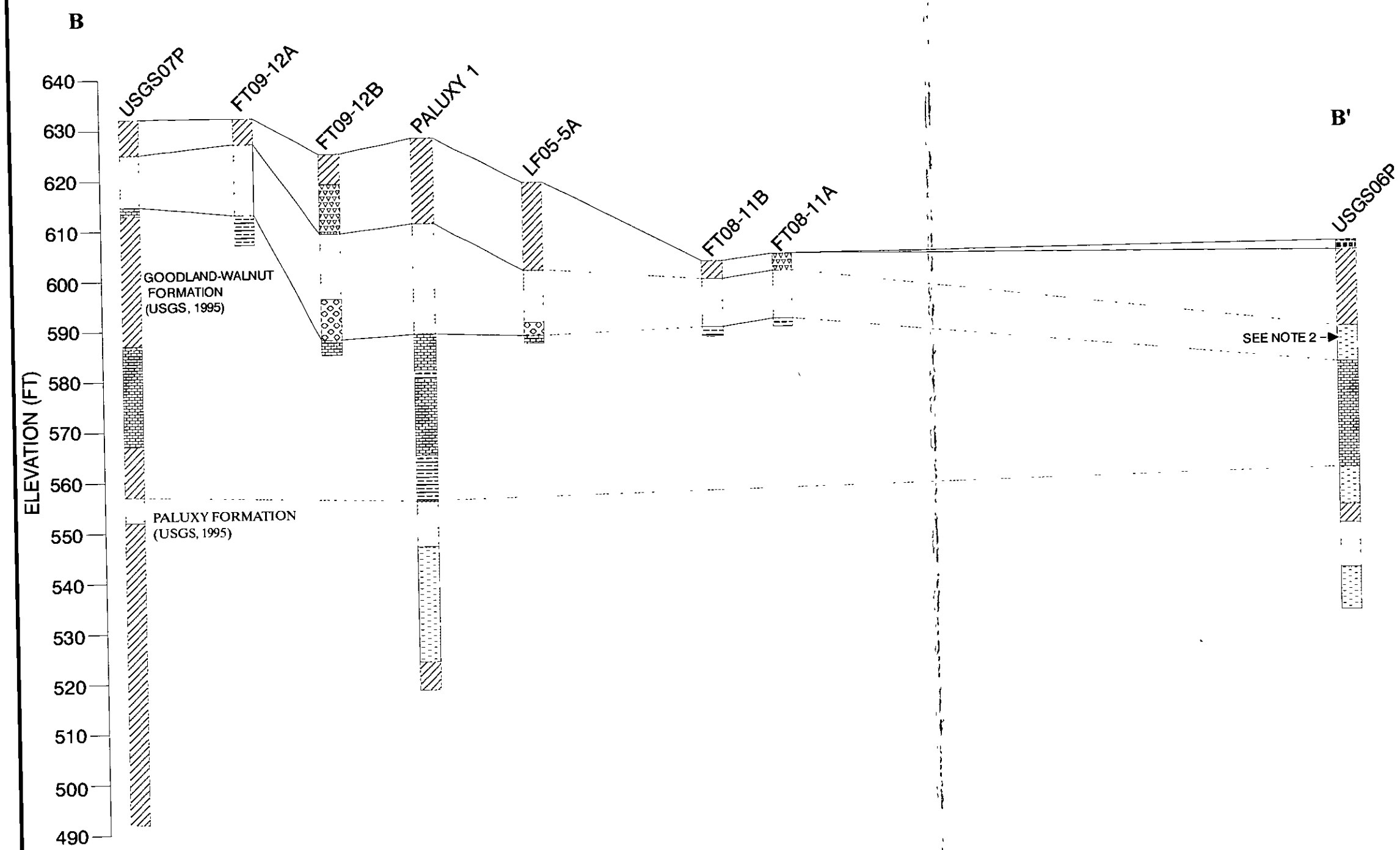
\Report\A-A ' x-sections cdr
Project AFC001-15BDB
Revised 07/12/00 cf
Source CH2M HILL, 1996 b

HYDRO GeoLogic INC

Figure 2.6

Cross Section B-B'

U.S. Air Force Center for Environmental Excellence



NOTE

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2) THE LITHOLOGIC LOGS FOR CERTAIN USGS BORINGS (USGS, 1996) CHARACTERIZE THESE SEQUENCES AS "SANDSTONE" WHICH, WHEN COMPARED WITH OTHER LOGS IN THIS AREA, SEEMS UNEXPECTED AT THIS ELEVATION IN THE SECTION THEREFORE, HYDROGEOLOGIC HAS CORRELATED THESE UNITS WITH THE TERRACE ALLUVIAL SANDS

Legend

- Stratigraphic Contact
- Inferred Stratigraphic Contact
- Fine- to Coarse-Grained Sand, Clayey Sand, Silty Sand, Gravelly Sand
- Clay, Silty Clay, Sandy Clay
- Silt, Clayey Silt, Sandy Silt
- Gravelly Clay or Clay w/Limestone
- Fill, Soil, Gravel, Rock
- Coarse Gravel, Silty Gravel, Sandy Gravel
- Limestone
- Claystone/Mudstone/Shale
- Sandstone

0 600 1200
HORIZONTAL SCALE IN FEET

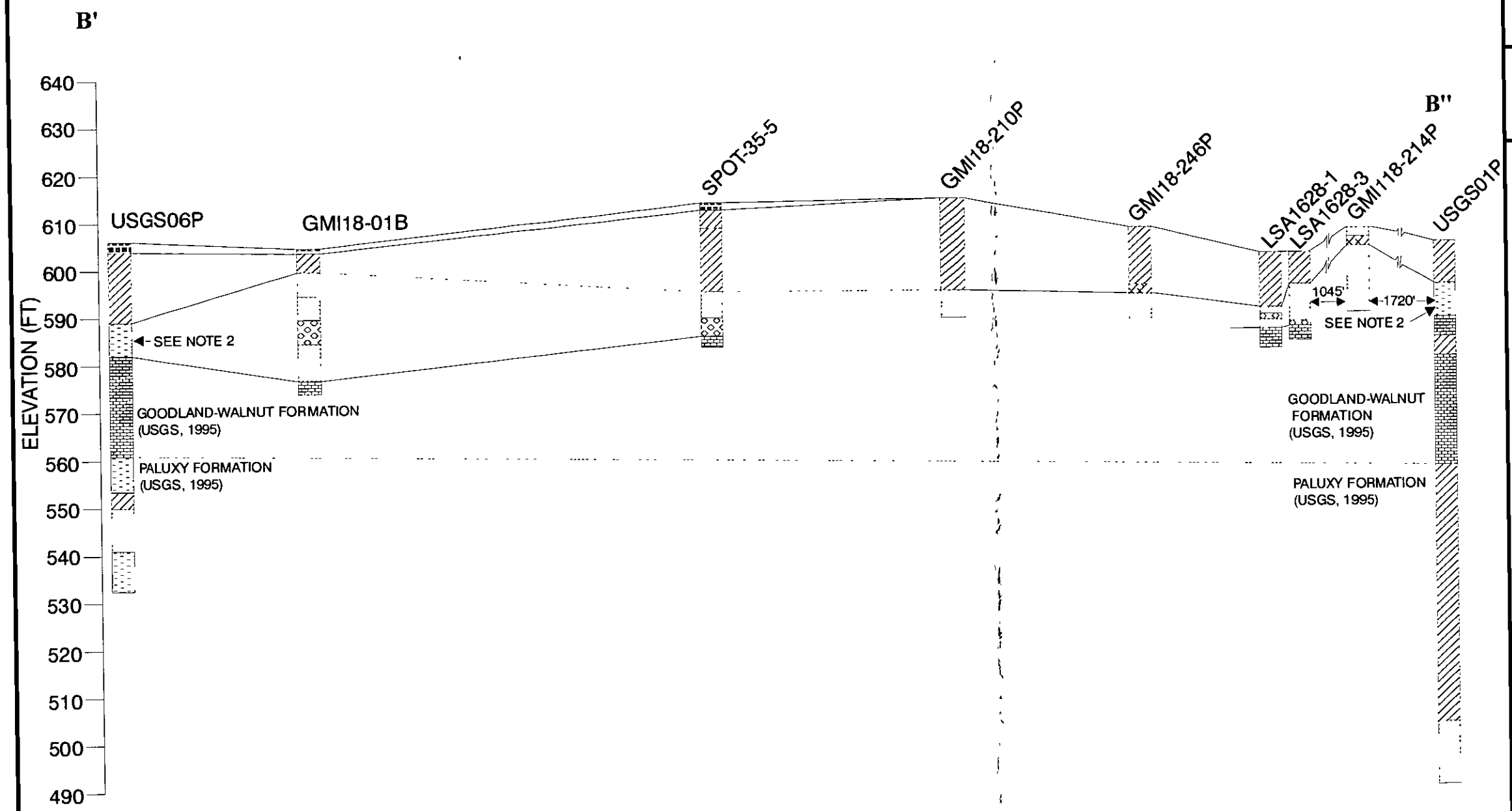
Filename X AFC001\15BDB
\Report\B-B _x-section cdr
Project AFC001-15BDB
Revised 06/09/00 ap
Source CH2M HILL, 1996 b

HYDRO GeoLogic INC

Figure 2.7

Cross Section B'-B"

U.S. Air Force Center
for Environmental Excellence



NOTE

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2) THE LITHOLOGIC LOGS FOR CERTAIN USGS BORINGS (USGS, 1996) CHARACTERIZE THESE SEQUENCES AS "SANDSTONE" WHICH, WHEN COMPARED WITH OTHER LOGS IN THIS AREA, SEEMS UNEXPECTED AT THIS ELEVATION IN THE SECTION THEREFORE, HYDROGEOLOGIC HAS CORRELATED THESE UNITS WITH THE TERRACE ALLUVIAL SANDS

Legend

- Stratigraphic Contact
- Inferred Stratigraphic Contact
- Fine- to Coarse-Grained Sand, Clayey Sand, Silty Sand, Gravelly Sand
- Clay, Silty Clay, Sandy Clay
- Silt, Clayey Silt, Sandy Silt
- Gravelly Clay or Clay w/Limestone
- Fill, Soil, Gravel, Rock
- Coarse Gravel, Silty Gravel, Sandy Gravel
- Limestone
- Claystone/Mudstone/Shale
- Sandstone

0 600 1200
HORIZONTAL SCALE IN FEET

Filename X AFC001\15BDB
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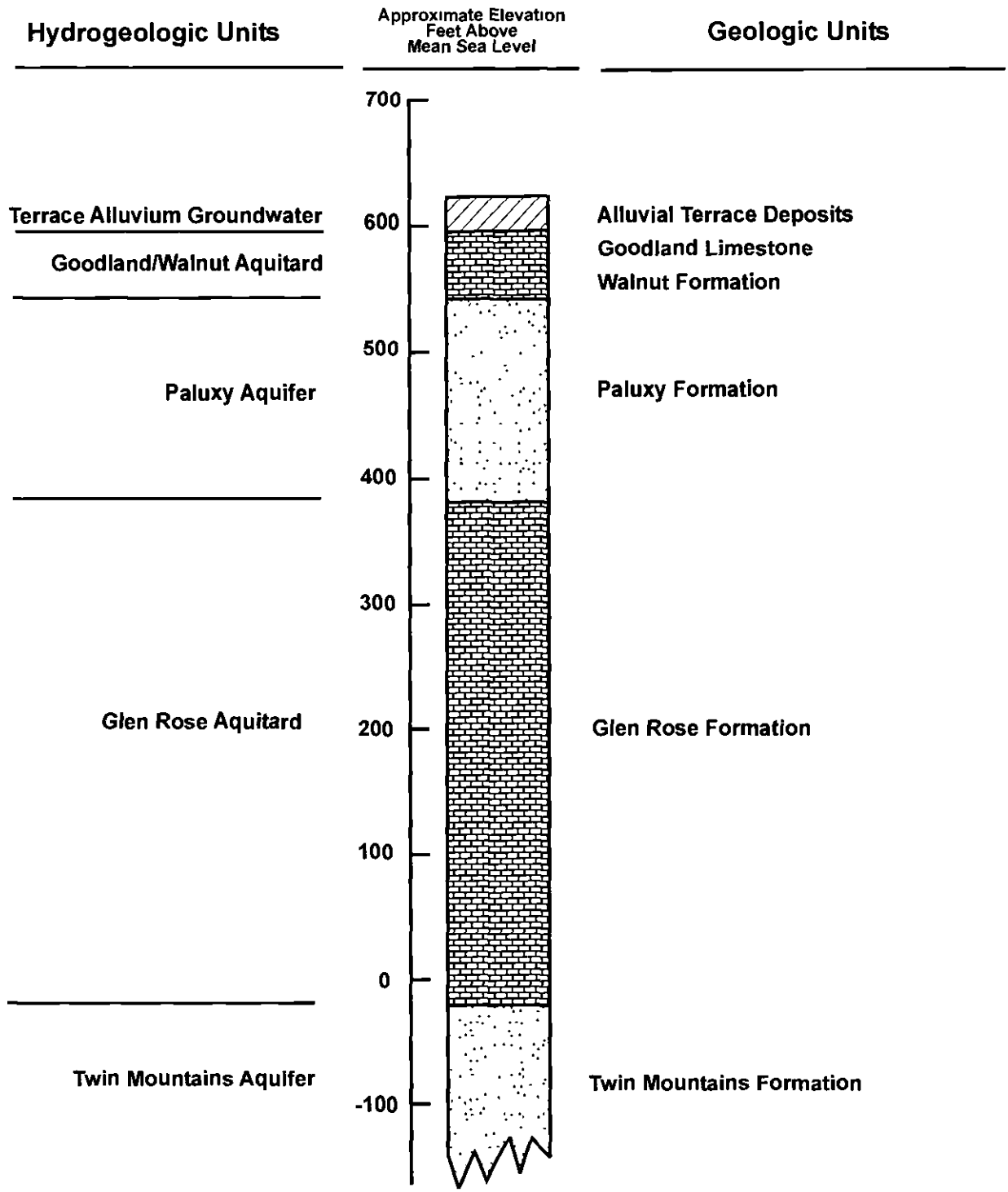
Project AFC001-15BDB
Revised 06/09/00 ap
Source CH2M HILL, 1996 b

HYDRO GeoLogic INC



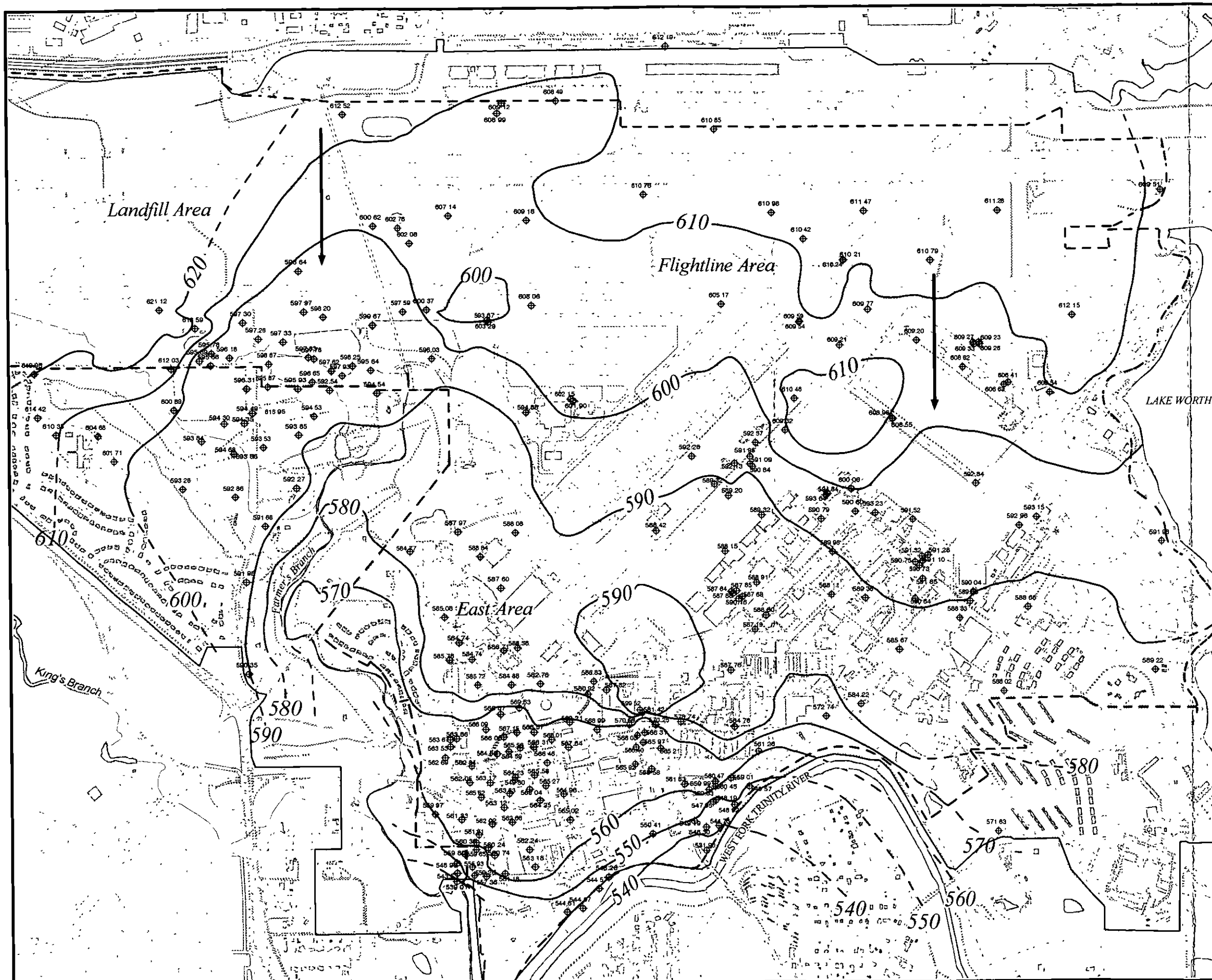
Filename X \AFC001\15BDB \Report\Strat_column cdr
Project AFC001-15BDB
Revised 06/09/00 ap
Map Source Radian, 1989

HYDRO GeoLogic INC

Legend

- Alluvium
- Limestone
- Sandstone

Figure 2.8
Stratigraphic Column Correlating Hydrogeologic and Geologic Units



HydroGeoLogic, Inc —RCRA Facility Investigation Report
NAS Fort Worth JRB, Texas

Figure 2.9

Water Level Elevations Terrace Alluvium January 1999

U.S. Air Force Center For Environmental Excellence
Brooks AFB, Texas

Legend

- - - - NAS Fort Worth JRB (Carswell Field)

——— Former Carswell Air Force Base

-600- Groundwater Elevation Contour (Feet Above Mean Sea Level)

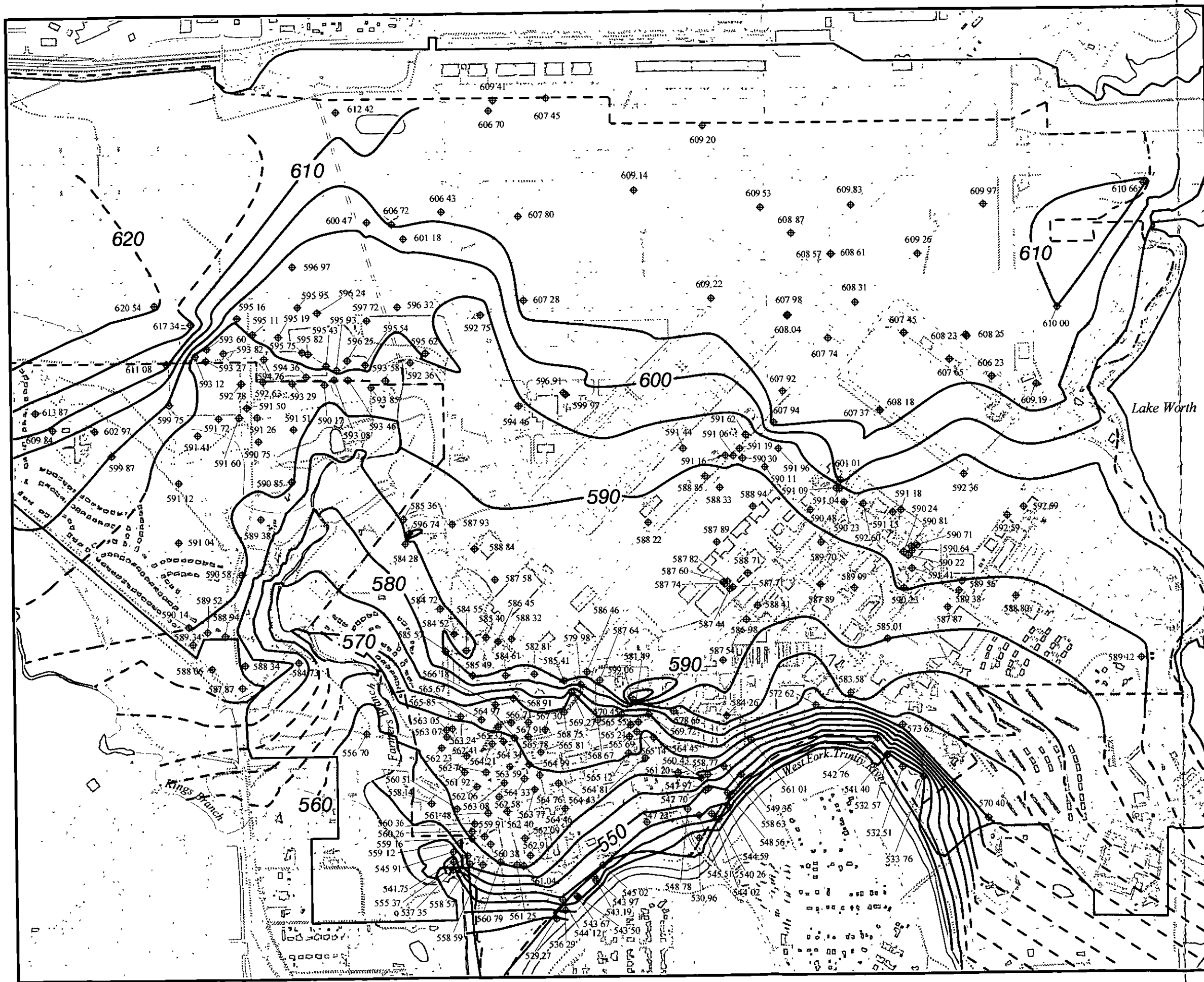
——► Generalized Groundwater Flow

N

0 500 1000 2000
SCALE IN FEET

HYDRO GeoLogic INC

Filename X:\AFC001\15BDB\Report\FIG2_9.apr
Project AFC001-15BDB
Created nzehms 03/15/99
Revised 06/12/00 ap
Map Source HGL GIS Database



HydroGeoLogic, Inc —RCRA Facility Investigation Report
NAS Fort Worth JRB, Texas

Figure 2.10

Water Level Elevations
Terrace Alluvium
July 2000

U.S. Air Force Center For Environmental Excellence

Legend

- - - - NAS Fort Worth JRB (Carswell Field)

——— Former Carswell Air Force Base

—600— Groundwater Elevation Contour (ft msl)

◆ Monitoring Well

N

0 500 1000 2000

SCALE IN FEET

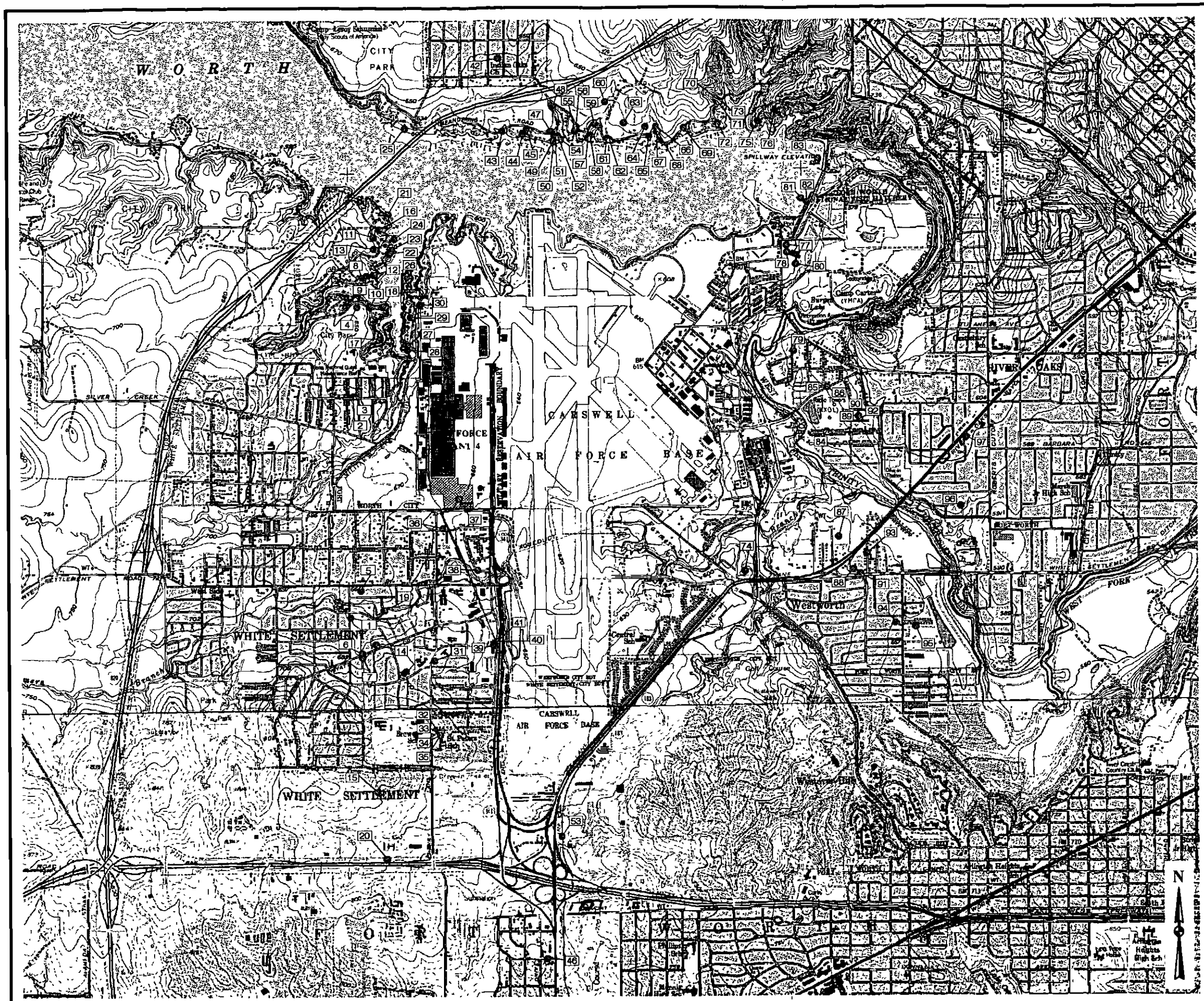
Filename X:\AFC001\15bdb\Report\gw elev july2000 apr
Project AFC001-15BDB
Created 01/22/00 jbelcher
Revised 01/18/01 jb
Map Source HydroGeoLogic, Inc GIS Database

HYDRO GeoLogic INC

Figure 2.11

Water Well Receptor Survey Within 1 Mile of NAS Fort Worth JRB

Air Force Center for Environmental Excellence



Legend

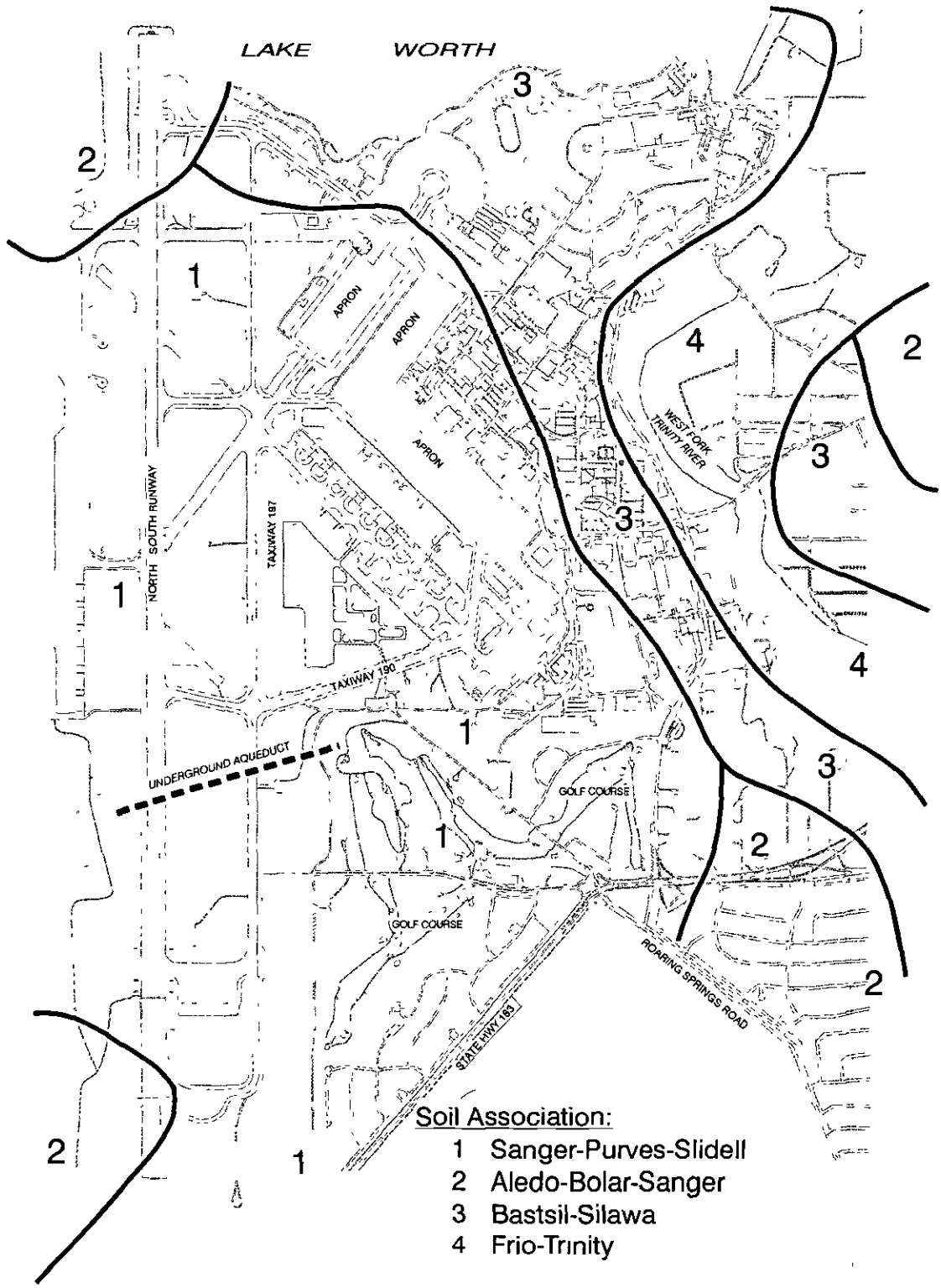
- Water Well Location

MAP ID	STATE WELL ID	WELL TYPE
1	Unnumbered	Domestic
2	32-13-811	Public Supply
3	32-13-808	Public Supply
4	32-13-08	Domestic
5	32-13-7k	Domestic
6	32-13-806	Unused
7	32-13-805	Unused
8	32-13-8	Domestic
9	32-13-4	Domestic
10	32-13-816	Domestic
11	32-13-7X	Domestic
12	32-13-8	Domestic
13	32-13-8	Domestic
14	Unnumbered	Domestic
15	32-21-2	Public Supply
16	32-13-8	Domestic
17	32-13-814	Domestic
18	32-13-819	Domestic
19	32-13-804	Public Supply
20	32-20-6	Domestic
21	32-13-822	Domestic
22	32-13-815	Domestic
23	32-13-820	Domestic
24	32-13-821	Domestic
25	32-13-5	Domestic
26	32-13-818	Domestic
27	32-13-813	Domestic
28	G2200324A	Public Supply
29	32-13-817	Domestic
30	32-13-8	Domestic
31	32-13-7g	Domestic
32	32-21-205	Unused
33	32-21-206	Unused
34	32-21-207	Unused
35	32-21-208	Unused
36	32-13-8c	Domestic
37	32-13-807	Unused
38	32-13-803	Public Supply
39	32-13-812	Public Supply
40	32-13-801	Public Supply
41	32-13-802	Public Supply
42	32-13-5C	Domestic
43	Unnumbered	NA
44	32-13-5	Domestic
45	32-13-7	Domestic
46	32-21-2B	Domestic
47	32-13-5	Domestic
48	32-13-5	Domestic
49	32-13-5	Domestic

MAP ID	STATE WELL ID	WELL TYPE
50	32-13-5	Domestic
51	32-13-5U	Domestic
52	32-24-4	Domestic
53	Unnumbered	Industrial
54	32-13-3	Domestic
55	Unnumbered	Domestic
56	32-13-5	Domestic
57	32-13-5K	Domestic
58	32-13-5K	Domestic
59	32-13-5	Domestic
60	32-13-5B	NA
61	32-13-5	Domestic
62	32-13-5	Domestic
63	32-13-9h	Domestic
64	32-13-5	Domestic
65	32-13-5	Domestic
66	32-13-5F	Domestic
67	32-13-5F	Domestic
68	32-13-5F	Domestic
69	32-13-5	Domestic
70	32-13-5S	Domestic
71	32-13-5S	Domestic
72	32-13-5	Domestic
73	32-13-5S	Domestic
74	32-12-9	Domestic
75	32-13-5	Domestic
76	32-13-5M	Domestic
77	32-13-810	Unused
78	32-13-809	Unused
79	32-13-8	Domestic
80	32-13-9	Domestic
81	S2200012A	Surface Water Intake
82	S2200012B	Surface Water Intake
83	S2200069A	Surface Water Intake
84	32-14-7	Domestic
85	32-13-911	Unused
86	32-13-912	Public Supply
87	32-13-9a	Domestic
88	32-13-917	Public Supply
89	32-13-9	Irrigation
90	32-14-7	Domestic
91	32-13-9	Domestic
92	32-14-7	Domestic
93	32-13-9	Domestic
94	32-13-9	Domestic
95	32-13-9a	Domestic
96	32-13-9	Irrigation
97	32-31-1N	Irrigation

Filename X \Afc001\15bdb\RCRA Facility Investigation Report\ well receptor survey apr
Project AFC001-15BDB
Created by. cfarmer 01/17/01
Revised 03/13/01 jb
Maps: Lake Worth and Benbrook TX
Dates Photorevised 1981, 1982

HYDRO GeoLogic Inc.



Filename X AFC001\15BDB\Report \Fig2_12 cdr
Project AFC001-15BDB
Revised 07/06/00 cf
Source Radian, 1989

HYDRO GeoLogic

Legend

0 1000 2000
SCALE IN FEET

N

Figure 2.12
Soil Association Map
NAS Fort Worth JRB, Texas

TAB

SECTION 30

3.0 SUMMARY OF INVESTIGATION ACTIVITIES

This section describes activities conducted as part of this investigation. Preliminary activities conducted for the site characterization included site reconnaissance, utility clearance, and inspections of each WAA storage shed. Chemical characterization activities included surface and subsurface soil sample collection and two rounds of groundwater sampling intended to identify the nature and extent of contamination that may have resulted from past activities at each site.

3.1 SITE RECONNAISSANCE AND UTILITY CLEARANCE

Prior to mobilizing to the field, HydroGeoLogic conducted a site reconnaissance to select sample locations and to assess requirements for site preparation and clearance of underground utilities.

The Navy Public Works Office was notified regarding the intended field investigation and sampling. Local utility companies were contacted by the Navy Public Works office to mark and clear all subsurface utilities within the area of SWMUs 11, 32, 36, and 51. For the Phase I soil investigation, the Navy Public Works office issued an individual dig permit for each SWMU under a master Permit No. 264 when utility clearance was completed at a site. Each individual dig permit was valid for 30 days, and HydroGeoLogic's field efforts for each site were conducted during the applicable 30-day window. Master Permit No. 264 expired before the Phase II soil investigation, and intrusive activities for Phase II were conducted under 30-day permits issued individually for each SWMU.

3.2 SITE INVESTIGATION ACTIVITIES

The following sections provide a summary of previous investigations at each SWMU and describe activities conducted as part of this RFI. Investigation activities were conducted at SWMUs 11, 32, 36, and 51 during May and June of 1999, April and May 2000, and October 2000. All sampling activities were conducted in accordance with the RFI WPs (HydroGeoLogic, 1999a) and the Phase II WP Addendum (HydroGeoLogic, 2000a).

As stated earlier in Section 1.3, the Air Force provided justification of a reduced list of soil and groundwater analytical requirements for this RFI in a letter to the TNRCC dated April 20, 1999. This letter is included as Appendix A.

3.2.1 SWMU 11

3.2.1.1 WAA Storage Shed Inspection

In 1990, a metal building with a concrete floor, designated as WAA 1618, was built to serve as a new 90-day storage shed at SWMU 11 in order to comply with the permit specifications for HW storage. WAA 1618 was built in the same location where waste was historically stored at

SWMU 11. Waste is currently stored within the WAA at SWMU 11 under the management of the 301st Air Reserve.

Prior to initiating the intrusive investigation at SWMU 11, the walls and floor of WAA 1618 were examined for cracks or gaps. The integrity of WAA 1618 appeared to be intact during the inspection and as a result, intrusive activities did not take place within the storage shed. Photographs of the WAA storage shed at SWMU 11 are presented in Figure 3.1.

3.2.1.2 Phase I Soil Sampling Activities

Two soil borings, BHGLSWMU11001 and BHGLSWMU11002, were advanced at SWMU 11 during Phase I (Figure 3.2). Both borings were advanced surficially downgradient from WAA 1618. A total of two surface soil and five subsurface soil samples were submitted for chemical analysis. Soil samples were collected from each boring every 5 feet from the ground surface to the top of the water table. Based on the types and quantities of wastes handled at SWMU 11 (see Table 1.1), all samples were analyzed for the following list of analyses:

Screening:
- SW9045C - soil pH

Definitive (Appendix IX):
- SW8260B - volatile organic compounds (VOCs)
- SW8270C - semivolatile organic compounds (SVOCs)
- SW6010B/7000A - trace elements (metals)
- SW7471A - mercury

The analytical results obtained from samples collected from the soil borings are intended to determine whether a release has occurred from SWMU 11. Results of the SWMU 11 Phase I soil investigation are presented in Section 4.0.

3.2.1.3 Phase II Soil Sampling Activities

Three additional soil borings, BHGLSWMU11003 through BHGLSWMU11005, were advanced at SWMU 11 during Phase II (Figure 3.2). BHGLSWMU11003 was completed at the north corner of WAA 1618; BHGLSWMU11004 was completed west of boring BHGLSWMU11001; and BHGLSWMU11005 was completed southeast of boring BHGLSWMU11002. In addition, fourth a soil boring was advanced to the east of SWMU 11 and completed as monitoring well WHGLTA027. A total of 12 subsurface soil samples were submitted for chemical analysis during Phase II. Soil samples were collected to confirm the presence of specific COPCs at the depth intervals associated with the corresponding Phase I detections. Based on the results of the Phase I soil samples, the following methods were used to analyze Phase II soil samples:

Definitive (Appendix IX):

- SW6010B - arsenic
- SW7421 - lead

Lead was analyzed for all Phase II subsurface soil samples. Arsenic was analyzed only for samples collected from the 10-foot intervals of borings BHGLSWMU11003, BHGLSWMU11005, and WHGLTA027. The analytical results obtained from samples collected from the Phase II soil borings are intended to provide additional site data in order to confirm the presence of analytes detected slightly above both background and the MSCs at SWMU 11 during the Phase I investigation. Results of the SWMU 11 Phase II soil investigation are presented in Section 4.0.

3.2.1.4 Groundwater Sampling Activities

Monitoring well WHGLTA027 was installed downgradient from SWMU 11 in May 2000. The monitoring well location is depicted in Figure 3.2. Monitoring well WHGLTA027 was advanced slightly further southeast than originally proposed due to overhead utilities and other access restrictions at the site. Groundwater samples were collected from WHGLTA027 in May and October 2000. Based on the results of the Phase I soil samples, Round 1 groundwater samples were analyzed for the following list of analyses:

Definitive (Appendix IX):

- SW6010B - arsenic (Round 1)
- SW7060A - arsenic (Round 2)
- SW7421 - lead (Rounds 1 and 2)

Round 2 groundwater samples were also analyzed for lead and arsenic. However, the method for arsenic analysis was changed to SW7060A in Round 2 because there was some suspicion that low-level arsenic detections during Round 1 may have been influenced by matrix effects. Method SW7060A is an arsenic-specific method and the data quality and analytical sensitivity produced by this method are of at least the same level as those produced by method SW6010B. The analytical results obtained from samples collected from this monitoring well are intended to determine if any analytes detected above the soil MSCs at SWMU 11 are having an impact on groundwater quality. Results of the SWMU 11 groundwater investigation are presented in Section 4.0.

3.2.2 SWMU 32

3.2.2.1 WAA Storage Shed Inspection

In 1990, a metal building with a concrete floor, designated as WAA 1415, was built to serve as a new 90-day storage shed at SWMU 32 in order to comply with the permit specifications for HW storage. WAA 1415 was built at the northern end of the location where waste was historically stored at SWMU 32. Waste is currently stored within the WAA at SWMU 32 under the management of the Marines.

Prior to initiating the intrusive investigation at SWMU 32, the walls and floor of WAA 1415 were examined for cracks or gaps. The integrity of WAA 1415 appeared to be intact during the inspection and as a result, intrusive activities did not take place within the storage shed. Photographs of the WAA storage shed at SWMU 32 are presented in Figure 3.3.

3.2.2.2 Phase I Soil Sampling Activities

Three soil borings, BHGLSWMU32001 through BHGLSWMU32003, were advanced at SWMU 32 during Phase I (Figure 3.4). Borings BHGLSWMU32001 and BHGLSWMU32002 were advanced within the boundary of SWMU 32. Boring BHGLSWMU32003 was advanced surficially downgradient from WAA 1415. A total of three surface soil and eight subsurface soil samples were submitted for chemical analysis. Soil samples were collected from each boring every 5 feet from the ground surface to the top of the water table. Based on the types and quantities of wastes handled at SWMU 32 (see Table 1.1), all samples were analyzed for the following list of analyses:

Screening:
- SW9045C - soil pH

Definitive:
- TX1005 - TPH

Definitive (Appendix IX):
- SW8260B - VOCs
- SW8270C - SVOCs
- SW6010B/7000A - trace elements (metals)
- SW7471A - mercury

The analytical results obtained from samples collected from the soil borings are intended to determine whether a release has occurred from SWMU 32. Results of the SWMU 32 Phase I soil investigation are presented in Section 4.0.

3.2.2.3 Phase II Soil Sampling Activities

Four soil borings, BHGLSWMU32004 through BHGLSWMU32007, were advanced at SWMU 32 during Phase II (Figure 3.4). BHGLSWMU32004 was completed north of SWMU 32; BHGLSWMU32005 and BHGLSWMU32006 were completed to the west of SWMU 32; and BHGLSWMU32007 was completed south of SWMU 32. In addition, a soil boring was advanced to the northeast of WAA 1415 and completed as monitoring well WHGLTA029. A total of 2 surface soil samples and 10 subsurface soil samples were submitted for chemical analysis. Soil samples were collected to confirm and delineate specific COPCs at the depth intervals associated with the corresponding Phase I detections. Based on the results of the Phase I soil samples, the following methods were used to analyze Phase II soil samples:

Definitive (Appendix IX):

- SW8260B - chlorobenzene and ethylbenzene
- SW6010B - arsenic, barium, and cadmium
- SW7421 - lead

Chlorobenzene was analyzed for 5- and 10-foot interval samples from all Phase II subsurface soil samples except those collected at boring BHGLSWMU32007. Ethylbenzene was analyzed for surface soil samples from borings BHGLSWMU32006 and BHGLSWMU32007. Arsenic and barium were analyzed for samples collected from the 15-foot intervals of borings BHGLSWMU32004, BHGLSWMU32005, and WHGLTA029. Cadmium was analyzed only in the surface soil sample from BHGLSWMU32007. The analytical results obtained from samples collected from the Phase II soil borings are intended to both confirm and delineate analytes detected slightly above background and the MSCs at SWMU 32 during the Phase I investigation. Results of the SWMU 32 Phase II soil investigation are presented in Section 4.0.

3.2.2.4 Groundwater Sampling Activities

Monitoring well WHGLTA029 was installed downgradient from SWMU 32 in May 2000. The monitoring well location is depicted in Figure 3.4. Groundwater samples were collected from WHGLTA029 in May and October 2000. Based on the results of the Phase I soil samples, Round 1 groundwater samples were analyzed for the following list of analyses:

Definitive (Appendix IX):

- SW8260B - chlorobenzene (Rounds 1 and 2)
- SW6010B - arsenic (Round 1) and barium (Rounds 1 and 2)
- SW7060A - arsenic (Round 2)

Round 2 groundwater samples analyzed for the same analytes. However, the method for arsenic analysis was changed to SW7060A in Round 2 because there was some suspicion that low-level arsenic detections during Round 1 may have been influenced by matrix effects. Method SW7060A is an arsenic-specific method and the data quality and analytical sensitivity produced by this method are of at least the same level as those produced by method SW6010B. The analytical results obtained from samples collected from this monitoring well are intended to determine if any analytes detected above the soil MSCs at SWMU 32 are having an impact on groundwater quality. Results of the SWMU 32 groundwater investigation are presented in Section 4.0.

3.2.3 SWMU 36

3.2.3.1 WAA Storage Shed Inspection

No WAA storage shed exists at SWMU 36. Shortly after 1990, wastes were removed from SWMU 36 and the site has not been designated as an active WAA since that time. However, several 55-gallon drums of waste petroleum products generated inside Building 1191 were

stored on pallets at this location during a site inspection by HydroGeoLogic in 1998 (Figure 1.4). These drums were no longer present during the 1999 Phase I investigation. However, wheeled containers identified as "Diesel Fuel," "Unleaded Gasoline," and "Contaminated Fuel Oil" were present at the site. The wheeled containers appear to be well maintained, and no staining or odors were noted in the immediate area. Photographs of the WAA storage area at SWMU 36 are presented in Figure 3.5.

3.2.3.2 Phase I Soil Sampling Activities

Three soil borings, BHGLSWMU36001 through BHGLSWMU36003, were advanced at SWMU 36 during Phase I (Figure 3.6). Borings BHGLSWMU36001 and BHGLSWMU36002 were advanced within the boundary of SWMU 32. Boring BHGLSWMU36003 was advanced surficially downgradient from SWMU 36. A total of three surface soil and seven subsurface soil samples were submitted for chemical analysis. Soil samples were collected from each boring every 5 feet from the ground surface to the top of the water table. Based on the types and quantities of wastes handled at SWMU 36 (see Table 1.1), all samples were analyzed for the following list of analyses:

Screening:
- SW9045C - soil pH

Definitive:
- TX1005 - TPH
- SW8015 (modified) - ethylene glycol

Definitive (Appendix IX):
- SW8260B - VOCs
- SW8270C - SVOCs
- SW6010B/7000A - trace elements (metals)
- SW7471A - mercury

The analytical results obtained from samples collected from the soil borings are intended to determine whether a release has occurred from SWMU 36. Results of the SWMU 36 Phase I soil investigation are presented in Section 4.0.

3.2.3.3 Phase II Soil Sampling Activities

Five soil borings, BHGLSWMU36004 through BHGLSWMU36008, were advanced at SWMU 36 during Phase II (Figure 3.6). Confirmation boring BHGLSWMU36004 was advanced in the same location of Phase I boring BhGLSWMU36003. Borings BHGLSWMU35005 through BHGLSWMU36008 were advanced to the northeast, southeast, south, and northwest of SWMU 36, respectively. In addition, a sixth soil boring was advanced to the east of SWMU and completed as monitoring well WHGLTA033. A total of six subsurface soil samples were submitted for chemical analysis. Soil samples were collected from each boring only at the 5-foot interval in order to provide additional site data to confirm the presence of COPCs identified during Phase I. Based on the results of the Phase I soil samples, the following methods were used to analyze all Phase II soil samples:

Definitive (Appendix IX):

- SW6010B - chromium (total)
- SW7421 - lead

The analytical results obtained from samples collected from the Phase II soil borings are intended to confirm the presence of analytes detected slightly above background and the MSC at SWMU 36 during the Phase I investigation. Results of the SWMU 36 Phase II soil investigation are presented in Section 4.0.

3.2.3.4 Groundwater Sampling Activities

Monitoring well WHGLTA033 was installed downgradient from SWMU 36 in May 2000. The monitoring well location is depicted in Figure 3.6. Groundwater samples were collected from WHGLTA033 in May and October 2000. Based on the results of the Phase I soil samples, Round 1 and Round 2 groundwater samples were analyzed for the following list of analyses:

Definitive (Appendix IX):

- SW7191 - chromium (total)
- SW7421 - lead

The analytical results obtained from samples collected from this monitoring well are intended to determine if any analytes detected above the soil MSCs at SWMU 36 are having an impact on groundwater quality. Results of the SWMU 36 groundwater investigation are presented in Section 4.0.

3.2.4 SWMU 51

3.2.4.1 WAA Storage Shed Inspection

In 1990, a metal building with a concrete floor, designated as WAA 1189, was built to serve as a new 90-day storage shed at SWMU 51 in order to comply with permit specifications for HW storage. WAA 1189 was built in the center of the Cluster 2 area of SWMU 51. However, shortly after 1990, all waste was removed from SWMU 51 and the site has not served as an active WAA since that time.

Prior to initiating the intrusive investigation at SWMU 51, the walls and floor of WAA 1189 were examined for cracks or gaps. The integrity of WAA 1189 appeared to be intact during the inspection and as a result, intrusive activities did not take place within the storage shed. Photographs of WAA 1189 are presented in Figure 3.7.

3.2.4.2 Phase I Soil Sampling Activities

Nine soil borings, BHGLSWMU51001 through BHGLSWMU51009, were advanced at SWMU 51 during Phase I (Figure 3.8). Borings BHGLSWMU51001 through BHGLSWMU51004 were advanced within the boundary of Cluster 2 of SWMU 51. Borings

BHGLSWMU51005 through BHGLSWMU51007 were advanced within the boundary of Cluster 1 of SWMU 51. Borings BHGLSWMU51008 and BHGLSWMU51009 were advanced within the boundary of Cluster 3 of SWMU 51. Due to the proximity of AOC 15[2] (Figure 3.8), analytical results from sample BHGLAOC15001, advanced in May 1999, are also included in the Phase I data set. Including the samples collected from BHGLAOC15001, a total of 10 surface soil and 20 subsurface soil samples were submitted for chemical analysis. Soil samples were collected from each boring every 5 feet from the ground surface to the top of the water table. As SWMU 51 served as the central waste handling area for the Base (see Table 1.1), all samples were analyzed for the following list of analyses, which comprises the full suite of Appendix IX analytes:

Screening (Appendix IX):

- SW9030B - sulfide

Definitive (Appendix IX):

- SW8260B - VOCs
- SW8270C - SVOCs
- SW8081A/SW8082 - organochlorine pesticides and polychlorinated biphenyls (PCBs)
- SW8141A - organophosphorus pesticides
- SW8151A - chlorinated herbicides
- SW8280A - polychlorinated dibenzo-p-dioxins and polychlorinated dibenzofurans
- SW6010B/7000A - trace elements (metals)
- SW7471A - mercury
- SW9012A - cyanide

The analytical results obtained from samples collected from the soil borings are intended to determine whether a release has occurred from SWMU 51. Results of the SWMU 51 Phase I soil investigation are presented in Section 4.0.

3.2.4.3 Phase II Soil Sampling Activities

Five DPT soil borings, BHGLSWMU51010 through BHGLSWMU51014, were advanced at SWMU 51 during Phase II (Figure 3.8). Borings BHGLSWMU51010 through BHGLSWMU51012 were completed west to southwest of SWMU 51. Borings BHGLSWMU51013 and BHGLSWMU51014 were completed northeast and east of the Cluster 2 area of SWMU 51. Four additional soil borings were advanced from the east to the southeast of SWMU 51 with an HSA. Two of the borings were completed as monitoring wells WHGLTA030 and WHGLTA031. The third boring was advanced to install monitoring well WHGLTA032, but this location was dry. As a result, a fourth boring was completed as monitoring well WHGLTA039. A total of 7 surface soil and 21 subsurface soil samples were submitted for chemical analysis during Phase II. Phase II soil samples were collected to delineate specific COPCs at the depth intervals associated with the corresponding Phase I

[2] Site closure under RRS 1 was received for AOC 15 in the TNRCC letter dated November 20, 2000.

detections. Based on the results of the Phase I soil samples, the following methods were used to analyze the Phase II soil samples:

Definitive (Appendix IX):

- SW6010B - arsenic, cadmium, cobalt, nickel
- SW7421 - lead
- SW7471A - mercury

Mercury was analyzed in the majority of subsurface soil samples collected in the Phase II soil investigation at SWMU 51. Arsenic and cadmium were analyzed for surface soil samples collected from BHGLSWMU51011, BHGLSWMU51012, and WHGLTA030. Cobalt was analyzed for the surface soil samples from WHGLTA032 and WHGLTA039, and cobalt and nickel were analyzed for the surface soil sample from WHGLTA031. Arsenic, cobalt, and lead were analyzed for the 20-foot interval samples from borings BHGLSWMU51013, BHGLSWMU51014, WHGLTA032, and WHGLTA039. The analytical results obtained from samples collected from the Phase II soil borings are intended to delineate analytes detected above background and the MSC at SWMU 51 during the Phase I investigation. Results of the SWMU 51 Phase II soil investigation are presented in Section 4.0.

3.2.4.4 Groundwater Sampling Activities

Monitoring wells WHGLTA030, WHGLTA031, and WHGLTA039 were installed downgradient from SWMU 51 in May 2000. The monitoring well locations are depicted in Figure 3.8. These three new wells, and existing upgradient monitoring well ST14-25, were sampled in May and October 2000. Based on the results of the Phase I soil samples, Round 1 and Round 2 groundwater samples were analyzed for the following list of analyses:

Definitive (Appendix IX):

- SW6010B - arsenic (Round 1), cobalt (Rounds 1 and 2)
- SW7060A - arsenic (Round 2)
- SW7421 - lead (Rounds 1 and 2)
- SW7470A - mercury (Rounds 1 and 2)

Well WHGLTA030 was sampled for mercury; well WHGLTA031 was analyzed for lead and mercury; and wells WHGLTA039 and ST14-25 were sampled for arsenic, cobalt, lead, and mercury. Round 2 groundwater samples analyzed for the same analytes. The method for arsenic analysis was changed to SW7060A in Round 2 because there was some suspicion that low-level arsenic detections may have been influenced by matrix effects. Method SW7060A is an arsenic-specific method and the data quality and analytical sensitivity produced by this method are of at least the same level as those produced by method SW6010B. The analytical results obtained from samples collected from these monitoring wells are intended to determine if any analytes detected above the soil MSCs at SWMU 51 are having an impact on groundwater quality. Results of the SWMU 51 groundwater investigation are presented in Section 4.0.

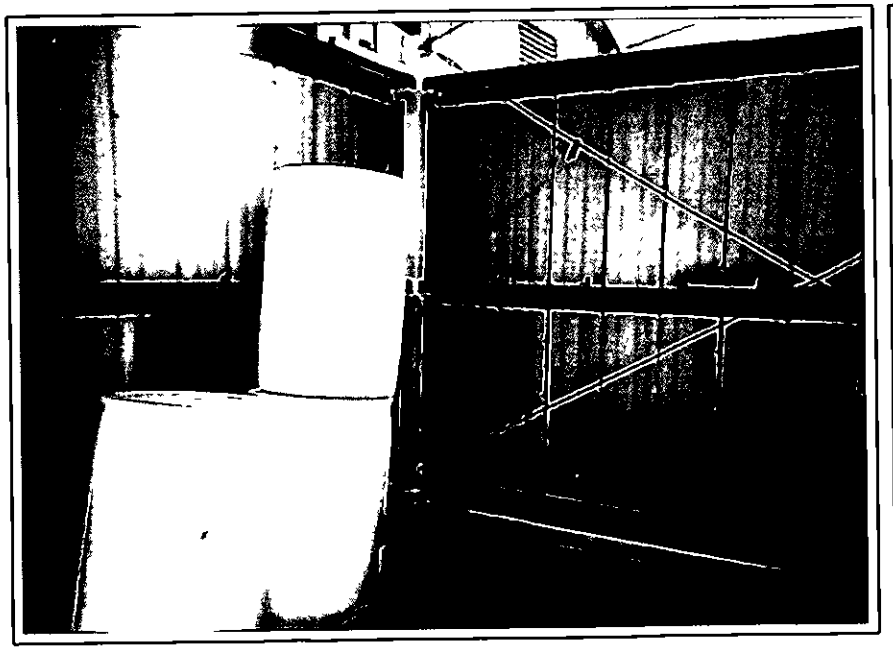
3.3 ELEVATION AND LOCATION SURVEY

Each DPT soil boring and monitoring well location was surveyed by Baird, Hampton & Brown, Inc., of Fort Worth, Texas. Vertical and horizontal measurements were collected in accordance with the RFI WPs (HydroGeoLogic, 1999a). Surveying data are provided in Appendix C.

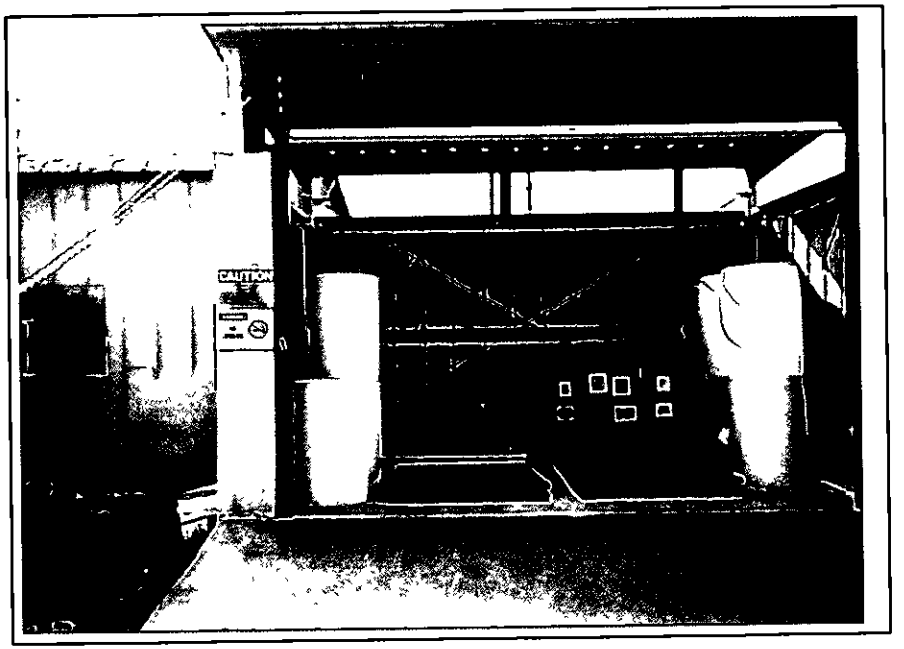
FIGURES

WAA 1618
SWMU 11

June, 1999



June, 1999



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Project: AFC 001-15BIDB
Created: 06/12/99 cfarmer
Revised: 01/08/01 cf
Source: HGL ArcView Database

U.S. Air Force Center for Environmental Excellence
Brooks AFB, Texas

Figure 3.1
Photographs — WAA 1618

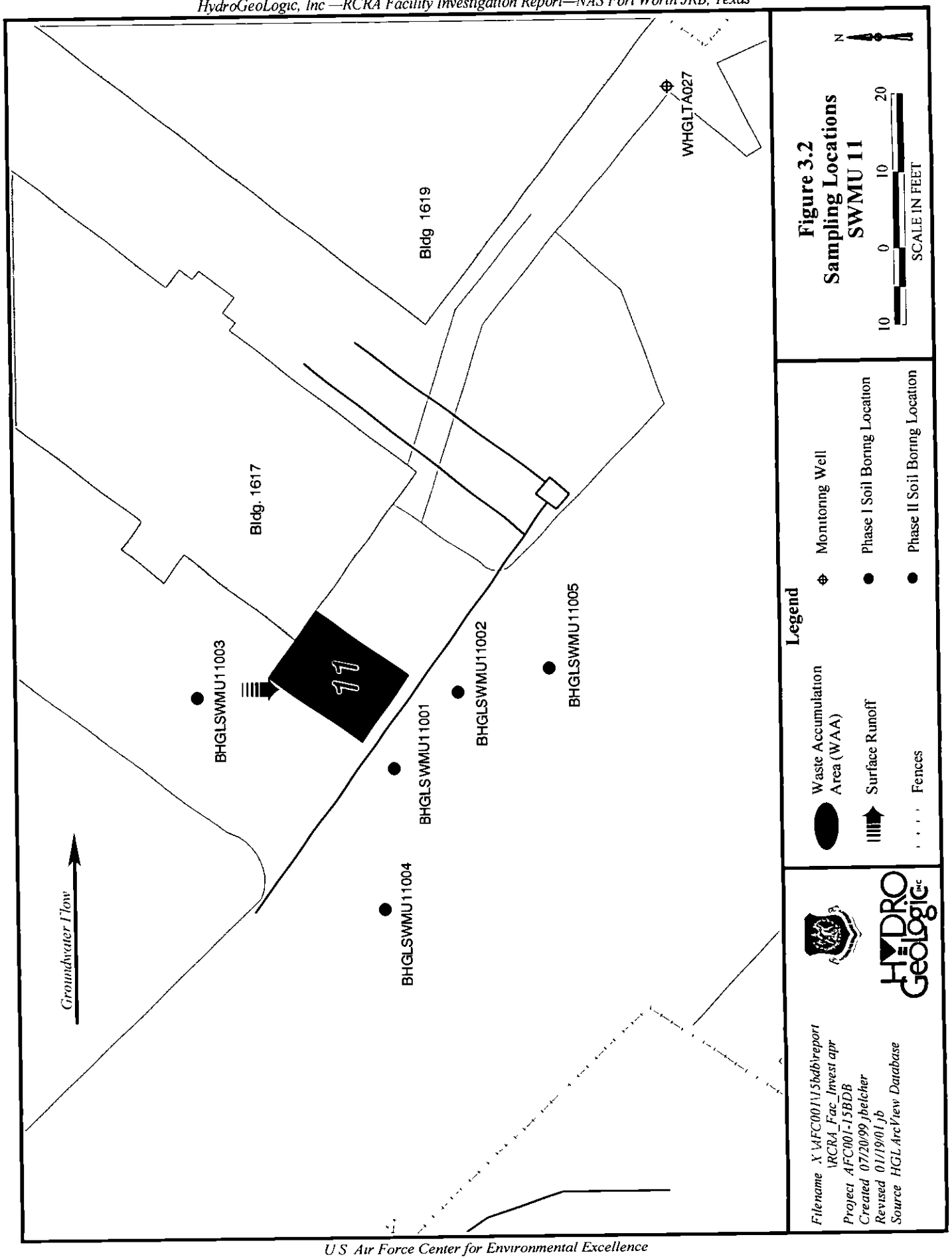
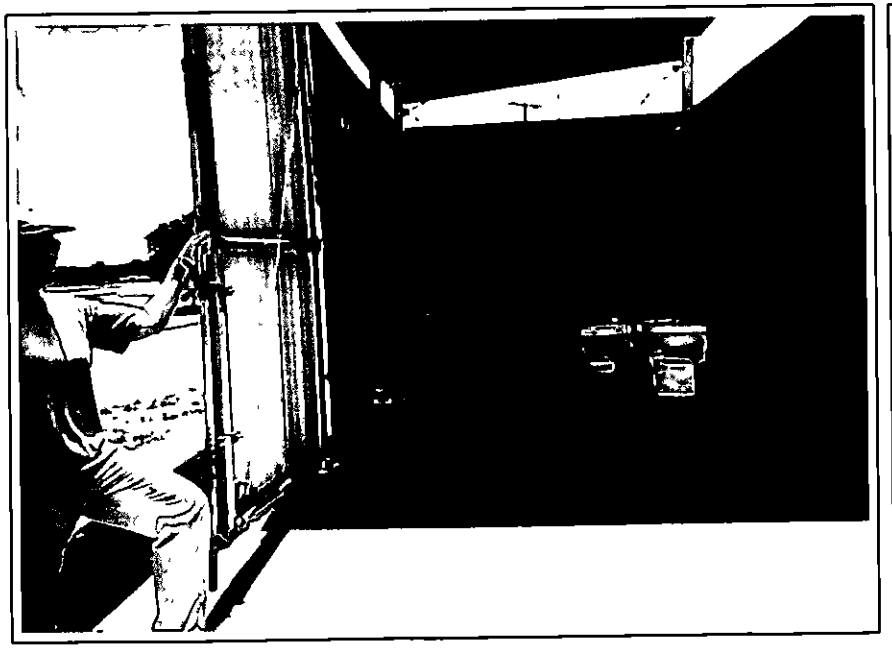


Figure 3.2
Sampling Locations
SWMU 11
N
10 0 10 20
SCALE IN FEET
Legend
Waste Accumulation Area (WAA)
Surface Runoff
Fences
Monitoring Well
Phase I Soil Boring Location
Phase II Soil Boring Location
WHGLTA027
Bldg 1619
Bldg. 1617
11
BHGLSWMU11003
BHGLSWMU11004
BHGLSWMU11001
BHGLSWMU11002
BHGLSWMU11005
Groundwater Flow
Filename X:\AFC001\15bdb\report\RCRA_Fac_Invest.apr
Project AFC001-15BDB
Created 07/20/99 jbelcher
Revised 01/19/01 jb
Source HGL ArcView Database
HYDRO GeoLogic INC

WAA 1415
SWMU 32

June, 1999



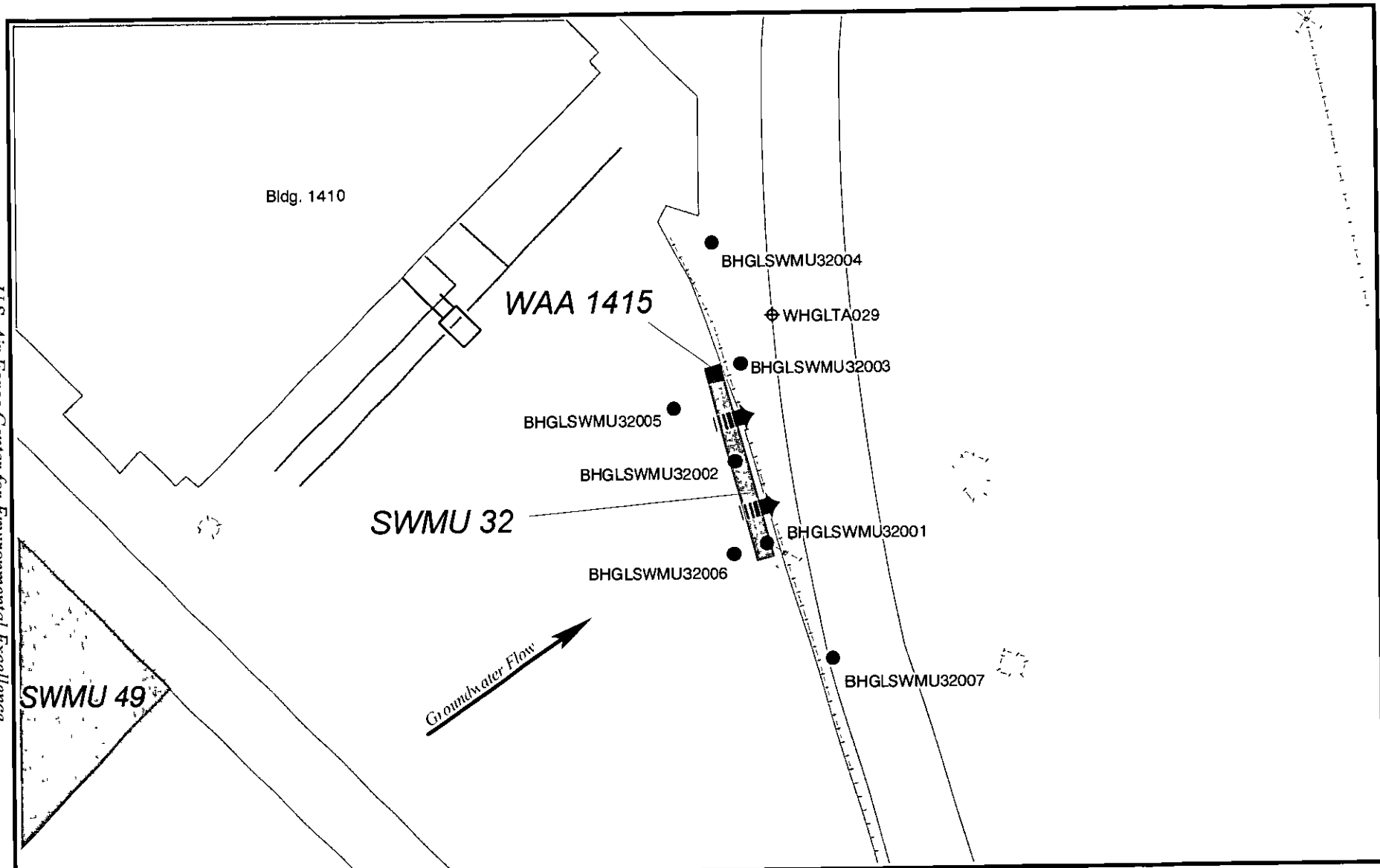
June, 1999

Filename A:\AFC001\15BDB\Report\photos.apr
Project AFC001-15BDB
Created 06/12/99 cfarmer
Revised 01/08/01 cf
Source HGI ArcView Database

HYDRO GeoLogic

U S Air Force Center for Environmental Excellence
Brooks AFB, Texas

Figure 3.3
Photographs — WAA 1415



Filename X:\AFC001\15bdb\report\RCRA_Fac_Invest.apr
Project AFC001-15BDB
Created 07/20/99 jbelcher
Revised 01/19/01 jb
Source HGL ArcView Database

HYDRO GeoLogic INC

Legend

- Waste Accumulation Area (WAA)
- Solid Waste Management Units (SWMU)
- Fences
- Surface Runoff
- Monitoring Well
- Phase I Soil Boring Location
- Phase II Soil Boring Location

Figure 3.4
Sampling Locations
SWMU 32

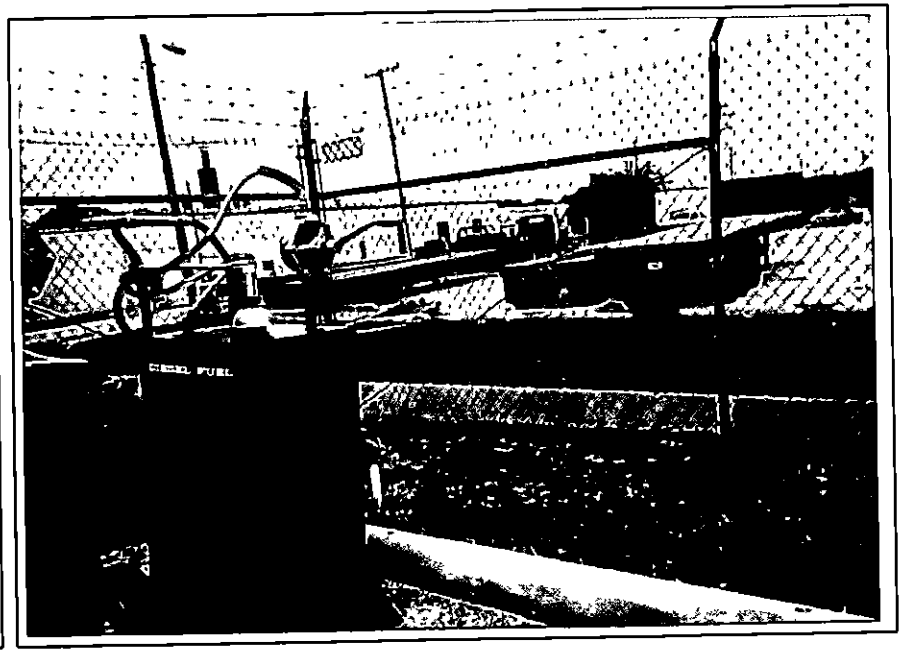
25 0 25 50
SCALE IN FEET

N

Former WAA 1191
SWMU 36

May, 1999

May, 1999



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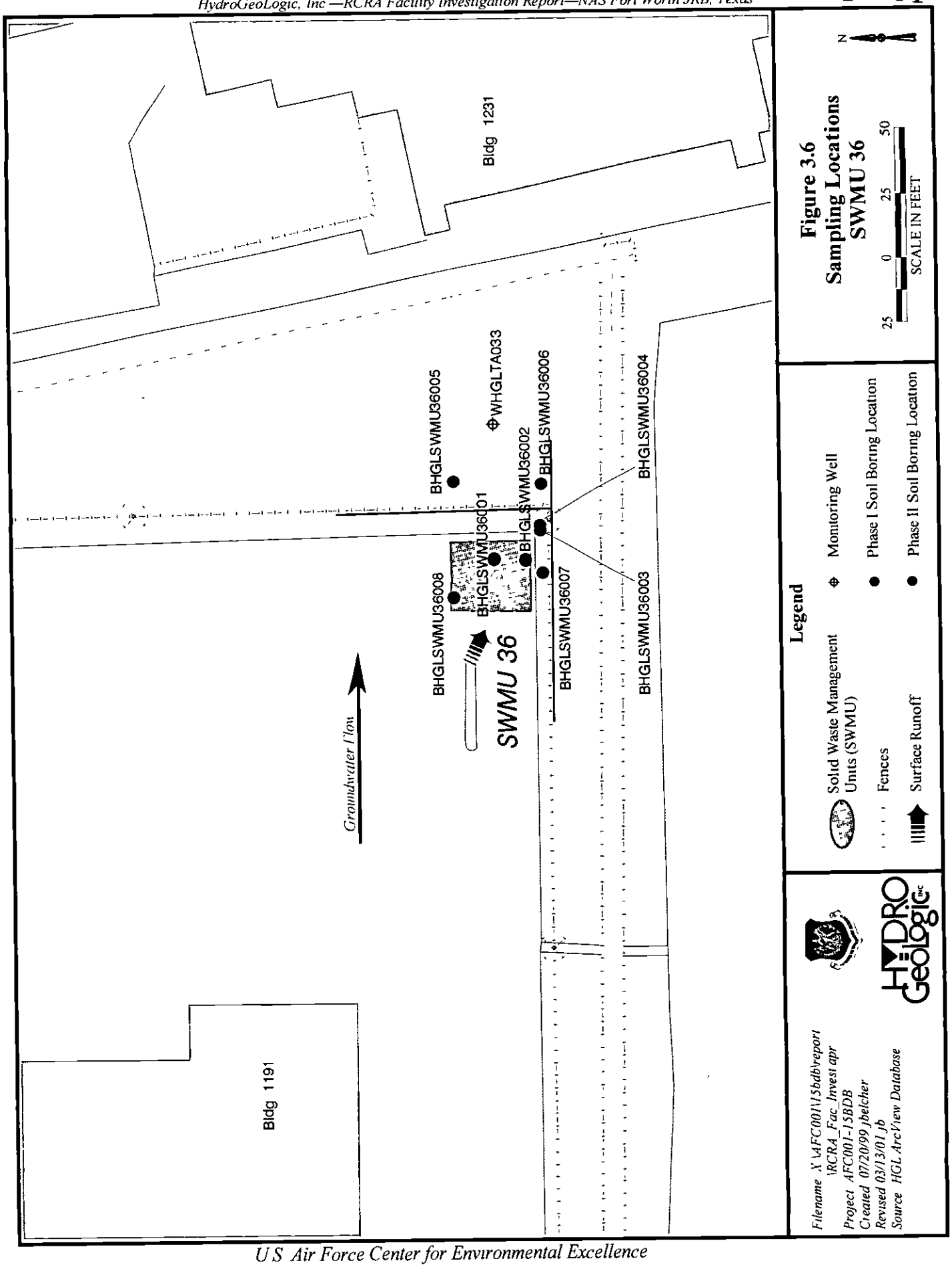
Project AFC 001-15BDB
Created 06/12/99 cfarmer
Revised 03/13/01 jb
Source HGI ArcView Database

HYDRO GeoLogic

U S Air Force Center for Environmental Excellence
Brooks AFB, Texas

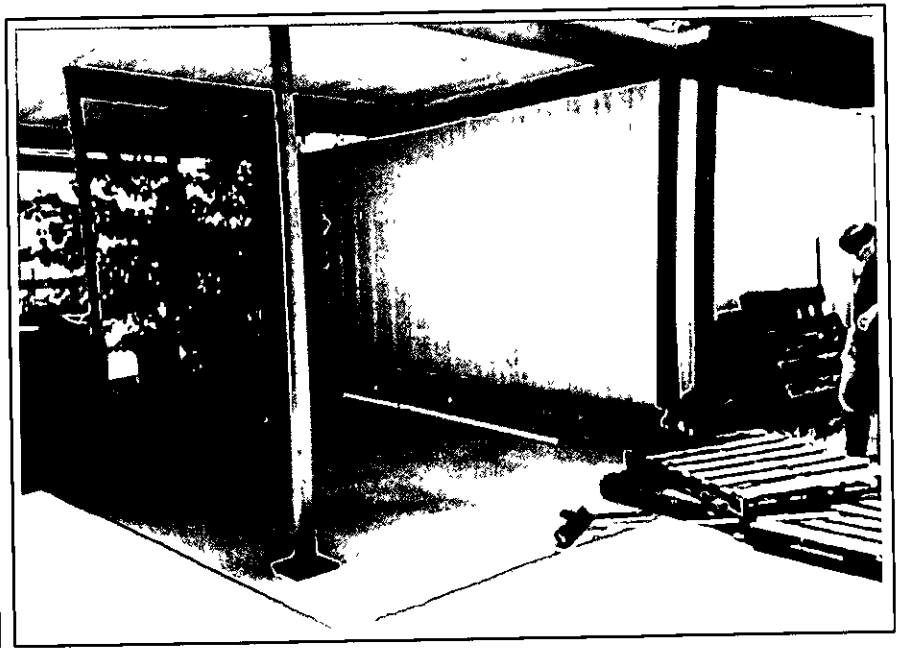
Figure 3.5
Photographs — Former WAA 1191


Bldg 1231
Bldg 1191
BHGLSWMU36005
WHGLTA033
BHGLSWMU36006
BHGLSWMU36002
BHGLSWMU36004
BHGLSWMU36001
BHGLSWMU36008
BHGLSWMU36007
BHGLSWMU36003
SWMU 36
Groundwater Flow
Legend
Solid Waste Management Units (SWMU)
Monitoring Well
Fences
Phase I Soil Boring Location
Surface Runoff
Phase II Soil Boring Location
Figure 3.6
Sampling Locations
SWMU 36
25 0 25 50
SCALE IN FEET
N
Filename X:\AFC001\15bdb\report\RCRA_Fac_Invest.apr
Project AFC001-15BDB
Created 07/20/99 jbelcher
Revised 03/13/01 jb
Source HGL ArcView Database
HYDRO GEOLOGIC INC

WAA 1189
SWMU 51

June, 1999

June, 1999

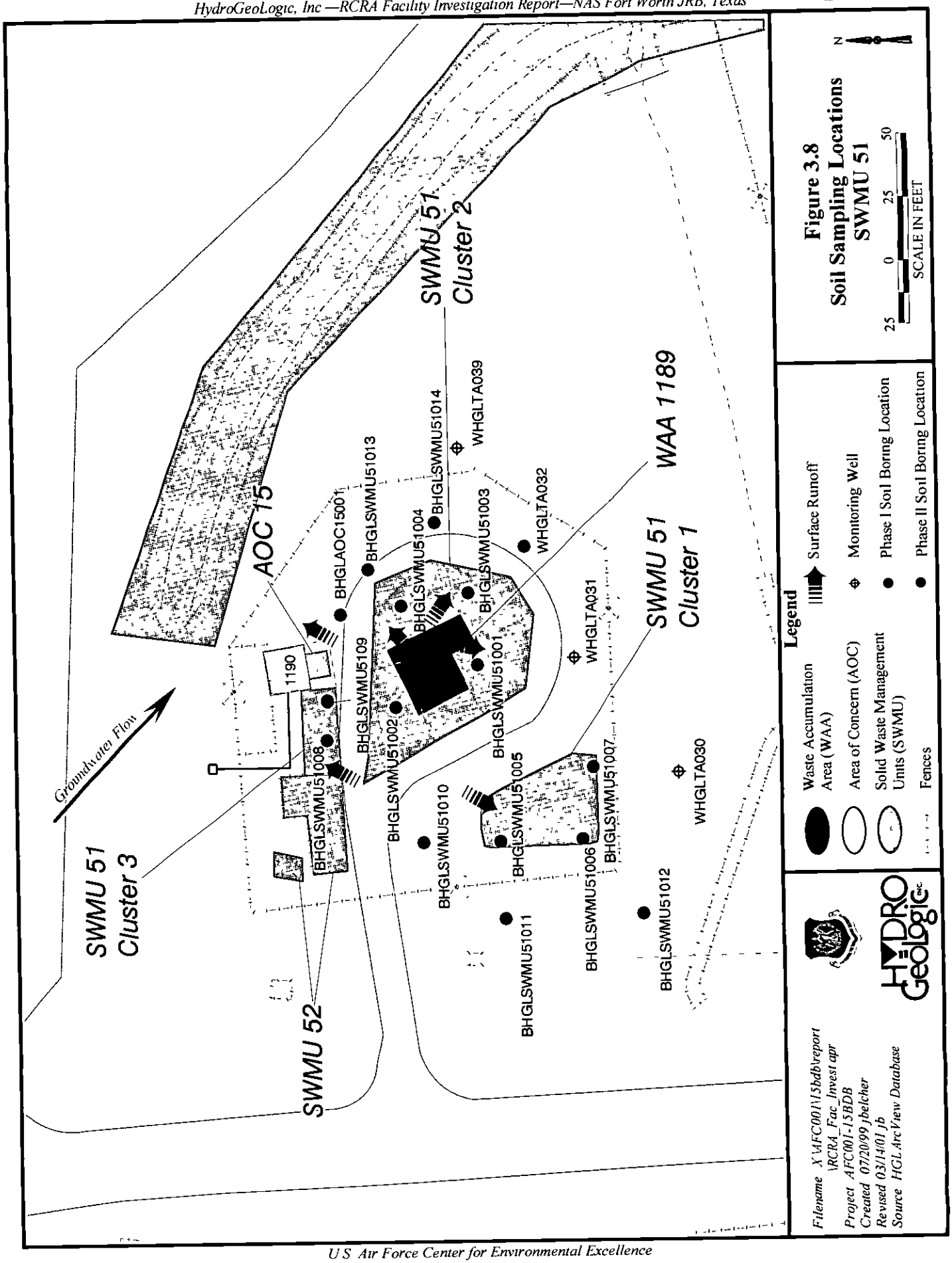


Filename X:\AFC 001\15BDB Report\photos.apr
Project AFC 001-15BDB
Created 06/12/99 cfarmer
Revised 01/19/01 jb
Source HGI ArcView Database

HYDRO GeoLogic

U.S. Air Force Center for Environmental Excellence
Brooks AFB, Texas

Figure 3.7
Photographs — WAA 1189


SWMU 51
Cluster 2
AOC 15
WAA 1189
SWMU 51
Cluster 1
SWMU 51
Cluster 3
SWMU 52
Groundwater Flow
1190
BHGLAOC15001
BHGLSWMU51013
BHGLSWMU51014
WHGLTA039
BHGLSWMU51004
BHGLSWMU51003
WHGLTA032
BHGLSWMU5109
BHGLSWMU51001
WHGLTA031
BHGLSWMU51002
BHGLSWMU51008
BHGLSWMU51005
BHGLSWMU51007
WHGLTA030
BHGLSWMU51010
BHGLSWMU51006
BHGLSWMU51011
BHGLSWMU51012
Legend
Waste Accumulation Area (WAA)
Area of Concern (AOC)
Solid Waste Management Units (SWMU)
Fences
Surface Runoff
Monitoring Well
Phase I Soil Boring Location
Phase II Soil Boring Location
Figure 3.8
Soil Sampling Locations
SWMU 51
25 0 25 50
SCALE IN FEET
N
Filename X:\AFC001\15bdb\report\RCRA_Fac_Invest.apr
Project AFC001-15BDB
Created 07/20/99 jbelcher
Revised 03/14/01 jb
Source HGL ArcView Database
HYDRO GeoLogic INC

TAB

SECTION 4.0

4.0 INVESTIGATION RESULTS

This section provides a discussion of analytical results of the soil samples collected at each SWMU. All soil and groundwater samples were analyzed in accordance with the rationale presented in the RFI WPs (HydroGeoLogic, 1999a) and the Phase II WP Addendum (HydroGeoLogic, 2000a).

To determine if a release has occurred at any of the SWMUs, the results from samples collected and analyzed for inorganic compounds were compared to the base-specific background values as presented in the Final Basewide Background Study (Jacobs, 1998). The results from samples collected and analyzed for organic compounds were compared to respective MQLs. In addition, all analytical results were compared to available MSCs to determine if detected contaminants posed a threat to shallow groundwater. All Phase I soil detections for each SWMU are presented in tabular form in this section. Complete analytical data summaries for Phase I soil samples are presented in Appendix D. As the complete analytical data for all Phase II soil and groundwater samples are presented in tables in this section, these data are not included in Appendix D.

During the Phase I field effort, a portion of the soil sample volume submitted for each metals analysis was held at the laboratory for SPLP extraction and analysis at a later date, if necessary. This SPLP extraction method was used in order to possibly provide a site specific adjusted MSC if inorganic compounds were detected above the MSC. Therefore, if metals were detected above the MSC and an SPLP extraction and analysis was performed, the results were compared to the industrial groundwater MSC.

4.1 SWMU 11

4.1.1 Lithologic Findings

Two DPT soil borings BHGLSWMU11001 and BHGLSWMU11002 were advanced near the southwest and southeast corners of the SWMU 11 WAA during Phase I of the RFI. These initial Phase I borings were located downgradient of potential surface runoff from SWMU 11. Three additional DPT borings, BHGLSWMU11003 through BHGLSWMU11005, were advanced during Phase II. BHGLSWMU11003 was advanced to the north of the SWMU and borings BHGLSWMU1104 and BHGLSWMU1105 were advanced to the southeast and southwest of the site respectively. In addition, a sixth boring, WHGLTA027, was advanced with an HSA and completed as a monitoring well downgradient of the site. Boring logs and monitoring well construction forms are presented in Appendix E.

All DPT soil borings were advanced through the asphalt roadway. Well WHGLTA027 was advanced in a grassy area near the southwest wall of Building 1619. Woody debris and wood fibers were encountered throughout subsurface soils at boring BHGLSWMU11001 and also in borings BHGLSWMU11003 through BHGLSWMU11005 between 8 and 16 feet below ground

surface (bgs). Woody debris was also encountered between 10 and 12 feet bgs in boring WHGLTA027. No odors were observed in any of the borings advanced at SWMU 11.

Lithology was analyzed using a north-southwest transect along borings BHGLSWMU11003 and BHGLSWMU1101; and using a southwest-southeast transect along borings BHGLSWMU11001 and BHGLSWMU11002. Lithologic cross sections for SWMU 11 are presented as Figure 4.1. Soil boring BHGLSWMU11003 exhibited approximately one foot of surficial asphalt and gravel overlying silt and clay to a depth of 5 feet bgs, followed by a layer of silty sand between 5 and 8.5 feet bgs, overlying a layer of sandy clay between 8.5 and 10 feet bgs, followed by a layer composed of sand with silt and clay to 16 feet bgs. Soil boring BHGLSWMU11001 exhibited approximately 1 foot of surficial asphalt and gravel overlying a layer of silt and clay to a depth of 2 feet bgs. A layer of silty sand was encountered from 2 to 7 feet bgs followed by a thin layer of fine sand between 7 and 7.5 feet bgs, which graded to a layer of sandy clay between 7.5 and 9 feet bgs, overlying a layer of silty sand with clayey lenses between 9 and 16 feet bgs. Soil boring BHGLSWMU11002 exhibited approximately 6 inches of surficial asphalt and gravel with a similar lithology as BHGLSWMU11001.

Groundwater flow directions in the vicinity of SWMU 11 trend generally to the east towards the West Fork Trinity River. Groundwater was encountered at approximately 13.5 to 15.5 feet bgs across the site.

4.1.2 Surface Soil Detections

A total of two surface soil samples were collected for analysis from borings BHGLSWMU11001 and BHGLSWMU11002 during Phase I. Soil sampling locations are depicted in Figure 4.2. All Phase I surface soil samples were analyzed for the list of analyses presented in Section 3.2.1.2. As presented in Table 4.1 and depicted in Figure 4.2, analytical results of surface soil samples indicate that no concentrations of any target analytes were detected above RRS 1 in surface soils. As a result, no additional surface soil samples were collected during the Phase II investigation.

4.1.3 Subsurface Soil Detections

A total of five subsurface soil samples were collected for analysis from borings BHGLSWMU11001 and BHGLSWMU11002 during Phase I at SWMU 11 (Figure 4.2). All subsurface soil samples were analyzed for the list of analyses presented in Section 3.2.1.2. Analytical results indicate low concentrations of one VOC and two metals above background concentrations in the subsurface soil samples collected during Phase I. Phase I subsurface soil results are presented in Table 4.2.

Although the detections of lead and arsenic in the Phase I subsurface soil samples were not significantly above background concentrations, nor did they occur in a pattern that would be indicative of a release, a Phase II sampling effort was implemented to confirm this information. Based on the results from the Phase I soil investigation, additional subsurface soil samples were collected from borings BHGLSWMU11003 through BHGLSWMU1105 and

WHGLTA027 (Figure 4.2). The Phase II subsurface soil samples were analyzed for the selected constituents described in Section 3.2.1.3. Phase II subsurface soil analytical results are presented in Table 4.3. Analytical results from SPLP extractions performed on SWMU 11 soil samples are presented in Table 4.4.

4.1.3.1 Inorganic Constituents

The following metals were detected in the subsurface soil samples collected at SWMU 11:

- **Arsenic** was detected at a concentration of 7.1 J milligrams per kilogram (mg/kg) in the soil sample collected from the 10-foot interval of boring BHGLSWMU11002 during Phase I of the RFI. This concentration of arsenic was slightly above both the background and MSC. An SPLP extraction was performed on this sample and the result was below the MSC for arsenic in industrial groundwater. Based on the analysis of this SPLP extract, a revised soil MSC of 7.1 mg/kg was established for SWMU 11. Three additional samples were collected for arsenic from the 10-foot intervals of borings BHGLSWMU11003, BHGLSWMU11005, and WHGLTA027 during Phase II of the RFI in order to provide additional site data. Arsenic was detected below background in all of the Phase II samples collected at SWMU 11.

- **Cobalt** was detected at a concentration of 6.5 mg/kg in the 15-foot interval of boring BHGLSWMU11001 during Phase I of the RFI. This detection of cobalt is slightly above the background level of 6.19 mg/kg and well below the MSC of 610 mg/kg. Cobalt was not identified as a COPC at SWMU 11 and no further sampling for this analyte was conducted.

- **Lead** was detected slightly above both background and the MSC in the subsurface soil samples collected at the 5-, 10-, and 15-foot intervals of boring BHGLSWMU11001 and at the 5- and 10-foot intervals of boring BHGLSWMU11002. The concentrations of lead in the Phase I subsurface soil samples ranged from 13.1 mg/kg through 18.1 mg/kg. SPLP extraction and analysis was performed on each of the Phase I subsurface soil samples with concentrations of lead above the MSC, and the results were compared to the industrial groundwater MSC. Based on the analyses of these SPLP extracts, a revised soil MSC of 13.1 mg/kg for lead was established for this site. The SPLP extracts from the sample collected from the 5-foot interval of BHGLSWMU11001 and from the 5- and 10-foot intervals of BHGLSWMU11002 showed lead above the industrial groundwater MSC of 0.015 milligrams per liter (mg/L). A total of 10 additional samples were collected and analyzed for lead from the subsurface intervals of borings BHGLSWMU11003, BHGLSWMU11004, BHGLSWMU11005, and WHGLTA027 during Phase II of the RFI in order to provide additional site data. Lead was detected below background in all of the Phase II samples collected at SWMU 11.

4.1.3.2 Organic Constituents

The following VOC was detected in the subsurface soil samples collected at SWMU 11:

- **Acetone** was detected at 0.008 J mg/kg in the 10-foot interval of the subsurface soil sample collected from boring BHGLSWMU11001 during Phase I of the RFI. This concentration of acetone is only slightly above the MQL of 0.005 mg/kg and well below the MSC of 1,000 mg/kg. Acetone was not identified as a COPC after Phase I of the RFI and no further samples were collected for this analyte.

4.1.4 Soil pH

Historical records indicate that SWMU 11 may have stored corrosive etchants used in operations within the electronics shop in shop inside Building 1619. As a result, all Phase I soil samples collected at SWMU 11 were analyzed for pH. Soil pH levels at SWMU 11 ranged from 6.8 in the soil sample collected from the 5-foot interval of BHGLSWMU11001 to 9.2 in the soil sample collected from the 10-foot interval of BHGLSWMU11002. Surface soil pH results are shown in Table 4.1, and subsurface soil pH results are shown in Table 4.2. Soil pH levels at SWMU 11 range from slightly acidic to alkaline, and are consistent with the native calcareous soils (Section 2.2) at NAS Fort Worth JRB.

4.1.5 Groundwater Detections

Two rounds of groundwater samples were collected from monitoring well WHGLTA027. Groundwater samples were analyzed for the constituents described in Section 3.2.1.4 and are presented in Table 4.5.

The following analyte was detected in groundwater downgradient from SWMU 11:

- **Arsenic** was detected at a concentration of 0.0312 F mg/L in Round 1 sample collected from WHGLTA027. Although the result was flagged with "F" indicating that it was below the method reporting limit, this concentration of arsenic was above the background value (0.0049 mg/L), but below the MSC (0.05 mg/L). Arsenic was not detected in the groundwater sample collected during Round 2.

4.2 SWMU 32

4.2.1 Lithologic Findings

Three DPT soil borings, BHGLSWMU32001 through BHGLSWMU32003, were advanced adjacent to, and within the boundaries of SWMU 32 during Phase I. Four additional DPT borings, BHGLSWMU32004 through BHGLSWMU32007, were advanced during Phase II. Borings BHGLSWMU32004 and BHGLSWMU32005 were advanced to the northeast and west of the site, and BHGLSWMU32006 and BHGLSWMU32007 were advanced to the southwest and southeast of the site, respectively. An eighth boring, WHGLTA029, was advanced with

an HSA and completed as a monitoring well downgradient of the site. Boring logs and monitoring well construction forms are presented in Appendix E.

Soil borings BHGLSWMU32001, BHGLSWMU32002, BHGLSWMU32005, and BHGLSWMU32006 were advanced through reinforced concrete approximately 12 inches thick. All other borings at the site were advanced through asphalt parking areas or the adjacent asphalt roadway. Slight petroleum odors were observed several of the soil borings at SWMU 32. Petroleum odors were observed in the surface of borings BHGLSWMU32002 and BHGLSWMU32006 from 1 to 2-feet bgs, and from 1 to 4-feet bgs in boring BHGLSWMU32005. In addition, slight petroleum odors were observed in boring BHGLSWMU32007 from 1 to 2-feet bgs,.and from 7 to 9 feet bgs. No debris was encountered at any of the SWMU 32 soil borings.

Lithology was analyzed using a north-south transect along borings BHGLSWMU32003, BHGLSWMU32002, and BHGLSWMU32001. Lithologic cross sections for SWMU 32 are presented in Figure 4.3. Soil boring BHGLSWMU32003 exhibited clayey silt from the ground surface to approximately 10 feet bgs coarsening to sandy silt to 12 feet bgs, followed by a layer of sand with gravel between 12 and 14 feet bgs, grading to sand to 18 feet bgs. Soil boring BHGLSWMU32002 exhibited approximately one foot of surficial concrete with a similar lithology as boring BHGLSWMU32003. Boring BHGLSWMU32001 was also advanced through one foot of surficial concrete overlying silty clay to a depth of 12 feet bgs coarsening to sand at 18 feet bgs.

Groundwater flow directions in the vicinity of SWMU 32 trend generally to the northeast towards the West Fork Trinity River. Groundwater was encountered at approximately 14 to 17 feet bgs across the site.

4.2.2 Surface Soil Detections

A total of three Phase I surface soil samples were collected for analysis at SWMU 32: one surface sample each from borings BHGLSWMU32001, BHGLSWMU32002, and BHGLSWMU32003. Based on the results of the Phase I soil investigation, additional surface soil samples were collected from borings BHGLSWMU32006 and BHGLSWMU32007 to delineate COPCs identified at the site. Soil sampling locations are depicted in Figure 4.4. All Phase I surface soil samples were analyzed for the list of analyses presented in Section 3.2.2.2. Analytical detections in SWMU 32 Phase I surface soils are presented in Table 4.6, and all results from Phase II surface soils are presented in Table 4.8. Results from SPLP extraction performed both on Phase I surface soil and Phase I subsurface soil samples from SWMU 32 are presented in Table 4.10.

4.2.2.1 Inorganic Constituents

The following metal was detected in the surface soil samples collected at SWMU 32:

- **Cadmium** was detected at 0.61 J mg/kg in the surface soil sample collected from boring BHGLSWMU32001. This detection of cadmium was slightly above both background and the MSC. An SPLP extraction was performed on this sample, and the cadmium result was below the industrial water MSC. Based on this SPLP analysis, a site-specific soil MSC of 0.61 mg/kg was established for cadmium. One additional surface sample was collected for cadmium from boring BHGLSWMU32007 during Phase II for delineation purposes. Cadmium (0.44 F mg/kg) was detected below background in the Phase II delineation sample.

4.2.2.2 Organic Constituents

The following organic constituents were detected in the surface soil samples collected at SWMU 32:

- **1,1-Dichloroethane** was detected at 0.02 mg/kg in the surface soil sample collected from boring BHGLSWMU32002. This detection of 1,1-dichloroethane was above the MQL (0.002 mg/kg), but well below the MSC (1,000 mg/kg). 1,1-Dichloroethane was not identified as a COPC at the site and no further sampling for this analyte was conducted.

- **Ethylbenzene** was detected above the MQL in the surface soil samples collected from Phase I borings BHGLSWMU32001 (0.01 J mg/kg) and BHGLSWMU32002 (0.005 mg/kg). Two delineation samples were collected for ethylbenzene from borings BHGLSWMU32006 and BHGLSWMU32007 during Phase II. Ethylbenzene was detected slightly above the MQL in delineation boring BHGLSWMU32006 (0.004 mg/kg) and was not detected in the surface soil sample collected from delineation boring BHGLSWMU32007.

- **TPH** was detected at 63 J mg/kg (total) in the surface soil sample collected from Phase I boring BHGLSWMU32002. This detection of TPH was above the MQL (57 mg/kg), but well below the TNRCC Action Level (500 mg/kg). One additional surface sample was collected for TPH from boring BHGLSWMU32006 during Phase II. TPH was not detected in the surface soil sample collected from delineation boring BHGLSWMU32006.

4.2.3 Subsurface Soil Detections

During Phase I soil sampling activities, a total of eight subsurface soil samples were collected for analysis at SWMU 32 (Figure 4.4). Soil samples were collected at 5-foot intervals until the water table was encountered. All subsurface soil samples were analyzed for the list of analyses presented in Section 3.2.2.2. Based on the results from the Phase I soil investigation,

subsurface soil samples were collected from BHGLSWMU32004 through BHGLSWMU32006 and WHGLTA029. The Phase II subsurface soil samples were analyzed for the selected constituents described in Section 3.2.2.3. As presented in Tables 4.7 and 4.9, and depicted in Figure 4.4, analytical results of subsurface soil samples indicate low concentrations of VOCs and metals in the subsurface soils sampled at SWMU 32. Analytical results from SPLP extractions performed on SWMU 32 soil samples are presented in Table 4.10.

4.2.3.1 Inorganic Constituents

The following metals were detected in the subsurface soil samples collected at SWMU 32:

- **Arsenic** (7.2 J mg/kg) was detected slightly above both background and the MSC in the 15-foot interval of the soil sample collected at boring BHGLSWMU32003. SPLP extraction and analysis was performed on a portion of the sample volume of BHGLSWMU32003, and the result was compared to the industrial groundwater MSC. Arsenic was detected above the industrial groundwater MSC in the SPLP extract and therefore, a site-specific soil MSC was not established. Three additional samples were collected during Phase II at the 15-foot intervals of borings BHGLSWMU32004, BHGLSWMU32005, and WHGLTA029 for arsenic. Arsenic was detected slightly above both background and the MSC in boring BHGLSWMU32005 (6.9 mg/kg). SPLP extraction and analysis was performed on a portion of the sample volume of BHGLSWMU32005, and the result was compared to the industrial groundwater MSC. Arsenic was detected below the industrial groundwater MSC in the SPLP extract and a site-specific soil MSC of 6.9 mg/kg was established for arsenic. Arsenic was detected below background in the sample collected from the 15-foot interval of WHGLTA029 (2.4 F mg/kg) and the related duplicate sample (2.2 F mg/kg). Arsenic was not detected in the sample collected from boring BHGLSWMU32004.

- **Barium** was detected at 249 mg/kg in the 15-foot interval of the soil sample collected at boring BHGLSWMU32003. This detection of barium was above both background (128.1 mg/kg) and the MSC (200 mg/kg). SPLP extraction and analysis was performed on a portion of the sample volume of BHGLSWMU32003, and the result was compared to the industrial groundwater MSC. Barium was not detected above the industrial groundwater MSC in the SPLP extract and a site-specific soil MSC of 249 mg/kg was established for barium. Three additional samples were collected during Phase II at the 15-foot intervals of delineation borings BHGLSWMU32004, BHGLSWMU32005, and WHGLTA029 for barium. Barium was detected below background in all of the delineation samples.

- **Silver** was detected at 0.14 F mg/kg in the sample collected from the 10-foot interval of boring BHGLSWMU32001. This detection is slightly above the background value (0.128 mg/kg) and below the MSC (51 mg/kg). Silver was not identified as a COPC at the site and no further sampling was conducted.

4.2.3.2 Organic Constituents

The following organic constituents were detected above MQLs in the subsurface soil samples collected at SWMU 32:

- **Acetone** was detected in the subsurface soil samples collected from the 5- and 10-foot intervals of boring BHGLSWMU32002 (both at 0.015 mg/kg). These detections of acetone were above the MQL (0.005 mg/kg), but well below the MSC (1,000 mg/kg). Acetone was not identified as a COPC at the site and further sampling was not conducted.

- **Chlorobenzene** was detected in the subsurface soil samples collected from the 5- and 10-foot intervals of boring BHGLSWMU32002 at 0.009 mg/kg and 0.014 mg/kg, respectively, and BHGLSWMU32002 at 0.061 mg/kg and 0.006 mg/kg, respectively. These detections of chlorobenzene were above the MQL (0.002 mg/kg), but below the MSC (10 mg/kg). Additional soil samples were collected from the 5- and 10-foot intervals of delineation borings BHGLSWMU32004, BHGLSWMU32005, and WHGLTA029 for chlorobenzene during Phase II. Chlorobenzene was not detected in any of the Phase II samples.

4.2.4 Soil pH

Historical records indicate that SWMU 32 may have stored automobile batteries and neutralized battery electrolyte from operations within the battery shop in shop inside Building 1410. As a result, all Phase I soil samples collected at SWMU 32 were analyzed for pH. Soil pH levels at SWMU 32 ranged from 7.0 in the soil sample collected from the 10-foot interval of BHGLSWMU32002 to 9.4 in the surface soil sample collected from BHGLSWMU32002. Surface soil pH results are shown in Table 4.6, and subsurface soil pH results are shown in Table 4.7. Soil pH levels at SWMU 32 range from neutral to alkaline, and are consistent with the native calcareous soils (Section 2.2) at NAS Fort Worth JRB.

4.2.5 Groundwater Detections

Two rounds of groundwater samples were collected from monitoring well WHGLTA029. Groundwater samples were analyzed for the constituents described in Section 3.2.2.4 and are presented in Table 4.11.

The following analytes were detected in groundwater downgradient from SWMU 32:

- **Arsenic** was detected at 0.0315 F mg/L in the groundwater sample collected during Round 1 and at 0.0376 F mg/L in the groundwater sample collected during Round 2. These concentrations of arsenic are above the background value (0.0049 mg/L), but below the MSC (0.05 mg/L).

- **Barium** was detected at 0.284 mg/L in the groundwater sample collected during Round 1 and at 0.169 F mg/L in the groundwater sample collected during Round 2. These concentrations of barium are below the background value (0.587 mg/L), and below the MSC (2.0 mg/L).

4.3 SWMU 36

4.3.1 Lithologic Findings

Three DPT soil borings, BHGLSWMU36001 through BHGLSWMU36003, were advanced within the boundaries and in the area of surface runoff from SWMU 36 during Phase I. Five additional DPT borings, BHGLSWMU36004 through BHGLSWMU36008, were advanced during Phase II. Boring BHGLSWMU36004 was advanced in the same location as BHGLSWMU36003 in order to confirm sample results detected during Phase I. Borings BHGLSWMU36005 and BHGLSWMU36006 were advanced to the northeast and southeast of the site, and borings BHGLSWMU36007 and BHGLSWMU36008 were advanced to the south and northwest of the site, respectively. In addition, a ninth boring, WHGLTA033 was advanced with an HSA and completed as a monitoring well downgradient of the site. Boring logs and monitoring well construction forms are presented in Appendix E.

Soil borings BHGLSWMU36001, BHGLSWMU36002, and BHGLSWMU36008 were advanced through the asphalt parking lot. All other borings at the site were advanced through the adjacent grassy areas to the south and east of SWMU 36. No odors or debris were encountered at any of the SWMU 36 soil borings.

Lithology was analyzed on northwest-southeast transect along borings BHGLSWMU36008, BHGLSWMU36001, BHGLSWMU36002, and BHGLSWMU36003. Lithologic cross sections for SWMU 36 are presented in Figure 4.5. Soil boring BHGLSWMU36008 exhibited approximately 6 inches of surficial asphalt and gravel fill overlying sandy silty clay at 3.5 feet bgs, followed by a thin sandy gravel layer between 3.5 and 4 feet bgs, overlying sandy clay between 4 and 5.5 feet bgs, transitioning to silt between 5.5 and 6 feet bgs. Soil boring BHGLSWMU36001 exhibited approximately 6 inches of surficial asphalt and gravel fill overlying sandy silty clay at 2 feet bgs, followed by sandy silt with gravel from 2 to 8 feet bgs, overlying a layer of clayey silt to 12 feet bgs. Boring BHGLSWMU36001 exhibited a similar layer of sandy silt and gravel from 12 to 14 feet bgs, overlying clayey sand between 14 and 18 feet bgs. Soil boring BHGLSWMU36002 was also advanced through approximately 6 inches of surficial asphalt and gravel fill and displayed a similar lithology as BHGLSWMU36001. Soil boring BHGLSWMU36003 was advanced in the grassy area by the southeast corner of SWMU 36 and exhibited similar lithology as borings BHGLSWMU36001 and BHGLSWMU36002.

Groundwater flow directions in the vicinity of SWMU 36 trend generally to the east towards the West Fork Trinity River. Groundwater was encountered at approximately 16 feet bgs across the site.

4.3.2 Surface Soil Detections

A total of three Phase I surface soil samples were collected for analysis at SWMU 36: one surface sample each from borings BHGLSWMU36001, BHGLSWMU36002, and BHGLSWMU36003. Soil sampling locations are depicted in Figure 4.6. All Phase I surface soil samples were analyzed for the list of analyses presented in Section 3.2.3.2. As presented in Table 4.12 and depicted in Figure 4.6, analytical results of surface soil samples indicate that one VOC is detected slightly above background in surface soils. Based on the results of the Phase I soil investigation, no surface soil samples were collected during the Phase II soil investigation.

4.3.2.1 Inorganic Constituents

No metals were detected above background concentrations in any of the surface soil samples collected at SWMU 36.

4.3.2.2 Organic Constituents

The following VOC was detected above background in the surface soil samples collected at SWMU 36:

- ***m,p*-Xylenes** was detected in the surface soil sample collected from boring BHGLSWMU36002 (0.007 mg/kg). This detection of *m,p*-xylenes was slightly above the MQL (0.005 mg/kg), but well below the MSC (1,000 mg/kg). Based on the Phase I investigation results, *m,p*-xylenes was not identified as a COPC at the site and no further sampling for this analyte was conducted.

4.3.3 Subsurface Soil Detections

During Phase I soil sampling activities, a total of seven subsurface soil samples were collected for analysis at SWMU 36 (Figure 4.6). Soil samples were collected at 5-foot intervals until the water table was encountered. All subsurface soil samples were analyzed for the list of analyses presented in Section 3.2.3.2. Although the detections of lead and chromium in the Phase I subsurface soil samples were not significantly above background concentrations, nor did they occur in a pattern that would be indicative of a release, a Phase II sampling effort was implemented to confirm this information. Based on the results from the Phase I soil investigation, additional subsurface soil samples were collected from the 5-foot intervals of borings BHGLSWMU36004 through BHGLSWMU36008, and WHGLTA033. The Phase II subsurface soil samples were analyzed for the selected constituents described in Section 3.2.3.3. As presented in Tables 4.13 and 4.14, and depicted in Figure 4.6, analytical results of subsurface soil samples indicate low concentrations of metals and of one organic compound in the subsurface soils sampled at SWMU 36. Analytical results from SPLP extractions performed on SWMU 36 soil samples are presented in Table 4.15.

4.3.3.1 Inorganic Constituents

The following metals were detected in the subsurface soil samples collected at SWMU 36:

- **Barium** was detected at 133 mg/kg in the 10-foot interval of the soil sample collected at boring BHGLSWMU36002. This barium detection was slightly above background (128.1 mg/kg), but below the MSC (200 mg/kg). Barium was detected below background in all of the other 9 samples collected at SWMU 36 during Phase I. Based on this information, barium was not identified as a COPC at SWMU 36 and no further sampling for this analyte was conducted.

- **Chromium** was detected at 14.2 mg/kg in the sample collected from the 5-foot interval of boring BHGLSWMU36003. This detection is below the background value of 16.31 mg/kg; however, this sample was collected in duplicate, and the duplicate result of 18.2 mg/kg exceeded both the background value and MSC. The duplicate sample was analyzed for SPLP as it exceeded the MSC. Chromium was detected above the industrial groundwater MSC in the SPLP extract of the soil sample duplicate, and no site-specific soil MSC was established. Although these chromium detections are likely caused by natural variations in background concentrations, additional samples were collected from the 5-foot intervals of all six Phase II borings and analyzed for chromium in order to gather more site data. Phase II values of chromium ranged from 7.1 mg/kg to 19.2 mg/kg (Figure 4.6).

- **Copper** was detected at 23.3 J mg/kg in the 5-foot interval of the soil sample collected at boring BHGLSWMU36001. This copper detection was slightly above background (13.72 mg/kg), but below the MSC (130 mg/kg). Copper was detected below background in all of the other 9 samples collected at SWMU 36 during Phase I. Based on this information, copper was not identified as a COPC at SWMU 36 and no further sampling for this analyte was conducted.

- **Lead** was detected at 10.2 J mg/kg in the sample collected from the 5-foot interval of boring BHGLSWMU36003. This detection of lead is below the background value (12.66 mg/kg); however, this sample was collected in duplicate, and the duplicate result of 46.7 J mg/kg exceeded both the background value and MSC. The duplicate sample result was analyzed for SPLP as it exceeded the MSC. Lead was detected above the industrial groundwater MSC in the SPLP extract of the soil sample duplicate, and no site-specific soil MSC was established from this SPLP analysis. Lead was also detected slightly above the background value and soil MSC in the sample collected from the 5-foot interval of boring BHGLSWMU36001 (15.3 mg/kg) and the 10-foot interval of BHGLSWMU36003 (13.0 mg/kg). The SPLP results from both of these samples were below the industrial groundwater MSC, and a site-specific soil MSC of 15.3 mg/kg was established at the site for lead. Although these lead detections are likely caused by natural variations in background concentrations, additional samples were collected from the 5-foot intervals of all six Phase II borings and analyzed for lead in order to gather

more site data. Phase II detections of lead ranged from below background (6.5 F mg/kg) to slightly above background (12.8 mg/kg) (Figure 4.6).

- **Zinc** was detected in the soil sample collected at the 5-foot intervals of borings BHGLSWMU36001 (33.5 mg/kg) and BHGLSWMU36003 (33.9 mg/kg). These zinc detections were slightly above background (31.3 mg/kg), but well below the MSC (3,100 mg/kg). Zinc was not identified as a COPC at the site and additional sampling for this analyte was not conducted.

4.3.3.2 Organic Constituents

The following organic compound was detected above background in the subsurface soil samples collected at SWMU 36:

- **Ethylene glycol** was detected at 66 mg/kg in the soil sample collected from the 10-foot interval of boring BHGLSWMU36001. The detection of ethylene glycol was above the MQL (6.0 mg/kg), but well below the MSC (20,000 mg/kg). Ethylene glycol was not identified as a COPC at the site and further sampling for this analyte was not conducted.

4.3.4 Soil pH

Historical records indicate that SWMU 36 may have stored waste automobile battery acid from operations within the vehicle maintenance shops located in Buildings 1065 and 1191, and from the fire truck maintenance shop in Building 1425. As a result, all Phase I soil samples collected at SWMU 36 were analyzed for pH. Soil pH levels at SWMU 36 ranged from 6.1 in the surface soil sample collected from BHGLSWMU36001 to 9.8 in the surface soil sample collected from BHGLSWMU36002. Surface soil pH results are shown in Table 4.12, and subsurface soil pH results are shown in Table 4.13. Soil pH levels at SWMU 36 range from slightly acidic to alkaline, and are consistent with the native calcareous soils (Section 2.2) at NAS Fort Worth JRB.

4.3.5 Groundwater Detections

Two rounds of groundwater samples were collected from monitoring well WHGLTA033 (Figure 4.6). All groundwater samples were analyzed for the constituents listed in Section 3.2.3.4. No target analytes were detected in either round of groundwater samples collected downgradient from SWMU 36. Analytical results from SWMU 36 groundwater are presented in Table 4.16.

4.4 SWMU 51

4.4.1 Lithologic Findings

A total of 10 DPT soil borings, BHGLSWMU51001 through BHGLSWMU51009 and BHGLAOC15001, were advanced in the area of SWMU 51 during Phase I of the RFI. These initial Phase I borings were located adjacent to and within the boundaries of the SWMU 51 waste accumulation area. Soil samples were collected in 5-foot intervals from the ground surface to the water table at each boring. All samples were analyzed for the full suite of Appendix IX constituents. Borings BHGLSWMU51001 through BHGLSWMU51004 were advanced within the Cluster 2 area of SWMU 51; one boring on each side of WAA 1189. Borings BHGLSWMU51005 through BHGLSWMU51007 were advanced in the Cluster 1 area, and borings BHGLSWMU51008 and BHGLSWMU51009 were advanced in the Cluster 3 area of SWMU 51. Boring BHGLAOC15001 was advanced near the southeast corner of AOC 15. Data collected at AOC 15 was also used to characterize SWMU 51.

Five additional DPT borings, BHGLSWMU51010 through BHGLSWMU51014, were advanced during Phase II. Four additional soil borings; WHGLTA030, WHGLTA031, WHGLTA032, and WHGLTA039, were advanced with an HSA. All HSA borings, with the exception of WHGLTA032, were completed as monitoring wells downgradient of the site. No groundwater was encountered in boring WHGLTA032, which, as a result, serves as a soil delineation point only. Boring logs and monitoring well construction forms are presented in Appendix E.

Borings BHGLSWMU51003 and BHGLSWMU51004 were advanced through the concrete pad on the east side of WAA 1189. Borings BHGLSWMU51008 and BHGLSWMU51009 were advanced through asphalt. All other borings were advanced through the grassy areas throughout the site. Wood debris and petroleum odors were encountered between 4 and 8 feet bgs in boring BHGLSWMU51002. Petroleum odors and stained soils were also encountered between 5 and 10 feet bgs in borings BHGLSWMU51005, BHGLSWMU51008, and BHGLSWMU51011. In addition, a slight petroleum odor and staining was encountered at the 19-foot interval of boring BHGLAOC15001. No debris, petroleum odors, or staining were encountered at any of the other SWMU 51 soil borings.

Lithology was analyzed using a north-south transect along borings BHGLSWMU51008, BHGLSWMU51002, and BHGLSWMU51001; and using a south-southwest transect along borings BHGLSWMU51001 and BHGLSWMU51007. Lithology was also analyzed using a west-east transect along borings BHGLSWMU51005, BHGLSWMU51001, and BHGLSWMU51003. Lithologic cross sections for SWMU 51 are presented as Figure 4.7.

Lithology at boring BHGLSWMU51008 exhibited approximately 2 feet of clayey silt overlying poorly sorted clayey gravelly silt to 6 feet bgs, followed by sandy gravelly clay from 6 to 10 feet bgs. Boring BHGLSWMU51002 exhibited a similar lithology with sandy gravelly silt and clay is between the surface and 4 feet bgs, transitioning to a fine sandy clay with wood debris between 4 and 6 feet bgs, overlying poorly sorted sandy gravelly silts and clays to 14 feet bgs.

Boring BHGLSWMU51001 exhibited poorly sorted silty sandy gravel from the surface to 11 feet bgs, overlying a silty clay between 11 and 12 feet bgs. This general stratification continued to boring BHGLSWMU51007 to the south to a completion of 8 feet bgs.

Lithology at boring BHGLSWMU51005 exhibited approximately 2 feet of clayey silt overlying a poorly sorted sandy gravelly clayey silt to 4 feet bgs with a well sorted medium sand to 6 feet bgs, followed by poorly sorted gravelly clayey sands to 10 feet bgs. Boring BHGLSWMU51002 exhibited sandy gravelly silt and clay between the surface and 4 feet bgs, transitioning to fine sandy clay containing wood debris between 4 and 6 feet bgs, overlying poorly sorted sandy gravelly silts and clays to 14 feet bgs. To the east at boring BHGLSWMU51003, poorly sorted gravelly clayey silt was found between the surface and 6 feet bgs overlying a well sorted silt to 8 feet bgs with poorly sorted gravelly silty clay to 22 feet bgs, followed by sandy clay to 24.5 feet bgs.

Groundwater levels were sporadically encountered at SWMU 51. The central SWMU 51 Cluster 2 Area is located on top of a small hill. Groundwater was encountered between 5 and 8 feet bgs in the western and central portions of SWMU 51. However, groundwater was not encountered in the eastern portion of the site with the exception of WHGLTA039, which was advanced at the bottom of the small hill. Sporadic groundwater levels at the site may be attributed to the changes in elevation throughout the site and also in part to the fine clayey soils found in the eastern portion of the SWMU. Groundwater flow directions across the site trend generally to the southeast towards the West Fork Trinity River.

4.4.2 Surface Soil Detections

A total of ten Phase I surface soil samples were collected for analysis at SWMU 51 and AOC 15. Based on the results of the Phase I soil investigation, seven additional surface soil samples were collected during the Phase II soil investigation. Soil sampling locations are depicted in Figure 4.8. All Phase I surface soil samples were analyzed for the full Appendix IX suite of analyses presented in Section 3.2.4.2. As presented in Tables 4.17 and 4.19, and depicted in Figure 4.8, analytical results of surface soil samples indicate that several metals, sulfide, and 2,3,7,8-tetrachlorodibenzofuran were detected above background in SWMU 51 surface soil samples. Nickel, sulfide, and several SVOCs were detected above background in the surface soil sample collected from BHGLAOC15001.

4.4.2.1 Inorganic Constituents

The following inorganic constituents were detected in the surface soil samples collected at SWMU 51 and AOC 15:

- **Arsenic** was detected at 9.4 mg/kg in the field duplicate of the surface soil sample collected from boring BHGLSWMU51006. This detection of arsenic exceeded both background and the MSC. Arsenic was detected below background at 4.2 F mg/kg in the parent sample. An SPLP extraction was performed on the duplicate sample, and the arsenic concentration was below the groundwater MSC. A site-specific MSC of 14.9

mg/kg was established for arsenic based on an SPLP result from a subsurface soil sample (see Section 4.4.3.1). Additional surface soil samples were collected for arsenic from borings BHGLSWMU51011, BHGLSWMU51012, and WHGLTA030 during the Phase II investigation. All Phase II results for arsenic were below background concentrations with the exception of the result from the surface soil sample collected from WHGLTA030 (9.4 mg/kg). This detection was equal to the Phase I result.

- **Cadmium** was detected at 0.64 mg/kg in the field duplicate of the surface soil sample collected from boring BHGLSWMU51006. This detection of cadmium exceeded both background and the MSC. Cadmium was detected below background (0.37 F mg/kg) in the parent sample. An SPLP extraction was performed on the duplicate sample, and the cadmium concentration in the extract was detected below the groundwater MSC. As a result, a site-specific MSC of 0.64 mg/kg was established for cadmium at SWMU 51. Additional surface soil samples were collected for cadmium from borings BHGLSWMU51011, BHGLSWMU51012, and WHGLTA030 during the Phase II investigation. All Phase II results for cadmium were below background concentrations.

- **Cobalt** was detected at 18.2 mg/kg in the surface soil sample collected from boring BHGLSWMU51001. This detection of cobalt was slightly above background (11.05 mg/kg), but well below the MSC (610 mg/kg). Cobalt was not identified as a COPC at SWMU 51 and further sampling for this analyte was not conducted.

- **Nickel** was detected at 22.2 mg/kg in the surface soil sample collected from boring BHGLSWMU51001, and at 15.0 mg/kg in the surface soil sample collected from boring BHGLAOC15001. These detections of nickel were slightly above background (14.6 mg/kg), but below the MSC (200 mg/kg). Nickel was not identified as a COPC at SWMU 51 and further sampling for this analyte was not conducted.

- **Cyanide** was detected at 0.85 F mg/kg in the duplicate sample collected from the surface interval of boring BHGLSWMU51006. This detection of cyanide is slightly above the MQL (0.5 mg/kg) and below the MSC of 20 mg/kg. Cyanide was not detected in the parent sample collected from the same soil boring (Table 4.17). Cyanide was not identified as a COPC at SWMU 51 and further sampling for this analyte was not conducted.

- **Sulfide** was detected in the surface soil samples collected from borings BHGLSWMU51001 (92.1 mg/kg), BHGLSWMU51002 (60.8 mg/kg), and BHGLSWMU51008 (100 mg/kg), and BHGLAOC15001 (115 mg/kg). These detections exceeded the background level for sulfide of 25 mg/kg. No MSC is available for this analyte. A more detailed discussion of sulfide concentrations is presented in Section 5.4.1.

4.4.2.2 Organic Constituents

The following organic compounds were detected in the surface soil samples collected at SWMU 51 and AOC 15:

- **2,3,7,8-Tetrachlorodibenzofuran** was detected at 0.00032 mg/kg in the surface soil sample collected from boring BHGLSWMU51003. This detection was slightly above the MQL of 0.0003 mg/kg. No MSC is available for this compound. As this concentration of 2,3,4,8-tetrachlorodibenzofuran was detected only slightly above the MQL and was not detected in any of the other 29 samples collected at the site, 2,3,4,8-tetrachlorodibenzofuran was not identified as a COPC at SWMU 51 and further sampling for this analyte was not conducted.

- **Benzo[*a*]anthracene** (1.5 mg/kg), **benzo[*a*]pyrene** (1.3 mg/kg), **benzo[*b*]fluoranthene** (1.8 mg/kg), **benzo[*k*]fluoranthene** (0.89), and **indeno[1,2,3-*c,d*]pyrene** (0.77 mg/kg) were detected in the surface soil sample collected from boring BHGLAOC15001. The concentrations of these results are slightly above both the MQL and the MSC for each compound. These constituents are most likely associated with the nearby asphalt driveway and are were not identified as COPCs at the site. Further sampling for these analytes was not conducted.

- **Anthracene** (0.57 mg/kg), **benzo[*g,h,i*]perylene** (0.58 mg/kg), **chrysene** (1.6 mg/kg), **fluoranthene** (3.5 mg/kg), **phenanthrene** (3.2 mg/kg), and **pyrene** (4.4 mg/kg) were also detected in the surface soil sample collected from boring BHGLAOC15001. The concentrations of these analytes were detected above the MQL but below the MSC for each compound. These constituents are most likely associated with the nearby asphalt driveway and therefore, were not identified as COPCs at the site. Further sampling for these analytes was not conducted.

4.4.3 Subsurface Soil Detections

During Phase I soil sampling activities, a total of 20 subsurface soil samples were collected for analysis at SWMU 51 and AOC 15 (Figure 4.8). Soil samples were collected at 5-foot intervals until the water table was encountered. All subsurface soil samples were analyzed for the complete list of Appendix IX analyses presented in Section 3.2.4.2. Based on the results from the Phase I soil investigation, a total of 21 additional subsurface soil samples were collected during Phase II. The Phase II subsurface soil samples were analyzed for the selected constituents described in Section 3.2.4.3. As presented in Tables 4.18 and 4.20, and depicted in Figure 4.8, analytical results of subsurface soil samples indicate low concentrations of metals and sulfide in the subsurface soils sampled at SWMU 51. Analytical results from SPLP extractions performed on SWMU 51 soil samples are presented in Table 4.21.

4.4.3.1 Inorganic Constituents

The following inorganic constituents were detected in the subsurface soil samples collected at SWMU 51:

- **Arsenic** was detected at 14.9 J mg/kg in the soil sample collected from the 20-foot interval of boring BHGLSWMU51004. This detection of arsenic exceeded both background and the MSC. An SPLP extraction was performed on this sample, and the arsenic concentration in the extract was below the groundwater MSC. As a result, a site-specific soil MSC of 14.9 mg/kg was established for arsenic based on this SPLP result. During the Phase II investigation, a total of four additional soil samples were collected for arsenic from the 20-foot interval of borings BHGLSWMU51013, BHGLSWMU51014, WHTLTA032, and WHGLTA039. Phase II analytical results showed decreasing concentrations of arsenic ranging from 11.4 mg/kg in boring BHGLSWMU51014 to 4.1 F mg/kg in WHGLTA032.

- **Chromium** (18.4 mg/kg) was detected in the subsurface soil sample collected from the 5-foot interval of boring BHGLSWMU51009. This detection of chromium exceeded both background and the MSC of 16.31 mg/kg. An SPLP extraction was performed on this sample, and the chromium concentration in the extract was below the groundwater MSC. As a result, a site-specific soil MSC of 18.4 mg/kg was established for chromium. Chromium was not identified as a COPC at the site and no further sampling for this analyte was conducted.

- **Cobalt** was detected in the subsurface soil samples collected from the 20-foot interval of borings BHGLSWMU51003 (7.1 mg/kg) and BHGLSWMU51004 (9.0 mg/kg). These detections of cobalt exceeded the background level of 6.19 mg/kg, but were well below the MSC of 610 mg/kg. During the Phase II investigation, a total of four additional soil samples were collected for cobalt from the 20-foot interval of borings BHGLSWMU51013, BHGLSWMU51014, WHTLTA032, and WHGLTA039. Phase II analytical results showed concentrations of cobalt ranging from 9.6 mg/kg in boring BHGLSWMU51014 to 2.4 F mg/kg in WHGLTA032.

- **Lead** was detected in the subsurface soil samples collected from the 20-foot interval of borings BHGLSWMU51003 (16.5 mg/kg) and BHGLSWMU51004 (13.3 mg/kg). These detections of lead exceeded both background and the MSC. An SPLP extraction was performed on both samples. Although the lead concentration in the extract from BHGLSWMU51003 was below the groundwater MSC, a site-specific MSC of 16.5 was not established for lead because the lead concentration in the extract from BHGLSWMU51004 exceeded the groundwater MSC. During the Phase II investigation, a total of four additional soil samples were collected for lead from the 20-foot interval of borings BHGLSWMU51013, BHGLSWMU51014, WHTLTA032, and WHGLTA039. All Phase II analytical results for lead were below background concentrations.

- **Mercury** was detected above background (0.035 mg/kg), but below the MSC (0.2 mg/kg) in all of the subsurface soil samples collected from borings BHGLSWMU51001 through BHGLSWMU51007. Concentrations of mercury at the site ranged from 0.05 mg/kg to 0.12 mg/kg. All subsurface samples collected during Phase II were analyzed for mercury. Mercury was not detected in any Phase II subsurface soil sample, with the exception of a detection below background of 0.03 F mg/kg in the sample collected from the 5-foot interval of boring BHGLSWMU51013.

- **Nickel** was detected at 21.7 mg/kg in the 20-foot interval of the subsurface soil sample collected from boring BHGLSWMU51004. This detection of nickel was slightly above background (19.76 mg/kg), but well below the MSC (200 mg/kg). Nickel was not identified as a COPC at the site and no further sampling for this analyte was conducted.

- **Vanadium** was detected at 37.7 mg/kg in the 5-foot interval of the subsurface soil sample collected from boring BHGLSWMU51009. This detection of vanadium was slightly above background (37.4 mg/kg), but below the MSC (72 mg/kg). Vanadium was not identified as a COPC at the site and no further sampling for this analyte was conducted.

- **Zinc** was detected at 31.7 mg/kg in the 5-foot interval of the subsurface soil sample collected from boring BHGLSWMU51009. This detection of zinc was slightly above background (31.3 mg/kg), but well below the MSC (3,100 mg/kg). Zinc was not identified as a COPC at the site and no further sampling for this analyte was conducted.

- **Cyanide** was detected at 0.51 F mg/kg in the sample collected from the 5-foot interval of boring BHGLSWMU51007. This detection of cyanide is slightly above the MQL (0.5 mg/kg) and below the MSC of 20 mg/kg. Cyanide was not identified as a COPC at SWMU 51 and further sampling for this analyte was not conducted.

- **Sulfide** was detected in all of the subsurface soil samples collected from borings BHGLSWMU51001, BHGLSWMU51002, BHGLSWMU51008, and BHGLAOC15001 at concentrations ranging from 32.3 mg/kg to 123 mg/kg. These concentrations of sulfide exceed the background level of 25 mg/kg. No MSC has been established for this compound. A more detailed discussion of sulfide is presented in Section 5.4.1.

4.4.3.2 Organic Constituents

No organic compounds were detected above MQLs in the subsurface soil samples collected at SWMU 51.

4.4.4 Groundwater Detections

Two rounds of groundwater sampling was conducted at SWMU 51. Groundwater samples collected from new downgradient monitoring wells WHGLTA030, WHGLTA031, and WHGLTA39 as well as from existing upgradient monitoring well ST14-25 (Figure 4.8).

Groundwater samples were analyzed for the constituents described in Section 3.2.4.4. No analytes were detected in any of the groundwater collected upgradient or downgradient from SWMU 51. Analytical results from SWMU 51 groundwater samples are presented in Table 4.22.

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TABLES

Table 4.1
Phase I Surface Soil Detections SWMU 11
NAS Fort Worth JRB, Texas

Analyte	RRS-1	RRS-2	BHGLSWMU11001-00'	BHGLSWMU11002-00'
Arsenic	5.85	5.85	3.5 F	2.9 F
Barium	233	233	87.5	84.3
Beryllium	1 02	1 02	0.73	0 65
Chromium, total	25.86	25.86	12.8	9.2
Cobalt	11.05	610	5.8	4.6 F
Copper	17.37	130	9.5	8.5
Nickel	14.6	200	9.5	7.8 F
Vanadium	46.3	72	28.7	24.4
Zinc	38.8	3100	16.9 F	12.9 F
Lead	30.97	30.97	24.3	23 3
Selenium	0.907	5	- -	0.14 F
pH	NV	NV	7.7	7.8

Table 4.2
Phase I Subsurface Soil Detections SWMU 11
NAS Fort Worth JRB, Texas

Analyte	RRS-1	RRS-2	BHGLSWMU11001-05'	BHGLSWMU11001-10'	BHGLSWMU11001-10' Duplicate	BHGLSWMU11001-15'
Arsenic	6.58	6.58	4 5 J	4.6 J	4.2 J	4.7 J
Barium	128 1	200	52.2	52.9	55.1	94.5
Beryllium	1.13	1.13	0.72	0.63	0.68	0.33 J
Cadmium	0.59	0.59	- -	- -	- -	0.04 F
Chromium, total	16.31	16.31	12 9	16	16.1	9.5
Cobalt	6.19	610	2 9 F	4.3 F	4 1 F	**(6.5)**
Copper	13 72	130	6.9 F	8 9	8.2 F	7.5 F
Nickel	19.76	200	8.2	9.1	9.6	11 1
Vanadium	37.4	72	29.6	32.2	28.3	16.3 F
Zinc	31.3	3100	18.4 F	18.2 F	21.1 F	21.6 F
Lead	12.66	12 66	**[(18.1)]**	**[(16.3)]**	**[(15.4)]**	**[(13.1)]**
Acetone	0.005	1000	- -	- -	**(0.008 J)**	- -
pH	NV	NV	6.8	7 5	7.4	8 5

671'107

Table 4.2
Phase I Subsurface Soil Detections SWMU 11
NAS Fort Worth JRB, Texas

Analyte	RRS-1	RRS-2	BHGLSWMU11002-05'	BHGLSWMU11002-10'
Arsenic	6.58	6.58	4.4 J	**[(7.1 J)]**
Barium	128.1	200	49.2	12.7 F
Beryllium	1.13	1.13	0.6	0.58
Cadmium	0.59	0.59	- -	- -
Chromium, total	16.31	16.31	13.4	10.5
Cobalt	6.19	610	4 4 F	5
Copper	13.72	130	6.7 F	9.9
Nickel	19.76	200	8.5	11.4
Vanadium	37.4	72	26.1	27.7
Zinc	31.3	3100	18.7 F	22.2 F
Lead	12.66	12.66	**[(15.1)]**	**[(16.4)]**
Acetone	0.005	1000	- -	- -
pH	NV	NV	7.2	9.2

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Table 4.3
Phase II Subsurface Soil Results SWMU 11
NAS Fort Worth JRB, Texas

Risk Reduction Standard	**Arsenic**	**Lead**
RRS-1	6.58	12 66
RRS-2	6.58	12.66
Well Identification		
BHGLSWMU11003-05'	NA	8.6
BHGLSWMU11003-10'	4.6	6 4 F
BHGLSWMU11003-15'	NA	4 4 J
BHGLSWMU11004-05'	NA	8.4 F
BHGLSWMU11004-10'	NA	6.7 F
BHGLSWMU11005-05'	NA	7.9 F
BHGLSWMU11005-10'	5 6	11.2
BHGLSWMU11005-10' Duplicate	3 F	10.4
WHGLTA027-05'	NA	11.5
WHGLTA027-10'	1.7 F	7.5 J
WHGLTA027-15'	NA	3.1 F

Table 4.4
Standard 3 Soil Detections and Corresponding SPLP Results
SWMU 11
NAS Fort Worth JRB, Texas

Sample	Soil Method	Analyte	Soil RRS-1 mg/kg	Soil RRS-2 mg/kg	Soil Result mg/kg	Greater Than RRS-1	Greater Than RRS-2	SPLP Method	SPLP RL mg/L	Ground water RRS-2 mg/L	SPLP Result mg/L	Greater Than GW RRS-2
BHGLSWMU11001-05'	SW7421	Lead	12.66	12 66	18.1	Yes	Yes	SW7421	0 01	0.015	0.0341	Yes
BHGLSWMU11001-10'	SW7421	Lead	12.66	12.66	16.3	Yes	Yes	SW7421	0.01	0.015	0.0094 F	No
BHGLSWMU11001-15'	SW7421	Lead	12.66	12.66	13.1	Yes	Yes	SW7421	0.01	0.015	0.0148	No
BHGLSWMU11002-05'	SW7421	Lead	12.66	12.66	15.1	Yes	Yes	SW7421	0.05	0.015	0.102	Yes
BHGLSWMU11002-10'	SW6010	Arsenic	6.58	6.58	7.1 J	Yes	Yes	SW7060	0.01	0.05	0.0095 F	No
BHGLSWMU11002-10'	SW7421	Lead	12.66	12.66	16.4	Yes	Yes	SW7421	0.05	0.015	0.0509	Yes

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Table 4.5
Round 1 and 2 Groundwater Results SWMU 11
NAS Fort Worth JRB, Texas

Analyte	RRS-1	RRS-2	WHGLTA027 Round 1	WHGLTA027 Round 2
Arsenic	0.0049	0.05	**(0.0312 F)**	0.010 U
Lead	0.0016	0.015	0.01 UJ	0.002 UJ

Table 4.6
Phase I Surface Soil Detections SWMU 32
NAS Fort Worth JRB, Texas

Analyte	RRS-1	RRS-2	BHGLSWMU32001-00'	BHGLSWMU32001-00' Duplicate	BHGLSWMU32002-00'	BHGLSWMU32003-00'
Arsenic	5.85	5.85	2.8 F	1.7 F	4.4 J	3.1 F
Barium	233	233	68.6	86.1	93.2	87.9
Beryllium	1.02	1.02	0 41	0.65	0.78	0.79
Cadmium	0.556	0.556	**[(0.61 J)]**	0.08 F	0.32 F	0.23 F
Chromium, total	25.86	25.86	12 J	9.8 J	12 J	10 J
Cobalt	11.05	610	4.7	4 F	5.6	4.7
Copper	17.37	130	6.5 F	7.1 F	8.4 J	8.2 J
Lead	30.97	30.97	10.8	9.4	16.3	10.3
Nickel	14.6	200	7.2 F	6.6 F	10.6	8.5
Vanadium	46.3	72	19.6 F	17.4 F	25 J	19.3 F
Zinc	38.8	3100	24.3 J	15.5 F	19.6 F	17 F
Selenium	0.907	5	- -	0.15 F	- -	0.14 F
Silver	0.213	51	- -	0.11 F	0.08 F	0.11 F
1,1-Dichloroethane	0.002	1000	- -	- -	**(0.02)**	- -
Ethylbenzene	0.003	70	**(0.007 J)**	**(0.01 J)**	**(0.005)**	- -
Vinyl chloride	0.005	0.007	- -	- -	0.004 F	- -
pH	NV	NV	8.8	9	9.4	7.5
TPH (C6 - C10)	50	100	3.6 F	- -	18 F	3.8 F
TPH (>C10 - C28)	50	500	8.2 F	- -	45 F	9.9 F
TPH (C6 - C28)	50	500	12 F	- -	63 J	14 F

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Table 4.7
Phase I Subsurface Soil Detections SWMU 32
NAS Fort Worth JRB, Texas

Analyte	RRS-1	RRS-2	BHGLSWMU32001-05'	BHGLSWMU32001-10'	BHGLSWMU32001-15'	BHGLSWMU32002-05'
Arsenic	6.58	6.58	2.3 F	2.2 F	2.2 F	2.2 F
Barium	128.1	200	74.1	47.7	44.7	86
Beryllium	1.13	1.13	0.66	0 5	0.29	0 65
Cadmium	0.59	0.59	0.14 F	- -	0.09 F	- -
Chromium, total	16.31	16.31	11.7 J	6.7 F	5.3 F	7 6 J
Cobalt	6.19	610	6	3.8 F	3 F	4.1 F
Copper	13 72	130	6.4 F	6.2 F	3.6 F	6.6 F
Lead	12.66	12.66	9.1	8.3	5.7	8.3
Nickel	19.76	200	8.8	5.2 F	5.5 F	6.5 F
Vanadium	37.4	72	22.6 F	17.5 F	12 5 F	18.2 F
Zinc	31 3	3100	19 F	11.2 F	9 F	11.8 F
Selenium	0.313	5	- -	- -	- -	- -
Silver	0.128	51	0.11 F	**(0.14 F)**	0.09 F	0.12 F
Acetone	0.005	1000	- -	- -	- -	**(0.015)**
Benzene	0 002	0.5	- -	- -	- -	- -
Chlorobenzene	0.002	10	- -	- -	- -	**(0.009)**
pH	NV	NV	8.1	7.2	8	7.3
TPH (C6 - C10)	50	100	3.7 F	3.6 F	4 F	3.1 F
TPH (>C10 - C28)	50	500	48 F	27 F	5.4 F	4.5 F
TPH (C6 - C28)	50	500	52 F	31 F	9.4 F	7.6 F

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Table 4.7
Phase I Subsurface Soil Detections SWMU 32
NAS Fort Worth JRB, Texas

Analyte	RRS-1	RRS-2	BHGLSWMU32002-10'	BHGLSWMU32003-05'	BHGLSWMU32003-10'	BHGLSWMU32003-15'
Arsenic	6.58	6 58	2.7 F	1.5 F	1.7 F	[(7.2 J)]
Barium	128.1	200	78.7	72.9	92.2	[(249)]
Beryllium	1.13	1.13	0.57	0.69	0.48	0.47
Cadmium	0.59	0.59	0.09 F	- -	0.42	0.23 F
Chromium, total	16.31	16.31	7.8 F	6.8 F	5.4 F	9.3 J
Cobalt	6.19	610	4.8 F	4.4 F	3.8 F	6.1
Copper	13.72	130	13 J	5.7 F	4.3 F	7.7 J
Lead	12.66	12.66	9.8	9.8	5.5	8.1
Nickel	19 76	200	7.6 F	5.8 F	7.4	10.2
Vanadium	37.4	72	15.4 F	13 F	11.2 F	18.6 F
Zinc	31.3	3100	11 F	11.2 F	9 3 F	21.6
Selenium	0.313	5	- -	0.13 F	- -	- -
Silver	0.128	51	0.12 F	0.11 F	0.09 F	- -
Acetone	0.005	1000	**(0.015)**	- -	- -	- -
Benzene	0.002	0 5	0.002	- -	- -	- -
Chlorobenzene	0.002	10	**(0.014)**	**(0.061)**	**(0.006)**	- -
pH	NV	NV	7	7.4	8.2	8.6
TPH (C6 - C10)	50	100	3.6 F	3.6 F	- -	- -
TPH (>C10 - C28)	50	500	3.2 F	44 F	24 F	- -
TPH (C6 - C28)	50	500	6.8 F	48 F	24 F	- -

Table 4.8
Phase II Surface Soil Results SWMU 32
NAS Fort Worth JRB, Texas

Analyte	RRS-1	RRS-2	BHGLSWMU32006-00	BHGLSWMU32007-00
Cadmium	0.556	0.556	NA	0.44 F
Ethylbenzene	0.003	70	**(0.004)**	0.003 U
TPH (C6 - C10)	50	100	50 U	NA
TPH (>C10 - C28)	50	500	50 U	NA
TPH (C6 - C28)	50	500	50 U	NA

Table 4.9
Phase II Subsurface Soil Results SWMU 32
NAS Fort Worth JRB, Texas

Risk Reduction Standard	Arsenic	Barium	Chlorobenzene
RRS-1	6.58	128.1	0.002
RRS-2	6.58	200	10
Well Identification			
BHGLSWMU32004-05'	NA	NA	0.002 U
BHGLSWMU32004-10'	NA	NA	0.002 U
BHGLSWMU32004-10' Duplicate	NA	NA	0.002 U
BHGLSWMU32004-15'	4.4 UJ	14.3 F	NA
BHGLSWMU32005-05'	NA	NA	0.002 U
BHGLSWMU32005-10'	NA	NA	0.002 U
BHGLSWMU32005-15'	[(6.9)]	30 8 F	NA
BHGLSWMU32006-05'	NA	NA	0.001 F
WHGLTA029-05'	NA	NA	0.002 U
WHGLTA029-10'	NA	NA	0.002 U
WHGLTA029-15'	2.4 F	25.2 F	NA
WHGLTA029-15' Duplicate	2.2 F	28.5 F	NA

Table 4.10
Standard 3 Soil Detections and Corresponding SPLP Results
SWMU 32
NAS Fort Worth JRB, Texas

Sample	Soil Method	Analyte	Soil RRS-1 mg/kg	Soil RRS-2 mg/kg	Soil Result mg/kg	Greater Than RRS-1	Greater Than RRS-2	SPLP Method	SPLP RL mg/L	Ground water RRS-2 mg/L	SPLP Result mg/L	Greater Than GW RRS-2
BHGLSWMU32003-15'	SW6010	Arsenic	6.58	6.58	7.2 J	Yes	Yes	SW7060	0.1	0.05	0.032 F	No
BHGLSWMU32003-15'	SW6010	Barium	128.1	200	249	Yes	Yes	SW6010	0.4	2	1.34	No

Table 4.11
Round 1 and 2 Groundwater Results SWMU 32
NAS Fort Worth JRB, Texas

Analyte	RRS-1	RRS-2	WHGLTA029 Round 1	WHGLTA029 Round 2
Arsenic	0.0049	0.05	**(0.0315 F)**	**(0.0376)**
Barium	0.587	2	0.284	0.169 F
Chlorobenzene	0.0004	0 1	0.0004 U	0.0004 U

Table 4.12
Phase I Surface Soil Detections SWMU 36
NAS Fort Worth JRB, Texas

Analyte	RRS-1	RRS-2	BHGLSWMU36001-00'	BHGLSWMU36002-00'	BHGLSWMU36003-00'
Arsenic	5.85	5.85	3 3 F	3.9 F	3.8 F
Barium	233	233	77.9	82.6	86.7
Beryllium	1.02	1.02	0.62	0.57	0.65
Cadmium	0.556	0.556	0.16 F	0.1 F	0.11 F
Chromium, total	25.86	25.86	14.3	11.6	11 8
Cobalt	11.05	610	4 F	3.9 F	4.7 F
Copper	17.37	130	8.8 F	7 4 F	7.3 F
Lead	30.97	30.97	8.9	9.6	9.7
Nickel	14.6	200	9.2 F	8.3 F	9.3 F
Tin	10	6100	2.4 F	2 F	1.6 F
Vanadium	46.3	72	27.6 F	25.7 F	23.3 F
Zinc	38.8	3100	24.3 F	21.4 F	27.4 F
Ethylbenzene	0.003	70	- -	0 002 F	- -
m,p-Xylene (sum of isomers)	0.005	1000	- -	**(0.007)**	- -
o-Xylene (1,2-Dimethylbenzene)	0.005	1000	- -	0.003 F	- -
pH	NV	NV	6.1	9 8	8.2
TPH (C6 - C10)	50	100	- -	2.9 F	- -
TPH (>C10 - C28)	50	500	4.7 F	3.9 F	- -
TPH (C6 - C28)	50	500	4.7 F	6.8 F	- -

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Table 4.13
Phase I Subsurface Soil Detections SWMU 36
NAS Fort Worth JRB, Texas

Analyte	RRS-1	RRS-2	BHGLSWMU36001-05'	BHGLSWMU36001-10'	BHGLSWMU36001-15'	BHGLSWMU36002-05'
Ethylene glycol	NV	NV	- -	66	- -	- -
Antimony	0.712	0.712	- -	- -	- -	- -
Arsenic	6.58	6.58	4.2 F	4.2 F	1.5 F	3 5 F
Barium	128.1	200	64.1	112	98.3	68.1
Beryllium	1.13	1.13	0 64	0.88	0.26 F	0 67
Cadmium	0.59	0.59	0.21 F	0.07 F	0.18 F	0.09 F
Chromium, total	16.31	16.31	12.5	13.5	6.8 F	11.8
Cobalt	6.19	610	4.7 F	5.7	2 F	3.5 F
Copper	13.72	130	**(23.3 J)**	9.9 J	4.3 F	8.7 F
Lead	12.66	12.66	**[(15.3)]**	10.6	4.7	11
Nickel	19.76	200	9.5 F	10 8	4.6 F	8.7 F
Tin	10	6100	2 F	1.8 F	1.8 F	1.7 F
Vanadium	37.4	72	23.8 F	28.3	11.8 F	21.4 F
Zinc	31.3	3100	**(33.5)**	23.6 F	15.8 F	21.2 F
pH	NV	NV	8.3	8.2	8.4	8.0
TPH (C6 - C10)	50	100	- -	2.9 F	- -	- -
TPH (>C10 - C28)	50	500	3.3 F	3.2 F	- -	- -
TPH (C6 - C28)	50	500	'3.3 F	6 F	- -	- -

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Table 4.13
Phase I Subsurface Soil Detections SWMU 36
NAS Fort Worth JRB, Texas

Analyte	RRS-1	RRS-2	BHGLSWMU36002-10'	BHGLSWMU36003-05'	BHGLSWMU36003-05' Duplicate	BHGLSWMU36003-10'
Ethylene glycol	NV	NV	- -	- -	- -	- -
Antimony	0.712	0.712	- -	0.46 F	- -	- -
Arsenic	6.58	6.58	3.7 F	3.9 F	3.7 F	3.7 F
Barium	128.1	200	**(133)**	80.4	67.6	77 9
Beryllium	1.13	1.13	0.85	0.86 J	0.61 J	0.78
Cadmium	0.59	0.59	- -	0.05 F	0.09 F	0.15 F
Chromium, total	16.31	16.31	12.2	14.2	**[(18.2)]**	15.9
Cobalt	6.19	610	5.9	5.1 F	4.4 F	5.1 F
Copper	13 72	130	10.3 J	10.2 J	8.1 F	10.5 J
Lead	12.66	12.66	10.4	10 2 J	**[(46.7 J)]**	**[(13)]**
Nickel	19.76	200	10.6	10.7	8.6 F	11 7
Tin	10	6100	1.7 F	1.9 F	1.5 F	1.9 F
Vanadium	37.4	72	27.5 F	26.7 F	22.7 F	26.7 F
Zinc	31.3	3100	20.8 F	25 F	21.1 F	**(33.9)**
pH	NV	NV	8.1	8	8	8
TPH (C6 - C10)	50	100	3.9 F	- -	3 F	3 F
TPH (>C10 - C28)	50	500	- -	3 F	2 9 F	4.1 F
TPH (C6 - C28)	50	500	3.9 F	3 F	5.9 F	7 1 F

Table 4.14
Phase II Subsurface Soil Results SWMU 36
NAS Fort Worth JRB, Texas

Risk Reduction Standard	Chromium, total	Lead
RRS-1	16.31	12.66
RRS-2	16.31	12 66
Well Identification		
BHGLSWMU36004-05'	9.3 J	12 1
BHGLSWMU36005-05'	13.7	11.7 F
BHGLSWMU36006-05'	**[(16.7)]**	12 F
BHGLSWMU36007-05'	11.7	6.5 F
BHGLSWMU36008-05'	7.1 F	10
BHGLSWMU36008-05' Duplicate	7.1 F	7 F
WHGLTA033-05'	**[(19.2)]**	**[(12.8)]**

Table 4.15
Standard 3 Soil Detections and Corresponding SPLP Results
SWMU 36
NAS Fort Worth JRB, Texas

Sample	Soil Method	Analyte	Soil RRS-1 mg/kg	Soil RRS-2 mg/kg	Soil Result mg/kg	Greater Than RRS-1	Greater Than RRS-2	SPLP Method	SPLP RL mg/L	Ground water RRS-2 mg/L	SPLP Result mg/L	Greater Than GW RRS-2
BHGLSWMU36001-05'	SW6010	Lead	12.66	12.66	15.3	Yes	Yes	SW7421	0.01	0 015	0 0038 F	No
BHGLSWMU36003-05' Duplicate	SW6010	Chromium, total	16 31	16.31	18.2	Yes	Yes	SW7191	0.02	0 1	0.135	Yes
BHGLSWMU36003-05' Duplicate	SW6010	Lead	12.66	12.66	46.7 J	Yes	Yes	SW7421	0.01	0.015	0.0414	Yes
BHGLSWMU36003-10'	SW6010	Lead	12.66	12.66	13	Yes	Yes	SW7421	0.01	0.015	0.01 U	No

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Table 4.16
Round 1 and 2 Groundwater Results SWMU 36
NAS Fort Worth JRB, Texas

Analyte	RRS-1	RRS-2	WHGLTA033 Round 1	WHGLTA033 Round 2
Chromium, total	0 006	0.1	0.005 UJ	0.005 U
Lead	0.0016	0.015	0.002 R	0.002 U

Table 4.17
Phase I Surface Soil Detections SWMU 51
NAS Fort Worth JRB, Texas

Analyte	RRS-1	RRS-2	BHGLSWMU51001-00'	BHGLSWMU51002-00'	BHGLSWMU51003-00'	BHGLSWMU51004-00'
Antimony	0 56	0 6	0.43 F	- -	- -	- -
Arsenic	5 85	5 85	4 6 F	4 3 F	4 3 F	3 9 F
Barium	233	233	212	102	107	104
Beryllium	1 02	1 02	0 98	0 79	1	0 96
Cadmium	0 556	0 556	0 05 F	0 14 F	- -	- -
Chromium, total	25 86	25 86	13 1 J	12 8 J	18 8 J	15 7 J
Cobalt	11 05	610	**(18.2)**	5 6 F	7 4	6
Copper	17 37	130	8 9 F	7.7 F	10.8	8 6 F
Lead	30 97	30 97	23 3	12 9	11 6	14 4
Nickel	14 6	200	**(22.2)**	10 5	13	12 4
Tin	10	6100	- -	- -	- -	- -
Vanadium	46 3	72	34.4	28 9 F	36 6	31
Zinc	38.8	3100	17 1 F	19 9 F	26 9 F	22 6 F
Mercury	0 14	0 2	0 08	0 04 F	0 09	0 07
Thallium	2 43	2 43	0 23 F	- -	- -	- -
Acenaphthene	0 33	610	- -	- -	- -	- -
Anthracene	0 33	3100	- -	- -	- -	- -
Benzo(a)anthracene	0 33	0.33	- -	- -	- -	- -
Benzo(a)pyrene	0 33	0 33	- -	- -	- -	- -
Benzo(b)fluoranthene	0 33	0 33	- -	- -	- -	- -
Benzo(g,h,i)perylene	0 33	310	- -	- -	- -	- -
Benzo(k)fluoranthene	0 33	0 39	- -	- -	- -	- -
Chrysene	0 33	3.9	- -	- -	- -	- -
Dibenz(a,h)anthracene	0 33	0 33	- -	- -	- -	- -
Dibenzofuran	0 33	41	- -	- -	- -	- -
Fluoranthene	0 33	410	- -	- -	- -	- -
Fluorene	0 33	410	- -	- -	- -	- -
Indeno(1,2,3-c,d)pyrene	0 33	0 33	- -	- -	- -	- -
Naphthalene	0 33	200	- -	- -	- -	- -
Phenanthrene	0 33	310	- -	- -	- -	- -
Pyrene	0 33	310	- -	- -	- -	- -
2,3,7,8-Tetrachlorodibenzofuran	0 00003	NV	- -	- -	**(0.00032)**	- -
Cyanide	0 5	20	- -	- -	- -	- -
Sulfide	25	NV	**(92.1)**	**(60.8)**	- -	- -

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Table 4.17
Phase I Surface Soil Detections SWMU 51
NAS Fort Worth JRB, Texas

Analyte	RRS-1	RRS-2	BHGLSWMU51005-00'	BHGLSWMU51006-00'	BHGLSWMU51006-00' Duplicate	BHGLSWMU51007-00'
Antimony	0 56	0 6	- -	- -	- -	0.43 F
Arsenic	5 85	5 85	4 6	4 2	[(9.4)]	3 8
Barium	233	233	81 6	111 J	69 3 J	96 8
Beryllium	1 02	1 02	0 73	0 92	0 59	0 83
Cadmium	0 556	0 556	0 43	0 37 F	[(0.64)]	0 31 F
Chromium, total	25 86	25 86	16.7	19 2	19 5	19 2
Cobalt	11 05	610	5	5 5	4 F	5 1
Copper	17 37	130	7 5 F	8 2 F	9 8	8 5
Lead	30 97	30 97	20 2	8 4 F	26	17.4
Nickel	14 6	200	10 7	13 1	9 5	11 6
Tin	10	6100	- -	- -	- -	- -
Vanadium	46 3	72	30 5	35 5	27 6	32 9
Zinc	38 8	3100	27.1	29 6	37 3	30 5
Mercury	0.14	0.2	0 13	0 12	0.05	0 06
Thallium	2 43	2 43	- -	- -	- -	- -
Acenaphthene	0 33	610	- -	- -	- -	- -
Anthracene	0 33	3100	- -	- -	- -	- -
Benzo(a)anthracene	0 33	0 33	- -	- -	- -	- -
Benzo(a)pyrene	0 33	0.33	- -	- -	0 1 F	- -
Benzo(b)fluoranthene	0 33	0 33	- -	- -	0 16 F	- -
Benzo(g,h,i)perylene	0 33	310	- -	- -	- -	- -
Benzo(k)fluoranthene	0 33	0 39	- -	- -	- -	- -
Chrysene	0 33	3 9	- -	- -	0 11 F	- -
Dibenz(a,h)anthracene	0 33	0.33	- -	- -	- -	- -
Dibenzofuran	0.33	41	- -	- -	- -	- -
Fluoranthene	0 33	410	- -	- -	0 18 F	- -
Fluorene	0 33	410	- -	- -	- -	- -
Indeno(1,2,3-c,d)pyrene	0 33	0.33	- -	- -	- -	- -
Naphthalene	0 33	200	- -	- -	- -	- -
Phenanthrene	0 33	310	- -	- -	- -	- -
Pyrene	0 33	310	- -	- -	- -	- -
2,3,7,8-Tetrachlorodibenzofuran	0.00003	NV	- -	- -	(0.85 F)	0 32 F
Cyanide	0.5	20	- -	- -	- -	- -
Sulfide	25	NV	- -	- -		

Table 4.17
Phase I Surface Soil Detections SWMU 51
NAS Fort Worth JRB, Texas

Analyte	RRS-1	RRS-2	BHGLSWMU51008-00'	BHGLSWMU51009-00'	BHGLAOC15001-00'
Antimony	0 56	0 6	- -	- -	- -
Arsenic	5.85	5 85	3 5 F	5.3	4 2 F
Barium	233	233	99 7	160	126
Beryllium	1.02	1 02	0 95	0 96	0 98
Cadmium	0 556	0 556	0 25 F	0 24 F	- -
Chromium, total	25 86	25 86	19 1	17 5	14 4
Cobalt	11 05	610	5 1 F	6 5	6 8
Copper	17 37	130	10 4	8 3	7 4 F
Lead	30 97	30 97	15 3 J	11 4 J	11
Nickel	14 6	200	12 5	12 9	(15)
Tin	10	6100	- -	- -	1 8 F
Vanadium	46 3	72	33 7	33.6	29 7
Zinc	38 8	3100	30 9	26 9	21 7 F
Mercury	0 14	0 2	- -	- -	- -
Thallium	2 43	2 43	0 19 F	0 22 F	- -
Acenaphthene	0 33	610	- -	- -	0.3 F
Anthracene	0 33	3100	- -	- -	(0.57)
Benzo(a)anthracene	0 33	0 33	- -	- -	[(1.5)]
Benzo(a)pyrene	0 33	0 33	- -	- -	[(1.3)]
Benzo(b)fluoranthene	0 33	0 33	- -	- -	[(1.8)]
Benzo(g,h,i)perylene	0 33	310	- -	- -	(0.58)
Benzo(k)fluoranthene	0.33	0 39	- -	- -	[(0.89)]
Chrysene	0 33	3 9	- -	- -	(1.6)
Dibenz(a,h)anthracene	0 33	0 33	- -	- -	0.16 F
Dibenzofuran	0.33	41	- -	- -	0 18 F
Fluoranthene	0 33	410	- -	- -	(3.5)
Fluorene	0 33	410	- -	- -	0 31 F
Indeno(1,2,3-c,d)pyrene	0 33	0 33	- -	- -	[(0.77)]
Naphthalene	0 33	200	- -	- -	0 041 F
Phenanthrene	0.33	310	- -	- -	(3.2)
Pyrene	0.33	310	- -	- -	(4.4)
2,3,7,8-Tetrachlorodibenzofuran	0 00003	NV	- -	- -	- -
Cyanide	0 5	20	- -	- -	- -
Sulfide	25	NV	(100)	- -	(115)

671:127

Table 4.18
Phase I Subsurface Soil Detections SWMU 51
NAS Fort Worth JRB, Texas

Analyte	RRS-1	RRS-2	BHGLSWMU51001-05'	BHGLSWMU51002-05'	BHGLSWMU51002-05' Duplicate	BHGLSWMU51002-10'
Antimony	0.712	0.712	- -	0.46 F	0.49 F	- -
Arsenic	6.58	6.58	2.9 F	3 5 F	2.4 F	2.8 F
Barium	128.1	200	44.2	64.7	71.4	68.2
Beryllium	1.13	1.13	0.47	0.57	0 59	0.36 J
Cadmium	0.59	0.59	0.17 F	0.21 F	0.13 F	0 08 F
Chromium, total	16 31	16.31	8 4 F	11.1 J	11.3 J	8.4 F
Cobalt	6.19	610	3 F	3.4 F	3.1 F	3.8 F
Copper	13.72	130	5.6 F	6.5 F	10.8 J	4.4 F
Lead	12.66	12.66	8 8	10.1	10.1	6.2
Nickel	19.76	200	6.3 F	8.7 F	8 F	6.6 F
Tin	10	6100	- -	- -	- -	- -
Vanadium	37.4	72	20 F	23.9 F	17.3 F	21.7 F
Zinc	31.3	3100	12.9 F	20.5 F	26.7 J	13.8 F
Mercury	0.035	0.2	**(0.06)**	**(0.09)**	**(0.11)**	**(0.07)**
Selenium	0.313	5	- -	- -	- -	- -
PCB-1260 (Aroclor)	1	1	- -	- -	- -	- -
Zinophos	0.067	NV	- -	- -	- -	- -
Fluoranthene	0.33	410	- -	- -	- -	- -
Cyanide	0.5	20	- -	- -	- -	- -
Sulfide	25	NV	**(70.9)**	**(67.3)**	**(123)**	**(115)**

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Table 4.18
Phase I Subsurface Soil Detections SWMU 51
NAS Fort Worth JRB, Texas

Analyte	RRS-1	RRS-2	BHGLSWMU51003-05'	BHGLSWMU51003-10'	BHGLSWMU51003-15'	BHGLSWMU51003-20'
Antimony	0.712	0.712	- -	0.59 F	- -	0.44 F
Arsenic	6.58	6.58	5.3 J	3.9 F	6.2 J	4.1 F
Barium	128.1	200	71.4	92.7	38.1 F	46.6
Beryllium	1.13	1.13	0.68	0.75	0.27 F	0.77
Cadmium	0.59	0 59	- -	- -	0.08 F	- -
Chromium, total	16.31	16.31	12.4 J	14.2 J	8.7 F	12.1 J
Cobalt	6.19	610	3.8 F	3.9 F	1 5 F	**(7.1)**
Copper	13.72	130	5.5 F	3.5 F	3 F	8.4 F
Lead	12.66	12.66	8.4	9	- -	**[(16.5)]**
Nickel	19.76	200	8 F	8.3 F	6.3 F	18.1
Tin	10	6100	- -	- -	- -	- -
Vanadium	37.4	72	29.5 F	30.9	18.1 F	14.8 F
Zinc	31.3	3100	16.3 F	21.3 F	13 F	23 9 F
Mercury	0.035	0 2	**(0.07)**	**(0.08)**	**(0.06)**	**(0.06)**
Selenium	0 313	5	- -	- -	- -	- -
PCB-1260 (Aroclor)	1	1	- -	- -	- -	- -
Zinophos	0.067	NV	- -	- -	- -	- -
Fluoranthene	0.33	410	- -	- -	- -	- -
Cyanide	0.5	20	- -	- -	- -	- -
Sulfide	25	NV	- -	- -	- -	- -

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Table 4.18
Phase I Subsurface Soil Detections SWMU 51
NAS Fort Worth JRB, Texas

Analyte	RRS-1	RRS-2	BHGLSWMU51004-05'	BHGLSWMU51004-10'	BHGLSWMU51004-15'	BHGLSWMU51004-20'
Antimony	0.712	0.712	- -	- -	- -	- -
Arsenic	6 58	6.58	5.1 J	3.3 F	1.7 F	[(14.9 J)]
Barium	128.1	200	86.2	99.8	56	50.2
Beryllium	1.13	1.13	0.47	0.78	0.58	0 67
Cadmium	0.59	0.59	- -	- -	- -	- -
Chromium, total	16.31	16.31	9 F	11.8 J	10 J	9 F
Cobalt	6.19	610	4.6 F	4.8 F	3.3 F	(9)
Copper	13.72	130	6 F	6 F	4.1 F	8.9 F
Lead	12.66	12.66	8.2	9.8	9	[(13.3)]
Nickel	19.76	200	8.4 F	8.8 F	6.1 F	(21.7)
Tin	10	6100	- -	- -	- -	- -
Vanadium	37.4	72	26.5 F	26 7	15.2 F	20.3 F
Zinc	31.3	3100	19.6 F	22.5 F	17.1 F	23.1 F
Mercury	0.035	0.2	(0.07)	(0.11)	(0.05)	(0.12)
Selenium	0.313	5	- -	- -	- -	- -
PCB-1260 (Aroclor)	1	1	- -	- -	- -	- -
Zinophos	0.067	NV	- -	- -	- -	- -
Fluoranthene	0.33	410	- -	- -	- -	- -
Cyanide	0.5	20	- -	- -	- -	- -
Sulfide	25	NV	- -	- -	- -	- -

671 1630

Table 4.18
Phase I Subsurface Soil Detections SWMU 51
NAS Fort Worth JRB, Texas

Analyte	RRS-1	RRS-2	BHGLSWMU51005-05'	BHGLSWMU51006-05'	BHGLSWMU51007-05'	BHGLSWMU51008-05'
Antimony	0.712	0.712	- -	- -	- -	- -
Arsenic	6.58	6.58	1.2	2.7	3.8	3.3 F
Barium	128.1	200	13 F	21.2 F	18.3 F	68.1
Beryllium	1.13	1.13	0 1 F	0.19 F	0.1 F	0.6
Cadmium	0.59	0.59	- -	0.11 F	0.19 F	0.31 F
Chromium, total	16.31	16.31	3.8 F	5.3 F	5 2 F	14.1
Cobalt	6.19	610	1.9 F	3.1 F	3.2 F	3.3 F
Copper	13.72	130	2 F	3.5 F	3.2 F	7.8 F
Lead	12.66	12.66	2.2	4.1	3.5 F	9.4 J
Nickel	19.76	200	2.9 F	5.1 F	4.7 F	8.3
Tin	10	6100	- -	- -	- -	- -
Vanadium	37.4	72	6.7 F	16.2 F	14.3 F	25.1
Zinc	31.3	3100	8 F	11.4 F	11.7 F	26.1
Mercury	0.035	0.2	**(0.06)**	**(0.06)**	**(0.07)**	- -
Selenium	0.313	5	- -	- -	- -	0.15 F
PCB-1260 (Aroclor)	1	1	- -	- -	- -	- -
Zinophos	0.067	NV	- -	- -	- -	- -
Fluoranthene	0.33	410	- -	- -	- -	- -
Cyanide	0 5	20	- -	- -	**(0.51 F)**	- -
Sulfide	25	NV	- -	- -	- -	**(32.3)**

Table 4.18
Phase I Subsurface Soil Detections SWMU 51
NAS Fort Worth JRB, Texas

Analyte	RRS-1	RRS-2	BHGLSWMU51009-05'	BHGLAOC15001-05'	BHGLAOC15001-10'	BHGLAOC15001-15'
Antimony	0.712	0.712	- -	- -	- -	- -
Arsenic	6.58	6.58	6.2	4.6 F	2.7 F	3.1 F
Barium	128.1	200	94.7	79.6	52.2	45.3
Beryllium	1.13	1.13	0.87	0.56	0.39	0.3 J
Cadmium	0.59	0 59	0.42	0.13 F	0 08 F	0.09 F
Chromium, total	16.31	16.31	**[(18.4)]**	11.1	11	8.1 F
Cobalt	6.19	610	6	4.5 F	2.8 F	3.1 F
Copper	13.72	130	8.5	6.8 F	5.5 F	3.1 F
Lead	12.66	12.66	10.7 J	10.3	8.3	4.8
Nickel	19.76	200	13.1	8.9 F	6.3 F	6.4 F
Tin	10	6100		1.5 F	1.5 F	
Vanadium	37.4	72	**(37.7)**	27.2 F	17.8 F	15.1 F
Zinc	31.3	3100	**(31.7)**	20.5 F	16 F	13.6 F
Mercury	0.035	0.2	- -	- -	- -	- -
Selenium	0.313	5	- -	- -	- -	- -
PCB-1260 (Aroclor)	1	1	- -	- -	- -	- -
Zinophos	0.067	NV	- -	- -	- -	- -
Fluoranthene	0.33	410	- -	- -	0.04 F	- -
Cyanide	0.5	20	- -	- -	- -	- -
Sulfide	25	NV	- -	**(75.6)**	**(108)**	**(85.8)**

'6.71 11-32

Table 4.18
Phase I Subsurface Soil Detections SWMU 51
NAS Fort Worth JRB, Texas

Analyte	RRS-1	RRS-2	BHGLAOC15001-20'
Antimony	0.712	0.712	- -
Arsenic	6.58	6.58	2.6 F
Barium	128.1	200	56.3
Beryllium	1.13	1.13	0.16 F
Cadmium	0.59	0.59	0 07 F
Chromium, total	16.31	16.31	5.3 F
Cobalt	6.19	610	2 8 F
Copper	13.72	130	2.4 F
Lead	12.66	12.66	4.1
Nickel	19.76	200	4.6 F
Tin	10	6100	1.2 F
Vanadium	37.4	72	11.2 F
Zinc	31.3	3100	9.8 F
Mercury	0.035	0.2	- -
Selenium	0.313	5	- -
PCB-1260 (Aroclor)	1	1	0.015 F
Zinophos	0.067	NV	**(0.021 F)**
Fluoranthene	0.33	410	- -
Cyanide	0.5	20	- -
Sulfide	25	NV	**(107)**

671 1133

Table 4.19
Phase II Surface Soil Results SWMU 51
NAS Fort Worth JRB, Texas

Risk Reduction Standard	Arsenic	Cadmium	Cobalt	Nickel
RRS-1	5.85	0.556	11.05	14.6
RRS-2	5.85	0 556	610	200
Well Identification				
BHGLSWMU51011-00'	4 F	0.43 F	NA	NA
BHGLSWMU51012-00'	4.2	0.33 J	NA	NA
WHGLTA030-00'	[(9.4)]	0.1 F	NA	NA
WHGLTA031-00'	NA	NA	2 F	5.8 F
WHGLTA032-00'	NA	NA	2.4 F	NA
WHGLTA039-00'	NA	NA	3.7 F	NA

Table 4.20
Phase II Subsurface Soil Results SWMU 51
NAS Fort Worth JRB, Texas

Risk Reduction Standards	Arsenic	Cobalt	Lead	Mercury
RRS-1	6.58	6.19	12 66	0.035
RRS-2	6.58	610	12.66	0 2
Well Identification				
BHGLSWMU51010-05'	NA	NA	NA	0.04 U
BHGLSWMU51011-05'	NA	NA	NA	0.04 U
BHGLSWMU51013-05'	NA	NA	NA	0.03 F
BHGLSWMU51013-10'	NA	NA	NA	0.04 U
BHGLSWMU51013-15'	NA	NA	NA	0.04 U
BHGLSWMU51013-20'	**[(10.4)]**	**(7.2)**	7 F	0 04 U
BHGLSWMU51014-05'	NA	NA	NA	0.04 U
BHGLSWMU51014-10'	NA	NA	NA	0.04 U
BHGLSWMU51014-15'	NA	NA	NA	0.04 U
BHGLSWMU51014-20'	**[(11.4)]**	**(9.6)**	9.6 F	0.04 U
WHGLTA030-05'	NA	NA	NA	0.04 U
WHGLTA031-05'	NA	NA	NA	0.04 U
WHGLTA031-05' Duplicate	NA	NA	NA	0.04 U
WHGLTA031-10'	NA	NA	NA	0.04 U
WHGLTA032-05'	NA	NA	NA	0.04 U
WHGLTA032-10'	NA	NA	NA	0.04 U
WHGLTA032-15'	NA	NA	NA	0.04 U
WHGLTA032-20'	4 1 F	2 4 F	6.4	0.04 U
WHGLTA039-05'	NA	NA	NA	0.04 U
WHGLTA039-10'	NA	NA	NA	0.04 U
WHGLTA039-15'	NA	NA	NA	0.03 U
WHGLTA039-20'	4.9 F	3.7 F	2.5 F	0.04 U

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Table 4.21
Standard 3 Soil Detections and Corresponding SPLP Results
SWMU 51
NAS Fort Worth JRB, Texas

Sample	Soil Method	Analyte	Soil RRS-1 mg/kg	Soil RRS-2 mg/kg	Soil Result mg/kg	Greater Than RRS 1	Greater Than RRS 2	SPLP Method	SPLP RL mg/L	Groundwater RRS-2 mg/L	SPLP Result mg/L	Greater Than RRS-2
BHGLSWMU51003-20'	SW6010	Lead	12 66	12.66	16.5	Yes	Yes	SW7421	0.01	0.015	0 01 U	No
BHGLSWMU51004-20'	SW6010	Arsenic	6.58	6.58	14.9 J	Yes	Yes	SW7060	0.01	0.05	0.01 U	No
BHGLSWMU51004-20'	SW6010	Lead	12.66	12.66	13.3	Yes	Yes	SW7421	0.01	0.015	0 0204	Yes
BHGLSWMU51009-05'	SW6010	Chromium, total	16.31	16.31	18.4	Yes	Yes	SW7191	0.01	0.1	0.0149	No

671136

Table 4.22
Round 1 and 2 Groundwater Results SWMU 51
NAS Fort Worth JRB, Texas

Analyte	RRS-1	RRS-2	ST14-25 Round 1	ST14-25 Round 2	WHGLTA030 Round 1	WHGLTA030 Round 2
Arsenic	0.0049	0.05	0.005 U	NA	NA	NA
Cadmium	0.0005	0.005	NA	NA	NA	NA
Cobalt	0.0089	2.2	0 01 U	NA	NA	NA
Lead	0.0016	0.015	0.002 U	0.002 U	NA	NA
Mercury	0.0001	0.002	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Nickel	0.0204	0.73	NA	NA	NA	NA

Table 4.22
Round 1 and 2 Groundwater Results SWMU 51
NAS Fort Worth JRB, Texas

Analyte	RRS-1	RRS-2	WHGLTA031 Round 1	WHGLTA031 Round 2	WHGLTA039 Round 1	WHGLTA039 Round 2
Arsenic	0.0049	0.05	NA	NA	0.010 UJ	NA
Cadmium	0 0005	0.005	NA	NA	NA	NA
Cobalt	0.0089	2.2	NA	NA	2.0 U	NA
Lead	0.0016	0.015	0.01 R	0.002 U	0.002 U	0.002 UJ
Mercury	0 0001	0.002	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Nickel	0.0204	0.73	NA	NA	NA	NA

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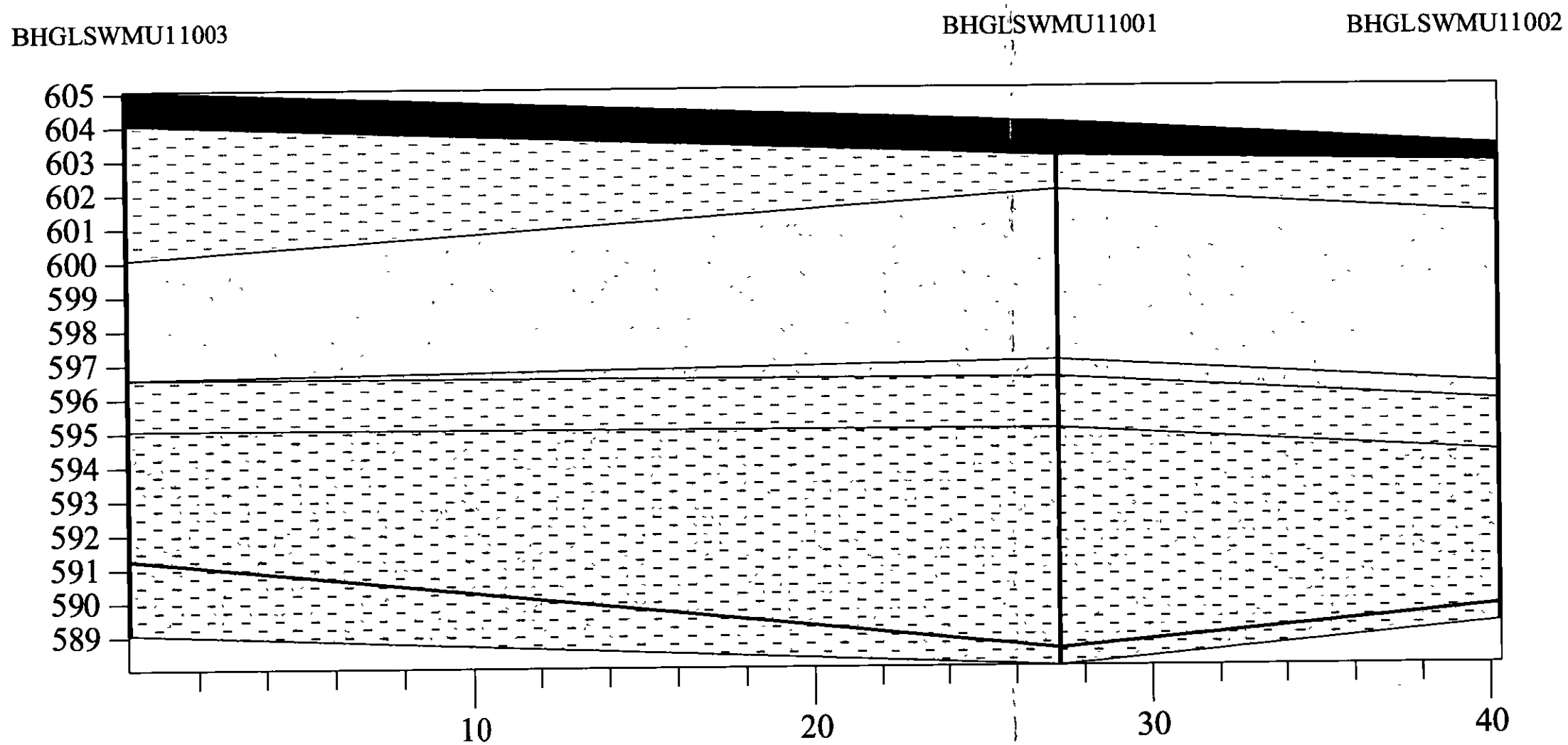
FIGURES



HydroGeoLogic, Inc —RCRA Facility Investigation Report
NAS Fort Worth JRB, Texas

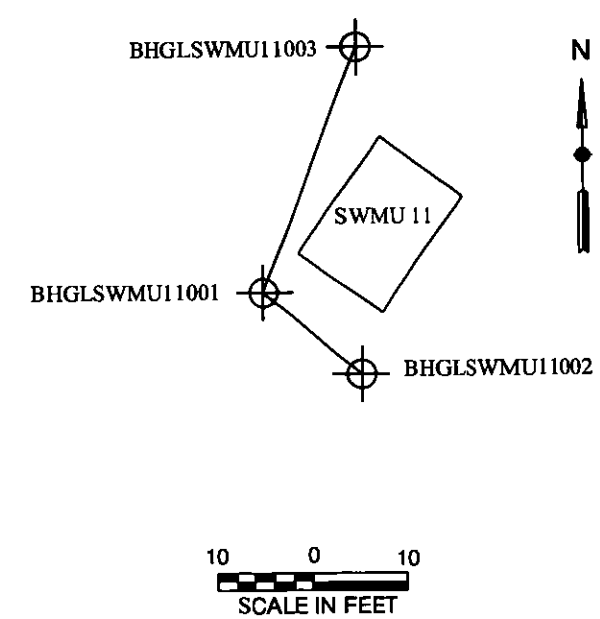
Figure 4.1

SWMU 11
Cross Sections

U.S. Air Force Center For
Environmental Excellence

LEGEND

- Asphalt
- Silt and Clay
- Silty Sand
- Sand
- Sandy Clay
- Sand with Silt and Clay
- Groundwater Elevation June 1999
- Boring Location
- SWMU Boundary



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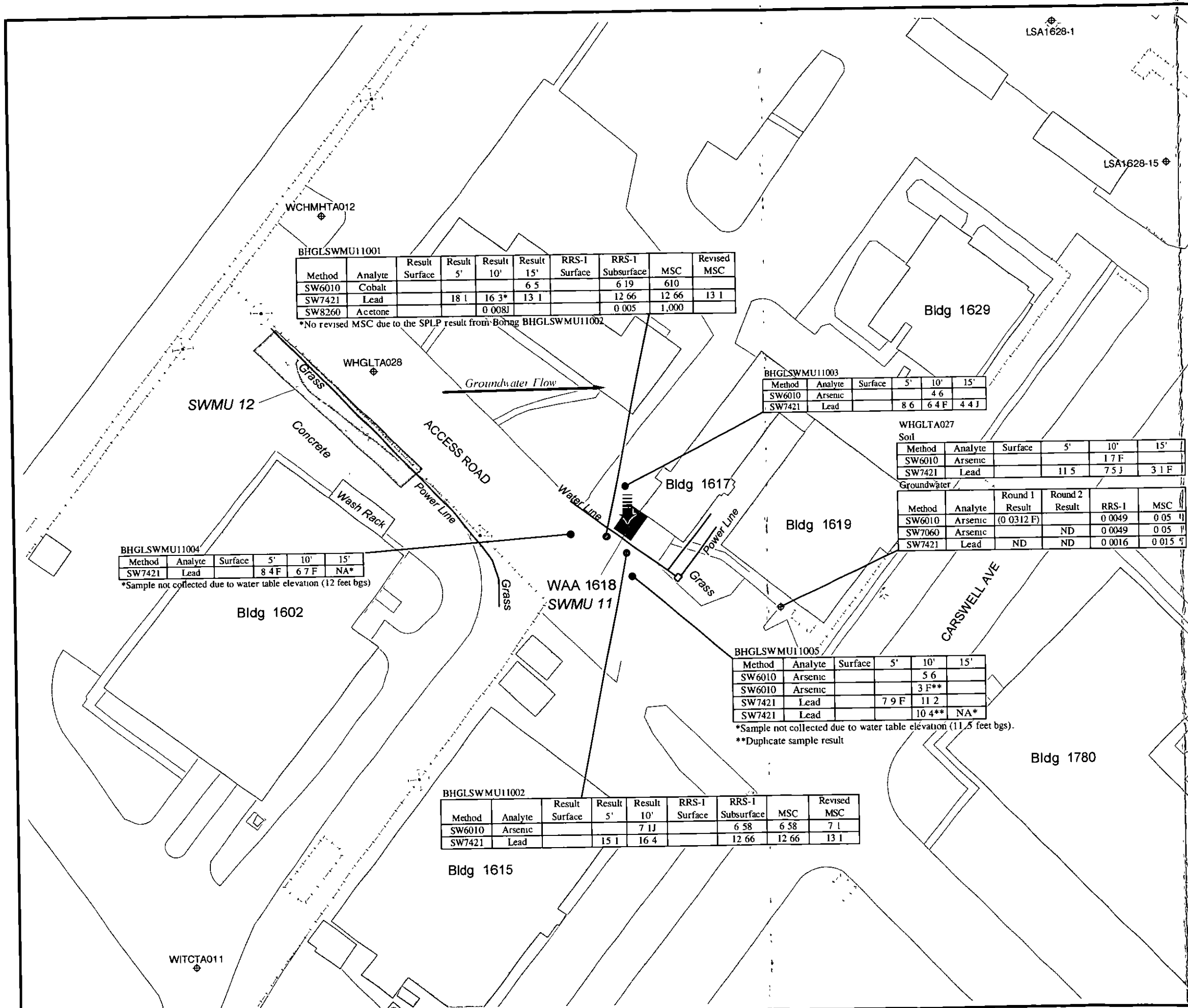
Revised: 03/15/01 jb
Source: HydroGeoLogic, Inc.

HYDRO GeoLogic INC.



BHGLSWMU11001

Method	Analyte	Result Surface	Result 5'	Result 10'	Result 15'	RRS-1 Surface	RRS-1 Subsurface	MSC	Revised MSC
SW6010	Cobalt				6 5		6 19	610	
SW7421	Lead		18 1	16 3*	13 1		12 66	12 66	13 1
SW8260	Acetone			0 008J			0 005	1,000	

*No revised MSC due to the SPLP result from Boring BHGLSWMU11002

BHGLSWMU11003

Method	Analyte	Surface	5'	10'	15'
SW6010	Arsenic			4 6	
SW7421	Lead		8 6	6 4 F	4 4 J

WHGLTA027

Soil

Method	Analyte	Surface	5'	10'	15'
SW6010	Arsenic			1 7 F	
SW7421	Lead		11 5	7 5 J	3 1 F

Groundwater

Method	Analyte	Round 1 Result	Round 2 Result	RRS-1	MSC
SW6010	Arsenic	(0 0312 F)		0 0049	0 05
SW7060	Arsenic		ND	0 0049	0 05
SW7421	Lead	ND	ND	0 0016	0 015

BHGLSWMU11004

Method	Analyte	Surface	5'	10'	15'
SW7421	Lead		8 4 F	6 7 F	NA*

*Sample not collected due to water table elevation (12 feet bgs)

BHGLSWMU11005

Method	Analyte	Surface	5'	10'	15'
SW6010	Arsenic			5 6	
SW6010	Arsenic			3 F**	
SW7421	Lead		7 9 F	11 2	
SW7421	Lead			10 4**	NA*

*Sample not collected due to water table elevation (11.5 feet bgs).
**Duplicate sample result

BHGLSWMU11002

Method	Analyte	Result Surface	Result 5'	Result 10'	RRS-1 Surface	RRS-1 Subsurface	MSC	Revised MSC
SW6010	Arsenic			7 1J		6 58	6 58	7 1
SW7421	Lead		15 1	16 4		12 66	12 66	13 1

HydroGeoLogic, Inc —RCRA Facility Investigation Report
NAS Fort Worth JRB, Texas

Figure 4.2
Phase I and Phase II Results
SWMU 11

U.S. Air Force Center for Environmental Excellence

Legend

- Solid Waste Management Unit (SWMU)
- Waste Accumulation Area (WAA)
- Monitoring Well
- Phase I Soil Boring Location
- Phase II Soil Boring Location
- Surface Runoff

- Phase I Results (header)
- Phase II Results (header)
- Analyte detected above MSC SPLP not performed
- Analyte detected above MSC in soil and in SPLP extract
- Analyte detected above MSC in soil, but detected below MSC in SPLP extract

Notes
Soil concentrations reported in mg/kg
Groundwater concentrations reported in mg/L
MSC—Medium-Specific Concentration
Revised MSC—Value based on SPLP result
NA—Not Analyzed
ND—Not Detected
NV—No Value
F—The analyte was positively identified but the associated numerical value is below the adjusted method quantitation limit
J—The analyte was positively identified, the quantitation is an estimation
Phase I Results - Only detections above RRS-1 are reported on the figure
Phase II Results - All results are reported Analytes depicted in (parentheses) exceed RRS-1 but are below MSC

N

25 0 25 50 75
SCALE IN FEET

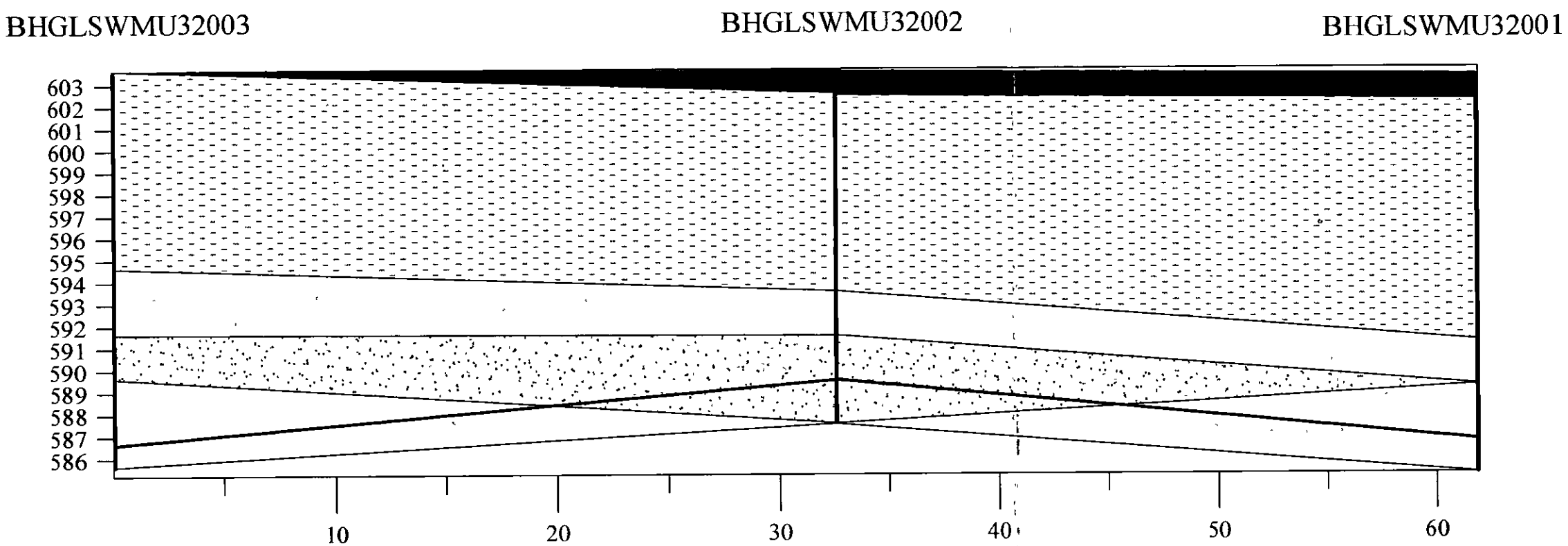
Filename X \AFC001\15bdb\report\swmu 11 apr
Project AFC001-15BDB
Created 10/26/99 jbelcher
Revised 03/14/01 jb
Map Source HGL ArcView Database

HYDRO GeoLogic INC

Figure 4.3

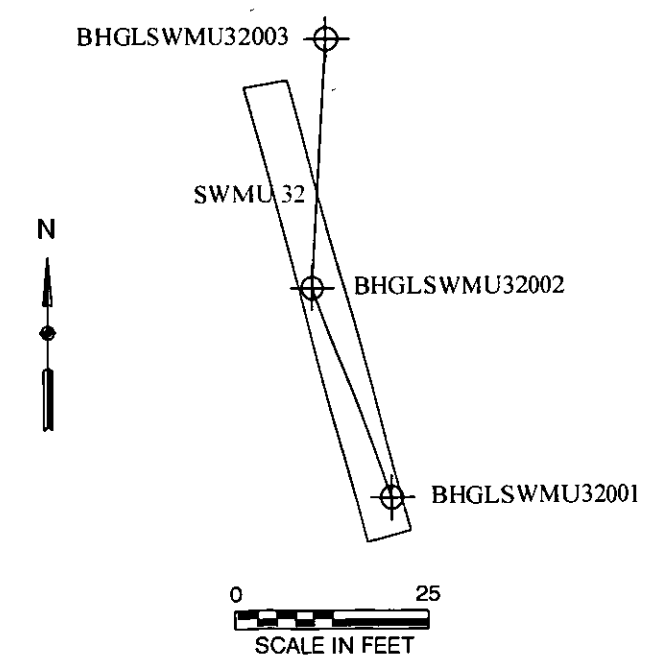
SWMU 32
Cross Sections

U.S. Air Force Center For
Environmental Excellence



LEGEND

- Concrete
- Silt and Clay
- Sandy Silt
- Sand with Gravel
- Sand
- Groundwater Elevation June 1999
- SWMU Boundary
- Boring Location



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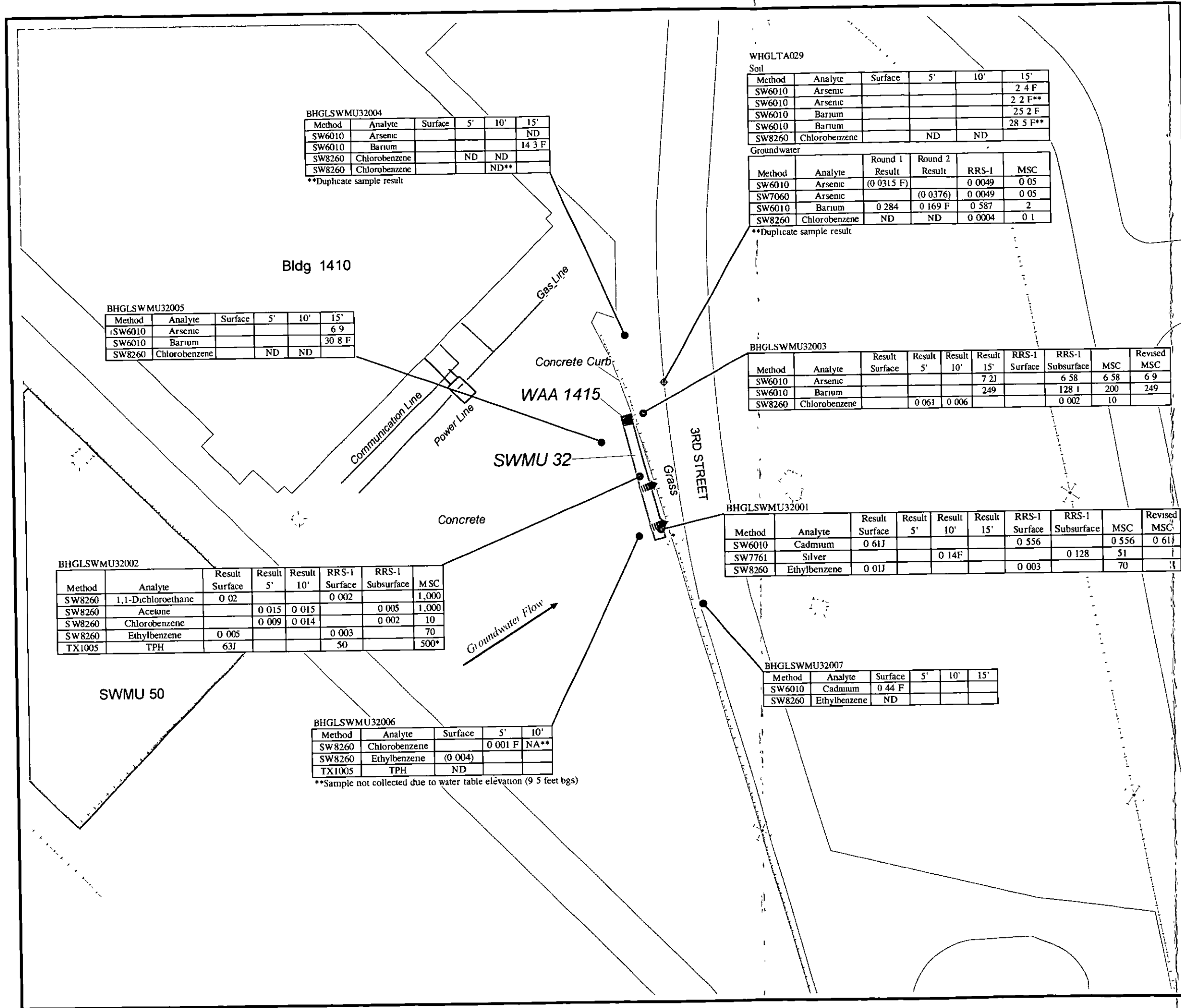
Source HydroGeoLogic, Inc

HYDRO GeoLogic Inc



BHGLSWMU32004

Method	Analyte	Surface	5'	10'	15'
SW6010	Arsenic				ND
SW6010	Barium				14 3 F
SW8260	Chlorobenzene		ND	ND	
SW8260	Chlorobenzene			ND**	

**Duplicate sample result

BHGLSWMU32005

Method	Analyte	Surface	5'	10'	15'
SW6010	Arsenic				6 9
SW6010	Barium				30 8 F
SW8260	Chlorobenzene		ND	ND	

BHGLSWMU32002

Method	Analyte	Result Surface	Result 5'	Result 10'	RRS-1 Surface	RRS-1 Subsurface	MSC
SW8260	1,1-Dichloroethane	0 02			0 002		1,000
SW8260	Acetone		0 015	0 015		0 005	1,000
SW8260	Chlorobenzene		0 009	0 014		0 002	10
SW8260	Ethylbenzene	0 005			0 003		70
TX1005	TPH	63J			50		500*

BHGLSWMU32006

Method	Analyte	Surface	5'	10'
SW8260	Chlorobenzene		0 001 F	NA**
SW8260	Ethylbenzene	(0 004)		
TX1005	TPH	ND		

**Sample not collected due to water table elevation (9 5 feet bgs)

WHGLTA029

Soil

Method	Analyte	Surface	5'	10'	15'
SW6010	Arsenic				2 4 F
SW6010	Arsenic				2 2 F**
SW6010	Barium				25 2 F
SW6010	Barium				28 5 F**
SW8260	Chlorobenzene		ND	ND	

Groundwater

Method	Analyte	Round 1 Result	Round 2 Result	RRS-1	MSC
SW6010	Arsenic	(0 0315 F)		0 0049	0 05
SW7060	Arsenic		(0 0376)	0 0049	0 05
SW6010	Barium	0 284	0 169 F	0 587	2
SW8260	Chlorobenzene	ND	ND	0 0004	0 1

**Duplicate sample result

BHGLSWMU32003

Method	Analyte	Result Surface	Result 5'	Result 10'	Result 15'	RRS-1 Surface	RRS-1 Subsurface	MSC	Revised MSC
SW6010	Arsenic				7 2J		6 58	6 58	6 9
SW6010	Barium				249		128 1	200	249
SW8260	Chlorobenzene		0 061	0 006			0 002	10	

BHGLSWMU32001

Method	Analyte	Result Surface	Result 5'	Result 10'	Result 15'	RRS-1 Surface	RRS-1 Subsurface	MSC	Revised MSC
SW6010	Cadmium	0 61J				0 556		0 556	0 61J
SW7761	Silver			0 14F			0 128	51	
SW8260	Ethylbenzene	0 01J				0 003		70	

BHGLSWMU32007

Method	Analyte	Surface	5'	10'	15'
SW6010	Cadmium	0 44 F			
SW8260	Ethylbenzene	ND			

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Figure 4.4
Phase I and Phase II Results
SWMU 32

U.S. Air Force Center for Environmental Excellence

Legend

- Solid Waste Management Unit (SWMU)
- Waste Accumulation Area (WAA)
- Monitoring Well
- Phase I Soil Boring Location
- Phase II Soil Boring Location
- Surface Runoff

- Phase I Results (header)
- Phase II Results (header)
- Analyte detected above MSC SPLP not performed
- Analyte detected above MSC in soil and in SPLP extract
- Analyte detected above MSC in soil, but detected below MSC in SPLP extract

Notes
Soil concentrations reported in mg/kg
Groundwater concentrations reported in mg/L
MSC—Medium-Specific Concentration
Revised MSC—Value based on SPLP result
NA—Not Analyzed
ND—Not Detected
NV—No Value
F—The analyte was positively identified but the associated numerical value is below the adjusted method quantitation limit
J—The analyte was positively identified, the quantitation is an estimation
Phase I Results - Only detections above RRS-1 are reported on the figure
Phase II Results - All results are reported Analytes depicted in (parentheses) exceed RRS-1 but are below MSC
* TNRCC Action Level for coarse-grained soils (TNRCC RG-17)

N

25 0 25 50 75
SCALE IN FEET

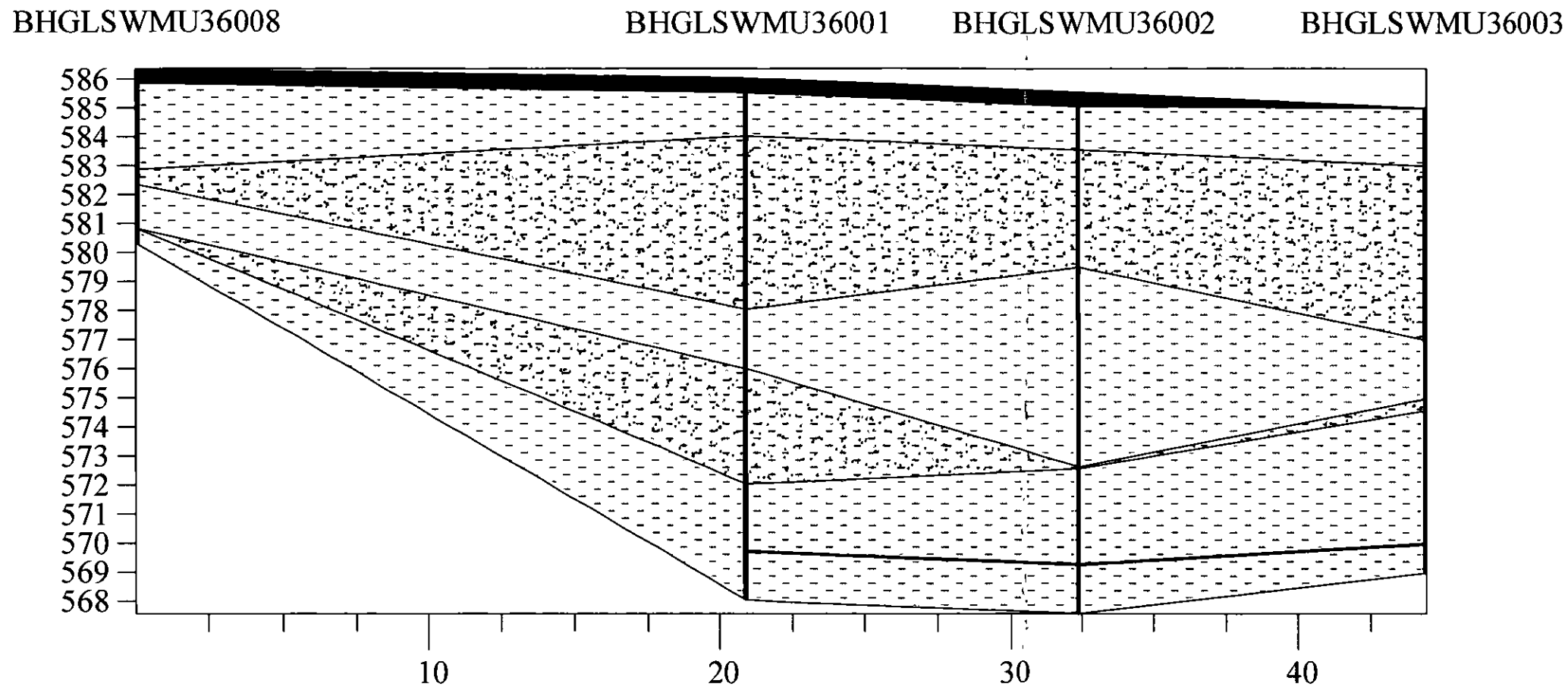
Filename X \AFC001\15bdb\report\swmu 32 apr
Project AFC001-15BDB
Created 10/26/99 jbelcher
Revised 03/14/01 jb
Map Source HGL ArcView Database

HYDRO GeoLogic INC

Figure 4.5

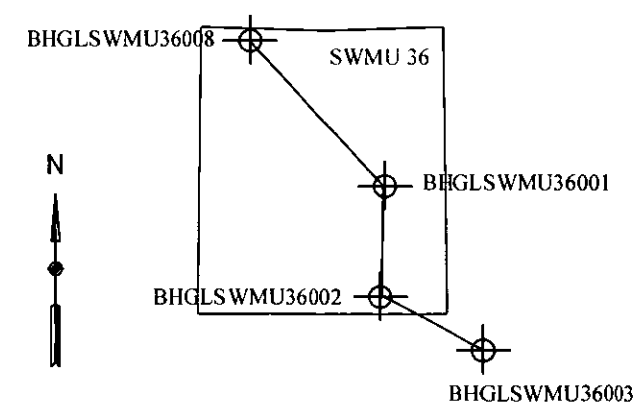
SWMU 36
Cross Sections

U.S. Air Force Center For
Environmental Excellence



LEGEND

- Asphalt
- Sandy Silty Clay
- Sandy Silt with Gravel
- Clayey Silt
- Sandy Clayey Silt
- Groundwater Elevation May 1999
- SWMU Boundary
- Boring Location



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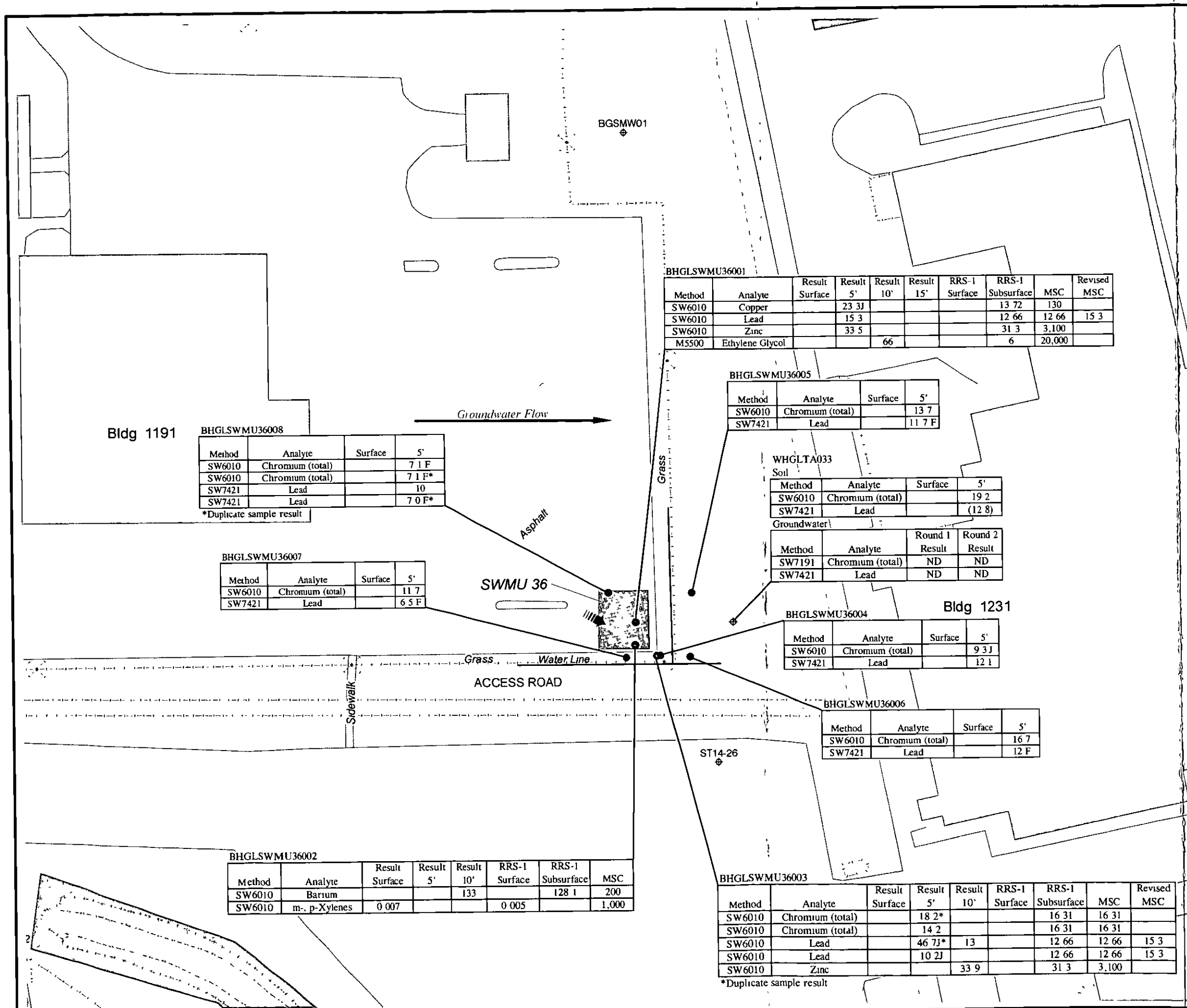
swmu 36 xsection dwg
Project AFC001-15BDB
Revised· 01/17/01 asp
Source HydroGeoLogic, Inc



BHGLSWMU36001

Method	Analyte	Result Surface	Result 5'	Result 10'	Result 15'	RRS-1 Surface	RRS-1 Subsurface	MSC	Revised MSC
SW6010	Copper		23 3J				13 72	130	
SW6010	Lead		15 3				12 66	12 66	15 3
SW6010	Zinc		33 5				31 3	3,100	
M5500	Ethylene Glycol			66			6	20,000	

BHGLSWMU36005

Method	Analyte	Surface	5'
SW6010	Chromium (total)		13 7
SW7421	Lead		11 7 F

BHGLSWMU36008

Method	Analyte	Surface	5'
SW6010	Chromium (total)		7 1 F
SW6010	Chromium (total)		7 1 F*
SW7421	Lead		10
SW7421	Lead		7 0 F*

*Duplicate sample result

WHGLTA033

Soil

Method	Analyte	Surface	5'
SW6010	Chromium (total)		19 2
SW7421	Lead		(12 8)

Groundwater

Method	Analyte	Round 1 Result	Round 2 Result
SW7191	Chromium (total)	ND	ND
SW7421	Lead	ND	ND

BHGLSWMU36007

Method	Analyte	Surface	5'
SW6010	Chromium (total)		11 7
SW7421	Lead		6 5 F

BHGLSWMU36004

Method	Analyte	Surface	5'
SW6010	Chromium (total)		9 3 J
SW7421	Lead		12 1

BHGLSWMU36006

Method	Analyte	Surface	5'
SW6010	Chromium (total)		16 7
SW7421	Lead		12 F

BHGLSWMU36002

Method	Analyte	Result Surface	Result 5'	Result 10'	RRS-1 Surface	RRS-1 Subsurface	MSC
SW6010	Barium			133		128 1	200
SW6010	m-, p-Xylenes	0 007			0 005		1,000

BHGLSWMU36003

Method	Analyte	Result Surface	Result 5'	Result 10'	RRS-1 Surface	RRS-1 Subsurface	MSC	Revised MSC
SW6010	Chromium (total)		18 2*			16 31	16 31	
SW6010	Chromium (total)		14 2			16 31	16 31	
SW6010	Lead		46 7J*	13		12 66	12 66	15 3
SW6010	Lead		10 2J			12 66	12 66	15 3
SW6010	Zinc			33 9		31 3	3,100	

*Duplicate sample result

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Figure 4.6
Phase I and Phase II Results
SWMU 36

U.S. Air Force Center for Environmental Excellence

Legend

- Solid Waste Management Unit (SWMU)
- Waste Accumulation Area (WAA)
- Monitoring Well
- Phase I Soil Boring Location
- Phase II Soil Boring Location
- Surface Runoff

- Phase I Results (header)
- Phase II Results (header)
- Analyte detected above MSC SPLP not performed
- Analyte detected above MSC in soil and in SPLP extract
- Analyte detected above MSC in soil, but detected below MSC in SPLP extract

Notes
Soil concentrations reported in mg/kg
Groundwater concentrations reported in mg/L
MSC—Medium-Specific Concentration
Revised MSC—Value based on SPLP result
NA—Not Analyzed
ND—Not Detected
NV—No Value
F—The analyte was positively identified but the associated numerical value is below the adjusted method quantitation limit
J—The analyte was positively identified, the quantitation is an estimation
Phase I Results - Only detections above RRS-1 are reported on the figure
Phase II Results - All results are reported Analytes depicted in (parentheses) exceed RRS-1 but are below MSC

N

25 0 25 50 75

SCALE IN FEET

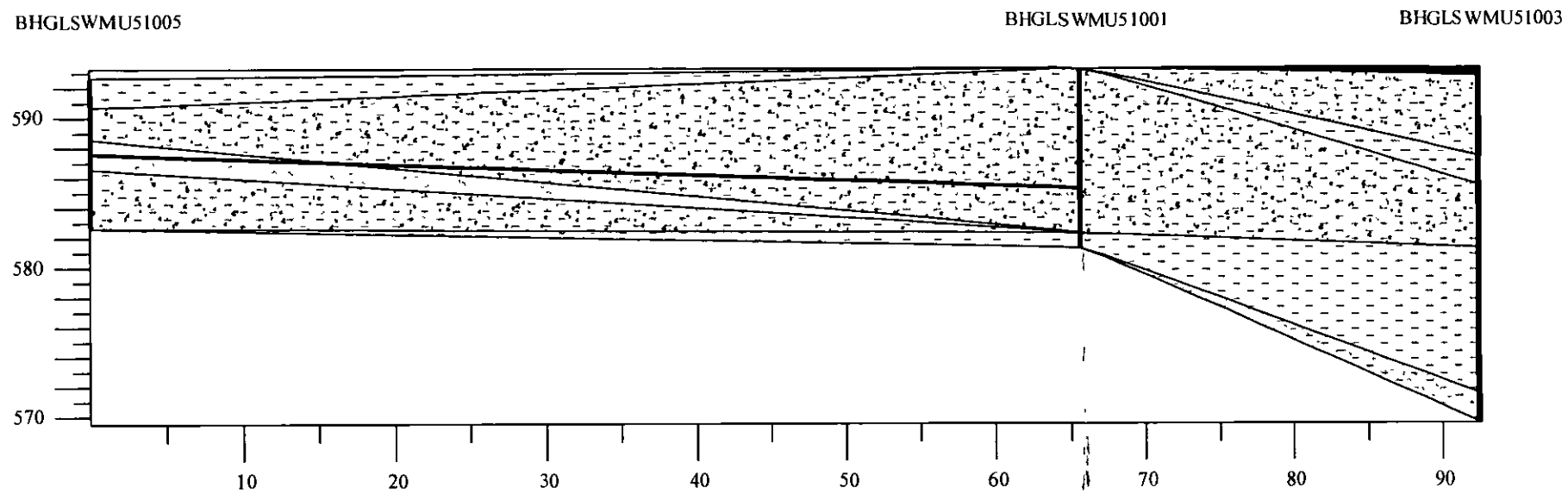
Filename X \AFC001\15bdb\report\swmu 36 apr
Project AFC001-15BDB
Created 10/26/99 jbelcher
Revised 03/15/01 jb
Map Source HGL ArcView Database

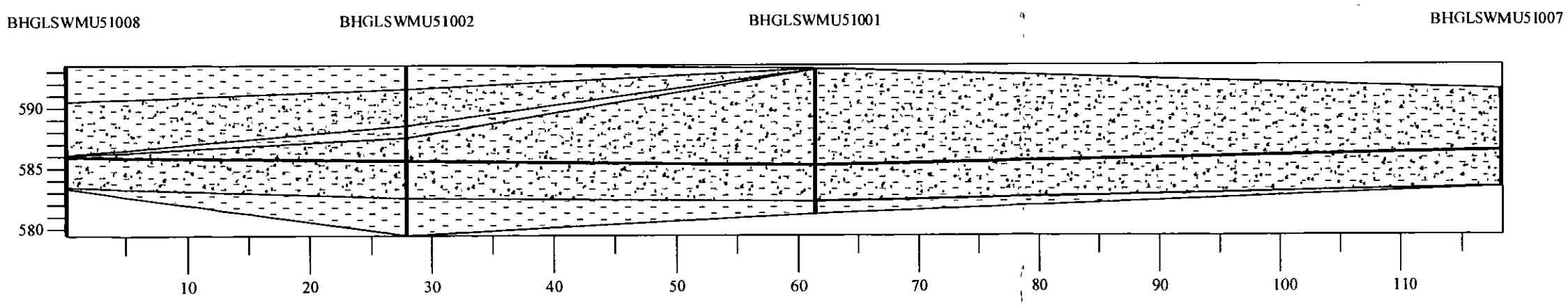
HYDRO GeoLogic INC

Figure 4.7

SWMU 51
Cross Sections

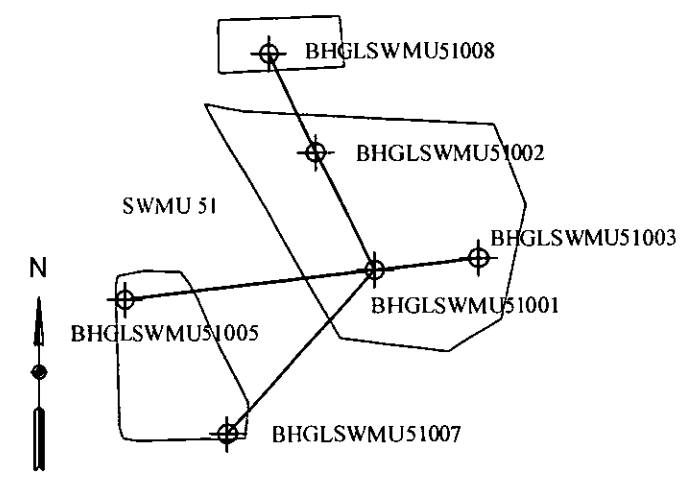
U.S. Air Force Center For
Environmental Excellence





LEGEND

- Concrete
- Clayey Silt
- Clayey Gravelly Silt
- Sandy Clay
- Silt
- Sandy Gravelly Clayey Silt
- Sand
- Silty Clay
- Sandy Clay
- Groundwater Elevation May/June 1999
- Boring Location
- SWMU Boundary



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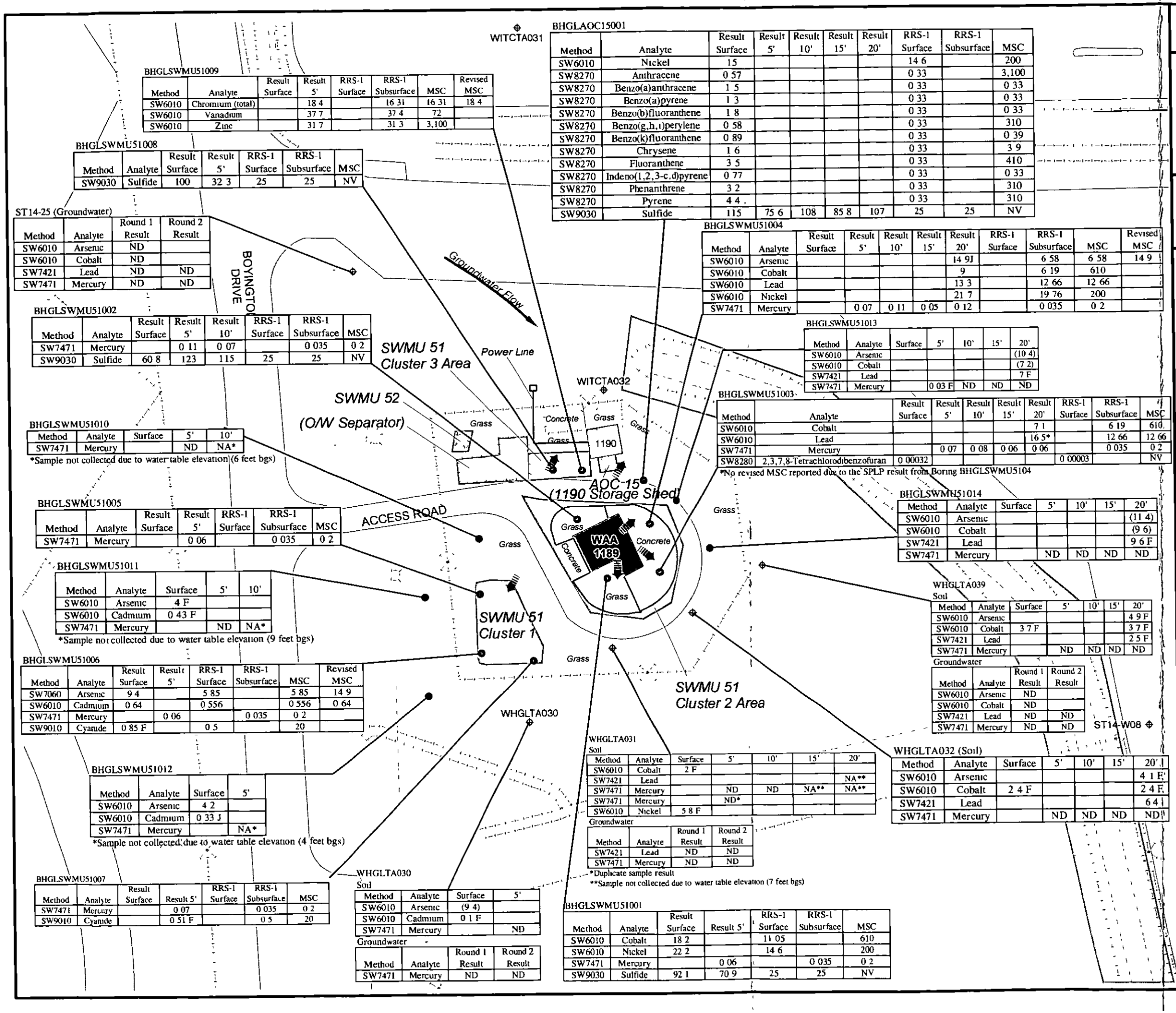
Filename X \Afc001\15bdb\Report
swmu 51 xsection dwg
Project AFC001-15BDB
Revised 01/17/01 asp
Source HydroGeoLogic, Inc

HYDRO GeoLogic INC

Figure 4.8
Phase I and Phase II Results
SWMU 51

U.S. Air Force Center for Environmental Excellence



BHGLAOC15001

Method	Analyte	Result Surface	Result 5'	Result 10'	Result 15'	Result 20'	RRS-1 Surface	RRS-1 Subsurface	MSC
SW6010	Nickel	15					14 6		200
SW8270	Anthracene	0 57					0 33		3,100
SW8270	Benzo(a)anthracene	1 5					0 33		0 33
SW8270	Benzo(a)pyrene	1 3					0 33		0 33
SW8270	Benzo(b)fluoranthene	1 8					0 33		0 33
SW8270	Benzo(g,h,i)perylene	0 58					0 33		310
SW8270	Benzo(k)fluoranthene	0 89					0 33		0 39
SW8270	Chrysene	1 6					0 33		3 9
SW8270	Fluoranthene	3 5					0 33		410
SW8270	Indeno(1,2,3-c,d)pyrene	0 77					0 33		0 33
SW8270	Phenanthrene	3 2					0 33		310
SW8270	Pyrene	4 4 .					0 33		310
SW9030	Sulfide	115	75 6	108	85 8	107	25	25	NV

BHGLSWMU51009

Method	Analyte	Result Surface	Result 5'	RRS-1 Surface	RRS-1 Subsurface	MSC	Revised MSC
SW6010	Chromium (total)		18 4		16 31	16 31	18 4
SW6010	Vanadium		37 7		37 4	72	
SW6010	Zinc		31 7		31 3	3,100	

BHGLSWMU51008

Method	Analyte	Result Surface	Result 5'	RRS-1 Surface	RRS-1 Subsurface	MSC
SW9030	Sulfide	100	32 3	25	25	NV

ST14-25 (Groundwater)

Method	Analyte	Round 1 Result	Round 2 Result
SW6010	Arsenic	ND	
SW6010	Cobalt	ND	
SW7421	Lead	ND	ND
SW7471	Mercury	ND	ND

BHGLSWMU51002

Method	Analyte	Result Surface	Result 5'	Result 10'	RRS-1 Surface	RRS-1 Subsurface	MSC
SW7471	Mercury		0 11	0 07		0 035	0 2
SW9030	Sulfide	60 8	123	115	25	25	NV

BHGLSWMU51004

Method	Analyte	Result Surface	Result 5'	Result 10'	Result 15'	Result 20'	RRS-1 Surface	RRS-1 Subsurface	MSC	Revised MSC
SW6010	Arsenic					14 9J		6 58	6 58	14 9
SW6010	Cobalt					9		6 19	610	
SW6010	Lead					13 3		12 66	12 66	
SW6010	Nickel					21 7		19 76	200	
SW7471	Mercury		0 07	0 11	0 05	0 12		0 035	0 2	

BHGLSWMU51013

Method	Analyte	Surface	5'	10'	15'	20'
SW6010	Arsenic					(10 4)
SW6010	Cobalt					(7 2)
SW7421	Lead					7 F
SW7471	Mercury		0 03 F	ND	ND	ND

BHGLSWMU51003

Method	Analyte	Result Surface	Result 5'	Result 10'	Result 15'	Result 20'	RRS-1 Surface	RRS-1 Subsurface	MSC
SW6010	Cobalt					7 1		6 19	610
SW6010	Lead					16 5*		12 66	12 66
SW7471	Mercury		0 07	0 08	0 06	0 06		0 035	0 2
SW8280	2,3,7,8-Tetrachlorodibenzofuran	0 00032					0 00003		NV

*No revised MSC reported due to the SPLP result from Boring BHGLSWMU5104

BHGLSWMU51014

Method	Analyte	Surface	5'	10'	15'	20'
SW6010	Arsenic					(11 4)
SW6010	Cobalt					(9 6)
SW7421	Lead					9 6 F
SW7471	Mercury		ND	ND	ND	ND

BHGLSWMU51010

Method	Analyte	Surface	5'	10'
SW7471	Mercury		ND	NA*

*Sample not collected due to water table elevation (6 feet bgs)

BHGLSWMU51005

Method	Analyte	Result Surface	Result 5'	RRS-1 Surface	RRS-1 Subsurface	MSC
SW7471	Mercury		0 06		0 035	0 2

BHGLSWMU51011

Method	Analyte	Surface	5'	10'
SW6010	Arsenic	4 F		
SW6010	Cadmium	0 43 F		
SW7471	Mercury		ND	NA*

*Sample not collected due to water table elevation (9 feet bgs)

WHGLTA039

Soil

Method	Analyte	Surface	5'	10'	15'	20'
SW6010	Arsenic					4 9 F
SW6010	Cobalt	3 7 F				3 7 F
SW7421	Lead					2 5 F
SW7471	Mercury		ND	ND	ND	ND

Groundwater

Method	Analyte	Round 1 Result	Round 2 Result
SW6010	Arsenic	ND	
SW6010	Cobalt	ND	
SW7421	Lead	ND	ND
SW7471	Mercury	ND	ND

BHGLSWMU51006

Method	Analyte	Result Surface	Result 5'	RRS-1 Surface	RRS-1 Subsurface	MSC	Revised MSC
SW7060	Arsenic	9 4		5 85		5 85	14 9
SW6010	Cadmium	0 64		0 556		0 556	0 64
SW7471	Mercury		0 06		0 035	0 2	
SW9010	Cyanide	0 85 F		0 5		20	

BHGLSWMU51012

Method	Analyte	Surface	5'
SW6010	Arsenic	4 2	
SW6010	Cadmium	0 33 J	
SW7471	Mercury		NA*

*Sample not collected due to water table elevation (4 feet bgs)

WHGLTA031

Soil

Method	Analyte	Surface	5'	10'	15'	20'
SW6010	Cobalt	2 F				
SW7421	Lead					NA**
SW7471	Mercury		ND	ND	NA**	NA**
SW7471	Mercury		ND*			
SW6010	Nickel	5 8 F				

Groundwater

Method	Analyte	Round 1 Result	Round 2 Result
SW7421	Lead	ND	ND
SW7471	Mercury	ND	ND

*Duplicate sample result
**Sample not collected due to water table elevation (7 feet bgs)

WHGLTA032 (Soil)

Method	Analyte	Surface	5'	10'	15'	20'
SW6010	Arsenic					4 1 F
SW6010	Cobalt	2 4 F				2 4 F
SW7421	Lead					6 4
SW7471	Mercury		ND	ND	ND	ND

BHGLSWMU51007

Method	Analyte	Result Surface	Result 5'	RRS-1 Surface	RRS-1 Subsurface	MSC
SW7471	Mercury		0 07		0 035	0 2
SW9010	Cyanide		0 51 F		0 5	20

WHGLTA030

Soil

Method	Analyte	Surface	5'
SW6010	Arsenic	(9 4)	
SW6010	Cadmium	0 1 F	
SW7471	Mercury		ND

Groundwater

Method	Analyte	Round 1 Result	Round 2 Result
SW7471	Mercury	ND	ND

BHGLSWMU51001

Method	Analyte	Result Surface	Result 5'	RRS-1 Surface	RRS-1 Subsurface	MSC
SW6010	Cobalt	18 2		11 05		610
SW6010	Nickel	22 2		14 6		200
SW7471	Mercury		0 06		0 035	0 2
SW9030	Sulfide	92 1	70 9	25	25	NV

Legend

- Solid Waste Management Unit (SWMU)
- Waste Accumulation Area (WAA)
- Area of Concern (AOC)
- Monitoring Well
- Phase I Soil Boring Location
- Phase II Soil Boring Location
- Surface Runoff

- Phase I Results (header)
- Phase II Results (header)
- Analyte detected above MSC SPLP not performed
- Analyte detected above MSC in soil and in SPLP extract
- Analyte detected above MSC in soil, but detected below MSC in SPLP extract

Notes
Soil concentrations reported in mg/kg
Groundwater concentrations reported in mg/L
MSC—Medium-Specific Concentration
Revised MSC—Value based on SPLP result
NA—Not Analyzed
ND—Not Detected
NV—No Value
F—The analyte was positively identified but the associated numerical value is below the adjusted method quantitation limit
J—The analyte was positively identified, the quantitation is an estimation
Phase I Results - Only detections above RRS-1 are reported on the figure
Phase II Results - All results are reported Analytes depicted in (parentheses) exceed RRS-1 but are below MSC

N

25 0 25 50 75
SCALE IN FEET

Filename X \AFC001\15bdb\report\swmu 51 apr
Project AFC001-15BDB
Created 10/26/99 jbelcher
Revised 03/14/01 jb
Map Source HGL ArcView Database

HYDRO GeoLogic INC

TAB

SECTION 5.0

5.0 DISCUSSION OF ANALYTICAL RESULTS

5.1 SWMU 11 ANALYTICAL RESULTS

5.1.1 Surface Soil

No inorganic or organic analytes were detected above RRS 1 in surface soil samples collected from SWMU 11. Based on this information, surface soils at SWMU 11 do not warrant additional investigation.

5.1.2 Subsurface Soil

The following inorganic constituents were detected at concentrations slightly above their corresponding background values in Phase I subsurface soils samples collected at SWMU 11: arsenic, cobalt, and lead. One VOC, acetone, was detected above the MQL at SWMU 11 (Figure 4.2). No SVOCs were detected above the MQL in any subsurface soil samples collected at SWMU 11.

- **Arsenic** was detected above background in only one subsurface soil sample collected from SWMU 11. This detection of arsenic is less than 1 mg/kg above background. Although the sample result for arsenic (7.1 J mg/kg) is above both background and the MSC (6.58 mg/kg), the analyte passed the SPLP extraction, resulting in a site-specific MSC of 7.1 mg/kg. Although the detection of arsenic in the Phase I subsurface sample was not significantly above the background concentration, nor did it occur in a pattern that would be indicative of a release, additional Phase II subsurface samples were collected for arsenic to confirm this information. Arsenic was detected below background in all of the Phase II subsurface soil samples collected at SWMU 11. As a result, no pattern of occurrence could be established for arsenic in the subsurface soils at the site Based on the waste handling activities at SWMU 11, surface soils should be the principal matrix affected by any release; however, Phase I results show no evidence of an arsenic impact on surface soils. As a result, the arsenic detection in the subsurface soils during the Phase I investigation appears to be an extreme, but true background concentration. Based on this information, this constituent does not warrant further consideration at this site.

- **Cobalt** (6.5 mg/kg) was detected above background in only one subsurface soil sample collected from SWMU 11. This detection of cobalt is less than 1 mg/kg above background (6.19 mg/kg) and well below the MSC of 610 mg/kg. Cobalt was not detected above background in any other surface or subsurface soil samples collected at SWMU 11. Because there is no pattern of occurrence, this isolated detection of cobalt is considered to be an extreme, but true, background concentration, and is not indicative of a release of hazardous constituents from SWMU 11.

- **Lead** was detected in all five Phase I subsurface soil samples collected from SWMU 11. These detections of lead ranged from 13.1 mg/kg to 18.1 mg/kg, and all were slightly above both background (12.66 mg/kg) and the MSC. Two of the five samples passed the SPLP extraction, resulting in a site-specific alternate MSC of 13.1 mg/kg. Three of the five samples failed the SPLP extraction. Based on the Phase I results, 11 Phase II subsurface samples were collected for lead analysis to better characterize the presence of lead at this site. Lead was detected below background in all Phase II subsurface soil samples at concentrations ranging from 3.1 F mg/kg to 11.5 mg/kg. Based on the waste handling activities at the site, surface soils should be the principal matrix affected by any release; however, Phase I results show no evidence of a lead impact on surface soils. Although three of the five Phase I samples did not pass the SPLP test, groundwater results summarized in the following Section 5.1.3 show that lead has had no impact on groundwater. All detections of lead in the soils at SWMU 11 are below the surface soil background level of 30.97 mg/kg. In addition, all concentrations of lead at the site are very similar to the Texas State background level of 15 mg/kg as listed in 30 TAC "350.51(m). As a result, the detections of lead in the subsurface soils at SWMU 11 appear to be extreme, but true background concentrations. Based on this information, this constituent does not warrant further consideration at this site.

- **Acetone** was detected slightly above the MQL but below the MSC in one subsurface soil sample collected from SWMU 11. This detection of acetone appears to be isolated and no pattern of occurrence can be identified based on the location and sampling interval. Acetone is a common laboratory artifact, and although this compound was not detected in any blanks associated with this sample analysis, it is likely that this detection of acetone is an artifact of the analytical process. Based on this information, this constituent does not warrant additional consideration.

5.1.3 Groundwater

Two rounds of groundwater samples were collected from well WHGLTA027 (Figure 4.2) for arsenic and lead. Arsenic (0.031 F mg/L) was detected slightly above background (0.0049 mg/L) but below the MSC (0.05 mg/L) in the Round 1 groundwater sample using analytical method SW6010B (Figure 4.2). The method for arsenic analysis was changed to SW7060A in Round 2 because there was some suspicion that the low-level arsenic detections during Round 1 may have been influenced by matrix effects. Method SW7060A is an arsenic-specific method and the data quality and analytical sensitivity produced by this method are at a higher level as those produced by method SW6010B. Arsenic was not detected in the Round 2 sample. Lead was not detected in the Round 1 or Round 2 groundwater samples from downgradient well WHGLTA027. Based on this information, there is no evidence of a release to groundwater from SWMU 11.

5.2 SWMU 32 ANALYTICAL RESULTS

5.2.1 Surface Soil

Only one inorganic constituent, cadmium, was detected at a concentration above the corresponding background value in Phase I surface soils samples collected at SWMU 32. Concentrations of TPH and the VOCs 1,1-dichloroethane and ethylbenzene were detected above the corresponding MQLs in SWMU 32 surface soils (Figure 4.4).

- **Cadmium** was detected at 0.61 J mg/kg in one Phase I surface soil sample collected from SWMU 32. This detection of cadmium is less than 1 mg/kg above background (0.556 mg/kg). The SPLP extract from this sample passed and a site-specific MSC was established at 0.61 mg/kg. Cadmium was not detected above background in any of the other surface or subsurface soil samples collected at the site. Because there is no pattern of occurrence, this isolated detection of cadmium is considered to be an extreme, but true, background concentration, and is not indicative of a release of hazardous constituents from SWMU 32.

- **TPH** was detected at 62.6 J mg/kg in one Phase I surface soil sample collected from SWMU 32. The detection of TPH was only slightly above the MQL (57 mg/kg), but well below the TNRCC Action Level (500 mg/kg). This detection of TPH appears to be isolated and no pattern of occurrence can be identified based on the location and sampling interval. Based on this information, this constituent does not warrant additional consideration.

- **1,1-Dichloroethane** was detected at 0.02 J mg/kg in one Phase I surface soil sample collected from SWMU 32. The detection of 1,1-dichloroethane was above the MQL (0.002 mg/kg), but well below the MSC (1,000 mg/kg). This detection of 1,1-dichloroethane appears to be isolated and no pattern of occurrence can be identified based on the location and sampling interval. Based on this information, this constituent does not warrant additional consideration.

- **Ethylbenzene** was detected above the MQL (0.003 mg/kg) in two Phase I surface soil samples from SWMU 32, at 0.005 mg/kg and 0.01 J mg/kg. Phase II delineation results revealed a decreasing concentration (0.004 mg/kg) of ethylbenzene slightly above the MQL in one Phase II surface soil sample. Ethylbenzene was not detected in the other delineation sample in which it was analyzed. As ethylbenzene is delineated at SWMU 32, and all detections of ethylbenzene are well below the MSC of 70 mg/kg, this compound does not warrant further consideration.

5.2.2 Subsurface Soil

Three inorganic constituents, arsenic, barium, and silver, were detected at concentrations slightly above their corresponding background values in the subsurface soil samples collected at SWMU 32. Two VOCs, acetone and chlorobenzene, were detected above the corresponding MQLs in SWMU 32 subsurface soils (Figure 4.4).

- **Arsenic** was detected at 7.2 mg/kg in one subsurface soil sample collected from SWMU 32. This detection was slightly above both background (6.58 mg/kg) and the MSC. However, this sample failed the SPLP extraction. Phase II results revealed a similar concentration of arsenic (6.9 mg/kg) slightly above background and MSC at in one of the three Phase II subsurface soil samples. The arsenic concentration in the SPLP extract of this sample was below the MSC. All other Phase II sample results for arsenic were below background. Based on the waste handling activities at the site, surface soils should be the principal matrix affected by any release; however, Phase I results show no evidence of an arsenic impact on the samples collected from the surface, 5-, or 10-foot intervals. As a result, the detections of arsenic in the 15-foot interval at SWMU 11 appear to be extreme, but true background concentrations and do not appear to be indicative of a release at SWMU 32. Based on this information, this constituent does not warrant further consideration at this site.

- **Barium** was detected at 249 mg/kg in one subsurface soil sample collected from SWMU 32, which is above the background value (128.1 mg/kg) and the MSC (200 mg/kg). The SPLP extract from this sample passed and a site-specific MSC was established at 249 mg/kg. Barium was not detected above background in any other surface or subsurface soil samples collected at the site, and was not detected above background in any of the three Phase II delineation samples. As a result, the detection of barium in SWMU 32 subsurface soils is delineated and does not show an impact on groundwater. Based on this information, this constituent does not warrant further consideration at this site.

- **Silver** was detected at 0.14 F mg/kg in one subsurface soil sample collected from SWMU 32. This detection of silver is less than 0.1 mg/kg above background (0.128 mg/kg) and well below the MSC of 51 mg/kg. Silver was not detected above background in any other surface or subsurface soil samples collected at the site. Because there is no pattern of occurrence, this isolated detection of silver is considered to be an extreme, but true, background concentration, and is not indicative of a release of hazardous constituents from SWMU 32.

- **Acetone** was detected above the MQL (0.005 mg/kg) in two Phase I subsurface soil samples from SWMU 32, each at 0.015 mg/kg. These detections are substantially lower than the MSC of 1,000 mg/kg. Acetone is a common laboratory artifact, and although this compound was not detected in any blanks associated with this sample analysis, it is

likely that these detections of acetone are an artifact of the analytical process. Based on this information, this constituent does not warrant additional consideration.

- **Chlorobenzene** was detected above the MQL (0.002 mg/kg) in four Phase I subsurface soil samples from SWMU 32, at concentrations ranging from 0.006 mg/kg to 0.061 mg/kg. These detections are substantially lower than the MSC of 10 mg/kg. Chlorobenzene was not detected above the MQL in any Phase II delineation samples, and was not detected in Round 1 or Round 2 groundwater samples from downgradient well WHGLTA029. As a result, this compound is delineated, all detections are below the MSC, and there is no impact on groundwater. Based on this information, this constituent does not warrant additional consideration.

5.2.3 Groundwater

Two rounds of groundwater were collected from well WHGLTA029 for arsenic, barium, and chlorobenzene. Arsenic (0.0315 F mg/L) was detected above background (0.005 mg/L) but below the MSC (0.05 mg/L) in the Round 1 groundwater sample. The method for arsenic analysis was changed to SW7060A in Round 2 because there was some suspicion that the low-level arsenic detection during Round 1 may have been influenced by matrix effects. Method SW7060A is an arsenic-specific method and the data quality and analytical sensitivity produced by this method are at a higher level as those produced by method SW6010B. A similar concentration of arsenic (0.0376 mg/L) was detected in the Round 2 sample. The low concentrations of arsenic in the groundwater are considered to be extreme, but true background concentrations, consistent with the slightly elevated concentrations in the soil samples collected at the 15-foot intervals at the site, and are not considered to be associated with a release at SWMU 32.

Low concentrations of barium were detected below background in both the Round 1 and Round 2 groundwater samples collected from downgradient well WHGLTA029. In addition, no chlorobenzene was detected either Round 1 or Round 2. Based on these results, neither barium nor chlorobenzene delineated in the subsurface soils at SWMU 32 has had an impact on shallow groundwater.

5.3 SWMU 36 ANALYTICAL RESULTS

5.3.1 Surface Soil

No metals were detected above background in SWMU 36 Phase I surface soil samples. However, one VOC was detected slightly above the MQL.

- ***m,p*-Xylenes** (0.007 mg/kg) was detected in one surface sample collected from SWMU 36 (Figure 4.6). This detection is slightly above the MQL (0.005 mg/kg) and well below the MSC (1,000 mg/kg). This detection is isolated and no pattern of occurrence can be determined. No other constituents were detected in the surface soils sampled at

SWMU 36. Based on this information, this constituent does not warrant additional consideration.

5.3.2 Subsurface Soil

Five inorganic constituents; barium, chromium, copper, lead, and zinc, were detected at concentrations above their corresponding background values in the subsurface soil samples collected at SWMU 36. One organic compound, ethylene glycol, was detected above the corresponding MQL in SWMU 36 subsurface soils (Figure 4.6).

- **Barium** was detected at 133 mg/kg in one Phase I subsurface soil sample collected from SWMU 36. This detection of barium is slightly above the background (128.1 mg/kg) and below the MSC (200 mg/kg). Barium was not detected above background in any other surface or subsurface soil samples collected at the site. Because there is no pattern of occurrence, this isolated detection of barium is considered to be an extreme, but true, background concentration, and is not indicative of a release of hazardous constituents from SWMU 36.

- **Chromium** (18.2 mg/kg) was detected slightly above both background and the MSC in one Phase I subsurface soil sample collected from SWMU 36. This detection was from the field duplicate collected from the 5-foot interval of boring BHGLSWMU36003. Chromium was detected below background in the parent sample collected at the same interval. However, since this sample failed the SPLP extraction, six additional samples were collected during Phase II in order to collect more site data for chromium. Chromium was detected in concentrations ranging from below background at 7.1 F mg/kg to slightly above background at 19.2 mg/kg. No pattern of release could be established for the slightly elevated detections. In addition, the chromium result from the conformation sample collected from boring BHGLSWMU36004 was below background. Based on the previous activities at the site, surface soils should be the principal matrix affected by any release; however, Phase I results show no evidence of a chromium impact on surface soils. All detections of chromium in the subsurface soils at SWMU 36 are well below the Texas State background level of 30 mg/kg as presented in 30 TAC "350.51(m). Based on this information, there does not appear to be a release of chromium from SWMU 36. Chromium concentrations in the subsurface soils at the site appear to be extreme, but true, background concentrations and do not warrant further consideration at this site.

- **Copper** was detected at 23.3 J mg/kg in one subsurface soil sample collected from SWMU 36. This detection of copper is above the background value (13.72 mg/kg) and below the MSC (130 mg/kg). Copper was not detected above background in any other surface or subsurface soil samples collected at the site. Because there is no pattern of occurrence, this isolated detection of copper is considered to be an extreme, but true, background concentration, and is not indicative of a release of hazardous constituents from SWMU 36.

- **Lead** was detected at 46.7 J mg/kg and 15.3 mg/kg in two subsurface soil samples collected from SWMU 36. The values of these detections were above both background and the MSC. One of the two samples passed SPLP extraction, and a site-specific MSC was established at 15.3 mg/kg. The lead detection of 46.7 J mg/kg was from the field duplicate of the sample collected at the 5-foot interval of boring BHGLSWMU36003. This sample failed the SPLP extraction. However, the lead result was below background in the parent sample collected at the same interval of the same boring. Six additional samples were collected during Phase II in order to collect more site data for lead. Lead was detected in concentrations ranging from below background at 6.5 F mg/kg to slightly above background at 12.8 mg/kg. The lead result from the conformation sample collected from boring BHGLSWMU36004 was below background. Based on the previous activities at the site, surface soils should be the principal matrix affected by any release; however, Phase I results show no evidence of a lead impact on surface soils. With the exception of the elevated concentration of lead at 46.7 J mg/kg in the Phase I sample collected from the 5-foot interval of BHGLSWMU36003, all detections of lead in the subsurface soils at SWMU 36 are below the Texas State background level of 15 mg/kg as presented in 30 TAC "350.51(m). The two other samples collected from the same interval and location were both below background. Based on this information, there does not appear to be a release of lead from SWMU 36. Lead concentrations in the subsurface soils at SWMU 36 appear to be extreme, but true, background concentrations and do not warrant further consideration at this site.

- **Zinc** was detected at 33.9 mg/kg in one subsurface soil sample collected from SWMU 36. This detection of zinc is slightly above the background value (31.3 mg/kg) and well below the MSC (3,100 mg/kg). Zinc was not detected above background in any other surface or subsurface soil samples collected at the site. Because there is no pattern of occurrence, this isolated detection of zinc is considered to be an extreme, but true, background concentration, and is not indicative of a release of hazardous constituents from SWMU 36.

- **Ethylene glycol** was detected at 66 mg/kg in one Phase I subsurface soil sample from SWMU 36. This detection was above the MQL (6 mg/kg) but was well below the MSC (20,000 mg/kg). This detection of ethylene glycol appears to be isolated and no pattern of occurrence can be identified based on the location and sampling interval. Based on this information, this constituent does not warrant additional consideration.

5.3.3 Groundwater

Two rounds of groundwater were collected from well WHGLTA033 for chromium and lead (Figure 4.6). Neither chromium nor lead was detected in the Round 1 or Round 2 groundwater samples at the site. These groundwater results indicate that the low concentrations of lead and chromium slightly above background in the subsurface soils have not impacted the shallow groundwater at SWMU 36.

5.4 SWMU 51 ANALYTICAL RESULTS

5.4.1 Surface Soil

Four metals; arsenic, cadmium, cobalt, and nickel, were detected above background in SWMU 51 Phase I surface soil samples. In addition, cyanide, sulfide and 2,3,7,8-tetrachlorodibenzofuran were detected above the associated MQLs in SWMU 51 surface soil samples. The surface soil sample from boring BHGLAOC15001 is also considered with the SWMU 51 surface soil samples due to the proximity of AOC 15 to SWMU 51. Low concentrations of nickel, several PAHs, and sulfide were detected in the surface soil sample collected at AOC 15. Figure 4.8 shows the relevant surface soil results for SWMU 51 and AOC 15.

- **Arsenic** was detected at 9.4 mg/kg in one Phase I surface soil sample collected from SWMU 51 (BHGLSWMU51006). This detection was above both background and the MSC. This sample passed the SPLP extraction, as did a subsurface soil sample with a detection of 14.9 mg/kg, resulting in a site-specific MSC of 14.9 mg/kg (Section 5.4.2). Arsenic (9.4 mg/kg) was detected slightly above background, but below the site-specific MSC, in one of the three Phase II surface soil samples. The detections of arsenic in SWMU 51 surface soils are below the site specific MSC. Based on this information, arsenic does not warrant further investigation in the subsurface soils at SWMU 51.

- **Cadmium** was detected at 0.64 mg/kg in one Phase I surface soil sample collected from SWMU 51 (BHGLSWMU51006). This detection was above both background and the MSC. This sample passed the SPLP extraction, and a site-specific MSC was established at 0.64 mg/kg. Cadmium was not detected above background in any of the three Phase II surface soil samples. The detections of cadmium in SWMU 51 surface soils are below the site-specific MSC and are delineated to concentrations below background. Based on this information, cadmium does not warrant further investigation this site.

- **Cobalt** was detected at 18.2 mg/kg in one Phase I surface soil sample collected from SWMU 51 (BHGLSWMU51001). This detection was above background (11.05 mg/kg), but well below the MSC (610 mg/kg). Cobalt was not detected above background in any of the three Phase II surface soil samples. The detections of cobalt in SWMU 51 surface soils are below the MSC and are delineated to concentrations below background. Based on this information, cobalt does not warrant further investigation this site.

- **Nickel** was detected at 22.2 mg/kg in the Phase I surface soil sample collected at from BHGLSWMU51001. This concentration of nickel exceeded the background concentration of 14.6 mg/kg but was well below the MSC of 200 mg/kg. Nickel was not detected above background in the Phase II surface soil sample. Nickel (15 mg/kg) was detected slightly above background (14.6 mg/kg) in the surface soil sample

collected from BHGLAOC15001. This concentration was less than one mg/kg above background and was considered to be an extreme but true background concentration. Although nickel was also detected slightly above background in one Phase I subsurface soil sample (see Section 5.4.2), this subsurface result is from the 20-foot interval, and appears unrelated to the surface soil detections. Because there is no pattern of occurrence, the isolated surface soil detections of nickel are considered to be representative of extreme, but true, background concentrations, and are not indicative of a release of hazardous constituents from SWMU 51. Based on this information, this constituent does not warrant further consideration at this site.

- **Cyanide** (0.85 F) was detected slightly above the MQL (0.5 mg/kg) but below the MSC (20 mg/kg) in one surface sample collected at SWMU 51 (BHGLSWMU51006). However, this concentration of cyanide was detected in the duplicate sample only and was not detected in the parent sample collected from the same interval of boring BHGLSWMU51006. As no pattern of occurrence could be established for this compound, this sample result appears to be an isolated detection and is not indicative of a release at the site. Based on this information, this cyanide does not warrant further consideration at SWMU 51.

- **2,3,7,8-Tetrachlorodibenzofuran** (0.00032 mg/kg) was detected above the MQL (0.00003 mg/kg) in one Phase I surface soil sample from SWMU 51 (BHGLSWMU51003). This compound is not detected in any other soil samples collected from this site and no pattern of occurrence can be identified based on the location and sampling interval. In addition, no MSC has been determined for this compound. Based on this information, this constituent does not appear to be indicative of a release at SWMU 51 and does not warrant additional consideration.

- **Several PAHs** were detected in the surface soil sample collected at AOC 15. These PAHs were all isolated to the surface sample interval and were not detected in any other samples collected at the site. Because there is no pattern of occurrence, these constituents are not indicative of a release of hazardous constituents from AOC 15, but are more likely attributed to the asphalt driveway adjacent to the sample location. As a result, these constituents do not warrant further consideration at this site.

- **Sulfide** was detected above the MQL (25.0 mg/kg) in three of the nine Phase I surface soil samples collected from SWMU 51, and also in the surface soil sample collected from AOC 15. No background data for sulfide is available at NAS Fort Worth JRB. The analytical method used to determine sulfide concentrations, Method SW9030, is a titrimetric screening method. Therefore, resulting data should not be construed as definitive. In addition, sulfide can be naturally produced by the biological breakdown of organic matter under anaerobic conditions.

HydroGeoLogic contacted Ms. Zarena Post [(512) 239-1332] of the TNRCC regarding available risk standards for sulfides in Texas. Ms. Post reports to the Toxicology and Risk

Assessment (TARA) section, under the Chief Engineer. After consulting her files and members of her staff, Ms. Post indicated there are no risk standards for sulfides in the state of Texas. Ms. Camarie Perry, also of TARA, confirmed that sulfide levels in soils and groundwater can not be compared to risk-based standards. Ms. Perry consulted Mr. Jeffrey Patterson [(512) 239-2489], a chemist for the Superfund Cleanup program, regarding secondary sources of toxicological information (e.g., journals), but found no specific sulfide information. As an MSC for sulfide has not been identified, additional sampling for sulfide is not warranted.

5.4.2 Subsurface Soil

The following metals were detected above background in one or more subsurface soil samples collected at SWMU 51: arsenic, chromium, cobalt, mercury, lead, nickel, vanadium, and zinc. In addition, varying levels of sulfide were detected in the subsurface samples of each interval collected from three of the borings advanced during the investigation of SWMU 51. Similar levels of sulfide were detected in each subsurface sample interval of the soil boring advanced at AOC 15. No other constituents were detected above background or MQLs in the subsurface soil sampled at AOC 15. Figure 4.8 shows the relevant surface soil results for SWMU 51 and AOC 15.

- **Arsenic** (14.9 J mg/kg) was detected above both background and the MSC (6.58 mg/kg) in one Phase I subsurface soil sample collected from SWMU 51 (BHGLSWMU51004). This sample passed the SPLP extraction and a site-specific MSC was established at 14.9 mg/kg. Decreasing concentrations of arsenic were detected slightly above background, but below the site-specific MSC, in two of the four Phase II subsurface soil samples. Arsenic was detected below background in the other two Phase II delineation samples. The detections of arsenic in SWMU 51 subsurface soils are delineated and show no impact on groundwater. Based on this information, this constituent does not warrant further investigation at this site.

- **Chromium** (18.4 mg/kg) was detected slightly above both background and the MSC (16.31 mg/kg) in one Phase I subsurface soil sample collected from SWMU 51 (BHGLSWMU51009). This sample passed the SPLP extraction and a site-specific MSC was established at 18.4 mg/kg. This sample was surrounded by three other borings in which chromium was not detected above background. As no pattern of occurrence could be established for chromium, this detection appears to be an extreme, but true concentration above background and does not warrant further consideration.

- **Cobalt** was detected at 7.1 mg/kg in boring BHGLSWMU51003, and at 9.0 mg/kg in boring BHGLSWMU51004. These detections of cobalt are slightly above the background value of 6.19 mg/kg, but well below the MSC of 610 mg/kg. Similar to decreasing concentrations were detected in the four Phase II samples collected at the site for cobalt. As a result, the detections of cobalt in SWMU 51 subsurface soils are delineated. Based on this information, this constituent does not warrant further investigation at this site.

- **Lead** was detected at 13.3 mg/kg in BHGLSWMU51004, and 16.5 mg/kg in BHGLSWMU51003. These detections of lead are slightly above both background and the MSC. The SPLP extract associated with the 16.5 mg/kg concentration was detected below the industrial groundwater MSC. However, the SPLP extract associated with the soil detection of 13.3 mg/kg failed, and as a result, no site-specific MSC was established for Lead. Lead was not detected above background in any of the four Phase II subsurface soil samples. The detections of lead in SWMU 51 subsurface soils are delineated and show no impact on groundwater (Section 5.4.3). Based on this information, this constituent does not warrant further investigation at this site.

- **Mercury** was detected above background (0.035 mg/kg) but below the MSC (0.2 mg/kg) in the subsurface soil samples collected from every interval in seven of the nine Phase I soil borings advanced at SWMU 51, at concentrations ranging from 0.05 mg/kg to 0.12 mg/kg. Mercury was not detected above background in any of the 17 Phase II subsurface soil samples collected at SWMU 51. As a result, the detections of mercury in SWMU 51 subsurface soils are delineated and show no impact on groundwater (Section 5.4.3). Based on this information, this constituent does not warrant further investigation at this site.

- **Nickel** (21 7 mg/kg) was detected slightly above background (19.76 mg/kg) but below the MSC (200 mg/kg) in one Phase I subsurface soil sample collected from SWMU 51 (BHGLSWMU51004). Because there is no pattern of occurrence, the isolated subsurface soil detections of this analyte is considered to be an extreme, but true, background concentration, and is not indicative of a release of hazardous constituents from SWMU 51. Based on this information, this constituent does not warrant further consideration at this site.

- **Vanadium** (37.7 mg/kg) was detected slightly above background (37.4 mg/kg), but below the MSC (72 mg/kg) in the subsurface sample collected from BHGLSWMU51009. Because there is no pattern of occurrence, the isolated subsurface soil detections of this analyte is considered to be an extreme, but true, background concentration, and is not indicative of a release of hazardous constituents from SWMU 51. Based on this information, this constituent does not warrant further consideration at this site.

- **Zinc** (31.7 mg/kg) was detected slightly above background (31.3 mg/kg), but well below the MSC (3,100 mg/kg) in boring BHGLSWMU51009. Because there is no pattern of occurrence, the isolated subsurface soil detections of this analyte is considered to be an extreme, but true, background concentration, and is not indicative of a release of hazardous constituents from SWMU 51. Based on this information, this constituent does not warrant further consideration at this site.

5.4.3 Groundwater

Two rounds of groundwater were collected from wells WHGLTA030, WHGLTA031, WHGLTA039, and existing upgradient well ST14-25. No well was established at boring WHGLTA032 as the location was dry. Groundwater samples were analyzed in accordance with COPCs identified in the soils at SWMU 51. Groundwater samples from well WHGLTA030 were analyzed for mercury. Groundwater samples from well WHGLTA031 were analyzed for lead and mercury. Groundwater samples from well WHGLTA039 and upgradient well ST14-25 were analyzed for arsenic, cobalt, lead, and mercury. No constituents were detected in any of the groundwater samples collected both upgradient and downgradient of SWMU 51 in either sampling event. These groundwater results indicate that the low levels of analytes present above background in the soils at SWMU 51 have not impacted the shallow groundwater at the site.

5.5 CONCEPTUAL SITE MODEL

The TNRCC approach to site closure/remediation consists of three RRSs. RRS 1 is based on background concentration levels and serves as the initial screen for a no release scenario closure. RRS 2 allows closure or remediation to health risk-based standards and criteria that are based on default assumptions concerning potential exposures. RRS 2 was used as a secondary screen for NFA site closures. If detected concentrations at the subject SWMUs exceed RRS 1 and RRS 2, site closure would proceed under RRS 3, which consists of a baseline risk assessment (BLRA), corrective measures study, and possible active remediation to attain risk-based standards.

The conceptual site model (CSM) provides a basis for identifying and evaluating the potential risks to human health in the BLRA. The CSM facilitates consistent and comprehensive evaluation of risks by creating a framework for identifying the paths by which humans and ecological receptors may be impacted by the subject SWMUs at NAS Fort Worth JRB.

The elements necessary to construct a complete exposure pathway and develop the CSM are:

- Sources and contaminants of concern
- Release mechanisms
- Transport pathways
- Exposure pathway scenarios
- Receptors

A generalized CSM for potential human and environmental exposures to air, soil, groundwater, and surface water/sediments are presented in Figures 5.1 and 5.2. Figure 5.1 shows the exposure and risks from contaminants contained in surface soil, while Figure 5.2 shows the exposure and risks from contaminants contained in subsurface soils.

The potential release and transport pathways for each of the SWMUs investigated in this study are similar. All of the sites are generally covered with pavement with adjacent or perimeter grass covered areas. All of the sites are also adjacent to a storm water drainage ditch. The release pathways include runoff to surface water and leaching to groundwater. As stated in previous sections, a Phase I soil investigation was conducted at each of the SWMUs in order to determine if a release had occurred from any of the subject sites. Soil borings were placed in areas where wastes were historically stored and in areas where surface runoff from each site would have most likely collected. Evaluation of the initial RFI results against the above criteria indicated that a release of contaminants to soils may have occurred at the subject SWMUs. As a result, a Phase II soil investigation was performed, and two rounds of a groundwater investigation were conducted.

A BLRA may be required for closures under RRS 2, and is required for all closures under RRS 3. Since all of the subject sites presented in this RFI Report will be requested for closure by the TNRCC under RRS 1 (SWMUs 11 and 36) or RRS 2 (SWMUs 32 and 51), a CSM is deemed unnecessary for these sites and will not be developed; however, specific elements of the CSM are discussed in the summaries of each SWMU (Sections 5.1 through 5.4 above). The discussion of the impact on receptors concentrates on groundwater and groundwater protection MSCs, as these are the most conservative RRS 2 values available and the most likely route of exposure considering current site conditions and future use.

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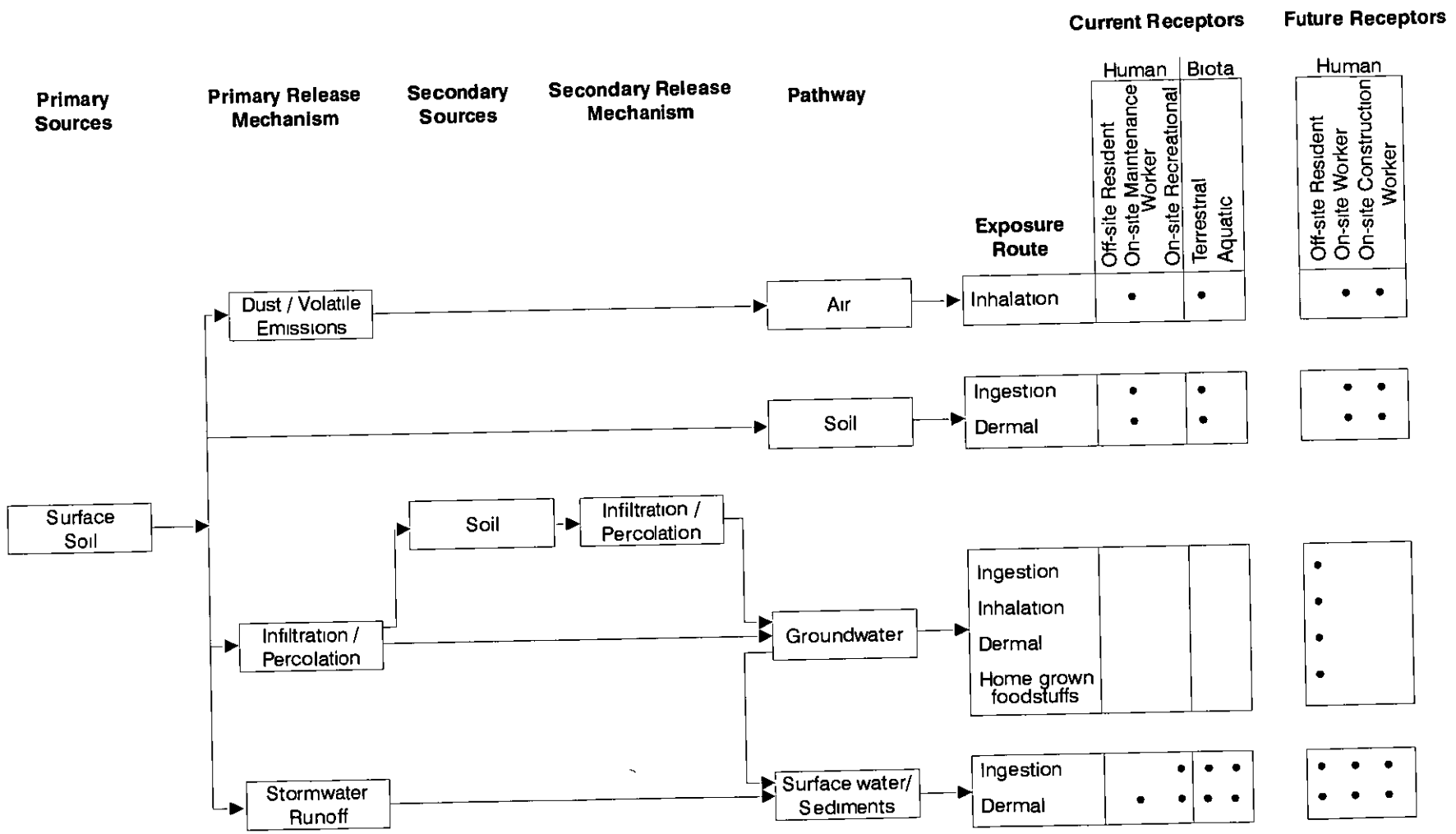
FIGURES



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Project AFC001-15BDB
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Revised 01/08/01 cf
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HYDRO GeoLogic INC

Figure 5.1
Conceptual Exposure Pathway Model for Surface Soil
NAS Fort Worth JRB, Texas

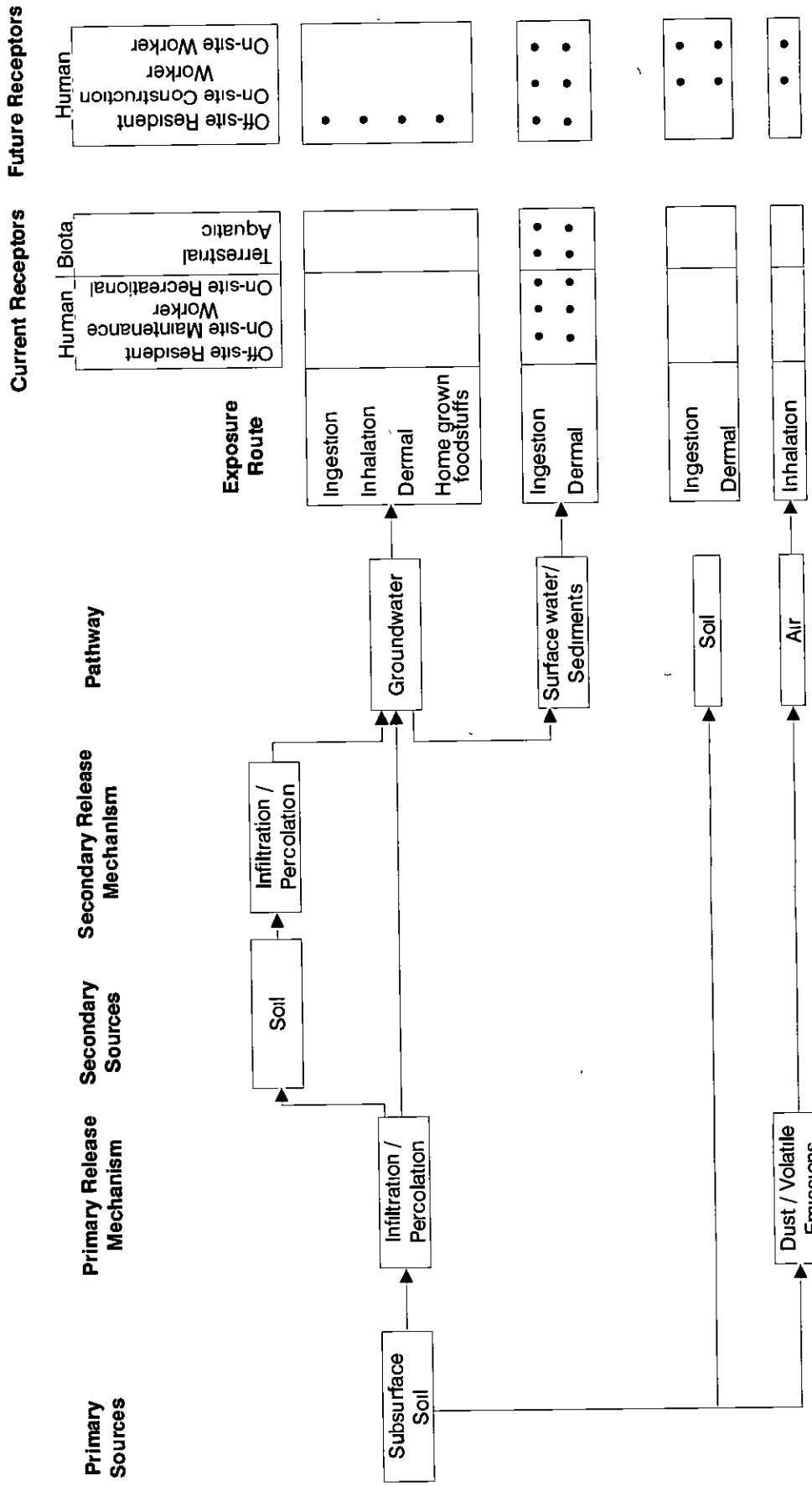

Figure 5.2
Conceptual Exposure Pathway Model for Subsurface Soil
NAS Fort Worth JRB, Texas

HYDRO GeoLogic

Filename X:\AFC001\15db\report\flowchrts.cdr
Project AFC001-15BDB
Created by cfarmer 09/08/00
Revised 01/08/01 cf
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TAB

SECTION 6.0

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 SWMU 11

Field observations and analytical results indicate that a release has not occurred from SWMU 11. Although low concentrations of several analytes were detected at the site there was no pattern of any detections suggesting that historical waste storage practices at SWMU 11 resulted in a release at the unit. Containers of waste were historically stored at SWMU 11 on the surface of the asphalt parking lot. A release to the soils at the unit would most likely be indicated by elevated concentrations in the surface soils followed by vertically decreasing concentrations within each soil boring. However, no constituents were detected above background concentrations in the surface soils at the unit. Although natural variations of arsenic and lead were detected in the subsurface soils, no VOCs or SVOCs associated with the paints and paint thinners stored at the unit were detected. In addition, no concentrations of metals at the site exceeded published statewide background levels.

The Round 1 groundwater sample collected downgradient from SWMU 11 shows an "F" flagged concentration of arsenic slightly above background, however, this Round 1 arsenic detection was not confirmed by Round 2 groundwater sample collected with a more definitive analytical method. The 1989 RFA stated that there was no evidence or history of a release from SWMU 11. All waste currently stored at SWMU 11 is enclosed in a secured HW storage shed with secondary containment features, and will continue to be managed by the 301st Air Reserve under the Navy compliance program. Based on this information, NFA is warranted at the subject site and SWMU 11 is recommended for closure under RRS 1.

6.2 SWMU 32

Field observations and analytical results indicate that SWMU 32 may have had an impact on the surrounding environment. Concentrations of barium and cadmium detected above the MSC were detected below the MSC in the corresponding SPLP extracts. These constituents have been delineated to RRS 1 and do not pose a potential threat to groundwater. In addition, RRS 2 concentrations of ethylbenzene and chlorobenzene have also been delineated to decreasing concentrations or to RRS 1.

The low concentrations of arsenic in the 15-foot interval of two subsurface samples, and in the groundwater at the site have been established as extreme, but true concentrations above background and do not appear to be indicative of a release at the site. Containers of waste were historically stored at SWMU 32 on the surface of the parking lot on top of reinforced concrete approximately 1 foot thick. A release to the soils at the unit would most likely be indicated by elevated concentrations in the surface soils followed by vertically decreasing concentrations along each soil boring. However, Phase I results show no evidence of an arsenic impact on the samples collected from the surface, 5-, or 10-foot intervals at the site. Based on this information, this constituent does not warrant further consideration at this site.

All of the wastes currently stored at SWMU 32 are enclosed in a secured HW storage shed with secondary containment features and are managed by the U.S. Marines under the Navy compliance program. It is believed, based on the results of this RFI, that SWMU 32 does not present a threat to human health or the environment as all analytes detected at the site are currently below site-specific MSCs or are delineated to decreasing concentrations and/or RRS 1.

Pursuant with Chapter 335, Subchapter S, and Sections 335.555 through 335.560 of the TNRCC RRS, the conditions for applying RRS 2 (Closure/Remediation to Health-based Standards and Criteria) have been achieved, and closure of SWMU 32 soils is recommended with no release to groundwater. Analytes to be included in the RRS 2 deed certification survey include barium, cadmium, ethylbenzene, and chlorobenzene. Should this RFI Report be accepted, a letter stating that closure of SWMU 32 was carried out in accordance with Section 335.555, signed by the AFCEE representative, will be transmitted to TNRCC, along with a metes and bounds description of SWMU 32. The metes and bounds description will correspond to the surveyed coordinates of the affected area shown in Figure 6.1.

6.3 SWMU 36

Field observations and analytical results indicate that a release has not occurred from SWMU 36. Although low concentrations of several analytes were detected in the subsurface soils at the site there was no pattern of detections suggesting that historical waste storage practices at SWMU 36 resulted in a release at the unit. Although Phase I results from a duplicate sample exhibited elevated lead and chromium in the subsurface of one of the soil borings, these sample results were below background in both the parent sample and the conformation sample collected from the same location. All detections of metals at the site appear to be natural variations above background and are not indicative of a release to the environment. SWMU 36 was a surface unit and had a release occurred at the site, the primary impact would most likely appear in the surface soils within the SWMU and in the path of surface runoff from the site. However, surface sample results for the site showed no evidence of release. Although low concentrations of chromium and lead were detected slightly above background in the subsurface soils, these metals were not detected in the groundwater immediately downgradient from SWMU 36. Based on this information, NFA is warranted at the site and SWMU 36 is recommended for closure under RRS 1.

6.4 SWMU 51

Field observations and analytical results indicate that activities at SWMU 51 may have had an impact on the surrounding environment. Arsenic and cadmium were detected above background and MSC in surface soils, concentrations of mercury and cobalt were consistently detected above background in the subsurface, and concentrations of arsenic and lead were detected above both background and MSC in subsurface soil samples. However, all analyte detections above the soil MSCs were below the groundwater MSCs in the corresponding SPLP extracts, with the exception of one lead result with a concentration of less than 1 mg/kg above background. All COPCs detected above background or MSCs in Phase I soil samples were

delineated to decreasing concentrations or RRS 1 either by other Phase I samples or during the Phase II investigation, with the exception of one arsenic result detected in the delineation sample collected from the surface of WHGLTA030. Concentrations of arsenic were detected at 9.4 mg/kg in both the Phase I surface sample collected from BHGLSWMU51006 and the delineation sample collected from WHGLTA030. These concentrations of arsenic are below the site specific MSC established at SWMU 51 of 14.9 mg/kg. Arsenic was detected below background in the other two Phase II delineation samples collected in the same area, including the delineation sample collected from BHGLSWMU51012 which was advanced in the direction of surface runoff. As a result, no pattern of release for arsenic could be established in the Cluster 1 area of SWMU 51, and further delineation of arsenic was not conducted.

No COPCs were detected in the groundwater samples collected both upgradient and downgradient of the site. Based on the results of this RFI, SWMU 51 does not present a threat to human health or the environment as all analytes detected at the site are currently below site-specific MSCs or are delineated.

Pursuant with Chapter 335, Subchapter S, and Sections 335.555 through 335.560 of the TNRCC RRS, the conditions for applying RRS 2 (Closure/Remediation to Health-based Standards and Criteria) have been achieved, and closure of SWMU 51 soils is recommended with no release to groundwater. Analytes to be included in the RRS 2 deed certification survey include arsenic, cadmium, cobalt, lead, and mercury. Should this RFI Report be accepted, a letter stating that closure of SWMU 51 was carried out in accordance with Section 335.555, signed by the AFCEE representative, will be transmitted to TNRCC, along with a metes and bounds description of SWMU 51. The metes and bounds description will correspond to surveyed coordinates of the affected area shown in Figure 6.2.

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FIGURES

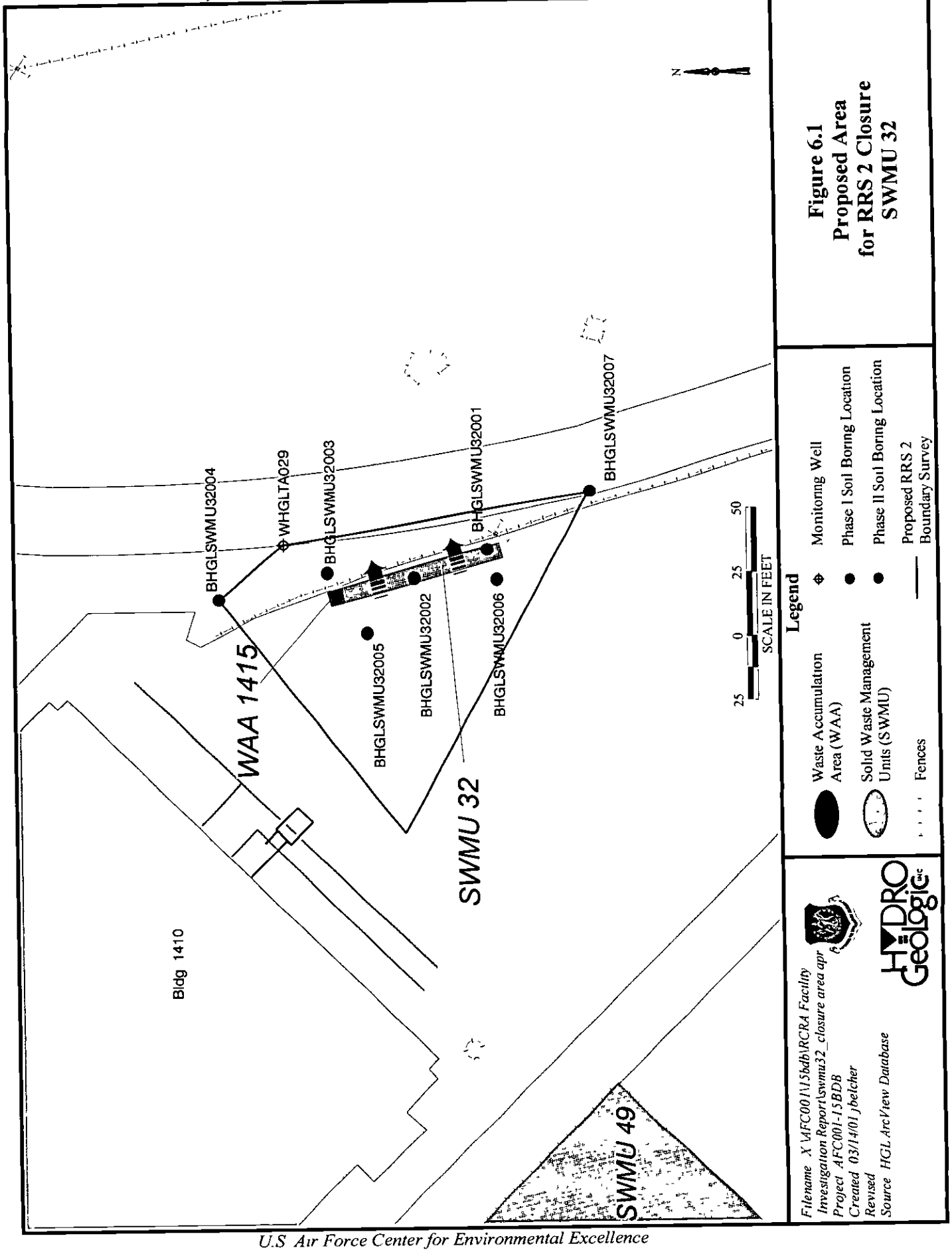

Figure 6.1
Proposed Area for RRS 2 Closure SWMU 32

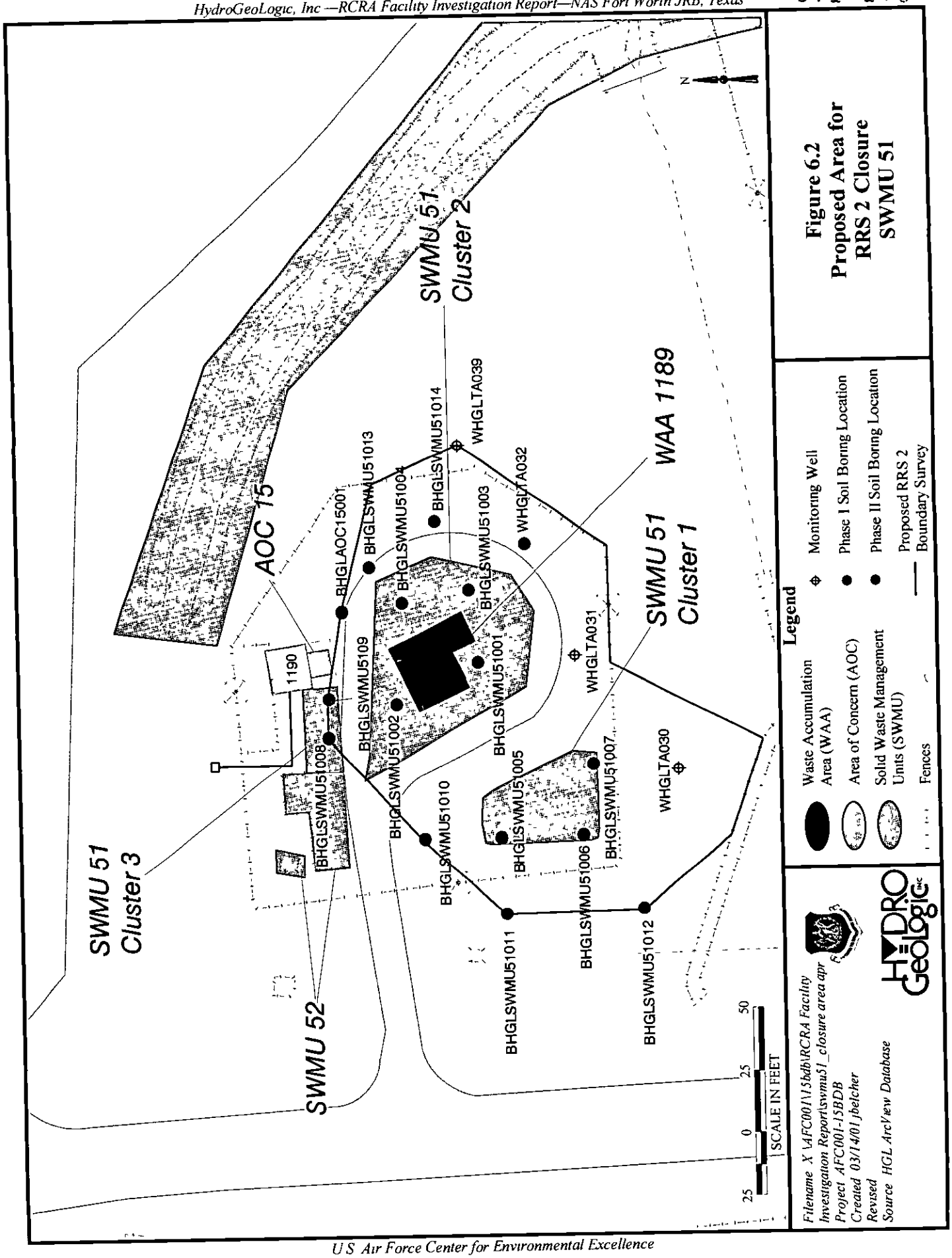

Figure 6.2
Proposed Area for RRS 2 Closure SWMU 51

TAB

SECTION 7.0

7.0 REFERENCES

A.T. Kearney, Inc., 1989, RCRA Facility Assessment PR/VSI Report.

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HydroGeoLogic, 1999d, Preliminary Draft Basewide Groundwater Sampling and Analysis Program, July 1999 Quarterly Report, NAS Fort Worth JRB, Texas.

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TAB

APPENDIX A

APPENDIX A

LETTER TO TNRCC
APRIL 20, 1999

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS AIR FORCE CENTER FOR ENVIRONMENTAL EXCELLENCE
BROOKS AIR FORCE BASE TEXAS

FEDERAL EXPRESS

April 20, 1999

Mr. Ray Risner
Corrective Action Section
Texas Natural Resource Conservation Commission
12100 Park 35 Circle, Bldg. D
Austin, TX 78753

Re: RCRA Facility Investigation of Waste Accumulation Areas
NAS Fort Worth JRB, Texas
Permit HW-50289

Dear Mr Risner:

This letter has been prepared in response to our conference call on Wednesday, March 24, 1999, during which we discussed the Final Work Plans (WPs) for the waste accumulation areas (WAAs) at Naval Air Station Fort Worth Joint Reserve Base (NAS Fort Worth JRB), Texas. These WPs describe the Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) to be conducted at several solid waste management units (SWMUs) and areas of concern (AOCs) that require further investigation. During our conference call, we addressed possible ways to reduce the projected cost associated with the large number of Appendix IX sample analyses proposed in the Final WPs This reduction is necessary due to recent rebidding of analytical costs by AFCEE's contractor and a subsequent increase of an Appendix IX analysis by 50 percent. You indicated in the conference call that the TNRCC would accept a shorter list of analyses for each site, as long at the Air Force provided adequate certification of the wastes handled at each WAA. You also indicated that the TNRCC would not require groundwater sampling at sites where a release to soil was not confirmed. This letter provides the necessary historical information regarding each WAA and subsequent list of recommended analyses for each WAA.

Provision VIII.A.2.b of Permit HW-50289 requires that soil and groundwater samples submitted for chemical analysis be analyzed in accordance with EPA SW-846 for all Appendix IX constituents, unless a shorter list can be justified. In order to provide adequate justification of a reduced list of analyses for the RFI, the Air Force has provided the attached Table 1 that summarizes the types and quantities of waste handled at each site. Table 1 also includes the analyses necessary to adequately determine if there was a release of hazardous materials at each site, based on the wastes handled at each site. The information provided in Table 1 was compiled from a number of sources that

document both current and historical waste management practices, and the types of waste generated by the various industrial operations at NAS Fort Worth JRB. Additional waste sources were added to selected sites where there was potential for waste to be stored from industrial buildings located nearby. Background information was gathered from the following sources:

- A.T. Kearney 1989, RCRA Facility Assessment, PR/VSI Report, Carswell Air Force Base, Fort Worth, Texas
- CH2M HILL, 1984, Installation Restoration Program Records Search for Carswell Air Force Base, Texas
- CH2M HILL, 1996, Site Characterization Summary Informal Technical Information Report, NAS Fort Worth JRB, Carswell Field, Texas
- The Earth Technology Corporation, 1993, Basewide Environmental Baseline Survey, Carswell Air Force Base, Texas
- U.S. Air Force Occupational and Environmental Health Laboratory, Human Services Division, 1989, Hazardous Waste Technical Assistance Survey, Carswell AFB, Texas

The following documents regarding wastes currently stored at WAAs were provided by TNRCC:

- Texas Natural Resource Conservation Commission, 1995, Notice of Registration, Industrial and Hazardous Waste, Solid Waste Registration Number: 65004, EPA Id: TX0571924042
- Texas Natural Resource Conservation Commission, 1999, Notice of Registration, Industrial and Hazardous Waste, Solid Waste Registration Number: 65004, EPA Id: TX0571924042

Upon review of these documents, it was determined that the neither the satellite accumulation areas nor the permitted facility/DRMO identified in these listings correspond to the WAAs under investigation.

The types and quantities of wastes potentially stored at each SWMU/AOC, have been included in Table 1 to provide justification of a shorter list of analyses proposed for the following sites:

- SWMU 5 (Waste Accumulation Area (WAA) 1627/Building 1628)
- SWMU 6 (Building 1628 Washrack and Drain)
- SWMU 11 (WAA 1618/Buildings 1617 and 1619)
- SWMU 12 (WAA 1602/Building 1602)
- SWMU 16 (WAA 1059/Building 1060)
- SWMU 31 (WAA 1050/Building 1050)
- SWMU 32 (WAA 1415/Building 1410)
- SWMU 33 (WAA 1436/Building 1420)
- SWMU 34 (WAA 1194/Building 1194)
- SWMU 36 (WAA 1191/Building 1191)
- SWMU 39 (WAA 1641/Building 1643)
- SWMU 42 (WAA 1413/Building 1414)
- SWMU 51 (WAA 1187 and 1189/Building 1190)

- SWMU 61 (WAA 1319/Building 1320)
- AOC 6 (RV Parking Area)
- AOC 15 (Building 1190 Storage Shed)

Table 1 provides a summary of the materials handled or potentially handled at each of the subject sites along with proposed analyses for each site. Based on your concurrence with this information, the Air Force will prepare Revised Final WPs separating the investigation into a two-phased approach. Soil sampling will be conducted in the first phase and groundwater sampling will be conducted in the second phase only at sites where soil contamination is identified. The revised plans will reduce the Appendix IX list of analyses previously proposed in the Final WPs to the analyses proposed in Table 1. The proposed sampling locations and depth intervals will remain the same Groundwater samples will be analyzed for constituents that show evidence of a release to the environment based on the results of soil investigations at the subject sites The field effort for this RFI is scheduled to begin in early May. Your prompt response to these proposed changes would be greatly appreciated.

Please call me with any questions or comments at 210/536-5290.

Sincerely,

Joseph R. Dunkle
Remedial Program Manager
NAS Fort Worth JRB

Attachment (Table 1)
cc: Mr. Mike Dodyk
HQ AFCEE/ERD
6560 White Settlement Road
Fort Worth, TX 76114

Mr. Todd Harrah
Unitec, Inc.
3202 2nd Street, Building 538
Brooks AFB, TX 78235

Table 1
Current SWMU Summary Table
NAS Fort Worth JRB, Texas

SWMU/ AOC	Waste Source:	Operational Period	Materials Received	Analyses
SWMU 5	Building 1628 - Corrosion Control Shop AGE Maintenance Shop	Approx. 1982 - Present	PD-680 (Type II) (petroleum naptha solvent)(660 gal/yr) -drummed JP-4 (2,500 gal/yr) - drummed Synthetic oil (150 gal/yr) - drummed 7808 engine oil (1,000 gal/yr) - 500-gallon bowser Hydraulic, transmission, and brake fluids (120 gal/yr) - bowser Antifreeze (60 gal/yr) - drummed Paints and thinners (toluol, MEK, isopropanol, naptha, xylene) (120 gal/yr) - drummed Paint stripper (methylene chloride, toluene)(110 gal/yr) - drummed Spent lead acid batteries (unspecified amount) - pallet Battery acid (unspecified amount) - DRMO Mean Green Soap (aircraft soap) (660 gal/yr) - OWS MEK (12 gal/yr) - used in process	TPH (TX1005) Soil pH (SW9045) Ethylene Glycol (SW8015) Appendix IX VOCs (SW8260B) SVOCs (SW8270C) Metals/Mercury(SW6010/7000)
SWMU 6	Building 1628 - Washrack and Drain	1979 - Approx. 1990	Mean Green Soap (aircraft soap) (660 gal/yr) - OWS PD-680 (Type II) (petroleum naptha solvent)(300 gal/yr) - OWS Wastewater containing fractions of: JP-4, waste paints and thinners, hydraulic fluids, engine oil (unspecified amount) - OWS May have received surface runoff from SWMU 5: PD-680 (petroleum naptha solvent)(Type II) (660 gal/yr) - drummed JP-4 (2,500 gal/yr) - drummed Synthetic oil (150 gal/yr) - drummed 7808 engine oil (1,000 gal/yr) - 500 gallon bowser Hydraulic, transmission, and brake fluids (120 gal/yr) - bowser Antifreeze (60 gal/yr) - drummed Paints and thinners (toluol, MEK, isopropanol, naptha, xylene)(120 gal/yr) - drummed Paint stripper (methylene chloride, toluene)(110 gal/yr) - drummed Spent lead acid batteries (unspecified) - pallet Battery acid (unspecified amt.) - DRMO Mean Green Soap (aircraft soap) (660 gal/yr) - OWS MEK (12 gal/yr) - used in process	TPH (TX1005) Soil pH (SW9045) Ethylene Glycol (SW8015) Appendix IX. VOCs (SW8260B) SVOCs (SW8270C) Metals/Mercury(SW6010/7000)

Table 1 (continued)
Current SWMU Summary Table
NAS Fort Worth JRB, Texas

SWMU/ AOC	Waste Source:	Operational Period	Materials Received	Analyses
SWMU 11	Building 1617 and 1619 Paint Shop Electronics Shop	Approx. 1982 - Present	Waste paints: Polyurethane (120 gal/yr) - drummed Enamel (60 gal/yr) - drummed Thinners (toluol, MEK, isopropanol, naptha, xylene)(120 gal/yr) - drummed Sodium persulfate solution (96 gal/yr) - drummed Spent etchant, lacquer thinner/ink residue (unspecified amount) - (unspecified container)	Soil pH (SW9045) Appendix IX: VOCs (SW8260B) SVOCs (SW8270C) Metals/Mercury(SW6010/7000)
SWMU 12	Building 1602 - Propulsion Shop	Approx. 1982 – 1990	Waste JP-4 (84 gal/yr) - drummed 7808 engine oil (84 gal/yr) - drummed PD-680 (Type II)(petroleum naptha solvent) (60 gal/yr) - drummed	TPH (TX1005) Appendix IX: VOCs (SW8260B) SVOCs (SW8270C) Metals/Mercury(SW6010/7000)
SWMU 16	Building 1060 - Corrosion Control Shop Building 1050 - Pneudraulics Shop	Approx. 1982 – 1990	Surface stripper (36 gal/yr) - drummed Hot tank stripper (640 gal/yr) - drummed Paint remover (methylene chloride, toluene)(36 gal/yr) - drummed Hydrofluoric acid (1.5 gal/yr) - neutralized, down drain Alodine (acid) (120 gal/yr) - neutralized, down drain Aircraft soap (120 gal/yr) - drummed MEK (240 gal/yr) - drummed Waste polyurethane paint (600 gal/yr) - drummed Rags contaminated with polyurethane paint - drummed Spent bead blasting media (unspecified amount) - drummed Hydraulic fluid (120 gal/yr) - drummed PD-680 (Type II)(petroleum naptha solvent)(1200 gal/yr) - drummed	Soil pH (SW9045) Appendix IX: VOCs (SW8260B) SVOCs (SW8270C) Metals/Mercury(SW6010/7000)

Table 1 (continued)
Current SWMU Summary Table
NAS Fort Worth JRB, Texas

SWMU/ AOC	Waste Source:	Operational Period	Materials Received	Analyses
SWMU 31	Building 1050 - Pneudraulics Shop Building 1055 - Fire Control Shop	1955–1990	Waste hydraulic fluid and oil (120 gal/yr) - drummed PD-680 (Type II) (petroleum naptha solvent)(150 gal/yr) - drummed MEK (unspecified amount) - unspecified container TCE (unspecified amount) - unspecified container Perchloroethylene (unspecified amount) - unspecified container SE-377C (solvent) contaminated with cadmium (unspecified amount) - unspecified container Citri-Kleen (solvent) (unspecified amount) - unspecified container Silicone damping fluid contaminated with Freon 113 (unspecified amount) - unspecified container	TPH (TX1005) Appendix IX: VOCs/Freon 113 (SW8260B) SVOCs (SW8270C) Metals/Mercury(SW6010/7000)
SWMU 32	Building 1410 - Battery Shop Engine Shop Bearing Shop Wheel and Tire Shop	Early 1940s - Present	7808 engine oil (550 gal/yr) - drummed PD-680 (Type II) (petroleum naptha solvent)(300 gal/yr) - drummed JP-4 (125 gal/yr) - fire training area Multi-sheen (stripper) (60 gal/yr) - down drain Hydraulic fluid (24 gal/yr) - bowser Calibrating fluid (unspecified amount) - 500-gallon bowser Carbon remover (cresylic acid) (unspecified amount - drummed Fingerprint remover (degreaser) (unspecified amount) - drummed Battery electrolyte (500 gal/yr) - neutralized, sanitary sewer TCE (unspecified amount) - unspecified container Possible spent batteries (unspecified amount) - unspecified container SE-377E (solvent) (unspecified amount) - unspecified container	TPH (TX1005) Soil pH (SW9045) Phenols (SW8041) Appendix IX: VOCs (SW8260B) SVOCs (SW8270C) Metals/Mercury(SW6010/7000)
SWMU 33	Building 1420 - MMS Equipment Maintenance Shop Possibly received waste from Buildings 1403, 1405, and 1434 Corrosion Control Shops	Approx 1982 - Present	PD-680 (Type II)(petroleum naptha solvent) (240 gal/yr) - drummed Brake and hydraulic fluids (240 gal/yr) - drummed MEK (0 5 gal/yr) - used in process Soap (120 gal/yr) - down drain Possibly received waste from Building 1434 Thinner (toluol, MEK, isopropanol, naptha, xylene)(15 gal/yr) - drummed Waste paints and solvents (1500 gal/yr) - unspecified container Strippers (methylene chloride, toluene) (unspecified amount) - unspecified container	TPH (TX1005) Appendix IX VOCs (SW8260B) SVOCs (SW8270C) Metals/Mercury(SW6010/7000)

Table 1 (continued)
Current SWMU Summary Table
NAS Fort Worth JRB, Texas

SWMU/ AOC	Waste Source:	Operational Period	Materials Received	Analyses
SWMU 34	Building 1194 - Vehicle Refueling Shop	Unknown startup date-1990	Waste engine oils (240 gal/yr) - 300-gallon bowser Transmission fluid (24 gal/yr) - drummed Antifreeze (70 gal/yr) - drummed PD-680 (Type II) (petroleum naptha solvent) (100 gal/yr) - drummed Aircraft cleaning soap (120 gal/yr) - OWS JP-4 (5000 gal/yr) - fire training pit Safety-Kleen (solvent) (300 gal/yr) - tank serviced by contractor	TPH (TX1005) Ethylene Glycol (SW8015) Appendix IX VOCs (SW8260B) SVOCs (SW8270C) Metals/Mercury(SW6010/7000)
SWMU 36	Building 1191 - Vehicle Maintenance Shop Allied Trades Shop Building 1425 - Fire Truck Maintenance Shop Building 1065 - Vehicle Maintenance Shop	Approx. 1982 - Present	7808 engine oil (1800 gal/yr) - unspecified container Battery acid (300 gal/yr) - DRMO Leaded and unleaded waste oil (1800 gal/yr) - drummed Waste automotive fuel (240 gal/yr) - drummed Antifreeze (600 gal/yr) - drummed Waste paints and thinners (toluol, MEK, isopropanol, naptha, xylene) (120 gal/yr) - unspecified container Waste oils and transmission fluids (3000 gal/yr) - drummed PD-680 (Type II) (petroleum naptha solvent) (150 gal/yr) - drummed Mogas (75 gal/yr) - drummed Hydraulic fluids (384 gal/yr) - drummed Safety-Kleen (solvent) (500 gal/yr) - tank serviced by contractor	TPH (TX1005) Soil pH (SW9045) Ethylene Glycol (SW8015) Appendix IX: VOCs (SW8260B) SVOCs (SW8270C) Metals/Mercury(SW6010/7000)
SWMU 39	Building 1643 - Phase Dock Pheudraulics Shop Wheel and Tire Shop (all aircraft maintenance)	Approx. 1982 - 1990	PD-680 (Type II) (petroleum naptha solvent) (1420 gal/yr) - bowser, drummed JP-4 (600 gal/yr) - drummed Waste oil (12 gal/yr) - 200-gallon waste oil trailer Hydraulic fluid (192 gal/yr) - drummed, bowser Stripper (methylene chloride, toluene) (100 gal/yr) - drummed Mean Green Soap (12 gal/yr) - OWS Carbon remover (cresylic acid) (8 gal/yr) - OWS, used in process	TPH (TX1005) Appendix IX VOCs (SW8260B) SVOCs (SW8270C) Metals/Mercury(SW6010/7000)

Table 1 (continued)
Current SWMU Summary Table
NAS Fort Worth JRB, Texas

SWMU/ AOC	Waste Source:	Operational Period	Materials Received	Analyses
SWMU 42	Building 1414 - AGE Shop NDI Shop Possibly received waste from Building 1434 - Corrosion Control	Approx. 1982 - 1990	Waste PD-680 (Type II) (petroleum naptha solvent) (960 gal/yr) - drummed JP-4 (1500 gal/yr) - drummed Mogas (600 gal/yr) - drummed Diesel (1980 gal/yr) - drummed Waste oils (3300 gal/yr) - 500-gallon bowser Synthetic oils (1800 gal/yr) - drummed Hydraulic fluids (660 gal/yr) - drummed Antifreeze (960 gal/yr) - drummed Aircraft soap (1800 gal/yr) - sanitary sewer CitiKleen (solvent) (660 gal/yr) - OWS Die penetrant (aeromatic naptha, ethoxylated octophenol, biphenyl octyl phosphate, fluorescent dye) (220 gal/yr) - drummed Emulsifier (petroleum sulfonate, paraffin oil, ethoxylated octyenal, butyl zyethyl phosphate) (220 gal/yr) - drummed Developer (sodium chromate) (100 gal/yr) - sanitary sewer Fixer (ammonium thiosulfate, sodium thiosulfate, N-methylpyrrolidine) (200 gal/yr) - silver recovery, sanitary sewer 1,1,1-trichloroethane (unspecified amount) - drummed Possibly received waste from Building 1434 Thinner (toluol, MEK, isopropanol, naptha, xylene)(15 gal/yr) - drummed Waste paints and solvents (1500 gal/yr) - unspecified container Strippers (methylene chloride, toluene) (unspecified amount) - unspecified container	TPH (TX1005) Ethylene Glycol (SW8015) Appendix IX: VOCs (SW8260B) SVOCs (SW8270C) Metals/Mercury(SW6010/7000)

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Table 1 (continued)
Current SWMU Summary Table
NAS Fort Worth JRB, Texas

SWMU/ AOC	Waste Source:	Operational Period	Materials Received	Analyses
SWMU 51	WAA 1189 and 1187 Served as central waste holding area.	Approx. 1982 – 1990	Received unspecified quantities of various wastes from throughout the base, stored in three separate areas throughout the SWMU. Cluster 1: empty drums which may have contained traces of solvents, fuels, oils used on base Cluster 2: wastewater from facility monitoring well - drummed Cluster 3: PD-680, xylene - drummed	Appendix IX: VOCs (SW8260B) SVOCs (SW8270C) Organochlorine Pesticides/PCBs (SW8081/8082) Organophosphorus Pesticides (SW8141) Chlorinated Herbicides (SW8151) Dioxins/Furans (SW8280) Cyanide (SW9010A/SW9012) Sulfide (SW9030) Trace Elements (Metals)(SW6010A/7000) Mercury (SW7470A/7471A)
SWMU 61	Building 1320 - Power Production Maintenance Facility	Approx. 1982 - 1990	Waste gasoline and diesel fuel (108 gal/yr) - drummed 7808 engine oil (156 gal/yr) - bowser PD-680 (Type II) (108 gal/yr) - drummed Antifreeze (156 gal/yr) - drummed Battery acid (360 gal/yr) - DRMO Hard material similar to roofing tar (unspecified amount) - bucket	TPH (TX1005) Soil pH (SW9045) Ethylene Glycol (SW8015) Appendix IX: VOCs (SW8260B) SVOCs (SW8270C) Metals/Mercury(SW6010/7000)
AOC 6	RV Parking Area	Unknown startup date–Present	The following wastes may have been stored or utilized during maintenance activities on vehicles stored within this area: Waste oils (unspecified amount) - unspecified container Waste fuels (unspecified amount) - unspecified container Antifreeze (unspecified amount) - unspecified container Paints/thinners (unspecified amount) - unspecified container Solvents/cleaners (unspecified amount) - unspecified container	TPH (TX1005) Ethylene Glycol (SW8015) Appendix IX. VOCs (SW8260B) SVOCs (SW8270C) Metals/Mercury(SW6010/7000)

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Table 1 (continued)
Current SWMU Summary Table
NAS Fort Worth JRB, Texas

SWMU/ AOC	Waste Source:	Operational Period	Materials Received	Analyses
AOC 15	Building 1190 - storage shed Area may have received runoff from SWMU 51	Unknown startup date- 1990	PD-680 (unspecified quantity) - unspecified container Xylene (unspecified quantity) - unspecified container Possible runoff from SWMU 51 - central waste holding area	Appendix IX: VOCs (SW8260B) SVOCs (SW8270C) Organochlorine Pesticides/PCBs (SW8081/8082) Organophosphorus Pesticides (SW8141) Chlorinated Herbicides (SW8151) Dioxins/Furans (SW8280) Cyanide (SW9010A/SW9012) Sulfide (SW9030) Trace Elements (Metals)(SW6010A/7000) Mercury (SW7470A/7471A)

Sources.

A.T. Kearney 1989, RCRA Facility Assessment, PR/VSI Report, Carswell Air Force Base, Fort Worth, Texas
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TAB

APPENDIX B

APPENDIX B

DATA QUALITY ASSESSMENT

DATA QUALITY ASSESSMENT
FINAL RCRA FACILITY INVESTIGATION REPORT
SWMUS 11, 32, 36, AND 51
NAS FORT WORTH JRB, TEXAS

1.0 FIELD QUALITY ASSURANCE/QUALITY CONTROL

Field quality control samples were collected as described in the following sections.

1.1 AMBIENT BLANKS

Ambient blanks consist of American Society for Testing and Materials (ASTM) Type II reagent grade water poured into a VOC sample vial at a sampling site (in the same vicinity as the associated samples). Ambient blanks are used to assess the potential introduction of contaminants from ambient sources (e.g., active runways, engine test cells, gasoline motors in operation) to the samples during sample collection. Ambient blanks are handled like environmental samples and transported to the laboratory for analysis. Depending on the analytes of interest at the associated site(s), ambient blanks are analyzed for VOCs, benzene, toluene, ethylbenzene, and xylenes (BTEX), and dissolved gases. No ambient blanks were collected in association with the Phase I soil investigation or Round 1 of groundwater sampling at SWMUs 11, 32, 36, and 51. One ambient blank each was collected in the Phase II soil investigation and Round 2 of groundwater sampling.

1.2 EQUIPMENT BLANKS

An equipment blank is a sample of ASTM Type II reagent grade water poured over a sampling device, collected in a sample container, and transported to the laboratory for analysis. Equipment blanks are used to assess the effectiveness of equipment decontamination procedures. Equipment blanks are collected immediately after equipment has been decontaminated. Each blank is analyzed for all laboratory analyses requested for the environmental samples collected at the site. One equipment blank is collected per day for each type of sampling equipment used. The equipment blanks collected in association with SWMUs 11, 32, 36, and 51 included seven associated with the Phase I soil investigation, four associated with the Phase II soil investigation, three associated with Round 1 groundwater sampling, and four associated with Round 2 groundwater sampling. Note that samples collected using dedicated or disposable equipment will have no associated equipment blank.

1.3 TRIP BLANKS

A trip blank consists of a VOC sample vial filled at the laboratory with ASTM Type II reagent grade water, transported to the sampling site, handled like an environmental sample, and returned to the laboratory for analysis. Trip blanks are not opened in the field. Trip blanks are

prepared only when samples are collected and analyzed for VOC (or BTEX) analytes. Trip blanks are used to assess the potential introduction of contaminants from sample containers or during the transportation and storage procedures. The trip blanks analyzed in association with SWMUs 11, 32, 36, and 51 included seven associated with the Phase I soil investigation, two associated with the Phase II soil investigation, and one each associated with Round 1 and Round 2 groundwater sampling.

1.4 FIELD DUPLICATES

Duplicate sample results are used to assess precision of the sample collection process. Precision of soil samples to be analyzed for VOCs is assessed from collocated samples because the compositing process required to obtain uniform samples could result in loss of the compounds of interest.

Duplicate samples are collected simultaneously, or in immediate succession, using identical recovery techniques, and treated in an identical manner during storage, transportation, and analysis. The sample containers are assigned an identification number in the field so that they cannot be identified (blind duplicate) as duplicate samples by laboratory personnel performing the analysis. Specific locations were designated for collection of field duplicate samples prior to the beginning of sample collection. One duplicate sample was collected for every 10 field samples collected. The field duplicates collected in association with SWMUs 11, 32, 36, and 51 included five associated with the Phase I soil investigation, three associated with the Phase II soil investigation, one associated with Round 1 groundwater sampling, and one associated with the Round 2 groundwater sampling.

1.5 SAMPLE TRACKING PROTOCOL

Each sample was assigned a unique identification number that describes where and what type of sample was collected. The number that was used in the field consisted of a maximum 15 digit alphanumeric code. The alphanumeric code was truncated to 12 digits once the data was ready to be entered into the Environmental Resources Program Information Management System (ERPIMS) database. This system is explained in detail as follows:

abbbcccccdd-ee

where:

- a — represents the medium (e.g., W=monitoring well, P = wipe sample, R = rinse sample, B = soil boring, U = surface water sample, or E = sediment sample).
- bbb — represents HydroGeoLogic, Inc. designation (e.g. HGL)
- cccccc — represents the SWMU/AOC number (e.g., SWMU16, SWMU42, AOC15, etc.)
- dd — represents the location identification (LOCID) (e.g., 01, 02)

ee represents the order that the sample was obtained within the soil boring; i.e., a surface soil sample would be 01, a 5- to 7-foot sample would be 02, etc. These two digits will dropped once the data is entered into the ERPIMS database.

For example, the first soil sample collected from soil boring 01 located at SWMU 1 was identified as "BHGLSWMU1101-01." The second sample collected from soil boring 01 located at SWMU11 was identified as "BHGLSWMU1101-02".

In order to ensure that field duplicates were analyzed "blind" by the laboratory, each field duplicate sample was assigned a unique sample identification number that did not associate the duplicate with its parent sample. For example, the soil sample collected in the third sampling interval from BHGLSWMU1101 was identified as DUP05. The locations from which field duplicate samples were to be collected were determined prior to mobilization. Documentation was maintained in the field sampling log book, and on the sample collection log, to track these field duplicate samples.

QC samples were identified by use of a similar system of identifiers with a maximum of 10 characters. The QC sampling number system is summarized below:

xxyyyyyy

where:

xx represents the blank type (EB for equipment blank, TB for trip blank, AB for ambient blank)

yyyyyy represents the date (month, day, year)

For example, an equipment blank obtained on May 1, 1999, would be identified as EB050199. When multiple field blanks of a particular type were collected on the same day, alphabetical suffixes (A, B, C, and so forth) were attached to the identification numbers.

The Project Geologist/Field Coordinator maintained a list detailing the connection between each QC sample and specific environmental samples. For instance, each trip blank was correlated with a particular set of samples shipped to the laboratory, and each equipment blank was correlated to those samples collected using a particular set of sampling tools on a specific date.

After the laboratory data were received and validated, data entry and QC operations were performed on the laboratory's electronic data deliverables (EDDs) to ensure that each EDD was complete, correct, and compatible with the ERPIMS format. An EDD report in the ERPIMS format will be provided to AFCEE.

2.0 LABORATORY ANALYSIS

Phase I soil samples collected as part of this RFI were analyzed for 40 CFR Appendix IX constituents. Depending on past site practices, sample collection and analysis was performed for either the full suite of Appendix IX parameters or a reduced list. At some sites, non-Appendix IX parameters (e.g., ethylene glycol, soil pH) were added to the list of analyses in order to characterize more fully site-specific wastes managed at each individual SWMU. Specific sampling parameters for each site are listed in Section 3.0 of the RFI Report. Sampling and analysis were performed in accordance with the in accordance with the Basewide QAPP (HydroGeoLogic, 1998) for the Phase I soil investigation, and the 2000 Basewide QAPP (HydroGeoLogic, 2000b) for the Phase II soil investigation and both rounds of the groundwater investigation. (These two documents will be jointly referenced as "the Basewide QAPP" in the remainder of this appendix.)

2.1 ANALYTICAL PROGRAM

The data generated by this project is of sufficient quality and quantity to meet the overall project objective, which is closure of SWMUs 11, 32, 36, and 51 under the TNRCC RRS program. Data from the following categories were required for this study:

Site Characterization - Data were used to evaluate physical and chemical properties of soil. The data were also used to characterize the nature and extent of any contaminants detected.

Health and Safety - Data were used to establish the level of protection needed for the sampling team and other site-related personnel. These data were gathered by the use of organic vapor monitors during intrusive activities.

A combination of screening level data and definitive level data was used during this RFI. Health and safety data were collected as screening data. All soil and water samples were analyzed following USEPA SW846 protocols. The definitions of screening data and definitive data, as established by the Data Quality Objectives Process for Superfund Interim Final Guidance (USEPA/540/G-93/071, 1993) are described below:

- Screening Data with Definitive Confirmation - Screening data can be generated by rapid, less precise methods of analysis with less rigorous sample preparation. Sample preparation steps may be restricted to simple procedures such as dilution with a solvent, instead of elaborate extraction/digestion and cleanup. Screening data provides analyte identification and quantification. Although the quantification may be determined using analytical methods with QA/QC procedures and criteria associated with definitive data, screening data without associated confirmation data are not considered to be data of known quality.

- Definitive Data - Definitive data were generated using rigorous analytical methods, such as approved USEPA reference methods. Data are analyte-specific, with

confirmation of analyte identity and concentration. These methods produce tangible raw data (e.g., chromatograms, spectra, digital values) in the form of paper printouts or computer-generated electronic files. Data may be generated at the site or at an off-site location, as long as the QA/QC requirements are satisfied. For the data to be definitive, either analytical or total measurement error must be determined.

The data generated by the laboratory analysis of samples were sufficiently sensitive to allow comparison of the results to the TNRCC RRS. The Basewide QAPP describes each method that was performed as part of the investigation and outlines the quality assurance measures the contract laboratory must follow. The methods of analysis selected for samples collected from NAS Fort Worth JRB produced screening as well as definitive data.

2.2 QUALITY ASSURANCE/QUALITY CONTROL PROGRAM

The primary project QA/QC document is the Basewide QAPP. The 1998 version of this document is based on versions 1.1 and 2.0 of AFCEE's Model QAPP, with some base-specific modifications. The 2000 version of the QAPP incorporates elements of the AFCEE Model QAPP, version 3.0, and updates to SW-846 methods. These documents are supplemented by the laboratory's Quality Assurance Plan. Together, these documents detail the requirements which must be followed in order to generate data of the level of quality required to support the project decision-making process. Among the requirements contained in these documents is the requirement for review of the data at several levels at the laboratory. Each benchtop chemist is responsible for a 100 percent review of all data generated, as is each laboratory section manager (or designee). Subsequent to analyst review, 10 percent of data are reviewed by the laboratory QA department prior to assembly of each data report. Each final data report is reviewed by the laboratory project manager prior to release from the laboratory.

2.2.1 Laboratory QA/QC Program

The laboratory QA/QC program was maintained in overall accordance with the Basewide QAPP. Where the laboratory performance was not in accordance with QAPP criteria, the affected data were qualified in the data validation process. The Data Validation Reports are presented in Appendix F. In order to provide data meeting the requirements for definitive data, the following QC elements were used by the laboratory to provide QC data applicable to the analytical results: laboratory control samples (LCSs), matrix spike/matrix spike duplicate (MS/MSD) samples, surrogate recoveries, internal standard performance, method blanks and calibration, instrument tuning and calibration, second source calibration checks, confirmation columns/detectors, interference check samples, recovery tests, laboratory duplicates, and serial dilutions. A description of each laboratory QC element can be found in Section 4.0 of the Basewide QAPP. The frequency and acceptance criteria for each laboratory QC element are described in general in Sections 4.0 and 8.0 of the Basewide QAPP, and in the method-specific subsections of Section 7.0 of the Basewide QAPP.

2.2.2 QA Activities

On March 25 and 26, 1998, the HydroGeoLogic project chemist, assisted by a Law Engineering project chemist, performed a QA audit of the facilities and practices of the analytical laboratory at Recra Labnet[1] in University Park, Illinois. The auditors reviewed the laboratory's Quality Assurance Plan, evaluated the laboratory's recent state certification performance evaluation sample results, reviewed the laboratory's standard operating procedures, and conducted an on-site inspection of the laboratory's facility. The laboratory was found to have sufficient expertise, resources, and procedures to generate definitive and legally defensible data.

2.2.3 QA/QC Program Performance

Evaluation of the project QC and analytical data provided by the laboratory showed that there was general compliance with the QA/QC program. There were cases where individual analytes or QC elements did not meet program criteria. If these QC failures were serious enough, the laboratory performed re-analysis after attempting corrective action. Where re-analysis was not performed or corrective action was not successful, the data were qualified in accordance with the method-specific requirements of Section 7.0 and the general requirements of Section 8.0 of the Basewide QAPP.

2.2.4 Completeness

Completeness was calculated for data generated from the RFI performed at all of the 16 sites (14 SWMUs and 2 AOCs) included in the project WPs under the requirements of permit HW-50289 (HydroGeoLogic, 1999a). The validated project data set includes results from Phase I and Phase II soil sampling, and the two rounds of groundwater sampling.

A total of 13,375 data points were generated by the analyses of project soil samples (Phase I and Phase II). Of these, 171 were rejected due to failure to achieve QA/QC program requirements. Total project soil data completeness is calculated to be 99.24 percent, which exceeds the project soil data completeness goal of 90 percent.

A total of 73 data points were generated by the analyses of project groundwater samples. Of these, 3 were rejected due to failure to achieve QA/QC program requirements. Total project water data completeness is calculated to be 95.89 percent, which exceeds the project water data completeness goal of 95 percent.

[1] RCRA Labnet is currently doing business as Severn Trent Laboratories.

3.0 DATA QUALITY EVALUATION

This section describes the analytical methods and quality control program utilized for the RFI of SWMUs 11, 32, 36, and 51 at NAS Fort Worth JRB. The analytical methods used for the analysis of the field samples are described in the Basewide QAPP.

3.1 DATA QUALITY EVALUATION OBJECTIVE

The objective of the Data Quality Evaluation (DQE) is to provide a professional review of the analytical data packages submitted by the laboratory. The DQE consists of a review of laboratory QC data and field QC data. This review is performed to indicate which data are usable, usable with qualification, or unusable. The analytical procedures used to generate field sample data are evaluated in accordance with the general and method-specific QC criteria listed in Sections 5.0, 6.0, 7.0, and 8.0 of the Basewide QAPP.

The following items of laboratory QC data are reviewed:

- Sample integrity
- Sample completeness
- Preparation and analysis holding times
- Laboratory preparation and analysis methods
- Method accuracy and precision (e.g., MS/MSDs, dilution tests)
- Laboratory performance criteria (e.g., blanks, LCS recoveries, surrogates, internal standards)
- Instrument initial and continuing calibration checks

Field QC performance is evaluated through evaluating field duplicates, field blanks, field documentation, and shipping criteria.

3.2 METHODOLOGY FOR DATA QUALITY ASSESSMENT

The analytical results for samples collected from SWMU 11, 32, 36, and 51 were validated by Environmental Data Services, Inc. (EDS). The data were evaluated in accordance with the procedures and acceptance criteria contained in the Basewide QAPP. All results from all analytical methods (with the exception of pH and sulfide results) were evaluated with respect to the requirements of definitive data at the equivalent of a USEPA level III review. The data review identified those data that were unusable due to serious QC deficiencies, as well as other data that were affected by QC problems but not of sufficient severity to warrant rejection. Rejected data were qualified 'R', while qualifiers of lesser severity were applied to usable data where necessary. The level III validation reports for each sample delivery group (SDG) are included in Appendix F.

Following the level III review, 10 percent of the Phase I sample results were validated by International Technologies Corporation, Inc. (IT). The data were evaluated in accordance with

the procedures and acceptance criteria contained in the Basewide QAPP. The 10 percent of all of the Phase I results from all of the analytical methods were evaluated with respect to the requirements of definitive data at the equivalent of a USEPA level IV review in order to ensure the quality of the level III assessment. The level IV data validation summary report is included in Appendix F.

HydroGeoLogic's Project Chemist compared IT's data validation report to the associated EDS data validation reports, and determined that there is good overall agreement between the level III and the level IV data reviews for the sample results produced during this RFI. The level IV review confirmed that the data reported with level III qualifiers meet the project data quality objectives (DQOs) for definitive data. The data validation comparison reports are included in Appendix F.

Subsequent to the data validation process, the required data validation qualifiers were entered into the project database. The accuracy the validation and data entry process was checked at all stages. The "as received" accuracy of each EDD for each data package was verified by comparing the contents of each EDD to the hardcopy of that data package at a 10 percent rate. The accuracy of the validation qualifiers was also checked on the final database output at a rate of 10 percent.

TAB

APPENDIX C

APPENDIX C

SURVEY DATA

Soil Boring Survey Points

HYDROGEOLOGIC, INC.
Prime Contract No. F41624-95-D-8005
Subcontract AFC01I

SUBCONTRACTOR:
Baird, Hampton & Brown, Inc.

DESCRIPTION	SOIl BORING	NORTHING	EASTING	GROUND ELEVATION
SWMU 11	BHGLSWMU11001	6967674.13	2297569.62	604.03
SWMU 11	BHGLSWMU11002	6967665.61	2297579.74	603.29
SWMU 11	BHGLSWMU11003	6967699.82	2297579.40	605.08
SWMU 11	BHGLSWMU11004	6967675.53	2297551.04	604.04
SWMU 11	BHGLSWMU11005	6967653.59	2297582.67	603.12
SWMU 32	BHGLSWMU32001	6965659.92	2298571.83	603.23
SWMU 32	BHGLSWMU32002	6965687.35	2298561.42	603.54
SWMU 32	BHGLSWMU32003	6965720.01	2298563.54	603.64
SWMU 32	BHGLSWMU32004	6965760.61	2298554.24	603.54
SWMU 32	BHGLSWMU32005	6965705.17	2298541.27	603.78
SWMU 32	BHGLSWMU32006	6965656.50	2298560.64	603.51
SWMU 32	BHGLSWMU32007	6965621.21	2298593.29	603.15
SWMU 36	BHGLSWMU36001	6964665.35	2299514.94	586.02
SWMU 36	BHGLSWMU36002	6964653.69	2299514.57	585.54
SWMU 36	BHGLSWMU36003	6964648.06	2299525.40	584.97
SWMU 36	BHGLSWMU36004	6964648.18	2299527.44	584.71
SWMU 36	BHGLSWMU36005	6964680.26	2299543.65	584.53
SWMU 36	BHGLSWMU36006	6964647.54	2299542.61	583.60
SWMU 36	BHGLSWMU36007	6964647.32	2299509.83	585.91
SWMU 36	BHGLSWMU36008	6964680.60	2299500.57	586.36
SWMU 51	BHGLSWMU51001	6964402.47	2299196.65	593.23
SWMU 51	BHGLSWMU51002	6964433.25	2299181.15	593.53
SWMU 51	BHGLSWMU51003	6964405.54	2299223.78	593.19
SWMU 51	BHGLSWMU51004	6964430.66	2299219.13	593.34
SWMU 51	BHGLSWMU51005	6964394.77	2299130.28	592.62
SWMU 51	BHGLSWMU51006	6964363.91	2299130.92	591.70
SWMU 51	BHGLSWMU51007	6964359.73	2299157.79	591.42
SWMU 51	BHGLSWMU51008	6964459.09	2299168.79	593.47
SWMU 51	BHGLSWMU51009	6964458.77	2299183.81	593.60
SWMU 51	BHGLSWMU51010	6964423.59	2299130.07	593.54
SWMU 51	BHGLSWMU51011	6964393.27	2299101.39	592.66
SWMU 51	BHGLSWMU51012	6964341.67	2299102.78	589.47
SWMU 51	BHGLSWMU51013	6964442.78	2299232.77	593.53
SWMU 51	BHGLSWMU51014	6964417.85	2299249.90	593.05
AOC 15	BHGLAOC015001	6964453.32	2299216.17	593.26

Note: All coordinate values are NAD83 State Plane Coordinates, Texas North Central Zone, Feet.

671 201

Monitoring Well Survey Points

HYDROGEOLOGIC, INC.
Prime Contract No. F41624-95-D-8005
Subcontract AFC01I

SUBCONTRACTOR:
Baird, Hampton & Brown, Inc.

WELL	NORTHING	EASTING	GROUND ELEVATION	STATUS	CATEGORY
WHGLTA027	6967636.99	2297658.47	602.44	Active	Monitoring Well
WHGLTA029	6965736.08	2298574.35	603.13	Active	Monitoring Well
WHGLTA030	6964327.76	2299155.33	589.07	Active	Monitoring Well
WHGLTA031	6964366.12	2299198.98	592.78	Active	Monitoring Well
WHGLTA032	6964384.24	2299240.84	593.00	Dry	Soil boring
WHGLTA033	6964665.24	2299565.05	581.75	Active	Monitoring Well
WHGLTA039	6964408.76	2299277.71	590.21	Active	Monitoring Well

Note: All coordinate values are NAD83 State Plane Coordinates, Texas North Central Zone, Feet.

TAB

APPENDIX D

APPENDIX D

PHASE I SOIL ANALYTICAL DATA SUMMARY TABLES

Table D.1
Phase I Soil Analytical Data
SWMU 11
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU11001-00'	BHGLSWMU11001-05'	BHGLSWMU11001-10'	BHGLSWMU11001-10' Duplicate
SW6010	Antimony	MG/KG	3.7 UJ	3 8 UJ	3.9 UJ	4 1 UJ
SW6010	Arsenic	MG/KG	3.5 F	4.5 J	4 6 J	4.2 J
SW6010	Barium	MG/KG	87.5	52.2	52 9	55 1
SW6010	Beryllium	MG/KG	0.73	0.72	0.63	0 68
SW6010	Cadmium	MG/KG	0.37 U	0 38 U	0.39 U	0.41 U
SW6010	Chromium, total	MG/KG	12 8	12.9	16	16 1
SW6010	Cobalt	MG/KG	5 8	2.9 F	4.3 F	4 1 F
SW6010	Copper	MG/KG	9 5	6.9 F	8.9	8.2 F
SW6010	Nickel	MG/KG	9.5	8 2	9.1	9.6
SW6010	Tin	MG/KG	29.7 U	30.6 U	31 5 U	32.7 U
SW6010	Vanadium	MG/KG	28.7	29.6	32 2	28 3
SW6010	Zinc	MG/KG	16.9 F	18.4 F	18 2 F	21.1 F
SW7421	Lead	MG/KG	24.3	18.1	16.3	15 4
SW7471	Mercury	MG/KG	0.04 U	0 04 U	0.04 U	0.04 U
SW7740	Selenium	MG/KG	0 23 UJ	0 22 UJ	0.26 UJ	0.27 UJ
SW7761	Silver	MG/KG	0.17 UJ	0 15 UJ	0.18 UJ	0.18 U
SW7841	Thallium	MG/KG	0 77 UJ	0 75 U	0.87 U	0.89 U
SW8260	1,1,1,2-Tetrachloroethane	MG/KG	0 003 U	0 003 U	0 003 U	0 003 U
SW8260	1,1,1-Trichloroethane	MG/KG	0.004 U	0 004 U	0.004 U	0 004 U
SW8260	1,1,2,2-Tetrachloroethane	MG/KG	0 002 U	0.002 U	0 002 U	0 002 U
SW8260	1,1,2-Trichloroethane	MG/KG	0 006 U	0 005 U	0.005 U	0 005 U
SW8260	1,1-Dichloroethane	MG/KG	0.002 U	0 002 U	0 002 U	0.002 U
SW8260	1,1-Dichloroethene	MG/KG	0.006 U	0 005 U	0.005 U	0.005 U
SW8260	1,2,3-Trichloropropane	MG/KG	0.006 U	0.005 U	0.005 U	0 005 U
SW8260	1,2-Dibromo-3-chloropropane	MG/KG	0.006 U	0.005 U	0.005 U	0 005 U
SW8260	1,2-Dibromoethane (Ethylene dibromide)	MG/KG	0.003 U	0.003 U	0.003 U	0.003 U
SW8260	1,2-Dichloroethane	MG/KG	0.003 U	0.003 U	0.003 U	0.003 U
SW8260	1,2-Dichloropropane	MG/KG	0.002 U	0.002 U	0.002 U	0.002 U
SW8260	2-Chloro-1,3-butadiene	MG/KG	0.006 U	0 005 U	0 005 U	0 005 U
SW8260	2-Hexanone	MG/KG	0 006 U	0.005 U	0.005 U	0 005 U
SW8260	Acetone	MG/KG	0.006 U	0.005 U	0.005 UJ	0 008 J
SW8260	Acetonitrile	MG/KG	0 044 U	0.044 U	0.038 U	0 041 U
SW8260	Acrolein	MG/KG	0 11 U	0.11 U	0.094 U	0 1 U
SW8260	Acrylonitrile	MG/KG	0 044 U	0 044 U	0.038 U	0.041 U
SW8260	Allyl chloride (3-Chloropropene)	MG/KG	0 011 U	0 011 U	0.009 U	0.01 U
SW8260	Benzene	MG/KG	0.002 U	0 002 U	0 002 U	0 002 U

Table D.1
Phase I Soil Analytical Data
SWMU 11
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU11001-00'	BHGLSWMU11001-05'	BHGLSWMU11001-10'	BHGLSWMU11001-10' Duplicate
SW8260	Bromodichloromethane	MG/KG	0.004 U	0.004 U	0.004 U	0 004 U
SW8260	Bromoform	MG/KG	0.006 U	0.005 U	0 005 U	0.005 U
SW8260	Bromomethane	MG/KG	0.006 R	0 005 R	0.005 R	0 005 U
SW8260	Carbon disulfide	MG/KG	0.006 U	0 005 U	0.005 U	0 005 U
SW8260	Carbon tetrachloride	MG/KG	0.006 U	0 005 U	0.005 U	0.005 U
SW8260	Chlorobenzene	MG/KG	0.002 U	0.002 U	0.002 U	0.002 U
SW8260	Chloroethane	MG/KG	0 006 U	0 005 U	0.005 U	0.005 U
SW8260	Chloroform	MG/KG	0 002 U	0 002 U	0 002 U	0.002 U
SW8260	Chloromethane	MG/KG	0 006 U	0.005 U	0.005 U	0.005 U
SW8260	cis-1,2-Dichloroethene	MG/KG	0 006 U	0 005 U	0.005 U	0.005 U
SW8260	cis-1,3-Dichloropropene	MG/KG	0 006 U	0.005 U	0.005 U	0.005 U
SW8260	Dibromochloromethane	MG/KG	0.003 U	0 003 U	0 003 U	0.003 U
SW8260	Dibromomethane	MG/KG	0.006 U	0 005 U	0.005 U	0.005 U
SW8260	Dichlorodifluoromethane	MG/KG	0.006 R	0 005 R	0.005 R	0 005 U
SW8260	Ethyl methacrylate	MG/KG	0.006 U	0 005 U	0.005 U	0 005 U
SW8260	Ethylbenzene	MG/KG	0.003 U	0 003 U	0.003 U	0 003 U
SW8260	Iodomethane (Methyl iodide)	MG/KG	0 006 U	0.005 U	0.005 U	0 005 U
SW8260	Isobutanol	MG/KG	0.22 U	0.22 U	0 19 U	0.2 U
SW8260	m,p-Xylene (sum of isomers)	MG/KG	0 006 R	0.005 R	0 005 R	0.005 U
SW8260	Methyl ethyl ketone (2-Butanone)	MG/KG	0 006 U	0.005 U	0 005 U	0.005 U
SW8260	Methyl isobutyl ketone (4-Methyl-2-pentanone)	MG/KG	0.006 U	0.005 U	0 005 U	0.005 U
SW8260	Methyl methacrylate	MG/KG	0 006 U	0.005 U	0.005 U	0.005 U
SW8260	Methylacrylonitrile	MG/KG	0 006 U	0.005 U	0.005 U	0 005 U
SW8260	Methylene chloride	MG/KG	0.002 U	0.002 U	0.002 U	0 002 U
SW8260	o-Xylene (1,2-Dimethylbenzene)	MG/KG	0.006 U	0 005 U	0.005 U	0.005 U
SW8260	Pentachloroethane	MG/KG	0.006 U	0.005 U	0.005 U	0 005 U
SW8260	Propane nitrile (Propionitrile)	MG/KG	0.022 U	0 022 U	0.019 U	0.02 U
SW8260	Styrene	MG/KG	0 002 R	0.002 R	0 002 R	0.002 U
SW8260	Tetrachloroethene (PCE)	MG/KG	0 006 U	0.005 U	0 005 U	0.005 U
SW8260	Toluene	MG/KG	0.006 U	0.005 U	0.005 U	0.005 U
SW8260	Trans-1,2-Dichloroethene	MG/KG	0.003 U	0.003 U	0 003 U	0 003 U
SW8260	Trans-1,3-Dichloropropene	MG/KG	0 006 U	0 005 U	0.005 U	0 005 U
SW8260	Trans-1,4-Dichloro-2-Butene	MG/KG	0 006 U	0.005 U	0.005 U	0 005 U
SW8260	Trichloroethene (TCE)	MG/KG	0.006 U	0 005 U	0.005 U	0 005 U
SW8260	Vinyl acetate	MG/KG	0.006 U	0 005 U	0.005 U	0 005 U
SW8260	Vinyl chloride	MG/KG	0.006 U	0.005 U	0.005 U	0 005 U

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Table D.1
Phase I Soil Analytical Data
SWMU 11
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU11001-00'	BHGLSWMU11001-05'	BHGLSWMU11001-10'	BHGLSWMU11001-10' Duplicate
SW8270	1,2,4,5-Tetrachlorobenzene	MG/KG	0 4 U	0.39 U	0 39 U	0.39 U
SW8270	1,2,4-Trichlorobenzene	MG/KG	0.4 U	0.39 U	0.39 U	0.39 U
SW8270	1,2-Dichlorobenzene	MG/KG	0.4 U	0.39 U	0 39 U	0.39 U
SW8270	1,3,5-Trinitrobenzene	MG/KG	1.6 U	1 5 U	1.5 U	1.6 U
SW8270	1,3-Dichlorobenzene	MG/KG	0.4 U	0.39 U	0.39 U	0.39 U
SW8270	1,3-Dinitrobenzene	MG/KG	0.4 U	0.39 U	0.39 U	0.39 U
SW8270	1,4-Dichlorobenzene	MG/KG	0.4 U	0.39 U	0.39 U	0.39 U
SW8270	1,4-Dioxane (p-Dioxane)	MG/KG	1.6 U	1.5 U	1.5 U	1.6 U
SW8270	1,4-Naphthoquinone	MG/KG	2 U	1.9 U	1.9 U	2 U
SW8270	1-Naphthylamine	MG/KG	0.8 U	0.77 U	0.77 U	0.78 U
SW8270	2,2'-Oxybis(1-chloropropane)	MG/KG	0.4 U	0.39 U	0.39 U	0.39 U
SW8270	2,3,4,6-Tetrachlorophenol	MG/KG	0.4 U	0 39 U	0.39 U	0.39 U
SW8270	2,4,5-Trichlorophenol	MG/KG	2 U	1.9 U	1.9 U	2 U
SW8270	2,4,6-Trichlorophenol	MG/KG	0 4 U	0.39 U	0.39 U	0 39 U
SW8270	2,4-Dichlorophenol	MG/KG	0.4 U	0.39 U	0.39 U	0.39 U
SW8270	2,4-Dimethylphenol	MG/KG	0.4 U	0.39 U	0.39 U	0.39 U
SW8270	2,4-Dinitrophenol	MG/KG	2 U	1 9 U	1.9 U	2 U
SW8270	2,4-Dinitrotoluene	MG/KG	0.4 U	0.39 U	0.39 U	0.39 U
SW8270	2,6-Dichlorophenol	MG/KG	0 8 U	0.77 U	0.77 U	0.78 U
SW8270	2,6-Dinitrotoluene	MG/KG	0.4 U	0.39 U	0.39 U	0.39 U
SW8270	2-Acetylaminofluorene	MG/KG	0.8 U	0.77 U	0.77 U	0.78 U
SW8270	2-Aminonaphthalene (beta-Naphthylamine)	MG/KG	0.8 U	0.77 U	0.77 U	0.78 U
SW8270	2-Chloronaphthalene	MG/KG	0.4 U	0.39 U	0 39 U	0.39 U
SW8270	2-Chlorophenol	MG/KG	0.4 U	0.39 U	0 39 U	0.39 U
SW8270	2-Methylnaphthalene	MG/KG	0.4 U	0.39 U	0.39 U	0.39 U
SW8270	2-Methylphenol (o-Cresol)	MG/KG	0.4 U	0.39 U	0.39 U	0.39 U
SW8270	2-Nitroaniline	MG/KG	2 U	1.9 U	1.9 U	2 U
SW8270	2-Nitrophenol	MG/KG	0 4 U	0.39 U	0.39 U	0.39 U
SW8270	2-Picoline (alpha-Picoline)	MG/KG	0.4 U	0.39 U	0.39 U	0.39 U
SW8270	3,3'-Dichlorobenzidine	MG/KG	0.8 U	0.77 U	0.77 U	0 78 U
SW8270	3,3'-Dimethylbenzidine	MG/KG	2 U	1.9 U	1.9 U	2 U
SW8270	3-Methylcholanthrene	MG/KG	0.4 U	0.39 U	0 39 U	0 39 U
SW8270	3-Nitroaniline	MG/KG	2 U	1.9 U	1.9 U	2 U
SW8270	4,6-Dinitro-2-methylphenol	MG/KG	2 U	1.9 U	1.9 U	2 U
SW8270	4-Aminobiphenyl (4-Biphenylamine)	MG/KG	0.8 U	0.77 U	0.77 U	0.78 U
SW8270	4-Bromophenyl phenyl ether	MG/KG	0.4 U	0 39 U	0 39 U	0 39 U

Table D.1
Phase I Soil Analytical Data
SWMU 11
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU11001-00'	BHGLSWMU11001-05'	BHGLSWMU11001-10'	BHGLSWMU11001-10' Duplicate
SW8270	4-Chloro-3-methylphenol	MG/KG	0.8 U	0.77 U	0.77 U	0.78 U
SW8270	4-Chloroaniline	MG/KG	0 8 U	0.77 U	0 77 U	0.78 U
SW8270	4-Chlorophenyl phenyl ether	MG/KG	0.4 U	0.39 U	0 39 U	0.39 U
SW8270	4-Nitroaniline	MG/KG	2 U	1.9 U	1.9 U	2 U
SW8270	4-Nitrophenol	MG/KG	2 U	1 9 U	1.9 U	2 U
SW8270	4-Nitroquinoline-1-oxide	MG/KG	2 U	1.9 U	1 9 U	2 U
SW8270	5-Nitro-o-toluidine	MG/KG	0.8 U	0.77 U	0 77 U	0.78 U
SW8270	7,12-Dimethylbenzo(a)anthracene	MG/KG	0 8 U	0.77 U	0.77 U	0.78 U
SW8270	Acenaphthene	MG/KG	0.4 U	0 39 U	0.39 U	0.39 U
SW8270	Acenaphthylene	MG/KG	0.4 U	0.39 U	0.39 U	0.39 U
SW8270	Acetophenone	MG/KG	0.8 U	0.77 U	0 77 U	0.78 U
SW8270	alpha, alpha-Dimethylphenethylamine	MG/KG	2 U	1.9 U	1.9 U	2 U
SW8270	Aniline (Phenylamine, Aminobenzene)	MG/KG	0 4 U	0.39 U	0 39 U	0.39 U
SW8270	Anthracene	MG/KG	0.4 U	0.39 U	0.39 U	0.39 U
SW8270	Aramite (total)	MG/KG	0 8 U	0.77 U	0.77 U	0 78 U
SW8270	Benzo(a)anthracene	MG/KG	0 4 U	0.39 U	0 39 U	0.39 U
SW8270	Benzo(a)pyrene	MG/KG	0.4 U	0.39 U	0 39 U	0.39 U
SW8270	Benzo(b)fluoranthene	MG/KG	0.4 U	0 39 U	0 39 U	0 39 U
SW8270	Benzo(g,h,i)perylene	MG/KG	0.4 U	0 39 U	0.39 U	0 39 U
SW8270	Benzo(k)fluoranthene	MG/KG	0.4 U	0.39 U	0 39 U	0.39 U
SW8270	Benzoic acid	MG/KG	2 U	1.9 U	1.9 U	2 U
SW8270	Benzyl alcohol	MG/KG	0 4 U	0.39 U	0.39 U	0.39 U
SW8270	Benzyl butyl phthalate	MG/KG	0 4 U	0.39 U	0 39 U	0.39 U
SW8270	bis(2-Chloroethoxy)methane	MG/KG	0.4 U	0.39 U	0 39 U	0 39 U
SW8270	bis(2-Chloroethyl)ether (2-Chloroethyl ether)	MG/KG	0.4 U	0.39 U	0.39 U	0.39 U
SW8270	bis(2-Ethylhexyl)phthalate	MG/KG	0 4 U	0.39 U	0.39 U	0.39 U
SW8270	Chlorobenzilate	MG/KG	0 4 U	0.39 U	0.39 U	0.39 U
SW8270	Chrysene	MG/KG	0 4 U	0.39 U	0.39 U	0.39 U
SW8270	Cresols, m & p	MG/KG	0 4 U	0 39 U	0.39 U	0.39 U
SW8270	Diallate (total of cis and trans isomers)	MG/KG	0.4 U	0.39 U	0.39 U	0 39 U
SW8270	Dibenz(a,h)anthracene	MG/KG	0.4 U	0 39 U	0.39 U	0 39 U
SW8270	Dibenzofuran	MG/KG	0 4 U	0 39 U	0.39 U	0.39 U
SW8270	Diethyl phthalate	MG/KG	0.4 U	0 39 U	0.39 U	0.39 U
SW8270	Dimethyl phthalate	MG/KG	0.4 U	0.39 U	0.39 U	0 39 U
SW8270	Di-n-butyl phthalate	MG/KG	0.4 U	0.39 U	0.39 U	0 39 U
SW8270	Di-n-octyl phthalate	MG/KG	0.4 U	0.39 U	0 39 U	0 39 U

Table D.1
Phase I Soil Analytical Data
SWMU 11
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU11001-00'	BHGLSWMU11001-05'	BHGLSWMU11001-10'	BHGLSWMU11001-10' Duplicate
SW8270	Dinoseb	MG/KG	0 8 U	0.77 U	0.77 U	0.78 U
SW8270	Diphenylamine	MG/KG	0.4 U	0.39 U	0.39 U	0.39 U
SW8270	Ethyl methanesulfonate	MG/KG	0.8 U	0.77 U	0.77 U	0 78 U
SW8270	Fluoranthene	MG/KG	0.4 U	0.39 U	0.39 U	0.39 U
SW8270	Fluorene	MG/KG	0.4 U	0.39 U	0.39 U	0 39 U
SW8270	Hexachlorobenzene	MG/KG	0.4 U	0.39 U	0.39 U	0.39 U
SW8270	Hexachlorobutadiene	MG/KG	0 4 U	0.39 U	0 39 U	0.39 U
SW8270	Hexachlorocyclopentadiene	MG/KG	0.4 U	0 39 U	0.39 U	0.39 U
SW8270	Hexachloroethane	MG/KG	0 4 U	0.39 U	0.39 U	0.39 U
SW8270	Hexachlorophene	MG/KG	6 U	5 8 U	5.8 U	5 9 U
SW8270	Hexachloropropene	MG/KG	2 U	1 9 U	1.9 U	2 U
SW8270	Indeno(1,2,3-c,d)pyrene	MG/KG	0.4 U	0.39 U	0.39 U	0 39 U
SW8270	Isophorone	MG/KG	0.4 U	0.39 U	0.39 U	0 39 U
SW8270	Isosafrole	MG/KG	0.4 U	0.39 U	0.39 U	0.39 U
SW8270	Methapyrilene	MG/KG	1 U	0.96 U	0.97 U	0.98 U
SW8270	Methyl methanesulfonate	MG/KG	0.4 U	0.39 U	0.39 U	0.39 U
SW8270	Naphthalene	MG/KG	0.4 U	0.39 U	0.39 U	0 39 U
SW8270	Nitrobenzene	MG/KG	0.4 U	0.39 U	0.39 U	0.39 U
SW8270	N-Nitrosodiethylamine	MG/KG	0 8 U	0.77 U	0.77 U	0 78 U
SW8270	N-Nitrosodimethylamine	MG/KG	0.8 U	0.77 U	0.77 U	0.78 U
SW8270	N-Nitrosodi-n-butylamine	MG/KG	0.4 U	0.39 U	0 39 U	0 39 U
SW8270	N-Nitrosodi-n-propylamine	MG/KG	0.4 U	0.39 U	0.39 U	0.39 U
SW8270	N-Nitrosodiphenylamine	MG/KG	0.4 U	0.39 U	0.39 U	0.39 U
SW8270	N-Nitrosomethylethylamine	MG/KG	0.4 U	0.39 U	0.39 U	0.39 U
SW8270	N-Nitrosomorpholine	MG/KG	0.8 U	0.77 U	0.77 U	0.78 U
SW8270	N-Nitrosopiperidine	MG/KG	0.4 U	0 39 U	0 39 U	0.39 U
SW8270	N-Nitrosopyrrolidine	MG/KG	0.8 U	0.77 U	0.77 U	0 78 U
SW8270	o-Toluidine	MG/KG	0.8 U	0.77 U	0.77 U	0.78 U
SW8270	p-Dimethylaminoazobenzene	MG/KG	0.8 U	0.77 U	0.77 U	0 78 U
SW8270	Pentachlorobenzene	MG/KG	0.4 U	0.39 U	0.39 U	0.39 U
SW8270	Pentachloronitrobenzene	MG/KG	0.4 U	0.39 U	0.39 U	0 39 U
SW8270	Pentachlorophenol	MG/KG	2 U	1 9 U	1.9 U	2 U
SW8270	Phenacetin	MG/KG	0.4 U	0.39 U	0.39 U	0 39 U
SW8270	Phenanthrene	MG/KG	0.4 U	0.39 U	0.39 U	0.39 U
SW8270	Phenol	MG/KG	0.4 U	0 39 U	0 39 U	0.39 U
SW8270	p-Phenylenediamine	MG/KG	1 6 U	1.5 U	1.5 U	1.6 U

Table D.1
Phase I Soil Analytical Data
SWMU 11
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU11001-00'	BHGLSWMU11001-05'	BHGLSWMU11001-10'	BHGLSWMU11001-10' Duplicate
SW8270	Pronamide	MG/KG	0 4 U	0.39 U	0.39 U	0 39 U
SW8270	Pyrene	MG/KG	0.4 U	0.39 U	0.39 U	0.39 U
SW8270	Pyridine	MG/KG	0.8 U	0.77 U	0 77 U	0.78 U
SW8270	Safrole	MG/KG	0.4 U	0.39 U	0 39 U	0.39 U
SW9041	pH	PH UNITS	7.7	6.8	7.5	7.4

Data Qualifiers·

J = This analyte was positively identified, but the quantitation is an estimation

U = The analyte was analyzed for, but not detected The associate numerical value is at or below the MQL

F = The analyte was positively identified, but the associated numerical value is below the MQL

R = The data are unusable due to deficiences in the ability to analyze the sample and meet QC criteria.

UJ = The analyte was analyzed for but not detected, the associated value is a MQL, which is estimated due to deficiencies in the QC criteria.

NA = Not analyzed

Table D.1
Phase I Soil Analytical Data
SWMU 11
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU11001-15'	BHGLSWMU11002-00'	BHGLSWMU11002-05'	BHGLSWMU11002-10'
SW6010	Antimony	MG/KG	4.4 UJ	4 UJ	3.8 UJ	3.9 UJ
SW6010	Arsenic	MG/KG	4.7 J	2 9 F	4.4 J	7 1 J
SW6010	Barium	MG/KG	94.5	84.3	49.2	12 7 F
SW6010	Beryllium	MG/KG	0.33 J	0.65	0.6	0.58
SW6010	Cadmium	MG/KG	0.04 F	0.4 U	0.38 U	0.39 U
SW6010	Chromium, total	MG/KG	9 5	9.2	13 4	10 5
SW6010	Cobalt	MG/KG	6.5	4.6 F	4 4 F	5
SW6010	Copper	MG/KG	7.5 F	8.5	6.7 F	9 9
SW6010	Nickel	MG/KG	11.1	7 8 F	8.5	11.4
SW6010	Tin	MG/KG	35 U	32 2 U	30.2 U	31 U
SW6010	Vanadium	MG/KG	16.3 F	24.4	26.1	27 7
SW6010	Zinc	MG/KG	21.6 F	12.9 F	18.7 F	22 2 F
SW7421	Lead	MG/KG	13.1	23.3	15.1	16.4
SW7471	Mercury	MG/KG	0.04 U	0.04 U	0 04 U	0.04 U
SW7740	Selenium	MG/KG	0.24 UJ	0.14 F	0 25 UJ	0.23 UJ
SW7761	Silver	MG/KG	0.16 UJ	0.15 UJ	0.17 UJ	0.15 U
SW7841	Thallium	MG/KG	0.79 U	0.75 U	0.83 U	0 77 U
SW8260	1,1,1,2-Tetrachloroethane	MG/KG	0.003 U	0.003 U	0 003 U	0.003 U
SW8260	1,1,1-Trichloroethane	MG/KG	0.004 U	0.004 U	0 004 U	0 004 U
SW8260	1,1,2,2-Tetrachloroethane	MG/KG	0.002 U	0.002 U	0.002 U	0 002 U
SW8260	1,1,2-Trichloroethane	MG/KG	0.004 U	0 006 U	0 005 U	0.005 U
SW8260	1,1-Dichloroethane	MG/KG	0 002 U	0.002 U	0.002 U	0.002 U
SW8260	1,1-Dichloroethene	MG/KG	0.004 U	0 006 U	0 005 U	0.005 U
SW8260	1,2,3-Trichloropropane	MG/KG	0.004 U	0.006 U	0.005 U	0.005 U
SW8260	1,2-Dibromo-3-chloropropane	MG/KG	0 004 U	0 006 U	0.005 U	0.005 U
SW8260	1,2-Dibromoethane (Ethylene dibromide)	MG/KG	0.003 U	0 003 U	0 003 U	0.003 U
SW8260	1,2-Dichloroethane	MG/KG	0.003 U	0.003 U	0.003 U	0.003 U
SW8260	1,2-Dichloropropane	MG/KG	0.002 U	0.002 U	0 002 U	0 002 U
SW8260	2-Chloro-1,3-butadiene	MG/KG	0.004 U	0.006 U	0.005 U	0.005 U
SW8260	2-Hexanone	MG/KG	0 004 U	0.006 U	0.005 U	0 005 U
SW8260	Acetone	MG/KG	0.004 U	0 006 U	0.005 U	0.005 U
SW8260	Acetonitrile	MG/KG	0 036 U	0.044 U	0.037 U	0.038 U
SW8260	Acrolein	MG/KG	0.091 U	0 11 U	0.094 U	0.096 U
SW8260	Acrylonitrile	MG/KG	0.036 U	0 044 U	0 037 U	0.038 U
SW8260	Allyl chloride (3-Chloropropene)	MG/KG	0.009 U	0.011 U	0.009 U	0 01 U
SW8260	Benzene	MG/KG	0.002 U	0 002 U	0.002 U	0 002 U

Table D.1
Phase I Soil Analytical Data
SWMU 11
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU11001-15'	BHGLSWMU11002-00'	BHGLSWMU11002-05'	BHGLSWMU11002-10'
SW8260	Bromodichloromethane	MG/KG	0 004 U	0.004 U	0.004 U	0.004 U
SW8260	Bromoform	MG/KG	0 004 U	0.006 U	0 005 U	0.005 U
SW8260	Bromomethane	MG/KG	0.004 R	0.006 R	0 005 R	0.005 R
SW8260	Carbon disulfide	MG/KG	0.004 U	0.006 U	0 005 U	0.005 U
SW8260	Carbon tetrachloride	MG/KG	0.004 U	0.006 U	0 005 U	0.005 U
SW8260	Chlorobenzene	MG/KG	0.002 U	0.002 U	0.002 U	0.002 U
SW8260	Chloroethane	MG/KG	0.004 U	0.006 U	0 005 U	0.005 U
SW8260	Chloroform	MG/KG	0 002 U	0.002 U	0 002 U	0 002 U
SW8260	Chloromethane	MG/KG	0 004 U	0 006 U	0 005 U	0.005 U
SW8260	cis-1,2-Dichloroethene	MG/KG	0.004 U	0.006 U	0.005 U	0.005 U
SW8260	cis-1,3-Dichloropropene	MG/KG	0.004 U	0.006 U	0.005 U	0.005 U
SW8260	Dibromochloromethane	MG/KG	0.003 U	0.003 U	0 003 U	0.003 U
SW8260	Dibromomethane	MG/KG	0.004 U	0.006 U	0.005 U	0.005 U
SW8260	Dichlorodifluoromethane	MG/KG	0.004 R	0.006 R	0 005 R	0.005 R
SW8260	Ethyl methacrylate	MG/KG	0 004 U	0.006 U	0 005 U	0.005 U
SW8260	Ethylbenzene	MG/KG	0 003 U	0.003 U	0.003 U	0 003 U
SW8260	Iodomethane (Methyl iodide)	MG/KG	0 004 U	0 006 U	0 005 U	0 005 U
SW8260	Isobutanol	MG/KG	0 18 U	0.22 U	0.19 U	0.19 U
SW8260	m,p-Xylene (sum of isomers)	MG/KG	0 004 R	0.006 R	0 005 R	0.005 R
SW8260	Methyl ethyl ketone (2-Butanone)	MG/KG	0.004 U	0.006 U	0 005 U	0.005 U
SW8260	Methyl isobutyl ketone (4-Methyl-2-pentanone)	MG/KG	0.004 U	0.006 U	0 005 U	0 005 U
SW8260	Methyl methacrylate	MG/KG	0 004 U	0.006 U	0.005 U	0.005 U
SW8260	Methylacrylonitrile	MG/KG	0 004 U	0.006 U	0.005 U	0.005 U
SW8260	Methylene chloride	MG/KG	0 002 U	0.002 U	0.002 U	0 002 U
SW8260	o-Xylene (1,2-Dimethylbenzene)	MG/KG	0 004 U	0.006 U	0.005 U	0.005 U
SW8260	Pentachloroethane	MG/KG	0.004 U	0.006 U	0.005 U	0 005 U
SW8260	Propane nitrile (Propionitrile)	MG/KG	0 018 U	0 022 U	0.019 U	0.019 U
SW8260	Styrene	MG/KG	0 002 R	0.002 R	0.002 R	0 002 R
SW8260	Tetrachloroethene (PCE)	MG/KG	0 004 U	0 006 U	0.005 U	0.005 U
SW8260	Toluene	MG/KG	0 004 U	0.006 U	0.005 U	0.005 U
SW8260	Trans-1,2-Dichloroethene	MG/KG	0.003 U	0.003 U	0.003 U	0 003 U
SW8260	Trans-1,3-Dichloropropene	MG/KG	0 004 U	0.006 U	0.005 U	0.005 U
SW8260	Trans-1,4-Dichloro-2-Butene	MG/KG	0.004 U	0.006 U	0 005 U	0.005 U
SW8260	Trichloroethene (TCE)	MG/KG	0.004 U	0.006 U	0.005 U	0.005 U
SW8260	Vinyl acetate	MG/KG	0 004 U	0 006 U	0 005 U	0.005 U
SW8260	Vinyl chloride	MG/KG	0 004 U	0.006 U	0 005 U	0.005 U

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Table D.1
Phase I Soil Analytical Data
SWMU 11
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU11001-15'	BHGLSWMU11002-00'	BHGLSWMU11002-05'	BHGLSWMU11002-10'
SW8270	1,2,4,5-Tetrachlorobenzene	MG/KG	0.38 U	0.4 U	0.38 U	0.38 U
SW8270	1,2,4-Trichlorobenzene	MG/KG	0.38 U	0.4 U	0.38 U	0 38 U
SW8270	1,2-Dichlorobenzene	MG/KG	0.38 U	0.4 U	0.38 U	0.38 U
SW8270	1,3,5-Trinitrobenzene	MG/KG	1.5 U	1.6 U	1 5 U	1.5 U
SW8270	1,3-Dichlorobenzene	MG/KG	0 38 U	0.4 U	0.38 U	0.38 U
SW8270	1,3-Dinitrobenzene	MG/KG	0.38 U	0.4 U	0.38 U	0.38 U
SW8270	1,4-Dichlorobenzene	MG/KG	0.38 U	0.4 U	0 38 U	0 38 U
SW8270	1,4-Dioxane (p-Dioxane)	MG/KG	1.5 U	1.6 U	1 5 U	1.5 U
SW8270	1,4-Naphthoquinone	MG/KG	1.9 U	2 U	1.9 U	1.9 U
SW8270	1-Naphthylamine	MG/KG	0.75 U	0.8 U	0.76 U	0 76 U
SW8270	2,2'-Oxybis(1-chloropropane)	MG/KG	0.38 U	0.4 U	0.38 U	0.38 U
SW8270	2,3,4,6-Tetrachlorophenol	MG/KG	0.38 U	0.4 U	0.38 U	0.38 U
SW8270	2,4,5-Trichlorophenol	MG/KG	1.9 U	2 U	1.9 U	1.9 U
SW8270	2,4,6-Trichlorophenol	MG/KG	0.38 U	0 4 U	0.38 U	0.38 U
SW8270	2,4-Dichlorophenol	MG/KG	0.38 U	0 4 U	0 38 U	0.38 U
SW8270	2,4-Dimethylphenol	MG/KG	0.38 U	0 4 U	0.38 U	0.38 U
SW8270	2,4-Dinitrophenol	MG/KG	1 9 U	2 U	1.9 U	1 9 U
SW8270	2,4-Dinitrotoluene	MG/KG	0 38 U	0.4 U	0.38 U	0 38 U
SW8270	2,6-Dichlorophenol	MG/KG	0.75 U	0.8 U	0.76 U	0.76 U
SW8270	2,6-Dinitrotoluene	MG/KG	0 38 U	0 4 U	0.38 U	0.38 U
SW8270	2-Acetylaminofluorene	MG/KG	0.75 U	0 8 U	0.76 U	0.76 U
SW8270	2-Aminonaphthalene (beta-Naphthylamine)	MG/KG	0 75 U	0 8 U	0.76 U	0.76 U
SW8270	2-Chloronaphthalene	MG/KG	0.38 U	0 4 U	0.38 U	0.38 U
SW8270	2-Chlorophenol	MG/KG	0.38 U	0.4 U	0.38 U	0.38 U
SW8270	2-Methylnaphthalene	MG/KG	0.38 U	0.4 U	0.38 U	0.38 U
SW8270	2-Methylphenol (o-Cresol)	MG/KG	0.38 U	0.4 U	0.38 U	0.38 U
SW8270	2-Nitroaniline	MG/KG	1.9 U	2 U	1.9 U	1 9 U
SW8270	2-Nitrophenol	MG/KG	0.38 U	0 4 U	0.38 U	0.38 U
SW8270	2-Picoline (alpha-Picoline)	MG/KG	0.38 U	0 4 U	0.38 U	0 38 U
SW8270	3,3'-Dichlorobenzidine	MG/KG	0.75 U	0 8 U	0.76 U	0.76 U
SW8270	3,3'-Dimethylbenzidine	MG/KG	1.9 U	2 U	1.9 U	1 9 U
SW8270	3-Methylcholanthrene	MG/KG	0.38 U	0.4 U	0 38 U	0 38 U
SW8270	3-Nitroaniline	MG/KG	1.9 U	2 U	1.9 U	1.9 U
SW8270	4,6-Dinitro-2-methylphenol	MG/KG	1.9 U	2 U	1.9 U	1.9 U
SW8270	4-Aminobiphenyl (4-Biphenylamine)	MG/KG	0.75 U	0 8 U	0.76 U	0 76 U
SW8270	4-Bromophenyl phenyl ether	MG/KG	0.38 U	0 4 U	0.38 U	0.38 U

Table D.1
Phase I Soil Analytical Data
SWMU 11
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU11001-15'	BHGLSWMU11002-00'	BHGLSWMU11002-05'	BHGLSWMU11002-10'
SW8270	4-Chloro-3-methylphenol	MG/KG	0 75 U	0.8 U	0.76 U	0.76 U
SW8270	4-Chloroaniline	MG/KG	0 75 U	0.8 U	0.76 U	0.76 U
SW8270	4-Chlorophenyl phenyl ether	MG/KG	0.38 U	0.4 U	0.38 U	0.38 U
SW8270	4-Nitroaniline	MG/KG	1.9 U	2 U	1 9 U	1.9 U
SW8270	4-Nitrophenol	MG/KG	1.9 U	2 U	1.9 U	1.9 U
SW8270	4-Nitroquinoline-1-oxide	MG/KG	1.9 U	2 U	1 9 U	1.9 U
SW8270	5-Nitro-o-toluidine	MG/KG	0.75 U	0.8 U	0.76 U	0.76 U
SW8270	7,12-Dimethylbenzo(a)anthracene	MG/KG	0.75 U	0.8 U	0 76 U	0.76 U
SW8270	Acenaphthene	MG/KG	0.38 U	0.4 U	0.38 U	0 38 U
SW8270	Acenaphthylene	MG/KG	0.38 U	0.4 U	0 38 U	0.38 U
SW8270	Acetophenone	MG/KG	0 75 U	0.8 U	0.76 U	0 76 U
SW8270	alpha, alpha-Dimethylphenethylamine	MG/KG	1 9 U	2 U	1 9 U	1.9 U
SW8270	Aniline (Phenylamine, Aminobenzene)	MG/KG	0 38 U	0.4 U	0.38 U	0 38 U
SW8270	Anthracene	MG/KG	0.38 U	0.4 U	0 38 U	0.38 U
SW8270	Aramite (total)	MG/KG	0.75 U	0 8 U	0.76 U	0 76 U
SW8270	Benzo(a)anthracene	MG/KG	0 38 U	0.4 U	0.38 U	0.38 U
SW8270	Benzo(a)pyrene	MG/KG	0 38 U	0.4 U	0 38 U	0.38 U
SW8270	Benzo(b)fluoranthene	MG/KG	0 38 U	0.4 U	0 38 U	0.38 U
SW8270	Benzo(g,h,i)perylene	MG/KG	0 38 U	0.4 U	0 38 U	0.38 U
SW8270	Benzo(k)fluoranthene	MG/KG	0 38 U	0.4 U	0.38 U	0 38 U
SW8270	Benzoic acid	MG/KG	1 9 U	2 U	1 9 U	1.9 U
SW8270	Benzyl alcohol	MG/KG	0.38 U	0.4 U	0.38 U	0 38 U
SW8270	Benzyl butyl phthalate	MG/KG	0.38 U	0.4 U	0 38 U	0.38 U
SW8270	bis(2-Chloroethoxy)methane	MG/KG	0.38 U	0.4 U	0.38 U	0.38 U
SW8270	bis(2-Chloroethyl)ether (2-Chloroethyl ether)	MG/KG	0.38 U	0 4 U	0.38 U	0.38 U
SW8270	bis(2-Ethylhexyl)phthalate	MG/KG	0.38 U	0.4 U	0 38 U	0 38 U
SW8270	Chlorobenzilate	MG/KG	0.38 U	0.4 U	0.38 U	0.38 U
SW8270	Chrysene	MG/KG	0 38 U	0.4 U	0 38 U	0.38 U
SW8270	Cresols, m & p	MG/KG	0.38 U	0.4 U	0.38 U	0 38 U
SW8270	Diallate (total of cis and trans isomers)	MG/KG	0 38 U	0.4 U	0.38 U	0.38 U
SW8270	Dibenz(a,h)anthracene	MG/KG	0.38 U	0 4 U	0 38 U	0.38 U
SW8270	Dibenzofuran	MG/KG	0.38 U	0.4 U	0 38 U	0.38 U
SW8270	Diethyl phthalate	MG/KG	0.38 U	0.4 U	0 38 U	0.38 U
SW8270	Dimethyl phthalate	MG/KG	0.38 U	0.4 U	0.38 U	0.38 U
SW8270	Di-n-butyl phthalate	MG/KG	0.38 U	0.4 U	0.38 U	0.38 U
SW8270	Di-n-octyl phthalate	MG/KG	0.38 U	0.4 U	0.38 U	0 38 U

Table D.1
Phase I Soil Analytical Data
SWMU 11
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU11001-15'	BHGLSWMU11002-00'	BHGLSWMU11002-05'	BHGLSWMU11002-10'
SW8270	Dinoseb	MG/KG	0.75 U	0.8 U	0 76 U	0.76 U
SW8270	Diphenylamine	MG/KG	0.38 U	0.4 U	0.38 U	0 38 U
SW8270	Ethyl methanesulfonate	MG/KG	0.75 U	0.8 U	0.76 U	0 76 U
SW8270	Fluoranthene	MG/KG	0.38 U	0 4 U	0.38 U	0 38 U
SW8270	Fluorene	MG/KG	0.38 U	0.4 U	0.38 U	0.38 U
SW8270	Hexachlorobenzene	MG/KG	0.38 U	0.4 U	0.38 U	0.38 U
SW8270	Hexachlorobutadiene	MG/KG	0.38 U	0.4 U	0 38 U	0 38 U
SW8270	Hexachlorocyclopentadiene	MG/KG	0 38 U	0.4 U	0 38 U	0.38 U
SW8270	Hexachloroethane	MG/KG	0.38 U	0.4 U	0.38 U	0.38 U
SW8270	Hexachlorophene	MG/KG	5.6 U	6 U	5.7 U	5.7 U
SW8270	Hexachloropropene	MG/KG	1.9 U	2 U	1.9 U	1.9 U
SW8270	Indeno(1,2,3-c,d)pyrene	MG/KG	0.38 U	0.4 U	0.38 U	0.38 U
SW8270	Isophorone	MG/KG	0.38 U	0.4 U	0.38 U	0.38 U
SW8270	Isosafrole	MG/KG	0.38 U	0 4 U	0.38 U	0 38 U
SW8270	Methapyrilene	MG/KG	0.94 U	1 U	0.95 U	0.95 U
SW8270	Methyl methanesulfonate	MG/KG	0.38 U	0.4 U	0.38 U	0.38 U
SW8270	Naphthalene	MG/KG	0.38 U	0 4 U	0.38 U	0.38 U
SW8270	Nitrobenzene	MG/KG	0.38 U	0 4 U	0.38 U	0 38 U
SW8270	N-Nitrosodiethylamine	MG/KG	0.75 U	0.8 U	0.76 U	0.76 U
SW8270	N-Nitrosodimethylamine	MG/KG	0 75 U	0.8 U	0.76 U	0.76 U
SW8270	N-Nitrosodi-n-butylamine	MG/KG	0 38 U	0 4 U	0.38 U	0.38 U
SW8270	N-Nitrosodi-n-propylamine	MG/KG	0.38 U	0.4 U	0.38 U	0.38 U
SW8270	N-Nitrosodiphenylamine	MG/KG	0 38 U	0.4 U	0 38 U	0.38 U
SW8270	N-Nitrosomethylethylamine	MG/KG	0.38 U	0 4 U	0.38 U	0 38 U
SW8270	N-Nitrosomorpholine	MG/KG	0 75 U	0 8 U	0.76 U	0.76 U
SW8270	N-Nitrosopiperidine	MG/KG	0 38 U	0.4 U	0.38 U	0.38 U
SW8270	N-Nitrosopyrrolidine	MG/KG	0.75 U	0.8 U	0.76 U	0.76 U
SW8270	o-Toluidine	MG/KG	0.75 U	0 8 U	0.76 U	0.76 U
SW8270	p-Dimethylaminoazobenzene	MG/KG	0 75 U	0.8 U	0.76 U	0.76 U
SW8270	Pentachlorobenzene	MG/KG	0.38 U	0.4 U	0.38 U	0.38 U
SW8270	Pentachloronitrobenzene	MG/KG	0 38 U	0.4 U	0.38 U	0.38 U
SW8270	Pentachlorophenol	MG/KG	1.9 U	2 U	1.9 U	1.9 U
SW8270	Phenacetin	MG/KG	0.38 U	0.4 U	0.38 U	0.38 U
SW8270	Phenanthrene	MG/KG	0.38 U	0 4 U	0.38 U	0.38 U
SW8270	Phenol	MG/KG	0.38 U	0.4 U	0.38 U	0 38 U
SW8270	p-Phenylenediamine	MG/KG	1.5 U	1.6 U	1.5 U	1.5 U

Table D.1
Phase I Soil Analytical Data
SWMU 11
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU11001-15'	BHGLSWMU11002-00'	BHGLSWMU11002-05'	BHGLSWMU11002-10'
SW8270	Pronamide	MG/KG	0.38 U	0 4 U	0.38 U	0.38 U
SW8270	Pyrene	MG/KG	0.38 U	0 4 U	0.38 U	0.38 U
SW8270	Pyridine	MG/KG	0.75 U	0 8 U	0 76 U	0.76 U
SW8270	Safrole	MG/KG	0 38 U	0.4 U	0.38 U	0.38 U
SW9041	pH	PH UNITS	8.5	7.8	7 2	9.2

Data Qualifiers.

J = This analyte was positively identified, but the quantitation is an estimation

U = The analyte was analyzed for, but not detected. The associate numerical value is at or below the MQL.

F = The analyte was positively identified, but the associated numerical value is below the MQL

R = The data are unusable due to deficiences in the ability to analyze the sample and meet QC criteria

UJ = The analyte was analyzed for but not detected, the associated value is a MQL, which is estimated due to deficiencies in the QC criteria.

NA = Not analyzed

Table D.2
Phase I Soil Analytical Data
SWMU 32
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU32001-00'	BHGLSWMU32001-00' Duplicate	BHGLSWMU32001-05'	BHGLSWMU32001-10'
SW6010	Antimony	MG/KG	3 9 UJ	3.6 UJ	4 UJ	3 9 UJ
SW6010	Arsenic	MG/KG	2.8 F	1.7 F	2.3 F	2 2 F
SW6010	Barium	MG/KG	68.6	86.1	74.1	47.7
SW6010	Beryllium	MG/KG	0.41	0 65	0.66	0.5
SW6010	Cadmium	MG/KG	0.61 J	0 08 F	0.14 F	0.4 U
SW6010	Chromium, total	MG/KG	12 J	9 8 J	11.7 J	6.7 F
SW6010	Cobalt	MG/KG	4.7	4 F	6	3 8 F
SW6010	Copper	MG/KG	6.5 F	7.1 F	6.4 F	6 2 F
SW6010	Lead	MG/KG	10.8	9.4	9.1	8 3
SW6010	Nickel	MG/KG	7.2 F	6.6 F	8.8	5 2 F
SW6010	Tin	MG/KG	30.8 U	29 U	32 U	31.3 U
SW6010	Vanadium	MG/KG	19 6 F	17.4 F	22.6 F	17.5 F
SW6010	Zinc	MG/KG	24 3 J	15.5 F	19 F	11.2 F
SW7471	Mercury	MG/KG	0.04 U	0 04 U	0.04 U	0.04 U
SW7740	Selenium	MG/KG	0 23 UJ	0 15 F	0.23 UJ	0.24 U
SW7761	Silver	MG/KG	0.15 UJ	0 11 F	0 11 F	0.14 F
SW7841	Thallium	MG/KG	0.75 UJ	0.79 U	0.76 U	0 79 U
SW8260	1,1,1,2-Tetrachloroethane	MG/KG	0.003 U	0.004 U	0 003 U	0 003 U
SW8260	1,1,1-Trichloroethane	MG/KG	0.004 U	0.005 U	0.004 U	0.004 U
SW8260	1,1,2,2-Tetrachloroethane	MG/KG	0.002 U	0 003 U	0.002 U	0.002 U
SW8260	1,1,2-Trichloroethane	MG/KG	0 006 U	0.007 U	0.005 U	0.005 U
SW8260	1,1-Dichloroethane	MG/KG	0.002 U	0.003 U	0.002 U	0.002 U
SW8260	1,1-Dichloroethene	MG/KG	0.006 U	0.007 U	0.005 U	0.005 U
SW8260	1,2,3-Trichloropropane	MG/KG	0 006 U	0 007 U	0.005 U	0.005 U
SW8260	1,2-Dibromo-3-chloropropane	MG/KG	0.006 U	0 007 U	0.005 U	0.005 U
SW8260	1,2-Dibromoethane (Ethylene dibromide)	MG/KG	0.003 U	0 004 U	0.003 U	0.003 U
SW8260	1,2-Dichloroethane	MG/KG	0.003 U	0 004 U	0.003 U	0.003 U
SW8260	1,2-Dichloropropane	MG/KG	0.002 U	0 003 U	0.002 U	0.002 U
SW8260	2-Chloro-1,3-butadiene	MG/KG	0.006 U	0 007 U	0.005 U	0.005 U
SW8260	2-Hexanone	MG/KG	0.006 U	0 007 U	0 005 U	0.005 U
SW8260	Acetone	MG/KG	0.006 U	0 007 U	0.005 U	0.005 U
SW8260	Acetonitrile	MG/KG	0.045 U	0.053 U	0.04 U	0.037 U
SW8260	Acrolein	MG/KG	0 11 U	0.13 U	0.099 U	0.093 U
SW8260	Acrylonitrile	MG/KG	0.045 U	0.053 U	0.04 U	0.037 U
SW8260	Allyl chloride (3-Chloropropene)	MG/KG	0 011 U	0.013 U	0 01 U	0 009 U
SW8260	Benzene	MG/KG	0.002 U	0 003 U	0.002 U	0 002 U

Table D.2
Phase I Soil Analytical Data
SWMU 32
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU32001-00'	BHGLSWMU32001-00' Duplicate	BHGLSWMU32001-05'	BHGLSWMU32001-10'
SW8260	Bromodichloromethane	MG/KG	0 004 U	0.005 U	0 004 U	0.004 U
SW8260	Bromoform	MG/KG	0 006 U	0.007 U	0.005 U	0.005 U
SW8260	Bromomethane	MG/KG	0.006 U	0.007 U	0 005 U	0.005 U
SW8260	Carbon disulfide	MG/KG	0.006 U	0.007 U	0.005 U	0.005 U
SW8260	Carbon tetrachloride	MG/KG	0.006 U	0 007 U	0.005 U	0 005 U
SW8260	Chlorobenzene	MG/KG	0.002 U	0 003 U	0.002 U	0 002 U
SW8260	Chloroethane	MG/KG	0 006 U	0.007 U	0.005 U	0.005 U
SW8260	Chloroform	MG/KG	0.002 U	0 003 U	0.002 U	0 002 U
SW8260	Chloromethane	MG/KG	0.006 U	0.007 U	0.005 U	0.005 U
SW8260	cis-1,2-Dichloroethene	MG/KG	0 006 U	0.007 U	0 005 U	0 005 U
SW8260	cis-1,3-Dichloropropene	MG/KG	0 006 U	0.007 U	0.005 U	0.005 U
SW8260	Dibromochloromethane	MG/KG	0 003 U	0.004 U	0 003 U	0.003 U
SW8260	Dibromomethane	MG/KG	0 006 U	0.007 U	0.005 U	0.005 U
SW8260	Dichlorodifluoromethane	MG/KG	0.006 U	0.007 R	0 005 U	0 005 U
SW8260	Ethyl methacrylate	MG/KG	0.006 U	0.007 U	0.005 U	0.005 U
SW8260	Ethylbenzene	MG/KG	0 007 J	0.01 J	0 003 U	0.003 U
SW8260	Iodomethane (Methyl iodide)	MG/KG	0 006 U	0.007 U	0.005 U	0.005 U
SW8260	Isobutanol	MG/KG	0.22 U	0.26 U	0.2 U	0 18 U
SW8260	m,p-Xylene (sum of isomers)	MG/KG	0 006 U	0 007 U	0.005 U	0.005 U
SW8260	Methyl ethyl ketone (2-Butanone)	MG/KG	0 006 U	0.007 U	0.005 U	0.005 U
SW8260	Methyl isobutyl ketone (4-Methyl-2-pentanone)	MG/KG	0.006 U	0.007 U	0.005 U	0.005 U
SW8260	Methyl methacrylate	MG/KG	0.006 U	0.007 U	0.005 U	0.005 U
SW8260	Methylacrylonitrile	MG/KG	0.006 U	0.007 U	0.005 U	0.005 U
SW8260	Methylene chloride	MG/KG	0 002 U	0.003 U	0.002 U	0.002 U
SW8260	o-Xylene (1,2-Dimethylbenzene)	MG/KG	0.006 U	0.007 U	0.005 U	0.005 U
SW8260	Pentachloroethane	MG/KG	0 006 U	0 007 U	0.005 U	0.005 U
SW8260	Propane nitrile (Propionitrile)	MG/KG	0.022 U	0.026 U	0.02 U	0 018 U
SW8260	Styrene	MG/KG	0.002 U	0.003 U	0.002 U	0.002 U
SW8260	Tetrachloroethene (PCE)	MG/KG	0.006 U	0.007 U	0.005 U	0.005 U
SW8260	Toluene	MG/KG	0 006 U	0.007 U	0.005 U	0 005 U
SW8260	Trans-1,2-Dichloroethene	MG/KG	0.003 U	0.004 U	0 003 U	0 003 U
SW8260	Trans-1,3-Dichloropropene	MG/KG	0.006 U	0.007 U	0.005 U	0 005 U
SW8260	Trans-1,4-Dichloro-2-Butene	MG/KG	0.006 U	0 007 U	0 005 U	0 005 U
SW8260	Trichloroethene (TCE)	MG/KG	0.006 U	0 007 U	0.005 U	0 005 U
SW8260	Vinyl acetate	MG/KG	0.006 U	0.007 U	0 005 U	0 005 U
SW8260	Vinyl chloride	MG/KG	0.006 U	0.007 U	0.005 U	0.005 U

Table D.2
Phase I Soil Analytical Data
SWMU 32
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU32001-00'	BHGLSWMU32001-00' Duplicate	BHGLSWMU32001-05'	BHGLSWMU32001-10'
SW8270	1,2,4,5-Tetrachlorobenzene	MG/KG	0.38 U	0.4 U	0.41 U	0 39 U
SW8270	1,2,4-Trichlorobenzene	MG/KG	0.38 U	0 4 U	0.41 U	0 39 U
SW8270	1,2-Dichlorobenzene	MG/KG	0.38 U	0 4 U	0.41 U	0 39 U
SW8270	1,3,5-Trinitrobenzene	MG/KG	1.5 U	1 6 U	1.6 U	1 6 U
SW8270	1,3-Dichlorobenzene	MG/KG	0.38 U	0 4 U	0.41 U	0 39 U
SW8270	1,3-Dinitrobenzene	MG/KG	0.38 U	0.4 U	0.41 U	0 39 U
SW8270	1,4-Dichlorobenzene	MG/KG	0.38 U	0 4 U	0.41 U	0.39 U
SW8270	1,4-Dioxane (p-Dioxane)	MG/KG	1.5 U	1 6 U	1.6 U	1 6 U
SW8270	1,4-Naphthoquinone	MG/KG	1.9 U	2 U	2 U	1.9 U
SW8270	1-Naphthylamine	MG/KG	0.77 U	0 79 U	0.81 U	0 78 U
SW8270	2,2'-Oxybis(1-chloropropane)	MG/KG	0.38 U	0 4 R	0.41 U	0 39 U
SW8270	2,3,4,6-Tetrachlorophenol	MG/KG	0.38 U	0.4 U	0.41 U	0.39 U
SW8270	2,4,5-Trichlorophenol	MG/KG	1.9 U	2 U	2 U	1.9 U
SW8270	2,4,6-Trichlorophenol	MG/KG	0.38 U	0.4 U	0.41 U	0.39 U
SW8270	2,4-Dichlorophenol	MG/KG	0.38 U	0.4 U	0.41 U	0.39 U
SW8270	2,4-Dimethylphenol	MG/KG	0.38 U	0.4 U	0.41 U	0.39 U
SW8270	2,4-Dinitrophenol	MG/KG	1 9 U	2 U	2 U	1.9 U
SW8270	2,4-Dinitrotoluene	MG/KG	0.38 U	0.4 U	0.41 U	0.39 U
SW8270	2,6-Dichlorophenol	MG/KG	0.77 U	0.79 U	0.81 U	0.78 U
SW8270	2,6-Dinitrotoluene	MG/KG	0.38 U	0 4 U	0.41 U	0 39 U
SW8270	2-Acetylaminofluorene	MG/KG	0.77 U	0 79 U	0.81 U	0 78 U
SW8270	2-Aminonaphthalene (beta-Naphthylamine)	MG/KG	0.77 U	0.79 U	0.81 U	0.78 U
SW8270	2-Chloronaphthalene	MG/KG	0.38 U	0 4 U	0.41 U	0 39 U
SW8270	2-Chlorophenol	MG/KG	0.38 U	0.4 U	0.41 U	0.39 U
SW8270	2-Methylnaphthalene	MG/KG	0.38 U	0.4 U	0.41 U	0 39 U
SW8270	2-Methylphenol (o-Cresol)	MG/KG	0.38 U	0.4 U	0.41 U	0.39 U
SW8270	2-Nitroaniline	MG/KG	1.9 U	2 U	2 U	1 9 U
SW8270	2-Nitrophenol	MG/KG	0.38 U	0 4 U	0.41 U	0 39 U
SW8270	2-Picoline (alpha-Picoline)	MG/KG	0.38 U	0 4 U	0.41 U	0.39 U
SW8270	3,3'-Dichlorobenzidine	MG/KG	0 77 U	0.79 U	0.81 U	0.78 U
SW8270	3,3'-Dimethylbenzidine	MG/KG	1.9 U	2 U	2 U	1.9 U
SW8270	3-Methylcholanthrene	MG/KG	0.38 U	0.4 U	0 41 U	0.39 U
SW8270	3-Nitroaniline	MG/KG	1.9 U	2 U	2 U	1.9 U
SW8270	4,6-Dinitro-2-methylphenol	MG/KG	1.9 U	2 U	2 U	1.9 U
SW8270	4-Aminobiphenyl (4-Biphenylamine)	MG/KG	0.77 U	0.79 U	0.81 U	0.78 U
SW8270	4-Bromophenyl phenyl ether	MG/KG	0.38 U	0.4 U	0 41 U	0.39 U

Table D.2
Phase I Soil Analytical Data
SWMU 32
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU32001-00'	BHGLSWMU32001-00' Duplicate	BHGLSWMU32001-05'	BHGLSWMU32001-10'
SW8270	4-Chloro-3-methylphenol	MG/KG	0.77 U	0.79 U	0.81 U	0 78 U
SW8270	4-Chloroaniline	MG/KG	0.77 U	0.79 U	0.81 U	0.78 U
SW8270	4-Chlorophenyl phenyl ether	MG/KG	0.38 U	0.4 U	0 41 U	0.39 U
SW8270	4-Nitroaniline	MG/KG	1.9 U	2 U	2 U	1.9 U
SW8270	4-Nitrophenol	MG/KG	1.9 U	2 U	2 U	1.9 U
SW8270	4-Nitroquinoline-1-oxide	MG/KG	1.9 U	2 U	2 U	1.9 U
SW8270	5-Nitro-o-toluidine	MG/KG	0.77 U	0.79 U	0.81 U	0.78 U
SW8270	7,12-Dimethylbenzo(a)anthracene	MG/KG	0.77 U	0.79 U	0.81 U	0 78 U
SW8270	Acenaphthene	MG/KG	0.38 U	0.4 U	0.41 U	0.39 U
SW8270	Acenaphthylene	MG/KG	0 38 U	0.4 U	0 41 U	0.39 U
SW8270	Acetophenone	MG/KG	0 77 U	0.79 U	0.81 U	0.78 U
SW8270	alpha, alpha-Dimethylphenethylamine	MG/KG	1.9 U	2 U	2 U	1.9 U
SW8270	Aniline (Phenylamine, Aminobenzene)	MG/KG	0.38 U	0 4 U	0.41 U	0.39 U
SW8270	Anthracene	MG/KG	0.38 U	0 4 U	0.41 U	0.39 U
SW8270	Aramite (total)	MG/KG	0.77 U	0.79 U	0.81 U	0.78 U
SW8270	Benzo(a)anthracene	MG/KG	0.38 U	0 4 U	0.41 U	0.39 U
SW8270	Benzo(a)pyrene	MG/KG	0.38 U	0 4 U	0.41 U	0.39 U
SW8270	Benzo(b)fluoranthene	MG/KG	0.38 U	0.4 U	0.41 U	0.39 U
SW8270	Benzo(g,h,i)perylene	MG/KG	0.38 U	0 4 U	0.41 U	0.39 U
SW8270	Benzo(k)fluoranthene	MG/KG	0.38 U	0 4 U	0.41 U	0.39 U
SW8270	Benzoic acid	MG/KG	1.9 U	2 U	2 U	1.9 U
SW8270	Benzyl alcohol	MG/KG	0.38 U	0.4 U	0 41 U	0.39 U
SW8270	Benzyl butyl phthalate	MG/KG	0.38 U	0 4 U	0.41 U	0 39 U
SW8270	bis(2-Chloroethoxy)methane	MG/KG	0 38 U	0.4 U	0.41 U	0.39 U
SW8270	bis(2-Chloroethyl)ether (2-Chloroethyl ether)	MG/KG	0 38 U	0.4 U	0.41 U	0.39 U
SW8270	bis(2-Ethylhexyl)phthalate	MG/KG	0.38 U	0 4 U	0.41 U	0.39 U
SW8270	Chlorobenzilate	MG/KG	0 38 U	0 4 U	0 41 U	0.39 U
SW8270	Chrysene	MG/KG	0.38 U	0 4 U	0 41 U	0.39 U
SW8270	Cresols, m & p	MG/KG	0.38 U	0.4 U	0.41 U	0.39 U
SW8270	Diallate (total of cis and trans isomers)	MG/KG	0.38 U	0 4 U	0 41 U	0.39 U
SW8270	Dibenz(a,h)anthracene	MG/KG	0.38 U	0.4 U	0.41 U	0.39 U
SW8270	Dibenzofuran	MG/KG	0.38 U	0.4 U	0.41 U	0 39 U
SW8270	Diethyl phthalate	MG/KG	0 38 U	0 4 U	0.41 U	0.39 U
SW8270	Dimethyl phthalate	MG/KG	0 38 U	0 4 U	0.41 U	0.39 U
SW8270	Di-n-butyl phthalate	MG/KG	0.38 U	0 4 U	0.41 U	0.39 U
SW8270	Di-n-octyl phthalate	MG/KG	0.38 U	0 4 U	0.41 U	0.39 U

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Table D.2
Phase I Soil Analytical Data
SWMU 32
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU32001-00'	BHGLSWMU32001-00' Duplicate	BHGLSWMU32001-05'	BHGLSWMU32001-10'
SW8270	Dinoseb	MG/KG	0.77 U	0 79 U	0.81 U	0.78 U
SW8270	Diphenylamine	MG/KG	0 38 U	0 4 U	0 41 U	0.39 U
SW8270	Ethyl methanesulfonate	MG/KG	0.77 U	0 79 U	0.81 U	0.78 U
SW8270	Fluoranthene	MG/KG	0.38 U	0.4 U	0.41 U	0.39 U
SW8270	Fluorene	MG/KG	0.38 U	0.4 U	0.41 U	0 39 U
SW8270	Hexachlorobenzene	MG/KG	0 38 U	0.4 U	0.41 U	0.39 U
SW8270	Hexachlorobutadiene	MG/KG	0.38 U	0 4 U	0.41 U	0.39 U
SW8270	Hexachlorocyclopentadiene	MG/KG	0.38 U	0,4 U	0 41 U	0.39 U
SW8270	Hexachloroethane	MG/KG	0 38 U	0 4 U	0.41 U	0.39 U
SW8270	Hexachlorophene	MG/KG	5.8 U	6 U	6.1 U	5.8 U
SW8270	Hexachloropropene	MG/KG	1 9 U	2 U	2 U	1.9 U
SW8270	Indeno(1,2,3-c,d)pyrene	MG/KG	0.38 U	0.4 U	0.41 U	0.39 U
SW8270	Isophorone	MG/KG	0.38 U	0.4 U	0.41 U	0 39 U
SW8270	Isosafrole	MG/KG	0.38 U	0.4 U	0.41 U	0.39 U
SW8270	Methapyrilene	MG/KG	0.96 U	0.99 U	1 U	0.97 U
SW8270	Methyl methanesulfonate	MG/KG	0.38 U	0.4 U	0.41 U	0.39 U
SW8270	Naphthalene	MG/KG	0.38 U	0 4 U	0.41 U	0.39 U
SW8270	Nitrobenzene	MG/KG	0.38 U	0.4 U	0 41 U	0 39 U
SW8270	N-Nitrosodiethylamine	MG/KG	0.77 U	0.79 U	0 81 U	0.78 U
SW8270	N-Nitrosodimethylamine	MG/KG	0.77 R	0.79 R	0.81 R	0.78 R
SW8270	N-Nitrosodi-n-butylamine	MG/KG	0.38 U	0.4 U	0.41 U	0.39 U
SW8270	N-Nitrosodi-n-propylamine	MG/KG	0.38 U	0.4 U	0.41 U	0.39 U
SW8270	N-Nitrosodiphenylamine	MG/KG	0.38 U	0.4 U	0 41 U	0.39 U
SW8270	N-Nitrosomethylethylamine	MG/KG	0.38 U	0.4 U	0.41 U	0 39 U
SW8270	N-Nitrosomorpholine	MG/KG	0 77 U	0.79 U	0 81 U	0.78 U
SW8270	N-Nitrosopiperidine	MG/KG	0.38 U	0.4 U	0.41 U	0 39 U
SW8270	N-Nitrosopyrrolidine	MG/KG	0 77 U	0.79 U	0 81 U	0.78 U
SW8270	o-Toluidine	MG/KG	0.77 U	0.79 U	0.81 U	0 78 U
SW8270	p-Dimethylaminoazobenzene	MG/KG	0 77 U	0.79 U	0 81 U	0.78 U
SW8270	Pentachlorobenzene	MG/KG	0.38 U	0.4 U	0 41 U	0 39 U
SW8270	Pentachloronitrobenzene	MG/KG	0 38 U	0.4 U	0 41 U	0.39 U
SW8270	Pentachlorophenol	MG/KG	1 9 U	2 U	2 U	1.9 U
SW8270	Phenacetin	MG/KG	0.38 U	0.4 U	0.41 U	0.39 U
SW8270	Phenanthrene	MG/KG	0 38 U	0.4 U	0 41 U	0.39 U
SW8270	Phenol	MG/KG	0.38 U	0 4 U	0.41 U	0.39 U
SW8270	p-Phenylenediamine	MG/KG	1.5 U	1.6 U	1.6 U	1.6 U

Table D.2
Phase I Soil Analytical Data
SWMU 32
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU32001-00'	BHGLSWMU32001-00' Duplicate	BHGLSWMU32001-05'	BHGLSWMU32001-10'
SW8270	Pronamide	MG/KG	0 38 U	0 4 U	0.41 U	0.39 U
SW8270	Pyrene	MG/KG	0 38 U	0 4 U	0 41 U	0 39 U
SW8270	Pyridine	MG/KG	0.77 R	0.79 R	0 81 R	0.78 R
SW8270	Safrole	MG/KG	0.38 U	0.4 U	0 41 U	0 39 U
SW9045	pH	PH UNITS	8 8	9	8.1	7.2
TX1005	Petroleum Hydrocarbons, Gasoline (C6 - C10)	MG/KG	3.6 F	66 UJ	3.7 F	3 6 F
TX1005	Petroleum Hydrocarbons, Heavy/Residual Fuel	MG/KG	8.2 F	66 UJ	48 F	27 F
TX1005	Petroleum Hydrocarbons, total (C6 - C28)	MG/KG	12 F	66 UJ	52 F	31 F

Data Qualifiers

J = This analyte was positively identified, but the quantitation is an estimation

U = The analyte was analyzed for, but not detected The associate numerical value is at or below the MQL

F = The analyte was positively identified, but the associated numerical value is below the MQL

R = The data are unusable due to deficiences in the ability to analyze the sample and meet QC criteria.

UJ = The analyte was analyzed for but not detected, the associated value is a MQL, which is estimated due to deficiencies in the QC criteria

NA = Not analyzed

Table D.2
Phase I Soil Analytical Data
SWMU 32
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU32001-15"	BHGLSWMU32002-00'	BHGLSWMU32002-05'	BHGLSWMU32002-10'
SW6010	Antimony	MG/KG	3.5 UJ	3 9 UJ	3.7 UJ	4 UJ
SW6010	Arsenic	MG/KG	2.2 F	4.4 J	2.2 F	2.7 F
SW6010	Barium	MG/KG	44.7	93.2	86	78 7
SW6010	Beryllium	MG/KG	0.29	0 78	0.65	0.57
SW6010	Cadmium	MG/KG	0.09 F	0 32 F	0.37 U	0.09 F
SW6010	Chromium, total	MG/KG	5.3 F	12 J	7 6 J	7.8 F
SW6010	Cobalt	MG/KG	3 F	5.6	4.1 F	4 8 F
SW6010	Copper	MG/KG	3 6 F	8.4 J	6.6 F	13 J
SW6010	Lead	MG/KG	5.7	16.3	8 3	9 8
SW6010	Nickel	MG/KG	5.5 F	10.6	6 5 F	7 6 F
SW6010	Tin	MG/KG	28.3 U	31.4 U	29.6 U	32 U
SW6010	Vanadium	MG/KG	12.5 F	25 J	18.2 F	15.4 F
SW6010	Zinc	MG/KG	9 F	19.6 F	11.8 F	11 F
SW7471	Mercury	MG/KG	0.04 U	0.04 U	0.04 U	0.04 U
SW7740	Selenium	MG/KG	0.21 U	0.23 UJ	0.25 UJ	0.22 UJ
SW7761	Silver	MG/KG	0.09 F	0 08 F	0.12 F	0 12 F
SW7841	Thallium	MG/KG	0.71 U	0.76 UJ	0 82 U	0.72 U
SW8260	1,1,1,2-Tetrachloroethane	MG/KG	0.003 U	0.003 U	0.003 U	0 003 U
SW8260	1,1,1-Trichloroethane	MG/KG	0.004 U	0.004 U	0.004 U	0 004 U
SW8260	1,1,2,2-Tetrachloroethane	MG/KG	0.002 U	0.002 U	0.002 U	0.002 U
SW8260	1,1,2-Trichloroethane	MG/KG	0.004 U	0.005 U	0.005 U	0 005 U
SW8260	1,1-Dichloroethane	MG/KG	0.002 U	0 02	0 002 U	0 002 U
SW8260	1,1-Dichloroethene	MG/KG	0.004 U	0.005 U	0 005 U	0.005 U
SW8260	1,2,3-Trichloropropane	MG/KG	0.004 U	0.005 U	0.005 U	0 005 U
SW8260	1,2-Dibromo-3-chloropropane	MG/KG	0.004 U	0 005 U	0 005 U	0.005 U
SW8260	1,2-Dibromoethane (Ethylene dibromide)	MG/KG	0.003 U	0 003 U	0 003 U	0 003 U
SW8260	1,2-Dichloroethane	MG/KG	0 003 U	0.003 U	0.003 U	0 003 U
SW8260	1,2-Dichloropropane	MG/KG	0.002 U	0 002 U	0.002 U	0.002 U
SW8260	2-Chloro-1,3-butadiene	MG/KG	0.004 U	0 005 U	0 005 U	0 005 U
SW8260	2-Hexanone	MG/KG	0 004 U	0.005 U	0.005 U	0 005 U
SW8260	Acetone	MG/KG	0 004 U	0.005 U	0 015	0 015
SW8260	Acetonitrile	MG/KG	0.036 U	0 042 U	0 039 U	0 044 U
SW8260	Acrolein	MG/KG	0 091 U	0 1 U	0.099 U	0.11 U
SW8260	Acrylonitrile	MG/KG	0.036 U	0.042 U	0 039 U	0.044 U
SW8260	Allyl chloride (3-Chloropropene)	MG/KG	0 009 U	0.01 U	0 01 U	0 011 U
SW8260	Benzene	MG/KG	0.002 U	0.002 U	0 002 U	0 002

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Table D.2
Phase I Soil Analytical Data
SWMU 32
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU32001-15'	BHGLSWMU32002-00'	BHGLSWMU32002-05'	BHGLSWMU32002-10'
SW8260	Bromodichloromethane	MG/KG	0.004 U	0 004 U	0.004 U	0.004 U
SW8260	Bromoform	MG/KG	0.004 U	0.005 U	0 005 U	0.005 U
SW8260	Bromomethane	MG/KG	0.004 U	0.005 U	0.005 U	0.005 U
SW8260	Carbon disulfide	MG/KG	0.004 U	0.005 U	0 005 U	0.005 U
SW8260	Carbon tetrachloride	MG/KG	0.004 U	0 005 U	0.005 U	0.005 U
SW8260	Chlorobenzene	MG/KG	0.002 U	0.002 U	0.009	0.014
SW8260	Chloroethane	MG/KG	0.004 U	0.005 U	0 005 U	0 005 U
SW8260	Chloroform	MG/KG	0.002 U	0.002 U	0.002 U	0.002 U
SW8260	Chloromethane	MG/KG	0.004 U	0.005 U	0.005 U	0.005 U
SW8260	cis-1,2-Dichloroethene	MG/KG	0.004 U	0.005 U	0.005 U	0 005 U
SW8260	cis-1,3-Dichloropropene	MG/KG	0.004 U	0.005 U	0 005 U	0.005 U
SW8260	Dibromochloromethane	MG/KG	0.003 U	0 003 U	0.003 U	0.003 U
SW8260	Dibromomethane	MG/KG	0.004 U	0.005 U	0 005 U	0 005 U
SW8260	Dichlorodifluoromethane	MG/KG	0 004 U	0 005 U	0.005 R	
SW8260	Ethyl methacrylate	MG/KG	0.004 U	0.005 U	0.005 U	0 005 U
SW8260	Ethylbenzene	MG/KG	0 003 U	0.005	0.003 U	0.003 U
SW8260	Iodomethane (Methyl iodide)	MG/KG	0.004 U	0 005 U	0.005 U	0.005 U
SW8260	Isobutanol	MG/KG	0 18 U	0.21 U	0.2 U	0.22 U
SW8260	m,p-Xylene (sum of isomers)	MG/KG	0 004 U	0.005 U	0 005 U	0.005 U
SW8260	Methyl ethyl ketone (2-Butanone)	MG/KG	0.004 U	0.005 U	0.005 U	0.005 U
SW8260	Methyl isobutyl ketone (4-Methyl-2-pentanone)	MG/KG	0.004 U	0.005 U	0 005 U	0.005 U
SW8260	Methyl methacrylate	MG/KG	0.004 U	0 005 U	0.005 U	0.005 U
SW8260	Methylacrylonitrile	MG/KG	0.004 U	0.005 U	0.005 U	0 005 U
SW8260	Methylene chloride	MG/KG	0 002 U	0.002 U	0.002 U	0.002 U
SW8260	o-Xylene (1,2-Dimethylbenzene)	MG/KG	0.004 U	0.005 U	0.005 U	0.005 U
SW8260	Pentachloroethane	MG/KG	0.004 U	0.005 U	0 005 U	0.005 U
SW8260	Propane nitrile (Propionitrile)	MG/KG	0.018 U	0.021 U	0.02 U	0 022 U
SW8260	Styrene	MG/KG	0.002 U	0.002 U	0.002 U	0.002 U
SW8260	Tetrachloroethene (PCE)	MG/KG	0.004 U	0.005 U	0.005 U	0.005 U
SW8260	Toluene	MG/KG	0 004 U	0.005 U	0.005 U	0 005 U
SW8260	Trans-1,2-Dichloroethene	MG/KG	0.003 U	0 003 U	0.003 U	0.003 U
SW8260	Trans-1,3-Dichloropropene	MG/KG	0 004 U	0.005 U	0.005 U	0.005 U
SW8260	Trans-1,4-Dichloro-2-Butene	MG/KG	0 004 U	0.005 U	0 005 U	0.005 U
SW8260	Trichloroethene (TCE)	MG/KG	0 004 U	0.005 U	0 005 U	0.005 U
SW8260	Vinyl acetate	MG/KG	0 004 U	0.005 U	0.005 U	0 005 U
SW8260	Vinyl chloride	MG/KG	0 004 U	0.004 F	0 005 U	0.005 U

Table D.2
Phase I Soil Analytical Data
SWMU 32
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU32001-15'	BHGLSWMU32002-00'	BHGLSWMU32002-05'	BHGLSWMU32002-10'
SW8270	1,2,4,5-Tetrachlorobenzene	MG/KG	0.36 U	0 4 U	0 39 U	0.4 U
SW8270	1,2,4-Trichlorobenzene	MG/KG	0.36 U	0.4 U	0.39 U	0.4 U
SW8270	1,2-Dichlorobenzene	MG/KG	0 36 U	0.4 U	0.39 U	0.4 U
SW8270	1,3,5-Trinitrobenzene	MG/KG	1.4 U	1.6 U	1 6 U	1.6 U
SW8270	1,3-Dichlorobenzene	MG/KG	0.36 U	0.4 U	0.39 U	0.4 U
SW8270	1,3-Dinitrobenzene	MG/KG	0.36 U	0 4 U	0 39 U	0 4 U
SW8270	1,4-Dichlorobenzene	MG/KG	0.36 U	0 4 U	0.39 U	0.4 U
SW8270	1,4-Dioxane (p-Dioxane)	MG/KG	1.4 U	1.6 U	1.6 U	1.6 U
SW8270	1,4-Naphthoquinone	MG/KG	1.8 U	2 U	2 U	2 U
SW8270	1-Naphthylamine	MG/KG	0.73 U	0.8 U	0.79 U	0.81 U
SW8270	2,2'-Oxybis(1-chloropropane)	MG/KG	0 36 U	0.4 U	0.39 U	0.4 U
SW8270	2,3,4,6-Tetrachlorophenol	MG/KG	0.36 U	0.4 U	0.39 U	0.4 U
SW8270	2,4,5-Trichlorophenol	MG/KG	1.8 U	2 U	2 U	2 U
SW8270	2,4,6-Trichlorophenol	MG/KG	0.36 U	0.4 U	0.39 U	0.4 U
SW8270	2,4-Dichlorophenol	MG/KG	0.36 U	0 4 U	0.39 U	0.4 U
SW8270	2,4-Dimethylphenol	MG/KG	0.36 U	0.4 U	0.39 U	0 4 U
SW8270	2,4-Dinitrophenol	MG/KG	1.8 U	2 U	2 U	2 U
SW8270	2,4-Dinitrotoluene	MG/KG	0.36 U	0.4 U	0.39 U	0.4 U
SW8270	2,6-Dichlorophenol	MG/KG	0.73 U	0.8 U	0 79 U	0.81 U
SW8270	2,6-Dinitrotoluene	MG/KG	0.36 U	0.4 U	0 39 U	0.4 U
SW8270	2-Acetylaminofluorene	MG/KG	0.73 U	0.8 U	0.79 U	0.81 U
SW8270	2-Aminonaphthalene (beta-Naphthylamine)	MG/KG	0.73 U	0.8 U	0 79 U	0 81 U
SW8270	2-Chloronaphthalene	MG/KG	0.36 U	0.4 U	0.39 U	0.4 U
SW8270	2-Chlorophenol	MG/KG	0.36 U	0.4 U	0.39 U	0 4 U
SW8270	2-Methylnaphthalene	MG/KG	0.36 U	0 4 U	0.39 U	0 4 U
SW8270	2-Methylphenol (o-Cresol)	MG/KG	0.36 U	0.4 U	0.39 U	0.4 U
SW8270	2-Nitroaniline	MG/KG	1.8 U	2 U	2 U	2 U
SW8270	2-Nitrophenol	MG/KG	0.36 U	0.4 U	0.39 U	0.4 U
SW8270	2-Picoline (alpha-Picoline)	MG/KG	0.36 U	0.4 U	0.39 U	0.4 U
SW8270	3,3'-Dichlorobenzidine	MG/KG	0.73 U	0 8 U	0.79 U	0.81 U
SW8270	3,3'-Dimethylbenzidine	MG/KG	1 8 U	2 U	2 U	2 U
SW8270	3-Methylcholanthrene	MG/KG	0 36 U	0.4 U	0.39 U	0.4 U
SW8270	3-Nitroaniline	MG/KG	1.8 U	2 U	2 U	2 U
SW8270	4,6-Dinitro-2-methylphenol	MG/KG	1.8 U	2 U	2 U	2 U
SW8270	4-Aminobiphenyl (4-Biphenylamine)	MG/KG	0.73 U	0.8 U	0 79 U	0 81 U
SW8270	4-Bromophenyl phenyl ether	MG/KG	0.36 U	0.4 U	0 39 U	0 4 U

Table D.2
Phase I Soil Analytical Data
SWMU 32
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU32001-15'	BHGLSWMU32002-00'	BHGLSWMU32002-05'	BHGLSWMU32002-10'
SW8270	4-Chloro-3-methylphenol	MG/KG	0 73 U	0.8 U	0.79 U	0 81 U
SW8270	4-Chloroaniline	MG/KG	0.73 U	0 8 U	0.79 U	0.81 U
SW8270	4-Chlorophenyl phenyl ether	MG/KG	0.36 U	0 4 U	0 39 U	0.4 U
SW8270	4-Nitroaniline	MG/KG	1.8 U	2 U	2 U	2 U
SW8270	4-Nitrophenol	MG/KG	1.8 U	2 U	2 U	2 U
SW8270	4-Nitroquinoline-1-oxide	MG/KG	1.8 U	2 U	2 U	2 U
SW8270	5-Nitro-o-toluidine	MG/KG	0.73 U	0 8 U	0.79 U	0.81 U
SW8270	7,12-Dimethylbenzo(a)anthracene	MG/KG	0 73 U	0.8 U	0 79 U	0.81 U
SW8270	Acenaphthene	MG/KG	0.36 U	0 4 U	0.39 U	0.4 U
SW8270	Acenaphthylene	MG/KG	0 36 U	0.4 U	0 39 U	0.4 U
SW8270	Acetophenone	MG/KG	0.73 U	0.8 U	0.79 U	0.81 U
SW8270	alpha, alpha-Dimethylphenethylamine	MG/KG	1.8 U	2 U	2 U	2 U
SW8270	Aniline (Phenylamine, Aminobenzene)	MG/KG	0.36 U	0 4 U	0.39 U	0 4 U
SW8270	Anthracene	MG/KG	0.36 U	0 4 U	0.39 U	0.4 U
SW8270	Aramite (total)	MG/KG	0 73 U	0.8 U	0 79 U	0.81 U
SW8270	Benzo(a)anthracene	MG/KG	0.36 U	0.4 U	0.39 U	0.4 U
SW8270	Benzo(a)pyrene	MG/KG	0.36 U	0.4 U	0.39 U	0 4 U
SW8270	Benzo(b)fluoranthene	MG/KG	0.36 U	0.4 U	0.39 U	0 4 U
SW8270	Benzo(g,h,i)perylene	MG/KG	0.36 U	0.4 U	0.39 U	0 4 U
SW8270	Benzo(k)fluoranthene	MG/KG	0 36 U	0.4 U	0 39 U	0.4 U
SW8270	Benzoic acid	MG/KG	1 8 U	2 U	2 U	2 U
SW8270	Benzyl alcohol	MG/KG	0.36 U	0 4 U	0.39 U	0.4 U
SW8270	Benzyl butyl phthalate	MG/KG	0.36 U	0.4 U	0 39 U	0.4 U
SW8270	bis(2-Chloroethoxy)methane	MG/KG	0 36 U	0 4 U	0.39 U	0 4 U
SW8270	bis(2-Chloroethyl)ether (2-Chloroethyl ether)	MG/KG	0 36 U	0.4 U	0.39 U	0.4 U
SW8270	bis(2-Ethylhexyl)phthalate	MG/KG	0.36 U	0.4 U	0.39 U	0.4 U
SW8270	Chlorobenzilate	MG/KG	0.36 U	0 4 U	0.39 U	0.4 U
SW8270	Chrysene	MG/KG	0.36 U	0.4 U	0.39 U	0.4 U
SW8270	Cresols, m & p	MG/KG	0.36 U	0 4 U	0 39 U	0 4 U
SW8270	Diallate (total of cis and trans isomers)	MG/KG	0 36 U	0.4 U	0.39 U	0 4 U
SW8270	Dibenz(a,h)anthracene	MG/KG	0.36 U	0.4 U	0.39 U	0 4 U
SW8270	Dibenzofuran	MG/KG	0.36 U	0.4 U	0.39 U	0 4 U
SW8270	Diethyl phthalate	MG/KG	0 36 U	0.4 U	0.39 U	0.4 U
SW8270	Dimethyl phthalate	MG/KG	0.36 U	0.4 U	0.39 U	0 4 U
SW8270	Di-n-butyl phthalate	MG/KG	0.36 U	0 4 U	0.39 U	0 4 U
SW8270	Di-n-octyl phthalate	MG/KG	0 36 U	0 4 U	0.39 U	0.4 U

Table D.2
Phase I Soil Analytical Data
SWMU 32
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU32001-15'	BHGLSWMU32002-00'	BHGLSWMU32002-05'	BHGLSWMU32002-10'
SW8270	Dinoseb	MG/KG	0.73 U	0.8 U	0.79 U	0 81 U
SW8270	Diphenylamine	MG/KG	0.36 U	0.4 U	0.39 U	0 4 U
SW8270	Ethyl methanesulfonate	MG/KG	0.73 U	0.8 U	0.79 U	0 81 U
SW8270	Fluoranthene	MG/KG	0.36 U	0.4 U	0.39 U	0 4 U
SW8270	Fluorene	MG/KG	0.36 U	0.4 U	0.39 U	0 4 U
SW8270	Hexachlorobenzene	MG/KG	0.36 U	0.4 U	0.39 U	0.4 U
SW8270	Hexachlorobutadiene	MG/KG	0.36 U	0.4 U	0.39 U	0 4 U
SW8270	Hexachlorocyclopentadiene	MG/KG	0.36 U	0.4 U	0.39 U	0.4 U
SW8270	Hexachloroethane	MG/KG	0.36 U	0.4 U	0.39 U	0.4 U
SW8270	Hexachlorophene	MG/KG	5.5 U	6 U	5.9 U	6 U
SW8270	Hexachloropropene	MG/KG	1 8 U	2 U	2 U	2 U
SW8270	Indeno(1,2,3-c,d)pyrene	MG/KG	0.36 U	0 4 U	0.39 U	0 4 U
SW8270	Isophorone	MG/KG	0.36 U	0.4 U	0.39 U	0.4 U
SW8270	Isosafrole	MG/KG	0.36 U	0.4 U	0.39 U	0.4 U
SW8270	Methapyrilene	MG/KG	0.91 U	0.99 U	0.99 U	1 U
SW8270	Methyl methanesulfonate	MG/KG	0.36 U	0.4 U	0.39 U	0.4 U
SW8270	Naphthalene	MG/KG	0.36 U	0.4 U	0.39 U	0.4 U
SW8270	Nitrobenzene	MG/KG	0.36 U	0 4 U	0.39 U	0 4 U
SW8270	N-Nitrosodiethylamine	MG/KG	0.73 U	0.8 U	0 79 U	0 81 U
SW8270	N-Nitrosodimethylamine	MG/KG	0.73 R	0.8 R	0.79 R	0.81 R
SW8270	N-Nitrosodi-n-butylamine	MG/KG	0.36 U	0.4 U	0.39 U	0.4 U
SW8270	N-Nitrosodi-n-propylamine	MG/KG	0.36 U	0.4 U	0.39 U	0.4 U
SW8270	N-Nitrosodiphenylamine	MG/KG	0.36 U	0.4 U	0.39 U	0.4 U
SW8270	N-Nitrosomethylethylamine	MG/KG	0 36 U	0 4 U	0 39 U	0.4 U
SW8270	N-Nitrosomorpholine	MG/KG	0.73 U	0.8 U	0.79 U	0.81 U
SW8270	N-Nitrosopiperidine	MG/KG	0.36 U	0.4 U	0 39 U	0.4 U
SW8270	N-Nitrosopyrrolidine	MG/KG	0.73 U	0.8 U	0.79 U	0.81 U
SW8270	o-Toluidine	MG/KG	0 73 U	0 8 U	0.79 U	0 81 U
SW8270	p-Dimethylaminoazobenzene	MG/KG	0 73 U	0.8 U	0.79 U	0.81 U
SW8270	Pentachlorobenzene	MG/KG	0.36 U	0.4 U	0.39 U	0.4 U
SW8270	Pentachloronitrobenzene	MG/KG	0.36 U	0.4 U	0.39 U	0.4 U
SW8270	Pentachlorophenol	MG/KG	1.8 U	2 U	2 U	2 U
SW8270	Phenacetin	MG/KG	0.36 U	0.4 U	0.39 U	0.4 U
SW8270	Phenanthrene	MG/KG	0.36 U	0 4 U	0.39 U	0 4 U
SW8270	Phenol	MG/KG	0 36 U	0.4 U	0 39 U	0.4 U
SW8270	p-Phenylenediamine	MG/KG	1.4 U	1 6 U	1.6 U	1.6 U

Table D.2
Phase I Soil Analytical Data
SWMU 32
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU32001-15'	BHGLSWMU32002-00'	BHGLSWMU32002-05'	BHGLSWMU32002-10'
SW8270	Pronamide	MG/KG	0.36 U	0.4 U	0.39 U	0 4 U
SW8270	Pyrene	MG/KG	0.36 U	0.4 U	0.39 U	0 4 U
SW8270	Pyridine	MG/KG	0.73 R	0.8 R	0.79 R	0 81 R
SW8270	Safrole	MG/KG	0.36 U	0.4 U	0.39 U	0 4 U
SW9045	pH	PH UNITS	8	9.4	7.3	7
TX1005	Petroleum Hydrocarbons, Gasoline (C6 - C10)	MG/KG	4 F	18 F	3 1 F	3.6 F
TX1005	Petroleum Hydrocarbons, Heavy/Residual Fuel	MG/KG	5.4 F	45 F	4.5 F	3 2 F
TX1005	Petroleum Hydrocarbons, total (C6 - C28)	MG/KG	9 4 F	63 J	7.6 F	6.8 F

Data Qualifiers:

J = This analyte was positively identified, but the quantitation is an estimation

U = The analyte was analyzed for, but not detected. The associate numerical value is at or below the MQL

F = The analyte was positively identified, but the associated numerical value is below the MQL

R = The data are unusable due to deficiences in the ability to analyze the sample and meet QC criteria

UJ = The analyte was analyzed for but not detected, the associated value is a MQL, which is estimated due to deficiencies in the QC criteria

NA = Not analyzed

Table D.2
Phase I Soil Analytical Data
SWMU 32
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU32003-00'	BHGLSWMU32003-05'	BHGLSWMU32003-10'	BHGLSWMU32003-15'
SW6010	Antimony	MG/KG	3.8 UJ	4 UJ	3 6 UJ	3 5 UJ
SW6010	Arsenic	MG/KG	3.1 F	1 5 F	1 7 F	7.2 J
SW6010	Barium	MG/KG	87.9	72 9	92.2	249
SW6010	Beryllium	MG/KG	0 79	0.69	0.48	0.47
SW6010	Cadmium	MG/KG	0 23 F	0.4 U	0.42	0.23 F
SW6010	Chromium, total	MG/KG	10 J	6.8 F	5.4 F	9 3 J
SW6010	Cobalt	MG/KG	4.7	4.4 F	3.8 F	6 1
SW6010	Copper	MG/KG	8.2 J	5.7 F	4.3 F	7.7 J
SW6010	Lead	MG/KG	10 3	9.8	5.5	8.1
SW6010	Nickel	MG/KG	8.5	5.8 F	7.4	10.2
SW6010	Tin	MG/KG	30 U	31.7 U	28.4 U	27.8 U
SW6010	Vanadium	MG/KG	19.3 F	13 F	11.2 F	18 6 F
SW6010	Zinc	MG/KG	17 F	11 2 F	9 3 F	21.6
SW7471	Mercury	MG/KG	0.04 U	0 04 U	0.04 U	0.04 U
SW7740	Selenium	MG/KG	0 14 F	0.13 F	0 24 UJ	0.99 U
SW7761	Silver	MG/KG	0 11 F	0.11 F	0.09 F	0.13 UJ
SW7841	Thallium	MG/KG	0.8 U	0.77 U	0.79 U	0 66 UJ
SW8260	1,1,1,2-Tetrachloroethane	MG/KG	0.003 U	0.003 U	0.003 U	0 003 U
SW8260	1,1,1-Trichloroethane	MG/KG	0.004 U	0.004 U	0.004 U	0.004 U
SW8260	1,1,2,2-Tetrachloroethane	MG/KG	0.002 UJ	0 002 U	0.002 U	0 002 U
SW8260	1,1,2-Trichloroethane	MG/KG	0.005 U	0.005 U	0.005 U	0.005 U
SW8260	1,1-Dichloroethane	MG/KG	0.002 U	0.002 U	0.002 U	0.002 U
SW8260	1,1-Dichloroethene	MG/KG	0.005 U	0.005 U	0 005 U	0.005 U
SW8260	1,2,3-Trichloropropane	MG/KG	0.005 UJ	0.005 U	0.005 U	0.005 U
SW8260	1,2-Dibromo-3-chloropropane	MG/KG	0.005 UJ	0.005 U	0 005 U	0.005 U
SW8260	1,2-Dibromoethane (Ethylene dibromide)	MG/KG	0.003 U	0.003 U	0.003 U	0 003 U
SW8260	1,2-Dichloroethane	MG/KG	0.003 U	0 003 U	0 003 U	0.003 U
SW8260	1,2-Dichloropropane	MG/KG	0 002 U	0.002 U	0 002 U	0.002 U
SW8260	2-Chloro-1,3-butadiene	MG/KG	0 005 U	0 005 U	0.005 U	0 005 U
SW8260	2-Hexanone	MG/KG	0.005 U	0 005 U	0.005 U	0.005 U
SW8260	Acetone	MG/KG	0.005 U	0.005 U	0.005 U	0 005 U
SW8260	Acetonitrile	MG/KG	0.041 U	0 043 U	0.038 U	0.038 U
SW8260	Acrolein	MG/KG	0.1 U	0.11 U	0 095 U	0.095 U
SW8260	Acrylonitrile	MG/KG	0.041 U	0.043 U	0 038 U	0 038 U
SW8260	Allyl chloride (3-Chloropropene)	MG/KG	0.01 U	0 011 U	0.01 U	0.009 U
SW8260	Benzene	MG/KG	0 002 U	0 002 U	0 002 U	0.002 U

Table D.2
Phase I Soil Analytical Data
SWMU 32
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU32003-00'	BHGLSWMU32003-05'	BHGLSWMU32003-10'	BHGLSWMU32003-15'
SW8260	Bromodichloromethane	MG/KG	0.004 U	0 004 U	0.004 U	0.004 U
SW8260	Bromoform	MG/KG	0.005 U	0 005 U	0 005 U	0.005 U
SW8260	Bromomethane	MG/KG	0.005 U	0 005 U	0 005 U	0 005 U
SW8260	Carbon disulfide	MG/KG	0.005 U	0.005 U	0 005 U	0.005 U
SW8260	Carbon tetrachloride	MG/KG	0.005 U	0 005 U	0 005 U	0.005 U
SW8260	Chlorobenzene	MG/KG	0.002 U	0.061	0 006	0.002 U
SW8260	Chloroethane	MG/KG	0.005 U	0.005 U	0 005 U	0.005 U
SW8260	Chloroform	MG/KG	0 002 U	0 002 U	0.002 U	0.002 U
SW8260	Chloromethane	MG/KG	0.005 U	0 005 U	0 005 U	0.005 U
SW8260	cis-1,2-Dichloroethene	MG/KG	0.005 U	0.005 U	0 005 U	0 005 U
SW8260	cis-1,3-Dichloropropene	MG/KG	0 005 U	0.005 U	0.005 U	0 005 U
SW8260	Dibromochloromethane	MG/KG	0.003 U	0.003 U	0.003 U	0.003 U
SW8260	Dibromomethane	MG/KG	0.005 U	0.005 U	0.005 U	0 005 U
SW8260	Dichlorodifluoromethane	MG/KG				
SW8260	Ethyl methacrylate	MG/KG	0.005 U	0 005 U	0 005 U	0.005 U
SW8260	Ethylbenzene	MG/KG	0.003 U	0.003 U	0.003 U	0 003 U
SW8260	Iodomethane (Methyl iodide)	MG/KG	0.005 U	0 005 U	0 005 U	0 005 U
SW8260	Isobutanol	MG/KG	0.21 U	0 22 U	0.19 U	0.19 U
SW8260	m,p-Xylene (sum of isomers)	MG/KG	0 005 U	0 005 U	0.005 U	0 005 U
SW8260	Methyl ethyl ketone (2-Butanone)	MG/KG	0 005 U	0 005 U	0 005 U	0.005 U
SW8260	Methyl isobutyl ketone (4-Methyl-2-pentanone)	MG/KG	0.005 U	0.005 U	0.005 U	0.005 U
SW8260	Methyl methacrylate	MG/KG	0.005 U	0.005 U	0.005 U	0 005 U
SW8260	Methylacrylonitrile	MG/KG	0.005 U	0 005 U	0 005 U	0.005 U
SW8260	Methylene chloride	MG/KG	0.002 U	0 002 U	0 002 U	0.002 U
SW8260	o-Xylene (1,2-Dimethylbenzene)	MG/KG	0.005 U	0.005 U	0.005 U	0.005 U
SW8260	Pentachloroethane	MG/KG	0.005 U	0.005 U	0.005 U	0 005 U
SW8260	Propane nitrile (Propionitrile)	MG/KG	0.021 U	0.022 U	0 019 U	0 019 U
SW8260	Styrene	MG/KG	0.002 U	0 002 U	0.002 U	0 002 U
SW8260	Tetrachloroethene (PCE)	MG/KG	0.005 U	0 005 U	0 005 U	0.005 U
SW8260	Toluene	MG/KG	0.005 U	0.005 U	0.005 U	0.005 U
SW8260	Trans-1,2-Dichloroethene	MG/KG	0.003 U	0.003 U	0.003 U	0.003 U
SW8260	Trans-1,3-Dichloropropene	MG/KG	0.005 U	0.005 U	0.005 U	0 005 U
SW8260	Trans-1,4-Dichloro-2-Butene	MG/KG	0 005 U	0.005 U	0.005 U	0 005 U
SW8260	Trichloroethene (TCE)	MG/KG	0.005 U	0 005 U	0.005 U	0 005 U
SW8260	Vinyl acetate	MG/KG	0 005 U	0.005 U	0.005 U	0 005 U
SW8260	Vinyl chloride	MG/KG	0.005 U	0.005 U	0.005 U	0 005 U

671.232

Table D.2
Phase I Soil Analytical Data
SWMU 32
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU32003-00'	BHGLSWMU32003-05'	BHGLSWMU32003-10'	BHGLSWMU32003-15'
SW8270	1,2,4,5-Tetrachlorobenzene	MG/KG	0.4 U	0.39 U	0.38 U	0.37 U
SW8270	1,2,4-Trichlorobenzene	MG/KG	0.4 U	0.39 U	0.38 U	0.37 U
SW8270	1,2-Dichlorobenzene	MG/KG	0.4 U	0.39 U	0.38 U	0.37 U
SW8270	1,3,5-Trinitrobenzene	MG/KG	1.6 U	1.6 U	1.5 U	1.5 U
SW8270	1,3-Dichlorobenzene	MG/KG	0.4 U	0.39 U	0.38 U	0.37 U
SW8270	1,3-Dinitrobenzene	MG/KG	0.4 U	0.39 U	0 38 U	0.37 U
SW8270	1,4-Dichlorobenzene	MG/KG	0.4 U	0.39 U	0.38 U	0.37 U
SW8270	1,4-Dioxane (p-Dioxane)	MG/KG	1 6 U	1 6 U	1 5 U	1.5 U
SW8270	1,4-Naphthoquinone	MG/KG	2 U	2 U	1.9 U	1 9 U
SW8270	1-Naphthylamine	MG/KG	0.8 U	0.79 U	0.77 U	0 74 U
SW8270	2,2'-Oxybis(1-chloropropane)	MG/KG	0.4 U	0.39 U	0.38 R	0.37 R
SW8270	2,3,4,6-Tetrachlorophenol	MG/KG	0 4 U	0.39 U	0.38 U	0.37 U
SW8270	2,4,5-Trichlorophenol	MG/KG	2 U	2 U	1.9 U	1.9 U
SW8270	2,4,6-Trichlorophenol	MG/KG	0.4 U	0.39 U	0.38 U	0.37 U
SW8270	2,4-Dichlorophenol	MG/KG	0.4 U	0.39 U	0 38 U	0.37 U
SW8270	2,4-Dimethylphenol	MG/KG	0.4 U	0.39 U	0.38 U	0 37 U
SW8270	2,4-Dinitrophenol	MG/KG	2 U	2 U	1.9 U	1 9 U
SW8270	2,4-Dinitrotoluene	MG/KG	0.4 U	0.39 U	0.38 U	0.37 U
SW8270	2,6-Dichlorophenol	MG/KG	0 8 U	0.79 U	0.77 U	0.74 U
SW8270	2,6-Dinitrotoluene	MG/KG	0.4 U	0.39 U	0.38 U	0 37 U
SW8270	2-Acetylaminofluorene	MG/KG	0.8 U	0.79 U	0.77 U	0 74 U
SW8270	2-Aminonaphthalene (beta-Naphthylamine)	MG/KG	0 8 U	0.79 U	0 77 U	0.74 U
SW8270	2-Chloronaphthalene	MG/KG	0 4 U	0.39 U	0.38 U	0 37 U
SW8270	2-Chlorophenol	MG/KG	0.4 U	0.39 U	0.38 U	0.37 U
SW8270	2-Methylnaphthalene	MG/KG	0.4 U	0.39 U	0.38 U	0.37 U
SW8270	2-Methylphenol (o-Cresol)	MG/KG	0 4 U	0.39 U	0.38 U	0 37 U
SW8270	2-Nitroaniline	MG/KG	2 U	2 U	1.9 U	1.9 U
SW8270	2-Nitrophenol	MG/KG	0 4 U	0.39 U	0.38 U	0.37 U
SW8270	2-Picoline (alpha-Picoline)	MG/KG	0.4 U	0.39 U	0.38 U	0.37 U
SW8270	3,3'-Dichlorobenzidine	MG/KG	0.8 U	0.79 U	0.77 U	0.74 U
SW8270	3,3'-Dimethylbenzidine	MG/KG	2 U	2 U	1.9 U	1.9 U
SW8270	3-Methylcholanthrene	MG/KG	0.4 U	0.39 U	0.38 U	0.37 U
SW8270	3-Nitroaniline	MG/KG	2 U	2 U	1 9 U	1 9 U
SW8270	4,6-Dinitro-2-methylphenol	MG/KG	2 U	2 U	1.9 U	1 9 U
SW8270	4-Aminobiphenyl (4-Biphenylamine)	MG/KG	0 8 U	0.79 U	0.77 U	0 74 U
SW8270	4-Bromophenyl phenyl ether	MG/KG	0.4 U	0.39 U	0.38 U	0 37 U

671.233

Table D.2
Phase I Soil Analytical Data
SWMU 32
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU32003-00'	BHGLSWMU32003-05'	BHGLSWMU32003-10'	BHGLSWMU32003-15'
SW8270	4-Chloro-3-methylphenol	MG/KG	0 8 U	0.79 U	0.77 U	0.74 U
SW8270	4-Chloroaniline	MG/KG	0.8 U	0.79 U	0.77 U	0 74 U
SW8270	4-Chlorophenyl phenyl ether	MG/KG	0.4 U	0.39 U	0 38 U	0.37 U
SW8270	4-Nitroaniline	MG/KG	2 U	2 U	1 9 U	1.9 U
SW8270	4-Nitrophenol	MG/KG	2 U	2 U	1.9 U	1.9 U
SW8270	4-Nitroquinoline-1-oxide	MG/KG	2 U	2 U	1 9 U	1.9 U
SW8270	5-Nitro-o-toluidine	MG/KG	0 8 U	0.79 U	0.77 U	0 74 U
SW8270	7,12-Dimethylbenzo(a)anthracene	MG/KG	0 8 U	0.79 U	0.77 U	0.74 U
SW8270	Acenaphthene	MG/KG	0.4 U	0.39 U	0.38 U	0.37 U
SW8270	Acenaphthylene	MG/KG	0.4 U	0.39 U	0.38 U	0.37 U
SW8270	Acetophenone	MG/KG	0.8 U	0.79 U	0.77 U	0.74 U
SW8270	alpha, alpha-Dimethylphenethylamine	MG/KG	2 U	2 U	1 9 U	1.9 U
SW8270	Aniline (Phenylamine, Aminobenzene)	MG/KG	0.4 U	0.39 U	0.38 U	0.37 U
SW8270	Anthracene	MG/KG	0.4 U	0.39 U	0 38 U	0.37 U
SW8270	Aramite (total)	MG/KG	0.8 U	0.79 U	0 77 U	0 74 U
SW8270	Benzo(a)anthracene	MG/KG	0.4 U	0.39 U	0.38 U	0.37 U
SW8270	Benzo(a)pyrene	MG/KG	0.4 U	0 39 U	0 38 U	0.37 U
SW8270	Benzo(b)fluoranthene	MG/KG	0 4 U	0.39 U	0 38 U	0.37 U
SW8270	Benzo(g,h,i)perylene	MG/KG	0.4 U	0 39 U	0.38 U	0 37 U
SW8270	Benzo(k)fluoranthene	MG/KG	0.4 U	0.39 U	0.38 U	0.37 U
SW8270	Benzoic acid	MG/KG	2 U	2 U	1.9 U	1.9 U
SW8270	Benzyl alcohol	MG/KG	0 4 U	0.39 U	0 38 U	0.37 U
SW8270	Benzyl butyl phthalate	MG/KG	0 4 U	0.39 U	0 38 U	0.37 U
SW8270	bis(2-Chloroethoxy)methane	MG/KG	0 4 U	0.39 U	0.38 U	0.37 U
SW8270	bis(2-Chloroethyl)ether (2-Chloroethyl ether)	MG/KG	0.4 U	0.39 U	0 38 U	0.37 U
SW8270	bis(2-Ethylhexyl)phthalate	MG/KG	0 4 U	0.39 U	0.38 U	0.37 U
SW8270	Chlorobenzilate	MG/KG	0 4 U	0.39 U	0 38 U	0.37 U
SW8270	Chrysene	MG/KG	0.4 U	0.39 U	0.38 U	0.37 U
SW8270	Cresols, m & p	MG/KG	0.4 U	0 39 U	0 38 U	0 37 U
SW8270	Diallate (total of cis and trans isomers)	MG/KG	0.4 U	0 39 U	0.38 U	0 37 U
SW8270	Dibenz(a,h)anthracene	MG/KG	0.4 U	0.39 U	0.38 U	0 37 U
SW8270	Dibenzofuran	MG/KG	0 4 U	0.39 U	0 38 U	0.37 U
SW8270	Diethyl phthalate	MG/KG	0.4 U	0.39 U	0 38 U	0.37 U
SW8270	Dimethyl phthalate	MG/KG	0 4 U	0.39 U	0.38 U	0 37 U
SW8270	Di-n-butyl phthalate	MG/KG	0.4 U	0.39 U	0 38 U	0.37 U
SW8270	Di-n-octyl phthalate	MG/KG	0 4 U	0.39 U	0.38 U	0 37 U

Table D.2
Phase I Soil Analytical Data
SWMU 32
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU32003-00'	BHGLSWMU32003-05'	BHGLSWMU32003-10'	BHGLSWMU32003-15'
SW8270	Dinoseb	MG/KG	0.8 U	0 79 U	0.77 U	0 74 U
SW8270	Diphenylamine	MG/KG	0.4 U	0 39 U	0 38 U	0 37 U
SW8270	Ethyl methanesulfonate	MG/KG	0.8 U	0.79 U	0.77 U	0 74 U
SW8270	Fluoranthene	MG/KG	0.4 U	0 39 U	0.38 U	0 37 U
SW8270	Fluorene	MG/KG	0.4 U	0 39 U	0 38 U	0.37 U
SW8270	Hexachlorobenzene	MG/KG	0.4 U	0.39 U	0.38 U	0 37 U
SW8270	Hexachlorobutadiene	MG/KG	0.4 U	0.39 U	0 38 U	0.37 U
SW8270	Hexachlorocyclopentadiene	MG/KG	0 4 U	0.39 U	0.38 U	0 37 U
SW8270	Hexachloroethane	MG/KG	0 4 U	0.39 U	0.38 U	0 37 U
SW8270	Hexachlorophene	MG/KG	6 U	5.9 U	5.8 U	5 6 U
SW8270	Hexachloropropene	MG/KG	2 U	2 U	1.9 U	1.9 U
SW8270	Indeno(1,2,3-c,d)pyrene	MG/KG	0.4 U	0.39 U	0.38 U	0.37 U
SW8270	Isophorone	MG/KG	0.4 U	0 39 U	0.38 U	0.37 U
SW8270	Isosafrole	MG/KG	0 4 U	0.39 U	0.38 U	0.37 U
SW8270	Methapyrilene	MG/KG	0 99 U	0.99 U	0.96 U	0.93 U
SW8270	Methyl methanesulfonate	MG/KG	0 4 U	0.39 U	0.38 U	0 37 U
SW8270	Naphthalene	MG/KG	0 4 U	0.39 U	0 38 U	0 37 U
SW8270	Nitrobenzene	MG/KG	0.4 U	0.39 U	0.38 U	0 37 U
SW8270	N-Nitrosodiethylamine	MG/KG	0 8 U	0.79 U	0 77 U	0.74 U
SW8270	N-Nitrosodimethylamine	MG/KG	0.8 R	0.79 R	0.77 R	0 74 R
SW8270	N-Nitrosodi-n-butylamine	MG/KG	0.4 U	0.39 U	0.38 U	0 37 U
SW8270	N-Nitrosodi-n-propylamine	MG/KG	0.4 U	0.39 U	0.38 U	0.37 U
SW8270	N-Nitrosodiphenylamine	MG/KG	0.4 U	0.39 U	0.38 U	0 37 U
SW8270	N-Nitrosomethylethylamine	MG/KG	0.4 U	0.39 U	0.38 U	0.37 U
SW8270	N-Nitrosomorpholine	MG/KG	0.8 U	0.79 U	0 77 U	0.74 U
SW8270	N-Nitrosopiperidine	MG/KG	0.4 U	0.39 U	0.38 U	0 37 U
SW8270	N-Nitrosopyrrolidine	MG/KG	0 8 U	0.79 U	0 77 U	0.74 U
SW8270	o-Toluidine	MG/KG	0 8 U	0 79 U	0.77 U	0 74 U
SW8270	p-Dimethylaminoazobenzene	MG/KG	0 8 U	0.79 U	0.77 U	0 74 U
SW8270	Pentachlorobenzene	MG/KG	0.4 U	0.39 U	0 38 U	0.37 U
SW8270	Pentachloronitrobenzene	MG/KG	0 4 U	0 39 U	0.38 U	0.37 U
SW8270	Pentachlorophenol	MG/KG	2 U	2 U	1.9 U	1.9 U
SW8270	Phenacetin	MG/KG	0 4 U	0.39 U	0.38 U	0.37 U
SW8270	Phenanthrene	MG/KG	0.4 U	0 39 U	0.38 U	0.37 U
SW8270	Phenol	MG/KG	0 4 U	0 39 U	0.38 U	0.37 U
SW8270	p-Phenylenediamine	MG/KG	1 6 U	1.6 U	1 5 U	1.5 U

Table D.2
Phase I Soil Analytical Data
SWMU 32
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU32003-00'	BHGLSWMU32003-05'	BHGLSWMU32003-10'	BHGLSWMU32003-15'
SW8270	Pronamide	MG/KG	0.4 U	0.39 U	0.38 U	0 37 U
SW8270	Pyrene	MG/KG	0 4 U	0 39 U	0.38 U	0.37 U
SW8270	Pyridine	MG/KG	0 8 R	0.79 R	0.77 R	0 74 R
SW8270	Safrole	MG/KG	0.4 U	0 39 U	0 38 U	0 37 U
SW9045	pH	PH UNITS	7.5	7.4	8.2	8 6
TX1005	Petroleum Hydrocarbons, Gasoline (C6 - C10)	MG/KG	3 8 F	3 6 F	59 UJ	57 UJ
TX1005	Petroleum Hydrocarbons, Heavy/Residual Fuel	MG/KG	9 9 F	44 F	24 F	57 UJ
TX1005	Petroleum Hydrocarbons, total (C6 - C28)	MG/KG	14 F	48 F	24 F	57 UJ

Data Qualifiers

J = This analyte was positively identified, but the quantitation is an estimation

U = The analyte was analyzed for, but not detected. The associate numerical value is at or below the MQL.

F = The analyte was positively identified, but the associated numerical value is below the MQL

R = The data are unusable due to deficiences in the ability to analyze the sample and meet QC criteria.

UJ = The analyte was analyzed for but not detected, the associated value is a MQL, which is estimated due to deficiencies in the QC criteria.

NA = Not analyzed

Table D.3
Phase I Soil Analytical Data
SWMU 36
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU36001-00'	BHGLSWMU36001-05'	BHGLSWMU36001-10'	BHGLSWMU36001-15'
M5500	Ethylene glycol	MG/KG	6 U	6 U	66	6 U
SW6010	Antimony	MG/KG	5 3 UJ	4.8 UJ	4 6 UJ	5.5 UJ
SW6010	Arsenic	MG/KG	3.3 F	4 2 F	4.2 F	1.5 F
SW6010	Barium	MG/KG	77 9	64 1	112	98 3
SW6010	Beryllium	MG/KG	0 62	0.64	0.88	0 26 F
SW6010	Cadmium	MG/KG	0 16 F	0.21 F	0 07 F	0.18 F
SW6010	Chromium, total	MG/KG	14.3	12.5	13.5	6.8 F
SW6010	Cobalt	MG/KG	4 F	4.7 F	5.7	2 F
SW6010	Copper	MG/KG	8.8 F	23.3 J	9.9 J	4.3 F
SW6010	Lead	MG/KG	8.9	15.3	10.6	4 7
SW6010	Nickel	MG/KG	9.2 F	9.5 F	10.8	4.6 F
SW6010	Tin	MG/KG	2.4 F	2 F	1.8 F	1.8 F
SW6010	Vanadium	MG/KG	27.6 F	23.8 F	28.3	11 8 F
SW6010	Zinc	MG/KG	24.3 F	33 5	23.6 F	15.8 F
SW7471	Mercury	MG/KG	0.04 U	0 04 U	0.04 U	0 04 U
SW7740	Selenium	MG/KG	1.5 UJ	0.3 UJ	0.31 UJ	0 33 UJ
SW7761	Silver	MG/KG	0 2 UJ	0.2 UJ	0.21 UJ	0.22 UJ
SW7841	Thallium	MG/KG	0.98 UJ	0.98 U	1 UJ	1.1 UJ
SW8260	1,1,1,2-Tetrachloroethane	MG/KG	0.004 U	0 003 U	0.003 U	0.004 U
SW8260	1,1,1-Trichloroethane	MG/KG	0 005 U	0.004 U	0.004 U	0.005 U
SW8260	1,1,2,2-Tetrachloroethane	MG/KG	0.002 U	0.002 U	0 002 U	0.002 U
SW8260	1,1,2-Trichloroethane	MG/KG	0.006 U	0.005 U	0.005 U	0.006 U
SW8260	1,1-Dichloroethane	MG/KG	0.002 U	0.002 U	0 002 U	0.002 U
SW8260	1,1-Dichloroethene	MG/KG	0 006 U	0.005 U	0.005 U	0.006 U
SW8260	1,2,3-Trichloropropane	MG/KG	0.006 U	0 005 U	0.005 U	0.006 U
SW8260	1,2-Dibromo-3-chloropropane	MG/KG	0 006 U	0 005 U	0 005 U	0.006 U
SW8260	1,2-Dibromoethane (Ethylene dibromide)	MG/KG	0 004 U	0.003 U	0 003 U	0.004 U
SW8260	1,2-Dichloroethane	MG/KG	0 004 U	0.003 U	0 003 U	0.004 U
SW8260	1,2-Dichloropropane	MG/KG	0 002 U	0.002 U	0 002 U	0.002 U
SW8260	2-Chloro-1,3-butadiene	MG/KG	0.006 U	0.005 U	0.005 U	0.006 U
SW8260	2-Hexanone	MG/KG	0.006 U	0.005 U	0.005 U	0.006 U
SW8260	Acetone	MG/KG	0.006 U	0.005 U	0 005 U	0.006 U
SW8260	Acetonitrile	MG/KG	0 049 U	0.037 U	0.04 U	0.048 U
SW8260	Acrolein	MG/KG	0.12 U	0 093 U	0.1 U	0.12 U
SW8260	Acrylonitrile	MG/KG	0.049 U	0.037 U	0.04 U	0 048 U
SW8260	Allyl chloride (3-Chloropropene)	MG/KG	0 012 U	0 009 U	0.01 U	0 012 U

Table D.3
Phase I Soil Analytical Data
SWMU 36
NAS Fort Worth JRB, Texas

Method	Analyte	Units:	BHGLSWMU36001-00'	BHGLSWMU36001-05'	BHGLSWMU36001-10'	BHGLSWMU36001-15'
SW8260	Benzene	MG/KG	0.002 U	0.002 U	0.002 U	0.002 U
SW8260	Bromodichloromethane	MG/KG	0.005 U	0.004 U	0.004 U	0.005 U
SW8260	Bromoform	MG/KG	0.006 U	0.005 U	0.005 U	0 006 U
SW8260	Bromomethane	MG/KG	0.006 U	0.005 U	0.005 U	0 006 U
SW8260	Carbon disulfide	MG/KG	0.006 U	0.005 U	0.005 U	0 006 U
SW8260	Carbon tetrachloride	MG/KG	0.006 U	0.005 U	0 005 U	0 006 U
SW8260	Chlorobenzene	MG/KG	0 002 U	0.002 U	0.002 U	0 002 U
SW8260	Chloroethane	MG/KG	0.006 U	0.005 U	0 005 U	0.006 U
SW8260	Chloroform	MG/KG	0.002 U	0.002 U	0.002 U	0.002 U
SW8260	Chloromethane	MG/KG	0.006 U	0 005 U	0 005 U	0.006 U
SW8260	cis-1,2-Dichloroethene	MG/KG	0.006 U	0 005 U	0 005 U	0.006 U
SW8260	cis-1,3-Dichloropropene	MG/KG	0 006 U	0 005 U	0.005 U	0 006 U
SW8260	Dibromochloromethane	MG/KG	0 004 U	0 003 U	0.003 U	0 004 U
SW8260	Dibromomethane	MG/KG	0 006 U	0.005 U	0.005 U	0 006 U
SW8260	Dichlorodifluoromethane	MG/KG	0.006 R	0.005 R	0.005 R	0 006 R
SW8260	Ethyl methacrylate	MG/KG	0.006 U	0.005 U	0.005 U	0.006 U
SW8260	Ethylbenzene	MG/KG	0.004 U	0.003 U	0 003 U	0.004 U
SW8260	Iodomethane (Methyl iodide)	MG/KG	0.006 U	0.005 U	0 005 U	0.006 U
SW8260	Isobutanol	MG/KG	0.24 U	0.18 U	0 2 U	0.24 U
SW8260	m,p-Xylene (sum of isomers)	MG/KG	0.006 U	0 005 U	0 005 U	0.006 U
SW8260	Methyl ethyl ketone (2-Butanone)	MG/KG	0.006 U	0.005 U	0.005 U	0.006 U
SW8260	Methyl isobutyl ketone (4-Methyl-2-pentanone)	MG/KG	0.006 U	0.005 U	0.005 U	0.006 U
SW8260	Methyl methacrylate	MG/KG	0.006 U	0 005 U	0.005 U	0.006 U
SW8260	Methylacrylonitrile	MG/KG	0.006 U	0 005 U	0.005 U	0 006 U
SW8260	Methylene chloride	MG/KG	0 002 U	0 002 U	0.002 U	0 002 U
SW8260	o-Xylene (1,2-Dimethylbenzene)	MG/KG	0 006 U	0.005 U	0 005 U	0.006 U
SW8260	Pentachloroethane	MG/KG	0.006 U	0.005 U	0.005 U	0 006 U
SW8260	Propane nitrile (Propionitrile)	MG/KG	0.024 U	0.018 U	0.02 U	0.024 U
SW8260	Styrene	MG/KG	0.002 U	0.002 U	0 002 U	0.002 U
SW8260	Tetrachloroethene (PCE)	MG/KG	0.006 U	0.005 U	0 005 U	0.006 U
SW8260	Toluene	MG/KG	0 006 U	0.005 U	0 005 U	0 006 U
SW8260	Trans-1,2-Dichloroethene	MG/KG	0 004 U	0.003 U	0 003 U	0.004 U
SW8260	Trans-1,3-Dichloropropene	MG/KG	0 006 U	0.005 U	0 005 U	0.006 U
SW8260	Trans-1,4-Dichloro-2-Butene	MG/KG	0.006 U	0.005 U	0 005 U	0.006 U
SW8260	Trichloroethene (TCE)	MG/KG	0 006 U	0.005 U	0.005 U	0.006 U
SW8260	Vinyl acetate	MG/KG	0 006 U	0.005 U	0.005 U	0 006 U

Table D.3
Phase I Soil Analytical Data
SWMU 36
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU36001-00'	BHGLSWMU36001-05'	BHGLSWMU36001-10'	BHGLSWMU36001-15'
SW8260	Vinyl chloride	MG/KG	0 006 U	0.005 U	0.005 U	0.006 U
SW8270	1,2,4,5-Tetrachlorobenzene	MG/KG	0 41 U	0.38 U	0.39 U	0.41 U
SW8270	1,2,4-Trichlorobenzene	MG/KG	0 41 U	0.38 U	0.39 U	0.41 U
SW8270	1,2-Dichlorobenzene	MG/KG	0 41 U	0.38 U	0.39 U	0.41 U
SW8270	1,3,5-Trinitrobenzene	MG/KG	1 6 U	1.5 U	1.6 U	1.6 U
SW8270	1,3-Dichlorobenzene	MG/KG	0.41 U	0.38 U	0.39 U	0.41 U
SW8270	1,3-Dinitrobenzene	MG/KG	0.41 U	0.38 U	0.39 U	0.41 U
SW8270	1,4-Dichlorobenzene	MG/KG	0 41 U	0.38 U	0.39 U	0.41 U
SW8270	1,4-Dioxane (p-Dioxane)	MG/KG	1 6 U	1 5 U	1.6 U	1.6 U
SW8270	1,4-Naphthoquinone	MG/KG	2 U	1 9 U	1.9 U	2.1 U
SW8270	1-Naphthylamine	MG/KG	0.81 U	0.75 U	0.78 U	0.83 U
SW8270	2,2'-Oxybis(1-chloropropane)	MG/KG	0.41 U	0.38 U	0.39 U	0.41 U
SW8270	2,3,4,6-Tetrachlorophenol	MG/KG	0.41 U	0.38 U	0.39 U	0.41 U
SW8270	2,4,5-Trichlorophenol	MG/KG	2 U	1.9 U	1.9 R	2.1 R
SW8270	2,4,6-Trichlorophenol	MG/KG	0.41 U	0.38 U	0 39 U	0.41 U
SW8270	2,4-Dichlorophenol	MG/KG	0.41 U	0.38 U	0.39 U	0.41 U
SW8270	2,4-Dimethylphenol	MG/KG	0.41 U	0.38 U	0.39 U	0.41 U
SW8270	2,4-Dinitrophenol	MG/KG	2 U	1.9 U	1.9 U	2.1 U
SW8270	2,4-Dinitrotoluene	MG/KG	0.41 U	0.38 U	0.39 U	0.41 U
SW8270	2,6-Dichlorophenol	MG/KG	0.81 U	0.75 U	0.78 U	0.83 U
SW8270	2,6-Dinitrotoluene	MG/KG	0.41 U	0.38 U	0 39 U	0.41 U
SW8270	2-Acetylaminofluorene	MG/KG	0.81 U	0.75 U	0.78 U	0.83 U
SW8270	2-Aminonaphthalene (beta-Naphthylamine)	MG/KG	0 81 U	0.75 U	0.78 U	0.83 U
SW8270	2-Chloronaphthalene	MG/KG	0 41 U	0.38 U	0 39 U	0.41 U
SW8270	2-Chlorophenol	MG/KG	0.41 U	0 38 U	0 39 U	0.41 U
SW8270	2-Methylnaphthalene	MG/KG	0.41 U	0 38 U	0.39 U	0.41 U
SW8270	2-Methylphenol (o-Cresol)	MG/KG	0.41 U	0.38 U	0.39 U	0.41 U
SW8270	2-Nitroaniline	MG/KG	2 U	1.9 U	1.9 U	2.1 U
SW8270	2-Nitrophenol	MG/KG	0.41 U	0.38 U	0.39 U	0.41 U
SW8270	2-Picoline (alpha-Picoline)	MG/KG	0 41 U	0.38 U	0.39 U	0.41 U
SW8270	3,3'-Dichlorobenzidine	MG/KG	0.81 U	0.75 U	0.78 U	0.83 U
SW8270	3,3'-Dimethylbenzidine	MG/KG	2 U	1.9 U	1.9 U	2 1 U
SW8270	3-Methylcholanthrene	MG/KG	0.41 U	0.38 U	0.39 U	0.41 U
SW8270	3-Nitroaniline	MG/KG	2 U	1 9 U	1.9 U	2 1 U
SW8270	4,6-Dinitro-2-methylphenol	MG/KG	2 U	1.9 U	1.9 U	2.1 U
SW8270	4-Aminobiphenyl (4-Biphenylamine)	MG/KG	0.81 U	0.75 U	0.78 U	0.83 U

Table D.3
Phase I Soil Analytical Data
SWMU 36
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU36001-00'	BHGLSWMU36001-05'	BHGLSWMU36001-10'	BHGLSWMU36001-15'
SW8270	4-Bromophenyl phenyl ether	MG/KG	0 41 U	0.38 U	0.39 U	0.41 U
SW8270	4-Chloro-3-methylphenol	MG/KG	0.81 U	0.75 U	0.78 U	0 83 U
SW8270	4-Chloroaniline	MG/KG	0.81 U	0.75 U	0.78 U	0 83 U
SW8270	4-Chlorophenyl phenyl ether	MG/KG	0.41 U	0 38 U	0.39 U	0.41 U
SW8270	4-Nitroaniline	MG/KG	2 U	1.9 U	1.9 U	2.1 U
SW8270	4-Nitrophenol	MG/KG	2 U	1.9 U	1 9 U	2.1 U
SW8270	4-Nitroquinoline-1-oxide	MG/KG	2 U	1.9 U	1.9 U	2.1 U
SW8270	5-Nitro-o-toluidine	MG/KG	0 81 U	0.75 U	0.78 U	0 83 U
SW8270	7,12-Dimethylbenzo(a)anthracene	MG/KG	0 81 U	0 75 U	0.78 U	0.83 U
SW8270	Acenaphthene	MG/KG	0.41 U	0 38 U	0.39 U	0.41 U
SW8270	Acenaphthylene	MG/KG	0.41 U	0 38 U	0.39 U	0 41 U
SW8270	Acetophenone	MG/KG	0.81 U	0.75 U	0.78 U	0 83 U
SW8270	alpha, alpha-Dimethylphenethylamine	MG/KG	2 U	1.9 U	1.9 U	2 1 U
SW8270	Aniline (Phenylamine, Aminobenzene)	MG/KG	0.41 U	0.38 U	0.39 U	0 41 U
SW8270	Anthracene	MG/KG	0.41 U	0 38 U	0.39 U	0 41 U
SW8270	Aramite (total)	MG/KG	0.81 U	0.75 U	0 78 U	0 83 U
SW8270	Benzo(a)anthracene	MG/KG	0.41 U	0.38 U	0.39 U	0.41 U
SW8270	Benzo(a)pyrene	MG/KG	0.41 U	0 38 U	0.39 U	0 41 U
SW8270	Benzo(b)fluoranthene	MG/KG	0.41 U	0.38 U	0.39 U	0.41 U
SW8270	Benzo(g,h,i)perylene	MG/KG	0.41 U	0.38 U	0.39 U	0 41 U
SW8270	Benzo(k)fluoranthene	MG/KG	0.41 U	0.38 U	0 39 U	0 41 U
SW8270	Benzoic acid	MG/KG	2 U	1 9 U	1.9 U	2.1 U
SW8270	Benzyl alcohol	MG/KG	0.41 R	0.38 U	0.39 R	0.41 R
SW8270	Benzyl butyl phthalate	MG/KG	0.41 U	0.38 U	0.39 U	0.41 U
SW8270	bis(2-Chloroethoxy)methane	MG/KG	0.41 U	0.38 U	0.39 U	0 41 U
SW8270	bis(2-Chloroethyl)ether (2-Chloroethyl ether)	MG/KG	0.41 U	0.38 U	0.39 U	0 41 U
SW8270	bis(2-Ethylhexyl)phthalate	MG/KG	0.41 U	0.38 U	0.39 U	0.41 U
SW8270	Chlorobenzilate	MG/KG	0.41 U	0.38 U	0.39 U	0.41 U
SW8270	Chrysene	MG/KG	0.41 U	0.38 U	0.39 U	0 41 U
SW8270	Cresols, m & p	MG/KG	0.41 U	0.38 U	0.39 U	0 41 U
SW8270	Diallate (total of cis and trans isomers)	MG/KG	0 41 U	0 38 U	0.39 U	0.41 U
SW8270	Dibenz(a,h)anthracene	MG/KG	0.41 U	0.38 U	0.39 U	0.41 U
SW8270	Dibenzofuran	MG/KG	0.41 U	0.38 U	0.39 U	0.41 U
SW8270	Diethyl phthalate	MG/KG	0.41 U	0.38 U	0.39 U	0.41 U
SW8270	Dimethyl phthalate	MG/KG	0.41 U	0.38 U	0.39 U	0 41 U
SW8270	Di-n-butyl phthalate	MG/KG	0.41 U	0.38 U	0 39 U	0.41 U

Table D.3
Phase I Soil Analytical Data
SWMU 36
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU36001-00'	BHGLSWMU36001-05'	BHGLSWMU36001-10'	BHGLSWMU36001-15'
SW8270	Di-n-octyl phthalate	MG/KG	0.41 U	0.38 U	0.39 U	0.41 U
SW8270	Dinoseb	MG/KG	0.81 U	0.75 U	0 78 U	0.83 U
SW8270	Diphenylamine	MG/KG	0.41 U	0.38 U	0.39 U	0.41 U
SW8270	Ethyl methanesulfonate	MG/KG	0.81 U	0.75 U	0.78 U	0 83 U
SW8270	Fluoranthene	MG/KG	0.41 U	0.38 U	0.39 U	0.41 U
SW8270	Fluorene	MG/KG	0.41 U	0.38 U	0 39 U	0 41 U
SW8270	Hexachlorobenzene	MG/KG	0.41 U	0.38 U	0.39 U	0.41 U
SW8270	Hexachlorobutadiene	MG/KG	0 41 U	0.38 U	0.39 U	0 41 U
SW8270	Hexachlorocyclopentadiene	MG/KG	0.41 UJ	0.38 UJ	0.39 UJ	0 41 UJ
SW8270	Hexachloroethane	MG/KG	0.41 U	0.38 U	0.39 U	0.41 U
SW8270	Hexachlorophene	MG/KG	6.1 U	5.6 U	5.8 U	6.2 U
SW8270	Hexachloropropene	MG/KG	2 U	1 9 U	1.9 U	2.1 U
SW8270	Indeno(1,2,3-c,d)pyrene	MG/KG	0.41 U	0.38 U	0.39 U	0.41 U
SW8270	Isophorone	MG/KG	0.41 U	0.38 U	0.39 U	0.41 U
SW8270	Isosafrole	MG/KG	0.41 U	0.38 U	0.39 U	0.41 U
SW8270	Methapyrilene	MG/KG	1 U	0.94 U	0.97 U	1 U
SW8270	Methyl methanesulfonate	MG/KG	0.41 U	0 38 U	0.39 U	0.41 U
SW8270	Naphthalene	MG/KG	0.41 U	0.38 U	0.39 U	0.41 U
SW8270	Nitrobenzene	MG/KG	0.41 U	0 38 U	0.39 U	0 41 U
SW8270	N-Nitrosodiethylamine	MG/KG	0.81 U	0.75 U	0.78 U	0.83 U
SW8270	N-Nitrosodimethylamine	MG/KG	0.81 U	0 75 U	0.78 U	0 83 U
SW8270	N-Nitrosodi-n-butylamine	MG/KG	0.41 U	0 38 U	0.39 U	0.41 U
SW8270	N-Nitrosodi-n-propylamine	MG/KG	0.41 U	0 38 U	0.39 U	0.41 U
SW8270	N-Nitrosodiphenylamine	MG/KG	0.41 U	0.38 U	0.39 U	0.41 U
SW8270	N-Nitrosomethylethylamine	MG/KG	0.41 U	0.38 U	0 39 U	0.41 U
SW8270	N-Nitrosomorpholine	MG/KG	0.81 U	0.75 U	0.78 U	0.83 U
SW8270	N-Nitrosopiperidine	MG/KG	0.41 U	0.38 U	0 39 U	0.41 U
SW8270	N-Nitrosopyrrolidine	MG/KG	0.81 U	0.75 U	0.78 U	0 83 U
SW8270	o-Toluidine	MG/KG	0 81 U	0.75 U	0.78 U	0 83 U
SW8270	p-Dimethylaminoazobenzene	MG/KG	0.81 U	0.75 U	0.78 U	0.83 U
SW8270	Pentachlorobenzene	MG/KG	0.41 U	0.38 U	0.39 U	0.41 U
SW8270	Pentachloronitrobenzene	MG/KG	0 41 U	0.38 U	0.39 U	0.41 U
SW8270	Pentachlorophenol	MG/KG	2 U	1.9 U	1.9 U	2 1 U
SW8270	Phenacetin	MG/KG	0.41 U	0.38 U	0.39 U	0 41 U
SW8270	Phenanthrene	MG/KG	0.41 U	0.38 U	0.39 U	0.41 U
SW8270	Phenol	MG/KG	0.41 U	0.38 U	0.39 U	0.41 U

Table D.3
Phase I Soil Analytical Data
SWMU 36
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU36001-00'	BHGLSWMU36001-05'	BHGLSWMU36001-10'	BHGLSWMU36001-15'
SW8270	p-Phenylenediamine	MG/KG	1.6 U	1.5 U	1.6 U	1.6 U
SW8270	Pronamide	MG/KG	0.41 U	0 38 U	0 39 U	0.41 U
SW8270	Pyrene	MG/KG	0.41 U	0 38 U	0.39 U	0.41 U
SW8270	Pyridine	MG/KG	0 81 U	0.75 U	0.78 U	0.83 U
SW8270	Safrole	MG/KG	0.41 U	0 38 U	0.39 U	0.41 U
SW9041	pH	PH UNITS	6.1	8.3	8 2	8.4
TX1005	Petroleum Hydrocarbons, Gasoline (C6 - C10)	MG/KG	59 UJ	56 UJ	2.9 F	64 UJ
TX1005	Petroleum Hydrocarbons, Heavy/Residual Fuel	MG/KG	4.7 F	3.3 F	3.2 F	64 UJ
TX1005	Petroleum Hydrocarbons, total (C6 - C28)	MG/KG	4.7 F	3 3 F	6 F	64 UJ

Data Qualifiers:

J = This analyte was positively identified, but the quantitation is an estimation

U = The analyte was analyzed for, but not detected. The associate numerical value is at or below the MQL

F = The analyte was positively identified, but the associated numerical value is below the MQL

R = The data are unusable due to deficiences in the ability to analyze the sample and meet QC criteria.

UJ = The analyte was analyzed for but not detected, the associated value is a MQL, which is estimated due to deficiencies in the QC criteria.

NA = Not analyzed

Table D.3
Phase I Soil Analytical Data
SWMU 36
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU36002-00'	BHGLSWMU36002-05'	BHGLSWMU36002-10'	BHGLSWMU36003-00'
M5500	Ethylene glycol	MG/KG	6 U	6 U	6 U	6 U
SW6010	Antimony	MG/KG	5.3 UJ	5.2 UJ	4 8 UJ	4.9 UJ
SW6010	Arsenic	MG/KG	3 9 F	3.5 F	3 7 F	3.8 F
SW6010	Barium	MG/KG	82.6	68.1	133	86.7
SW6010	Beryllium	MG/KG	0 57	0.67	0 85	0 65
SW6010	Cadmium	MG/KG	0 1 F	0.09 F	0.48 UJ	0.11 F
SW6010	Chromium, total	MG/KG	11 6	11.8	12 2	11 8
SW6010	Cobalt	MG/KG	3.9 F	3.5 F	5.9	4.7 F
SW6010	Copper	MG/KG	7 4 F	8 7 F	10.3 J	7.3 F
SW6010	Lead	MG/KG	9.6	11	10.4	9 7
SW6010	Nickel	MG/KG	8 3 F	8.7 F	10 6	9.3 F
SW6010	Tin	MG/KG	2 F	1.7 F	1.7 F	1.6 F
SW6010	Vanadium	MG/KG	25.7 F	21.4 F	27.5 F	23.3 F
SW6010	Zinc	MG/KG	21 4 F	21.2 F	20.8 F	27.4 F
SW7471	Mercury	MG/KG	0.04 U	0.04 U	0.04 U	0.04 U
SW7740	Selenium	MG/KG	0.33 UJ	0.31 UJ	0.29 UJ	0 29 UJ
SW7761	Silver	MG/KG	0.22 UJ	0.2 UJ	0.19 UJ	0.19 UJ
SW7841	Thallium	MG/KG	1.1 U	1 U	0.96 U	0.97 UJ
SW8260	1,1,1,2-Tetrachloroethane	MG/KG	0.004 U	0.003 U	0.003 U	0.003 U
SW8260	1,1,1-Trichloroethane	MG/KG	0.005 U	0.004 U	0.004 U	0.004 U
SW8260	1,1,2,2-Tetrachloroethane	MG/KG	0.002 U	0.002 U	0.002 U	0.002 U
SW8260	1,1,2-Trichloroethane	MG/KG	0 006 U	0.005 U	0 006 U	0.006 U
SW8260	1,1-Dichloroethane	MG/KG	0 002 U	0 002 U	0 002 U	0.002 U
SW8260	1,1-Dichloroethene	MG/KG	0.006 U	0 005 U	0.006 U	0.006 U
SW8260	1,2,3-Trichloropropane	MG/KG	0 006 U	0.005 U	0 006 U	0.006 U
SW8260	1,2-Dibromo-3-chloropropane	MG/KG	0 006 U	0 005 U	0.006 U	0.006 U
SW8260	1,2-Dibromoethane (Ethylene dibromide)	MG/KG	0.004 U	0 003 U	0.003 U	0.003 U
SW8260	1,2-Dichloroethane	MG/KG	0.004 U	0.003 U	0.003 U	0.003 U
SW8260	1,2-Dichloropropane	MG/KG	0.002 U	0.002 U	0.002 U	0.002 U
SW8260	2-Chloro-1,3-butadiene	MG/KG	0.006 U	0.005 U	0 006 U	0 006 U
SW8260	2-Hexanone	MG/KG	0 006 U	0 005 U	0.006 U	0 006 U
SW8260	Acetone	MG/KG	0 006 U	0.005 U	0 006 U	0.006 U
SW8260	Acetonitrile	MG/KG	0 05 U	0.042 U	0 045 U	0 046 U
SW8260	Acrolein	MG/KG	0.12 U	0.11 U	0.11 U	0.11 U
SW8260	Acrylonitrile	MG/KG	0.05 U	0.042 U	0.045 U	0.046 U
SW8260	Allyl chloride (3-Chloropropene)	MG/KG	0 012 U	0.011 U	0.011 U	0.011 U

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Table D.3
Phase I Soil Analytical Data
SWMU 36
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU36002-00'	BHGLSWMU36002-05'	BHGLSWMU36002-10'	BHGLSWMU36003-00'
SW8260	Benzene	MG/KG	0 002 U	0.002 U	0.002 U	0.002 U
SW8260	Bromodichloromethane	MG/KG	0.005 U	0.004 U	0.004 U	0.004 U
SW8260	Bromoform	MG/KG	0.006 U	0 005 U	0.006 U	0.006 U
SW8260	Bromomethane	MG/KG	0.006 U	0 005 U	0 006 U	0.006 U
SW8260	Carbon disulfide	MG/KG	0.006 U	0.005 U	0.006 U	0.006 U
SW8260	Carbon tetrachloride	MG/KG	0.006 U	0.005 U	0.006 U	0 006 U
SW8260	Chlorobenzene	MG/KG	0.002 U	0.002 U	0.002 U	0.002 U
SW8260	Chloroethane	MG/KG	0 006 U	0.005 U	0 006 U	0 006 U
SW8260	Chloroform	MG/KG	0.002 U	0.002 U	0.002 U	0.002 U
SW8260	Chloromethane	MG/KG	0.006 U	0.005 U	0.006 U	0 006 U
SW8260	cis-1,2-Dichloroethene	MG/KG	0 006 U	0.005 U	0.006 U	0.006 U
SW8260	cis-1,3-Dichloropropene	MG/KG	0.006 U	0.005 U	0.006 U	0.006 U
SW8260	Dibromochloromethane	MG/KG	0.004 U	0.003 U	0.003 U	0 003 U
SW8260	Dibromomethane	MG/KG	0.006 U	0.005 U	0.006 U	
SW8260	Dichlorodifluoromethane	MG/KG	0.006 R	0 005 R	0.006 R	0 006 R
SW8260	Ethyl methacrylate	MG/KG	0.006 U	0 005 U	0 006 U	0 006 U
SW8260	Ethylbenzene	MG/KG	0.002 F	0.003 U	0.003 U	0.003 U
SW8260	Iodomethane (Methyl iodide)	MG/KG	0.006 U	0.005 U	0.006 U	0.006 U
SW8260	Isobutanol	MG/KG	0.25 U	0.21 U	0.23 U	0 23 U
SW8260	m,p-Xylene (sum of isomers)	MG/KG	0 007	0 005 U	0.006 U	0 006 U
SW8260	Methyl ethyl ketone (2-Butanone)	MG/KG	0.006 U	0 005 U	0.006 U	0.006 U
SW8260	Methyl isobutyl ketone (4-Methyl-2-pentanone)	MG/KG	0.006 U	0 005 U	0 006 U	0 006 U
SW8260	Methyl methacrylate	MG/KG	0 006 U	0 005 U	0.006 U	0 006 U
SW8260	Methylacrylonitrile	MG/KG	0.006 U	0 005 U	0.006 U	0.006 U
SW8260	Methylene chloride	MG/KG	0.002 U	0 002 U	0.002 U	0 002 U
SW8260	o-Xylene (1,2-Dimethylbenzene)	MG/KG	0.003 F	0.005 U	0.006 U	0 006 U
SW8260	Pentachloroethane	MG/KG	0.006 U	0 005 U	0.006 U	0 006 U
SW8260	Propane nitrile (Propionitrile)	MG/KG	0 025 U	0 021 U	0.023 U	0 023 U
SW8260	Styrene	MG/KG	0 002 U	0.002 U	0.002 U	0.002 U
SW8260	Tetrachloroethene (PCE)	MG/KG	0.006 U	0.005 U	0.006 U	0.006 U
SW8260	Toluene	MG/KG	0 006 U	0.005 U	0.006 U	0.006 U
SW8260	Trans-1,2-Dichloroethene	MG/KG	0 004 U	0 003 U	0.003 U	0 003 U
SW8260	Trans-1,3-Dichloropropene	MG/KG	0.006 U	0.005 U	0.006 U	0.006 U
SW8260	Trans-1,4-Dichloro-2-Butene	MG/KG	0 006 U	0.005 U	0.006 U	0 006 U
SW8260	Trichloroethene (TCE)	MG/KG	0.006 U	0.005 U	0 006 U	0 006 U
SW8260	Vinyl acetate	MG/KG	0.006 U	0.005 U	0.006 U	0.006 U

Table D.3
Phase I Soil Analytical Data
SWMU 36
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU36002-00	BHGLSWMU36002-05	BHGLSWMU36002-10	BHGLSWMU36003-00
SW8260	Vinyl chloride	MG/KG	0.006 U	0.005 U	0.006 U	0.006 U
SW8270	1,2,4,5-Tetrachlorobenzene	MG/KG	0.39 U	0.39 U	0 4 U	0.4 U
SW8270	1,2,4-Trichlorobenzene	MG/KG	0.39 U	0.39 U	0.4 U	0.4 U
SW8270	1,2-Dichlorobenzene	MG/KG	0.39 U	0.39 U	0.4 U	0.4 U
SW8270	1,3,5-Trinitrobenzene	MG/KG	1.6 U	1.6 U	1.6 U	1.6 U
SW8270	1,3-Dichlorobenzene	MG/KG	0 39 U	0.39 U	0.4 U	0.4 U
SW8270	1,3-Dinitrobenzene	MG/KG	0 39 U	0 39 U	0.4 U	0.4 U
SW8270	1,4-Dichlorobenzene	MG/KG	0 39 U	0.39 U	0.4 U	0.4 U
SW8270	1,4-Dioxane (p-Dioxane)	MG/KG	1 6 U	1 6 U	1.6 U	1.6 U
SW8270	1,4-Naphthoquinone	MG/KG	2 U	1.9 U	2 U	2 U
SW8270	1-Naphthylamine	MG/KG	0 79 U	0.78 U	0.8 U	0.8 U
SW8270	2,2'-Oxybis(1-chloropropane)	MG/KG	0 39 U	0 39 U	0.4 U	0.4 U
SW8270	2,3,4,6-Tetrachlorophenol	MG/KG	0.39 U	0.39 U	0.4 U	0.4 U
SW8270	2,4,5-Trichlorophenol	MG/KG	2 U	1 9 R	2 R	2 R
SW8270	2,4,6-Trichlorophenol	MG/KG	0 39 U	0.39 U	0 4 U	0.4 U
SW8270	2,4-Dichlorophenol	MG/KG	0 39 U	0.39 U	0.4 U	0.4 U
SW8270	2,4-Dimethylphenol	MG/KG	0 39 U	0 39 U	0 4 U	0.4 U
SW8270	2,4-Dinitrophenol	MG/KG	2 U	1 9 U	2 U	2 U
SW8270	2,4-Dinitrotoluene	MG/KG	0 39 U	0 39 U	0.4 U	0.4 U
SW8270	2,6-Dichlorophenol	MG/KG	0.79 U	0.78 U	0.8 U	0 8 U
SW8270	2,6-Dinitrotoluene	MG/KG	0.39 U	0 39 U	0.4 U	0 4 U
SW8270	2-Acetylaminofluorene	MG/KG	0.79 U	0.78 U	0.8 U	0.8 U
SW8270	2-Aminonaphthalene (beta-Naphthylamine)	MG/KG	0.79 U	0 78 U	0.8 U	0 8 U
SW8270	2-Chloronaphthalene	MG/KG	0.39 U	0 39 U	0 4 U	0.4 U
SW8270	2-Chlorophenol	MG/KG	0.39 U	0.39 U	0.4 U	0 4 U
SW8270	2-Methylnaphthalene	MG/KG	0.39 U	0.39 U	0.4 U	0.4 U
SW8270	2-Methylphenol (o-Cresol)	MG/KG	0 39 U	0.39 U	0.4 U	0.4 U
SW8270	2-Nitroaniline	MG/KG	2 U	1.9 U	2 U	2 U
SW8270	2-Nitrophenol	MG/KG	0.39 U	0.39 U	0 4 U	0.4 U
SW8270	2-Picoline (alpha-Picoline)	MG/KG	0 39 U	0.39 U	0.4 U	0 4 U
SW8270	3,3'-Dichlorobenzidine	MG/KG	0 79 U	0 78 U	0.8 U	0 8 U
SW8270	3,3'-Dimethylbenzidine	MG/KG	2 U	1.9 U	2 U	2 U
SW8270	3-Methylcholanthrene	MG/KG	0.39 U	0.39 U	0.4 U	0 4 U
SW8270	3-Nitroaniline	MG/KG	2 U	1.9 U	2 U	2 U
SW8270	4,6-Dinitro-2-methylphenol	MG/KG	2 U	1:9 U	2 U	2 U
SW8270	4-Aminobiphenyl (4-Biphenylamine)	MG/KG	0 79 U	0.78 U	0.8 U	0.8 U

Table D.3
Phase I Soil Analytical Data
SWMU 36
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU36002-00'	BHGLSWMU36002-05'	BHGLSWMU36002-10'	BHGLSWMU36003-00'
SW8270	4-Bromophenyl phenyl ether	MG/KG	0.39 U	0.39 U	0.4 U	0.4 U
SW8270	4-Chloro-3-methylphenol	MG/KG	0.79 U	0.78 U	0 8 U	0.8 U
SW8270	4-Chloroaniline	MG/KG	0.79 U	0.78 U	0 8 U	0 8 U
SW8270	4-Chlorophenyl phenyl ether	MG/KG	0.39 U	0.39 U	0 4 U	0 4 U
SW8270	4-Nitroaniline	MG/KG	2 U	1.9 U	2 U	2 U
SW8270	4-Nitrophenol	MG/KG	2 U	1.9 U	2 U	2 U
SW8270	4-Nitroquinoline-1-oxide	MG/KG	2 U	1.9 U	2 U	2 U
SW8270	5-Nitro-o-toluidine	MG/KG	0.79 U	0.78 U	0 8 U	0.8 U
SW8270	7,12-Dimethylbenzo(a)anthracene	MG/KG	0.79 U	0.78 U	0 8 U	0.8 U
SW8270	Acenaphthene	MG/KG	0 39 U	0.39 U	0.4 U	0 4 U
SW8270	Acenaphthylene	MG/KG	0 39 U	0.39 U	0.4 U	0 4 U
SW8270	Acetophenone	MG/KG	0.79 U	0.78 U	0.8 U	0.8 U
SW8270	alpha, alpha-Dimethylphenethylamine	MG/KG	2 U	1.9 U	2 U	2 U
SW8270	Aniline (Phenylamine, Aminobenzene)	MG/KG	0.39 U	0 39 U	0.4 U	0.4 U
SW8270	Anthracene	MG/KG	0.39 U	0.39 U	0.4 U	0.4 U
SW8270	Aramite (total)	MG/KG	0.79 U	0 78 U	0.8 U	0.8 U
SW8270	Benzo(a)anthracene	MG/KG	0.39 U	0.39 U	0.4 U	0.4 U
SW8270	Benzo(a)pyrene	MG/KG	0 39 U	0.39 U	0.4 U	0.4 U
SW8270	Benzo(b)fluoranthene	MG/KG	0.39 U	0.39 U	0.4 U	0.4 U
SW8270	Benzo(g,h,i)perylene	MG/KG	0 39 U	0.39 U	0.4 U	0.4 U
SW8270	Benzo(k)fluoranthene	MG/KG	0 39 U	0.39 U	0 4 U	0.4 U
SW8270	Benzoic acid	MG/KG	2 U	1.9 U	2 U	2 U
SW8270	Benzyl alcohol	MG/KG	0.39 R	0 39 R	0 4 R	0.4 R
SW8270	Benzyl butyl phthalate	MG/KG	0.39 U	0.39 U	0.4 U	0.4 U
SW8270	bis(2-Chloroethoxy)methane	MG/KG	0.39 U	0.39 U	0 4 U	0.4 U
SW8270	bis(2-Chloroethyl)ether (2-Chloroethyl ether)	MG/KG	0.39 U	0 39 U	0 4 U	0 4 U
SW8270	bis(2-Ethylhexyl)phthalate	MG/KG	0 39 U	0 39 U	0 4 U	0.4 U
SW8270	Chlorobenzilate	MG/KG	0 39 U	0.39 U	0 4 U	0 4 U
SW8270	Chrysene	MG/KG	0.39 U	0 39 U	0.4 U	0.4 U
SW8270	Cresols, m & p	MG/KG	0 39 U	0 39 U	0 4 U	0 4 U
SW8270	Diallate (total of cis and trans isomers)	MG/KG	0.39 U	0.39 U	0.4 U	0.4 U
SW8270	Dibenz(a,h)anthracene	MG/KG	0.39 U	0.39 U	0.4 U	0.4 U
SW8270	Dibenzofuran	MG/KG	0.39 U	0.39 U	0.4 U	0.4 U
SW8270	Diethyl phthalate	MG/KG	0.39 U	0.39 U	0.4 U	0.4 U
SW8270	Dimethyl phthalate	MG/KG	0 39 U	0 39 U	0.4 U	0.4 U
SW8270	Di-n-butyl phthalate	MG/KG	0 39 U	0.39 U	0.4 U	0.4 U

Table D.3
Phase I Soil Analytical Data
SWMU 36
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU36002-00'	BHGLSWMU36002-05'	BHGLSWMU36002-10'	BHGLSWMU36003-00'
SW8270	Di-n-octyl phthalate	MG/KG	0 39 U	0.39 U	0.4 U	0 4 U
SW8270	Dinoseb	MG/KG	0.79 U	0.78 U	0.8 U	0.8 U
SW8270	Diphenylamine	MG/KG	0 39 U	0.39 U	0.4 U	0.4 U
SW8270	Ethyl methanesulfonate	MG/KG	0.79 U	0 78 U	0.8 U	0.8 U
SW8270	Fluoranthene	MG/KG	0.39 U	0.39 U	0.4 U	0.4 U
SW8270	Fluorene	MG/KG	0 39 U	0.39 U	0 4 U	0.4 U
SW8270	Hexachlorobenzene	MG/KG	0 39 U	0.39 U	0.4 U	0.4 U
SW8270	Hexachlorobutadiene	MG/KG	0 39 U	0.39 U	0.4 U	0.4 U
SW8270	Hexachlorocyclopentadiene	MG/KG	0.39 UJ	0.39 UJ	0.4 UJ	0 4 UJ
SW8270	Hexachloroethane	MG/KG	0.39 U	0.39 U	0.4 U	0.4 U
SW8270	Hexachlorophene	MG/KG	5 9 U	5.8 U	6 U	6 U
SW8270	Hexachloropropene	MG/KG	2 U	1 9 U	2 U	2 U
SW8270	Indeno(1,2,3-c,d)pyrene	MG/KG	0.39 U	0.39 U	0.4 U	0 4 U
SW8270	Isophorone	MG/KG	0 39 U	0.39 U	0.4 U	0.4 U
SW8270	Isosafrole	MG/KG	0.39 U	0.39 U	0.4 U	0.4 U
SW8270	Methapyrilene	MG/KG	0.99 U	0.97 U	1 U	1 U
SW8270	Methyl methanesulfonate	MG/KG	0.39 U	0.39 U	0.4 U	0.4 U
SW8270	Naphthalene	MG/KG	0 39 U	0.39 U	0.4 U	0.4 U
SW8270	Nitrobenzene	MG/KG	0 39 U	0.39 U	0.4 U	0 4 U
SW8270	N-Nitrosodiethylamine	MG/KG	0.79 U	0.78 U	0.8 U	0 8 U
SW8270	N-Nitrosodimethylamine	MG/KG	0.79 U	0 78 U	0 8 U	0 8 U
SW8270	N-Nitrosodi-n-butylamine	MG/KG	0.39 U	0.39 U	0.4 U	0.4 U
SW8270	N-Nitrosodi-n-propylamine	MG/KG	0.39 U	0.39 U	0.4 U	0 4 U
SW8270	N-Nitrosodiphenylamine	MG/KG	0.39 U	0 39 U	0 4 U	0 4 U
SW8270	N-Nitrosomethylethylamine	MG/KG	0.39 U	0 39 U	0.4 U	0.4 U
SW8270	N-Nitrosomorpholine	MG/KG	0.79 U	0.78 U	0.8 U	0 8 U
SW8270	N-Nitrosopiperidine	MG/KG	0.39 U	0.39 U	0.4 U	0 4 U
SW8270	N-Nitrosopyrrolidine	MG/KG	0.79 U	0.78 U	0 8 U	0.8 U
SW8270	o-Toluidine	MG/KG	0.79 U	0 78 U	0.8 U	0 8 U
SW8270	p-Dimethylaminoazobenzene	MG/KG	0.79 U	0.78 U	0.8 U	0 8 U
SW8270	Pentachlorobenzene	MG/KG	0 39 U	0 39 U	0.4 U	0 4 U
SW8270	Pentachloronitrobenzene	MG/KG	0.39 U	0 39 U	0.4 U	0.4 U
SW8270	Pentachlorophenol	MG/KG	2 U	1.9 U	2 U	2 U
SW8270	Phenacetin	MG/KG	0.39 U	0.39 U	0.4 U	0.4 U
SW8270	Phenanthrene	MG/KG	0.39 U	0.39 U	0.4 U	0.4 U
SW8270	Phenol	MG/KG	0.39 U	0.39 U	0 4 U	0 4 U

Table D.3
Phase I Soil Analytical Data
SWMU 36
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU36002-00'	BHGLSWMU36002-05'	BHGLSWMU36002-10'	BHGLSWMU36003-00'
SW8270	p-Phenylenediamine	MG/KG	1.6 U	1.6 U	1.6 U	1.6 U
SW8270	Pronamide	MG/KG	0.39 U	0.39 U	0.4 U	0.4 U
SW8270	Pyrene	MG/KG	0.39 U	0.39 U	0.4 U	0.4 U
SW8270	Pyridine	MG/KG	0.79 U	0 78 U	0 8 U	0.8 U
SW8270	Safrole	MG/KG	0.39 U	0.39 U	0.4 U	0 4 U
SW9041	pH	PH UNITS	9.8	8	8 1	8.2
TX1005	Petroleum Hydrocarbons, Gasoline (C6 - C10)	MG/KG	2.9 F	57 UJ	3 9 F	59 UJ
TX1005	Petroleum Hydrocarbons, Heavy/Residual Fuel	MG/KG	3.9 F	57 UJ	60 UJ	59 UJ
TX1005	Petroleum Hydrocarbons, total (C6 - C28)	MG/KG	6.8 F	57 UJ	3.9 F	59 UJ

Data Qualifiers:

J = This analyte was positively identified, but the quantitation is an estimation.

U = The analyte was analyzed for, but not detected The associate numerical value is at or below the MQL.

F = The analyte was positively identified, but the associated numerical value is below the MQL.

R = The data are unusable due to deficiences in the ability to analyze the sample and meet QC criteria

UJ = The analyte was analyzed for but not detected, the associated value is a MQL, which is estimated due to deficiencies in the QC criteria

NA = Not analyzed

Table D.3
Phase I Soil Analytical Data
SWMU 36
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU36003-05'	BHGLSWMU36003-05' Duplicate	BHGLSWMU36003-10'
M5500	Ethylene glycol	MG/KG	6 U	6 U	6 U
SW6010	Antimony	MG/KG	0.46 F	4.9 UJ	4.8 UJ
SW6010	Arsenic	MG/KG	3 9 F	3 7 F	3.7 F
SW6010	Barium	MG/KG	80.4	67.6	77.9
SW6010	Beryllium	MG/KG	0.86 J	0 61 J	0.78
SW6010	Cadmium	MG/KG	0.05 F	0 09 F	0.15 F
SW6010	Chromium, total	MG/KG	14 2	18 2	15.9
SW6010	Cobalt	MG/KG	5.1 F	4 4 F	5.1 F
SW6010	Copper	MG/KG	10.2 J	8.1 F	10 5 J
SW6010	Lead	MG/KG	10.2 J	46.7 J	13
SW6010	Nickel	MG/KG	10.7	8.6 F	11.7
SW6010	Tin	MG/KG	1.9 F	1.5 F	1.9 F
SW6010	Vanadium	MG/KG	26.7 F	22.7 F	26.7 F
SW6010	Zinc	MG/KG	25 F	21.1 F	33 9
SW7471	Mercury	MG/KG	0.04 U	0 04 U	0.04 U
SW7740	Selenium	MG/KG	0.31 UJ	0.31 UJ	0.26 UJ
SW7761	Silver	MG/KG	0.21 UJ	0.2 UJ	0.17 UJ
SW7841	Thallium	MG/KG	1 UJ	1 U	0.85 UJ
SW8260	1,1,1,2-Tetrachloroethane	MG/KG	0.003 U	0.003 U	0.003 U
SW8260	1,1,1-Trichloroethane	MG/KG	0 004 U	0.004 U	0.004 U
SW8260	1,1,2,2-Tetrachloroethane	MG/KG	0 002 U	0.002 U	0.002 U
SW8260	1,1,2-Trichloroethane	MG/KG	0 005 U	0.005 U	0.005 U
SW8260	1,1-Dichloroethane	MG/KG	0.002 U	0.002 U	0 002 U
SW8260	1,1-Dichloroethene	MG/KG	0.005 U	0.005 U	0.005 U
SW8260	1,2,3-Trichloropropane	MG/KG	0.005 U	0 005 U	0 005 U
SW8260	1,2-Dibromo-3-chloropropane	MG/KG	0.005 U	0.005 U	0 005 U
SW8260	1,2-Dibromoethane (Ethylene dibromide)	MG/KG	0.003 U	0.003 U	0.003 U
SW8260	1,2-Dichloroethane	MG/KG	0.003 U	0 003 U	0 003 U
SW8260	1,2-Dichloropropane	MG/KG	0.002 U	0.002 U	0.002 U
SW8260	2-Chloro-1,3-butadiene	MG/KG	0 005 U	0.005 U	0.005 U
SW8260	2-Hexanone	MG/KG	0 005 U	0.005 U	0.005 U
SW8260	Acetone	MG/KG	0.005 U	0.005 U	0.005 U
SW8260	Acetonitrile	MG/KG	0 042 U	0.039 U	0 042 U
SW8260	Acrolein	MG/KG	0.1 U	0.098 U	0.1 U
SW8260	Acrylonitrile	MG/KG	0.042 U	0.039 U	0 042 U
SW8260	Allyl chloride (3-Chloropropene)	MG/KG	0.01 U	0.01 U	0.01 U

Table D.3
Phase I Soil Analytical Data
SWMU 36
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU36003-05'	BHGLSWMU36003-05' Duplicate	BHGLSWMU36003-10'
SW8260	Benzene	MG/KG	0.002 U	0.002 U	0.002 U
SW8260	Bromodichloromethane	MG/KG	0.004 U	0.004 U	0.004 U
SW8260	Bromoform	MG/KG	0.005 U	0 005 U	0 005 U
SW8260	Bromomethane	MG/KG	0.005 U	0.005 U	0 005 U
SW8260	Carbon disulfide	MG/KG	0.005 U	0.005 U	0.005 U
SW8260	Carbon tetrachloride	MG/KG	0.005 U	0 005 U	0.005 U
SW8260	Chlorobenzene	MG/KG	0.002 U	0.002 U	0 002 U
SW8260	Chloroethane	MG/KG	0.005 U	0.005 U	0.005 U
SW8260	Chloroform	MG/KG	0 002 U	0.002 U	0.002 U
SW8260	Chloromethane	MG/KG	0 005 U	0.005 U	0 005 U
SW8260	cis-1,2-Dichloroethene	MG/KG	0.005 U	0.005 U	0 005 U
SW8260	cis-1,3-Dichloropropene	MG/KG	0 005 U	0.005 U	0.005 U
SW8260	Dibromochloromethane	MG/KG	0 003 U	0.003 U	0 003 U
SW8260	Dibromomethane	MG/KG			
SW8260	Dichlorodifluoromethane	MG/KG	0 005 R	0 005 R	0.005 R
SW8260	Ethyl methacrylate	MG/KG	0 005 U	0 005 U	0.005 U
SW8260	Ethylbenzene	MG/KG	0 003 U	0 003 U	0.003 U
SW8260	Iodomethane (Methyl iodide)	MG/KG	0.005 U	0.005 U	0.005 U
SW8260	Isobutanol	MG/KG	0 21 U	0 2 U	0.21 U
SW8260	m,p-Xylene (sum of isomers)	MG/KG	0.005 U	0 005 U	0 005 U
SW8260	Methyl ethyl ketone (2-Butanone)	MG/KG	0.005 U	0.005 U	0 005 U
SW8260	Methyl isobutyl ketone (4-Methyl-2-pentanone)	MG/KG	0.005 U	0.005 U	0.005 U
SW8260	Methyl methacrylate	MG/KG	0 005 U	0.005 U	0.005 U
SW8260	Methylacrylonitrile	MG/KG	0 005 U	0.005 U	0.005 U
SW8260	Methylene chloride	MG/KG	0 002 U	0 002 U	0.002 U
SW8260	o-Xylene (1,2-Dimethylbenzene)	MG/KG	0 005 U	0 005 U	0 005 U
SW8260	Pentachloroethane	MG/KG	0.005 U	0 005 U	0.005 U
SW8260	Propane nitrile (Propionitrile)	MG/KG	0.021 U	0.02 U	0.021 U
SW8260	Styrene	MG/KG	0 002 U	0.002 U	0.002 U
SW8260	Tetrachloroethene (PCE)	MG/KG	0 005 U	0 005 U	0.005 U
SW8260	Toluene	MG/KG	0.005 U	0.005 U	0.005 U
SW8260	Trans-1,2-Dichloroethene	MG/KG	0 003 U	0 003 U	0 003 U
SW8260	Trans-1,3-Dichloropropene	MG/KG	0.005 U	0 005 U	0 005 U
SW8260	Trans-1,4-Dichloro-2-Butene	MG/KG	0.005 U	0 005 U	0.005 U
SW8260	Trichloroethene (TCE)	MG/KG	0 005 U	0 005 U	0.005 U
SW8260	Vinyl acetate	MG/KG	0.005 U	0 005 U	0.005 U

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Table D.3
Phase I Soil Analytical Data
SWMU 36
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU36003-05'	BHGLSWMU36003-05' Duplicate	BHGLSWMU36003-10'
SW8260	Vinyl chloride	MG/KG	0 005 U	0.005 U	0.005 U
SW8270	1,2,4,5-Tetrachlorobenzene	MG/KG	0.4 U	0.38 U	0 4 U
SW8270	1,2,4-Trichlorobenzene	MG/KG	0.4 U	0.38 U	0.4 U
SW8270	1,2-Dichlorobenzene	MG/KG	0.4 U	0.38 U	0 4 U
SW8270	1,3,5-Trinitrobenzene	MG/KG	1.6 U	1.5 U	1.6 U
SW8270	1,3-Dichlorobenzene	MG/KG	0.4 U	0 38 U	0.4 U
SW8270	1,3-Dinitrobenzene	MG/KG	0 4 U	0 38 U	0.4 U
SW8270	1,4-Dichlorobenzene	MG/KG	0 4 U	0 38 U	0.4 U
SW8270	1,4-Dioxane (p-Dioxane)	MG/KG	1.6 U	1.5 U	1.6 U
SW8270	1,4-Naphthoquinone	MG/KG	2 U	1.9 U	2 U
SW8270	1-Naphthylamine	MG/KG	0.79 U	0.77 U	0.8 U
SW8270	2,2'-Oxybis(1-chloropropane)	MG/KG	0.4 U	0.38 U	0.4 U
SW8270	2,3,4,6-Tetrachlorophenol	MG/KG	0.4 U	0.38 U	0.4 U
SW8270	2,4,5-Trichlorophenol	MG/KG	2 R	1.9 R	2 U
SW8270	2,4,6-Trichlorophenol	MG/KG	0 4 U	0.38 U	0.4 U
SW8270	2,4-Dichlorophenol	MG/KG	0.4 U	0 38 U	0.4 U
SW8270	2,4-Dimethylphenol	MG/KG	0 4 U	0.38 U	0.4 U
SW8270	2,4-Dinitrophenol	MG/KG	2 U	1.9 U	2 U
SW8270	2,4-Dinitrotoluene	MG/KG	0 4 U	0.38 U	0.4 U
SW8270	2,6-Dichlorophenol	MG/KG	0.79 U	0.77 U	0.8 U
SW8270	2,6-Dinitrotoluene	MG/KG	0.4 U	0.38 U	0.4 U
SW8270	2-Acetylaminofluorene	MG/KG	0.79 U	0.77 U	0.8 U
SW8270	2-Aminonaphthalene (beta-Naphthylamine)	MG/KG	0.79 U	0.77 U	0.8 U
SW8270	2-Chloronaphthalene	MG/KG	0.4 U	0.38 U	0.4 U
SW8270	2-Chlorophenol	MG/KG	0 4 U	0.38 U	0 4 U
SW8270	2-Methylnaphthalene	MG/KG	0 4 U	0 38 U	0.4 U
SW8270	2-Methylphenol (o-Cresol)	MG/KG	0.4 U	0.38 U	0.4 U
SW8270	2-Nitroaniline	MG/KG	2 U	1.9 U	2 U
SW8270	2-Nitrophenol	MG/KG	0.4 U	0.38 U	0.4 U
SW8270	2-Picoline (alpha-Picoline)	MG/KG	0 4 U	0 38 U	0.4 U
SW8270	3,3'-Dichlorobenzidine	MG/KG	0.79 U	0 77 U	0 8 U
SW8270	3,3'-Dimethylbenzidine	MG/KG	2 U	1.9 U	2 U
SW8270	3-Methylcholanthrene	MG/KG	0 4 U	0.38 U	0.4 U
SW8270	3-Nitroaniline	MG/KG	2 U	1.9 U	2 U
SW8270	4,6-Dinitro-2-methylphenol	MG/KG	2 U	1 9 U	2 U
SW8270	4-Aminobiphenyl (4-Biphenylamine)	MG/KG	0.79 U	0.77 U	0.8 U

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Table D.3
Phase I Soil Analytical Data
SWMU 36
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU36003-05'	BHGLSWMU36003-05' Duplicate	BHGLSWMU36003-10'
SW8270	4-Bromophenyl phenyl ether	MG/KG	0.4 U	0 38 U	0.4 U
SW8270	4-Chloro-3-methylphenol	MG/KG	0.79 U	0 77 U	0.8 U
SW8270	4-Chloroaniline	MG/KG	0.79 U	0.77 U	0.8 U
SW8270	4-Chlorophenyl phenyl ether	MG/KG	0.4 U	0.38 U	0.4 U
SW8270	4-Nitroaniline	MG/KG	2 U	1 9 U	2 U
SW8270	4-Nitrophenol	MG/KG	2 U	1.9 U	2 U
SW8270	4-Nitroquinoline-1-oxide	MG/KG	2 U	1.9 U	2 U
SW8270	5-Nitro-o-toluidine	MG/KG	0.79 U	0.77 U	0.8 U
SW8270	7,12-Dimethylbenzo(a)anthracene	MG/KG	0.79 U	0.77 U	0.8 U
SW8270	Acenaphthene	MG/KG	0.4 U	0.38 U	0.4 U
SW8270	Acenaphthylene	MG/KG	0.4 U	0 38 U	0 4 U
SW8270	Acetophenone	MG/KG	0.79 U	0 77 U	0 8 U
SW8270	alpha, alpha-Dimethylphenethylamine	MG/KG	2 U	1 9 U	2 U
SW8270	Aniline (Phenylamine, Aminobenzene)	MG/KG	0.4 U	0.38 U	0.4 U
SW8270	Anthracene	MG/KG	0.4 U	0.38 U	0.4 U
SW8270	Aramite (total)	MG/KG	0 79 U	0.77 U	0.8 U
SW8270	Benzo(a)anthracene	MG/KG	0.4 U	0 38 U	0 4 U
SW8270	Benzo(a)pyrene	MG/KG	0.4 U	0 38 U	0.4 U
SW8270	Benzo(b)fluoranthene	MG/KG	0 4 U	0.38 U	0.4 U
SW8270	Benzo(g,h,i)perylene	MG/KG	0.4 U	0.38 U	0 4 U
SW8270	Benzo(k)fluoranthene	MG/KG	0.4 U	0 38 U	0.4 U
SW8270	Benzoic acid	MG/KG	2 U	1 9 U	2 U
SW8270	Benzyl alcohol	MG/KG	0.4 R	0 38 R	0.4 R
SW8270	Benzyl butyl phthalate	MG/KG	0 4 U	0.38 U	0.4 U
SW8270	bis(2-Chloroethoxy)methane	MG/KG	0.4 U	0.38 U	0.4 U
SW8270	bis(2-Chloroethyl)ether (2-Chloroethyl ether)	MG/KG	0 4 U	0.38 U	0.4 U
SW8270	bis(2-Ethylhexyl)phthalate	MG/KG	0 4 U	0.38 U	0.4 U
SW8270	Chlorobenzilate	MG/KG	0 4 U	0 38 U	0 4 U
SW8270	Chrysene	MG/KG	0.4 U	0.38 U	0.4 U
SW8270	Cresols, m & p	MG/KG	0.4 U	0 38 U	0.4 U
SW8270	Diallate (total of cis and trans isomers)	MG/KG	0 4 U	0 38 U	0 4 U
SW8270	Dibenz(a,h)anthracene	MG/KG	0.4 U	0.38 U	0 4 U
SW8270	Dibenzofuran	MG/KG	0.4 U	0.38 U	0.4 U
SW8270	Diethyl phthalate	MG/KG	0.4 U	0 38 U	0.4 U
SW8270	Dimethyl phthalate	MG/KG	0.4 U	0 38 U	0.4 U
SW8270	Di-n-butyl phthalate	MG/KG	0.4 U	0.38 U	0.4 U

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Table D.3
Phase I Soil Analytical Data
SWMU 36
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU36003-05'	BHGLSWMU36003-05' Duplicate	BHGLSWMU36003-10'
SW8270	Di-n-octyl phthalate	MG/KG	0 4 U	0.38 U	0 4 U
SW8270	Dinoseb	MG/KG	0 79 U	0.77 U	0 8 U
SW8270	Diphenylamine	MG/KG	0.4 U	0.38 U	0.4 U
SW8270	Ethyl methanesulfonate	MG/KG	0 79 U	0.77 U	0.8 U
SW8270	Fluoranthene	MG/KG	0.4 U	0 38 U	0.4 U
SW8270	Fluorene	MG/KG	0.4 U	0.38 U	0.4 U
SW8270	Hexachlorobenzene	MG/KG	0 4 U	0.38 U	0 4 U
SW8270	Hexachlorobutadiene	MG/KG	0 4 U	0.38 U	0.4 U
SW8270	Hexachlorocyclopentadiene	MG/KG	0.4 UJ	0.38 UJ	0.4 UJ
SW8270	Hexachloroethane	MG/KG	0.4 U	0.38 U	0 4 U
SW8270	Hexachlorophene	MG/KG	5.9 U	5 8 U	6 U
SW8270	Hexachloropropene	MG/KG	2 U	1 9 U	2 U
SW8270	Indeno(1,2,3-c,d)pyrene	MG/KG	0.4 U	0.38 U	0 4 U
SW8270	Isophorone	MG/KG	0 4 U	0.38 U	0.4 U
SW8270	Isosafrole	MG/KG	0.4 U	0.38 U	0 4 U
SW8270	Methapyrilene	MG/KG	0 99 U	0.96 U	1 U
SW8270	Methyl methanesulfonate	MG/KG	0.4 U	0.38 U	0.4 U
SW8270	Naphthalene	MG/KG	0.4 U	0 38 U	0 4 U
SW8270	Nitrobenzene	MG/KG	0.4 U	0.38 U	0.4 U
SW8270	N-Nitrosodiethylamine	MG/KG	0.79 U	0 77 U	0.8 U
SW8270	N-Nitrosodimethylamine	MG/KG	0.79 U	0.77 U	0 8 U
SW8270	N-Nitrosodi-n-butylamine	MG/KG	0.4 U	0 38 U	0.4 U
SW8270	N-Nitrosodi-n-propylamine	MG/KG	0.4 U	0.38 U	0.4 U
SW8270	N-Nitrosodiphenylamine	MG/KG	0.4 U	0.38 U	0 4 U
SW8270	N-Nitrosomethylethylamine	MG/KG	0.4 U	0.38 U	0.4 U
SW8270	N-Nitrosomorpholine	MG/KG	0 79 U	0.77 U	0.8 U
SW8270	N-Nitrosopiperidine	MG/KG	0 4 U	0.38 U	0.4 U
SW8270	N-Nitrosopyrrolidine	MG/KG	0 79 U	0.77 U	0 8 U
SW8270	o-Toluidine	MG/KG	0.79 U	0.77 U	0 8 U
SW8270	p-Dimethylaminoazobenzene	MG/KG	0.79 U	0.77 U	0.8 U
SW8270	Pentachlorobenzene	MG/KG	0 4 U	0 38 U	0 4 U
SW8270	Pentachloronitrobenzene	MG/KG	0 4 U	0.38 U	0.4 U
SW8270	Pentachlorophenol	MG/KG	2 U	1.9 U	2 U
SW8270	Phenacetin	MG/KG	0.4 U	0.38 U	0.4 U
SW8270	Phenanthrene	MG/KG	0 4 U	0 38 U	0.4 U
SW8270	Phenol	MG/KG	0 4 U	0 38 U	0 4 U

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Table D.3
Phase I Soil Analytical Data
SWMU 36
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU36003-05'	BHGLSWMU36003-05' Duplicate	BHGLSWMU36003-10'
SW8270	p-Phenylenediamine	MG/KG	1.6 U	1.5 U	1 6 U
SW8270	Pronamide	MG/KG	0.4 U	0.38 U	0 4 U
SW8270	Pyrene	MG/KG	0 4 U	0.38 U	0.4 U
SW8270	Pyridine	MG/KG	0.79 U	0 77 U	0 8 U
SW8270	Safrole	MG/KG	0.4 U	0 38 U	0 4 U
SW9041	pH	PH UNITS	8	8	8
TX1005	Petroleum Hydrocarbons, Gasoline (C6 - C10)	MG/KG	56 UJ	3 F	3 F
TX1005	Petroleum Hydrocarbons, Heavy/Residual Fuel	MG/KG	3 F	2.9 F	4.1 F
TX1005	Petroleum Hydrocarbons, total (C6 - C28)	MG/KG	3 F	5.9 F	7 1 F

Data Qualifiers

J = This analyte was positively identified, but the quantitation is an estimation.

U = The analyte was analyzed for, but not detected The associate numerical value is at or below the MQL.

F = The analyte was positively identified, but the associated numerical value is below the MQL.

R = The data are unusable due to deficiences in the ability to analyze the sample and meet QC criteria.

UJ = The analyte was analyzed for but not detected, the associated value is a MQL, which is estimated due to deficiencies in the QC criteria

NA = Not analyzed

Table D.4
Phase I Soil Analytical Data
SWMU 51
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLAOC15001-00'	BHGLAOC15001-05'	BHGLAOC15001-10'	BHGLAOC15001-15'
SW6010	Antimony	MG/KG	4 7 UJ	5.1 UJ	4 5 UJ	5 UJ
SW6010	Arsenic	MG/KG	4.2 F	4.6 F	2 7 F	3.1 F
SW6010	Barium	MG/KG	126	79.6	52.2	45 3
SW6010	Beryllium	MG/KG	0.98	0.56	0.39	0.3 J
SW6010	Cadmium	MG/KG	0.47 UJ	0.13 F	0.08 F	0 09 F
SW6010	Chromium, total	MG/KG	14.4	11.1	11	8.1 F
SW6010	Cobalt	MG/KG	6.8	4.5 F	2.8 F	3.1 F
SW6010	Copper	MG/KG	7.4 F	6.8 F	5.5 F	3.1 F
SW6010	Lead	MG/KG	11	10.3	8 3	4 8
SW6010	Nickel	MG/KG	15	8 9 F	6 3 F	6.4 F
SW6010	Tin	MG/KG	1.8 F	1 5 F	1.5 F	39.8 UJ
SW6010	Vanadium	MG/KG	29.7	27 2 F	17.8 F	15.1 F
SW6010	Zinc	MG/KG	21.7 F	20.5 F	16 F	13.6 F
SW7060	Arsenic	MG/KG	NA	NA	NA	NA
SW7421	Lead	MG/KG	NA	NA	NA	NA
SW7471	Mercury	MG/KG	0.04 U	0.04 U	0 04 U	0 04 U
SW7740	Selenium	MG/KG	0.3 UJ	0.3 UJ	0.31 UJ	0 3 UJ
SW7761	Silver	MG/KG	0 2 UJ	0.2 UJ	0 2 UJ	0 2 UJ
SW7841	Thallium	MG/KG	1 U	1 UJ	1 U	0.99 UJ
SW8080	Aldrin	MG/KG	0 34 U	0.0034 U	0.0034 U	0.0034 U
SW8080	alpha-BHC (alpha-Hexachlorocyclohexane)	MG/KG	0 23 U	0.0022 U	0.0022 U	0.0023 U
SW8080	alpha-Chlordane	MG/KG	1.7 U	0 017 U	0.017 U	0.017 U
SW8080	alpha-Endosulfan	MG/KG	1 U	0.01 U	0 01 U	0.01 U
SW8080	beta-BHC (beta-Hexachlorocyclohexane)	MG/KG	0.46 U	0.0045 U	0 0045 U	0 0046 U
SW8080	beta-Endosulfan	MG/KG	0.34 U	0.0034 U	0 0034 U	0.0034 U
SW8080	Chlordane	MG/KG	1 U	0.01 U	0 01 U	0.01 U
SW8080	delta-BHC (delta-Hexachlorocyclohexane)	MG/KG	0 69 U	0.0068 U	0.0068 U	0.0069 U
SW8080	Dieldrin	MG/KG	1.2 U	0.011 U	0.011 U	0.011 U
SW8080	Endosulfan sulfate	MG/KG	4.6 U	0.045 U	0.045 U	0 046 U
SW8080	Endrin	MG/KG	0.46 U	0.0045 U	0.0045 U	0.0046 U
SW8080	Endrin aldehyde	MG/KG	2 3 U	0.022 U	0.022 U	0.023 U
SW8080	gamma-BHC (Lindane)	MG/KG	0.34 U	0 0034 U	0.0034 U	0 0034 U
SW8080	gamma-Chlordane	MG/KG	1.7 U	0.017 U	0 017 U	0 017 U
SW8080	Heptachlor	MG/KG	0.23 U	0.0022 U	0.0022 U	0.0023 U
SW8080	Heptachlor epoxide	MG/KG	6 9 U	0.068 U	0.068 U	0.069 U
SW8080	Isodrin	MG/KG	0.46 U	0.0045 U	0.0045 U	0.0046 U

Table D.4
Phase I Soil Analytical Data
SWMU 51
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLAOC15001-00'	BHGLAOC15001-05'	BHGLAOC15001-10'	BHGLAOC15001-15'
SW8080	Kepone	MG/KG	9.6 U	0 094 U	0 094 U	0.095 U
SW8080	Methoxychlor	MG/KG	12 U	0.11 U	0.11 U	0.11 U
SW8080	p,p'-DDD	MG/KG	0.8 U	0.0079 U	0.0079 U	0.008 U
SW8080	p,p'-DDE	MG/KG	0.34 U	0.0034 U	0.0034 U	0.0034 U
SW8080	p,p'-DDT	MG/KG	0 92 U	0.009 U	0 009 U	0.0092 U
SW8080	PCB-1016 (Aroclor 1016)	MG/KG	120 U	1.1 U	1.1 U	1.1 U
SW8080	PCB-1221 (Aroclor 1221)	MG/KG	120 U	1 1 U	1 1 U	1.1 U
SW8080	PCB-1232 (Aroclor 1232)	MG/KG	120 U	1.1 U	1 1 U	1.1 U
SW8080	PCB-1242 (Aroclor 1242)	MG/KG	120 U	1.1 U	1 1 U	1 1 U
SW8080	PCB-1248 (Aroclor 1248)	MG/KG	120 U	1.1 U	1 1 U	1.1 U
SW8080	PCB-1254 (Aroclor 1254)	MG/KG	120 U	1.1 U	1.1 U	1.1 U
SW8080	PCB-1260 (Aroclor 1260)	MG/KG	120 U	1.1 U	1.1 U	1.1 U
SW8080	Toxaphene	MG/KG	23 U	0.22 U	0.22 U	0.23 U
SW8081	Aldrin	MG/KG	NA	NA	NA	NA
SW8081	alpha-BHC (alpha-Hexachlorocyclohexane)	MG/KG	NA	NA	NA	NA
SW8081	alpha-Chlordane	MG/KG	NA	NA	NA	NA
SW8081	alpha-Endosulfan	MG/KG	NA	NA	NA	NA
SW8081	beta-BHC (beta-Hexachlorocyclohexane)	MG/KG	NA	NA	NA	NA
SW8081	beta-Endosulfan	MG/KG	NA	NA	NA	NA
SW8081	Chlordane	MG/KG	NA	NA	NA	NA
SW8081	delta-BHC (delta-Hexachlorocyclohexane)	MG/KG	NA	NA	NA	NA
SW8081	Dieldrin	MG/KG	NA	NA	NA	NA
SW8081	Endosulfan sulfate	MG/KG	NA	NA	NA	NA
SW8081	Endrin	MG/KG	NA	NA	NA	NA
SW8081	Endrin aldehyde	MG/KG	NA	NA	NA	NA
SW8081	gamma-BHC (Lindane)	MG/KG	NA	NA	NA	NA
SW8081	gamma-Chlordane	MG/KG	NA	NA	NA	NA
SW8081	Heptachlor	MG/KG	NA	NA	NA	NA
SW8081	Heptachlor epoxide	MG/KG	NA	NA	NA	NA
SW8081	Isodrin	MG/KG	NA	NA	NA	NA
SW8081	Kepone	MG/KG	NA	NA	NA	NA
SW8081	Methoxychlor	MG/KG	NA	NA	NA	NA
SW8081	p,p'-DDD	MG/KG	NA	NA	NA	NA
SW8081	p,p'-DDE	MG/KG	NA	NA	NA	NA
SW8081	p,p'-DDT	MG/KG	NA	NA	NA	NA
SW8081	PCB-1016 (Aroclor 1016)	MG/KG	NA	NA	NA	NA

Table D.4
Phase I Soil Analytical Data
SWMU 51
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLAOC15001-00'	BHGLAOC15001-05'	BHGLAOC15001-10'	BHGLAOC15001-15'
SW8081	PCB-1221 (Aroclor 1221)	MG/KG	NA	NA	NA	NA
SW8081	PCB-1232 (Aroclor 1232)	MG/KG	NA	NA	NA	NA
SW8081	PCB-1242 (Aroclor 1242)	MG/KG	NA	NA	NA	NA
SW8081	PCB-1248 (Aroclor 1248)	MG/KG	NA	NA	NA	NA
SW8081	PCB-1254 (Aroclor 1254)	MG/KG	NA	NA	NA	NA
SW8081	PCB-1260 (Aroclor 1260)	MG/KG	NA	NA	NA	NA
SW8081	Toxaphene	MG/KG	NA	NA	NA	NA
SW8141	Dimethoate	MG/KG	0.077 U	0 076 U	0.076 U	0 076 U
SW8141	Disulfoton	MG/KG	0.077 U	0.076 U	0.076 U	0.076 U
SW8141	Famphur	MG/KG	0.077 U	0.076 U	0.076 U	0 076 U
SW8141	O,O,O-Triethyl phosphorothioate	MG/KG	0.077 U	0 076 U	0.076 U	0 076 U
SW8141	Parathion, ethyl	MG/KG	0.077 U	0 076 U	0.076 U	0.076 U
SW8141	Parathion, methyl	MG/KG	0.077 U	0 076 U	0.076 U	0 076 U
SW8141	Phorate	MG/KG	0.077 U	0.076 U	0.076 U	0 076 U
SW8141	Thiodiphosphoric acid, tetraethyl ester	MG/KG	0 077 U	0 076 U	0.076 U	0 076 U
SW8141	Zinophos	MG/KG	0.077 U	0 076 U	0.076 U	0.076 U
SW8150	2,4,5-T (Trichlorophenoxyacetic acid)	MG/KG	0.039 U	0 038 U	0 038 U	0 037 U
SW8150	2,4-D (Dichlorophenoxyacetic acid)	MG/KG	0.39 U	0.38 U	0.38 U	0 37 U
SW8150	Silvex (2,4,5-TP)	MG/KG	0.039 U	0 038 U	0.038 U	0 037 U
SW8151	2,4,5-T (Trichlorophenoxyacetic acid)	MG/KG	NA	NA	NA	NA
SW8151	2,4-D (Dichlorophenoxyacetic acid)	MG/KG	NA	NA	NA	NA
SW8151	Silvex (2,4,5-TP)	MG/KG	NA	NA	NA	NA
SW8260	1,1,1,2-Tetrachloroethane	MG/KG	0 003 U	0 003 U	0.003 U	0 003 U
SW8260	1,1,1-Trichloroethane	MG/KG	0 004 U	0.004 U	0.004 U	0.004 U
SW8260	1,1,2,2-Tetrachloroethane	MG/KG	0.002 U	0 002 UJ	0 002 UJ	0.002 U
SW8260	1,1,2-Trichloroethane	MG/KG	0.005 R	0 004 U	0.005 U	0.005 R
SW8260	1,1-Dichloroethane	MG/KG	0 002 U	0.002 U	0.002 U	0.002 U
SW8260	1,1-Dichloroethene	MG/KG	0 005 U	0 004 U	0.005 U	0.005 U
SW8260	1,2,3-Trichloropropane	MG/KG	0 005 U	0 004 UJ	0.005 UJ	0 005 U
SW8260	1,2-Dibromo-3-chloropropane	MG/KG	0 005 U	0.004 UJ	0.005 UJ	0 005 U
SW8260	1,2-Dibromoethane (Ethylene dibromide)	MG/KG	0.003 U	0.003 U	0.003 U	0.003 U
SW8260	1,2-Dichloroethane	MG/KG	0 003 U	0.003 U	0.003 U	0.003 U
SW8260	1,2-Dichloropropane	MG/KG	0.002 U	0.002 U	0.002 U	0 002 U
SW8260	2-Chloro-1,3-butadiene	MG/KG	0.005 U	0 004 U	0 005 U	0 005 U
SW8260	2-Hexanone	MG/KG	0.005 U	0.004 U	0 005 U	0 005 U
SW8260	Acetone	MG/KG	0.005 U	0 004 U	0.005 U	0 005 U

Table D.4
Phase I Soil Analytical Data
SWMU 51
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLAOC15001-00'	BHGLAOC15001-05'	BHGLAOC15001-10'	BHGLAOC15001-15'
SW8260	Acetonitrile	MG/KG	0.042 U	0.036 U	0.038 U	0.037 U
SW8260	Acrolein	MG/KG	0.1 U	0.091 U	0.095 U	0.093 U
SW8260	Acrylonitrile	MG/KG	0.042 U	0.036 U	0.038 U	0.037 U
SW8260	Allyl chloride (3-Chloropropene)	MG/KG	0.01 U	0.009 U	0.01 U	0.009 U
SW8260	Benzene	MG/KG	0.002 U	0.002 U	0.002 U	0.002 U
SW8260	Bromodichloromethane	MG/KG	0.004 U	0.004 U	0 004 U	0.004 U
SW8260	Bromoform	MG/KG	0 005 U	0 004 U	0.005 U	0.005 U
SW8260	Bromomethane	MG/KG	0 005 U	0 004 U	0.005 U	0.005 U
SW8260	Carbon disulfide	MG/KG	0.005 U	0 004 U	0.005 U	0 005 U
SW8260	Carbon tetrachloride	MG/KG	0.005 U	0 004 U	0.005 U	0.005 U
SW8260	Chlorobenzene	MG/KG	0.002 U	0.002 U	0.002 U	0.002 U
SW8260	Chloroethane	MG/KG	0.005 U	0.004 U	0.005 U	0.005 U
SW8260	Chloroform	MG/KG	0.002 U	0.002 U	0.002 U	0.002 U
SW8260	Chloromethane	MG/KG	0.005 U	0.004 U	0.005 U	0.005 U
SW8260	cis-1,2-Dichloroethene	MG/KG	0.005 U	0.004 U	0 005 U	0.005 U
SW8260	cis-1,3-Dichloropropene	MG/KG	0 005 U	0.004 U	0 005 U	0.005 U
SW8260	Dibromochloromethane	MG/KG	0 003 U	0.003 U	0.003 U	0.003 U
SW8260	Dibromomethane	MG/KG	0 005 U	0.004 U	0.005 U	0.005 U
SW8260	Dichlorodifluoromethane	MG/KG	0 005 R	0.004 R	0.005 R	0.005 R
SW8260	Ethyl methacrylate	MG/KG	0.005 U	0.004 U	0 005 U	0.005 U
SW8260	Ethylbenzene	MG/KG	0.003 U	0.003 U	0.003 U	0.003 U
SW8260	Iodomethane (Methyl iodide)	MG/KG	0.005 U	0 004 U	0.005 U	0.005 U
SW8260	Isobutanol	MG/KG	0.21 U	0.18 U	0.19 U	0.19 U
SW8260	m,p-Xylene (sum of isomers)	MG/KG	0.005 U	0.004 U	0.005 U	0.005 U
SW8260	Methyl ethyl ketone (2-Butanone)	MG/KG	0 005 U	0.004 U	0.005 U	0.005 U
SW8260	Methyl isobutyl ketone (4-Methyl-2-pentanone)	MG/KG	0 005 U	0 004 U	0.005 U	0 005 U
SW8260	Methyl methacrylate	MG/KG	0 005 U	0.004 U	0.005 U	0 005 U
SW8260	Methylacrylonitrile	MG/KG	0 005 U	0.004 U	0 005 U	0.005 U
SW8260	Methylene chloride	MG/KG	0 002 U	0.002 U	0 002 U	0.002 U
SW8260	o-Xylene (1,2-Dimethylbenzene)	MG/KG	0.005 U	0.004 U	0 005 U	0.005 U
SW8260	Pentachloroethane	MG/KG	0.005 U	0.004 U	0.005 U	0.005 U
SW8260	Propane nitrile (Propionitrile)	MG/KG	0.021 U	0.018 U	0.019 U	0.019 U
SW8260	Styrene	MG/KG	0 002 U	0 002 U	0.002 U	0.002 U
SW8260	Tetrachloroethene (PCE)	MG/KG	0 005 U	0.004 U	0.005 U	0.005 U
SW8260	Toluene	MG/KG	0.005 U	0.004 U	0 005 U	0.005 U
SW8260	Trans-1,2-Dichloroethene	MG/KG	0.003 U	0.003 U	0.003 U	0 003 U

Table D.4
Phase I Soil Analytical Data
SWMU 51
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLAOC15001-00'	BHGLAOC15001-05'	BHGLAOC15001-10'	BHGLAOC15001-15'
SW8260	Trans-1,3-Dichloropropene	MG/KG	0.005 U	0.004 U	0.005 U	0.005 U
SW8260	Trans-1,4-Dichloro-2-Butene	MG/KG	0.005 U	0.004 U	0.005 U	0.005 U
SW8260	Trichloroethene (TCE)	MG/KG	0.005 U	0.004 U	0.005 U	0.005 U
SW8260	Vinyl acetate	MG/KG	0.005 U	0 004 U	0.005 U	0.005 U
SW8260	Vinyl chloride	MG/KG	0 005 U	0.004 U	0.005 U	0 005 U
SW8270	1,2,4,5-Tetrachlorobenzene	MG/KG	0.38 U	0.38 U	0.38 U	0.38 U
SW8270	1,2,4-Trichlorobenzene	MG/KG	0 38 U	0.38 U	0.38 U	0.38 U
SW8270	1,2-Dichlorobenzene	MG/KG	0 38 U	0.38 U	0.38 U	0.38 U
SW8270	1,3,5-Trinitrobenzene	MG/KG	1.5 U	1.5 U	1.5 U	1.5 U
SW8270	1,3-Dichlorobenzene	MG/KG	0.38 U	0.38 U	0.38 U	0.38 U
SW8270	1,3-Dinitrobenzene	MG/KG	0.38 U	0.38 U	0.38 U	0.38 U
SW8270	1,4-Dichlorobenzene	MG/KG	0.38 U	0.38 U	0.38 U	0.38 U
SW8270	1,4-Dioxane (p-Dioxane)	MG/KG	1.5 U	1.5 U	1.5 U	1.5 U
SW8270	1,4-Naphthoquinone	MG/KG	1.9 U	1.9 U	1.9 U	1.9 U
SW8270	1-Naphthylamine	MG/KG	0.77 U	0.76 U	0.75 U	0.77 U
SW8270	2,2'-Oxybis(1-chloropropane)	MG/KG	0 38 U	0 38 U	0.38 U	0 38 U
SW8270	2,3,4,6-Tetrachlorophenol	MG/KG	0 38 U	0.38 U	0.38 U	0.38 U
SW8270	2,4,5-Trichlorophenol	MG/KG	1.9 U	1.9 R	1.9 R	1.9 R
SW8270	2,4,6-Trichlorophenol	MG/KG	0.38 U	0.38 U	0.38 U	0.38 U
SW8270	2,4-Dichlorophenol	MG/KG	0.38 U	0.38 U	0.38 U	0.38 U
SW8270	2,4-Dimethylphenol	MG/KG	0.38 U	0.38 U	0.38 U	0.38 U
SW8270	2,4-Dinitrophenol	MG/KG	1.9 U	1.9 U	1.9 U	1 9 U
SW8270	2,4-Dinitrotoluene	MG/KG	0 38 U	0.38 U	0.38 U	0.38 U
SW8270	2,6-Dichlorophenol	MG/KG	0.77 U	0.76 U	0.75 U	0.77 U
SW8270	2,6-Dinitrotoluene	MG/KG	0.38 U	0.38 U	0.38 U	0.38 U
SW8270	2-Acetylaminofluorene	MG/KG	0.77 U	0.76 U	0.75 U	0.77 U
SW8270	2-Aminonaphthalene (beta-Naphthylamine)	MG/KG	0.77 U	0.76 U	0.75 U	0.77 U
SW8270	2-Chloronaphthalene	MG/KG	0.38 U	0.38 U	0.38 U	0.38 U
SW8270	2-Chlorophenol	MG/KG	0.38 U	0.38 U	0.38 U	0.38 U
SW8270	2-Methylnaphthalene	MG/KG	0.38 U	0.38 U	0.38 U	0.38 U
SW8270	2-Methylphenol (o-Cresol)	MG/KG	0.38 U	0.38 U	0.38 U	0.38 U
SW8270	2-Nitroaniline	MG/KG	1.9 U	1.9 U	1.9 U	1 9 U
SW8270	2-Nitrophenol	MG/KG	0.38 U	0.38 U	0.38 U	0.38 U
SW8270	2-Picoline (alpha-Picoline)	MG/KG	0 38 U	0.38 U	0.38 U	0.38 U
SW8270	3,3'-Dichlorobenzidine	MG/KG	0 77 U	0.76 U	0.75 U	0.77 U
SW8270	3,3'-Dimethylbenzidine	MG/KG	1.9 U	1.9 U	1.9 U	1.9 U

Table D.4
Phase I Soil Analytical Data
SWMU 51
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLAOC15001-00'	BHGLAOC15001-05'	BHGLAOC15001-10'	BHGLAOC15001-15'
SW8270	3-Methylcholanthrene	MG/KG	0.38 U	0 38 U	0.38 U	0 38 U
SW8270	3-Nitroaniline	MG/KG	1.9 U	1.9 U	1 9 U	1 9 U
SW8270	4,6-Dinitro-2-methylphenol	MG/KG	1.9 U	1.9 U	1.9 U	1.9 U
SW8270	4-Aminobiphenyl (4-Biphenylamine)	MG/KG	0.77 U	0.76 U	0 75 U	0.77 U
SW8270	4-Bromophenyl phenyl ether	MG/KG	0.38 U	0.38 U	0 38 U	0 38 U
SW8270	4-Chloro-3-methylphenol	MG/KG	0.77 U	0.76 U	0.75 U	0 77 U
SW8270	4-Chloroaniline	MG/KG	0.77 U	0.76 U	0.75 U	0 77 U
SW8270	4-Chlorophenyl phenyl ether	MG/KG	0.38 U	0.38 U	0.38 U	0 38 U
SW8270	4-Nitroaniline	MG/KG	1.9 U	1.9 U	1.9 U	1 9 U
SW8270	4-Nitrophenol	MG/KG	1.9 U	1.9 U	1.9 U	1 9 U
SW8270	4-Nitroquinoline-1-oxide	MG/KG	1.9 U	1.9 U	1.9 U	1 9 U
SW8270	5-Nitro-o-toluidine	MG/KG	0.77 U	0.76 U	0 75 U	0.77 U
SW8270	7,12-Dimethylbenzo(a)anthracene	MG/KG	0.77 U	0.76 U	0.75 U	0.77 U
SW8270	Acenaphthene	MG/KG	0 3 F	0.38 U	0.38 U	0.38 U
SW8270	Acenaphthylene	MG/KG	0.38 U	0.38 U	0.38 U	0 38 U
SW8270	Acetophenone	MG/KG	0.77 U	0.76 U	0.75 U	0.77 U
SW8270	alpha, alpha-Dimethylphenethylamine	MG/KG	1.9 U	1 9 U	1.9 U	1.9 U
SW8270	Aniline (Phenylamine, Aminobenzene)	MG/KG	0.38 U	0 38 U	0.38 U	0.38 U
SW8270	Anthracene	MG/KG	0.57	0.38 U	0.38 U	0 38 U
SW8270	Aramite (total)	MG/KG	0.77 U	0.76 U	0.75 U	0.77 U
SW8270	Benzo(a)anthracene	MG/KG	1.5	0.38 U	0.38 U	0.38 U
SW8270	Benzo(a)pyrene	MG/KG	1.3	0.38 U	0.38 U	0.38 U
SW8270	Benzo(b)fluoranthene	MG/KG	1.8	0.38 U	0.38 U	0.38 U
SW8270	Benzo(g,h,i)perylene	MG/KG	0.58	0 38 U	0.38 U	0 38 U
SW8270	Benzo(k)fluoranthene	MG/KG	0.89	0.38 U	0 38 U	0.38 U
SW8270	Benzoic acid	MG/KG	1.9 U	1 9 U	1.9 U	1.9 U
SW8270	Benzyl alcohol	MG/KG	0.38 R	0.38 R	0.38 R	0 38 R
SW8270	Benzyl butyl phthalate	MG/KG	0.38 U	0.38 U	0.38 U	0.38 U
SW8270	bis(2-Chloroethoxy)methane	MG/KG	0.38 U	0 38 U	0.38 U	0 38 U
SW8270	bis(2-Chloroethyl)ether (2-Chloroethyl ether)	MG/KG	0.38 U	0 38 U	0.38 U	0 38 U
SW8270	bis(2-Ethylhexyl)phthalate	MG/KG	0.38 U	0 38 U	0.38 U	0.38 U
SW8270	Chlorobenzilate	MG/KG	0.38 U	0.38 U	0.38 U	0 38 U
SW8270	Chrysene	MG/KG	1 6	0.38 U	0.38 U	0 38 U
SW8270	Cresols, m & p	MG/KG	0.38 U	0 38 U	0.38 U	0 38 U
SW8270	Diallate (total of cis and trans isomers)	MG/KG	0.38 U	0 38 U	0.38 U	0.38 U
SW8270	Dibenz(a,h)anthracene	MG/KG	0.16 F	0.38 U	0.38 U	0 38 U

Table D.4
Phase I Soil Analytical Data
SWMU 51
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLAOC15001-00'	BHGLAOC15001-05'	BHGLAOC15001-10'	BHGLAOC15001-15'
SW8270	Dibenzofuran	MG/KG	0.18 F	0.38 U	0.38 U	0 38 U
SW8270	Diethyl phthalate	MG/KG	0.38 U	0.38 U	0.38 U	0.38 U
SW8270	Dimethyl phthalate	MG/KG	0.38 U	0.38 U	0.38 U	0 38 U
SW8270	Di-n-butyl phthalate	MG/KG	0.38 U	0.38 U	0.38 U	0 38 U
SW8270	Di-n-octyl phthalate	MG/KG	0.38 U	0.38 U	0.38 U	0.38 U
SW8270	Dinoseb	MG/KG	0.77 U	0.76 U	0.75 U	0.77 U
SW8270	Diphenylamine	MG/KG	0.38 U	0 38 U	0 38 U	0.38 U
SW8270	Ethyl methanesulfonate	MG/KG	0 77 U	0 76 U	0.75 U	0.77 U
SW8270	Fluoranthene	MG/KG	3.5	0.38 U	0 04 F	0 38 U
SW8270	Fluorene	MG/KG	0.31 F	0 38 U	0.38 U	0 38 U
SW8270	Hexachlorobenzene	MG/KG	0.38 U	0 38 U	0.38 U	0 38 U
SW8270	Hexachlorobutadiene	MG/KG	0.38 U	0.38 U	0.38 U	0.38 U
SW8270	Hexachlorocyclopentadiene	MG/KG	0.38 UJ	0 38 UJ	0.38 UJ	0 38 UJ
SW8270	Hexachloroethane	MG/KG	0.38 U	0 38 U	0.38 U	0 38 U
SW8270	Hexachlorophene	MG/KG	5.8 U	5.7 U	5.6 U	5 8 U
SW8270	Hexachloropropene	MG/KG	1.9 U	1.9 U	1.9 U	1.9 U
SW8270	Indeno(1,2,3-c,d)pyrene	MG/KG	0 77	0.38 U	0.38 U	0.38 U
SW8270	Isophorone	MG/KG	0 38 U	0.38 U	0.38 U	0.38 U
SW8270	Isosafrole	MG/KG	0.38 U	0.38 U	0.38 U	0.38 U
SW8270	Methapyrilene	MG/KG	0.96 U	0.95 U	0.94 U	0 96 U
SW8270	Methyl methanesulfonate	MG/KG	0.38 U	0 38 U	0 38 U	0.38 U
SW8270	Naphthalene	MG/KG	0.041 F	0.38 U	0.38 U	0.38 U
SW8270	Nitrobenzene	MG/KG	0.38 U	0.38 U	0.38 U	0.38 U
SW8270	N-Nitrosodiethylamine	MG/KG	0.77 U	0.76 U	0 75 U	0.77 U
SW8270	N-Nitrosodimethylamine	MG/KG	0.77 U	0.76 U	0.75 U	0.77 U
SW8270	N-Nitrosodi-n-butylamine	MG/KG	0.38 U	0.38 U	0.38 U	0 38 U
SW8270	N-Nitrosodi-n-propylamine	MG/KG	0.38 U	0.38 U	0.38 U	0 38 U
SW8270	N-Nitrosodiphenylamine	MG/KG	0.38 U	0.38 U	0.38 U	0.38 U
SW8270	N-Nitrosomethylethylamine	MG/KG	0 38 U	0 38 U	0.38 U	0.38 U
SW8270	N-Nitrosomorpholine	MG/KG	0.77 U	0.76 U	0.75 U	0.77 U
SW8270	N-Nitrosopiperidine	MG/KG	0.38 U	0.38 U	0.38 U	0.38 U
SW8270	N-Nitrosopyrrolidine	MG/KG	0.77 U	0.76 U	0.75 U	0.77 U
SW8270	o-Toluidine	MG/KG	0 77 U	0.76 U	0.75 U	0.77 U
SW8270	p-Dimethylaminoazobenzene	MG/KG	0.77 U	0.76 U	0 75 U	0.77 U
SW8270	Pentachlorobenzene	MG/KG	0 38 U	0.38 U	0.38 U	0.38 U
SW8270	Pentachloronitrobenzene	MG/KG	0.38 U	0.38 U	0.38 U	0.38 U

Table D.4
Phase I Soil Analytical Data
SWMU 51
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLAOC15001-00'	BHGLAOC15001-05'	BHGLAOC15001-10'	BHGLAOC15001-15'
SW8270	Pentachlorophenol	MG/KG	1 9 U	1.9 U	1.9 U	1.9 U
SW8270	Phenacetin	MG/KG	0.38 U	0 38 U	0.38 U	0.38 U
SW8270	Phenanthrene	MG/KG	3.2	0.38 U	0 38 U	0 38 U
SW8270	Phenol	MG/KG	0 38 U	0.38 U	0.38 U	0 38 U
SW8270	p-Phenylenediamine	MG/KG	1 5 U	1.5 U	1.5 U	1.5 U
SW8270	Pronamide	MG/KG	0.38 U	0 38 U	0 38 U	0.38 U
SW8270	Pyrene	MG/KG	4 4	0 38 U	0.38 U	0.38 U
SW8270	Pyridine	MG/KG	0 77 U	0 76 U	0 75 U	0 77 U
SW8270	Safrole	MG/KG	0 38 U	0.38 U	0.38 U	0 38 U
SW8280	2,3,7,8-Tetrachlorodibenzofuran	MG/KG	0.00003 U	0 00004 U	0.00003 U	0.00004 U
SW8280	2,3,7,8-Tetrachlorodibenzo-p-dioxin	MG/KG	0.00004 U	0.00004 U	0 00005 U	0.00008 U
SW9010	Cyanide	MG/KG	10 U	10 U	10 U	10 U
SW9030	Sulfide	MG/KG	115	75.6	108	85.8

Data Qualifiers:

J = This analyte was positively identified, but the quantitation is an estimation.

U = The analyte was analyzed for, but not detected The associate numerical value is at or below the MQL.

F = The analyte was positively identified, but the associated numerical value is below the MQL

R = The data are unusable due to deficiences in the ability to analyze the sample and meet QC criteria

UJ = The analyte was analyzed for but not detected, the associated value is a MQL, which is estimated due to deficiencies in the QC criteria.

NA = Not analyzed

Table D.4
Phase I Soil Analytical Data
SWMU 51
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLAOC15001-20'	BHGLSWMU51001-00'	BHGLSWMU51001-05'	BHGLSWMU51002-00'
SW6010	Antimony	MG/KG	4.6 UJ	0 43 F	4.3 UJ	5 UJ
SW6010	Arsenic	MG/KG	2.6 F	4.6 F	2.9 F	4.3 F
SW6010	Barium	MG/KG	56.3	212	44.2	102
SW6010	Beryllium	MG/KG	0 16 F	0.98	0.47	0.79
SW6010	Cadmium	MG/KG	0.07 F	0.05 F	0.17 F	0.14 F
SW6010	Chromium, total	MG/KG	5.3 F	13.1 J	8.4 F	12.8 J
SW6010	Cobalt	MG/KG	2.8 F	18.2	3 F	5.6 F
SW6010	Copper	MG/KG	2.4 F	8 9 F	5 6 F	7.7 F
SW6010	Lead	MG/KG	4.1	23.3	8.8	12.9
SW6010	Nickel	MG/KG	4.6 F	22.2	6.3 F	10 5
SW6010	Tin	MG/KG	1.2 F	39.4 U	34 6 U	39.6 U
SW6010	Vanadium	MG/KG	11.2 F	34.4	20 F	28 9 F
SW6010	Zinc	MG/KG	9 8 F	17.1 F	12.9 F	19.9 F
SW7060	Arsenic	MG/KG	NA	NA	NA	NA
SW7421	Lead	MG/KG	NA	NA	NA	NA
SW7471	Mercury	MG/KG	0.04 U	0.08	0.06	0.04 F
SW7740	Selenium	MG/KG	0 28 UJ	1.3 UJ	0.29 UJ	1.6 UJ
SW7761	Silver	MG/KG	0.19 UJ	0.17 U	0.2 UJ	0.21 UJ
SW7841	Thallium	MG/KG	0.93 UJ	0.23 F	0 98 UJ	1 UJ
SW8080	Aldrin	MG/KG	0.0033 U	0 0068 U	0.0034 U	0 0035 U
SW8080	alpha-BHC (alpha-Hexachlorocyclohexane)	MG/KG	0 0022 U	0.0045 U	0.0022 U	0.0023 U
SW8080	alpha-Chlordane	MG/KG	0 016 U	0.034 U	0.017 U	0.018 U
SW8080	alpha-Endosulfan	MG/KG	0 0098 U	0.02 U	0.01 U	0.01 U
SW8080	beta-BHC (beta-Hexachlorocyclohexane)	MG/KG	0 0044 U	0.0091 U	0.0045 U	0.0047 U
SW8080	beta-Endosulfan	MG/KG	0.0033 U	0.0068 U	0.0034 U	0 0035 U
SW8080	Chlordane	MG/KG	0.0098 U	0.02 U	0.01 U	0.01 U
SW8080	delta-BHC (delta-Hexachlorocyclohexane)	MG/KG	0.0066 U	0.014 U	0 0067 U	0.007 U
SW8080	Dieldrin	MG/KG	0 011 U	0.023 U	0.011 U	0.012 U
SW8080	Endosulfan sulfate	MG/KG	0.044 U	0.091 U	0 045 U	0.047 U
SW8080	Endrin	MG/KG	0.0044 U	0 0091 U	0 0045 U	0 0047 U
SW8080	Endrin aldehyde	MG/KG	0 022 U	0 045 U	0.022 U	0.023 U
SW8080	gamma-BHC (Lindane)	MG/KG	0.0033 U	0 0068 U	0 0034 U	0.0035 U
SW8080	gamma-Chlordane	MG/KG	0.016 U	0.034 U	0.017 U	0.018 U
SW8080	Heptachlor	MG/KG	0.0022 U	0 0045 U	0 0022 U	0.0023 U
SW8080	Heptachlor epoxide	MG/KG	0 066 U	0.14 U	0.067 U	0.07 U
SW8080	Isodrin	MG/KG	0 0044 U	0 0091 U	0.0045 U	0 0047 U

Table D.4
Phase I Soil Analytical Data
SWMU 51
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLAOC15001-20'	BHGLSWMU51001-00'	BHGLSWMU51001-05'	BHGLSWMU51002-00'
SW8080	Kepone	MG/KG	0.091 U	0.19 U	0.093 U	0.098 U
SW8080	Methoxychlor	MG/KG	0 11 U	0.23 U	0.11 U	0.12 U
SW8080	p,p'-DDD	MG/KG	0.0076 U	0.016 U	0.0078 U	0 0082 U
SW8080	p,p'-DDE	MG/KG	0.0033 U	0.0068 U	0 0034 U	0.0035 U
SW8080	p,p'-DDT	MG/KG	0.0088 U	0.018 U	0.009 U	0.0094 U
SW8080	PCB-1016 (Aroclor 1016)	MG/KG	1.1 U	2.3 U	1.1 U	1.2 U
SW8080	PCB-1221 (Aroclor 1221)	MG/KG	1.1 U	2 3 U	1.1 U	1.2 U
SW8080	PCB-1232 (Aroclor 1232)	MG/KG	1.1 U	2.3 U	1.1 U	1.2 U
SW8080	PCB-1242 (Aroclor 1242)	MG/KG	1.1 U	2.3 U	1.1 U	1.2 U
SW8080	PCB-1248 (Aroclor 1248)	MG/KG	1 1 U	2.3 U	1.1 U	1.2 U
SW8080	PCB-1254 (Aroclor 1254)	MG/KG	1.1 U	2 3 U	1 1 U	1 2 U
SW8080	PCB-1260 (Aroclor 1260)	MG/KG	0 015 F	2 3 U	1.1 U	1.2 U
SW8080	Toxaphene	MG/KG	0.22 U	0.45 U	0.22 U	0 23 U
SW8081	Aldrin	MG/KG	NA	NA	NA	NA
SW8081	alpha-BHC (alpha-Hexachlorocyclohexane)	MG/KG	NA	NA	NA	NA
SW8081	alpha-Chlordane	MG/KG	NA	NA	NA	NA
SW8081	alpha-Endosulfan	MG/KG	NA	NA	NA	NA
SW8081	beta-BHC (beta-Hexachlorocyclohexane)	MG/KG	NA	NA	NA	NA
SW8081	beta-Endosulfan	MG/KG	NA	NA	NA	NA
SW8081	Chlordane	MG/KG	NA	NA	NA	NA
SW8081	delta-BHC (delta-Hexachlorocyclohexane)	MG/KG	NA	NA	NA	NA
SW8081	Dieldrin	MG/KG	NA	NA	NA	NA
SW8081	Endosulfan sulfate	MG/KG	NA	NA	NA	NA
SW8081	Endrin	MG/KG	NA	NA	NA	NA
SW8081	Endrin aldehyde	MG/KG	NA	NA	NA	NA
SW8081	gamma-BHC (Lindane)	MG/KG	NA	NA	NA	NA
SW8081	gamma-Chlordane	MG/KG	NA	NA	NA	NA
SW8081	Heptachlor	MG/KG	NA	NA	NA	NA
SW8081	Heptachlor epoxide	MG/KG	NA	NA	NA	NA
SW8081	Isodrin	MG/KG	NA	NA	NA	NA
SW8081	Kepone	MG/KG	NA	NA	NA	NA
SW8081	Methoxychlor	MG/KG	NA	NA	NA	NA
SW8081	p,p'-DDD	MG/KG	NA	NA	NA	NA
SW8081	p,p'-DDE	MG/KG	NA	NA	NA	NA
SW8081	p,p'-DDT	MG/KG	NA	NA	NA	NA
SW8081	PCB-1016 (Aroclor 1016)	MG/KG	NA	NA	NA	NA

Table D.4
Phase I Soil Analytical Data
SWMU 51
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLAOC15001-20'	BHGLSWMU51001-00'	BHGLSWMU51001-05'	BHGLSWMU51002-00'
SW8081	PCB-1221 (Aroclor 1221)	MG/KG	NA	NA	NA	NA
SW8081	PCB-1232 (Aroclor 1232)	MG/KG	NA	NA	NA	NA
SW8081	PCB-1242 (Aroclor 1242)	MG/KG	NA	NA	NA	NA
SW8081	PCB-1248 (Aroclor 1248)	MG/KG	NA	NA	NA	NA
SW8081	PCB-1254 (Aroclor 1254)	MG/KG	NA	NA	NA	NA
SW8081	PCB-1260 (Aroclor 1260)	MG/KG	NA	NA	NA	NA
SW8081	Toxaphene	MG/KG	NA	NA	NA	NA
SW8141	Dimethoate	MG/KG	0.073 UJ	0.076 U	0 075 U	0 078 U
SW8141	Disulfoton	MG/KG	0.073 UJ	0.076 U	0.075 U	0 078 U
SW8141	Famphur	MG/KG	0.073 UJ	0.076 U	0.075 U	0 078 U
SW8141	O,O,O-Triethyl phosphorothioate	MG/KG	0.073 UJ	0.076 U	0.075 U	0 078 U
SW8141	Parathion, ethyl	MG/KG	0.073 UJ	0.076 U	0.075 U	0 078 U
SW8141	Parathion, methyl	MG/KG	0.073 UJ	0.076 U	0.075 U	0.078 U
SW8141	Phorate	MG/KG	0.073 UJ	0.076 U	0.075 U	0.078 U
SW8141	Thiodiphosphoric acid, tetraethyl ester	MG/KG	0.073 UJ	0.076 U	0.075 U	0 078 U
SW8141	Zinophos	MG/KG	0.021 F	0.076 U	0.075 U	0.078 U
SW8150	2,4,5-T (Trichlorophenoxyacetic acid)	MG/KG	0.037 U	0.037 U	0.037 U	0.039 U
SW8150	2,4-D (Dichlorophenoxyacetic acid)	MG/KG	0.37 U	0.37 U	0.37 U	0 39 U
SW8150	Silvex (2,4,5-TP)	MG/KG	0.037 U	0.037 U	0.037 U	0.039 U
SW8151	2,4,5-T (Trichlorophenoxyacetic acid)	MG/KG	NA	NA	NA	NA
SW8151	2,4-D (Dichlorophenoxyacetic acid)	MG/KG	NA	NA	NA	NA
SW8151	Silvex (2,4,5-TP)	MG/KG	NA	NA	NA	NA
SW8260	1,1,1,2-Tetrachloroethane	MG/KG	0 003 U	0 003 U	0.003 U	0 003 U
SW8260	1,1,1-Trichloroethane	MG/KG	0.004 U	0 004 U	0.004 U	0.004 U
SW8260	1,1,2,2-Tetrachloroethane	MG/KG	0.002 U	0.002 U	0.002 U	0 002 U
SW8260	1,1,2-Trichloroethane	MG/KG	0.004 R	0.006 R	0.005 R	0.005 R
SW8260	1,1-Dichloroethane	MG/KG	0.002 U	0 002 U	0.002 U	0.002 U
SW8260	1,1-Dichloroethene	MG/KG	0.004 U	0.006 U	0.005 U	0 005 U
SW8260	1,2,3-Trichloropropane	MG/KG	0.004 U	0.006 U	0.005 U	0.005 U
SW8260	1,2-Dibromo-3-chloropropane	MG/KG	0.004 U	0.006 U	0.005 U	0.005 U
SW8260	1,2-Dibromoethane (Ethylene dibromide)	MG/KG	0.003 U	0 003 U	0.003 U	0.003 U
SW8260	1,2-Dichloroethane	MG/KG	0 003 U	0.003 U	0.003 U	0 003 U
SW8260	1,2-Dichloropropane	MG/KG	0 002 U	0 002 U	0.002 U	0.002 U
SW8260	2-Chloro-1,3-butadiene	MG/KG	0.004 U	0.006 U	0.005 U	0.005 U
SW8260	2-Hexanone	MG/KG	0.004 U	0 006 U	0 005 U	0 005 U
SW8260	Acetone	MG/KG	0.004 U	0.006 U	0.005 U	0 005 U

Table D.4
Phase I Soil Analytical Data
SWMU 51
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLAOC15001-20'	BHGLSWMU51001-00'	BHGLSWMU51001-05'	BHGLSWMU51002-00'
SW8260	Acetonitrile	MG/KG	0.037 U	0.045 U	0.037 U	0.04 U
SW8260	Acrolein	MG/KG	0.092 U	0.11 U	0.093 U	0.099 U
SW8260	Acrylonitrile	MG/KG	0.037 U	0.045 U	0.037 U	0.04 U
SW8260	Allyl chloride (3-Chloropropene)	MG/KG	0 009 U	0 011 U	0.009 U	0.01 U
SW8260	Benzene	MG/KG	0 002 U	0 002 U	0.002 U	0 002 U
SW8260	Bromodichloromethane	MG/KG	0.004 U	0.004 U	0.004 U	0.004 U
SW8260	Bromoform	MG/KG	0.004 U	0.006 U	0.005 U	0.005 U
SW8260	Bromomethane	MG/KG	0.004 U	0.006 U	0.005 U	0 005 U
SW8260	Carbon disulfide	MG/KG	0.004 U	0 006 U	0.005 U	0 005 U
SW8260	Carbon tetrachloride	MG/KG	0.004 U	0.006 U	0.005 U	0 005 U
SW8260	Chlorobenzene	MG/KG	0.002 U	0.002 U	0.002 U	0.002 U
SW8260	Chloroethane	MG/KG	0.004 U	0.006 U	0.005 U	0.005 U
SW8260	Chloroform	MG/KG	0.002 U	0.002 U	0.002 U	0.002 U
SW8260	Chloromethane	MG/KG	0 004 U	0.006 U	0.005 U	0.005 U
SW8260	cis-1,2-Dichloroethene	MG/KG	0.004 U	0.006 U	0.005 U	0 005 U
SW8260	cis-1,3-Dichloropropene	MG/KG	0.004 U	0 006 U	0.005 U	0 005 U
SW8260	Dibromochloromethane	MG/KG	0.003 U	0.003 U	0.003 U	0 003 U
SW8260	Dibromomethane	MG/KG	0 004 U	0.006 U	0 005 U	0.005 U
SW8260	Dichlorodifluoromethane	MG/KG	0.004 R	0.006 R	0.005 R	0.005 R
SW8260	Ethyl methacrylate	MG/KG	0.004 U	0 006 U	0.005 U	0.005 U
SW8260	Ethylbenzene	MG/KG	0.003 U	0 003 UJ	0.003 UJ	0 003 UJ
SW8260	Iodomethane (Methyl iodide)	MG/KG	0.004 U	0.006 U	0.005 U	0 005 U
SW8260	Isobutanol	MG/KG	0.18 U	0 22 U	0.18 U	0 2 U
SW8260	m,p-Xylene (sum of isomers)	MG/KG	0.004 U	0 006 UJ	0.005 UJ	0.005 UJ
SW8260	Methyl ethyl ketone (2-Butanone)	MG/KG	0.004 U	0 006 U	0.005 U	0.005 U
SW8260	Methyl isobutyl ketone (4-Methyl-2-pentanone)	MG/KG	0 004 U	0 006 U	0.005 U	0.005 U
SW8260	Methyl methacrylate	MG/KG	0 004 U	0.006 U	0.005 U	0.005 U
SW8260	Methylacrylonitrile	MG/KG	0.004 U	0 006 U	0 005 U	0 005 U
SW8260	Methylene chloride	MG/KG	0 002 U	0.002 U	0.002 U	0.002 U
SW8260	o-Xylene (1,2-Dimethylbenzene)	MG/KG	0.004 U	0 006 U	0.005 U	0.005 U
SW8260	Pentachloroethane	MG/KG	0.004 U	0 006 U	0.005 U	0.005 U
SW8260	Propane nitrile (Propionitrile)	MG/KG	0.018 U	0.022 U	0 018 U	0 02 U
SW8260	Styrene	MG/KG	0 002 U	0.002 UJ	0 002 UJ	0.002 UJ
SW8260	Tetrachloroethene (PCE)	MG/KG	0 004 U	0.006 U	0.005 U	0 005 U
SW8260	Toluene	MG/KG	0.004 U	0.006 UJ	0.005 UJ	0.005 UJ
SW8260	Trans-1,2-Dichloroethene	MG/KG	0.003 U	0 003 U	0.003 U	0.003 U

Table D.4
Phase I Soil Analytical Data
SWMU 51
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLAOC15001-20'	BHGLSWMU51001-00'	BHGLSWMU51001-05'	BHGLSWMU51002-00'
SW8260	Trans-1,3-Dichloropropene	MG/KG	0 004 U	0.006 U	0 005 U	0.005 U
SW8260	Trans-1,4-Dichloro-2-Butene	MG/KG	0.004 U	0.006 U	0 005 U	0.005 U
SW8260	Trichloroethene (TCE)	MG/KG	0 004 U	0 006 U	0.005 U	0.005 U
SW8260	Vinyl acetate	MG/KG	0 004 U	0 006 U	0 005 U	0.005 U
SW8260	Vinyl chloride	MG/KG	0 004 U	0.006 U	0 005 U	0.005 U
SW8270	1,2,4,5-Tetrachlorobenzene	MG/KG	0 37 U	0.37 U	0 38 U	0.39 U
SW8270	1,2,4-Trichlorobenzene	MG/KG	0.37 U	0 37 U	0.38 U	0.39 U
SW8270	1,2-Dichlorobenzene	MG/KG	0 37 U	0.37 U	0 38 U	0.39 U
SW8270	1,3,5-Trinitrobenzene	MG/KG	1 5 U	1 5 U	1 5 U	1.6 U
SW8270	1,3-Dichlorobenzene	MG/KG	0 37 U	0 37 U	0.38 U	0.39 U
SW8270	1,3-Dinitrobenzene	MG/KG	0.37 U	0 37 U	0 38 U	0.39 U
SW8270	1,4-Dichlorobenzene	MG/KG	0 37 U	0.37 U	0 38 U	0 39 U
SW8270	1,4-Dioxane (p-Dioxane)	MG/KG	1.5 U	1 5 U	1.5 U	1 6 U
SW8270	1,4-Naphthoquinone	MG/KG	1.9 U	1.9 U	1.9 U	2 U
SW8270	1-Naphthylamine	MG/KG	0.74 U	0.75 U	0.76 U	0.79 U
SW8270	2,2'-Oxybis(1-chloropropane)	MG/KG	0.37 U	0 37 U	0 38 U	0.39 U
SW8270	2,3,4,6-Tetrachlorophenol	MG/KG	0.37 U	0 37 U	0.38 U	0 39 U
SW8270	2,4,5-Trichlorophenol	MG/KG	1.9 R	1.9 U	1 9 U	2 U
SW8270	2,4,6-Trichlorophenol	MG/KG	0.37 U	0.37 U	0 38 U	0.39 U
SW8270	2,4-Dichlorophenol	MG/KG	0.37 U	0 37 U	0.38 U	0 39 U
SW8270	2,4-Dimethylphenol	MG/KG	0.37 U	0 37 U	0 38 U	0.39 U
SW8270	2,4-Dinitrophenol	MG/KG	1.9 U	1.9 U	1.9 U	2 U
SW8270	2,4-Dinitrotoluene	MG/KG	0.37 U	0.37 U	0.38 U	0 39 U
SW8270	2,6-Dichlorophenol	MG/KG	0.74 U	0 75 U	0 76 U	0 79 U
SW8270	2,6-Dinitrotoluene	MG/KG	0.37 U	0 37 U	0 38 U	0.39 U
SW8270	2-Acetylaminofluorene	MG/KG	0.74 U	0.75 U	0.76 U	0 79 U
SW8270	2-Aminonaphthalene (beta-Naphthylamine)	MG/KG	0.74 U	0.75 U	0.76 U	0.79 U
SW8270	2-Chloronaphthalene	MG/KG	0.37 U	0.37 U	0.38 U	0.39 U
SW8270	2-Chlorophenol	MG/KG	0.37 U	0.37 U	0.38 U	0 39 U
SW8270	2-Methylnaphthalene	MG/KG	0.37 U	0.37 U	0.38 U	0 39 U
SW8270	2-Methylphenol (o-Cresol)	MG/KG	0.37 U	0.37 U	0.38 U	0.39 U
SW8270	2-Nitroaniline	MG/KG	1.9 U	1.9 U	1.9 U	2 U
SW8270	2-Nitrophenol	MG/KG	0.37 U	0.37 U	0.38 U	0 39 U
SW8270	2-Picoline (alpha-Picoline)	MG/KG	0 37 U	0.37 U	0.38 U	0 39 U
SW8270	3,3'-Dichlorobenzidine	MG/KG	0.74 U	0.75 U	0.76 U	0 79 U
SW8270	3,3'-Dimethylbenzidine	MG/KG	1.9 U	1.9 U	1.9 U	2 U

Table D.4
Phase I Soil Analytical Data
SWMU 51
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLAOC15001-20'	BHGLSWMU51001-00'	BHGLSWMU51001-05'	BHGLSWMU51002-00'
SW8270	3-Methylcholanthrene	MG/KG	0 37 U	0 37 U	0 38 U	0 39 U
SW8270	3-Nitroaniline	MG/KG	1.9 U	1 9 U	1.9 U	2 U
SW8270	4,6-Dinitro-2-methylphenol	MG/KG	1.9 U	1.9 U	1.9 U	2 U
SW8270	4-Aminobiphenyl (4-Biphenylamine)	MG/KG	0.74 U	0.75 U	0.76 U	0.79 U
SW8270	4-Bromophenyl phenyl ether	MG/KG	0 37 U	0.37 U	0.38 U	0.39 U
SW8270	4-Chloro-3-methylphenol	MG/KG	0.74 U	0.75 U	0.76 U	0.79 U
SW8270	4-Chloroaniline	MG/KG	0.74 U	0.75 U	0 76 U	0.79 U
SW8270	4-Chlorophenyl phenyl ether	MG/KG	0.37 U	0.37 U	0.38 U	0 39 U
SW8270	4-Nitroaniline	MG/KG	1.9 U	1.9 U	1 9 U	2 U
SW8270	4-Nitrophenol	MG/KG	1.9 U	1.9 U	1.9 U	2 U
SW8270	4-Nitroquinoline-1-oxide	MG/KG	1.9 U	1 9 U	1.9 U	2 U
SW8270	5-Nitro-o-toluidine	MG/KG	0 74 U	0.75 U	0.76 U	0.79 U
SW8270	7,12-Dimethylbenzo(a)anthracene	MG/KG	0.74 U	0.75 U	0 76 U	0.79 U
SW8270	Acenaphthene	MG/KG	0.37 U	0 37 U	0 38 U	0.39 U
SW8270	Acenaphthylene	MG/KG	0.37 U	0.37 U	0 38 U	0.39 U
SW8270	Acetophenone	MG/KG	0.74 U	0 75 U	0.76 U	0 79 U
SW8270	alpha, alpha-Dimethylphenethylamine	MG/KG	1.9 U	1 9 U	1.9 U	2 U
SW8270	Aniline (Phenylamine, Aminobenzene)	MG/KG	0.37 U	0.37 U	0 38 U	0.39 U
SW8270	Anthracene	MG/KG	0.37 U	0.37 U	0.38 U	0.39 U
SW8270	Aramite (total)	MG/KG	0 74 U	0 75 U	0.76 U	0.79 U
SW8270	Benzo(a)anthracene	MG/KG	0 37 U	0 37 U	0 38 U	0.39 U
SW8270	Benzo(a)pyrene	MG/KG	0 37 U	0.37 U	0.38 U	0.39 U
SW8270	Benzo(b)fluoranthene	MG/KG	0.37 U	0.37 U	0.38 U	0.39 U
SW8270	Benzo(g,h,i)perylene	MG/KG	0.37 U	0.37 U	0 38 U	0.39 U
SW8270	Benzo(k)fluoranthene	MG/KG	0 37 U	0.37 U	0 38 U	0.39 U
SW8270	Benzoic acid	MG/KG	1 9 U	1.9 U	1 9 U	2 U
SW8270	Benzyl alcohol	MG/KG	0 37 R	0.37 U	0.38 U	0.39 U
SW8270	Benzyl butyl phthalate	MG/KG	0.37 U	0.37 U	0.38 U	0.39 U
SW8270	bis(2-Chloroethoxy)methane	MG/KG	0.37 U	0.37 U	0 38 U	0.39 U
SW8270	bis(2-Chloroethyl)ether (2-Chloroethyl ether)	MG/KG	0.37 U	0.37 U	0.38 U	0 39 U
SW8270	bis(2-Ethylhexyl)phthalate	MG/KG	0 37 U	0.37 U	0 38 U	0.39 U
SW8270	Chlorobenzilate	MG/KG	0.37 U	0.37 U	0.38 U	0.39 U
SW8270	Chrysene	MG/KG	0.37 U	0.37 U	0.38 U	0.39 U
SW8270	Cresols, m & p	MG/KG	0.37 U	0.37 U	0.38 U	0.39 U
SW8270	Diallate (total of cis and trans isomers)	MG/KG	0.37 U	0.37 U	0.38 U	0.39 U
SW8270	Dibenz(a,h)anthracene	MG/KG	0 37 U	0.37 U	0.38 U	0 39 U

Table D.4
Phase I Soil Analytical Data
SWMU 51
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLAOC15001-20'	BHGLSWMU51001-00'	BHGLSWMU51001-05'	BHGLSWMU51002-00'
SW8270	Dibenzofuran	MG/KG	0.37 U	0.37 U	0.38 U	0.39 U
SW8270	Diethyl phthalate	MG/KG	0 37 U	0.37 U	0 38 U	0 39 U
SW8270	Dimethyl phthalate	MG/KG	0.37 U	0.37 U	0 38 U	0.39 U
SW8270	Di-n-butyl phthalate	MG/KG	0.37 U	0.37 U	0.38 U	0.39 U
SW8270	Di-n-octyl phthalate	MG/KG	0.37 U	0.37 U	0.38 U	0.39 U
SW8270	Dinoseb	MG/KG	0.74 U	0.75 U	0.76 U	0 79 U
SW8270	Diphenylamine	MG/KG	0.37 U	0 37 U	0.38 U	0.39 U
SW8270	Ethyl methanesulfonate	MG/KG	0.74 U	0.75 U	0.76 U	0.79 U
SW8270	Fluoranthene	MG/KG	0.37 U	0.37 U	0.38 U	0.39 U
SW8270	Fluorene	MG/KG	0 37 U	0.37 U	0 38 U	0.39 U
SW8270	Hexachlorobenzene	MG/KG	0.37 U	0.37 U	0 38 U	0.39 U
SW8270	Hexachlorobutadiene	MG/KG	0 37 U	0.37 U	0.38 U	0.39 U
SW8270	Hexachlorocyclopentadiene	MG/KG	0.37 UJ	0.37 U	0 38 U	0.39 U
SW8270	Hexachloroethane	MG/KG	0.37 U	0.37 U	0 38 U	0 39 U
SW8270	Hexachlorophene	MG/KG	5 6 U	5.6 U	5.7 U	5 9 U
SW8270	Hexachloropropene	MG/KG	1.9 U	1.9 U	1.9 U	2 U
SW8270	Indeno(1,2,3-c,d)pyrene	MG/KG	0.37 U	0.37 U	0.38 U	0 39 U
SW8270	Isophorone	MG/KG	0.37 U	0 37 U	0.38 U	0.39 U
SW8270	Isosafrole	MG/KG	0 37 U	0.37 U	0.38 U	0.39 U
SW8270	Methapyrilene	MG/KG	0.93 U	0 93 U	0.95 U	0.98 U
SW8270	Methyl methanesulfonate	MG/KG	0.37 U	0.37 U	0 38 U	0.39 U
SW8270	Naphthalene	MG/KG	0 37 U	0.37 U	0.38 U	0.39 U
SW8270	Nitrobenzene	MG/KG	0.37 U	0 37 U	0.38 U	0.39 U
SW8270	N-Nitrosodiethylamine	MG/KG	0.74 U	0.75 U	0 76 U	0.79 U
SW8270	N-Nitrosodimethylamine	MG/KG	0.74 U	0.75 U	0 76 U	0.79 U
SW8270	N-Nitrosodi-n-butylamine	MG/KG	0.37 U	0.37 U	0.38 U	0 39 U
SW8270	N-Nitrosodi-n-propylamine	MG/KG	0.37 U	0.37 U	0.38 U	0.39 U
SW8270	N-Nitrosodiphenylamine	MG/KG	0 37 U	0.37 U	0.38 U	0 39 U
SW8270	N-Nitrosomethylethylamine	MG/KG	0.37 U	0.37 U	0 38 U	0 39 U
SW8270	N-Nitrosomorpholine	MG/KG	0.74 U	0.75 U	0.76 U	0.79 U
SW8270	N-Nitrosopiperidine	MG/KG	0.37 U	0.37 U	0 38 U	0 39 U
SW8270	N-Nitrosopyrrolidine	MG/KG	0.74 U	0.75 U	0 76 U	0.79 U
SW8270	o-Toluidine	MG/KG	0.74 U	0.75 U	0 76 U	0.79 U
SW8270	p-Dimethylaminoazobenzene	MG/KG	0.74 U	0.75 U	0.76 U	0.79 U
SW8270	Pentachlorobenzene	MG/KG	0 37 U	0 37 U	0 38 U	0 39 U
SW8270	Pentachloronitrobenzene	MG/KG	0.37 U	0 37 U	0.38 U	0 39 U

Table D.4
Phase I Soil Analytical Data
SWMU 51
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLAOC15001-20'	BHGLSWMU51001-00'	BHGLSWMU51001-05'	BHGLSWMU51002-00'
SW8270	Pentachlorophenol	MG/KG	1.9 U	1 9 U	1.9 U	2 U
SW8270	Phenacetin	MG/KG	0 37 U	0 37 U	0.38 U	0.39 U
SW8270	Phenanthrene	MG/KG	0 37 U	0 37 U	0 38 U	0.39 U
SW8270	Phenol	MG/KG	0 37 U	0 37 U	0.38 U	0 39 U
SW8270	p-Phenylenediamine	MG/KG	1.5 U	1.5 U	1.5 U	1.6 U
SW8270	Pronamide	MG/KG	0.37 U	0.37 U	0.38 U	0 39 U
SW8270	Pyrene	MG/KG	0.37 U	0 37 U	0.38 U	0.39 U
SW8270	Pyridine	MG/KG	0.74 U	0.75 U	0.76 U	0.79 U
SW8270	Safrole	MG/KG	0 37 U	0 37 U	0.38 U	0.39 U
SW8280	2,3,7,8-Tetrachlorodibenzofuran	MG/KG	0.00002 U	0 00018 U	0.00004 U	0.00003 U
SW8280	2,3,7,8-Tetrachlorodibenzo-p-dioxin	MG/KG	0.00005 U	0.0003 U	0.00007 U	0 00006 U
SW9010	Cyanide	MG/KG	10 U	10 UJ	10 UJ	10 UJ
SW9030	Sulfide	MG/KG	107	92.1	70.9	60.8

Data Qualifiers

J = This analyte was positively identified, but the quantitation is an estimation

U = The analyte was analyzed for, but not detected. The associate numerical value is at or below the MQL

F = The analyte was positively identified, but the associated numerical value is below the MQL

R = The data are unusable due to deficiences in the ability to analyze the sample and meet QC criteria

UJ = The analyte was analyzed for but not detected, the associated value is a MQL, which is estimated due to deficiencies in the QC criteria.

NA = Not analyzed

Table D.4
Phase I Soil Analytical Data
SWMU 51
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU51002-05'	BHGLSWMU51002-05' Duplicate	BHGLSWMU51002-10'	BHGLSWMU51003-00'
SW6010	Antimony	MG/KG	0.46 F	0 49 F	4.6 UJ	4.9 UJ
SW6010	Arsenic	MG/KG	3.5 F	2.4 F	2.8 F	4.3 F
SW6010	Barium	MG/KG	64.7	71.4	68.2	107
SW6010	Beryllium	MG/KG	0 57	0 59	0.36 J	1
SW6010	Cadmium	MG/KG	0.21 F	0 13 F	0.08 F	0 49 U
SW6010	Chromium, total	MG/KG	11.1 J	11 3 J	8.4 F	18 8 J
SW6010	Cobalt	MG/KG	3.4 F	3.1 F	3.8 F	7 4
SW6010	Copper	MG/KG	6.5 F	10.8 J	4.4 F	10 8
SW6010	Lead	MG/KG	10.1	10 1	6.2	11 6
SW6010	Nickel	MG/KG	8.7 F	8 F	6.6 F	13
SW6010	Tin	MG/KG	39 2 U	33.8 U	36 5 U	39.5 U
SW6010	Vanadium	MG/KG	23 9 F	17.3 F	21.7 F	36.6
SW6010	Zinc	MG/KG	20.5 F	26.7 J	13 8 F	26.9 F
SW7060	Arsenic	MG/KG	NA	NA	NA	NA
SW7421	Lead	MG/KG	NA	NA	NA	NA
SW7471	Mercury	MG/KG	0.09	0.11	0 07	0 09
SW7740	Selenium	MG/KG	1.2 U	0.29 UJ	0 25 UJ	1 6 U
SW7761	Silver	MG/KG	0.16 UJ	0.19 U	0 17 U	0.21 U
SW7841	Thallium	MG/KG	0.8 UJ	0.97 UJ	0 85 UJ	1.1 U
SW8080	Aldrin	MG/KG	0.0067 U	0.0035 U	0 0032 U	0 0036 U
SW8080	alpha-BHC (alpha-Hexachlorocyclohexane)	MG/KG	0.0045 U	0.0023 U	0 0021 U	0.0024 U
SW8080	alpha-Chlordane	MG/KG	0 034 U	0 017 U	0.016 U	0.018 U
SW8080	alpha-Endosulfan	MG/KG	0 02 U	0.01 U	0.0096 U	0.011 U
SW8080	beta-BHC (beta-Hexachlorocyclohexane)	MG/KG	0.009 U	0 0046 U	0.0043 U	0.0048 U
SW8080	beta-Endosulfan	MG/KG	0 0067 U	0.0035 U	0 0032 U	0.0036 U
SW8080	Chlordane	MG/KG	0.02 U	0.01 U	0.0096 U	0 011 U
SW8080	delta-BHC (delta-Hexachlorocyclohexane)	MG/KG	0.013 U	0.007 U	0 0064 U	0.0072 U
SW8080	Dieldrin	MG/KG	0.022 U	0.012 U	0.011 U	0.012 U
SW8080	Endosulfan sulfate	MG/KG	0.09 U	0 046 U	0.043 U	0 048 U
SW8080	Endrin	MG/KG	0 009 U	0.0046 U	0.0043 U	0.0048 U
SW8080	Endrin aldehyde	MG/KG	0.045 U	0.023 U	0 021 U	0.024 U
SW8080	gamma-BHC (Lindane)	MG/KG	0.0067 U	0.0035 U	0 0032 U	0.0036 U
SW8080	gamma-Chlordane	MG/KG	0.034 U	0.017 U	0.016 U	0 018 U
SW8080	Heptachlor	MG/KG	0 0045 U	0 0023 U	0.0021 U	0.0024 U
SW8080	Heptachlor epoxide	MG/KG	0.13 U	0.07 U	0.064 U	0 072 U
SW8080	Isodrin	MG/KG	0.009 U	0.0046 U	0 0043 U	0.0048 U

Table D.4
Phase I Soil Analytical Data
SWMU 51
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU51002-05'	BHGLSWMU51002-05' Duplicate	BHGLSWMU51002-10'	BHGLSWMU51003-00'
SW8080	Kepone	MG/KG	0.19 U	0 097 U	0.089 U	0 099 U
SW8080	Methoxychlor	MG/KG	0.22 U	0.12 U	0.11 U	0 12 U
SW8080	p,p'-DDD	MG/KG	0.016 U	0.0081 U	0 0075 U	0.0084 U
SW8080	p,p'-DDE	MG/KG	0.0067 U	0.0035 U	0 0032 U	0.0036 U
SW8080	p,p'-DDT	MG/KG	0.018 U	0.0093 U	0.0086 U	0 0095 U
SW8080	PCB-1016 (Aroclor 1016)	MG/KG	2.2 U	1.2 U	1.1 U	1 2 U
SW8080	PCB-1221 (Aroclor 1221)	MG/KG	2.2 U	1.2 U	1.1 U	1 2 U
SW8080	PCB-1232 (Aroclor 1232)	MG/KG	2 2 U	1.2 U	1.1 U	1 2 U
SW8080	PCB-1242 (Aroclor 1242)	MG/KG	2.2 U	1.2 U	1.1 U	1 2 U
SW8080	PCB-1248 (Aroclor 1248)	MG/KG	2 2 U	1.2 U	1.1 U	1 2 U
SW8080	PCB-1254 (Aroclor 1254)	MG/KG	2 2 U	1.2 U	1.1 U	1.2 U
SW8080	PCB-1260 (Aroclor 1260)	MG/KG	2 2 U	1.2 U	1.1 U	1.2 U
SW8080	Toxaphene	MG/KG	0.45 U	0.23 U	0 21 U	0 24 U
SW8081	Aldrin	MG/KG	NA	NA	NA	NA
SW8081	alpha-BHC (alpha-Hexachlorocyclohexane)	MG/KG	NA	NA	NA	NA
SW8081	alpha-Chlordane	MG/KG	NA	NA	NA	NA
SW8081	alpha-Endosulfan	MG/KG	NA	NA	NA	NA
SW8081	beta-BHC (beta-Hexachlorocyclohexane)	MG/KG	NA	NA	NA	NA
SW8081	beta-Endosulfan	MG/KG	NA	NA	NA	NA
SW8081	Chlordane	MG/KG	NA	NA	NA	NA
SW8081	delta-BHC (delta-Hexachlorocyclohexane)	MG/KG	NA	NA	NA	NA
SW8081	Dieldrin	MG/KG	NA	NA	NA	NA
SW8081	Endosulfan sulfate	MG/KG	NA	NA	NA	NA
SW8081	Endrin	MG/KG	NA	NA	NA	NA
SW8081	Endrin aldehyde	MG/KG	NA	NA	NA	NA
SW8081	gamma-BHC (Lindane)	MG/KG	NA	NA	NA	NA
SW8081	gamma-Chlordane	MG/KG	NA	NA	NA	NA
SW8081	Heptachlor	MG/KG	NA	NA	NA	NA
SW8081	Heptachlor epoxide	MG/KG	NA	NA	NA	NA
SW8081	Isodrin	MG/KG	NA	NA	NA	NA
SW8081	Kepone	MG/KG	NA	NA	NA	NA
SW8081	Methoxychlor	MG/KG	NA	NA	NA	NA
SW8081	p,p'-DDD	MG/KG	NA	NA	NA	NA
SW8081	p,p'-DDE	MG/KG	NA	NA	NA	NA
SW8081	p,p'-DDT	MG/KG	NA	NA	NA	NA
SW8081	PCB-1016 (Aroclor 1016)	MG/KG	NA	NA	NA	NA

Table D.4
Phase I Soil Analytical Data
SWMU 51
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU51002-05'	BHGLSWMU51002-05' Duplicate	BHGLSWMU51002-10'	BHGLSWMU51003-00'
SW8081	PCB-1221 (Aroclor 1221)	MG/KG	NA	NA	NA	NA
SW8081	PCB-1232 (Aroclor 1232)	MG/KG	NA	NA	NA	NA
SW8081	PCB-1242 (Aroclor 1242)	MG/KG	NA	NA	NA	NA
SW8081	PCB-1248 (Aroclor 1248)	MG/KG	NA	NA	NA	NA
SW8081	PCB-1254 (Aroclor 1254)	MG/KG	NA	NA	NA	NA
SW8081	PCB-1260 (Aroclor 1260)	MG/KG	NA	NA	NA	NA
SW8081	Toxaphene	MG/KG	NA	NA	NA	NA
SW8141	Dimethoate	MG/KG	0.075 U	0.077 U	0.071 U	0.08 U
SW8141	Disulfoton	MG/KG	0.075 U	0 077 U	0.071 U	0.08 U
SW8141	Famphur	MG/KG	0.075 U	0 077 U	0.071 U	0.08 U
SW8141	O,O,O-Triethyl phosphorothioate	MG/KG	0.075 U	0.077 U	0.071 U	0.08 U
SW8141	Parathion, ethyl	MG/KG	0 075 U	0.077 U	0.071 U	0.08 U
SW8141	Parathion, methyl	MG/KG	0 075 U	0.077 U	0 071 U	0.08 U
SW8141	Phorate	MG/KG	0.075 U	0.077 U	0.071 U	0.08 U
SW8141	Thiodiphosphoric acid, tetraethyl ester	MG/KG	0.075 U	0.077 U	0.071 U	0 08 U
SW8141	Zinophos	MG/KG	0 075 U	0 077 U	0 071 U	0 08 U
SW8150	2,4,5-T (Trichlorophenoxyacetic acid)	MG/KG	0 038 U	0.038 U	0.035 U	0 039 U
SW8150	2,4-D (Dichlorophenoxyacetic acid)	MG/KG	0.38 U	0.38 U	0.35 U	0 39 U
SW8150	Silvex (2,4,5-TP)	MG/KG	0.038 U	0 038 U	0 035 U	0.039 U
SW8151	2,4,5-T (Trichlorophenoxyacetic acid)	MG/KG	NA	NA	NA	NA
SW8151	2,4-D (Dichlorophenoxyacetic acid)	MG/KG	NA	NA	NA	NA
SW8151	Silvex (2,4,5-TP)	MG/KG	NA	NA	NA	NA
SW8260	1,1,1,2-Tetrachloroethane	MG/KG	0 003 U	0 003 U	0.003 U	0.003 U
SW8260	1,1,1-Trichloroethane	MG/KG	0 004 U	0.004 UJ	0 004 U	0.004 U
SW8260	1,1,2,2-Tetrachloroethane	MG/KG	0 002 U	0.002 UJ	0.002 U	0 002 U
SW8260	1,1,2-Trichloroethane	MG/KG	0 005 R	0.005 UJ	0.004 U	0.005 U
SW8260	1,1-Dichloroethane	MG/KG	0 002 U	0.002 UJ	0.002 U	0.002 U
SW8260	1,1-Dichloroethene	MG/KG	0.005 U	0 005 UJ	0 004 U	0.005 U
SW8260	1,2,3-Trichloropropane	MG/KG	0.005 U	0.005 UJ	0 004 U	0 005 U
SW8260	1,2-Dibromo-3-chloropropane	MG/KG	0.005 U	0.005 UJ	0 004 U	0.005 U
SW8260	1,2-Dibromoethane (Ethylene dibromide)	MG/KG	0.003 U	0.003 UJ	0.003 U	0.003 U
SW8260	1,2-Dichloroethane	MG/KG	0 003 U	0.003 UJ	0 003 U	0.003 U
SW8260	1,2-Dichloropropane	MG/KG	0.002 U	0 002 UJ	0.002 U	0 002 U
SW8260	2-Chloro-1,3-butadiene	MG/KG	0.005 U	0.005 U	0.004 U	0.005 U
SW8260	2-Hexanone	MG/KG	0.005 U	0.005 U	0.004 U	0.005 U
SW8260	Acetone	MG/KG	0 005 U	0.005 UJ	0.004 U	0 005 U

Table D.4
Phase I Soil Analytical Data
SWMU 51
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU51002-05'	BHGLSWMU51002-05' Duplicate	BHGLSWMU51002-10'	BHGLSWMU51003-00'
SW8260	Acetonitrile	MG/KG	0 038 U	0 039 UJ	0.036 U	0 043 U
SW8260	Acrolein	MG/KG	0 096 U	0.098 UJ	0.09 U	0 11 U
SW8260	Acrylonitrile	MG/KG	0.038 U	0.039 UJ	0.036 U	0 043 U
SW8260	Allyl chloride (3-Chloropropene)	MG/KG	0.01 U	0 01 U	0.009 U	0.011 U
SW8260	Benzene	MG/KG	0.002 U	0 002 UJ	0 002 U	0.002 U
SW8260	Bromodichloromethane	MG/KG	0.004 U	0 004 UJ	0.004 U	0.004 U
SW8260	Bromoform	MG/KG	0.005 U	0.005 U	0.004 U	0.005 U
SW8260	Bromomethane	MG/KG	0.005 U	0 005 UJ	0 004 U	0.005 U
SW8260	Carbon disulfide	MG/KG	0.005 U	0 005 UJ	0.004 U	0 005 U
SW8260	Carbon tetrachloride	MG/KG	0 005 U	0.005 UJ	0.004 U	0 005 U
SW8260	Chlorobenzene	MG/KG	0 002 U	0.002 U	0.002 U	0.002 U
SW8260	Chloroethane	MG/KG	0.005 U	0.005 UJ	0.004 U	0 005 U
SW8260	Chloroform	MG/KG	0 002 U	0.002 UJ	0.002 U	0 002 U
SW8260	Chloromethane	MG/KG	0.005 U	0.005 UJ	0.004 U	0 005 U
SW8260	cis-1,2-Dichloroethene	MG/KG	0.005 U	0 005 UJ	0 004 U	0 005 U
SW8260	cis-1,3-Dichloropropene	MG/KG	0.005 U	0.005 UJ	0.004 U	0 005 U
SW8260	Dibromochloromethane	MG/KG	0.003 U	0.003 U	0.003 U	0.003 U
SW8260	Dibromomethane	MG/KG	0.005 U	0.005 UJ	0.004 U	0.005 U
SW8260	Dichlorodifluoromethane	MG/KG	0 005 R	0 005 R	0 004 R	0 005 R
SW8260	Ethyl methacrylate	MG/KG	0 005 U	0.005 U	0 004 U	0.005 U
SW8260	Ethylbenzene	MG/KG	0.003 UJ	0.003 UJ	0.003 UJ	0.003 UJ
SW8260	Iodomethane (Methyl iodide)	MG/KG	0.005 U	0.005 UJ	0.004 U	0 005 U
SW8260	Isobutanol	MG/KG	0 19 U	0.2 U	0.18 U	0 22 U
SW8260	m,p-Xylene (sum of isomers)	MG/KG	0.005 UJ	0 005 UJ	0.004 UJ	0 005 UJ
SW8260	Methyl ethyl ketone (2-Butanone)	MG/KG	0.005 U	0 005 UJ	0.004 U	0.005 U
SW8260	Methyl isobutyl ketone (4-Methyl-2-pentanone)	MG/KG	0 005 U	0 005 UJ	0.004 U	0.005 U
SW8260	Methyl methacrylate	MG/KG	0 005 U	0.005 U	0.004 U	0 005 U
SW8260	Methylacrylonitrile	MG/KG	0.005 U	0 005 U	0 004 U	0.005 U
SW8260	Methylene chloride	MG/KG	0 002 U	0 002 UJ	0.002 U	0.002 U
SW8260	o-Xylene (1,2-Dimethylbenzene)	MG/KG	0.005 U	0.005 U	0.004 U	0.005 U
SW8260	Pentachloroethane	MG/KG	0.005 U	0 005 U	0 004 U	0 005 U
SW8260	Propane nitrile (Propionitrile)	MG/KG	0 019 U	0.02 U	0.018 U	0 022 U
SW8260	Styrene	MG/KG	0.002 UJ	0.002 UJ	0.002 UJ	0 002 UJ
SW8260	Tetrachloroethene (PCE)	MG/KG	0.005 U	0 005 U	0.004 U	0 005 U
SW8260	Toluene	MG/KG	0.005 UJ	0.005 UJ	0.004 UJ	0.005 UJ
SW8260	Trans-1,2-Dichloroethene	MG/KG	0.003 U	0 003 UJ	0 003 U	0 003 U

Table D.4
Phase I Soil Analytical Data
SWMU 51
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU51002-05'	BHGLSWMU51002-05' Duplicate	BHGLSWMU51002-10'	BHGLSWMU51003-00'
SW8260	Trans-1,3-Dichloropropene	MG/KG	0.005 U	0 005 UJ	0.004 U	0 005 U
SW8260	Trans-1,4-Dichloro-2-Butene	MG/KG	0.005 U	0.005 U	0.004 U	0 005 U
SW8260	Trichloroethene (TCE)	MG/KG	0.005 U	0.005 UJ	0.004 U	0 005 U
SW8260	Vinyl acetate	MG/KG	0 005 U	0.005 UJ	0.004 U	0.005 U
SW8260	Vinyl chloride	MG/KG	0.005 U	0.005 UJ	0 004 U	0 005 U
SW8270	1,2,4,5-Tetrachlorobenzene	MG/KG	0.38 U	0 39 U	0 36 U	0 4 U
SW8270	1,2,4-Trichlorobenzene	MG/KG	0 38 U	0.39 U	0.36 U	0 4 U
SW8270	1,2-Dichlorobenzene	MG/KG	0.38 U	0.39 U	0.36 U	0.4 U
SW8270	1,3,5-Trinitrobenzene	MG/KG	1.5 U	1.6 U	1.4 U	1 6 U
SW8270	1,3-Dichlorobenzene	MG/KG	0.38 U	0.39 U	0.36 U	0 4 U
SW8270	1,3-Dinitrobenzene	MG/KG	0.38 U	0.39 U	0.36 U	0 4 U
SW8270	1,4-Dichlorobenzene	MG/KG	0.38 U	0.39 U	0.36 U	0 4 U
SW8270	1,4-Dioxane (p-Dioxane)	MG/KG	1.5 U	1.6 U	1.4 U	1.6 U
SW8270	1,4-Naphthoquinone	MG/KG	1.9 U	1.9 U	1.8 U	2 U
SW8270	1-Naphthylamine	MG/KG	0.75 U	0.78 U	0.72 U	0.79 U
SW8270	2,2'-Oxybis(1-chloropropane)	MG/KG	0 38 U	0.39 U	0.36 U	0.4 U
SW8270	2,3,4,6-Tetrachlorophenol	MG/KG	0 38 U	0.39 U	0 36 U	0.4 U
SW8270	2,4,5-Trichlorophenol	MG/KG	1.9 U	1.9 U	1 8 U	2 U
SW8270	2,4,6-Trichlorophenol	MG/KG	0.38 U	0.39 U	0 36 U	0 4 U
SW8270	2,4-Dichlorophenol	MG/KG	0.38 U	0.39 U	0 36 U	0 4 U
SW8270	2,4-Dimethylphenol	MG/KG	0 38 U	0.39 U	0.36 U	0.4 U
SW8270	2,4-Dinitrophenol	MG/KG	1.9 U	1.9 U	1.8 U	2 U
SW8270	2,4-Dinitrotoluene	MG/KG	0.38 U	0.39 U	0.36 U	0.4 U
SW8270	2,6-Dichlorophenol	MG/KG	0.75 U	0.78 U	0.72 U	0 79 U
SW8270	2,6-Dinitrotoluene	MG/KG	0.38 U	0.39 U	0.36 U	0.4 U
SW8270	2-Acetylaminofluorene	MG/KG	0.75 U	0.78 U	0.72 U	0.79 U
SW8270	2-Aminonaphthalene (beta-Naphthylamine)	MG/KG	0.75 U	0.78 U	0.72 U	0.79 U
SW8270	2-Chloronaphthalene	MG/KG	0.38 U	0.39 U	0.36 U	0 4 U
SW8270	2-Chlorophenol	MG/KG	0.38 U	0.39 U	0.36 U	0 4 U
SW8270	2-Methylnaphthalene	MG/KG	0 38 U	0.39 U	0.36 U	0 4 U
SW8270	2-Methylphenol (o-Cresol)	MG/KG	0.38 U	0 39 U	0 36 U	0 4 U
SW8270	2-Nitroaniline	MG/KG	1 9 U	1 9 U	1.8 U	2 U
SW8270	2-Nitrophenol	MG/KG	0.38 U	0.39 U	0.36 U	0.4 U
SW8270	2-Picoline (alpha-Picoline)	MG/KG	0 38 U	0.39 U	0.36 U	0.4 U
SW8270	3,3'-Dichlorobenzidine	MG/KG	0 75 U	0.78 U	0.72 U	0.79 U
SW8270	3,3'-Dimethylbenzidine	MG/KG	1.9 U	1.9 U	1.8 U	2 U

Table D.4
Phase I Soil Analytical Data
SWMU 51
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU51002-05'	BHGLSWMU51002-05' Duplicate	BHGLSWMU51002-10'	BHGLSWMU51003-00'
SW8270	3-Methylcholanthrene	MG/KG	0 38 U	0.39 U	0.36 U	0 4 U
SW8270	3-Nitroaniline	MG/KG	1.9 U	1.9 U	1.8 U	2 U
SW8270	4,6-Dinitro-2-methylphenol	MG/KG	1.9 U	1.9 U	1.8 U	2 U
SW8270	4-Aminobiphenyl (4-Biphenylamine)	MG/KG	0.75 U	0.78 U	0.72 U	0 79 U
SW8270	4-Bromophenyl phenyl ether	MG/KG	0.38 U	0.39 U	0.36 U	0.4 U
SW8270	4-Chloro-3-methylphenol	MG/KG	0.75 U	0.78 U	0 72 U	0 79 U
SW8270	4-Chloroaniline	MG/KG	0.75 U	0.78 U	0.72 U	0.79 U
SW8270	4-Chlorophenyl phenyl ether	MG/KG	0.38 U	0.39 U	0 36 U	0.4 U
SW8270	4-Nitroaniline	MG/KG	1.9 U	1.9 U	1.8 U	2 U
SW8270	4-Nitrophenol	MG/KG	1 9 U	1.9 U	1.8 U	2 U
SW8270	4-Nitroquinoline-1-oxide	MG/KG	1 9 U	1.9 U	1 8 U	2 U
SW8270	5-Nitro-o-toluidine	MG/KG	0 75 U	0.78 U	0 72 U	0.79 U
SW8270	7,12-Dimethylbenzo(a)anthracene	MG/KG	0.75 U	0.78 U	0 72 U	0 79 U
SW8270	Acenaphthene	MG/KG	0.38 U	0.39 U	0.36 U	0 4 U
SW8270	Acenaphthylene	MG/KG	0.38 U	0.39 U	0.36 U	0 4 U
SW8270	Acetophenone	MG/KG	0.75 U	0.78 U	0.72 U	0.79 U
SW8270	alpha, alpha-Dimethylphenethylamine	MG/KG	1.9 U	1.9 U	1 8 U	2 U
SW8270	Aniline (Phenylamine, Aminobenzene)	MG/KG	0.38 U	0.39 U	0.36 U	0.4 U
SW8270	Anthracene	MG/KG	0.38 U	0.39 U	0.36 U	0.4 U
SW8270	Aramite (total)	MG/KG	0.75 U	0.78 U	0.72 U	0.79 U
SW8270	Benzo(a)anthracene	MG/KG	0 38 U	0.39 U	0.36 U	0.4 U
SW8270	Benzo(a)pyrene	MG/KG	0.38 U	0.39 U	0.36 U	0.4 U
SW8270	Benzo(b)fluoranthene	MG/KG	0.38 U	0.39 U	0.36 U	0.4 U
SW8270	Benzo(g,h,i)perylene	MG/KG	0.38 U	0.39 U	0.36 U	0.4 U
SW8270	Benzo(k)fluoranthene	MG/KG	0.38 U	0.39 U	0 36 U	0.4 U
SW8270	Benzoic acid	MG/KG	1.9 U	1.9 U	1.8 U	2 U
SW8270	Benzyl alcohol	MG/KG	0.38 U	0.39 U	0.36 U	0 4 U
SW8270	Benzyl butyl phthalate	MG/KG	0 38 U	0 39 U	0.36 U	0.4 U
SW8270	bis(2-Chloroethoxy)methane	MG/KG	0 38 U	0.39 U	0.36 U	0.4 U
SW8270	bis(2-Chloroethyl)ether (2-Chloroethyl ether)	MG/KG	0.38 U	0.39 U	0.36 U	0.4 U
SW8270	bis(2-Ethylhexyl)phthalate	MG/KG	0.38 U	0.39 U	0.36 U	0.4 U
SW8270	Chlorobenzilate	MG/KG	0.38 U	0.39 U	0 36 U	0 4 U
SW8270	Chrysene	MG/KG	0.38 U	0.39 U	0 36 U	0 4 U
SW8270	Cresols, m & p	MG/KG	0.38 U	0 39 U	0 36 U	0.4 U
SW8270	Diallate (total of cis and trans isomers)	MG/KG	0.38 U	0.39 U	0.36 U	0.4 U
SW8270	Dibenz(a,h)anthracene	MG/KG	0 38 U	0.39 U	0 36 U	0.4 U

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Table D.4
Phase I Soil Analytical Data
SWMU 51
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU51002-05'	BHGLSWMU51002-05' Duplicate	BHGLSWMU51002-10'	BHGLSWMU51003-00'
SW8270	Dibenzofuran	MG/KG	0.38 U	0 39 U	0 36 U	0.4 U
SW8270	Diethyl phthalate	MG/KG	0 38 U	0.39 U	0 36 U	0.4 U
SW8270	Dimethyl phthalate	MG/KG	0 38 U	0.39 U	0 36 U	0 4 U
SW8270	Di-n-butyl phthalate	MG/KG	0.38 U	0.39 U	0.36 U	0.4 U
SW8270	Di-n-octyl phthalate	MG/KG	0 38 U	0.39 U	0 36 U	0.4 U
SW8270	Dinoseb	MG/KG	0 75 U	0.78 U	0.72 U	0.79 U
SW8270	Diphenylamine	MG/KG	0.38 U	0.39 U	0 36 U	0.4 U
SW8270	Ethyl methanesulfonate	MG/KG	0 75 U	0.78 U	0 72 U	0.79 U
SW8270	Fluoranthene	MG/KG	0.38 U	0.39 U	0.36 U	0 4 U
SW8270	Fluorene	MG/KG	0.38 U	0.39 U	0 36 U	0.4 U
SW8270	Hexachlorobenzene	MG/KG	0 38 U	0.39 U	0 36 U	0.4 U
SW8270	Hexachlorobutadiene	MG/KG	0 38 U	0.39 U	0.36 U	0.4 U
SW8270	Hexachlorocyclopentadiene	MG/KG	0.38 U	0.39 U	0.36 U	0 4 U
SW8270	Hexachloroethane	MG/KG	0.38 U	0.39 U	0 36 U	0.4 U
SW8270	Hexachlorophene	MG/KG	5.6 U	5.8 U	5 4 U	5.9 U
SW8270	Hexachloropropene	MG/KG	1.9 U	1.9 U	1 8 U	2 U
SW8270	Indeno(1,2,3-c,d)pyrene	MG/KG	0.38 U	0.39 U	0.36 U	0.4 U
SW8270	Isophorone	MG/KG	0.38 U	0 39 U	0.36 U	0 4 U
SW8270	Isosafrole	MG/KG	0.38 U	0.39 U	0.36 U	0.4 U
SW8270	Methapyrilene	MG/KG	0.94 U	0 97 U	0.9 U	0.99 U
SW8270	Methyl methanesulfonate	MG/KG	0 38 U	0.39 U	0.36 U	0.4 U
SW8270	Naphthalene	MG/KG	0 38 U	0.39 U	0.36 U	0.4 U
SW8270	Nitrobenzene	MG/KG	0.38 U	0 39 U	0.36 U	0.4 U
SW8270	N-Nitrosodiethylamine	MG/KG	0 75 U	0.78 U	0.72 U	0.79 U
SW8270	N-Nitrosodimethylamine	MG/KG	0.75 U	0.78 U	0.72 U	0.79 U
SW8270	N-Nitrosodi-n-butylamine	MG/KG	0.38 U	0.39 U	0.36 U	0 4 U
SW8270	N-Nitrosodi-n-propylamine	MG/KG	0.38 U	0.39 U	0 36 U	0.4 U
SW8270	N-Nitrosodiphenylamine	MG/KG	0.38 U	0.39 U	0 36 U	0 4 U
SW8270	N-Nitrosomethylethylamine	MG/KG	0.38 U	0.39 U	0.36 U	0 4 U
SW8270	N-Nitrosomorpholine	MG/KG	0 75 U	0.78 U	0 72 U	0 79 U
SW8270	N-Nitrosopiperidine	MG/KG	0 38 U	0.39 U	0.36 U	0 4 U
SW8270	N-Nitrosopyrrolidine	MG/KG	0.75 U	0.78 U	0.72 U	0.79 U
SW8270	o-Toluidine	MG/KG	0.75 U	0 78 U	0.72 U	0.79 U
SW8270	p-Dimethylaminoazobenzene	MG/KG	0.75 U	0.78 U	0.72 U	0 79 U
SW8270	Pentachlorobenzene	MG/KG	0 38 U	0.39 U	0.36 U	0.4 U
SW8270	Pentachloronitrobenzene	MG/KG	0 38 U	0.39 U	0.36 U	0 4 U

Table D.4
Phase I Soil Analytical Data
SWMU 51
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU51002-05'	BHGLSWMU51002-05' Duplicate	BHGLSWMU51002-10'	BHGLSWMU51003-00'
SW8270	Pentachlorophenol	MG/KG	1 9 U	1.9 U	1.8 U	2 U
SW8270	Phenacetin	MG/KG	0 38 U	0.39 U	0.36 U	0.4 U
SW8270	Phenanthrene	MG/KG	0.38 U	0.39 U	0.36 U	0.4 U
SW8270	Phenol	MG/KG	0.38 U	0.39 U	0 36 U	0.4 U
SW8270	p-Phenylenediamine	MG/KG	1.5 U	1.6 U	1.4 U	1 6 U
SW8270	Pronamide	MG/KG	0 38 U	0 39 U	0.36 U	0 4 U
SW8270	Pyrene	MG/KG	0 38 U	0.39 U	0.36 U	0.4 U
SW8270	Pyridine	MG/KG	0 75 U	0.78 U	0.72 U	0.79 U
SW8270	Safrole	MG/KG	0.38 U	0 39 U	0.36 U	0.4 U
SW8280	2,3,7,8-Tetrachlorodibenzofuran	MG/KG	0 00005 U	0 00005 U	0.00009 U	0.00032
SW8280	2,3,7,8-Tetrachlorodibenzo-p-dioxin	MG/KG	0.00005 U	0.00004 U	0.0001 U	0 00009 U
SW9010	Cyanide	MG/KG	10 UJ	10 UJ	10 UJ	10 UJ
SW9030	Sulfide	MG/KG	67.3	123	115	27.1 U

Data Qualifiers

J = This analyte was positively identified, but the quantitation is an estimation

U = The analyte was analyzed for, but not detected. The associate numerical value is at or below the MQL

F = The analyte was positively identified, but the associated numerical value is below the MQL

R = The data are unusable due to deficiences in the ability to analyze the sample and meet QC criteria.

UJ = The analyte was analyzed for but not detected, the associated value is a MQL, which is estimated due to deficiencies in the QC criteria

NA = Not analyzed

Table D.4
Phase I Soil Analytical Data
SWMU 51
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU51003-05'	BHGLSWMU51003-10'	BHGLSWMU51003-15'	BHGLSWMU51003-20'
SW6010	Antimony	MG/KG	5.1 UJ	0 59 F	4.8 UJ	0.44 F
SW6010	Arsenic	MG/KG	5.3 J	3 9 F	6.2 J	4.1 F
SW6010	Barium	MG/KG	71 4	92.7	38.1 F	46 6
SW6010	Beryllium	MG/KG	0.68	0.75	0.27 F	0.77
SW6010	Cadmium	MG/KG	0 51 U	0 46 U	0 08 F	0.47 U
SW6010	Chromium, total	MG/KG	12 4 J	14.2 J	8.7 F	12.1 J
SW6010	Cobalt	MG/KG	3.8 F	3 9 F	1.5 F	7.1
SW6010	Copper	MG/KG	5 5 F	3.5 F	3 F	8.4 F
SW6010	Lead	MG/KG	8.4	9	3.5 U	16.5
SW6010	Nickel	MG/KG	8 F	8 3 F	6.3 F	18.1
SW6010	Tin	MG/KG	40 4 U	36 7 U	38.8 U	37 4 U
SW6010	Vanadium	MG/KG	29.5 F	30.9	18.1 F	14.8 F
SW6010	Zinc	MG/KG	16.3 F	21.3 F	13 F	23 9 F
SW7060	Arsenic	MG/KG	NA	NA	NA	NA
SW7421	Lead	MG/KG	NA	NA	NA	NA
SW7471	Mercury	MG/KG	0 07	0.08	0.06	0 06
SW7740	Selenium	MG/KG	0.32 UJ	0.29 UJ	0.29 UJ	0.32 UJ
SW7761	Silver	MG/KG	0.21 U	0.19 UJ	0 19 U	0 21 UJ
SW7841	Thallium	MG/KG	1.1 U	0.97 UJ	4.8 UJ	1.1 UJ
SW8080	Aldrin	MG/KG	0.0035 U	0.0034 U	0.0034 U	0 0036 U
SW8080	alpha-BHC (alpha-Hexachlorocyclohexane)	MG/KG	0 0024 U	0 0023 U	0 0023 U	0.0024 U
SW8080	alpha-Chlordane	MG/KG	0 018 U	0 017 U	0.017 U	0 018 U
SW8080	alpha-Endosulfan	MG/KG	0.011 U	0.01 U	0.01 U	0.011 U
SW8080	beta-BHC (beta-Hexachlorocyclohexane)	MG/KG	0.0047 U	0.0046 U	0 0046 U	0.0048 U
SW8080	beta-Endosulfan	MG/KG	0.0035 U	0.0034 U	0 0034 U	0.0036 U
SW8080	Chlordane	MG/KG	0.011 U	0.01 U	0 01 U	0 011 U
SW8080	delta-BHC (delta-Hexachlorocyclohexane)	MG/KG	0.0071 U	0.0068 U	0 0068 U	0 0072 U
SW8080	Dieldrin	MG/KG	0 012 U	0 011 U	0.011 U	0.012 U
SW8080	Endosulfan sulfate	MG/KG	0.047 U	0.046 U	0.046 U	0 048 U
SW8080	Endrin	MG/KG	0.0047 U	0.0046 U	0.0046 U	0 0048 U
SW8080	Endrin aldehyde	MG/KG	0 024 U	0.023 U	0.023 U	0 024 U
SW8080	gamma-BHC (Lindane)	MG/KG	0 0035 U	0.0034 U	0 0034 U	0 0036 U
SW8080	gamma-Chlordane	MG/KG	0 018 U	0.017 U	0 017 U	0.018 U
SW8080	Heptachlor	MG/KG	0 0024 U	0.0023 U	0 0023 U	0 0024 U
SW8080	Heptachlor epoxide	MG/KG	0.071 U	0 068 U	0.068 U	0 072 U
SW8080	Isodrin	MG/KG	0 0047 U	0 0046 U	0 0046 U	0.0048 U

Table D.4
Phase I Soil Analytical Data
SWMU 51
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU51003-05'	BHGLSWMU51003-10'	BHGLSWMU51003-15'	BHGLSWMU51003-20'
SW8080	Kepone	MG/KG	0.098 U	0 095 U	0 095 U	0 1 U
SW8080	Methoxychlor	MG/KG	0 12 U	0.11 U	0 11 U	0.12 U
SW8080	p,p'-DDD	MG/KG	0 0082 U	0 008 U	0 008 U	0 0084 U
SW8080	p,p'-DDE	MG/KG	0.0035 U	0 0034 U	0 0034 U	0.0036 U
SW8080	p,p'-DDT	MG/KG	0.0094 U	0 0091 U	0 0091 U	0 0096 U
SW8080	PCB-1016 (Aroclor 1016)	MG/KG	1 2 U	1.1 U	1.1 U	1.2 U
SW8080	PCB-1221 (Aroclor 1221)	MG/KG	1 2 U	1.1 U	1 1 U	1.2 U
SW8080	PCB-1232 (Aroclor 1232)	MG/KG	1 2 U	1.1 U	1.1 U	1 2 U
SW8080	PCB-1242 (Aroclor 1242)	MG/KG	1 2 U	1.1 U	1.1 U	1.2 U
SW8080	PCB-1248 (Aroclor 1248)	MG/KG	1.2 U	1 1 U	1.1 U	1.2 U
SW8080	PCB-1254 (Aroclor 1254)	MG/KG	1.2 U	1.1 U	1 1 U	1.2 U
SW8080	PCB-1260 (Aroclor 1260)	MG/KG	1.2 U	1 1 U	1.1 U	1.2 U
SW8080	Toxaphene	MG/KG	0.24 U	0.23 U	0 23 U	0.24 U
SW8081	Aldrin	MG/KG	NA	NA	NA	NA
SW8081	alpha-BHC (alpha-Hexachlorocyclohexane)	MG/KG	NA	NA	NA	NA
SW8081	alpha-Chlordane	MG/KG	NA	NA	NA	NA
SW8081	alpha-Endosulfan	MG/KG	NA	NA	NA	NA
SW8081	beta-BHC (beta-Hexachlorocyclohexane)	MG/KG	NA	NA	NA	NA
SW8081	beta-Endosulfan	MG/KG	NA	NA	NA	NA
SW8081	Chlordane	MG/KG	NA	NA	NA	NA
SW8081	delta-BHC (delta-Hexachlorocyclohexane)	MG/KG	NA	NA	NA	NA
SW8081	Dieldrin	MG/KG	NA	NA	NA	NA
SW8081	Endosulfan sulfate	MG/KG	NA	NA	NA	NA
SW8081	Endrin	MG/KG	NA	NA	NA	NA
SW8081	Endrin aldehyde	MG/KG	NA	NA	NA	NA
SW8081	gamma-BHC (Lindane)	MG/KG	NA	NA	NA	NA
SW8081	gamma-Chlordane	MG/KG	NA	NA	NA	NA
SW8081	Heptachlor	MG/KG	NA	NA	NA	NA
SW8081	Heptachlor epoxide	MG/KG	NA	NA	NA	NA
SW8081	Isodrin	MG/KG	NA	NA	NA	NA
SW8081	Kepone	MG/KG	NA	NA	NA	NA
SW8081	Methoxychlor	MG/KG	NA	NA	NA	NA
SW8081	p,p'-DDD	MG/KG	NA	NA	NA	NA
SW8081	p,p'-DDE	MG/KG	NA	NA	NA	NA
SW8081	p,p'-DDT	MG/KG	NA	NA	NA	NA
SW8081	PCB-1016 (Aroclor 1016)	MG/KG	NA	NA	NA	NA

Table D.4
Phase I Soil Analytical Data
SWMU 51
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU51003-05'	BHGLSWMU51003-10'	BHGLSWMU51003-15'	BHGLSWMU51003-20'
SW8081	PCB-1221 (Aroclor 1221)	MG/KG	NA	NA	NA	NA
SW8081	PCB-1232 (Aroclor 1232)	MG/KG	NA	NA	NA	NA
SW8081	PCB-1242 (Aroclor 1242)	MG/KG	NA	NA	NA	NA
SW8081	PCB-1248 (Aroclor 1248)	MG/KG	NA	NA	NA	NA
SW8081	PCB-1254 (Aroclor 1254)	MG/KG	NA	NA	NA	NA
SW8081	PCB-1260 (Aroclor 1260)	MG/KG	NA	NA	NA	NA
SW8081	Toxaphene	MG/KG	NA	NA	NA	NA
SW8141	Dimethoate	MG/KG	0.078 U	0 076 U	0.076 U	0 08 U
SW8141	Disulfoton	MG/KG	0 078 U	0.076 U	0.076 U	0.08 U
SW8141	Famphur	MG/KG	0.078 U	0 076 U	0.076 U	0.08 U
SW8141	O,O,O-Triethyl phosphorothioate	MG/KG	0 078 U	0.076 U	0.076 U	0.08 U
SW8141	Parathion, ethyl	MG/KG	0.078 U	0 076 U	0.076 U	0.08 U
SW8141	Parathion, methyl	MG/KG	0 078 U	0 076 U	0.076 U	0 08 U
SW8141	Phorate	MG/KG	0 078 U	0.076 U	0.076 U	0.08 U
SW8141	Thiodiphosphoric acid, tetraethyl ester	MG/KG	0.078 U	0 076 U	0.076 U	0.08 U
SW8141	Zinophos	MG/KG	0 078 U	0 076 U	0 076 U	0.08 U
SW8150	2,4,5-T (Trichlorophenoxyacetic acid)	MG/KG	0.039 U	0.038 U	0 038 U	0 04 U
SW8150	2,4-D (Dichlorophenoxyacetic acid)	MG/KG	0.39 U	0.38 U	0.38 U	0 4 U
SW8150	Silvex (2,4,5-TP)	MG/KG	0.039 U	0.038 U	0.038 U	0 04 U
SW8151	2,4,5-T (Trichlorophenoxyacetic acid)	MG/KG	NA	NA	NA	NA
SW8151	2,4-D (Dichlorophenoxyacetic acid)	MG/KG	NA	NA	NA	NA
SW8151	Silvex (2,4,5-TP)	MG/KG	NA	NA	NA	NA
SW8260	1,1,1,2-Tetrachloroethane	MG/KG	0.003 UJ	0.003 U	0.003 U	0.003 U
SW8260	1,1,1-Trichloroethane	MG/KG	0 004 U	0.004 U	0.004 U	0 004 U
SW8260	1,1,2,2-Tetrachloroethane	MG/KG	0.002 U	0.002 U	0.002 U	0 002 U
SW8260	1,1,2-Trichloroethane	MG/KG	0.005 UJ	0 006 U	0 005 U	0 005 U
SW8260	1,1-Dichloroethane	MG/KG	0.002 U	0.002 U	0.002 U	0 002 U
SW8260	1,1-Dichloroethene	MG/KG	0.005 U	0.006 U	0 005 U	0 005 U
SW8260	1,2,3-Trichloropropane	MG/KG	0 005 U	0.006 U	0.005 U	0.005 U
SW8260	1,2-Dibromo-3-chloropropane	MG/KG	0.005 U	0.006 U	0.005 U	0.005 U
SW8260	1,2-Dibromoethane (Ethylene dibromide)	MG/KG	0.003 UJ	0.003 U	0.003 U	0.003 U
SW8260	1,2-Dichloroethane	MG/KG	0 003 UJ	0 003 U	0.003 U	0.003 U
SW8260	1,2-Dichloropropane	MG/KG	0.002 UJ	0 002 U	0.002 U	0 002 U
SW8260	2-Chloro-1,3-butadiene	MG/KG	0.005 U	0 006 U	0.005 U	0 005 U
SW8260	2-Hexanone	MG/KG	0 005 UJ	0 006 U	0.005 U	0.005 U
SW8260	Acetone	MG/KG	0.005 U	0.006 U	0 005 U	0.005 U

Table D.4
Phase I Soil Analytical Data
SWMU 51
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU51003-05'	BHGLSWMU51003-10'	BHGLSWMU51003-15'	BHGLSWMU51003-20'
SW8260	Acetonitrile	MG/KG	0 043 U	0.045 U	0 042 U	0.044 U
SW8260	Acrolein	MG/KG	0.11 U	0.11 U	0.1 U	0.11 U
SW8260	Acrylonitrile	MG/KG	0.043 U	0.045 U	0.042 U	0.044 U
SW8260	Allyl chloride (3-Chloropropene)	MG/KG	0.011 U	0.011 U	0.01 U	0.011 U
SW8260	Benzene	MG/KG	0.002 UJ	0.002 U	0 002 U	0.002 U
SW8260	Bromodichloromethane	MG/KG	0.004 UJ	0.004 U	0 004 U	0 004 U
SW8260	Bromoform	MG/KG	0.005 UJ	0.006 U	0.005 U	0 005 U
SW8260	Bromomethane	MG/KG	0.005 U	0.006 U	0 005 U	0.005 U
SW8260	Carbon disulfide	MG/KG	0.005 U	0.006 U	0 005 U	0.005 U
SW8260	Carbon tetrachloride	MG/KG	0.005 UJ	0.006 U	0 005 U	0.005 U
SW8260	Chlorobenzene	MG/KG	0.002 UJ	0.002 U	0.002 U	0.002 U
SW8260	Chloroethane	MG/KG	0.005 U	0 006 U	0.005 U	0 005 U
SW8260	Chloroform	MG/KG	0 002 U	0.002 U	0 002 U	0 002 U
SW8260	Chloromethane	MG/KG	0.005 U	0.006 U	0 005 U	0.005 U
SW8260	cis-1,2-Dichloroethene	MG/KG	0.005 U	0.006 U	0.005 U	0 005 U
SW8260	cis-1,3-Dichloropropene	MG/KG	0.005 UJ	0 006 U	0.005 U	0 005 U
SW8260	Dibromochloromethane	MG/KG	0.003 UJ	0.003 U	0.003 U	0.003 U
SW8260	Dibromomethane	MG/KG	0 005 UJ	0 006 U	0.005 U	0 005 U
SW8260	Dichlorodifluoromethane	MG/KG	0 005 R	0.006 R	0 005 R	0.005 R
SW8260	Ethyl methacrylate	MG/KG	0.005 U	0.006 U	0 005 U	0.005 U
SW8260	Ethylbenzene	MG/KG	0.003 UJ	0 003 UJ	0.003 UJ	0 003 UJ
SW8260	Iodomethane (Methyl iodide)	MG/KG	0.005 U	0 006 U	0.005 U	0.005 U
SW8260	Isobutanol	MG/KG	0.21 U	0 23 U	0 21 U	0.22 U
SW8260	m,p-Xylene (sum of isomers)	MG/KG	0 005 UJ	0 006 UJ	0.005 UJ	0.005 UJ
SW8260	Methyl ethyl ketone (2-Butanone)	MG/KG	0.005 U	0 006 U	0 005 U	0.005 U
SW8260	Methyl isobutyl ketone (4-Methyl-2-pentanone)	MG/KG	0.005 UJ	0.006 U	0 005 U	0 005 U
SW8260	Methyl methacrylate	MG/KG	0.005 U	0.006 U	0.005 U	0 005 U
SW8260	Methylacrylonitrile	MG/KG	0 005 U	0.006 U	0.005 U	0.005 U
SW8260	Methylene chloride	MG/KG	0 002 U	0.002 U	0.002 U	0.002 U
SW8260	o-Xylene (1,2-Dimethylbenzene)	MG/KG	0 005 UJ	0.006 U	0.005 U	0.005 U
SW8260	Pentachloroethane	MG/KG	0.005 U	0 006 U	0.005 U	0.005 U
SW8260	Propane nitrile (Propionitrile)	MG/KG	0.021 U	0 023 U	0 021 U	0 022 U
SW8260	Styrene	MG/KG	0.002 UJ	0 002 UJ	0 002 UJ	0.002 UJ
SW8260	Tetrachloroethene (PCE)	MG/KG	0.005 UJ	0 006 U	0 005 U	0.005 U
SW8260	Toluene	MG/KG	0.005 UJ	0 006 UJ	0 005 UJ	0 005 UJ
SW8260	Trans-1,2-Dichloroethene	MG/KG	0 003 U	0 003 U	0 003 U	0.003 U

Table D.4
Phase I Soil Analytical Data
SWMU 51
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU51003-05'	BHGLSWMU51003-10'	BHGLSWMU51003-15'	BHGLSWMU51003-20'
SW8260	Trans-1,3-Dichloropropene	MG/KG	0 005 UJ	0 006 U	0 005 U	0 005 U
SW8260	Trans-1,4-Dichloro-2-Butene	MG/KG	0 005 U	0 006 U	0 005 U	0.005 U
SW8260	Trichloroethene (TCE)	MG/KG	0.005 UJ	0.006 U	0.005 U	0.005 U
SW8260	Vinyl acetate	MG/KG	0 005 U	0.006 U	0.005 U	0.005 U
SW8260	Vinyl chloride	MG/KG	0.005 U	0 006 U	0 005 U	0.005 U
SW8270	1,2,4,5-Tetrachlorobenzene	MG/KG	0.38 U	0.38 U	0 38 U	0.4 U
SW8270	1,2,4-Trichlorobenzene	MG/KG	0.38 U	0.38 U	0.38 U	0.4 U
SW8270	1,2-Dichlorobenzene	MG/KG	0 38 U	0 38 U	0.38 U	0.4 U
SW8270	1,3,5-Trinitrobenzene	MG/KG	1 5 U	1.5 U	1 5 U	1.6 U
SW8270	1,3-Dichlorobenzene	MG/KG	0.38 U	0.38 U	0.38 U	0 4 U
SW8270	1,3-Dinitrobenzene	MG/KG	0.38 U	0.38 U	0.38 U	0.4 U
SW8270	1,4-Dichlorobenzene	MG/KG	0.38 U	0.38 U	0.38 U	0.4 U
SW8270	1,4-Dioxane (p-Dioxane)	MG/KG	1.5 U	1.5 U	1.5 U	1.6 U
SW8270	1,4-Naphthoquinone	MG/KG	1.9 U	1.9 U	1.9 U	2 U
SW8270	1-Naphthylamine	MG/KG	0.76 U	0.76 U	0 77 U	0.8 U
SW8270	2,2'-Oxybis(1-chloropropane)	MG/KG	0.38 U	0.38 U	0 38 U	0.4 U
SW8270	2,3,4,6-Tetrachlorophenol	MG/KG	0 38 U	0.38 U	0.38 U	0.4 U
SW8270	2,4,5-Trichlorophenol	MG/KG	1 9 U	1.9 U	1.9 U	2 U
SW8270	2,4,6-Trichlorophenol	MG/KG	0 38 U	0.38 U	0.38 U	0 4 U
SW8270	2,4-Dichlorophenol	MG/KG	0 38 U	0 38 U	0.38 U	0 4 U
SW8270	2,4-Dimethylphenol	MG/KG	0.38 U	0.38 U	0 38 U	0.4 U
SW8270	2,4-Dinitrophenol	MG/KG	1.9 U	1 9 U	1.9 U	2 U
SW8270	2,4-Dinitrotoluene	MG/KG	0.38 U	0.38 U	0 38 U	0.4 U
SW8270	2,6-Dichlorophenol	MG/KG	0 76 U	0.76 U	0 77 U	0.8 U
SW8270	2,6-Dinitrotoluene	MG/KG	0 38 U	0.38 U	0.38 U	0.4 U
SW8270	2-Acetylaminofluorene	MG/KG	0.76 U	0.76 U	0.77 U	0.8 U
SW8270	2-Aminonaphthalene (beta-Naphthylamine)	MG/KG	0.76 U	0.76 U	0.77 U	0.8 U
SW8270	2-Chloronaphthalene	MG/KG	0.38 U	0.38 U	0 38 U	0.4 U
SW8270	2-Chlorophenol	MG/KG	0 38 U	0.38 U	0 38 U	0.4 U
SW8270	2-Methylnaphthalene	MG/KG	0.38 U	0.38 U	0 38 U	0 4 U
SW8270	2-Methylphenol (o-Cresol)	MG/KG	0.38 U	0.38 U	0 38 U	0.4 U
SW8270	2-Nitroaniline	MG/KG	1.9 U	1.9 U	1 9 U	2 U
SW8270	2-Nitrophenol	MG/KG	0.38 U	0.38 U	0.38 U	0.4 U
SW8270	2-Picoline (alpha-Picoline)	MG/KG	0 38 U	0 38 U	0.38 U	0.4 U
SW8270	3,3'-Dichlorobenzidine	MG/KG	0 76 U	0 76 U	0.77 U	0.8 U
SW8270	3,3'-Dimethylbenzidine	MG/KG	1.9 U	1.9 U	1.9 U	2 U

Table D.4
Phase I Soil Analytical Data
SWMU 51
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU51003-05'	BHGLSWMU51003-10'	BHGLSWMU51003-15'	BHGLSWMU51003-20'
SW8270	3-Methylcholanthrene	MG/KG	0 38 U	0 38 U	0.38 U	0 4 U
SW8270	3-Nitroaniline	MG/KG	1 9 U	1 9 U	1.9 U	2 U
SW8270	4,6-Dinitro-2-methylphenol	MG/KG	1 9 U	1 9 U	1.9 U	2 U
SW8270	4-Aminobiphenyl (4-Biphenylamine)	MG/KG	0.76 U	0.76 U	0.77 U	0.8 U
SW8270	4-Bromophenyl phenyl ether	MG/KG	0 38 U	0.38 U	0.38 U	0.4 U
SW8270	4-Chloro-3-methylphenol	MG/KG	0.76 U	0.76 U	0.77 U	0.8 U
SW8270	4-Chloroaniline	MG/KG	0 76 U	0.76 U	0.77 U	0.8 U
SW8270	4-Chlorophenyl phenyl ether	MG/KG	0 38 U	0.38 U	0.38 U	0.4 U
SW8270	4-Nitroaniline	MG/KG	1.9 U	1.9 U	1.9 U	2 U
SW8270	4-Nitrophenol	MG/KG	1.9 U	1 9 U	1.9 U	2 U
SW8270	4-Nitroquinoline-1-oxide	MG/KG	1.9 U	1 9 U	1.9 U	2 U
SW8270	5-Nitro-o-toluidine	MG/KG	0.76 U	0 76 U	0.77 U	0.8 U
SW8270	7,12-Dimethylbenzo(a)anthracene	MG/KG	0.76 U	0.76 U	0 77 U	0.8 U
SW8270	Acenaphthene	MG/KG	0.38 U	0.38 U	0 38 U	0 4 U
SW8270	Acenaphthylene	MG/KG	0.38 U	0.38 U	0 38 U	0.4 U
SW8270	Acetophenone	MG/KG	0 76 U	0.76 U	0 77 U	0.8 U
SW8270	alpha, alpha-Dimethylphenethylamine	MG/KG	1.9 U	1.9 U	1.9 U	2 U
SW8270	Aniline (Phenylamine, Aminobenzene)	MG/KG	0.38 U	0.38 U	0.38 U	0 4 U
SW8270	Anthracene	MG/KG	0.38 U	0 38 U	0 38 U	0.4 U
SW8270	Aramite (total)	MG/KG	0 76 U	0.76 U	0.77 U	0 8 U
SW8270	Benzo(a)anthracene	MG/KG	0 38 U	0.38 U	0.38 U	0.4 U
SW8270	Benzo(a)pyrene	MG/KG	0.38 U	0.38 U	0.38 U	0.4 U
SW8270	Benzo(b)fluoranthene	MG/KG	0.38 U	0 38 U	0.38 U	0 4 U
SW8270	Benzo(g,h,i)perylene	MG/KG	0.38 U	0 38 U	0 38 U	0 4 U
SW8270	Benzo(k)fluoranthene	MG/KG	0.38 U	0.38 U	0 38 U	0 4 U
SW8270	Benzoic acid	MG/KG	1.9 U	1.9 U	1.9 U	2 U
SW8270	Benzyl alcohol	MG/KG	0.38 U	0.38 U	0.38 U	0 4 U
SW8270	Benzyl butyl phthalate	MG/KG	0.38 U	0.38 U	0.38 U	0 4 U
SW8270	bis(2-Chloroethoxy)methane	MG/KG	0.38 U	0.38 U	0.38 U	0 4 U
SW8270	bis(2-Chloroethyl)ether (2-Chloroethyl ether)	MG/KG	0.38 U	0.38 U	0 38 U	0.4 U
SW8270	bis(2-Ethylhexyl)phthalate	MG/KG	0.38 U	0.38 U	0 38 U	0 4 U
SW8270	Chlorobenzilate	MG/KG	0 38 U	0 38 U	0.38 U	0.4 U
SW8270	Chrysene	MG/KG	0.38 U	0 38 U	0.38 U	0.4 U
SW8270	Cresols, m & p	MG/KG	0.38 U	0.38 U	0.38 U	0 4 U
SW8270	Diallate (total of cis and trans isomers)	MG/KG	0.38 U	0.38 U	0 38 U	0 4 U
SW8270	Dibenz(a,h)anthracene	MG/KG	0.38 U	0 38 U	0 38 U	0 4 U

Table D.4
Phase I Soil Analytical Data
SWMU 51
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU51003-05'	BHGLSWMU51003-10'	BHGLSWMU51003-15'	BHGLSWMU51003-20'
SW8270	Dibenzofuran	MG/KG	0 38 U	0.38 U	0.38 U	0.4 U
SW8270	Diethyl phthalate	MG/KG	0 38 U	0.38 U	0 38 U	0.4 U
SW8270	Dimethyl phthalate	MG/KG	0.38 U	0 38 U	0.38 U	0.4 U
SW8270	Di-n-butyl phthalate	MG/KG	0.38 U	0.38 U	0.38 U	0.4 U
SW8270	Di-n-octyl phthalate	MG/KG	0.38 U	0.38 U	0.38 U	0 4 U
SW8270	Dinoseb	MG/KG	0.76 U	0.76 U	0.77 U	0.8 U
SW8270	Diphenylamine	MG/KG	0.38 U	0.38 U	0.38 U	0.4 U
SW8270	Ethyl methanesulfonate	MG/KG	0.76 U	0 76 U	0.77 U	0.8 U
SW8270	Fluoranthene	MG/KG	0.38 U	0.38 U	0 38 U	0.4 U
SW8270	Fluorene	MG/KG	0.38 U	0 38 U	0.38 U	0 4 U
SW8270	Hexachlorobenzene	MG/KG	0.38 U	0.38 U	0 38 U	0.4 U
SW8270	Hexachlorobutadiene	MG/KG	0.38 U	0 38 U	0.38 U	0.4 U
SW8270	Hexachlorocyclopentadiene	MG/KG	0.38 U	0.38 U	0.38 U	0.4 U
SW8270	Hexachloroethane	MG/KG	0.38 U	0 38 U	0.38 U	0.4 U
SW8270	Hexachlorophene	MG/KG	5.7 U	5.7 U	5.8 U	6 U
SW8270	Hexachloropropene	MG/KG	1.9 U	1.9 U	1.9 U	2 U
SW8270	Indeno(1,2,3-c,d)pyrene	MG/KG	0.38 U	0.38 U	0.38 U	0.4 U
SW8270	Isophorone	MG/KG	0.38 U	0.38 U	0.38 U	0.4 U
SW8270	Isosafrole	MG/KG	0 38 U	0.38 U	0.38 U	0 4 U
SW8270	Methapyrilene	MG/KG	0 96 U	0.95 U	0.96 U	1 U
SW8270	Methyl methanesulfonate	MG/KG	0.38 U	0.38 U	0.38 U	0.4 U
SW8270	Naphthalene	MG/KG	0 38 U	0.38 U	0.38 U	0.4 U
SW8270	Nitrobenzene	MG/KG	0 38 U	0.38 U	0 38 U	0.4 U
SW8270	N-Nitrosodiethylamine	MG/KG	0.76 U	0.76 U	0.77 U	0.8 U
SW8270	N-Nitrosodimethylamine	MG/KG	0 76 U	0.76 U	0.77 U	0.8 U
SW8270	N-Nitrosodi-n-butylamine	MG/KG	0 38 U	0 38 U	0.38 U	0 4 U
SW8270	N-Nitrosodi-n-propylamine	MG/KG	0.38 U	0.38 U	0.38 U	0.4 U
SW8270	N-Nitrosodiphenylamine	MG/KG	0.38 U	0.38 U	0.38 U	0.4 U
SW8270	N-Nitrosomethylethylamine	MG/KG	0.38 U	0.38 U	0.38 U	0.4 U
SW8270	N-Nitrosomorpholine	MG/KG	0.76 U	0.76 U	0.77 U	0.8 U
SW8270	N-Nitrosopiperidine	MG/KG	0 38 U	0 38 U	0.38 U	0.4 U
SW8270	N-Nitrosopyrrolidine	MG/KG	0 76 U	0.76 U	0 77 U	0.8 U
SW8270	o-Toluidine	MG/KG	0.76 U	0.76 U	0.77 U	0.8 U
SW8270	p-Dimethylaminoazobenzene	MG/KG	0.76 U	0 76 U	0.77 U	0.8 U
SW8270	Pentachlorobenzene	MG/KG	0.38 U	0.38 U	0.38 U	0.4 U
SW8270	Pentachloronitrobenzene	MG/KG	0.38 U	0.38 U	0.38 U	0.4 U

Table D.4
Phase I Soil Analytical Data
SWMU 51
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU51003-05'	BHGLSWMU51003-10'	BHGLSWMU51003-15'	BHGLSWMU51003-20'
SW8270	Pentachlorophenol	MG/KG	1.9 U	1.9 U	1.9 U	2 U
SW8270	Phenacetin	MG/KG	0 38 U	0.38 U	0.38 U	0.4 U
SW8270	Phenanthrene	MG/KG	0.38 U	0.38 U	0.38 U	0.4 U
SW8270	Phenol	MG/KG	0 38 U	0.38 U	0.38 U	0 4 U
SW8270	p-Phenylenediamine	MG/KG	1 5 U	1 5 U	1 5 U	1 6 U
SW8270	Pronamide	MG/KG	0.38 U	0 38 U	0.38 U	0.4 U
SW8270	Pyrene	MG/KG	0 38 U	0.38 U	0.38 U	0.4 U
SW8270	Pyridine	MG/KG	0 76 U	0 76 U	0 77 U	0 8 U
SW8270	Safrole	MG/KG	0 38 U	0 38 U	0 38 U	0 4 U
SW8280	2,3,7,8-Tetrachlorodibenzofuran	MG/KG	0 00004 U	0 00006 U	0 00006 U	0 00006 U
SW8280	2,3,7,8-Tetrachlorodibenzo-p-dioxin	MG/KG	0.00005 U	0.00009 U	0.00007 U	0.00008 U
SW9010	Cyanide	MG/KG	10 UJ	10 UJ	10 UJ	10 UJ
SW9030	Sulfide	MG/KG	27.1 U	28.3 U	28.5 U	29.1 U

Data Qualifiers.

J = This analyte was positively identified, but the quantitation is an estimation

U = The analyte was analyzed for, but not detected. The associate numerical value is at or below the MQL.

F = The analyte was positively identified, but the associated numerical value is below the MQL

R = The data are unusable due to deficiences in the ability to analyze the sample and meet QC criteria

UJ = The analyte was analyzed for but not detected, the associated value is a MQL, which is estimated due to deficiencies in the QC criteria

NA = Not analyzed

Table D.4
Phase I Soil Analytical Data
SWMU 51
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU51004-00'	BHGLSWMU51004-05'	BHGLSWMU51004-10'	BHGLSWMU51004-15'
SW6010	Antimony	MG/KG	4.4 UJ	5 UJ	4.4 UJ	4.5 UJ
SW6010	Arsenic	MG/KG	3 9 F	5.1 J	3.3 F	1.7 F
SW6010	Barium	MG/KG	104	86.2	99.8	56
SW6010	Beryllium	MG/KG	0.96	0.47	0.78	0.58
SW6010	Cadmium	MG/KG	0.44 U	0.5 U	0 44 U	0.45 U
SW6010	Chromium, total	MG/KG	15.7 J	9 F	11.8 J	10 J
SW6010	Cobalt	MG/KG	6	4.6 F	4.8 F	3.3 F
SW6010	Copper	MG/KG	8.6 F	6 F	6 F	4.1 F
SW6010	Lead	MG/KG	14.4	8.2	9.8	9
SW6010	Nickel	MG/KG	12.4	8 4 F	8.8 F	6.1 F
SW6010	Tin	MG/KG	35 U	40.2 U	35.5 U	35.6 U
SW6010	Vanadium	MG/KG	31	26.5 F	26.7	15.2 F
SW6010	Zinc	MG/KG	22.6 F	19 6 F	22.5 F	17 1 F
SW7060	Arsenic	MG/KG	NA	NA	NA	NA
SW7421	Lead	MG/KG	NA	NA	NA	NA
SW7471	Mercury	MG/KG	0 07	0.07	0.11	0 05
SW7740	Selenium	MG/KG	0.31 UJ	0.32 UJ	0.29 UJ	0.28 UJ
SW7761	Silver	MG/KG	0.21 UJ	0 21 UJ	0 19 UJ	0.19 UJ
SW7841	Thallium	MG/KG	1 U	1.1 UJ	0.96 UJ	0.95 UJ
SW8080	Aldrin	MG/KG	0 0037 U	0 007 U	0.0034 U	0.0035 U
SW8080	alpha-BHC (alpha-Hexachlorocyclohexane)	MG/KG	0.0024 U	0.0047 U	0 0023 U	0.0023 U
SW8080	alpha-Chlordane	MG/KG	0 018 U	0.035 U	0.017 U	0.017 U
SW8080	alpha-Endosulfan	MG/KG	0.011 U	0 021 U	0.01 U	0 01 U
SW8080	beta-BHC (beta-Hexachlorocyclohexane)	MG/KG	0.0049 U	0.0094 U	0.0045 U	0.0046 U
SW8080	beta-Endosulfan	MG/KG	0.0037 U	0 007 U	0.0034 U	0.0035 U
SW8080	Chlordane	MG/KG	0.011 U	0 021 U	0.01 U	0.01 U
SW8080	delta-BHC (delta-Hexachlorocyclohexane)	MG/KG	0.0073 U	0 014 U	0.0068 U	0.007 U
SW8080	Dieldrin	MG/KG	0 012 U	0.023 U	0 011 U	0 012 U
SW8080	Endosulfan sulfate	MG/KG	0.049 U	0.094 U	0 045 U	0.046 U
SW8080	Endrin	MG/KG	0.0049 U	0 0094 U	0.0045 U	0.0046 U
SW8080	Endrin aldehyde	MG/KG	0.024 U	0 047 U	0.023 U	0.023 U
SW8080	gamma-BHC (Lindane)	MG/KG	0.0037 U	0 007 U	0.0034 U	0.0035 U
SW8080	gamma-Chlordane	MG/KG	0.018 U	0.035 U	0 017 U	0.017 U
SW8080	Heptachlor	MG/KG	0.0024 U	0.0047 U	0 0023 U	0 0023 U
SW8080	Heptachlor epoxide	MG/KG	0.073 U	0.14 U	0.068 U	0 07 U
SW8080	Isodrin	MG/KG	0.0049 U	0 0094 U	0.0045 U	0 0046 U

Table D.4
Phase I Soil Analytical Data
SWMU 51
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU51004-00'	BHGLSWMU51004-05'	BHGLSWMU51004-10'	BHGLSWMU51004-15'
SW8080	Kepone	MG/KG	0.1 U	0.2 U	0 094 U	0.096 U
SW8080	Methoxychlor	MG/KG	0 12 U	0.23 U	0.11 U	0.12 U
SW8080	p,p'-DDD	MG/KG	0.0085 U	0.016 U	0.0079 U	0 0081 U
SW8080	p,p'-DDE	MG/KG	0.0037 U	0.007 U	0.0034 U	0 0035 U
SW8080	p,p'-DDT	MG/KG	0.0098 U	0.019 U	0.009 U	0 0093 U
SW8080	PCB-1016 (Aroclor 1016)	MG/KG	1.2 U	2.3 U	1.1 U	1 2 U
SW8080	PCB-1221 (Aroclor 1221)	MG/KG	1.2 U	2.3 U	1.1 U	1.2 U
SW8080	PCB-1232 (Aroclor 1232)	MG/KG	1.2 U	2.3 U	1.1 U	1.2 U
SW8080	PCB-1242 (Aroclor 1242)	MG/KG	1.2 U	2.3 U	1.1 U	1 2 U
SW8080	PCB-1248 (Aroclor 1248)	MG/KG	1.2 U	2.3 U	1.1 U	1.2 U
SW8080	PCB-1254 (Aroclor 1254)	MG/KG	1.2 U	2.3 U	1 1 U	1.2 U
SW8080	PCB-1260 (Aroclor 1260)	MG/KG	1.2 U	2.3 U	1 1 U	1.2 U
SW8080	Toxaphene	MG/KG	0.24 U	0.47 U	0 23 U	0.23 U
SW8081	Aldrin	MG/KG	NA	NA	NA	NA
SW8081	alpha-BHC (alpha-Hexachlorocyclohexane)	MG/KG	NA	NA	NA	NA
SW8081	alpha-Chlordane	MG/KG	NA	NA	NA	NA
SW8081	alpha-Endosulfan	MG/KG	NA	NA	NA	NA
SW8081	beta-BHC (beta-Hexachlorocyclohexane)	MG/KG	NA	NA	NA	NA
SW8081	beta-Endosulfan	MG/KG	NA	NA	NA	NA
SW8081	Chlordane	MG/KG	NA	NA	NA	NA
SW8081	delta-BHC (delta-Hexachlorocyclohexane)	MG/KG	NA	NA	NA	NA
SW8081	Dieldrin	MG/KG	NA	NA	NA	NA
SW8081	Endosulfan sulfate	MG/KG	NA	NA	NA	NA
SW8081	Endrin	MG/KG	NA	NA	NA	NA
SW8081	Endrin aldehyde	MG/KG	NA	NA	NA	NA
SW8081	gamma-BHC (Lindane)	MG/KG	NA	NA	NA	NA
SW8081	gamma-Chlordane	MG/KG	NA	NA	NA	NA
SW8081	Heptachlor	MG/KG	NA	NA	NA	NA
SW8081	Heptachlor epoxide	MG/KG	NA	NA	NA	NA
SW8081	Isodrin	MG/KG	NA	NA	NA	NA
SW8081	Kepone	MG/KG	NA	NA	NA	NA
SW8081	Methoxychlor	MG/KG	NA	NA	NA	NA
SW8081	p,p'-DDD	MG/KG	NA	NA	NA	NA
SW8081	p,p'-DDE	MG/KG	NA	NA	NA	NA
SW8081	p,p'-DDT	MG/KG	NA	NA	NA	NA
SW8081	PCB-1016 (Aroclor 1016)	MG/KG	NA	NA	NA	NA

Table D.4
Phase I Soil Analytical Data
SWMU 51
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU51004-00'	BHGLSWMU51004-05'	BHGLSWMU51004-10'	BHGLSWMU51004-15'
SW8081	PCB-1221 (Aroclor 1221)	MG/KG	NA	NA	NA	NA
SW8081	PCB-1232 (Aroclor 1232)	MG/KG	NA	NA	NA	NA
SW8081	PCB-1242 (Aroclor 1242)	MG/KG	NA	NA	NA	NA
SW8081	PCB-1248 (Aroclor 1248)	MG/KG	NA	NA	NA	NA
SW8081	PCB-1254 (Aroclor 1254)	MG/KG	NA	NA	NA	NA
SW8081	PCB-1260 (Aroclor 1260)	MG/KG	NA	NA	NA	NA
SW8081	Toxaphene	MG/KG	NA	NA	NA	NA
SW8141	Dimethoate	MG/KG	0.081 U	0 078 UJ	0.075 U	0.077 U
SW8141	Disulfoton	MG/KG	0.081 U	0.078 UJ	0 075 U	0.077 U
SW8141	Famphur	MG/KG	0.081 U	0.078 UJ	0.075 U	0 077 U
SW8141	O,O,O-Triethyl phosphorothioate	MG/KG	0.081 U	0 078 UJ	0 075 U	0.077 U
SW8141	Parathion, ethyl	MG/KG	0.081 U	0.078 UJ	0 075 U	0 077 U
SW8141	Parathion, methyl	MG/KG	0.081 U	0 078 UJ	0.075 U	0 077 U
SW8141	Phorate	MG/KG	0 081 U	0.078 UJ	0 075 U	0.077 U
SW8141	Thiodiphosphoric acid, tetraethyl ester	MG/KG	0 081 U	0.078 UJ	0 075 U	0 077 U
SW8141	Zinophos	MG/KG	0 081 U	0.078 UJ	0.075 U	0 077 U
SW8150	2,4,5-T (Trichlorophenoxyacetic acid)	MG/KG	0.04 U	0.038 U	0.037 U	0.038 U
SW8150	2,4-D (Dichlorophenoxyacetic acid)	MG/KG	0.4 U	0.38 U	0.37 U	0.38 U
SW8150	Silvex (2,4,5-TP)	MG/KG	0.04 U	0.038 U	0.037 U	0.038 U
SW8151	2,4,5-T (Trichlorophenoxyacetic acid)	MG/KG	NA	NA	NA	NA
SW8151	2,4-D (Dichlorophenoxyacetic acid)	MG/KG	NA	NA	NA	NA
SW8151	Silvex (2,4,5-TP)	MG/KG	NA	NA	NA	NA
SW8260	1,1,1,2-Tetrachloroethane	MG/KG	0.003 U	0.003 U	0.003 U	0 003 U
SW8260	1,1,1-Trichloroethane	MG/KG	0 004 U	0.004 U	0 004 U	0 004 U
SW8260	1,1,2,2-Tetrachloroethane	MG/KG	0.002 U	0 002 U	0 002 U	0 002 U
SW8260	1,1,2-Trichloroethane	MG/KG	0.005 U	0.005 U	0 006 U	0.005 U
SW8260	1,1-Dichloroethane	MG/KG	0.002 U	0 002 U	0.002 U	0 002 U
SW8260	1,1-Dichloroethene	MG/KG	0.005 U	0.005 U	0.006 U	0.005 U
SW8260	1,2,3-Trichloropropane	MG/KG	0.005 U	0.005 U	0.006 U	0.005 U
SW8260	1,2-Dibromo-3-chloropropane	MG/KG	0.005 U	0 005 U	0 006 U	0.005 U
SW8260	1,2-Dibromoethane (Ethylene dibromide)	MG/KG	0.003 U	0.003 U	0 003 U	0.003 U
SW8260	1,2-Dichloroethane	MG/KG	0 003 U	0.003 U	0.003 U	0.003 U
SW8260	1,2-Dichloropropane	MG/KG	0.002 U	0 002 U	0.002 U	0 002 U
SW8260	2-Chloro-1,3-butadiene	MG/KG	0 005 U	0.005 U	0 006 U	0 005 U
SW8260	2-Hexanone	MG/KG	0 005 U	0.005 U	0 006 U	0.005 U
SW8260	Acetone	MG/KG	0.005 U	0 005 U	0 006 U	0.005 U

Table D.4
Phase I Soil Analytical Data
SWMU 51
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU51004-00'	BHGLSWMU51004-05'	BHGLSWMU51004-10'	BHGLSWMU51004-15'
SW8260	Acetonitrile	MG/KG	0.043 U	0 038 U	0.046 U	0.041 U
SW8260	Acrolein	MG/KG	0 11 U	0 095 U	0 11 U	0.1 U
SW8260	Acrylonitrile	MG/KG	0 043 U	0.038 U	0 046 U	0 041 U
SW8260	Allyl chloride (3-Chloropropene)	MG/KG	0 011 U	0.009 U	0 011 U	0 01 U
SW8260	Benzene	MG/KG	0 002 U	0.002 U	0 002 U	0 002 U
SW8260	Bromodichloromethane	MG/KG	0 004 U	0.004 U	0.004 U	0.004 U
SW8260	Bromoform	MG/KG	0.005 U	0.005 U	0.006 U	0.005 U
SW8260	Bromomethane	MG/KG	0 005 U	0.005 U	0.006 U	0.005 U
SW8260	Carbon disulfide	MG/KG	0.005 U	0 005 U	0.006 U	0 005 U
SW8260	Carbon tetrachloride	MG/KG	0.005 U	0 005 U	0.006 U	0 005 U
SW8260	Chlorobenzene	MG/KG	0 002 U	0.002 U	0 002 U	0 002 U
SW8260	Chloroethane	MG/KG	0 005 U	0.005 U	0 006 U	0 005 U
SW8260	Chloroform	MG/KG	0.002 U	0.002 U	0.002 U	0.002 U
SW8260	Chloromethane	MG/KG	0.005 U	0.005 U	0 006 U	0 005 U
SW8260	cis-1,2-Dichloroethene	MG/KG	0 005 U	0.005 U	0.006 U	0 005 U
SW8260	cis-1,3-Dichloropropene	MG/KG	0 005 U	0.005 U	0.006 U	0 005 U
SW8260	Dibromochloromethane	MG/KG	0.003 U	0.003 U	0.003 U	0.003 U
SW8260	Dibromomethane	MG/KG	0.005 U	0 005 U	0.006 U	0.005 U
SW8260	Dichlorodifluoromethane	MG/KG	0 005 R	0.005 R	0.006 R	0.005 R
SW8260	Ethyl methacrylate	MG/KG	0 005 U	0.005 U	0.006 U	0 005 U
SW8260	Ethylbenzene	MG/KG	0.003 UJ	0.003 UJ	0.003 UJ	0.003 UJ
SW8260	Iodomethane (Methyl iodide)	MG/KG	0.005 U	0 005 U	0.006 U	0.005 U
SW8260	Isobutanol	MG/KG	0.22 U	0.19 U	0.23 U	0 2 U
SW8260	m,p-Xylene (sum of isomers)	MG/KG	0.005 UJ	0.005 UJ	0 006 UJ	0 005 UJ
SW8260	Methyl ethyl ketone (2-Butanone)	MG/KG	0 005 U	0.005 U	0.006 U	0.005 U
SW8260	Methyl isobutyl ketone (4-Methyl-2-pentanone)	MG/KG	0.005 U	0 005 U	0.006 U	0.005 U
SW8260	Methyl methacrylate	MG/KG	0.005 U	0 005 U	0 006 U	0.005 U
SW8260	Methylacrylonitrile	MG/KG	0 005 U	0.005 U	0.006 U	0.005 U
SW8260	Methylene chloride	MG/KG	0.002 U	0.002 U	0.002 U	0.002 U
SW8260	o-Xylene (1,2-Dimethylbenzene)	MG/KG	0 005 U	0.005 U	0 006 U	0 005 U
SW8260	Pentachloroethane	MG/KG	0.005 U	0 005 U	0 006 U	0 005 U
SW8260	Propane nitrile (Propionitrile)	MG/KG	0 022 U	0 019 U	0 023 U	0 02 U
SW8260	Styrene	MG/KG	0 002 UJ	0 002 UJ	0.002 UJ	0 002 UJ
SW8260	Tetrachloroethene (PCE)	MG/KG	0.005 U	0 005 U	0 006 U	0.005 U
SW8260	Toluene	MG/KG	0.005 UJ	0 005 UJ	0.006 UJ	0 005 UJ
SW8260	Trans-1,2-Dichloroethene	MG/KG	0 003 U	0.003 U	0.003 U	0 003 U

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Table D.4
Phase I Soil Analytical Data
SWMU 51
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU51004-00'	BHGLSWMU51004-05'	BHGLSWMU51004-10'	BHGLSWMU51004-15'
SW8260	Trans-1,3-Dichloropropene	MG/KG	0.005 U	0.005 U	0.006 U	0.005 U
SW8260	Trans-1,4-Dichloro-2-Butene	MG/KG	0.005 U	0.005 U	0 006 U	0 005 U
SW8260	Trichloroethene (TCE)	MG/KG	0.005 U	0.005 U	0.006 U	0.005 U
SW8260	Vinyl acetate	MG/KG	0 005 U	0.005 U	0.006 U	0.005 U
SW8260	Vinyl chloride	MG/KG	0.005 U	0 005 U	0.006 U	0 005 U
SW8270	1,2,4,5-Tetrachlorobenzene	MG/KG	0 4 U	0.39 U	0 37 U	0.38 U
SW8270	1,2,4-Trichlorobenzene	MG/KG	0.4 U	0.39 U	0.37 U	0 38 U
SW8270	1,2-Dichlorobenzene	MG/KG	0.4 U	0 39 U	0.37 U	0.38 U
SW8270	1,3,5-Trinitrobenzene	MG/KG	1 6 U	1.6 U	1.5 U	1 5 U
SW8270	1,3-Dichlorobenzene	MG/KG	0 4 U	0.39 U	0.37 U	0.38 U
SW8270	1,3-Dinitrobenzene	MG/KG	0 4 U	0.39 U	0.37 U	0.38 U
SW8270	1,4-Dichlorobenzene	MG/KG	0 4 U	0.39 U	0.37 U	0.38 U
SW8270	1,4-Dioxane (p-Dioxane)	MG/KG	1 6 U	1.6 U	1.5 U	1.5 U
SW8270	1,4-Naphthoquinone	MG/KG	2 U	2 U	1 9 U	1.9 U
SW8270	1-Naphthylamine	MG/KG	0.81 U	0.78 U	0.75 U	0.77 U
SW8270	2,2'-Oxybis(1-chloropropane)	MG/KG	0.4 U	0 39 U	0 37 U	0 38 U
SW8270	2,3,4,6-Tetrachlorophenol	MG/KG	0.4 U	0.39 U	0.37 U	0 38 U
SW8270	2,4,5-Trichlorophenol	MG/KG	2 U	2 U	1 9 U	1.9 U
SW8270	2,4,6-Trichlorophenol	MG/KG	0.4 U	0.39 U	0.37 U	0.38 U
SW8270	2,4-Dichlorophenol	MG/KG	0 4 U	0.39 U	0 37 U	0 38 U
SW8270	2,4-Dimethylphenol	MG/KG	0 4 U	0.39 U	0 37 U	0.38 U
SW8270	2,4-Dinitrophenol	MG/KG	2 U	2 U	1.9 U	1.9 U
SW8270	2,4-Dinitrotoluene	MG/KG	0.4 U	0.39 U	0.37 U	0.38 U
SW8270	2,6-Dichlorophenol	MG/KG	0.81 U	0.78 U	0.75 U	0.77 U
SW8270	2,6-Dinitrotoluene	MG/KG	0.4 U	0.39 U	0.37 U	0 38 U
SW8270	2-Acetylaminofluorene	MG/KG	0.81 U	0.78 U	0.75 U	0.77 U
SW8270	2-Aminonaphthalene (beta-Naphthylamine)	MG/KG	0.81 U	0.78 U	0.75 U	0.77 U
SW8270	2-Chloronaphthalene	MG/KG	0.4 U	0.39 U	0.37 U	0.38 U
SW8270	2-Chlorophenol	MG/KG	0 4 U	0.39 U	0.37 U	0 38 U
SW8270	2-Methylnaphthalene	MG/KG	0 4 U	0.39 U	0 37 U	0.38 U
SW8270	2-Methylphenol (o-Cresol)	MG/KG	0.4 U	0.39 U	0 37 U	0.38 U
SW8270	2-Nitroaniline	MG/KG	2 U	2 U	1.9 U	1 9 U
SW8270	2-Nitrophenol	MG/KG	0.4 U	0.39 U	0 37 U	0 38 U
SW8270	2-Picoline (alpha-Picoline)	MG/KG	0.4 U	0.39 U	0 37 U	0.38 U
SW8270	3,3'-Dichlorobenzidine	MG/KG	0.81 U	0 78 U	0.75 U	0.77 U
SW8270	3,3'-Dimethylbenzidine	MG/KG	2 U	2 U	1.9 U	1.9 U

Table D.4
Phase I Soil Analytical Data
SWMU 51
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU51004-00'	BHGLSWMU51004-05'	BHGLSWMU51004-10'	BHGLSWMU51004-15'
SW8270	3-Methylcholanthrene	MG/KG	0 4 U	0.39 U	0.37 U	0.38 U
SW8270	3-Nitroaniline	MG/KG	2 U	2 U	1 9 U	1 9 U
SW8270	4,6-Dinitro-2-methylphenol	MG/KG	2 U	2 U	1.9 U	1.9 U
SW8270	4-Aminobiphenyl (4-Biphenylamine)	MG/KG	0.81 U	0.78 U	0.75 U	0.77 U
SW8270	4-Bromophenyl phenyl ether	MG/KG	0 4 U	0.39 U	0.37 U	0.38 U
SW8270	4-Chloro-3-methylphenol	MG/KG	0 81 U	0.78 U	0.75 U	0.77 U
SW8270	4-Chloroaniline	MG/KG	0 81 U	0.78 U	0.75 U	0 77 U
SW8270	4-Chlorophenyl phenyl ether	MG/KG	0.4 U	0.39 U	0 37 U	0 38 U
SW8270	4-Nitroaniline	MG/KG	2 U	2 U	1.9 U	1.9 U
SW8270	4-Nitrophenol	MG/KG	2 U	2 U	1 9 U	1 9 U
SW8270	4-Nitroquinoline-1-oxide	MG/KG	2 U	2 U	1.9 U	1.9 U
SW8270	5-Nitro-o-toluidine	MG/KG	0 81 U	0.78 U	0.75 U	0.77 U
SW8270	7,12-Dimethylbenzo(a)anthracene	MG/KG	0.81 U	0.78 U	0.75 U	0.77 U
SW8270	Acenaphthene	MG/KG	0 4 U	0 39 U	0.37 U	0.38 U
SW8270	Acenaphthylene	MG/KG	0.4 U	0.39 U	0 37 U	0 38 U
SW8270	Acetophenone	MG/KG	0.81 U	0.78 U	0 75 U	0 77 U
SW8270	alpha, alpha-Dimethylphenethylamine	MG/KG	2 U	2 U	1.9 U	1 9 U
SW8270	Aniline (Phenylamine, Aminobenzene)	MG/KG	0 4 U	0.39 U	0.37 U	0.38 U
SW8270	Anthracene	MG/KG	0.4 U	0.39 U	0 37 U	0 38 U
SW8270	Aramite (total)	MG/KG	0.81 U	0.78 U	0.75 U	0.77 U
SW8270	Benzo(a)anthracene	MG/KG	0.4 U	0 39 U	0.37 U	0.38 U
SW8270	Benzo(a)pyrene	MG/KG	0 4 U	0 39 U	0 37 U	0.38 U
SW8270	Benzo(b)fluoranthene	MG/KG	0 4 U	0.39 U	0 37 U	0.38 U
SW8270	Benzo(g,h,i)perylene	MG/KG	0.4 U	0.39 U	0.37 U	0.38 U
SW8270	Benzo(k)fluoranthene	MG/KG	0.4 U	0 39 U	0.37 U	0.38 U
SW8270	Benzoic acid	MG/KG	2 U	2 U	1.9 U	1.9 U
SW8270	Benzyl alcohol	MG/KG	0.4 U	0.39 U	0.37 U	0 38 U
SW8270	Benzyl butyl phthalate	MG/KG	0 4 U	0 39 U	0.37 U	0.38 U
SW8270	bis(2-Chloroethoxy)methane	MG/KG	0.4 U	0 39 U	0.37 U	0.38 U
SW8270	bis(2-Chloroethyl)ether (2-Chloroethyl ether)	MG/KG	0 4 U	0.39 U	0.37 U	0.38 U
SW8270	bis(2-Ethylhexyl)phthalate	MG/KG	0.4 U	0.39 U	0 37 U	0 38 U
SW8270	Chlorobenzilate	MG/KG	0.4 U	0.39 U	0.37 U	0.38 U
SW8270	Chrysene	MG/KG	0 4 U	0.39 U	0.37 U	0 38 U
SW8270	Cresols, m & p	MG/KG	0.4 U	0.39 U	0.37 U	0.38 U
SW8270	Diallate (total of cis and trans isomers)	MG/KG	0 4 U	0.39 U	0.37 U	0 38 U
SW8270	Dibenz(a,h)anthracene	MG/KG	0 4 U	0.39 U	0 37 U	0.38 U

Table D.4
Phase I Soil Analytical Data
SWMU 51
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU51004-00'	BHGLSWMU51004-05'	BHGLSWMU51004-10'	BHGLSWMU51004-15'
SW8270	Dibenzofuran	MG/KG	0.4 U	0.39 U	0.37 U	0.38 U
SW8270	Diethyl phthalate	MG/KG	0.4 U	0.39 U	0 37 U	0.38 U
SW8270	Dimethyl phthalate	MG/KG	0.4 U	0 39 U	0 37 U	0.38 U
SW8270	Di-n-butyl phthalate	MG/KG	0.4 U	0.39 U	0.37 U	0.38 U
SW8270	Di-n-octyl phthalate	MG/KG	0.4 U	0.39 U	0.37 U	0.38 U
SW8270	Dinoseb	MG/KG	0 81 U	0.78 U	0.75 U	0 77 U
SW8270	Diphenylamine	MG/KG	0.4 U	0.39 U	0.37 U	0.38 U
SW8270	Ethyl methanesulfonate	MG/KG	0 81 U	0.78 U	0.75 U	0 77 U
SW8270	Fluoranthene	MG/KG	0.4 U	0 39 U	0.37 U	0 38 U
SW8270	Fluorene	MG/KG	0 4 U	0.39 U	0 37 U	0.38 U
SW8270	Hexachlorobenzene	MG/KG	0.4 U	0.39 U	0.37 U	0 38 U
SW8270	Hexachlorobutadiene	MG/KG	0.4 U	0.39 U	0 37 U	0.38 U
SW8270	Hexachlorocyclopentadiene	MG/KG	0.4 U	0.39 U	0.37 U	0 38 U
SW8270	Hexachloroethane	MG/KG	0 4 U	0.39 U	0.37 U	0.38 U
SW8270	Hexachlorophene	MG/KG	6 U	5 8 U	5.6 U	5 8 U
SW8270	Hexachloropropene	MG/KG	2 U	2 U	1 9 U	1 9 U
SW8270	Indeno(1,2,3-c,d)pyrene	MG/KG	0.4 U	0 39 U	0 37 U	0 38 U
SW8270	Isophorone	MG/KG	0 4 U	0 39 U	0 37 U	0.38 U
SW8270	Isosafrole	MG/KG	0.4 U	0 39 U	0 37 U	0 38 U
SW8270	Methapyrilene	MG/KG	1 U	0 98 U	0.93 U	0.96 U
SW8270	Methyl methanesulfonate	MG/KG	0.4 U	0 39 U	0 37 U	0 38 U
SW8270	Naphthalene	MG/KG	0.4 U	0 39 U	0.37 U	0 38 U
SW8270	Nitrobenzene	MG/KG	0.4 U	0 39 U	0.37 U	0.38 U
SW8270	N-Nitrosodiethylamine	MG/KG	0.81 U	0.78 U	0.75 U	0 77 U
SW8270	N-Nitrosodimethylamine	MG/KG	0.81 U	0.78 U	0.75 U	0 77 U
SW8270	N-Nitrosodi-n-butylamine	MG/KG	0.4 U	0.39 U	0.37 U	0 38 U
SW8270	N-Nitrosodi-n-propylamine	MG/KG	0.4 U	0.39 U	0.37 U	0.38 U
SW8270	N-Nitrosodiphenylamine	MG/KG	0.4 U	0 39 U	0.37 U	0 38 U
SW8270	N-Nitrosomethylethylamine	MG/KG	0.4 U	0 39 U	0 37 U	0 38 U
SW8270	N-Nitrosomorpholine	MG/KG	0 81 U	0.78 U	0.75 U	0 77 U
SW8270	N-Nitrosopiperidine	MG/KG	0.4 U	0.39 U	0.37 U	0 38 U
SW8270	N-Nitrosopyrrolidine	MG/KG	0.81 U	0 78 U	0.75 U	0 77 U
SW8270	o-Toluidine	MG/KG	0.81 U	0 78 U	0.75 U	0 77 U
SW8270	p-Dimethylaminoazobenzene	MG/KG	0.81 U	0 78 U	0.75 U	0 77 U
SW8270	Pentachlorobenzene	MG/KG	0 4 U	0.39 U	0.37 U	0 38 U
SW8270	Pentachloronitrobenzene	MG/KG	0.4 U	0.39 U	0 37 U	0 38 U

Table D.4
Phase I Soil Analytical Data
SWMU 51
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU51004-00'	BHGLSWMU51004-05'	BHGLSWMU51004-10'	BHGLSWMU51004-15'
SW8270	Pentachlorophenol	MG/KG	2 U	2 U	1.9 U	1.9 U
SW8270	Phenacetin	MG/KG	0.4 U	0.39 U	0.37 U	0 38 U
SW8270	Phenanthrene	MG/KG	0 4 U	0 39 U	0.37 U	0 38 U
SW8270	Phenol	MG/KG	0 4 U	0.39 U	0.37 U	0 38 U
SW8270	p-Phenylenediamine	MG/KG	1.6 U	1.6 U	1.5 U	1.5 U
SW8270	Pronamide	MG/KG	0 4 U	0.39 U	0.37 U	0.38 U
SW8270	Pyrene	MG/KG	0 4 U	0.39 U	0.37 U	0.38 U
SW8270	Pyridine	MG/KG	0 81 U	0.78 U	0.75 U	0 77 U
SW8270	Safrole	MG/KG	0.4 U	0 39 U	0.37 U	0.38 U
SW8280	2,3,7,8-Tetrachlorodibenzofuran	MG/KG	0.00005 U	0 00005 U	0 00005 U	0 00003 U
SW8280	2,3,7,8-Tetrachlorodibenzo-p-dioxin	MG/KG	0.00009 U	0 00007 U	0.00006 U	0 00006 U
SW9010	Cyanide	MG/KG	10 UJ	10 UJ	10 UJ	10 UJ
SW9030	Sulfide	MG/KG	30.6 U	26 U	27.8 U	24.1 U

Data Qualifiers:

J = This analyte was positively identified, but the quantitation is an estimation

U = The analyte was analyzed for, but not detected. The associate numerical value is at or below the MQL

F = The analyte was positively identified, but the associated numerical value is below the MQL.

R = The data are unusable due to deficiences in the ability to analyze the sample and meet QC criteria

UJ = The analyte was analyzed for but not detected, the associated value is a MQL, which is estimated due to deficiencies in the QC criteria.

NA = Not analyzed

Table D.4
Phase I Soil Analytical Data
SWMU 51
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU51004-20'	BHGLSWMU51005-00'	BHGLSWMU51005-05'	BHGLSWMU51006-00'
SW6010	Antimony	MG/KG	4.6 UJ	4 1 U	4 U	4.1 U
SW6010	Arsenic	MG/KG	14 9 J	NA	NA	NA
SW6010	Barium	MG/KG	50.2	81.6	13 F	111 J
SW6010	Beryllium	MG/KG	0.67	0.73	0.1 F	0 92
SW6010	Cadmium	MG/KG	0.46 U	0.43	0 4 U	0.37 F
SW6010	Chromium, total	MG/KG	9 F	16.7	3.8 F	19.2
SW6010	Cobalt	MG/KG	9	5	1.9 F	5.5
SW6010	Copper	MG/KG	8 9 F	7 5 F	2 F	8.2 F
SW6010	Lead	MG/KG	13.3	NA	NA	NA
SW6010	Nickel	MG/KG	21 7	10 7	2.9 F	13.1
SW6010	Tin	MG/KG	37.2 U	33 U	32.3 U	32.8 U
SW6010	Vanadium	MG/KG	20.3 F	30.5	6.7 F	35.5
SW6010	Zinc	MG/KG	23.1 F	27 1	8 F	29.6
SW7060	Arsenic	MG/KG	NA	4.6	1 2	4.2
SW7421	Lead	MG/KG	NA	20.2	2.2	8.4 F
SW7471	Mercury	MG/KG	0.12	0.13	0 06	0.12
SW7740	Selenium	MG/KG	0 3 UJ	1 2 U	0 24 UJ	1.3 U
SW7761	Silver	MG/KG	0.2 UJ	0.82 UJ	0 16 UJ	0.17 UJ
SW7841	Thallium	MG/KG	1 UJ	0 82 UJ	0.81 UJ	0.85 UJ
SW8080	Aldrin	MG/KG	0.0033 U	0.017 U	0.0035 U	0.007 U
SW8080	alpha-BHC (alpha-Hexachlorocyclohexane)	MG/KG	0 0022 U	0.011 U	0 0023 U	0.0047 U
SW8080	alpha-Chlordane	MG/KG	0.016 U	0.084 U	0 018 U	0.035 U
SW8080	alpha-Endosulfan	MG/KG	0 0099 U	0 05 U	0.01 U	0.021 U
SW8080	beta-BHC (beta-Hexachlorocyclohexane)	MG/KG	0.0044 U	0 022 U	0 0047 U	0 0094 U
SW8080	beta-Endosulfan	MG/KG	0.0033 U	0.017 U	0 0035 U	0.007 U
SW8080	Chlordane	MG/KG	0 0099 U	0 05 U	0.01 U	0.021 U
SW8080	delta-BHC (delta-Hexachlorocyclohexane)	MG/KG	0.0066 U	0.033 U	0.007 U	0.014 U
SW8080	Dieldrin	MG/KG	0 011 U	0.056 U	0.012 U	0.023 U
SW8080	Endosulfan sulfate	MG/KG	0.044 U	0 22 U	0.047 U	0.094 U
SW8080	Endrin	MG/KG	0 0044 U	0.022 U	0.0047 U	0 0094 U
SW8080	Endrin aldehyde	MG/KG	0 022 U	0.11 U	0 023 U	0.047 U
SW8080	gamma-BHC (Lindane)	MG/KG	0 0033 U	0.017 U	0 0035 U	0 007 U
SW8080	gamma-Chlordane	MG/KG	0.016 U	0 084 U	0 018 U	0 035 U
SW8080	Heptachlor	MG/KG	0 0022 U	0.011 U	0 0023 U	0 0047 U
SW8080	Heptachlor epoxide	MG/KG	0.066 U	0.33 U	0.07 U	0.14 U
SW8080	Isodrin	MG/KG	0.0044 U	0.022 U	0.0047 U	0.0094 U

Table D.4
Phase I Soil Analytical Data
SWMU 51
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU51004-20'	BHGLSWMU51005-00'	BHGLSWMU51005-05'	BHGLSWMU51006-00'
SW8080	Kepone	MG/KG	0.091 U	0 46 U	0.098 U	0.2 U
SW8080	Methoxychlor	MG/KG	0.11 U	0.56 U	0 12 U	0.23 U
SW8080	p,p'-DDD	MG/KG	0.0077 U	0 039 U	0.0082 U	0 016 U
SW8080	p,p'-DDE	MG/KG	0.0033 U	0.017 U	0.0035 U	0 007 U
SW8080	p,p'-DDT	MG/KG	0.0088 U	0.045 U	0 0094 U	0.019 U
SW8080	PCB-1016 (Aroclor 1016)	MG/KG	1.1 U	5 6 U	1.2 U	2 3 U
SW8080	PCB-1221 (Aroclor 1221)	MG/KG	1.1 U	5 6 U	1.2 U	2 3 U
SW8080	PCB-1232 (Aroclor 1232)	MG/KG	1.1 U	5.6 U	1.2 U	2.3 U
SW8080	PCB-1242 (Aroclor 1242)	MG/KG	1 1 U	5.6 U	1.2 U	2.3 U
SW8080	PCB-1248 (Aroclor 1248)	MG/KG	1 1 U	5.6 U	1 2 U	2.3 U
SW8080	PCB-1254 (Aroclor 1254)	MG/KG	1.1 U	5.6 U	1 2 U	2.3 U
SW8080	PCB-1260 (Aroclor 1260)	MG/KG	1.1 U	5.6 U	1 2 U	2.3 U
SW8080	Toxaphene	MG/KG	0 22 U	1.1 U	0 23 U	0.47 U
SW8081	Aldrin	MG/KG	NA	NA	NA	NA
SW8081	alpha-BHC (alpha-Hexachlorocyclohexane)	MG/KG	NA	NA	NA	NA
SW8081	alpha-Chlordane	MG/KG	NA	NA	NA	NA
SW8081	alpha-Endosulfan	MG/KG	NA	NA	NA	NA
SW8081	beta-BHC (beta-Hexachlorocyclohexane)	MG/KG	NA	NA	NA	NA
SW8081	beta-Endosulfan	MG/KG	NA	NA	NA	NA
SW8081	Chlordane	MG/KG	NA	NA	NA	NA
SW8081	delta-BHC (delta-Hexachlorocyclohexane)	MG/KG	NA	NA	NA	NA
SW8081	Dieldrin	MG/KG	NA	NA	NA	NA
SW8081	Endosulfan sulfate	MG/KG	NA	NA	NA	NA
SW8081	Endrin	MG/KG	NA	NA	NA	NA
SW8081	Endrin aldehyde	MG/KG	NA	NA	NA	NA
SW8081	gamma-BHC (Lindane)	MG/KG	NA	NA	NA	NA
SW8081	gamma-Chlordane	MG/KG	NA	NA	NA	NA
SW8081	Heptachlor	MG/KG	NA	NA	NA	NA
SW8081	Heptachlor epoxide	MG/KG	NA	NA	NA	NA
SW8081	Isodrin	MG/KG	NA	NA	NA	NA
SW8081	Kepone	MG/KG	NA	NA	NA	NA
SW8081	Methoxychlor	MG/KG	NA	NA	NA	NA
SW8081	p,p'-DDD	MG/KG	NA	NA	NA	NA
SW8081	p,p'-DDE	MG/KG	NA	NA	NA	NA
SW8081	p,p'-DDT	MG/KG	NA	NA	NA	NA
SW8081	PCB-1016 (Aroclor 1016)	MG/KG	NA	NA	NA	NA

Table D.4
Phase I Soil Analytical Data
SWMU 51
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU51004-20'	BHGLSWMU51005-00'	BHGLSWMU51005-05'	BHGLSWMU51006-00'
SW8081	PCB-1221 (Aroclor 1221)	MG/KG	NA	NA	NA	NA
SW8081	PCB-1232 (Aroclor 1232)	MG/KG	NA	NA	NA	NA
SW8081	PCB-1242 (Aroclor 1242)	MG/KG	NA	NA	NA	NA
SW8081	PCB-1248 (Aroclor 1248)	MG/KG	NA	NA	NA	NA
SW8081	PCB-1254 (Aroclor 1254)	MG/KG	NA	NA	NA	NA
SW8081	PCB-1260 (Aroclor 1260)	MG/KG	NA	NA	NA	NA
SW8081	Toxaphene	MG/KG	NA	NA	NA	NA
SW8141	Dimethoate	MG/KG	0.073 U	0.074 UJ	0.078 U	0 078 U
SW8141	Disulfoton	MG/KG	0.073 U	0.074 UJ	0.078 U	0.078 U
SW8141	Famphur	MG/KG	0.073 U	0.074 UJ	0.078 U	0.078 U
SW8141	O,O,O-Triethyl phosphorothioate	MG/KG	0.073 U	0 074 UJ	0.078 U	0 078 U
SW8141	Parathion, ethyl	MG/KG	0 073 U	0.074 UJ	0.078 U	0.078 U
SW8141	Parathion, methyl	MG/KG	0 073 U	0.074 UJ	0 078 U	0.078 U
SW8141	Phorate	MG/KG	0.073 U	0.074 UJ	0 078 U	0 078 U
SW8141	Thiodiphosphoric acid, tetraethyl ester	MG/KG	0 073 U	0.074 UJ	0.078 U	0 078 U
SW8141	Zinophos	MG/KG	0 073 U	0 074 UJ	0.078 U	0 078 U
SW8150	2,4,5-T (Trichlorophenoxyacetic acid)	MG/KG	0.036 U	0 038 U	0.039 U	0.038 U
SW8150	2,4-D (Dichlorophenoxyacetic acid)	MG/KG	0.36 U	0.38 U	0.39 U	0.38 U
SW8150	Silvex (2,4,5-TP)	MG/KG	0.036 U	0.038 U	0.039 U	0 038 U
SW8151	2,4,5-T (Trichlorophenoxyacetic acid)	MG/KG	NA	NA	NA	NA
SW8151	2,4-D (Dichlorophenoxyacetic acid)	MG/KG	NA	NA	NA	NA
SW8151	Silvex (2,4,5-TP)	MG/KG	NA	NA	NA	NA
SW8260	1,1,1,2-Tetrachloroethane	MG/KG	0 003 U	0.003 U	0 004 U	0.004 U
SW8260	1,1,1-Trichloroethane	MG/KG	0 004 U	0.004 U	0.005 U	0.005 U
SW8260	1,1,2,2-Tetrachloroethane	MG/KG	0 002 U	0.002 U	0 002 U	0 002 U
SW8260	1,1,2-Trichloroethane	MG/KG	0 005 U	0.005 U	0 006 U	0 006 U
SW8260	1,1-Dichloroethane	MG/KG	0.002 U	0 002 U	0 002 U	0 002 U
SW8260	1,1-Dichloroethene	MG/KG	0.005 U	0.005 U	0.006 U	0 006 U
SW8260	1,2,3-Trichloropropane	MG/KG	0.005 U	0.005 U	0.006 U	0 006 U
SW8260	1,2-Dibromo-3-chloropropane	MG/KG	0.005 U	0.005 U	0.006 U	0.006 U
SW8260	1,2-Dibromoethane (Ethylene dibromide)	MG/KG	0.003 U	0.003 U	0 004 U	0.004 U
SW8260	1,2-Dichloroethane	MG/KG	0 003 U	0.003 U	0 004 U	0 004 U
SW8260	1,2-Dichloropropane	MG/KG	0.002 U	0.002 U	0.002 U	0 002 U
SW8260	2-Chloro-1,3-butadiene	MG/KG	0 005 U	0.005 U	0.006 U	0 006 U
SW8260	2-Hexanone	MG/KG	0 005 U	0.005 U	0.006 U	0 006 U
SW8260	Acetone	MG/KG	0.005 U	0.005 U	0.006 U	0.006 U

Table D.4
Phase I Soil Analytical Data
SWMU 51
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU51004-20'	BHGLSWMU51005-00'	BHGLSWMU51005-05'	BHGLSWMU51006-00'
SW8260	Acetonitrile	MG/KG	0 039 U	0.042 U	0.047 U	0 047 U
SW8260	Acrolein	MG/KG	0.099 U	0.1 U	0.12 U	0 12 U
SW8260	Acrylonitrile	MG/KG	0.039 U	0.042 U	0 047 U	0 047 U
SW8260	Allyl chloride (3-Chloropropene)	MG/KG	0.01 U	0.01 U	0.012 U	0 012 U
SW8260	Benzene	MG/KG	0.002 U	0 002 U	0.002 U	0.002 U
SW8260	Bromodichloromethane	MG/KG	0 004 U	0.004 U	0.005 U	0.005 U
SW8260	Bromoform	MG/KG	0.005 U	0.005 U	0.006 U	0.006 U
SW8260	Bromomethane	MG/KG	0.005 U	0 005 U	0.006 U	0.006 U
SW8260	Carbon disulfide	MG/KG	0.005 U	0 005 U	0.006 U	0.006 U
SW8260	Carbon tetrachloride	MG/KG	0.005 U	0 005 U	0.006 U	0.006 U
SW8260	Chlorobenzene	MG/KG	0.002 U	0.002 U	0.002 U	0.002 U
SW8260	Chloroethane	MG/KG	0.005 U	0 005 U	0.006 U	0.006 U
SW8260	Chloroform	MG/KG	0 002 U	0.002 U	0.002 U	0.002 U
SW8260	Chloromethane	MG/KG	0.005 U	0 005 U	0.006 U	0.006 U
SW8260	cis-1,2-Dichloroethene	MG/KG	0.005 U	0.005 U	0.006 U	0.006 U
SW8260	cis-1,3-Dichloropropene	MG/KG	0.005 U	0.005 U	0 006 U	0 006 U
SW8260	Dibromochloromethane	MG/KG	0 003 U	0 003 U	0.004 U	0 004 U
SW8260	Dibromomethane	MG/KG	0 005 U	0.005 U	0.006 U	0 006 U
SW8260	Dichlorodifluoromethane	MG/KG	0 005 R	0.005 R	0.006 R	0.006 R
SW8260	Ethyl methacrylate	MG/KG	0 005 U	0.005 U	0.006 U	0.006 U
SW8260	Ethylbenzene	MG/KG	0 003 UJ	0.003 U	0.004 U	0.004 U
SW8260	Iodomethane (Methyl iodide)	MG/KG	0 005 U	0 005 U	0.006 U	0.006 U
SW8260	Isobutanol	MG/KG	0.2 U	0.21 U	0.24 U	0.23 U
SW8260	m,p-Xylene (sum of isomers)	MG/KG	0 005 UJ	0.005 U	0.006 U	0.006 U
SW8260	Methyl ethyl ketone (2-Butanone)	MG/KG	0.005 U	0 005 U	0.006 U	0 006 U
SW8260	Methyl isobutyl ketone (4-Methyl-2-pentanone)	MG/KG	0.005 U	0 005 U	0.006 U	0 006 U
SW8260	Methyl methacrylate	MG/KG	0.005 U	0 005 U	0 006 U	0 006 U
SW8260	Methylacrylonitrile	MG/KG	0.005 U	0.005 U	0.006 U	0.006 U
SW8260	Methylene chloride	MG/KG	0 002 U	0.002 U	0.002 U	0.002 U
SW8260	o-Xylene (1,2-Dimethylbenzene)	MG/KG	0 005 U	0.005 U	0.006 U	0.006 U
SW8260	Pentachloroethane	MG/KG	0.005 U	0.005 U	0.006 U	0.006 U
SW8260	Propane nitrile (Propionitrile)	MG/KG	0.02 U	0.021 U	0.024 U	0 023 U
SW8260	Styrene	MG/KG	0.002 UJ	0.002 U	0 002 U	0 002 U
SW8260	Tetrachloroethene (PCE)	MG/KG	0.005 U	0 005 U	0 006 U	0.006 U
SW8260	Toluene	MG/KG	0.005 UJ	0.005 U	0.006 U	0 006 U
SW8260	Trans-1,2-Dichloroethene	MG/KG	0 003 U	0 003 U	0.004 U	0 004 U

Table D.4
Phase I Soil Analytical Data
SWMU 51
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU51004-20'	BHGLSWMU51005-00'	BHGLSWMU51005-05'	BHGLSWMU51006-00'
SW8260	Trans-1,3-Dichloropropene	MG/KG	0.005 U	0 005 U	0 006 U	0.006 U
SW8260	Trans-1,4-Dichloro-2-Butene	MG/KG	0 005 U	0.005 U	0 006 U	0 006 U
SW8260	Trichloroethene (TCE)	MG/KG	0.005 U	0.005 U	0.006 U	0 006 U
SW8260	Vinyl acetate	MG/KG	0.005 U	0.005 U	0.006 U	0.006 U
SW8260	Vinyl chloride	MG/KG	0.005 U	0.005 U	0.006 U	0.006 U
SW8270	1,2,4,5-Tetrachlorobenzene	MG/KG	0.37 U	0.37 U	0.39 U	0.39 U
SW8270	1,2,4-Trichlorobenzene	MG/KG	0.37 U	0.37 U	0.39 U	0.39 U
SW8270	1,2-Dichlorobenzene	MG/KG	0 37 U	0.37 U	0.39 U	0.39 U
SW8270	1,3,5-Trinitrobenzene	MG/KG	1 5 U	1.5 U	1.6 U	1.6 U
SW8270	1,3-Dichlorobenzene	MG/KG	0.37 U	0.37 U	0 39 U	0.39 U
SW8270	1,3-Dinitrobenzene	MG/KG	0.37 U	0.37 U	0.39 U	0.39 U
SW8270	1,4-Dichlorobenzene	MG/KG	0.37 U	0.37 U	0 39 U	0.39 U
SW8270	1,4-Dioxane (p-Dioxane)	MG/KG	1.5 U	1.5 U	1 6 U	1.6 U
SW8270	1,4-Naphthoquinone	MG/KG	1.9 U	1.9 U	2 U	1.9 U
SW8270	1-Naphthylamine	MG/KG	0.75 U	0.75 U	0 78 U	0.78 U
SW8270	2,2'-Oxybis(1-chloropropane)	MG/KG	0.37 U	0.37 U	0 39 U	0.39 U
SW8270	2,3,4,6-Tetrachlorophenol	MG/KG	0.37 U	0.37 U	0.39 U	0 39 U
SW8270	2,4,5-Trichlorophenol	MG/KG	1.9 U	1.9 U	2 U	1.9 U
SW8270	2,4,6-Trichlorophenol	MG/KG	0.37 U	0.37 U	0 39 U	0.39 U
SW8270	2,4-Dichlorophenol	MG/KG	0.37 U	0.37 U	0 39 U	0.39 U
SW8270	2,4-Dimethylphenol	MG/KG	0 37 U	0.37 U	0 39 U	0.39 U
SW8270	2,4-Dinitrophenol	MG/KG	1.9 U	1 9 U	2 U	1.9 U
SW8270	2,4-Dinitrotoluene	MG/KG	0 37 U	0.37 U	0.39 U	0.39 U
SW8270	2,6-Dichlorophenol	MG/KG	0.75 U	0.75 U	0.78 U	0.78 U
SW8270	2,6-Dinitrotoluene	MG/KG	0.37 U	0.37 U	0.39 U	0 39 U
SW8270	2-Acetylaminofluorene	MG/KG	0.75 U	0.75 U	0.78 U	0.78 U
SW8270	2-Aminonaphthalene (beta-Naphthylamine)	MG/KG	0 75 U	0 75 U	0 78 U	0 78 U
SW8270	2-Chloronaphthalene	MG/KG	0.37 U	0.37 U	0 39 U	0.39 U
SW8270	2-Chlorophenol	MG/KG	0.37 U	0.37 U	0 39 U	0.39 U
SW8270	2-Methylnaphthalene	MG/KG	0 37 U	0.37 U	0.39 U	0 39 U
SW8270	2-Methylphenol (o-Cresol)	MG/KG	0 37 U	0.37 U	0 39 U	0.39 U
SW8270	2-Nitroaniline	MG/KG	1.9 U	1.9 U	2 U	1.9 U
SW8270	2-Nitrophenol	MG/KG	0 37 U	0 37 U	0.39 U	0 39 U
SW8270	2-Picoline (alpha-Picoline)	MG/KG	0 37 U	0.37 U	0 39 U	0.39 U
SW8270	3,3'-Dichlorobenzidine	MG/KG	0.75 U	0.75 U	0.78 U	0 78 U
SW8270	3,3'-Dimethylbenzidine	MG/KG	1.9 U	1.9 U	2 U	1.9 U

Table D.4
Phase I Soil Analytical Data
SWMU 51
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU51004-20'	BHGLSWMU51005-00'	BHGLSWMU51005-05'	BHGLSWMU51006-00'
SW8270	3-Methylcholanthrene	MG/KG	0.37 U	0.37 U	0.39 U	0 39 U
SW8270	3-Nitroaniline	MG/KG	1.9 U	1.9 U	2 U	1.9 U
SW8270	4,6-Dinitro-2-methylphenol	MG/KG	1.9 U	1.9 U	2 U	1.9 U
SW8270	4-Aminobiphenyl (4-Biphenylamine)	MG/KG	0.75 U	0 75 U	0.78 U	0.78 U
SW8270	4-Bromophenyl phenyl ether	MG/KG	0 37 U	0 37 U	0.39 U	0.39 U
SW8270	4-Chloro-3-methylphenol	MG/KG	0 75 U	0.75 U	0.78 U	0.78 U
SW8270	4-Chloroaniline	MG/KG	0.75 U	0.75 U	0.78 U	0 78 U
SW8270	4-Chlorophenyl phenyl ether	MG/KG	0.37 U	0.37 U	0.39 U	0.39 U
SW8270	4-Nitroaniline	MG/KG	1.9 U	1 9 U	2 U	1.9 U
SW8270	4-Nitrophenol	MG/KG	1.9 U	1 9 U	2 U	1.9 U
SW8270	4-Nitroquinoline-1-oxide	MG/KG	1.9 U	1 9 U	2 U	1.9 U
SW8270	5-Nitro-o-toluidine	MG/KG	0 75 U	0 75 U	0.78 U	0.78 U
SW8270	7,12-Dimethylbenzo(a)anthracene	MG/KG	0.75 U	0.75 U	0.78 U	0.78 U
SW8270	Acenaphthene	MG/KG	0.37 U	0.37 U	0 39 U	0.39 U
SW8270	Acenaphthylene	MG/KG	0.37 U	0 37 U	0.39 U	0 39 U
SW8270	Acetophenone	MG/KG	0.75 U	0 75 U	0.78 U	0.78 U
SW8270	alpha, alpha-Dimethylphenethylamine	MG/KG	1.9 U	1 9 U	2 U	1.9 U
SW8270	Aniline (Phenylamine, Aminobenzene)	MG/KG	0.37 U	0 37 U	0 39 U	0.39 U
SW8270	Anthracene	MG/KG	0.37 U	0.37 U	0.39 U	0.39 U
SW8270	Aramite (total)	MG/KG	0.75 U	0 75 U	0.78 U	0.78 U
SW8270	Benzo(a)anthracene	MG/KG	0.37 U	0 37 U	0.39 U	0.39 U
SW8270	Benzo(a)pyrene	MG/KG	0.37 U	0 37 U	0.39 U	0.39 U
SW8270	Benzo(b)fluoranthene	MG/KG	0.37 U	0 37 U	0.39 U	0.39 U
SW8270	Benzo(g,h,i)perylene	MG/KG	0 37 U	0.37 U	0.39 U	0.39 U
SW8270	Benzo(k)fluoranthene	MG/KG	0 37 U	0 37 U	0.39 U	0.39 U
SW8270	Benzoic acid	MG/KG	1.9 U	1 9 U	2 U	1.9 U
SW8270	Benzyl alcohol	MG/KG	0.37 U	0 37 U	0.39 U	0 39 U
SW8270	Benzyl butyl phthalate	MG/KG	0.37 U	0.37 U	0.39 U	0 39 U
SW8270	bis(2-Chloroethoxy)methane	MG/KG	0 37 U	0.37 U	0.39 U	0.39 U
SW8270	bis(2-Chloroethyl)ether (2-Chloroethyl ether)	MG/KG	0 37 U	0.37 U	0.39 U	0.39 U
SW8270	bis(2-Ethylhexyl)phthalate	MG/KG	0.37 U	0 37 U	0.39 U	0.39 U
SW8270	Chlorobenzilate	MG/KG	0.37 U	0 37 U	0.39 U	0.39 U
SW8270	Chrysene	MG/KG	0.37 U	0 37 U	0.39 U	0.39 U
SW8270	Cresols, m & p	MG/KG	0.37 U	0 37 U	0.39 U	0 39 U
SW8270	Diallate (total of cis and trans isomers)	MG/KG	0 37 U	0.37 U	0.39 U	0 39 U
SW8270	Dibenz(a,h)anthracene	MG/KG	0.37 U	0 37 U	0 39 U	0.39 U

Table D.4
Phase I Soil Analytical Data
SWMU 51
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU51004-20'	BHGLSWMU51005-00'	BHGLSWMU51005-05'	BHGLSWMU51006-00'
SW8270	Dibenzofuran	MG/KG	0.37 U	0.37 U	0.39 U	0.39 U
SW8270	Diethyl phthalate	MG/KG	0.37 U	0 37 U	0.39 U	0 39 U
SW8270	Dimethyl phthalate	MG/KG	0.37 U	0.37 U	0.39 U	0.39 U
SW8270	Di-n-butyl phthalate	MG/KG	0.37 U	0 37 U	0.39 U	0 39 U
SW8270	Di-n-octyl phthalate	MG/KG	0.37 U	0.37 U	0.39 U	0.39 U
SW8270	Dinoseb	MG/KG	0.75 U	0.75 U	0 78 U	0 78 U
SW8270	Diphenylamine	MG/KG	0.37 U	0.37 U	0.39 U	0.39 U
SW8270	Ethyl methanesulfonate	MG/KG	0.75 U	0.75 U	0 78 U	0 78 U
SW8270	Fluoranthene	MG/KG	0.37 U	0.37 U	0.39 U	0 39 U
SW8270	Fluorene	MG/KG	0.37 U	0.37 U	0 39 U	0 39 U
SW8270	Hexachlorobenzene	MG/KG	0.37 U	0.37 U	0 39 U	0.39 U
SW8270	Hexachlorobutadiene	MG/KG	0 37 U	0 37 U	0.39 U	0.39 U
SW8270	Hexachlorocyclopentadiene	MG/KG	0 37 U	0.37 U	0 39 U	0 39 U
SW8270	Hexachloroethane	MG/KG	0.37 U	0.37 U	0.39 U	0.39 U
SW8270	Hexachlorophene	MG/KG	5 6 U	5 6 U	5 8 U	5.8 U
SW8270	Hexachloropropene	MG/KG	1.9 U	1.9 U	2 U	1.9 U
SW8270	Indeno(1,2,3-c,d)pyrene	MG/KG	0.37 U	0.37 U	0.39 U	0.39 U
SW8270	Isophorone	MG/KG	0 37 U	0.37 U	0.39 U	0 39 U
SW8270	Isosafrole	MG/KG	0.37 U	0.37 U	0.39 U	0 39 U
SW8270	Methapyrilene	MG/KG	0 93 U	0.94 U	0 98 U	0.97 U
SW8270	Methyl methanesulfonate	MG/KG	0.37 U	0.37 U	0 39 U	0 39 U
SW8270	Naphthalene	MG/KG	0 37 U	0.37 U	0 39 U	0.39 U
SW8270	Nitrobenzene	MG/KG	0 37 U	0 37 U	0.39 U	0 39 U
SW8270	N-Nitrosodiethylamine	MG/KG	0.75 U	0.75 U	0 78 U	0.78 U
SW8270	N-Nitrosodimethylamine	MG/KG	0 75 U	0 75 U	0.78 U	0 78 U
SW8270	N-Nitrosodi-n-butylamine	MG/KG	0 37 U	0.37 U	0 39 U	0.39 U
SW8270	N-Nitrosodi-n-propylamine	MG/KG	0 37 U	0 37 U	0.39 U	0.39 U
SW8270	N-Nitrosodiphenylamine	MG/KG	0.37 U	0.37 U	0.39 U	0 39 U
SW8270	N-Nitrosomethylethylamine	MG/KG	0.37 U	0.37 U	0.39 U	0.39 U
SW8270	N-Nitrosomorpholine	MG/KG	0 75 U	0.75 U	0.78 U	0.78 U
SW8270	N-Nitrosopiperidine	MG/KG	0 37 U	0.37 U	0 39 U	0.39 U
SW8270	N-Nitrosopyrrolidine	MG/KG	0 75 U	0.75 U	0 78 U	0.78 U
SW8270	o-Toluidine	MG/KG	0 75 U	0.75 U	0.78 U	0.78 U
SW8270	p-Dimethylaminoazobenzene	MG/KG	0 75 U	0 75 U	0.78 U	0.78 U
SW8270	Pentachlorobenzene	MG/KG	0.37 U	0.37 U	0 39 U	0.39 U
SW8270	Pentachloronitrobenzene	MG/KG	0 37 U	0.37 U	0.39 U	0.39 U

Table D.4
Phase I Soil Analytical Data
SWMU 51
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU51004-20'	BHGLSWMU51005-00'	BHGLSWMU51005-05'	BHGLSWMU51006-00'
SW8270	Pentachlorophenol	MG/KG	1.9 U	1 9 U	2 U	1.9 U
SW8270	Phenacetin	MG/KG	0.37 U	0.37 U	0.39 U	0 39 U
SW8270	Phenanthrene	MG/KG	0.37 U	0.37 U	0.39 U	0 39 U
SW8270	Phenol	MG/KG	0.37 U	0.37 U	0.39 U	0.39 U
SW8270	p-Phenylenediamine	MG/KG	1.5 U	1 5 U	1.6 U	1.6 U
SW8270	Pronamide	MG/KG	0 37 U	0 37 U	0.39 U	0.39 U
SW8270	Pyrene	MG/KG	0 37 U	0 37 U	0.39 U	0.39 U
SW8270	Pyridine	MG/KG	0.75 U	0.75 U	0 78 U	0.78 U
SW8270	Safrole	MG/KG	0.37 U	0 37 U	0 39 U	0 39 U
SW8280	2,3,7,8-Tetrachlorodibenzofuran	MG/KG	0.00007 U	0.0001 U	0.00005 U	0.00006 U
SW8280	2,3,7,8-Tetrachlorodibenzo-p-dioxin	MG/KG	0.00008 U	0.00008 U	0.00004 U	0.00007 U
SW9010	Cyanide	MG/KG	10 UJ	10 U	10 U	10 U
SW9030	Sulfide	MG/KG	28.1 U	26 6 U	26 5 U	26.6 U

Data Qualifiers:

J = This analyte was positively identified, but the quantitation is an estimation

U = The analyte was analyzed for, but not detected. The associate numerical value is at or below the MQL

F = The analyte was positively identified, but the associated numerical value is below the MQL.

R = The data are unusable due to deficiences in the ability to analyze the sample and meet QC criteria

UJ = The analyte was analyzed for but not detected, the associated value is a MQL, which is estimated due to deficiencies in the QC criteria

NA = Not analyzed

Table D.4
Phase I Soil Analytical Data
SWMU 51
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU51006-00' Duplicate	BHGLSWMU51006-05'	BHGLSWMU51007-00'	BHGLSWMU51007-05'
SW6010	Antimony	MG/KG	4.3 U	4.1 U	0.43 F	3.9 U
SW6010	Arsenic	MG/KG	NA	NA	NA	NA
SW6010	Barium	MG/KG	69.3 J	21 2 F	96 8	18 3 F
SW6010	Beryllium	MG/KG	0.59	0 19 F	0.83	0 1 F
SW6010	Cadmium	MG/KG	0.64	0.11 F	0.31 F	0.19 F
SW6010	Chromium, total	MG/KG	19.5	5 3 F	19.2	5 2 F
SW6010	Cobalt	MG/KG	4 F	3.1 F	5.1	3 2 F
SW6010	Copper	MG/KG	9.8	3 5 F	8 5	3 2 F
SW6010	Lead	MG/KG	NA	NA	NA	NA
SW6010	Nickel	MG/KG	9.5	5.1 F	11.6	4 7 F
SW6010	Tin	MG/KG	34.1 U	32.8 U	33.8 U	31.4 U
SW6010	Vanadium	MG/KG	27.6	16.2 F	32.9	14 3 F
SW6010	Zinc	MG/KG	37.3	11.4 F	30.5	11.7 F
SW7060	Arsenic	MG/KG	9.4	2.7	3 8	3 8
SW7421	Lead	MG/KG	26	4.1	17.4	3.5 F
SW7471	Mercury	MG/KG	0.05	0 06	0 06	0 07
SW7740	Selenium	MG/KG	1.3 UJ	0 24 U	0 25 UJ	0 22 UJ
SW7761	Silver	MG/KG	0.86 UJ	0 16 UJ	0.17 UJ	0 15 UJ
SW7841	Thallium	MG/KG	0 86 UJ	0.79 U	0.83 UJ	0 75 UJ
SW8080	Aldrin	MG/KG	0 018 U	0.0034 U	0.0069 U	0 0034 U
SW8080	alpha-BHC (alpha-Hexachlorocyclohexane)	MG/KG	0.012 R	0 0023 U	0.0046 R	0 0022 R
SW8080	alpha-Chlordane	MG/KG	0.09 U	0 017 U	0.034 U	0 017 U
SW8080	alpha-Endosulfan	MG/KG	0 054 U	0 01 U	0.021 U	0 01 U
SW8080	beta-BHC (beta-Hexachlorocyclohexane)	MG/KG	0 024 R	0 0046 U	0.0092 R	0 0045 R
SW8080	beta-Endosulfan	MG/KG	0.018 U	0.0034 U	0.0069 U	0.0034 U
SW8080	Chlordane	MG/KG	0.054 U	0.01 U	0.021 U	0.01 U
SW8080	delta-BHC (delta-Hexachlorocyclohexane)	MG/KG	0.036 U	0.0069 U	0 014 U	0 0067 U
SW8080	Dieldrin	MG/KG	0.06 U	0 011 U	0.023 U	0 011 U
SW8080	Endosulfan sulfate	MG/KG	0 24 U	0 046 U	0.092 U	0 045 U
SW8080	Endrin	MG/KG	0 024 R	0.0046 U	0.0092 R	0 0045 R
SW8080	Endrin aldehyde	MG/KG	0.12 U	0 023 U	0 046 U	0 022 U
SW8080	gamma-BHC (Lindane)	MG/KG	0 018 U	0.0034 U	0 0069 U	0 0034 U
SW8080	gamma-Chlordane	MG/KG	0.09 U	0.017 U	0 034 U	0.017 U
SW8080	Heptachlor	MG/KG	0.012 U	0.0023 U	0.0046 U	0 0022 U
SW8080	Heptachlor epoxide	MG/KG	0.36 U	0 069 U	0.14 U	0 067 U
SW8080	Isodrin	MG/KG	0.024 U	0.0046 U	0.0092 U	0 0045 U

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Table D.4
Phase I Soil Analytical Data
SWMU 51
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU51006-00' Duplicate	BHGLSWMU51006-05'	BHGLSWMU51007-00'	BHGLSWMU51007-05'
SW8080	Kepone	MG/KG	0.5 U	0 096 U	0.19 U	0 094 U
SW8080	Methoxychlor	MG/KG	0.6 U	0 11 U	0.23 U	0.11 U
SW8080	p,p'-DDD	MG/KG	0.042 U	0.008 U	0 016 U	0 0079 U
SW8080	p,p'-DDE	MG/KG	0.018 U	0 0034 U	0 0069 U	0 0034 U
SW8080	p,p'-DDT	MG/KG	0 048 U	0 0092 U	0.018 U	0 009 U
SW8080	PCB-1016 (Aroclor 1016)	MG/KG	6 U	1.1 U	2.3 U	1 1 U
SW8080	PCB-1221 (Aroclor 1221)	MG/KG	6 U	1.1 U	2.3 U	1 1 U
SW8080	PCB-1232 (Aroclor 1232)	MG/KG	6 U	1 1 U	2.3 U	1 1 U
SW8080	PCB-1242 (Aroclor 1242)	MG/KG	6 U	1 1 U	2.3 U	1 1 U
SW8080	PCB-1248 (Aroclor 1248)	MG/KG	6 U	1.1 U	2.3 U	1 1 U
SW8080	PCB-1254 (Aroclor 1254)	MG/KG	6 U	1.1 U	2 3 U	1 1 U
SW8080	PCB-1260 (Aroclor 1260)	MG/KG	6 U	1.1 U	2.3 U	1.1 U
SW8080	Toxaphene	MG/KG	1.2 U	0.23 U	0.46 U	0.22 U
SW8081	Aldrin	MG/KG	NA	NA	NA	NA
SW8081	alpha-BHC (alpha-Hexachlorocyclohexane)	MG/KG	NA	NA	NA	NA
SW8081	alpha-Chlordane	MG/KG	NA	NA	NA	NA
SW8081	alpha-Endosulfan	MG/KG	NA	NA	NA	NA
SW8081	beta-BHC (beta-Hexachlorocyclohexane)	MG/KG	NA	NA	NA	NA
SW8081	beta-Endosulfan	MG/KG	NA	NA	NA	NA
SW8081	Chlordane	MG/KG	NA	NA	NA	NA
SW8081	delta-BHC (delta-Hexachlorocyclohexane)	MG/KG	NA	NA	NA	NA
SW8081	Dieldrin	MG/KG	NA	NA	NA	NA
SW8081	Endosulfan sulfate	MG/KG	NA	NA	NA	NA
SW8081	Endrin	MG/KG	NA	NA	NA	NA
SW8081	Endrin aldehyde	MG/KG	NA	NA	NA	NA
SW8081	gamma-BHC (Lindane)	MG/KG	NA	NA	NA	NA
SW8081	gamma-Chlordane	MG/KG	NA	NA	NA	NA
SW8081	Heptachlor	MG/KG	NA	NA	NA	NA
SW8081	Heptachlor epoxide	MG/KG	NA	NA	NA	NA
SW8081	Isodrin	MG/KG	NA	NA	NA	NA
SW8081	Kepone	MG/KG	NA	NA	NA	NA
SW8081	Methoxychlor	MG/KG	NA	NA	NA	NA
SW8081	p,p'-DDD	MG/KG	NA	NA	NA	NA
SW8081	p,p'-DDE	MG/KG	NA	NA	NA	NA
SW8081	p,p'-DDT	MG/KG	NA	NA	NA	NA
SW8081	PCB-1016 (Aroclor 1016)	MG/KG	NA	NA	NA	NA

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Table D.4
Phase I Soil Analytical Data
SWMU 51
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU51006-00' Duplicate	BHGLSWMU51006-05'	BHGLSWMU51007-00'	BHGLSWMU51007-05'
SW8081	PCB-1221 (Aroclor 1221)	MG/KG	NA	NA	NA	NA
SW8081	PCB-1232 (Aroclor 1232)	MG/KG	NA	NA	NA	NA
SW8081	PCB-1242 (Aroclor 1242)	MG/KG	NA	NA	NA	NA
SW8081	PCB-1248 (Aroclor 1248)	MG/KG	NA	NA	NA	NA
SW8081	PCB-1254 (Aroclor 1254)	MG/KG	NA	NA	NA	NA
SW8081	PCB-1260 (Aroclor 1260)	MG/KG	NA	NA	NA	NA
SW8081	Toxaphene	MG/KG	NA	NA	NA	NA
SW8141	Dimethoate	MG/KG	0.08 UJ	0.076 U	0 077 U	0 075 U
SW8141	Disulfoton	MG/KG	0.08 UJ	0 076 U	0 077 U	0.075 U
SW8141	Famphur	MG/KG	0.08 UJ	0.076 U	0.077 U	0 075 U
SW8141	O,O,O-Triethyl phosphorothioate	MG/KG	0 08 UJ	0.076 U	0.077 U	0.075 U
SW8141	Parathion, ethyl	MG/KG	0 08 UJ	0.076 U	0.077 U	0.075 U
SW8141	Parathion, methyl	MG/KG	0.08 UJ	0.076 U	0.077 U	0.075 U
SW8141	Phorate	MG/KG	0.08 UJ	0 076 U	0 077 U	0 075 U
SW8141	Thiodiphosphoric acid, tetraethyl ester	MG/KG	0.08 UJ	0 076 U	0.077 U	0.075 U
SW8141	Zinophos	MG/KG	0 08 UJ	0.076 U	0.077 U	0.075 U
SW8150	2,4,5-T (Trichlorophenoxyacetic acid)	MG/KG	0 04 U	0 038 U	0 038 U	0 037 U
SW8150	2,4-D (Dichlorophenoxyacetic acid)	MG/KG	0.4 U	0.38 U	0 38 U	0.37 U
SW8150	Silvex (2,4,5-TP)	MG/KG	0 04 U	0.038 U	0.038 U	0 037 U
SW8151	2,4,5-T (Trichlorophenoxyacetic acid)	MG/KG	NA	NA	NA	NA
SW8151	2,4-D (Dichlorophenoxyacetic acid)	MG/KG	NA	NA	NA	NA
SW8151	Silvex (2,4,5-TP)	MG/KG	NA	NA	NA	NA
SW8260	1,1,1,2-Tetrachloroethane	MG/KG	0 003 U	0.003 U	0 003 U	0 003 U
SW8260	1,1,1-Trichloroethane	MG/KG	0.004 U	0.004 U	0 004 U	0.004 U
SW8260	1,1,2,2-Tetrachloroethane	MG/KG	0.002 U	0.002 U	0.002 U	0.002 U
SW8260	1,1,2-Trichloroethane	MG/KG	0.005 U	0.006 U	0 005 U	0.006 U
SW8260	1,1-Dichloroethane	MG/KG	0.002 U	0.002 U	0 002 U	0.002 U
SW8260	1,1-Dichloroethene	MG/KG	0.005 U	0.006 U	0.005 U	0.006 U
SW8260	1,2,3-Trichloropropane	MG/KG	0.005 U	0.006 U	0.005 U	0.006 U
SW8260	1,2-Dibromo-3-chloropropane	MG/KG	0.005 U	0.006 U	0 005 U	0.006 U
SW8260	1,2-Dibromoethane (Ethylene dibromide)	MG/KG	0 003 U	0 003 U	0.003 U	0.003 U
SW8260	1,2-Dichloroethane	MG/KG	0 003 U	0.003 U	0 003 U	0.003 U
SW8260	1,2-Dichloropropane	MG/KG	0 002 U	0.002 U	0.002 U	0 002 U
SW8260	2-Chloro-1,3-butadiene	MG/KG	0.005 U	0.006 U	0.005 U	0 006 U
SW8260	2-Hexanone	MG/KG	0.005 U	0.006 U	0 005 U	0.006 U
SW8260	Acetone	MG/KG	0.005 U	0.006 U	0 005 U	0 006 U

Table D.4
Phase I Soil Analytical Data
SWMU 51
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU51006-00' Duplicate	BHGLSWMU51006-05'	BHGLSWMU51007-00'	BHGLSWMU51007-05'
SW8260	Acetonitrile	MG/KG	0.039 U	0.046 U	0 039 U	0.045 U
SW8260	Acrolein	MG/KG	0.098 U	0.11 U	0.098 U	0.11 U
SW8260	Acrylonitrile	MG/KG	0.039 U	0 046 U	0 039 U	0.045 U
SW8260	Allyl chloride (3-Chloropropene)	MG/KG	0.01 U	0 011 U	0 01 U	0.011 U
SW8260	Benzene	MG/KG	0.002 U	0.002 U	0 002 U	0.002 U
SW8260	Bromodichloromethane	MG/KG	0 004 U	0.004 U	0.004 U	0.004 U
SW8260	Bromoform	MG/KG	0 005 U	0.006 U	0.005 U	0.006 U
SW8260	Bromomethane	MG/KG	0 005 U	0.006 U	0 005 U	0.006 U
SW8260	Carbon disulfide	MG/KG	0.005 U	0.006 U	0 005 U	0.006 U
SW8260	Carbon tetrachloride	MG/KG	0 005 U	0.006 U	0.005 U	0.006 U
SW8260	Chlorobenzene	MG/KG	0 002 U	0 002 U	0.002 U	0 002 U
SW8260	Chloroethane	MG/KG	0 005 U	0.006 U	0.005 U	0 006 U
SW8260	Chloroform	MG/KG	0 002 U	0 002 U	0.002 U	0.002 U
SW8260	Chloromethane	MG/KG	0 005 U	0.006 U	0.005 U	0 006 U
SW8260	cis-1,2-Dichloroethene	MG/KG	0 005 U	0 006 U	0.005 U	0 006 U
SW8260	cis-1,3-Dichloropropene	MG/KG	0 005 U	0 006 U	0 005 U	0.006 U
SW8260	Dibromochloromethane	MG/KG	0.003 U	0 003 U	0.003 U	0 003 U
SW8260	Dibromomethane	MG/KG	0.005 U	0 006 U	0.005 U	0.006 U
SW8260	Dichlorodifluoromethane	MG/KG	0 005 R	0 006 R	0.005 R	0.006 R
SW8260	Ethyl methacrylate	MG/KG	0 005 U	0.006 U	0 005 U	0 006 U
SW8260	Ethylbenzene	MG/KG	0.003 U	0 003 U	0.003 U	0.003 U
SW8260	Iodomethane (Methyl iodide)	MG/KG	0.005 U	0 006 U	0 005 U	0 006 U
SW8260	Isobutanol	MG/KG	0 2 U	0.23 U	0.2 U	0 22 U
SW8260	m,p-Xylene (sum of isomers)	MG/KG	0 005 U	0.006 U	0.005 U	0 006 U
SW8260	Methyl ethyl ketone (2-Butanone)	MG/KG	0 005 U	0.006 U	0 005 U	0 006 U
SW8260	Methyl isobutyl ketone (4-Methyl-2-pentanone)	MG/KG	0 005 U	0.006 U	0.005 U	0.006 U
SW8260	Methyl methacrylate	MG/KG	0 005 U	0.006 U	0.005 U	0 006 U
SW8260	Methylacrylonitrile	MG/KG	0.005 U	0.006 U	0.005 U	0 006 U
SW8260	Methylene chloride	MG/KG	0.002 U	0 002 U	0.002 U	0.002 U
SW8260	o-Xylene (1,2-Dimethylbenzene)	MG/KG	0.005 U	0.006 U	0.005 U	0 006 U
SW8260	Pentachloroethane	MG/KG	0.005 U	0.006 U	0.005 U	0.006 U
SW8260	Propane nitrile (Propionitrile)	MG/KG	0 02 U	0.023 U	0.02 U	0 022 U
SW8260	Styrene	MG/KG	0 002 U	0.002 U	0 002 U	0 002 U
SW8260	Tetrachloroethene (PCE)	MG/KG	0.005 U	0.006 U	0.005 U	0 006 U
SW8260	Toluene	MG/KG	0.005 U	0.006 U	0.005 U	0 006 U
SW8260	Trans-1,2-Dichloroethene	MG/KG	0.003 U	0.003 U	0 003 U	0 003 U

671,306d

Table D.4
Phase I Soil Analytical Data
SWMU 51
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU51006-00' Duplicate	BHGLSWMU51006-05'	BHGLSWMU51007-00'	BHGLSWMU51007-05'
SW8260	Trans-1,3-Dichloropropene	MG/KG	0 005 U	0.006 U	0.005 U	0 006 U
SW8260	Trans-1,4-Dichloro-2-Butene	MG/KG	0.005 U	0.006 U	0.005 U	0.006 U
SW8260	Trichloroethene (TCE)	MG/KG	0.005 U	0 006 U	0.005 U	0 006 U
SW8260	Vinyl acetate	MG/KG	0.005 U	0 006 U	0.005 U	0.006 U
SW8260	Vinyl chloride	MG/KG	0.005 U	0.006 U	0 005 U	0.006 U
SW8270	1,2,4,5-Tetrachlorobenzene	MG/KG	0.4 U	0.38 U	0.38 U	0.37 U
SW8270	1,2,4-Trichlorobenzene	MG/KG	0.4 U	0 38 U	0 38 U	0.37 U
SW8270	1,2-Dichlorobenzene	MG/KG	0.4 U	0 38 U	0.38 U	0.37 U
SW8270	1,3,5-Trinitrobenzene	MG/KG	1.6 U	1.5 U	1.5 U	1 5 U
SW8270	1,3-Dichlorobenzene	MG/KG	0.4 U	0 38 U	0.38 U	0.37 U
SW8270	1,3-Dinitrobenzene	MG/KG	0.4 U	0 38 U	0.38 U	0.37 U
SW8270	1,4-Dichlorobenzene	MG/KG	0.4 U	0.38 U	0.38 U	0.37 U
SW8270	1,4-Dioxane (p-Dioxane)	MG/KG	1.6 U	1.5 U	1.5 U	1.5 U
SW8270	1,4-Naphthoquinone	MG/KG	2 U	1 9 U	1 9 U	1.8 U
SW8270	1-Naphthylamine	MG/KG	0.79 U	0 76 U	0.77 U	0.74 U
SW8270	2,2'-Oxybis(1-chloropropane)	MG/KG	0.4 U	0 38 U	0.38 U	0.37 U
SW8270	2,3,4,6-Tetrachlorophenol	MG/KG	0 4 U	0.38 U	0 38 U	0.37 U
SW8270	2,4,5-Trichlorophenol	MG/KG	2 U	1.9 U	1 9 U	1.8 U
SW8270	2,4,6-Trichlorophenol	MG/KG	0.4 U	0 38 U	0.38 U	0.37 U
SW8270	2,4-Dichlorophenol	MG/KG	0.4 U	0 38 U	0.38 U	0.37 U
SW8270	2,4-Dimethylphenol	MG/KG	0 4 U	0.38 U	0 38 U	0 37 U
SW8270	2,4-Dinitrophenol	MG/KG	2 U	1.9 U	1 9 U	1.8 U
SW8270	2,4-Dinitrotoluene	MG/KG	0.4 U	0.38 U	0.38 U	0.37 U
SW8270	2,6-Dichlorophenol	MG/KG	0.79 U	0.76 U	0.77 U	0.74 U
SW8270	2,6-Dinitrotoluene	MG/KG	0.4 U	0.38 U	0.38 U	0 37 U
SW8270	2-Acetylaminofluorene	MG/KG	0.79 U	0.76 U	0.77 U	0 74 U
SW8270	2-Aminonaphthalene (beta-Naphthylamine)	MG/KG	0 79 U	0.76 U	0.77 U	0.74 U
SW8270	2-Chloronaphthalene	MG/KG	0.4 U	0 38 U	0.38 U	0 37 U
SW8270	2-Chlorophenol	MG/KG	0.4 U	0.38 U	0.38 U	0.37 U
SW8270	2-Methylnaphthalene	MG/KG	0.4 U	0 38 U	0.38 U	0.37 U
SW8270	2-Methylphenol (o-Cresol)	MG/KG	0.4 U	0.38 U	0.38 U	0.37 U
SW8270	2-Nitroaniline	MG/KG	2 U	1 9 U	1.9 U	1 8 U
SW8270	2-Nitrophenol	MG/KG	0.4 U	0 38 U	0 38 U	0.37 U
SW8270	2-Picoline (alpha-Picoline)	MG/KG	0.4 U	0 38 U	0.38 U	0 37 U
SW8270	3,3'-Dichlorobenzidine	MG/KG	0 79 U	0.76 U	0.77 U	0 74 U
SW8270	3,3'-Dimethylbenzidine	MG/KG	2 U	1.9 U	1.9 U	1.8 U

Table D.4
Phase I Soil Analytical Data
SWMU 51
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU51006-00' Duplicate	BHGLSWMU51006-05'	BHGLSWMU51007-00'	BHGLSWMU51007-05'
SW8270	3-Methylcholanthrene	MG/KG	0 4 U	0 38 U	0 38 U	0.37 U
SW8270	3-Nitroaniline	MG/KG	2 U	1.9 U	1.9 U	1.8 U
SW8270	4,6-Dinitro-2-methylphenol	MG/KG	2 U	1.9 U	1.9 U	1.8 U
SW8270	4-Aminobiphenyl (4-Biphenylamine)	MG/KG	0.79 U	0.76 U	0.77 U	0.74 U
SW8270	4-Bromophenyl phenyl ether	MG/KG	0.4 U	0.38 U	0.38 U	0.37 U
SW8270	4-Chloro-3-methylphenol	MG/KG	0.79 U	0.76 U	0 77 U	0.74 U
SW8270	4-Chloroaniline	MG/KG	0 79 U	0.76 U	0.77 U	0.74 U
SW8270	4-Chlorophenyl phenyl ether	MG/KG	0.4 U	0.38 U	0.38 U	0.37 U
SW8270	4-Nitroaniline	MG/KG	2 U	1.9 U	1.9 U	1.8 U
SW8270	4-Nitrophenol	MG/KG	2 U	1.9 U	1.9 U	1.8 U
SW8270	4-Nitroquinoline-1-oxide	MG/KG	2 U	1.9 U	1 9 U	1.8 U
SW8270	5-Nitro-o-toluidine	MG/KG	0.79 U	0.76 U	0 77 U	0.74 U
SW8270	7,12-Dimethylbenzo(a)anthracene	MG/KG	0.79 U	0.76 U	0.77 U	0.74 U
SW8270	Acenaphthene	MG/KG	0.4 U	0.38 U	0.38 U	0.37 U
SW8270	Acenaphthylene	MG/KG	0 4 U	0.38 U	0.38 U	0 37 U
SW8270	Acetophenone	MG/KG	0 79 U	0.76 U	0.77 U	0 74 U
SW8270	alpha, alpha-Dimethylphenethylamine	MG/KG	2 U	1.9 U	1 9 U	1 8 U
SW8270	Aniline (Phenylamine, Aminobenzene)	MG/KG	0.4 U	0.38 U	0 38 U	0.37 U
SW8270	Anthracene	MG/KG	0.4 U	0 38 U	0.38 U	0 37 U
SW8270	Aramite (total)	MG/KG	0 79 U	0.76 U	0.77 U	0.74 U
SW8270	Benzo(a)anthracene	MG/KG	0 4 U	0.38 U	0.38 U	0.37 U
SW8270	Benzo(a)pyrene	MG/KG	0 1 F	0.38 U	0.38 U	0 37 U
SW8270	Benzo(b)fluoranthene	MG/KG	0.16 F	0.38 U	0.38 U	0 37 U
SW8270	Benzo(g,h,i)perylene	MG/KG	0.4 U	0 38 U	0.38 U	0.37 U
SW8270	Benzo(k)fluoranthene	MG/KG	0 4 U	0 38 U	0.38 U	0.37 U
SW8270	Benzoic acid	MG/KG	2 U	1.9 U	1 9 U	1.8 U
SW8270	Benzyl alcohol	MG/KG	0.4 U	0.38 U	0 38 U	0.37 U
SW8270	Benzyl butyl phthalate	MG/KG	0.4 U	0.38 U	0.38 U	0 37 U
SW8270	bis(2-Chloroethoxy)methane	MG/KG	0 4 U	0.38 U	0.38 U	0.37 U
SW8270	bis(2-Chloroethyl)ether (2-Chloroethyl ether)	MG/KG	0.4 U	0.38 U	0 38 U	0.37 U
SW8270	bis(2-Ethylhexyl)phthalate	MG/KG	0.4 U	0.38 U	0 38 U	0.37 U
SW8270	Chlorobenzilate	MG/KG	0.4 U	0.38 U	0 38 U	0.37 U
SW8270	Chrysene	MG/KG	0.11 F	0.38 U	0.38 U	0.37 U
SW8270	Cresols, m & p	MG/KG	0.4 U	0.38 U	0 38 U	0.37 U
SW8270	Diallate (total of cis and trans isomers)	MG/KG	0.4 U	0.38 U	0 38 U	0 37 U
SW8270	Dibenz(a,h)anthracene	MG/KG	0.4 U	0.38 U	0.38 U	0.37 U

Table D.4
Phase I Soil Analytical Data
SWMU 51
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU51006-00' Duplicate	BHGLSWMU51006-05'	BHGLSWMU51007-00'	BHGLSWMU51007-05'
SW8270	Dibenzofuran	MG/KG	0 4 U	0.38 U	0.38 U	0.37 U
SW8270	Diethyl phthalate	MG/KG	0 4 U	0.38 U	0.38 U	0.37 U
SW8270	Dimethyl phthalate	MG/KG	0.4 U	0.38 U	0.38 U	0.37 U
SW8270	Di-n-butyl phthalate	MG/KG	0.4 U	0.38 U	0 38 U	0.37 U
SW8270	Di-n-octyl phthalate	MG/KG	0 4 U	0 38 U	0.38 U	0.37 U
SW8270	Dinoseb	MG/KG	0 79 U	0.76 U	0.77 U	0.74 U
SW8270	Diphenylamine	MG/KG	0.4 U	0.38 U	0.38 U	0.37 U
SW8270	Ethyl methanesulfonate	MG/KG	0.79 U	0 76 U	0.77 U	0.74 U
SW8270	Fluoranthene	MG/KG	0.18 F	0.38 U	0.38 U	0 37 U
SW8270	Fluorene	MG/KG	0.4 U	0.38 U	0.38 U	0.37 U
SW8270	Hexachlorobenzene	MG/KG	0 4 U	0.38 U	0.38 U	0 37 U
SW8270	Hexachlorobutadiene	MG/KG	0.4 U	0 38 U	0.38 U	0.37 U
SW8270	Hexachlorocyclopentadiene	MG/KG	0.4 U	0 38 U	0.38 U	0.37 U
SW8270	Hexachloroethane	MG/KG	0.4 U	0.38 U	0.38 U	0.37 U
SW8270	Hexachlorophene	MG/KG	5.9 U	5.7 U	5.8 U	5 6 U
SW8270	Hexachloropropene	MG/KG	2 U	1.9 U	1.9 U	1.8 U
SW8270	Indeno(1,2,3-c,d)pyrene	MG/KG	0 4 U	0.38 U	0 38 U	0.37 U
SW8270	Isophorone	MG/KG	0.4 U	0.38 U	0.38 U	0.37 U
SW8270	Isosafrole	MG/KG	0.4 U	0 38 U	0.38 U	0.37 U
SW8270	Methapyrilene	MG/KG	0 99 U	0.96 U	0 96 U	0.93 U
SW8270	Methyl methanesulfonate	MG/KG	0.4 U	0.38 U	0 38 U	0.37 U
SW8270	Naphthalene	MG/KG	0.4 U	0.38 U	0 38 U	0 37 U
SW8270	Nitrobenzene	MG/KG	0 4 U	0 38 U	0.38 U	0.37 U
SW8270	N-Nitrosodiethylamine	MG/KG	0 79 U	0 76 U	0.77 U	0 74 U
SW8270	N-Nitrosodimethylamine	MG/KG	0 79 U	0.76 U	0 77 U	0 74 U
SW8270	N-Nitrosodi-n-butylamine	MG/KG	0.4 U	0.38 U	0 38 U	0 37 U
SW8270	N-Nitrosodi-n-propylamine	MG/KG	0.4 U	0.38 U	0 38 U	0 37 U
SW8270	N-Nitrosodiphenylamine	MG/KG	0.4 U	0.38 U	0.38 U	0.37 U
SW8270	N-Nitrosomethylethylamine	MG/KG	0.4 U	0 38 U	0.38 U	0 37 U
SW8270	N-Nitrosomorpholine	MG/KG	0.79 U	0.76 U	0 77 U	0 74 U
SW8270	N-Nitrosopiperidine	MG/KG	0.4 U	0.38 U	0 38 U	0 37 U
SW8270	N-Nitrosopyrrolidine	MG/KG	0.79 U	0.76 U	0.77 U	0 74 U
SW8270	o-Toluidine	MG/KG	0.79 U	0.76 U	0.77 U	0.74 U
SW8270	p-Dimethylaminoazobenzene	MG/KG	0.79 U	0 76 U	0.77 U	0 74 U
SW8270	Pentachlorobenzene	MG/KG	0.4 U	0 38 U	0.38 U	0.37 U
SW8270	Pentachloronitrobenzene	MG/KG	0.4 U	0.38 U	0.38 U	0.37 U

Table D.4
Phase I Soil Analytical Data
SWMU 51
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU51006-00' Duplicate	BHGLSWMU51006-05'	BHGLSWMU51007-00'	BHGLSWMU51007-05'
SW8270	Pentachlorophenol	MG/KG	2 U	1 9 U	1 9 U	1.8 U
SW8270	Phenacetin	MG/KG	0.4 U	0 38 U	0.38 U	0.37 U
SW8270	Phenanthrene	MG/KG	0 4 U	0 38 U	0.38 U	0.37 U
SW8270	Phenol	MG/KG	0.4 U	0.38 U	0.38 U	0.37 U
SW8270	p-Phenylenediamine	MG/KG	1.6 U	1 5 U	1.5 U	1.5 U
SW8270	Pronamide	MG/KG	0.4 U	0.38 U	0.38 U	0 37 U
SW8270	Pyrene	MG/KG	0 4 U	0.38 U	0.38 U	0 37 U
SW8270	Pyridine	MG/KG	0.79 U	0.76 U	0.77 U	0 74 U
SW8270	Safrole	MG/KG	0 4 U	0.38 U	0 38 U	0 37 U
SW8280	2,3,7,8-Tetrachlorodibenzofuran	MG/KG	0 00004 U	0.00006 U	0 00005 U	0.00004 U
SW8280	2,3,7,8-Tetrachlorodibenzo-p-dioxin	MG/KG	0 00007 U	0.00007 U	0 00005 U	0 00005 U
SW9010	Cyanide	MG/KG	0.85 F	10 U	0 32 F	0.51 F
SW9030	Sulfide	MG/KG	27.8 U	27.3 U	27.3 U	27 3 U

Data Qualifiers:

J = This analyte was positively identified, but the quantitation is an estimation.

U = The analyte was analyzed for, but not detected. The associate numerical value is at or below the MQL

F = The analyte was positively identified, but the associated numerical value is below the MQL.

R = The data are unusable due to deficiences in the ability to analyze the sample and meet QC criteria

UJ = The analyte was analyzed for but not detected, the associated value is a MQL, which is estimated due to deficiencies in the QC criteria.

NA = Not analyzed

671 310

Table D.4
Phase I Soil Analytical Data
SWMU 51
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU51008-00'	BHGLSWMU51008-05'	BHGLSWMU51009-00'	BHGLSWMU51009-05'
SW6010	Antimony	MG/KG	4.6 UJ	4.1 UJ	3.9 UJ	3.7 UJ
SW6010	Arsenic	MG/KG	3.5 F	3.3 F	5.3	6.2
SW6010	Barium	MG/KG	99.7	68 1	160	94 7
SW6010	Beryllium	MG/KG	0.95	0 6	0 96	0 87
SW6010	Cadmium	MG/KG	0.25 F	0.31 F	0 24 F	0.42
SW6010	Chromium, total	MG/KG	19.1	14 1	17.5	18 4
SW6010	Cobalt	MG/KG	5.1 F	3.3 F	6.5	6
SW6010	Copper	MG/KG	10.4	7.8 F	8.3	8.5
SW6010	Lead	MG/KG	15.3 J	9.4 J	11.4 J	10.7 J
SW6010	Nickel	MG/KG	12.5	8.3	12.9	13.1
SW6010	Tin	MG/KG	36 6 U	32.7 U	31.1 U	29.7 U
SW6010	Vanadium	MG/KG	33.7	25.1	33.6	37.7
SW6010	Zinc	MG/KG	30.9	26.1	26.9	31.7
SW7060	Arsenic	MG/KG	NA	NA	NA	NA
SW7421	Lead	MG/KG	NA	NA	NA	NA
SW7471	Mercury	MG/KG	0 04 U	0.04 U	0.04 U	0 04 U
SW7740	Selenium	MG/KG	0.26 UJ	0 15 F	0.24 UJ	0 25 UJ
SW7761	Silver	MG/KG	0 17 UJ	0.16 UJ	0 16 UJ	0.17 UJ
SW7841	Thallium	MG/KG	0.19 F	0.79 UJ	0.22 F	0.85 UJ
SW8080	Aldrin	MG/KG	NA	NA	NA	NA
SW8080	alpha-BHC (alpha-Hexachlorocyclohexane)	MG/KG	NA	NA	NA	NA
SW8080	alpha-Chlordane	MG/KG	NA	NA	NA	NA
SW8080	alpha-Endosulfan	MG/KG	NA	NA	NA	NA
SW8080	beta-BHC (beta-Hexachlorocyclohexane)	MG/KG	NA	NA	NA	NA
SW8080	beta-Endosulfan	MG/KG	NA	NA	NA	NA
SW8080	Chlordane	MG/KG	NA	NA	NA	NA
SW8080	delta-BHC (delta-Hexachlorocyclohexane)	MG/KG	NA	NA	NA	NA
SW8080	Dieldrin	MG/KG	NA	NA	NA	NA
SW8080	Endosulfan sulfate	MG/KG	NA	NA	NA	NA
SW8080	Endrin	MG/KG	NA	NA	NA	NA
SW8080	Endrin aldehyde	MG/KG	NA	NA	NA	NA
SW8080	gamma-BHC (Lindane)	MG/KG	NA	NA	NA	NA
SW8080	gamma-Chlordane	MG/KG	NA	NA	NA	NA
SW8080	Heptachlor	MG/KG	NA	NA	NA	NA
SW8080	Heptachlor epoxide	MG/KG	NA	NA	NA	NA
SW8080	Isodrin	MG/KG	NA	NA	NA	NA

Table D.4
Phase I Soil Analytical Data
SWMU 51
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU51008-00'	BHGLSWMU51008-05'	BHGLSWMU51009-00'	BHGLSWMU51009-05'
SW8080	Kepone	MG/KG	NA	NA	NA	NA
SW8080	Methoxychlor	MG/KG	NA	NA	NA	NA
SW8080	p,p'-DDD	MG/KG	NA	NA	NA	NA
SW8080	p,p'-DDE	MG/KG	NA	NA	NA	NA
SW8080	p,p'-DDT	MG/KG	NA	NA	NA	NA
SW8080	PCB-1016 (Aroclor 1016)	MG/KG	NA	NA	NA	NA
SW8080	PCB-1221 (Aroclor 1221)	MG/KG	NA	NA	NA	NA
SW8080	PCB-1232 (Aroclor 1232)	MG/KG	NA	NA	NA	NA
SW8080	PCB-1242 (Aroclor 1242)	MG/KG	NA	NA	NA	NA
SW8080	PCB-1248 (Aroclor 1248)	MG/KG	NA	NA	NA	NA
SW8080	PCB-1254 (Aroclor 1254)	MG/KG	NA	NA	NA	NA
SW8080	PCB-1260 (Aroclor 1260)	MG/KG	NA	NA	NA	NA
SW8080	Toxaphene	MG/KG	NA	NA	NA	NA
SW8081	Aldrin	MG/KG	0 0036 U	0.017 U	0.018 U	0.017 U
SW8081	alpha-BHC (alpha-Hexachlorocyclohexane)	MG/KG	0.0024 R	0.011 R	0.012 R	0 011 R
SW8081	alpha-Chlordane	MG/KG	0 018 U	0.086 U	0.089 U	0 085 U
SW8081	alpha-Endosulfan	MG/KG	0.011 U	0 052 U	0 054 U	0.051 U
SW8081	beta-BHC (beta-Hexachlorocyclohexane)	MG/KG	0.0048 R	0 023 R	0 024 R	0 023 R
SW8081	beta-Endosulfan	MG/KG	0.0036 U	0 017 U	0 018 U	0 017 U
SW8081	Chlordane	MG/KG	0 011 U	0 052 U	0.054 U	0.051 U
SW8081	delta-BHC (delta-Hexachlorocyclohexane)	MG/KG	0 0071 U	0.034 U	0.036 U	0.034 U
SW8081	Dieldrin	MG/KG	0.012 U	0.057 U	0.059 U	0.057 U
SW8081	Endosulfan sulfate	MG/KG	0 048 U	0.23 U	0.24 U	0.23 U
SW8081	Endrin	MG/KG	0.0048 R	0.023 R	0.024 R	0.023 R
SW8081	Endrin aldehyde	MG/KG	0.024 U	0.11 U	0 12 U	0 11 U
SW8081	gamma-BHC (Lindane)	MG/KG	0 0036 U	0 017 U	0 018 U	0 017 U
SW8081	gamma-Chlordane	MG/KG	0.018 U	0 086 U	0.089 U	0.085 U
SW8081	Heptachlor	MG/KG	0.0024 U	0.011 U	0.012 U	0.011 U
SW8081	Heptachlor epoxide	MG/KG	0 071 U	0 34 U	0 36 U	0 34 U
SW8081	Isodrin	MG/KG	0 0048 U	0 023 U	0 024 U	0 023 U
SW8081	Kepone	MG/KG	0.099 U	0.48 U	0.5 U	0.47 U
SW8081	Methoxychlor	MG/KG	0.12 U	0 57 U	0.59 U	0.57 U
SW8081	p,p'-DDD	MG/KG	0 0083 U	0 04 U	0 042 U	0 04 U
SW8081	p,p'-DDE	MG/KG	0 0036 U	0.017 U	0.018 U	0 017 U
SW8081	p,p'-DDT	MG/KG	0.0095 U	0.046 U	0.048 U	0 045 U
SW8081	PCB-1016 (Aroclor 1016)	MG/KG	1 2 U	5.7 U	5.9 U	5.7 U

Table D.4
Phase I Soil Analytical Data
SWMU 51
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU51008-00[1]	BHGLSWMU51008-05[1]	BHGLSWMU51009-00[1]	BHGLSWMU51009-05[1]
SW8081	PCB-1221 (Aroclor 1221)	MG/KG	1.2 U	5.7 U	5.9 U	5.7 U
SW8081	PCB-1232 (Aroclor 1232)	MG/KG	1 2 U	5.7 U	5.9 U	5.7 U
SW8081	PCB-1242 (Aroclor 1242)	MG/KG	1 2 U	5.7 U	5.9 U	5.7 U
SW8081	PCB-1248 (Aroclor 1248)	MG/KG	1.2 U	5.7 U	5.9 U	5.7 U
SW8081	PCB-1254 (Aroclor 1254)	MG/KG	1 2 U	5.7 U	5.9 U	5.7 U
SW8081	PCB-1260 (Aroclor 1260)	MG/KG	1.2 U	5.7 U	5.9 U	5.7 U
SW8081	Toxaphene	MG/KG	0 24 U	1.1 U	1.2 U	1.1 U
SW8141	Dimethoate	MG/KG	0 079 UJ	0.076 U	0 079 UJ	0 076 U
SW8141	Disulfoton	MG/KG	0.079 UJ	0.076 U	0 079 UJ	0.076 U
SW8141	Famphur	MG/KG	0.079 UJ	0.076 U	0 079 UJ	0.076 U
SW8141	O,O,O-Triethyl phosphorothioate	MG/KG	0.079 UJ	0.076 U	0.079 UJ	0.076 U
SW8141	Parathion, ethyl	MG/KG	0.079 UJ	0 076 U	0.079 UJ	0.076 U
SW8141	Parathion, methyl	MG/KG	0.079 UJ	0.076 U	0.079 UJ	0.076 U
SW8141	Phorate	MG/KG	0.079 UJ	0.076 U	0.079 UJ	0.076 U
SW8141	Thiodiphosphoric acid, tetraethyl ester	MG/KG	0.079 UJ	0.076 U	0 079 UJ	0 076 U
SW8141	Zinophos	MG/KG	0 079 UJ	0.076 U	0.079 UJ	0.076 U
SW8150	2,4,5-T (Trichlorophenoxyacetic acid)	MG/KG	NA	NA	NA	NA
SW8150	2,4-D (Dichlorophenoxyacetic acid)	MG/KG	NA	NA	NA	NA
SW8150	Silvex (2,4,5-TP)	MG/KG	NA	NA	NA	NA
SW8151	2,4,5-T (Trichlorophenoxyacetic acid)	MG/KG	0.039 U	0.039 U	0 04 U	0.038 U
SW8151	2,4-D (Dichlorophenoxyacetic acid)	MG/KG	0.39 U	0.39 U	0 4 U	0.38 U
SW8151	Silvex (2,4,5-TP)	MG/KG	0 039 U	0.039 U	0 04 U	0.038 U
SW8260	1,1,1,2-Tetrachloroethane	MG/KG	0 003 U	0.003 U	0 003 U	0.003 U
SW8260	1,1,1-Trichloroethane	MG/KG	0 004 U	0 004 U	0 004 U	0 004 U
SW8260	1,1,2,2-Tetrachloroethane	MG/KG	0.002 U	0.002 U	0 002 U	0.002 U
SW8260	1,1,2-Trichloroethane	MG/KG	0.005 U	0 005 U	0.005 U	0 005 U
SW8260	1,1-Dichloroethane	MG/KG	0.002 U	0.002 U	0.002 U	0.002 U
SW8260	1,1-Dichloroethene	MG/KG	0.005 U	0.005 U	0.005 U	0 005 U
SW8260	1,2,3-Trichloropropane	MG/KG	0.005 U	0.005 U	0.005 U	0.005 U
SW8260	1,2-Dibromo-3-chloropropane	MG/KG	0 005 U	0.005 U	0.005 U	0 005 U
SW8260	1,2-Dibromoethane (Ethylene dibromide)	MG/KG	0 003 U	0.003 U	0.003 U	0.003 U
SW8260	1,2-Dichloroethane	MG/KG	0 003 U	0.003 U	0 003 U	0 003 U
SW8260	1,2-Dichloropropane	MG/KG	0.002 U	0.002 U	0 002 U	0.002 U
SW8260	2-Chloro-1,3-butadiene	MG/KG	0 005 U	0.005 U	0.005 U	0 005 U
SW8260	2-Hexanone	MG/KG	0.005 U	0 005 U	0.005 U	0 005 U
SW8260	Acetone	MG/KG	0.005 U	0.005 U	0.005 U	0.005 U

Table D.4
Phase I Soil Analytical Data
SWMU 51
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU51008-00'	BHGLSWMU51008-05'	BHGLSWMU51009-00'	BHGLSWMU51009-05'
SW8260	Acetonitrile	MG/KG	0 04 U	0 039 U	0.043 U	0.041 U
SW8260	Acrolein	MG/KG	0.1 U	0.098 U	0.11 U	0.1 U
SW8260	Acrylonitrile	MG/KG	0.04 U	0 039 U	0.043 U	0.041 U
SW8260	Allyl chloride (3-Chloropropene)	MG/KG	0.01 U	0.01 U	0.011 U	0.01 U
SW8260	Benzene	MG/KG	0 002 U	0 002 U	0.002 U	0.002 U
SW8260	Bromodichloromethane	MG/KG	0 004 U	0 004 U	0 004 U	0.004 U
SW8260	Bromoform	MG/KG	0.005 U	0 005 U	0.005 U	0.005 U
SW8260	Bromomethane	MG/KG	0 005 U	0 005 U	0.005 U	0.005 U
SW8260	Carbon disulfide	MG/KG	0 005 U	0.005 U	0.005 U	0.005 U
SW8260	Carbon tetrachloride	MG/KG	0 005 U	0 005 U	0.005 U	0.005 U
SW8260	Chlorobenzene	MG/KG	0.002 U	0 002 U	0.002 U	0.002 U
SW8260	Chloroethane	MG/KG	0 005 U	0.005 U	0.005 U	0.005 U
SW8260	Chloroform	MG/KG	0 002 U	0.002 U	0.002 U	0.002 U
SW8260	Chloromethane	MG/KG	0.005 U	0.005 U	0.005 U	0.005 U
SW8260	cis-1,2-Dichloroethene	MG/KG	0.005 U	0.005 U	0.005 U	0.005 U
SW8260	cis-1,3-Dichloropropene	MG/KG	0.005 U	0.005 U	0.005 U	0 005 U
SW8260	Dibromochloromethane	MG/KG	0 003 U	0 003 U	0 003 U	0.003 U
SW8260	Dibromomethane	MG/KG	0.005 U	0.005 U	0.005 U	0.005 U
SW8260	Dichlorodifluoromethane	MG/KG	0.005 R	0.005 R	0.005 R	0 005 R
SW8260	Ethyl methacrylate	MG/KG	0 005 U	0 005 U	0.005 U	0.005 U
SW8260	Ethylbenzene	MG/KG	0.003 U	0.003 U	0 003 U	0 003 U
SW8260	Iodomethane (Methyl iodide)	MG/KG	0.005 U	0.005 U	0 005 U	0 005 U
SW8260	Isobutanol	MG/KG	0.2 U	0 2 U	0.21 U	0.21 U
SW8260	m,p-Xylene (sum of isomers)	MG/KG	0.005 U	0.005 U	0 005 U	0 005 U
SW8260	Methyl ethyl ketone (2-Butanone)	MG/KG	0.005 U	0.005 U	0.005 U	0 005 U
SW8260	Methyl isobutyl ketone (4-Methyl-2-pentanone)	MG/KG	0.005 U	0.005 U	0 005 U	0 005 U
SW8260	Methyl methacrylate	MG/KG	0.005 U	0.005 U	0.005 U	0.005 U
SW8260	Methylacrylonitrile	MG/KG	0.005 U	0.005 U	0.005 U	0 005 U
SW8260	Methylene chloride	MG/KG	0 002 U	0 002 U	0 002 U	0.002 U
SW8260	o-Xylene (1,2-Dimethylbenzene)	MG/KG	0.005 U	0.005 U	0.005 U	0 005 U
SW8260	Pentachloroethane	MG/KG	0.005 U	0.005 U	0.005 U	0 005 U
SW8260	Propane nitrile (Propionitrile)	MG/KG	0.02 U	0.02 U	0.021 U	0.021 U
SW8260	Styrene	MG/KG	0.002 U	0.002 U	0 002 U	0 002 U
SW8260	Tetrachloroethene (PCE)	MG/KG	0 005 U	0 005 U	0.005 U	0.005 U
SW8260	Toluene	MG/KG	0.005 U	0.005 U	0.005 U	0 005 U
SW8260	Trans-1,2-Dichloroethene	MG/KG	0.003 U	0.003 U	0.003 U	0 003 U

Table D.4
Phase I Soil Analytical Data
SWMU 51
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU51008-00'	BHGLSWMU51008-05'	BHGLSWMU51009-00'	BHGLSWMU51009-05'
SW8260	Trans-1,3-Dichloropropene	MG/KG	0.005 U	0 005 U	0 005 U	0 005 U
SW8260	Trans-1,4-Dichloro-2-Butene	MG/KG	0.005 U	0 005 U	0.005 U	0.005 U
SW8260	Trichloroethene (TCE)	MG/KG	0.005 U	0.005 U	0.005 U	0.005 U
SW8260	Vinyl acetate	MG/KG	0.005 U	0 005 U	0.005 U	0.005 U
SW8260	Vinyl chloride	MG/KG	0 005 U	0 005 U	0 005 U	0.005 U
SW8270	1,2,4,5-Tetrachlorobenzene	MG/KG	0.4 U	0 38 U	0.4 U	0.37 U
SW8270	1,2,4-Trichlorobenzene	MG/KG	0 4 U	0 38 U	0.4 U	0.37 U
SW8270	1,2-Dichlorobenzene	MG/KG	0.4 U	0 38 U	0.4 U	0 37 U
SW8270	1,3,5-Trinitrobenzene	MG/KG	1.6 U	1.5 U	1 6 U	1.5 U
SW8270	1,3-Dichlorobenzene	MG/KG	0 4 U	0 38 U	0.4 U	0 37 U
SW8270	1,3-Dinitrobenzene	MG/KG	0 4 U	0.38 U	0.4 U	0.37 U
SW8270	1,4-Dichlorobenzene	MG/KG	0.4 U	0.38 U	0.4 U	0.37 U
SW8270	1,4-Dioxane (p-Dioxane)	MG/KG	1.6 U	1.5 U	1.6 U	1.5 U
SW8270	1,4-Naphthoquinone	MG/KG	2 U	1 9 U	2 U	1.9 U
SW8270	1-Naphthylamine	MG/KG	0.79 U	0 77 U	0.79 U	0.75 U
SW8270	2,2'-Oxybis(1-chloropropane)	MG/KG	0.4 R	0.38 R	0.4 R	0 37 R
SW8270	2,3,4,6-Tetrachlorophenol	MG/KG	0 4 U	0.38 U	0.4 U	0 37 U
SW8270	2,4,5-Trichlorophenol	MG/KG	2 U	1.9 U	2 U	1.9 U
SW8270	2,4,6-Trichlorophenol	MG/KG	0.4 U	0.38 U	0.4 U	0 37 U
SW8270	2,4-Dichlorophenol	MG/KG	0 4 U	0.38 U	0.4 U	0 37 U
SW8270	2,4-Dimethylphenol	MG/KG	0.4 U	0.38 U	0.4 U	0.37 U
SW8270	2,4-Dinitrophenol	MG/KG	2 U	1.9 U	2 U	1.9 U
SW8270	2,4-Dinitrotoluene	MG/KG	0.4 U	0.38 U	0.4 U	0.37 U
SW8270	2,6-Dichlorophenol	MG/KG	0.79 U	0.77 U	0.79 U	0 75 U
SW8270	2,6-Dinitrotoluene	MG/KG	0.4 U	0.38 U	0.4 U	0 37 U
SW8270	2-Acetylaminofluorene	MG/KG	0 79 U	0.77 U	0.79 U	0.75 U
SW8270	2-Aminonaphthalene (beta-Naphthylamine)	MG/KG	0.79 U	0.77 U	0.79 U	0.75 U
SW8270	2-Chloronaphthalene	MG/KG	0 4 U	0.38 U	0.4 U	0.37 U
SW8270	2-Chlorophenol	MG/KG	0.4 U	0 38 U	0.4 U	0 37 U
SW8270	2-Methylnaphthalene	MG/KG	0.4 U	0.38 U	0.4 U	0.37 U
SW8270	2-Methylphenol (o-Cresol)	MG/KG	0.4 U	0 38 U	0 4 U	0 37 U
SW8270	2-Nitroaniline	MG/KG	2 U	1.9 U	2 U	1.9 U
SW8270	2-Nitrophenol	MG/KG	0.4 U	0.38 U	0.4 U	0 37 U
SW8270	2-Picoline (alpha-Picoline)	MG/KG	0.4 U	0.38 U	0.4 U	0.37 U
SW8270	3,3'-Dichlorobenzidine	MG/KG	0.79 U	0.77 U	0.79 U	0.75 U
SW8270	3,3'-Dimethylbenzidine	MG/KG	2 U	1.9 U	2 U	1 9 U

Table D.4
Phase I Soil Analytical Data
SWMU 51
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU51008-00'	BHGLSWMU51008-05'	BHGLSWMU51009-00'	BHGLSWMU51009-05''
SW8270	3-Methylcholanthrene	MG/KG	0.4 U	0 38 U	0.4 U	0.37 U
SW8270	3-Nitroaniline	MG/KG	2 U	1.9 U	2 U	1.9 U
SW8270	4,6-Dinitro-2-methylphenol	MG/KG	2 R	1.9 R	2 R	1.9 R
SW8270	4-Aminobiphenyl (4-Biphenylamine)	MG/KG	0.79 U	0 77 U	0.79 U	0.75 U
SW8270	4-Bromophenyl phenyl ether	MG/KG	0.4 U	0 38 U	0.4 U	0.37 U
SW8270	4-Chloro-3-methylphenol	MG/KG	0.79 U	0 77 U	0.79 U	0 75 U
SW8270	4-Chloroaniline	MG/KG	0.79 U	0 77 U	0.79 U	0 75 U
SW8270	4-Chlorophenyl phenyl ether	MG/KG	0.4 U	0.38 U	0.4 U	0 37 U
SW8270	4-Nitroaniline	MG/KG	2 U	1 9 U	2 U	1 9 U
SW8270	4-Nitrophenol	MG/KG	2 U	1.9 U	2 U	1.9 U
SW8270	4-Nitroquinoline-1-oxide	MG/KG	2 U	1.9 U	2 U	1.9 U
SW8270	5-Nitro-o-toluidine	MG/KG	0.79 U	0.77 U	0.79 U	0 75 U
SW8270	7,12-Dimethylbenzo(a)anthracene	MG/KG	0 79 U	0.77 U	0.79 U	0.75 U
SW8270	Acenaphthene	MG/KG	0 4 U	0.38 U	0.4 U	0 37 U
SW8270	Acenaphthylene	MG/KG	0.4 U	0.38 U	0.4 U	0.37 U
SW8270	Acetophenone	MG/KG	0.79 U	0 77 U	0.79 U	0.75 U
SW8270	alpha, alpha-Dimethylphenethylamine	MG/KG	2 U	1 9 U	2 U	1.9 U
SW8270	Aniline (Phenylamine, Aminobenzene)	MG/KG	0.4 U	0.38 U	0.4 U	0 37 U
SW8270	Anthracene	MG/KG	0 4 U	0.38 U	0 4 U	0.37 U
SW8270	Aramite (total)	MG/KG	0 79 U	0.77 U	0.79 U	0.75 U
SW8270	Benzo(a)anthracene	MG/KG	0.4 U	0.38 U	0.4 U	0.37 U
SW8270	Benzo(a)pyrene	MG/KG	0.4 U	0.38 U	0.4 U	0.37 U
SW8270	Benzo(b)fluoranthene	MG/KG	0 4 U	0.38 U	0.4 U	0.37 U
SW8270	Benzo(g,h,i)perylene	MG/KG	0 4 U	0.38 U	0 4 U	0 37 U
SW8270	Benzo(k)fluoranthene	MG/KG	0 4 U	0.38 U	0.4 U	0.37 U
SW8270	Benzoic acid	MG/KG	2 R	1.9 R	2 R	1.9 R
SW8270	Benzyl alcohol	MG/KG	0.4 U	0.38 U	0.4 U	0 37 U
SW8270	Benzyl butyl phthalate	MG/KG	0 4 U	0.38 U	0 4 U	0.37 U
SW8270	bis(2-Chloroethoxy)methane	MG/KG	0 4 U	0.38 U	0 4 U	0 37 U
SW8270	bis(2-Chloroethyl)ether (2-Chloroethyl ether)	MG/KG	0 4 U	0 38 U	0 4 U	0 37 U
SW8270	bis(2-Ethylhexyl)phthalate	MG/KG	0 4 U	0 38 U	0.4 U	0 37 U
SW8270	Chlorobenzilate	MG/KG	0.4 U	0 38 U	0 4 U	0 37 U
SW8270	Chrysene	MG/KG	0.4 U	0.38 U	0 4 U	0 37 U
SW8270	Cresols, m & p	MG/KG	0 4 U	0 38 U	0.4 U	0.37 U
SW8270	Diallate (total of cis and trans isomers)	MG/KG	0.4 U	0.38 U	0.4 U	0 37 U
SW8270	Dibenz(a,h)anthracene	MG/KG	0.4 U	0.38 U	0.4 U	0.37 U

Table D.4
Phase I Soil Analytical Data
SWMU 51
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU51008-00'	BHGLSWMU51008-05'	BHGLSWMU51009-00'	BHGLSWMU51009-05'
SW8270	Dibenzofuran	MG/KG	0.4 U	0.38 U	0.4 U	0.37 U
SW8270	Diethyl phthalate	MG/KG	0.4 U	0.38 U	0 4 U	0.37 U
SW8270	Dimethyl phthalate	MG/KG	0.4 U	0.38 U	0.4 U	0.37 U
SW8270	Di-n-butyl phthalate	MG/KG	0 4 U	0.38 U	0 4 U	0.37 U
SW8270	Di-n-octyl phthalate	MG/KG	0.4 U	0.38 U	0.4 U	0.37 U
SW8270	Dinoseb	MG/KG	0.79 U	0.77 U	0.79 U	0.75 U
SW8270	Diphenylamine	MG/KG	0.4 U	0.38 U	0 4 U	0.37 U
SW8270	Ethyl methanesulfonate	MG/KG	0.79 U	0 77 U	0.79 U	0.75 U
SW8270	Fluoranthene	MG/KG	0.4 U	0.38 U	0 4 U	0.37 U
SW8270	Fluorene	MG/KG	0.4 U	0 38 U	0.4 U	0 37 U
SW8270	Hexachlorobenzene	MG/KG	0.4 U	0.38 U	0.4 U	0 37 U
SW8270	Hexachlorobutadiene	MG/KG	0.4 U	0 38 U	0.4 U	0.37 U
SW8270	Hexachlorocyclopentadiene	MG/KG	0.4 U	0.38 U	0.4 U	0 37 U
SW8270	Hexachloroethane	MG/KG	0.4 U	0 38 U	0.4 U	0.37 U
SW8270	Hexachlorophene	MG/KG	6 U	5.8 U	5 9 U	5 6 U
SW8270	Hexachloropropene	MG/KG	2 U	1 9 U	2 U	1 9 U
SW8270	Indeno(1,2,3-c,d)pyrene	MG/KG	0.4 U	0 38 U	0 4 U	0 37 U
SW8270	Isophorone	MG/KG	0.4 U	0 38 U	0.4 U	0 37 U
SW8270	Isosafrole	MG/KG	0 4 U	0 38 U	0 4 U	0.37 U
SW8270	Methapyrilene	MG/KG	0 99 U	0.96 U	0 99 U	0 93 U
SW8270	Methyl methanesulfonate	MG/KG	0 4 U	0.38 U	0 4 U	0 37 U
SW8270	Naphthalene	MG/KG	0.4 U	0.38 U	0 4 U	0.37 U
SW8270	Nitrobenzene	MG/KG	0.4 U	0.38 U	0 4 U	0.37 U
SW8270	N-Nitrosodiethylamine	MG/KG	0.79 U	0.77 U	0.79 U	0.75 U
SW8270	N-Nitrosodimethylamine	MG/KG	0.79 U	0 77 U	0.79 U	0 75 U
SW8270	N-Nitrosodi-n-butylamine	MG/KG	0.4 U	0.38 U	0.4 U	0.37 U
SW8270	N-Nitrosodi-n-propylamine	MG/KG	0.4 U	0.38 U	0 4 U	0.37 U
SW8270	N-Nitrosodiphenylamine	MG/KG	0.4 U	0.38 U	0.4 U	0.37 U
SW8270	N-Nitrosomethylethylamine	MG/KG	0.4 U	0 38 U	0.4 U	0 37 U
SW8270	N-Nitrosomorpholine	MG/KG	0.79 U	0.77 U	0.79 U	0 75 U
SW8270	N-Nitrosopiperidine	MG/KG	0.4 U	0.38 U	0.4 U	0 37 U
SW8270	N-Nitrosopyrrolidine	MG/KG	0 79 U	0.77 U	0.79 U	0.75 U
SW8270	o-Toluidine	MG/KG	0 79 U	0.77 U	0.79 U	0.75 U
SW8270	p-Dimethylaminoazobenzene	MG/KG	0.79 U	0.77 U	0 79 U	0.75 U
SW8270	Pentachlorobenzene	MG/KG	0.4 U	0 38 U	0 4 U	0.37 U
SW8270	Pentachloronitrobenzene	MG/KG	0 4 U	0.38 U	0.4 U	0 37 U

Table D.4
Phase I Soil Analytical Data
SWMU 51
NAS Fort Worth JRB, Texas

Method	Analyte	Units	BHGLSWMU51008-00'	BHGLSWMU51008-05'	BHGLSWMU51009-00'	BHGLSWMU51009-05'
SW8270	Pentachlorophenol	MG/KG	2 U	1 9 U	2 U	1 9 U
SW8270	Phenacetin	MG/KG	0 4 U	0.38 U	0.4 U	0.37 U
SW8270	Phenanthrene	MG/KG	0.4 U	0.38 U	0.4 U	0.37 U
SW8270	Phenol	MG/KG	0.4 U	0 38 U	0.4 U	0 37 U
SW8270	p-Phenylenediamine	MG/KG	1.6 U	1.5 U	1.6 U	1.5 U
SW8270	Pronamide	MG/KG	0.4 U	0.38 U	0.4 U	0 37 U
SW8270	Pyrene	MG/KG	0.4 U	0.38 U	0.4 U	0 37 U
SW8270	Pyridine	MG/KG	0.79 U	0.77 U	0.79 U	0.75 U
SW8270	Safrole	MG/KG	0.4 U	0.38 U	0.4 U	0.37 U
SW8280	2,3,7,8-Tetrachlorodibenzofuran	MG/KG	0.0011 U	0.0011 U	0 0011 U	0 0011 U
SW8280	2,3,7,8-Tetrachlorodibenzo-p-dioxin	MG/KG	0.0017 U	0.0017 U	0 0017 U	0 0017 U
SW9010	Cyanide	MG/KG	0.42 U	0.27 U	0 46 U	0 42 U
SW9030	Sulfide	MG/KG	100	32.3	28 8 U	26 6 U

Data Qualifiers

J = This analyte was positively identified, but the quantitation is an estimation

U = The analyte was analyzed for, but not detected The associate numerical value is at or below the MQL.

F = The analyte was positively identified, but the associated numerical value is below the MQL

R = The data are unusable due to deficiences in the ability to analyze the sample and meet QC criteria

UJ = The analyte was analyzed for but not detected, the associated value is a MQL, which is estimated due to deficiencies in the QC criteria

NA = Not analyzed

TAB

APPENDIX E

APPENDIX E

BORING LOGS AND MONITORING WELL CONSTRUCTION FORMS

HYDRO GeoLogic INC.

Borehole ID. BHGLSWMU11001

Project No: AFC001-15BBC

Project: NAS FW WAA Investigation

Client: AFCEE

Location: SWMU 11

Date: 06/09/99

Geologist: M Kidwell

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1–2		*Silty Clay* Top ft asphalt and gravel, bottom ft 10YR 3/2 v dk grayish brown silty clay, slightly plastic, v stiff	602	CL	55%	Dry	6 4	
3–4		*Sandy Silt* Same as above, transitioning to 10YR 3/2 v dk grayish brown sandy silt, stiff, non-plastic, some sheen and pieces of wood	600	ML	75%	Dry Moist	8 5	
5–6		*Silty Sand* Same as above, transitioning to 7 5YR 4/6 strong brown silty fine sand, soft, uniform texture/color	598	ML	100%	Moist	9 7	
7–8		*Sand and Clay* Same as above w/lenses of 7 5YR 8/1 white clayey sand, transition at 7' to 7 5YR 5/8 strong brown fine sand, bottom 6" v pale brown sandy clay, dry, brittle	596	CL	100%	Moist	6 5	
9–10		*Sand and Silt* Top ft same as above, around 9' 2 5Y 4/3 olive brown clayey silt, slightly plastic, stiff, followed by a lense of dk wood fibers (railroad tie?), bottom 6" 2 5Y 5/4 lt olive brown f silty sand stiff	594	ML/SM	100%	Moist	7 0	
11–12		*Sand with Clay and Silt* Top 10" same as above, lense of 10YR 8/1 white clayey sand w/wood pieces at 10 75', bottom 10" 2 5YR 5/3 lt olive brown fine silty sand, stiff, non-plastic	592	SM	100%	Moist	8 6	
13–14		*Silty Sand and Sandy Clay* 2 5YR 5/3 lt olive brown fine silty sand, at 13' becomes marbled w/2 5 Y 2 5/1 black fine sand and wood frags, bottom 6" 10YR 4/2 dk grayish brown sandy clay, slightly plastic, stiff	590	SM	100%	Moist	8 1	
15–16		*Silty Sand* Same as above w/wood fibers, transition to 2 5YR 5/3 lt olive brown fine silty sand, trans to 2 5YR 5/4 lt olive brown fine sand, uniform color/texture	588	SM	100%	Moist Wet	7 6	Hit water at 15 5'

Drilled By TEG

Drill Method DPT

Drilling Equipment Strataprobe

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size 2"

Total Depth Drilled 16'

Sheet 1 of 1

671 322

HYDRO GeoLogic INC.

Borehole ID: BHGLSWMU11002

Project No: AFC001-15BBC

Project: NAS FW WAA Investigation

Client: AFCEE

Location: SWMU 11

Date: 06/09/99

Geologist: M Kidwell

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1–2		*Clayey Silt* Top 6" asphalt and gravel, 10YR 3/2 v dk grayish brown clayey silt, stiff, slightly plastic	601	ML	70%	Dry	0 0	
3–4		*Silty Sand* Top ft same as above, around 3' 7 5YR 4/6 strong brown silty sand, moist, soft, uniform color and texture	599	ML/SM	100%	Dry Moist	0 0	
5–6		*Silty Sand* Same as above, at 5 5' lense of 10YR 4/2 fine sand, then back to silty sand	597	SM	100%	Moist	0 0	
7–8		*Sand with Silt and Clay* Top ft same as above, at 7' 5YR 5/6 yellowish red fine sand, uniform texture/color, bottom 6" 2 5Y 6/3 lt yellowish brown clayey sand, stiff, slightly plastic	595	SM	100%	Moist	0 0	
9–10		*Silty Sand* Same as above transitioning to 2 5Y 3/1 v dk gray fine silty sand, soft, slightly plastic, at 9' 2 5Y 5/3 lt olive brown fine sand, bottom 6" 2 5Y 5/4 lt olive brown f sand w/clayey sand lenses	593	SM	100%	Moist	0 0	
11–12		*Sand* Same as above	591	SM	40%	Moist	0 0	
13–14		*Sand* Top ft same as above, transition to 7 5YR 5/4 fine sand, wet, uniform color and texture, soft	589	SM	100%	Damp Wet	0 0	Hit water at 13 5'
15–16								

Drilled By TEG

Drill Method DPT

Drilling Equipment Strataprobe

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size 2"

Total Depth Drilled 14'

Sheet 1 of 1

HYDRO GeoLogic INC.

Borehole ID BHGLSWMU11003

Project No: AFC001-15BBC

Project: NAS FTW JRB

Client: AFCEE

Location SWMU 11

Date: 4/24/00

Geologist: Melanie Kidwell

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1		*Silty Clay* 10YR 3/1 Very dark grey Silty Clay, slightly plastic, very stiff, first 1" is asphalt		CL	100%	Dry	0	
2								
3			-3		100%	Dry	0	
		Silty Clay 10YR 4/6 Dark yellowish brown Silty Clay, slightly plastic, very stiff	-3 5	CL				
4		*Silty Clay* 10YR 3/1 Very dark grey Silty Clay, slightly plastic, very stiff		CL				
5			-5		100%	Dry	0	Sample collected BHGSWMU11003-02
		Silty Sand 7 5 YR 4/6 Strong brown Silty Sand, uniform	-5 5	SM				
6		*Silty Sand* 10YR 3/3 Dark brown Silty Sand, soft, uniform with wood chunks	-6 5	SM				Moist 6 5'-8 5'
7		*Silty Sand* 7 5YR 4/6 Strong brown Silty Sand, uniform, some wood		SM	100%	Moist	0	
8			-8 5					
9		*Clayey Silt* 10YR 5/3 Brown Clayey Silt, slightly plastic with some wood fibers		ML				
10			-10		100%	Dry	0	Sample collected BHGLWMU11003-03
11		*Silty Sand* 2 5YR 5/3 Light olive brown fine Silty Sand marbled with 2 5Y 2 5/1 Black fine Sand		SM				
12			-12					

Drilled By ENR-South

Drill Method DPT

Drilling Equipment SP4

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size 2"

Total Depth Drilled 16'

Sheet 1 of 2

671 324

HYDRO GeoLogic INC.

Project No. AFC001-15BBC

Project: NAS FTW JRB

Client: AFCEE

Location: SWMU 11

Borehole ID: BHGLSWMU11003

Date: 4/24/00

Geologist: Melanie Kidwell

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
		Sand 2 5YR 5/4 Light olive brown fine Sand with uniform color/texture						
13					100%	Dry	0	
								Moist 13 5'-14'
14				SW				
15						Moist	0	
			-15 5					Wet @ 15 5'
		Sand 5YR 4/2 Dark reddish grey fine to medium (5%) Sand, well sorted, uniform	-16	SW				
16								End of boring
17								
18								
19								
20								
21								
22								
23								
24								

Drilled By ENR-South

Drill Method DPT

Drilling Equipment SP4

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size 2"

Total Depth Drilled 16'

Sheet 2 of 2

HYDRO GeoLogic INC

Borehole ID: *BHGLSWMU11004*

Project No: AFC001-15BBC

Project: NAS FTW JRB

Client: AFCEE

Location: SWMU 11

Date: 4/24/00

Geologist: Melanie Kidwell

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
		Asphalt	-0 5					
1		*Silty Clay* 10YR 4/1 Dark grey Silty Clay, stiff, slightly plastic			100%	Dry	0	
2				CL				
3			-3		100%	Dry	0	
		Silty Sand 10YR 4/4 Dark greyish brown Silty Sand	-3 5	SM				
4		*Sandy Silt* 10YR 3/6 Dark yellowish brown Sandy Silt						
5						Moist	0	Sample collected BHGSWMU11004-02 Moist 5-7'
6				SM				
7						Moist	0	
8			-8					
		Silty Sand 10YR 3/4 Dark yellowish brown Silty Sand with some wood fibers, uniform color/texture						
9				SM				
10			-10		100%	Dry	0	Sample collected BHGSWMU11004-03
		Sandy Silt 10YR 3/2 Very dark greyish brown Sandy Silt, non-plastic, with wood fibers	-10 5	SM				
11		*Sandy Silt* 2 5Y 5/6 Light olive brown Sandy Silt, uniform texture/color, stiff with lenses of 5Y 6/2 very fine Sand from 11-13'9"						
12				SM		Wet	0	Wet @ 12'
13			-13 8					
14		*Sand* 2 5Y 5/4 Light olive brown fine to medium Sand with shell fragments	-14	SP				End of boring
15								
16								

Drilled By ENR-South

Drill Method DPT

Drilling Equipment SP4

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size 2"

Total Depth Drilled 14'

Sheet 1 of 1

HYDRO GeoLogic INC.

Borehole ID. *BHGLSWMU11005*

Project No: AFC001-15BBC

Project: NAS FTW JRB

Client: AFCEE

Location: SWMU 11

Date 4/24/00

Geologist: Melanie Kidwell

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1		*Silty Clay* 2 5Y 4/2 Dark greyish brown Silty Clay, very stiff, slightly plastic, uniform	-2	CL	100%	Dry	0	
2		*Clayey Silt* 2 5Y 3/1 Very dark grey Clayey Silt, very stiff, non-plastic	-3	ML	100%	Dry	0	
3		*Silty Sand* 7 5YR 4/6 Strong brown Silty Sand, very stiff, dry, uniform color/texture	-5 5	SM	100%	Dry	0	Sample collected BHGLSWMU11005-02
4								
5								
6		*Silty Clay* 7 5YR 4/6 Strong brown Silty Clay, soft, medium plastic, uniform color/texture	-8	CL	100%	Dry	0	
7								
8		*Silty Sand* 2 5Y 3/2 Very dark greyish brown Silty Sand, very stiff, uniform color/texture with 2 5Y 7/3 Pale yellow Clay lens, very stiff, crumbly at 8 5'	-9	SM				
9								
10		*Clayey Sand* 2 5Y 5/3 Light olive brown Clayey Sand, non-plastic, uniform color and texture, some wood fibers, some mottled 2 5Y 3/1 Very dark grey Silt	-11	SC	100%	Dry	0	Sample collected BHGLSWMU11005-03
11								Wet @ 11 5'
12		*Sand* 2 5Y 6/3 Light yellowish brown fine to medium (10%) Sand transitioning to 2 5Y 6/4 light yellowish brown fine Sand, uniform in color/texture at 11 5'	-14	SW	100%	Wet		
13								
14								End of boring
15								
16								

Drilled By ENR-South

Drill Method DPT

Drilling Equipment SP4

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size 2"

Total Depth Drilled 14'

Sheet 1 of 1

HYDRO GeoLogic INC.

Borehole ID: *BHGLSWMU32001*

Project No: AFC001-15BBC

Project: NAS FW WAA Investigation

Client: AFCEE

Location: SWMU 32

Date: 06/07/99

Geologist: M Kidwell

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1–2		*Silty Clay* 10YR 3/3 dk brown silty clay, slightly plastic, v stiff	601	CL	30%	Dry	3 1	
3–4		*Silty Clay* Same as above, transitioning to 10YR 4/4 dk yellowish brown silty clay, v stiff, low plasticity	599	CL	100%	Dry	0 0	
5–6		*Silty Clay* Same as above, transitioning to 10YR 3/3 dk brown silty clay, slightly plastic, v stiff	597	CL	100%	Dry	0 0	
7–8		*Silty Clay* Same as above	595	CL	100%	Dry	0 0	
9–10		*Clayey Silt* Same as above, transitioning to 10YR 3/3 dk brown clayey silt, slightly plastic, stiff	593	ML	100%	Dry	0 0	
11–12		*Clayey Silt* Same as above	591	ML	100%	Dry	0 0	
13–14		*Clayey and Sandy Silt* Same as above, dry, transitioning to 10YR 4/3 brown sandy silt w/some coarse sand (5%), non-plastic, soft, moist	589	ML	100%	Dry Moist	0 0	
15–16		*Silty Clay with Sand* Same as above transitioning to 10YR 7/1 lt gray silty clay, non-plastic, stiff, w/lenses of 10YR 7/8 yellow fine sand, damp	587	CL	100%	Moist	0 0	

Drilled By TEG

Drill Method DPT

Drilling Equipment Strataprobe

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size 2"

Total Depth Drilled 18'

HYDRO GeoLogic INC.

Project No: AFC001-15BBC

Project: NAS FW WAA Investigation

Client: AFCEE

Location: SWMU 32

Borehole ID: BHGLSWMU32001

Date: 06/07/99

Geologist: M Kidwell

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
17		*Sand* Same as above, at 16 5' fine saturated sand w/lenses of 10YR 7/1 lt gray clay and 10YR 5/3 brown fine sand, soft, crumbly	585	SM	100%	Wet	0 0	Hit water at 16 5'
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								

Drilled By TEG

Drill Method DPT

Drilling Equipment Strataprobe

HydroGeoLogic, Inc.
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Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size 2"

Total Depth Drilled 18'

Sheet 2 of 2

6718 3:20

HYDRO GeoLogic INC.

Project No: AFC001-15BBC

Project: NAS FW WAA Investigation

Client: AFCEE

Location: SWMU 32

Borehole ID: BHGLSWMU32002

Date: 06/07/99

Geologist: M Kidwell

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1–2		*Silty Clay* 10YR 2/2 v dk brown clayey silt, slightly plastic, stiff, transition to 10YR 4/1 dk gray silty clay, low plasticity, stiff	602	CL	55%	Dry	414	Damp from concrete coring Approx 1' cored Petroleum odor
3–4		*Silty Clay* Same as above w/marbling of 10YR 4/4 d yellowish brown silty clay, stiff, low plasticity, w/some 5YR 4/4 reddish brown staining (iron)	600	CL	100%	Dry	0 0	
5–6		*Silty Clay* Same as above, transitioning to 10YR 3/1 v dk gray silty clay, stiff, slightly plastic	598	CL	100%	Dry	244	
7–8		*Silty Clay* Same as above w/lenses of coarse sand and gravel	596	CL	100%	Moist	5 6	
9–10		*Clayey Silt* Same as above, transitioning to 10YR 3/2 v dk grayish brown clayey silt, non-plastic, stiff, uniform texture and color	594	ML	100%	Moist	0 0	
11–12		*Sandy Silt* Same as above transitioning to 10YR 4/2 dk grayish brown sandy silt, non-plastic, stiff w/some coarse sand (5%)	592	ML	100%	Moist	0 0	
13–14		*Sand with Gravel* Same as above w/pockets of coarse sand and gravel (60%), transition to 10YR 6/4 lt yellowish brown fine sand mixed w/coarse sand, gravel, and shell fragments	590	SP	100%	Moist Wet	0 0	Hit water at 14'
15–16		*Sand with Gravel* Same as above w/pockets 10YR 7/1 lt gray clayey sand, followed by fine sand mixed w/coarse sand, gravel, and shell fragments	588	SP	100%	Wet	0 0	

Drilled By TEG

Drill Method DPT

Drilling Equipment Strataprobe

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size 2"

Total Depth Drilled 16'

Sheet 1 of 1

671 330

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HYDRO GeoLogic INC.

Borehole ID: BHGLSWMU32003

Project No: AFC001-15BBC

Project: NAS FW WAA Investigation

Client: AFCEE

Location: SWMU 32

Date: 06/07/99

Geologist: M Kidwell

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1–2		*Clayey Silt* Fill, gravel, and asphalt followed by 10YR 3/2 v dk grayish brown clayey silt, slightly plastic, stiff, 5% coarse sand and gravel	602	ML	100%	Dry	41 9	
3–4		*Clayey Silt* Same as above transitioning to 7 5YR 4/4 brown silty clay, stiff, slightly plastic, and then 10YR 3/1 v dk gray clayey silt, slightly plastic	600	ML	100%	Dry	694	
5–6		*Clayey Silt* Same as above transitioning to 10YR 3/1 dk gray clayey silt, stiff, slightly plastic, w/10% coarse sand and gravel	598	ML	100%	Dry	0 0	
7–8		*Clayey Silt* Same as above, moist and no gravel	596	ML	60%	Moist	6 3	
9–10		*No Recovery*	594		0%			
11–12		*Clayey and Sandy Silt* 10YR 3/1 v dk gray clayey silt, slightly plastic, stiff, transition to 10YR 6/2 lt brownish gray clayey silt, stiff, w/30% gravel, bottom 10YR 5/2 grayish brown sandy silt, non-plastic, stiff	592	ML	100%	Moist	0 0	
13–14		*Sand with Gravel* Same as above w/coarse sand and gravel (30%), transition to 10YR 5/4 yellowish brown silty sand w/coarse sand, gravel, and lenses of 10YR 7/1 lt gray sand (fine)	590	SP	100%	Dry	0 0	
15–16		*Sand with Clay* Same as above transitioning to 10YR 7/6 yellow fine sand w/10YR 8/1 white sandy clay, then trans to 10YR 5/8 yellowish brown fine sand, moist	588	SP/SW	100%	Moist	0 0	

Drilled By TEG

Drill Method DPT

Drilling Equipment Strataprobe

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size 2"

Total Depth Drilled 18'

Sheet 1 of 2

'6.71 1332

HYDRO GeoLogic INC.

Borehole ID: BHGLSWMU32003

Project No: AFC001-15BBC

Project: NAS FW WAA Investigation

Client: AFCEE

Location: SWMU 32

Date: 06/07/99

Geologist: M Kidwell

SUBSURFACE PROFILE					SAMPLE			Remarks
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	
17		Sand Same as above, uniform sand, wet		SW	100%	Moist Wet	0 0	Hit water at 17'
18			586					
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								

Drilled By TEG

Drill Method DPT

Drilling Equipment Strataprobe

HydroGeoLogic, Inc
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size 2"

Total Depth Drilled 18'

Sheet 2 of 2

HYDRO GeoLogic INC.

Borehole ID: BHGLSWMU32004

Project No: AFC001-15BBC

Project: NAS FTW JRB

Client: AFCEE

Location: SWMU 32

Date: 4/25/00

Geologist: Melanie Kidwell

SUBSURFACE PROFILE					SAMPLE			Remarks
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	
		Gravel and Asphalt	-1					
1		*Clayey Silt* 10YR 3/2 Very dark greyish brown Clayey Silt, stiff, mixed with 5% coarse Sand, wood fiber from 2-5'			100%	Dry	0	
2								
3				ML	50%	Dry	0	
4								
5			-5		100%	Dry	0	Sample collected BHGLSWMU32004-02
6		*Clayey Silt* 10YR 3/1 Very dark grey Clayey Silt, slightly plastic, stiff transitioning to 10YR 5/2 Greyish brown Clayey Silt, non-plastic, stiff at 8'						
7				ML	100%	Dry	0	
8			-8 75					
9		*Silty Clay* 10YR 7/2 Light grey Silty Clay, stiff, non-plastic with 5% coarse Sand transitioning to 2 Gley 5/10 BG Bluish grey Silty Clay, stiff, slightly plastic with 10% medium Sand at 10'						
10				CL	100%	Dry	0	Sample collected BHGLSWMU32004-03
11			-11					
		Silty Clayey Sand 10YR 5/6 Yellowish brown fine Sand mixed with 2 Glay 5/10 BG Bluish Grey Silty Clay (20%)		SC				
12								

Drilled By ENR-South

Drill Method DPT

Drilling Equipment SP4

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size 2"

Total Depth Drilled 16'

671 334

HYDRO GeoLogic INC.

Project No: AFC001-15BBC

Project: NAS FTW JRB

Client: AFCEE

Location: SWMU 32

Borehole ID: BHGLSWMU32004

Date: 4/25/00

Geologist. Melanie Kidwell

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
13		*Silty Clayey Sand* 10YR 5/6 Yellowish brown fine Sand mixed with 2 Clay 5/10 BG Bluish Grey Silty Clay (20%)			100%	Dry	0	
14			-14 5					
15		*Sand* 10YR 7/1 Light grey fine Sand, uniform, well sorted transitioning to 10YR 4/4 Dark yellowish brown medium to fine Sand and Shell fragments @ 15 5'		SW	100%	Moist	0	Sample collected BHGLSWMU32004-04
16			-16					End of boring
17								
18								
19								
20								
21								
22								
23								
24								

Drilled By ENR-South

Drill Method DPT

Drilling Equipment SP4

HydroGeoLogic, Inc
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size 2"

Total Depth Drilled 16'

Sheet 2 of 2

HYDRO GeoLogic INC.

Borehole ID: BHGLSWMU32005

Project No: AFC001-15BBC

Project: NAS FTW JRB

Client: AFCEE

Location: SWMU 32

Date: 4/25/00

Geologist: Melanie Kidwell

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1		*Concrete*	-1		100%	Dry	0	Slight petroleum odor
2		*Silty Clay* 10YR 3/1 Very dark grey Silty Clay, stiff, non-plastic	-2 5	CL				
3		*Silt* 10YR 5/3 Brown Silt, stiff	-3	ML	100%	Dry	0	Slight petroleum odor
4		*Silty Clay* 10YR 5/1 Grey Silty Clay, stiff, medium plastic		CL				
5					100%	Dry	0	Sample collected BHGLSWMU32005-02
6			-6					
7		*Clayey Silt* 10YR 4/1 Dark grey Clayey Silt, medium soft, some wood fibers		ML	100%	Dry	0	
8			-8					
9		*Silt* 10YR 5/1 Grey Silt with 5% medium Sand	-9	ML				
10		*Clayey Silt* 10YR 6/2 Light brownish grey Clayey Silt with 5% medium Sand, 10YR 8/1 White Clay lens at 10'	-10	ML	100%	Dry	0	Sample collected BHGLSWMU32005-03
11		*Clayey Silt* 10YR 7/3 Very pale brown Clayey Silt, very stiff, non-plastic	-11	ML				
12		*Clayey Silt* 10YR 6/4 Light yellowish brown Clayey Silt, stiff, marbled with 2 Gley 6/5 BG Greenish grey Clay			100%	Dry	0	
13				ML				
14			-14 5				0	
15		*Clay* 2 Gley 7/10 BG Light bluish grey Clay, platey, marbled with 10% 10YR 6/4 Light yellowish brown Clayey Silt		CL				Sample collected BHGLSWMU32005-03
16								

Drilled By ENR-South

Drill Method DPT

Drilling Equipment SP4

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size 2"

Total Depth Drilled 18'

671336

HYDRO GeoLogic INC.

Project No: AFC001-15BBC

Project: NAS FTW JRB

Client: AFCEE

Location: SWMU 32

Borehole ID: BHGLSWMU32005

Date: 4/25/00

Geologist: Melanie Kidwell

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
17			-17				0	
		Sand 10YR 6/3 Pale brown medium to fine Sand and Shell fragments	-18	SP				
18								End of boring
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								

Drilled By ENR-South

Drill Method DPT

Drilling Equipment SP4

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size 2"

Total Depth Drilled 18'

Sheet 2 of 2

HYDRO GeoLogic INC

Project No: AFC001-15BBC

Project: NAS FTW JRB

Client: AFCEE

Location. SWMU 32

Borehole ID: BHGLSWMU32006

Date: 4/25/00

Geologist. M Kidwell

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1		*Silty Clay* 10YR 4/1 dark gray Silty Clay, soft, medium plastic, uniform color and texture	-2 5	CL	100%	dry	9 1	Slight petroleum odor Sample collected BHGLSWMU32006-01
2								
3		*Silty Clay* 10YR 5/2 grayish brown Silty Clay, stiff, slightly plastic	-3 5	CL	100%	dry	0 4	
4		*Silty Clay* 10YR 5/1 gray Silty Clay, stiff, slightly plastic	-4 5	CL				
5		*Silty Clay* 10YR 3/1 very dark gray Silty Clay, stiff, slightly plastic, uniform in color and texture			100%	dry	0 8	Sample collected BHGLSWMU32006-02
6				CL				
7			-7 5		100%	dry	5 8	Petroleum odor
8		*Silt* 10YR 4/1 dark gray Silt and wood fibers, soft	-8	ML				
9		*Silty Clay* 10YR 4/1 dark gray Silty Clay, medium stiff	-9	CL				Light sheen on soil 8 5-9'
10		*Silt* 10YR 5/1 gray Silt with medium Sand		ML	100%	wet	0 0	
11			-11					End of boring

Drilled By ESN-South

Drill Method DPT

Drilling Equipment SP4

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size 2"

Total Depth Drilled 11'

Sheet 1 of 1

671 338

HYDRO GeoLogic INC.

Borehole ID: BHGLSWMU32007

Project No: AFC001-15BBC

Project: NAS FTW JRB

Client: AFCEE

Location: SWMU 32

Date: 4/25/00

Geologist: Melanie Kidwell

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
		Gravel	-0 5	GW				
1		*Silty Clay* 10YR 3/2 Very dark greyish brown Silty Clay, stiff, slightly plastic with lens of 7 5YR 3/4 Dark brown Sand at 1'	-1	CL				
2		*Silty Clay* 10YR 5/2 Greyish brown Silty Clay, stiff, slightly plastic, mixed with 5% medium Sand		CL	100%	Dry	9 2	Slight petroleum odor Sample collected BHGLSWMU32007-01
3			-3					End of boring
4								
5								
6								
7								
8								
9								
10								

Drilled By ENR-South

Drill Method DPT

Drilling Equipment SP4

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size 2"

Total Depth Drilled 3'

Sheet 1 of 1

HYDRO GeoLogic INC.

Borehole ID: *BHGLSWMU36001*

Project No: AFC001-15BBC

Project: NAS FW WAA Investigation

Client: AFCEE

Location: SWMU 36

Date: 05/24/99

Geologist: P Daruwala

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1–2		*Sandy Silt and Clay* Top 8" sand and gravel (wet) fill, 10YR 4/4 dk yellowish brown sandy silt and clay, dry	584	ML	70%	Wet Dry	0 0	
3–4		*Clayey Sand with Gravel and Silt* 10YR 4/4 dk yellowish brown clayey fine sand w/15% gravel, bottom 10" same as above w/25% gravel and increasing clay and silt	582	ML	80%	Damp Dry	0 0	
5–6		*Clayey Silt with Gravel* Same as above, bottom ft 10YR 3/1 v dk gray clayey silt w/5-10% gravel, med stiff, slightly plastic	580	ML	100%	Dry	0 0	
7–8		*Silt and Clay with Sand and Gravel* 10YR 4/3 brown silt and clay, low plasticity, soft, grading to a 10YR 3/2 v dk grayish brown med stiff sandy silt w/5-15% gravel, slight plasticity	578	ML	100%	Dry	40 2	
9–10		*Sandy Silt* 10YR 3/1 v dk gray sandy silt w/5% gravel, med stiff, low plasticity, decreasing sand w/depth	576	ML	100%	Dry	0 0	
11–12		*Gravel and Clayey Silt* 10YR 4/6 dk grayish brown clayey silt, stiff, slight plasticity, 65% gravel, uniform	574	GM	100%	Dry	0 0	
13–14		*Clayey Silt with Sand and Gravel* 10YR 4/3 brown clayey silt, v stiff, increasing sand and gravel (15-25%)	572	ML	100%	Dry	0 0	
15–16		*Clay, Silt, and Sand* 10YR 5/2 grayish brown clay and silt, 3" coarse sand lense w/water at 15', followed by 10YR 6/2 lt brownish gray clayey sand (fine)	570	SM	100%	Damp	0 0	

Drilled By TEG

Drill Method DPT

Drilling Equipment Strataprobe

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size 2"

Total Depth Drilled 18'

671 340

HYDRO GeoLogic INC.

Borehole ID: BHGLSWMU36001

Project No: AFC001-15BBC

Project: NAS FW WAA Investigation

Client: AFCEE

Location: SWMU 36

Date: 05/24/99

Geologist: P Daruwala

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
17		*Sand with Clay* 10YR 5/2 grayish brown fine sand w/clay, coarse sand lenses, saturated	568	SP	100%	Wet	0 0	Hit water at 16 3'
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								

Drilled By TEG

Drill Method DPT

Drilling Equipment Strataprobe

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size 2"

Total Depth Drilled 18'

Sheet 2 of 2

HydroGeoLogic INC.

Borehole ID. BHGLSWMU36002

Project No: AFC001-15BBC

Project: NAS FW WAA Investigation

Client: AFCEE

Location: SWMU 36

Date: 05/24/99

Geologist: P Daruwala

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1		*Sand, Silt, and Gravel Fill* 10YR 4/4 dk yellowish brown sand, silt, and gravel fill	584	ML	60%	Dry	0 0	
2–3		*Clay and Silt with Sand and Gravel* 10YR 5/3 brown clay and silt, low plasticity, med soft, 5-10% gravel, at 3' 10YR 5/3 fine clayey sand, bottom 6" 10YR 3/1 v dk gray clay and silt, low plasticity, med stiff, 5% gravel	582	ML	100%	Dry	0 0	
4–5		*Sandy Silt with Gravel* 10YR 4/3 fine sandy silt, increasing gravel and cobbles (>40%) around 5 5', 0 5" concrete in bottom	580	ML	100%	Dry	0 0	
6–7		*Clayey Silt* 10YR 3/1 clayey silt, <5% gravel, uniform, stiff-med stiff, slight plasticity	578	ML	100%	Dry	0 0	
8–9		*Clayey Silt* 10YR 3/2 v dk grayish brown clayey silt, uniform, <5% gravel, v stiff to stiff, slight plasticity	576	ML	100%	Dry	0 0	
10–11		*Clayey Silt* 10YR 3/2 v dk grayish brown clayey silt, v stiff, low plasticity, uniform, <5% gravel	574	ML	100%	Dry	0 0	
12–13		*Clay and Silt with Sand* Same as above w/increasing clay, stiff, low plasticity, at 13' 10YR 5/2 grayish brown soft silty clay w/some sand lenses, bottom few inches 10YR 6/2 lt grayish brown fine sand	572	ML	100%	Dry	0 0	
14–15		*Sandy Clay* Wet sandy clay, water in the spoon	570	SC	65%	Wet	NA	
16								

Drilled By TEG

Drill Method DPT

Drilling Equipment Strataprobe

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size 2"

Total Depth Drilled 18'

HYDRO GeoLogic INC.

Borehole ID: *BHGLSWMU36002*

Project No: AFC001-15BBC

Project: NAS FW WAA Investigation

Client: AFCEE

Location SWMU 36

Date: 05/24/99

Geologist: P Daruwala

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
17		*Clayey Sand* Water in the spoon, clayey sand, fine to coarse grained	568	SP	100%	Wet		Hit water at 16 3'
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								

Drilled By TEG

Drill Method DPT

Drilling Equipment Strataprobe

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size 2"

Total Depth Drilled 18'

Sheet 2 of 2

HYDRO GeoLogic INC

Borehole ID. *BHGLSWMU36003*

Project No: AFC001-15BBC

Project: NAS FW WAA Investigation

Client: AFCEE

Location: SWMU 36

Date: 05/24/99

Geologist: P Daruwala

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1–2		*Sand and Gravel Fill* Grass, soil, sand, and gravel fill, bottom 6" 10YR 4/2 dk grayish brown clay and silt, soft, low plasticity	583	GP	40%	Dry	0 0	
3–4		*Clay and Silt* Top 6" as above, grading to 10YR 3/2 v dk grayish brown clay and silt w/5-10% gravel	581	ML	100%	Dry	0 0	
5–6		*Clayey Silt with Sand and Gravel* Top 6" coarse sand and gravel, 10YR 3/2 clayey silt, slight plasticity, med stiff, w/20% gravel, 10YR 4/2 fine sandy silt and clay, v stiff, non-plastic, bottom 6" 10YR 3/1 clayey silt	579	ML	100%	Dry	0 0	
7–8		*Clay and Silt with Sand and Gravel* 10YR 4/3 brown clay and silt, soft, med plasticity, 10YR 3/1 v dk gray soft clay and silt w/10-15% fine sand, 2" coarse sand and gravel lense, 10YR 3/1 clayey silt w/<5% gravel, uniform	577	ML	100%	Dry	0 0	
9–10		*Clayey Silt* 10YR 3/2 v dk grayish brown clayey silt, <5% gravel	575	ML	60%	Dry	0 0	
11–12		*Clayey Silt with Sand and Gravel* Same as above, soft, 4" coarse sand and gravel, 10YR 3/2 v dk grayish brown clayey silt, uniform, slight plasticity, v stiff	573	ML	100%	Dry	0 0	
13–14		*Sandy Silt* 10YR 4/2 dk grayish brown fine sandy silt, v stiff, grading to 10YR 4/3 sandy silt	571	ML	100%	Dry Damp	0 0	
15–16		*Clayey Silt* Same as above w/less sand, saturated clayey silt at 15', 4" gravel lense	569	ML	100%	Wet	0 0	

Drilled By. TEG

Drill Method DPT

Drilling Equipment Strataprobe

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size 2"

Total Depth Drilled 16'

Sheet 1 of 1

671 344

HYDRO GeoLogic INC.

Project No: AFC001-15BBC

Project: NAS FTW JRB

Client: AFCEE

Location: SWMU 36

Borehole ID. BHGLSWMU36004

Date: 4/27/00

Geologist: Melanie Kidwell

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
		Asphalt/Topsoil	-0 5					
1		*Sand and Concrete* 10YR 7/3 Very pale brown coarse Sand and Concrete	-1	SP		Dry	0	
2		*Silty Clay* 10YR 5/4 Yellowish brown Silty Clay, soft, medium plastic with coarse Sand (5%)	-2	CL				
3		*Silty Clay* 10YR 5/3 Brown Silty Clay, soft, medium plastic with coarse Sand and small Gravel (5%)	-3 75	CL		Dry	0	
4 5 6		*Silty Clay* 10YR 3/1 Very dark grey Silty Clay, stiff with small Gravel (5%), lens of 10YR 6/3 pale brown fine Sand and small Gravel at 5'	-6	CL		Moist	0	Sample collected BHGLSWMU36004-02 Moist @ 5'
6								End of boring
7								
8								
9								
10								

Drilled By ENR-South

Drill Method DPT

Drilling Equipment SP4

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size 2"

Total Depth Drilled 6'

Sheet 1 of 1

HYDRO GeoLogic INC.

Borehole ID: BHGLSWMU36005

Project No: AFC001-15BBC

Project: NAS FTW JRB

Client: AFCEE

Location: SWMU 36

Date: 4/28/00

Geologist: Melanie Kidwell

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1		*Silty Clay* 10YR 3/3 Dark brown Silty Clay, stiff, medium plastic	-1	CL	100%	Dry	0	
2		*Sandy Clay* 10YR 5/6 Yellowish brown Sandy Clay, stiff, medium plastic with 5% coarse sand	-3	SC	90%	Dry	0	
3		*Sand* 10YR 4/6 Dark yellowish brown fine Sand	-3 5	SW				
4		*Silty Clay* 10YR 4/4 Dark yellowish brown Silty Clay, stiff with some Asphalt (1%), coarse Sand (5%) and small Gravel	-5	CL		Dry	0	Sample collected BHGLSWMU36005-02
5		*Silty Clay* 10YR 4/4 Dark yellowish brown Silty Clay, stiff, slightly plastic	-5 5	CL				
6		*Gravel* 10YR 8/2 Very pale brown large to medium limestone Gravel	-6	GP				End of boring
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								

Drilled By ENR-South

Drill Method DPT

Drilling Equipment SP4

HydroGeoLogic, Inc
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size 2"

Total Depth Drilled 6'

Sheet 1 of 1

671 346

HYDRO GeoLogic INC.

Borehole ID. BHGLSWMU36006

Project No: AFC001-15BBC

Project: NAS FTW JRB

Client: AFCEE

Location: SWMU 36

Date: 4/28/00

Geologist: Melanie Kidwell

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1		*Silty Clay* 10YR 3/3 Dark brown Silty Clay, stiff, medium plastic	-1	CL	100%	Dry	0	
2		*Sandy Clay* 10YR 5/6 Yellowish brown Sandy Clay, stiff, medium plastic with 5% coarse Sand	-3	SC	100%	Dry	0	
3		*Silty Clay* 10YR 3/3 Dark brown Silty Clay, stiff, medium plastic	-4	CL				
4		*Gravel* 10YR 8/2 Pale brown Cobbles, large Gravel	-5	GW	30%	Dry	0	Sample collected BHGLSWMU36006-02
5		*Silty Clay* 10YR 3/3 Dark brown Silty Clay, stiff, slightly plastic, uniform texture/color	-6	CL				End of boring
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								

Drilled By ENR-South

Drill Method DPT

Drilling Equipment SP4

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size 2"

Total Depth Drilled 6'

Sheet 1 of 1

HYDRO GeoLogic INC.

Project No: AFC001-15BBC

Project: NAS FTW JRB

Client: AFCEE

Location: SWMU 36

Borehole ID: BHGLSWMU36007

Date: 4/27/00

Geologist: Melanie Kidwell

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
		Sand 10YR 7/6 Fine Sand	-0 5	SW				
1		*Silt* 10YR 3/1 Very dark grey Silt with medium Gravel (10%)	-1	ML	100%	Dry	0	
		Sand and Gravel 10YR 7/16 Yellow fine and coarse Sand with small Gravel (50%)	-1 5	GM				
2		*Silty Clay* 10YR 3/4 Dark yellowish brown Silty Clay, soft, medium plastic	-2 5	CL				
		Sand 10YR 4/3 Brown medium to fine Sand	-3	SP		Dry	0	
3		*Silty Clay* 10YR 6/4 Light yellowish brown Silty Clay, soft, medium plastic	-3 5	CL				
4		*Silty Clay* 10YR 3/2 Very dark greyish brown Silty Clay, soft, medium plastic		CL				
5						Dry	0	Sample collected BHGLSWMU36001-02
6			-6					End of boring
7								
8								
9								
10								

Drilled By ENR-South

Drill Method DPT

Drilling Equipment SP4

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size 2"

Total Depth Drilled 6'

Sheet 1 of 1

671 348

HYDRO GeoLogic INC

Borehole ID. *BHGLSWMU36008*

Project No: AFC001-15BBC

Project: NAS FTW JRB

Client: AFCEE

Location: SWMU 36

Date: 4/27/00

Geologist: Melanie Kidwell

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
		Asphalt	-0 5					
1		*Silty Clay* 10YR 4/2 Dark greyish brown Silty Clay, stiff with 5% coarse Sand	-2	CL	100%	Dry	0	
2		*Sandy Clay* 10YR 5/4 Yellowish brown Sandy Clay, soft, medium plastic, grading with coarse sand (10%) and small gravel from 3 5-4'	-4 5	SC	100%	Dry	0	
3								
4								
5		*Sandy Clay* 10YR 6/4 Fine Sandy Clay, soft, well sorted	-5 5	SC		Dry	0	Sample collected BHGLSWMU36008-02
6		*Silt* 10YR 3/2 Very dark greyish brown Silt with 5% coarse Sand	-6	ML				End of boring
7								
8								
9								
10								

Drilled By ENR-South

Drill Method DPT

Drilling Equipment SP4

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size 2"

Total Depth Drilled 6'

Sheet 1 of 1

HYDRO GeoLogic INC.

Borehole ID *BHGLAOC015001*

Project No: AFC001-15BBC

Project: NAS FW WAA Investigation

Client: AFCEE

Location: AOC 15

Date: 05/24/99

Geologist: P Daruwala

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1–2		*Clayey Silt with Gravel* 10YR 4/2 dk grayish brown clayey silt with gravel (15%)	591	ML	50%	Dry	0 0	
3–4		*Clayey Silt w/ Gravel* 10YR 4/3 brown clayey silt w/5-10% gravel, v stiff, low plasticity	589	ML	60%	Dry	0 0	
5–6		*Silty Clay w/ Gravel* 10YR 3/3 dk brown silty clay w/5-10% gravel, at 5' 10YR 3/4 dk yellowish brown clayey silt w/10-15% gravel, v stiff, low plasticity, bottom 4" fine sand	587	CL	100%	Dry	0 0	
7–8		*Sandy Silt* 10YR 3/1 v dk gray brown fine sandy silt, non-plastic, v stiff, uniform <5% gravel	585	ML	100%	Dry	0 0	
9–10		*Sandy Silt* Same as above	583	ML	100%	Dry	0 0	
11–12		*Sandy Silt* 10YR 3/2 v dk grayish brown sandy silt w/10-15% gravel, non-plastic, v stiff, thin white solution features in cracks	581	ML	100%	Dry	0 0	
13–14		*Sandy Silt* 10YR 3/4 dk yellowish brown fine sandy silt w/10% gravel, gravel lense from 12 2 to 12 4	579	ML	100%	Dry	0 0	
15–16		*Sandy Silt w/ Gravel* 10YR 5/4 yellowish brown sandy silt w/25% gravel	577	ML	100%	Dry	0 0	

Drilled By TEG

Drill Method DPT

Drilling Equipment Strataprobe

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size 2"

Total Depth Drilled 23'

Sheet 1 of 2

671 350

HYDRO GeoLogic INC.

Borehole ID: BHGLAOC015001

Project No: AFC001-15BBC

Project: NAS FW WAA Investigation

Client: AFCEE

Location: AOC 15

Date: 05/24/99

Geologist: P Daruwala

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
17–18		*Sandy Silt w/ Gravel* Same as above	575	ML	100%	Damp	0 0	
19–20		*Clayey Silt, Sand, and Gravel* 10YR 6/8 reddish yellow clayey silt, at 19' coarse sand and gravel/shells (60%) w/ petroleum staining and odor	573	ML/SP	100%	Moist	94 7	Petroleum odor and staining
21–23		*Sand and Gravel* Coarse sand and gravel/shells (60%), hit water at 20 5'	570	SP	100%	Wet	0 0	Hit water at 20 5'
24								
25								
26								
27								
28								
29								
30								
31								
32								

Drilled By TEG

Drill Method DPT

Drilling Equipment Strataprobe

HydroGeoLogic, Inc
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size 2"

Total Depth Drilled 23'

Sheet 2 of 2

HYDRO GeoLogic INC.

Borehole ID BHGLSWMU51001

Project No: AFC001-15BBC

Project: NAS FW WAA Investigation

Client: AFCEE

Location: SWMU 51

Date: 05/25/99

Geologist: P Daruwala

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1–2		*Sandy Silt and Gravel* 10YR 4/3 brown sandy silt and gravel (30%)	591	GM	60%	Dry	0 0	
3–4		*Sandy Silt and Gravel* 10YR 4/3 brown sandy silt w/ 15-20% gravel, at 3 2' 10YR 6/4 lt yellowish brown (25-30% gravel), bottom 6" 10YR 4/2 dk grayish brown silt, v stiff, slight plasticity	589	GM/ML	60%	Dry	0 0	
5–6		Top 10" 10YR 4/6 dk yellowish brown fine to med sand and gravel, 10YR 6/4 lt yellowish brown sand and 10YR 3/1 v dk gray silt, slight plasticity w/ increasing silt in the bottom 1', firm	587	SP/SM	70%	Dry	0 0	
7–8		10YR 3/2 v dk grayish brown sandy silt w/ 10-15% gravel, at 7' 10YR 5/4 yellowish brown coarse sand and gravel (60%) w/ some saturated pockets, bottom 6" 10YR 3/2 v dk grayish brown silt w/20% gravel	585	SP/GM	100%	Damp	0 0	Hit water at 8'
9–10		*Sand and Gravel* 10YR 5/4 coarse sand and gravel w/shells, 10YR 4/2 dk grayish brown fine sand w/ dk staining, fine to med clayey sand	583	SP	70%	Wet	0 0	
11–12		*Sand Gravel, and Silty Clay* Top 6" coarse sand and gravel, remainder 10YR 7/1 lt gray and brown silty clay	581	CL	100%	Wet	0 0	
13								
14								
15								
16								

Drilled By TEG

Drill Method DPT

Drilling Equipment Strataprobe

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size 2"

Total Depth Drilled 12'

Sheet 1 of 1

67.1 352

HYDRO GeoLogic INC.

Borehole ID: BHGLSWMU51002

Project No: AFC001-15BBC

Project: NAS FW WAA Investigation

Client: AFCEE

Location: SWMU 51

Date: 05/25/99

Geologist: P Daruwala

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1–2		*Clayey Silt with Gravel* 10YR 3/2 v dk grayish brown clayey silt w/15% gravel, stiff, low plasticity	592	ML	100%	Dry	0 0	
3–4		*Silty Clay with Gravel* 10YR 3/3 stiff silty clay w/15% gravel, at 2 8' 25-30% gravel, bottom 10" 10YR 3/2 clayey silt, stiff, w/20% gravel	590	CL	90%	Dry	0 0	
5–6		*Sand and Clay* Top 10" 10YR 3/2 clayey silt, stiff, low plasticity, w/20% gravel, soft fine sand and clay, bottom 10" 10YR 3/2 v dk gray brown clayey silt, low plasticity, soft, wood debris and petro odor	588	CL	100%	Dry	4 0	Wood debris and petroleum odor
7–8		*Sandy Silt with Gravel* 10YR 3/2 v dk grayish brown sandy silt w/25% gravel, petroleum odor, Bottom few inches coarse sand and gravel, wet	586	ML	100%	Moist Wet	57	Petroleum odor
9–10		*Sand and Gravel* Coarse sand and gravel w/shells, wet, 1" black stained fine sand and silt, 10YR 7/4 v pale brown fine sand then v stiff silty clay, med plasticity	584	SP	60%	Wet	30 9	
11–12		*Sand, Gravel and Clay* Top 1' coarse sand and gravel, bottom 1' 10YR 5/4 yellowish brown clay, v stiff, high plasticity	582	CL	100%	Wet Dry	1 7	
13–14		*Sand and Gravel and Clay* Coarse sand and gravel, bottom 6" 10YR 5/4 yellow brown and gray clay, dry, v stiff, high plasticity	580	SP/CL	100%	Wet Dry	0 0	Refusal at 14'
15–16								

Drilled By TEG

Drill Method DPT

Drilling Equipment Strataprobe

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size 2"

Total Depth Drilled 14'

Sheet 1 of 1

HYDRO GeoLogic INC.

Borehole ID. BHGLSWMU51003

Project No: AFC001-15BBC

Project: NAS FW WAA Investigation

Client: AFCEE

Location: SWMU 51

Date: 05/26/99

Geologist: P Daruwala

SUBSURFACE PROFILE					SAMPLE			Remarks
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	
1–2		*Clayey Silt with Gravel* Top 6" concrete, then 6" sand and gravel fill, bottom 1' 10YR 3/1 v dk gray clayey silt w/30% gravel, soft, med-low plasticity	591	ML	70%	Dry	0 0	
3–4		*Clayey Silt with Gravel* 10YR 4/2 dk grayish brown clayey silt w/25% gravel, low plasticity, med stiff	589	ML	60%	Dry	2 6	
5–6		*Clayey Silt with Gravel* Same as above	587	ML	70%	Dry	1 9	
7–8		*Silt* 10YR 3/1 v dk gray silt, slight plasticity, soft, <5% gravel, uniform	585	ML	80%	Dry	1 6	
9–10		*Silt Sand and Gravel* 10YR 3/1 silt, med stiff, slight plasticity, 3% gravel, 10% fine sand, increasing gravel (15-20%) and fine sand with depth	583	MLSP	100%	Dry	2 0	
11–12		*Sand, Gravel and Clay* 10YR 5/2 fine sand (30%), gravel (60%), and clay (10%), bottom ft 10YR 5/6 yellowish brown coarse sand and gravel	581	CL	100%	Dry	6 0	
13–14		*Sand and Gravel and Clay* 10YR 7/4 v pale brown silty clay, v stiff, high plasticity, increasing gravel (3" thick) and sand, 2" fine sand layer, bottom 4" v hard, platey clay	579	CL	100%	Dry	8 0	
15–16		*Clay* Same as above	577	CL	100%	Dry	0 0	

Drilled By TEG

Drill Method DPT

Drilling Equipment Strataprobe

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size 2"

Total Depth Drilled 24 5'

671 351

HYDRO GeoLogic INC.

Borehole ID. BHGLSWMU51003

Project No: AFC001-15BBC

Project. NAS FW WAA Investigation

Client: AFCEE

Location: SWMU 51

Date: 05/26/99

Geologist: P Daruwala

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
17		*Clay* Same as above	575	CL	100%	Dry	0 0	
18								
19		*Clay* Same as above only less dry, very stiff	573	CL	100%	Dry	0 0	
20								
21		*Clay with Sand and Gravel* 10YR yellowish brown clay w/ little fine sand, med plasticity, <5% gravel, more moist but no free water	571	CL	100%	Dry	0 0	
22								
23		*Clay* 10YR yellowish brown clay, v stiff, med-high plasticity, bottom ft layers of brown clay and sand and 10YR 3/1 clay, bottom 6" 10YR 5/1 gray clay	569	CL	100%	Dry	0 0	
24								Refusal at 24 5'
25								
26								
27								
28								
29								
30								
31								
32								

Drilled By TEG

Drill Method DPT

Drilling Equipment Strataprobe

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size 2"

Total Depth Drilled 24 5'

Sheet 2 of 2

HYDRO GeoLogic INC.

Borehole ID: *BHGLSWMU51004*

Project No: AFC001-15BBC

Project: NAS FW WAA Investigation

Client: AFCEE

Location. SWMU 51

Date: 05/26/99

Geologist: P Daruwala

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1–2		*Clay and Silt* Top 6" concrete, then 6" sand and gravel fill, bottom 1' 10YR 3/1 v dk gray clay and silt w/5% gravel, stiff, low plasticity	591	ML	90%	Dry	0 0	
3–4		*Clayey Silt* 10YR 3/2 v dk grayish brown clayey silt, low plasticity, med stiff	589	ML	100%	Dry	0 0	
5–6		*Clayey Silt, Sand and Gravel* Same as above to 4 5', then 10YR 4/3 brown fine to med sand w/40% silt, soft, non-plastic, 10% gravel, bottom 6" fine sandy silt, soft	587	SP	100%	Dry	0 0	
7–8		*Sandy Silt* 10YR 3/1 v dk gray sandy silt, non-plastic, med stiff	585	ML	100%	Dry	1 0	
9–10		*Silt with Sand* 10YR 4/1 dk gray silt w/ some sand and <5% gravel, v stiff, non-plastic, uniform	583	ML	100%	Dry	1 1	
11–12		*Sandy Silt with Gravel* Same sandy silt as above w/5-10% gravel, med stiff, non-plastic	581	ML	100%	Dry	0 0	
13–14		*Sandy Silt with Gravel* 10YR 4/2 dk grayish brown sandy silt w/med sand (10%) and some fine gravel lenses, v stiff, coarse gravel lenses in bottom 6" and marbeling solution features in cracks	579	ML	100%	Dry	1 4	
15–16		*Sandy Silt with Gravel* 10YR 4/2 dk grayish brown sandy silt, increasing fine sand, 30% gravel, shell fragments, stiff, non-plastic	577	ML	100%	Dry	0 0	

Drilled By TEG

Drill Method DPT

Drilling Equipment Strataprobe

HydroGeoLogic, Inc.
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Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size 2"

Total Depth Drilled 24 2'

671 356

HYDRO GeoLogic INC.

Borehole ID: BHGLSWMU51004

Project No: AFC001-15BBC

Project: NAS FW WAA Investigation

Client: AFCEE

Location: SWMU 51

Date: 05/26/99

Geologist: P Daruwala

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
17–18		*Silt, Clay and Gravel* 10YR 4/6 dk yellowish brown silt and clay, 40% coarse gravel, v stiff, low plasticity, bottom 6" 10YR 6/8 brownish yellow fine sand w/silt and clay	575	SP	100%	Dry	0 0	
19–20		*Sand Silt, Clay and Gravel* Top ft 10YR 5/4 yellowish brown sandy clay w/coarse gravel (>50%), 4" 10YR 6/4 lt yellowish brown sand lense, bottom 6" sandy clay w/fine gravel (50%), v stiff, dry	573	CL	100%	Dry	0 0	
21–22		*Clay* Top 6" same as above, next 6" 10YR 5/4 and 6/1 gray v dry clay, bottom ft slightly more damp 10YR 5/3 brown clay w/<5% gravel	571	CL	100%	Dry	0 0	
23–24		*Clay* Same as above	569	CL	100%	Dry	0 0	Refusal at 24 2'
25								
26								
27								
28								
29								
30								
31								
32								

Drilled By TEG

Drill Method DPT

Drilling Equipment Strataprobe

HydroGeoLogic, Inc.
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Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size 2"

Total Depth Drilled 24 2'

Sheet 2 of 2

HYDRO GeoLogic INC.

Borehole ID: *BHGLSWMU51005*

Project No: AFC001-15BBC

Project: NAS FW WAA Investigation

Client: AFCEE

Location: SWMU 51

Date: 05/27/99

Geologist: P Daruwala

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1–2		*Clayey Silt* 10YR 4/2 dk grayish brown clayey silt w/ little sand and gravel, soft, low plasticity, gravel in bottom	591	ML	80%	Dry	0 0	
3–4		*Clayey Silt with Sand and Gravel* Same as clayey silt above w/sand and gravel lenses (<1/4"), bottom ft 10YR 4/3 fine sand w/silt and gravel (20%), 3" clayey silt w/<5% gravel	589	ML	100%	Dry	0 0	
5–6		*Sand* 10YR 5/6 yellowish brown medium sand, well sorted, wet	587	SW	80%	Wet	0 0	Hit water at 5'
7–8		*Sand and Gravel* Saturated coarse sand and gravel w/ shells, 4" petroleum staining	585	SP	100%	Wet	0 0	Petroleum staining
9–10		*Sand, Gravel, and Clay* Coarse sand and gravel as above, petroleum staining at 9', bottom 6" clay	583	SP/CL	100%	Wet	282	Petroleum staining Refusal at 10'
11								
12								
13								
14								
15								
16								

Drilled By TEG

Drill Method DPT

Drilling Equipment Strataprobe

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size 2"

Total Depth Drilled 10'

Sheet 1 of 1

671 358

HYDRO GeoLogic INC.

Borehole ID: BHGLSWMU51006

Project No: AFC001-15BBC

Project: NAS FW WAA Investigation

Client: AFCEE

Location: SWMU 51

Date: 05/27/99

Geologist: P Daruwala

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1–2		*Clayey Silt* 10YR 4/2 dk grayish brown clayey silt w/ little sand and gravel, soft, low plasticity, 60% gravel and 20% sand	590	ML	80%	Dry	0 0	
3–4		*Sand and Gravel with Silt* 10YR 6/4 lt yellowish brown fine sand and 25% gravel w/ little silt	588	SP	40%	Dry	0 0	
5–6		*Sand and Gravel* Fine sand w/shell fragments, coarse gravel (80%) in bottom 4"	586	SP	100%	Wet	0 0	Hit water at 6'
7–8		*Sand and Gravel* Same as above, 7 to 7 5' very coarse sand and gravel, bottom 6" 10YR 6/2 lt brownish gray silty clay, very hard	584	SP/CL	100%	Wet	5 1	Refusal at 8'
9								
10								
11								
12								
13								
14								
15								
16								

Drilled By TEG

Drill Method DPT

Drilling Equipment Strataprobe

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size 2"

Total Depth Drilled 8'

Sheet 1 of 1

HYDRO GeoLogic INC.

Borehole ID. BHGLSWMU51007

Project No: AFC001-15BBC

Project: NAS FW WAA Investigation

Client: AFCEE

Location: SWMU 51

Date: 05/27/99

Geologist: P Daruwala

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1–2		*Sandy Silt and Gravel* 10YR 3/2 v dk grayish brown sandy silt and gravel (25%)	589	GM	100%	Dry	0 0	
3–4		*Sand and Gravel with Silt* 10YR 5/4 fine sand w/some silt and 20% gravel Bottom 10" 10YR 4/6 fine well sorted sand	587	SP	60%	Dry	0 0	
5–6		*Sand and Gravel* 10YR 5/4 med-coarse sand and 10% gravel, wet, shell fragments, bottom 6" 10YR 6/4 lt yellowish brown same as above w/ 20% gravel	585	SP	100%	Wet	0 0	Hit water at 5'
7–8		*Sand and Gravel* 10YR 6/2 lt brownish gray same as above, coarsening with depth, cobbles <50%, clay in the bottom	583	SP/CL	100%	Wet	0 0	Refusal at 8'
9								
10								
11								
12								
13								
14								
15								
16								

Drilled By TEG

Drill Method DPT

Drilling Equipment Strataprobe

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size 2"

Total Depth Drilled 8'

Sheet 1 of 1

671 360

HYDRO GeoLogic INC.

Borehole ID: BHGLSWMU51008

Project No: AFC001-15BBC

Project: NAS FW WAA Investigation

Client: AFCEE

Location: SWMU 51

Date: 06/01/99

Geologist: P Daruwala

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1–2		*Clayey Silt* 10YR 3/2 v dk grayish brown clayey silt, med stiff, slight plasticity	-2	ML	100%	Dry	0 0	
2–4		*Sand and Gravel with Silt* Top ft same as above, increasing sand and gravel pockets, bottom 6" 10YR 3/2 v dk grayish brown clayey silt w/ 20% coarse gravel	-4	MLSP	100%	Dry	0 0	
4–6		*Silt with Clay, Sand, and Gravel* Top ft same as above, then 10YR 3/1 v dk gray sandy (fine to med) silt, non-plastic, w/ 25% gravel, petroleum odor	-6	MLSP	100%	Dry	0 0	Petroleum odor
6–8		*Sand and Gravel* Same as above with dark staining and odor, bottom 6" 10YR 4/1 dk gray coarse sand and gravel, wet	-8	SP/CL	100%	Wet	0 0	Dark staining and odor Hit water at 7 5'
8–10		*Sand and Gravel/Silty Clay* Top ft same as above, bottom ft 10YR 8/3 v pale brown silty clay, dry, v stiff, high plasticity	-10	SP/CL	100%	Wet Dry	0 0	
10–16								

Drilled By TEG

Drill Method DPT

Drilling Equipment Strataprobe

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(703) 478-5186 FAX (703) 471-4180

Hole Size 2"

Total Depth Drilled 10'

Sheet 1 of 1

HYDRO GeoLogic INC.

Borehole ID. *BHGLSWMU51009*

Project No: AFC001-15BBC

Project: NAS FW WAA Investigation

Client: AFCEE

Location: SWMU 51

Date: 06/01/99

Geologist: P Daruwala

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1–2		*Clayey Silt* 10YR 3/2 v dk grayish brown clayey silt, med stiff, slight plasticity	588	ML	70%	Dry	0 0	
3–4		*Silt with Sand* 10YR 3/3 silt w/ some sand lenses, med stiff, non-plastic	586	ML	70%	Dry	0 0	
5–6		*Sandy Silt with Gravel* 10YR 3/3 dk brown sandy silt w/ 20% fine gravel, soft, non-plastic, bottom 6" 10YR 3/2 v dk grayish brown silt and clay, low plasticity, soft	584	ML	100%	Dry	0 0	
7–8		*Clayey Silt and Sand* 10YR 2/1 black clayey silt w/a trace of sand, bottom ft 10YR 3/4 brown fine to med sand grading to coarse gravel w/15% clay, wet	582	ML/SP	80%	Wet	0 0	Hit water at 7 5'
9–10		*Sand and Silty Clay* Med-coarse sand w/some shells, wet, bottom ft 10YR 8/3 v pale brown silty clay, dry	580	SP/CL	40%	Wet Dry	0 0	
11								
12								
13								
14								
15								
16								

Drilled By TEG

Drill Method DPT

Drilling Equipment Strataprobe

HydroGeoLogic, Inc.
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(703) 478-5186 FAX (703) 471-4180

Hole Size 2"

Total Depth Drilled 10'

Sheet 1 of 1

671,362

HYDRO GeoLogic INC.

Borehole ID. *BHGLSWMU51010*

Project No: AFC001-15BBC

Project: NAS FTW JRB

Client: AFCEE

Location: SWMU 51

Date: 4/27/00

Geologist: Melanie Kidwell

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1		*Sandy Silt* 10YR 4/4 Dark yellowish brown coarse to medium Sandy (5%) Silt	-1 6	SM	100%	Dry	0	
2		*Sand w/ Gravel* 10YR 7/8 Yellow fine and coarse (50%) Sand with small Gravel	-3	SP	100%	Dry	0	
3		*Silt* 10YR 4/2 Dark greyish brown Silt, stiff, non-plastic	-4	ML				
4								Moist @ 4'
5		*Sand* 10YR 7/6 Yellow fine Sand, well sorted	-5 5	SW	100%	Moist	0	Sample collected BHGLSWMU5101002
6		*Silty Clay* 10YR 8/3 Very pale brown Silty Clay, soft, medium plastic	-6	CL				
7		*Sand* 10YR 6/6 Brownish yellow fine Sand	-7	SW		Wet	0	Wet @ 6 5'
8		*Gravel w/ Sand* 10YR 4/3 Brown fine Gravel, coarse Sand with seashell fragments	-8	GM				End of boring
9								
10								
11								
12								
13								
14								
15								
16								

Drilled By ENR-South

Drill Method DPT

Drilling Equipment SP4

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size 2"

Total Depth Drilled 8'

Sheet 1 of 1

6711363

HYDRO GeoLogic INC.

Borehole ID: *BHGLSWMU51011*

Project No: AFC001-15BBC

Project: NAS FTW JRB

Client: AFCEE

Location: SWMU 51

Date: 4/27/00

Geologist: Melanie Kidwell

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1		*Sandy Silt* 10YR 4/4 Dark yellowish brown Sandy Silt with 10% coarse Sand and small Gravel	-2	SM	100%	Dry	0	Sample collected BHGLSWMU51011-01
2		*Sandy Clay* 10YR 6/3 Sandy Clay with coarse Sand	-3	SC	100%	Dry	0	
3		*Sand* 10YR 6/6 Brownish yellow fine Sand, well sorted						
4								
5				SW	50%	Dry	0	Damp @ 5' Sample collected BHGLSWMU51011-02
6								
7			-7					
8		*Sandy Clay* 10YR 6/3 Sandy Clay, soft with 50% coarse Sand and small Gravel	-8	SC		Damp	308	
9		*Silty Clay* 10YR 3/1 Very dark grey Silty Clay, soft, medium plastic, some roots	-8 75	CL				Petroleum odor Wet @ 9'
10		*Sandy Clay* 10YR 6/3 Pale brown Sandy Clay, soft, with coarse Sand and Shell fragments	-10	SC		Wet	0	
11		*Gravelly Clay* 10YR 7/1 Light grey Gravel with 50% Clay	-11	GC				Refusal @ 11' End of boring
12								
13								
14								
15								
16								

Drilled By ENR-South

Drill Method DPT

Drilling Equipment SP4

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size 2"

Total Depth Drilled 11'

Sheet 1 of 1

671:361

HYDRO GeoLogic INC.

Project No: AFC001-15BBC

Project: NAS FTW JRB

Client: AFCEE

Location: SWMU 51

Borehole ID. BHGLSWMU51012

Date: 4/27/00

Geologist: Melanie Kidwell

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1		*Sandy Silt* 10YR 4/3 Brown Sandy Silt, stiff with 5% coarse Sand	-1	SM		Dry	0	
2		*Sandy Clay* 10YR 4/6 Dark yellowish brown Sandy Clay with 10% coarse Sand and small Gravel	-3	SC		Damp	0	Damp at 3'
4		*Sandy Clay* 10YR 4/2 Dark greyish brown Sandy Clay, soft, medium plastic with 5% coarse Sand	-4	SC				Wet at 4'
5		*Clayey Sand and Gravel* 10YR 4/2 Dark greyish brown Sandy Clay, soft, medium platic with 80% coarse Sand and Gravel	-5 5	GC		Wet	0	
6		*Sand w/ Silt* 10YR 3/1 Very dark grey medium to coarse Sand with Silt	-6	SM				End of boring
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								

Drilled By ENR-South

Drill Method DPT

Drilling Equipment SP4

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
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(703) 478-5186 FAX (703) 471-4180

Hole Size 2"

Total Depth Drilled 6'

Sheet 1 of 1

HYDRO GeoLogic INC.

Borehole ID: *BHGLTSWMU51013*

Project No: AFC001-15BBC

Project: NAS FTW JRB

Client: AFCEE

Location: SWMU 51

Date: 4/27/00

Geologist: Melanie Kidwell

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
		Asphalt/Gravel	-0 468					
1		*Gravel and Sand* 10YR 7/3 Very pale brown medium Gravel and fine Sand	-1 5	GM	75%	Dry	0	
2		*Silty Clay* 10YR 7/3 Dark yellowish brown Silty Clay, stiff, medium plastic	-2	CL				
3		*Silty Clay* 10YR 4/3 Brown Silty Clay, stiff, medium plastic		CL	100%	Dry	0	
4								
5			-5		100%	Dry	0	Sample collected BHGSWMU51013-02
6		*Silty Clay* 10YR 4/3 Brown Silty Clay, soft, marbled with 50% 10YR 5/6 Yellowish brown Silty Clay, soft with 5% coarse Sand		CL				
7			-7					
8		*Silt* 10YR 2/1 Black Silt, soft, uniform color/texture		ML	100%	Dry	0	
9			-9					
10		*Sandy Silt* 10YR 4/1 Dark grey Sandy (coarse) Silt			100%	Dry	0	Sample collected BHGSWMU51013-03
11								
12				SM		Dry	0	
13								
14								

Drilled By ENR-South

Drill Method DPT

Drilling Equipment SP4

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size 2"

Total Depth Drilled 21'

Sheet 1 of 2

671 366

HYDRO GeoLogic INC.

Borehole ID. BHGLTSWMU51013

Project No: AFC001-15BBC

Project: NAS FTW JRB

Client: AFCEE

Location: SWMU 51

Date: 4/27/00

Geologist: Melanie Kidwell

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
15			-15			Dry	0	
16		*Silty Clay* 10YR 5/2 Greyish brown Silty Clay, very stiff with 10YR 5/6 Yellowish brown fine Sand (5%)	-16	CL				
17		*Sandy Clay* 10YR 6/4 Light yellowish brown Sandy Clay, stiff with 20% fine Sand (coarse)	-17	SC				
18		*Clay* 10YR 7/2 Light grey Clay, medium stiff, medium plastic	-18	CL		Dry	0	
19		*Sand* 10YR 7/6 Yellow coarse (50%) and fine Sand with small Gravel and 10YR 7/2 Light grey Clay		SP				
20			-20			Dry		Moist @ 20' Sample collected BHGSWMU51013-04
		Clayey Sand 10YR 7/3 Very pale brown Clayey Sand, slightly plastic, very soft	-20 5	SC				
21		*Sand* 10YR 6/1 Grey coarse Sand, 5% fine Sand and Clay, some fine Gravel	-21	SP				End of boring
22								
23								
24								
25								
26								
27								
28								

Drilled By ENR-South

Drill Method DPT

Drilling Equipment SP4

HydroGeoLogic, Inc.
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Hole Size 2"

Total Depth Drilled 21'

Sheet 2 of 2

HYDRO GeoLogic INC.

Borehole ID. *BHGLSWMU51014*

Project No: AFC001-15BBC

Project: NAS FTW JRB

Client: AFCEE

Location: SWMU 51

Date: 4/27/00

Geologist: Melanie Kidwell

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1		*Asphalt/Sand/Gravel*	-1		80%	Dry	0	
2		*Sandy Silt* 10YR 4/2 Dark greyish brown Sandy Silt, very stiff with 5% coarse Sand	-2	SM				
3–4		*Silty Clay* 10YR 4/3 Brown Silty Clay, stiff, medium plastic	-5	CL	100%	Dry	0	
5–6		*Silty Clay* 10YR 4/3 Brown Silty Clay, soft, marbled with 5% 10YR 5/6 Yellowish brown Silty Clay, soft with 5% coarse Sand	-7	CL	100%	Dry	0	Sample collected BHGLSWMU51014-02
7–8		*Silt* 10YR 2/1 Black Silt, soft, uniform color/texture	-9	ML	100%	Dry	0	
9–10		*Sandy Silt* 10YR 4/1 Dark grey Sandy Silt, stiff, 20% coarse Sand, becoming very uniform 11-14'			100%	Dry	0	Sample collected BHGLSWMU51014-03
11–14				SM	100%	Dry	0	
15			-15		100%	Dry	0	Sample collected BHGLSWMU51014-04
16		*Silty Clay* 10YR 5/2 Greyish brown Silty Clay, stiff with 10YR 5/6 Yellowish brown fine Sand		CL				

Drilled By ENR-South

Drill Method DPT

Drilling Equipment SP4

HydroGeoLogic, Inc.
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(703) 478-5186 FAX (703) 471-4180

Hole Size 2"

Total Depth Drilled 21'

671368

HYDRO GeoLogic INC.

Project No: AFC001-15BBC

Project: NAS FTW JRB

Client: AFCEE

Location: SWMU 51

Borehole ID. BHGLSWMU51014

Date: 4/27/00

Geologist: Melanie Kidwell

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
17			-17		100%	Dry	0	
18		*Sandy Clay* 10YR 6/2 Light brownish grey Clay with 10YR 7/8 Yellow fine Sand (30%) with some medium Sand and fine Gravel	-19	SC				
19		*Clay* 10YR 7/8 Yellow Clay, very stiff, very plastic				Dry	0	
20				CH				Sample collected BHGLSWMU51014-05
21			-21					End of boring
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								

Drilled By ENR-South

Drill Method DPT

Drilling Equipment SP4

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size 2"

Total Depth Drilled 21'

Sheet 2 of 2

Well ID: WHGLTA027

HYDRO GeoLogic INC.

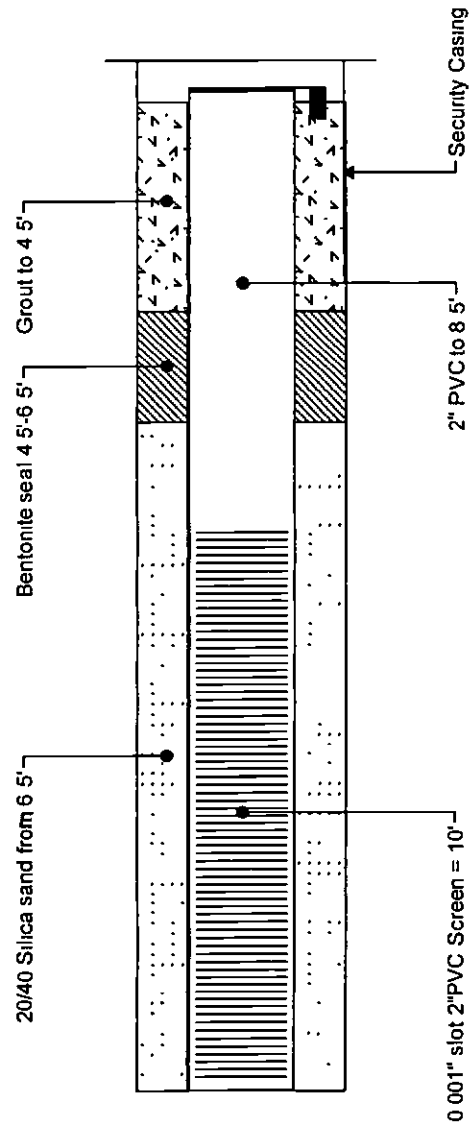
Project No: AFC00115BBC
Project: NASFWJRB
Client: AFCEE
Location. SWMU-11
Date: 5/15/2000

Engineer: Brad Nielson
Northing: 6967636 99
Easting 2297658 47
Surface Elevation: 602 44
Elevation TOC:

SUBSURFACE PROFILE / SAMPLE

Depth	Symbol	Description	Elev.	ASTM	PID (ppm)	Moisture
-1			1 0			
		Ground Surface	0 0			
0		*Organic Matter* Surface organic root zone	-0 5		200	Dry
1		*Fill* Gravel and concrete, small rootlets	-2 0		1013	Dry
2		*Clay* 5 YR 3/3 Dark brown, homogenous, 25% silt, semi-plastic		CL	17 7	Dry
3			-4 0		15 8	Dry
4		*Fill* Sand, 20% silt, few calcareous nodules	-5 0		19 1	Moist
5		*Clay* Brown, homogenous, few calcereous nodules		CL	23 7	Moist
6			-7 0		20 6	Moist
7		*Clay* Dark brown, soft, plastic, homogeneous		CL	37 4	Moist
8			-8 5		42 2	Moist
9		*Clay* White/gray, shaley, powdery, 20% - 30% silt		CL	15 1	Moist
10		*Clay Fill* Wood debris, sticks			25 7	Moist
11			-12 0		66 5	Moist
12		*Sand* Homogeneous, well sorted, fine grained, no odor			42 0	Wet
13			-14 0	SW	4 1	Wet
14		*Sand and coarse gravel* 7 5 YR 4/2, mushy, no odor	-15 0	SP	36 1	Saturated
15		*Sand* Coarse, few calcareous nodules, no odor			7 9	Saturated
16				SP	9 9	Saturated
17			-17 5			
18		*Bedrock*	-18 5	CM	NA	NA
19		End of Borehole				

Well Completion Details



Drilled By: Geo Projects/Benny Hinoja
Drill Method: HSA
Drilling Equipment: B-61

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA
(703)478-5186 FAX (703)471-4180

Hole Size: 8"
Total Depth Drilled: 18 5'
Sheet: 1 of 1

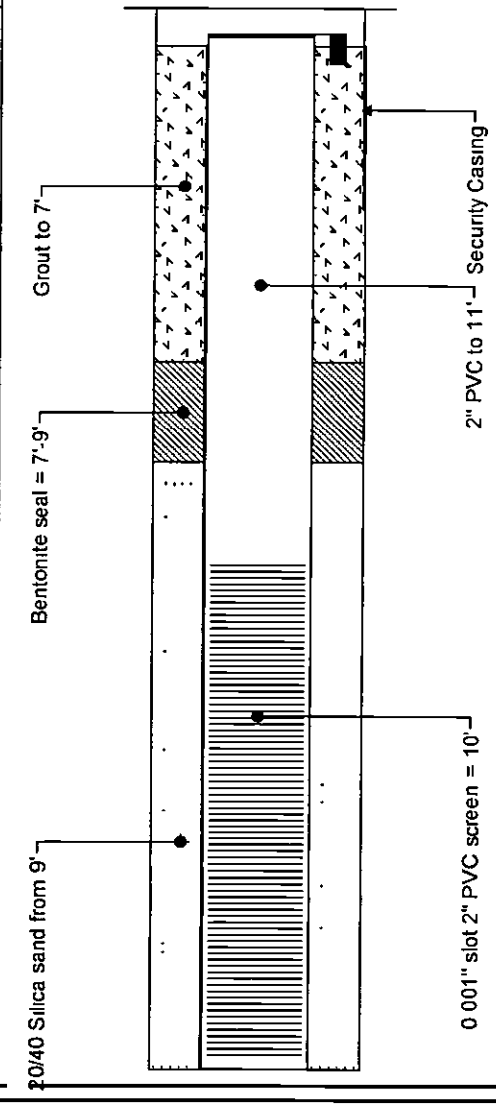
671 370

Well ID: WHGLTA029

HYDRO GeoLogic INC.

Project No: AFC00115BBC	*Engineer:* K Duran
Project: NASFWJRB	*Northing:* 6965736 08
Client: AFCEE	*Easting:* 2298574 35
Location: SWMU-32	*Surface Elevation:* 603 13
Date: 5/16/00	*Elevation TOC:*

SUBSURFACE PROFILE					SAMPLE		Well Completion Details
Depth	Symbol	Description	Elev.	ASTM	PID (ppm)	Moisture	
-1			1 0				
0		Ground Surface	0 0				
		Fill Roadbed, gravel and asphalt	-0 5		10 7	Dry	
1		*Clay fill* 10 YR 3/2 dark brown	-2 0				
2		*Clay* Dark brown, 10% sand, tight, non-plastic, uniform color	-4 0	CL	5 1	Dry	
3		*Clay* Dark brown, 20% silt	-5 0	CL	2 6	Moist	
4		*Clay* Dark brown, soft	-7 0	CL	2 3	Moist	
5		*Clay* Dark brown, soft, plastic, 20% silt, no odor	-9 0	CL	0	Moist	
6		*Clay* Gray with white layers, soft, calcareous material, increasing silt, decreasing moisture	-10 0	CL	0	Moist	
7		*Clayey sand* Tan with white calcareous material, soft, increasing moisture	-12 0	SC	0	Moist	
8		*Sand* Tan, gray, and white	-14 0	SP	0	Moist	
9		*Sand* Increasing tan color, increasing moisture, well sorted	-15 0	SW	0	Moist	
10		*Sand* Tan and gray, white/gray shaley clay at 17'	-17 0	SP	5 4	Wet	
11		*Gravelly sand* Tan, fossils at 18 5'	-19 0	SP	0	Wet	
12		*Gravelly sand* Fossiliferous fragments, poorley sorted	-21 0	SP	NA	Saturated	
13							
14							
15							
16							
17							
18							
19							
20							
21							



Drilled By: Geo Projects/Benny Hinoja

Drill Method: HSA

Drilling Equipment B-61

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA
(703)478-5186 FAX (703)471-4180

Hole Size. 8"

Total Depth Drilled: 21'

Sheet: 1 of 1

Well ID: WHGLTA030

HYDRO GeoLogic INC.

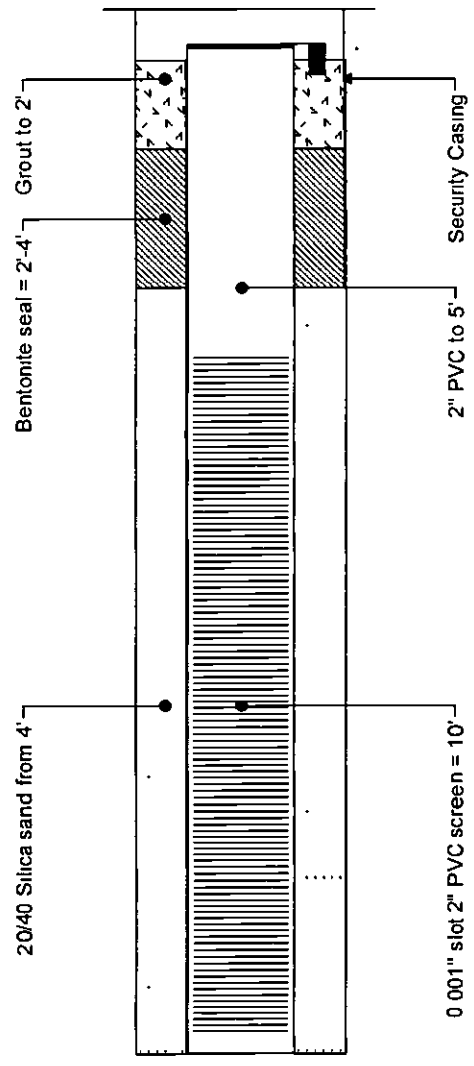
Project No: AFC00115BBC
Project: NASFWJRB
Client: AFCEE
Location: SWMU-51
Date: 5/11/00

Engineer: Brad Nielson
Northing: 6964327 76
Easting: 2299155 33
Surface Elevation: 589 07
Elevation TOC:

SUBSURFACE PROFILE / SAMPLE

Depth	Symbol	Description	Elev.	ASTM	PID (ppm)	Moisture
-1			1 0			
0		Ground Surface	0 0			
		Surface soil Rootlets, organic material	-0 5			
1		*Clay* Organic, stiff	-1 5	CL	0	Moist
2		White chalky material in a sandy matrix	-2 0			
3		*Sand* Brown, unconsolidated, poorly sorted, increasing gravel and moisture	-4 0	SP	0	Wet
4		*Sand* Poorly sorted, 10 YR 4/6, homogeneous color and consistency, rounded quartz grains	-5 0	SP	0	Wet
5		*Sand* Unconsolidated, well sorted, brown, non-plastic, angular quartz grains, no odor	-7 0	SW	0	Wet
7		*Sand* Limy 5 YR 8/2 unconsolidated, coarse grained, weathered chert, chalky color, claylike, fine grained consistancy	-9 0	SP	0	Wet
9		7 5 YR 8/1Limy weathered material, light tan and gray, large cobbles, semi-plastic, fine grained	-11 0		0	Wet
11		Limy, light colored material, large cobbles	-13 0		0	Wet
13		2 gley 5/1 greenish gray, shaley, unconsolidated, friable	-15 0		0	Dry
15						

Well Completion Details



Drilled By: Geo Projects/Benny Hinoja

Drill Method HSA

Drilling Equipment: B-61

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA
(703)478-5186 FAX (703)471-4180

Hole Size: 8"

Total Depth Drilled: 15'

Sheet: 1 of 1

671 372

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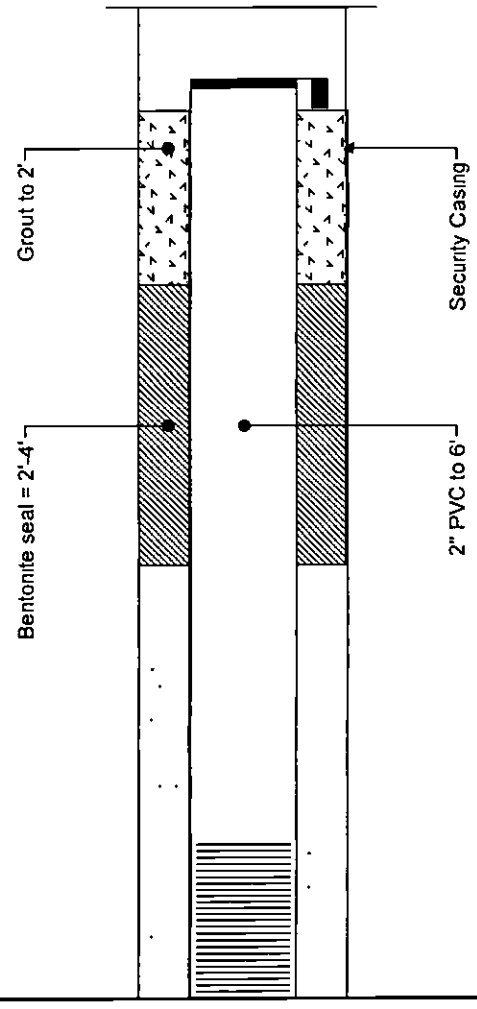
Well ID: WHGLTA031

HYDRO GeoLogic INC.

Project No: AFC00115BBC
Project: NASFWJRB
Client: AFCEE
Location: SWMU-51
Date: 5/11/00

Engineer: Brad Nielson
Northing: 6964366 12
Easting. 2299198 98
Surface Elevation: 592 78
Elevation TOC:

SUBSURFACE PROFILE					SAMPLE		Well Completion Details
Depth	Symbol	Description	Elev.	ASTM	PID (ppm)	Moisture	
-1			1 0				
		Ground Surface	0 0				
0		*Surficial soils* Brown, organic with rootlets	-0 5				
		Cobbles >1cm	-1 1		0	Dry	
1		*Clay* Dark brown, hard, large cobbles	-1 5	CL			
		Clay Dark brown, stiff, semi plastic		CL			
2							
3			-3 8		0	Moist	
4		*Clay with cobbles* Large cobbles, friable, increasing moisture	-4 0	CL			
		Silty clay Increasing silt sand matrix, brown	-4 8	CLML	0	Moist	
5		*Clay* Homogeneous, little gravel, hard, no odor	-5 0	CL			
		Silty sand Moist, non-plastic, brown					
6				SM	0	Moist	
7			-7 0				



Drilled By. Geo Projects/Benny Hinoja
Drill Method: HSA
Drilling Equipment· B-61

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA
(703)478-5186 FAX (703)471-4180

Hole Size: 8'
Total Depth Drilled: 13'
Sheet: 1 of 2

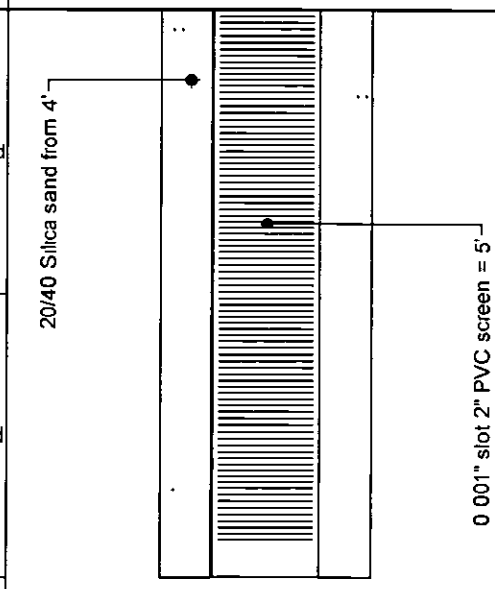
Well ID: WHGLTA031

HYDRO GeoLogic INC

Project No: AFC00115BBC	*Engineer:* Brad Nielson
Project: NASFWJRB	*Northing:* 6964366 12
Client: AFCEE	*Easting:* 2299198 98
Location: SWMU-51	*Surface Elevation:* 592 78
Date: 5/11/00	*Elevation TOC:*

SUBSURFACE PROFILE					SAMPLE	
Depth	Symbol	Description	Elev	ASTM	PID (ppm)	Moisture
8		*Sand* Light brown/Tan, soft, increasing gravel	-9 0	SP	0	Saturated
9		*Gravel* Alluvial, clean with no fines	-9 2	GW		
		Sand and gravel Light tan/yellow, soft	-9 5	GP		
10		*Clay* Weathered limy clay, plastic, no odor	-10 0	CL	0	Saturated
		No sample Drilled rock, moved NE 2' and re-drilled	-11 0			
11		*Clay* Hard, shaley, stiff, marine shell material, very fine grain, tan, yellow, gray	-12 0	CL		
12		*No recovery* Shaley clay, hard, gray, tan	-13 0		0	Dry
13		End of Borehole				
14						
15						

Well Completion Details



Drilled By: Geo Projects/Benny Hinoja	HydroGeoLogic, Inc.	Hole Size: 8'
Drill Method: HSA	1155 Herndon Pkwy, Suite 900	Total Depth Drilled: 13'
Drilling Equipment: B-61	Herndon, VA	Sheet: 2 of 2
	(703)478-5186 FAX (703)471-4180	

Well ID: WHGLTA032

HYDRO GeoLogic INC.

Project No: AFC00115BBC
Project: NASFWJRB
Client: AFCEE
Location: SWMU-51
Date: 5/12/00

Engineer: Brad Nielson
Northing: 6964384 24
Easting: 2299240 84
Surface Elevation: 593
Elevation TOC:

SUBSURFACE PROFILE					SAMPLE		Well Completion Details
Depth	Symbol	Description	Elev.	ASTM	PID (ppm)	Moisture	
-1			1 0				
		Ground Surface	0 0				
0		*Surficial soil* Brown, rootlets	-0 5				
1		*Silt and gravel* Brown, friable, gravel and rocks in unconsolidated silt	-2 0	ML	0	Dry	
2		*Clay* 10 YR 3/1Dark brown, tight, plastic, small calcium nodules (<1cm in diameter) 1 large cobble	-4 0	CL	0	Dry	
4		*Clay* Lite brown, stiff, few poorly sorted calcareous gravel, small amount of silt	-5 0	CL	0	Dry	Borehole Dry No Well Installed
5		*Clay* Dark brown, stiff, few calcareous gravel, lighter color with depth	-7 0	CL	0	Dry	
7		*Clay* 5 Y 3/2 dark brown/black, homogenous, few calcareous mottles, soft, semi-plastic, increasing silt and sand, no odor	-9 0	CL	0	Moist	
9		*Clay* Homogeneous, dark, few limy material	-11 0	CL	0	Moist	
11							

Drilled By: Geo Projects/Benny Hinoja

Drill Method. HSA

Drilling Equipment: B-61

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA
(703)478-5186 FAX (703)471-4180

Hole Size: 8"

Total Depth Drilled: 21'

Sheet: 1 of 2

671 376

Well ID: WHGLTA032

HYDRO GeoLogic INC.

Project No: AFC00115BBC	*Engineer:* Brad Nielson
Project: NASFWJRB	*Northing:* 6964384 24
Client: AFCEE	*Easting:* 2299240 84
Location: SWMU-51	*Surface Elevation:* 593
Date: 5/12/00	*Elevation TOC.*

SUBSURFACE PROFILE					SAMPLE		
Depth	Symbol	Description	Elev	ASTM	PID (ppm)	Moisture	Well Completion Details
12		*Silty clay* Light tan/yellow, friable, many calcareous layerings interbedded	-13 0	CLML	0	Dry	
13–14		*Clay* 5 Y 7/6 light tan/yellow, friable, gray limy striations	-15 0	CL	0	Dry	
15–16		*Clay* Tan/yellow, tight, brittle, homogeneous, limy gray material mottled throughout	-17 0	CL	0	Dry	
17–18		*Clay* 2 5 YR 7/1 white/light tan, gray, friable, brittle	-19 0	CL	0	Dry	
19–20		*Clay* Friable, gray marine lime within clay, homogeneous, no calcareous material, no odor	-21 0	CL	0	Dry	
21		End of Borehole					
22							
23							

Drilled By: Geo Projects/Benny Hinoja

Drill Method: HSA

Drilling Equipment: B-61

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA
(703)478-5186 FAX (703)471-4180

Hole Size: 8"

Total Depth Drilled: 21'

Sheet: 2 of 2

Well ID: WHGLTA033

HYDRO GeoLogic INC.

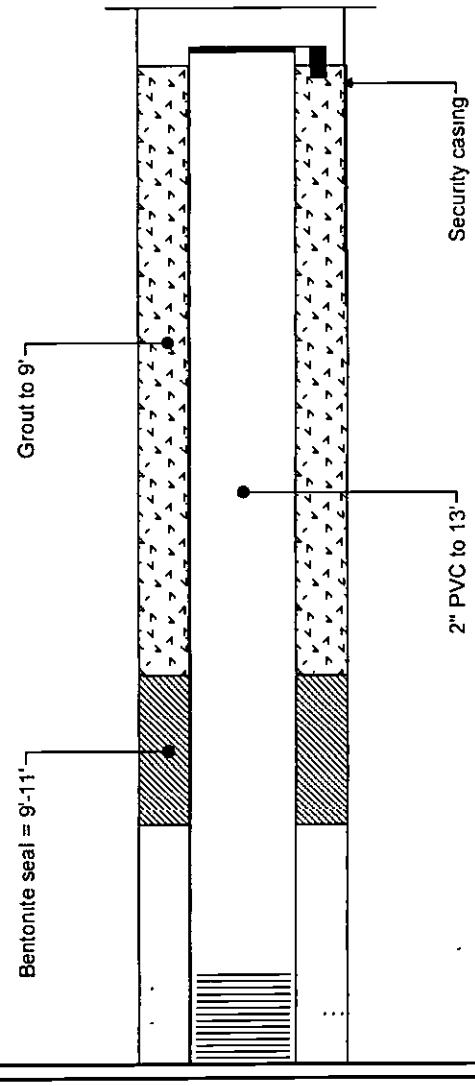
Project No: AFC00115BBC
Project. NASFWJRB
Client: AFCEE
Location. SWMU-36
Date. 5/15/00

Engineer: Brad Nielson
Northing 6964665 24
Easting: 2299565 05
Surface Elevation: 581 75
Elevation TOC:

SUBSURFACE PROFILE / SAMPLE

Depth	Symbol	Description	Elev	ASTM	PID (ppm)	Moisture
-1			1 0			
		Ground Surface	0 0			
0		*Surface soil* Organic, dark brown, roots	-1 0		850	Dry
1		*Gravel* Mixed with surface soil, friable	-2 0	GPGM		
2		*Sandy silt* Brown, no odor		ML	879	Moist
3			-4 0			
4		*Silty clay* 5 YR 2 5/1 Dark brown fine grained, non-plastic, 20% silt, 10% sand	-5 0	CLML	55	Moist
5		*Silty sand* Plastic, no odor	-6 0	SM	8 7	Dry
6		*Clay* Dark brown, stiff, no odor, no calcareous material	-7 0	CL		
7		*Silty Clay* 5 YR 4/1, 25% silt, increasing moisture, homogeneous, few cacareous material, increasing silt at 9'	-9 0	CL	13 4	Moist
9		*Silty sand* Brown, plastic, calcareous material, no odor	-11 0	SM	16 3	Moist
11		*Sand* Gray, calcareous limey shaley material	-13 0	SP	28 1	Moist
13		*Shale* Weathered, limey, distinct bedding, multi-color tan, orange, gray, poorly sorted, no odor		CM		
14						

Well Completion Details



Drilled By: Geo Projects/Benny Hinoja

Drill Method: HSA

Drilling Equipment: B-61

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA
(703)478-5186 FAX (703)471-4180

Hole Size: 8"

Total Depth Drilled. 28 3'

Sheet: 1 of 2

671 378

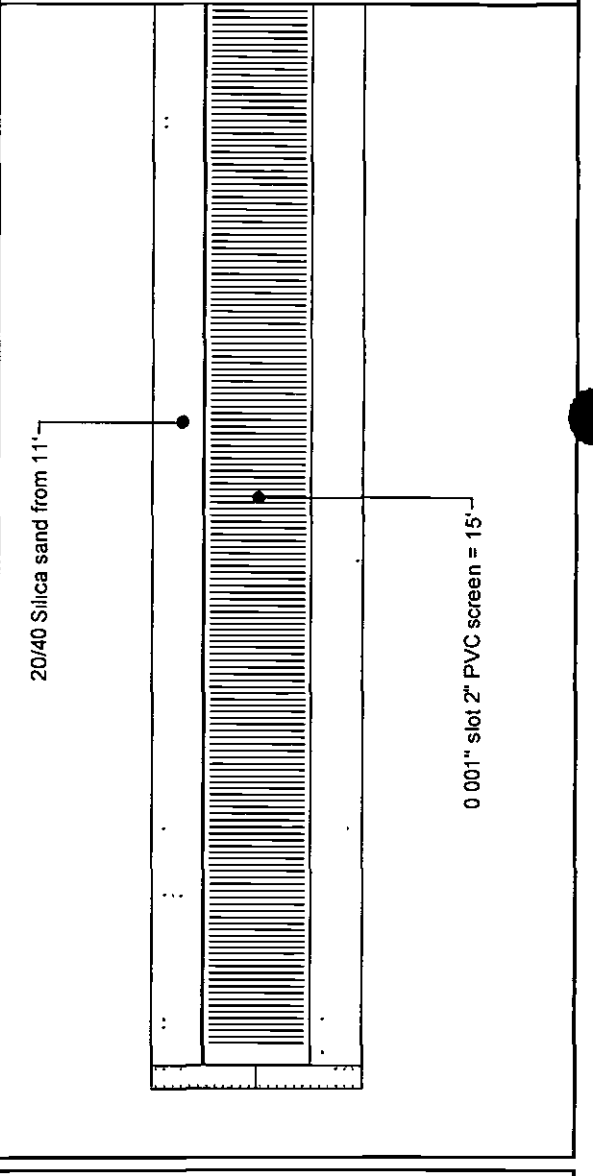
Well ID: WHGLTA033

HYDRO GeoLogic INC.

Project No: AFC00115BBC
Project: NASFWJRB
Client: AFCEE
Location: SWMU-36
Date: 5/15/00

Engineer: Brad Nielson
Northing: 6964665 24
Easting: 2299565 05
Surface Elevation: 581 75
Elevation TOC:

SUBSURFACE PROFILE					SAMPLE		Well Completion Details
Depth	Symbol	Description	Elev.	ASTM	PID (ppm)	Moisture	
			-15 0		65 9	Wet	
15–16		*Clayey silt* Fine grained, few calcareous material, drier with depth, gastropods at 17'	-17 0	MLCL	59 1	Saturated	
17–18		*Clayey shale* Soft, weathered, many small fossils (<5mm diameter)	-19 0	CM	Wet	8 5	
19–20		*Clayey shale* Limey, soft, many calcareous fragments	-21 0	CM	8 9	Saturated	
21–22		*Sand* Gray, fine grained, tan/gray/reddish brown, soft, well sorted, few calcareous material, drier with depth, no odor	-23 0		2 2	Wet	
23–24		*Sand* Gray/tan, homogeneous, well sorted, few calcareous material, soft, no odor, iron staining	-25 0		0	Wet	
25–26		*Gravel* Orange, poorly sorted, no odor, > 10cm in diameter	-27 0	GP	0	NA	
27–28		*Bedrock* Top of Walnut	-28 3	CM	0	NA	
29		End of Borehole					



Drilled By: Geo Projects/Benny Hinoja

Drill Method: HSA

Drilling Equipment: B-61

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA
(703)478-5186 FAX (703)471-4180

Hole Size: 8"

Total Depth Drilled: 28 3'

Sheet: 2 of 2

Well ID: WHGLTA039

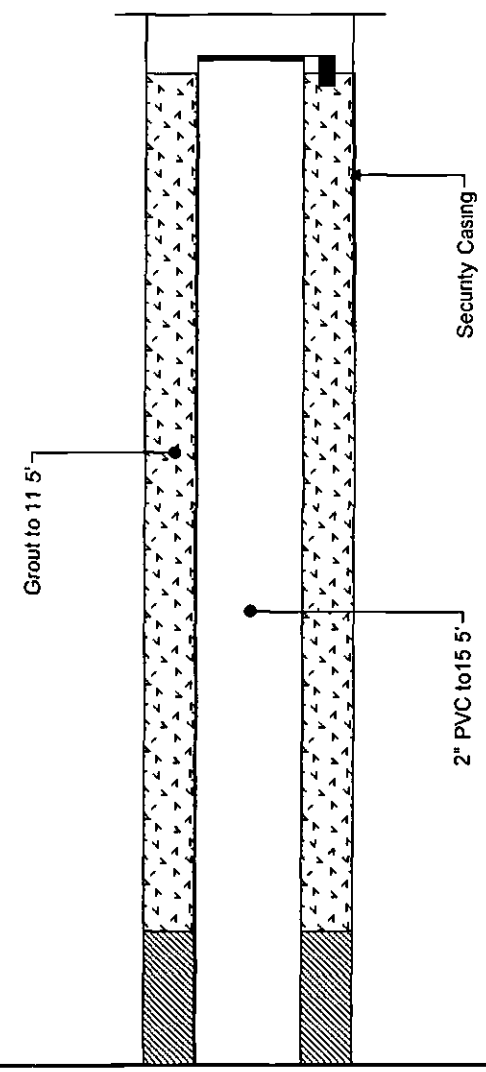
HYDRO GeoLogic INC.

Project No: AFC00115BBC
Project: NASFWJRB
Client: AFCEE
Location: SWMU-51
Date. 5/18/00

Engineer: K Duran
Northing: 6964408 76
Easting: 2299277 71
Surface Elevation: 590 21
Elevation TOC

SUBSURFACE PROFILE					SAMPLE	
Depth	Symbol	Description	Elev.	ASTM	PID (ppm)	Moisture
-1			1 0			
0		Ground Surface	0 0			
		Surface soil Organic, rootlets	-0 5			
1		*Clay* 7 5 YR 4/6 Brown, impacted with many pebbles, chalky, hard, brittle, no odor	-2 0	CL		Dry
2		*Silty clay* Dark brown, non-plastic, no chalky material	-4 0	CLML		Dry
4		*Silty clay* White chalky material, pebbles > 1cm in diameter throughout	-5 0	CLML		Dry
5		*Sandy silt* Brown, large cobble (>5cm), many pebbles, no odor	-7 0	ML	398	Dry
7		*Clay* Solid, heavy, soft, few calcareous material, no odor	-9 0	CL	767	Moist
9		*Clay* Heavy, gray laminations throughout	-10 0	CL		Moist
10		*Sandy silt* Tan/Brown, heavy, few calcareous materials	-12 0	ML	126	Moist
12		*Sandy silt* Brown, iron deposits, non-plastic, no odor				
13						

Well Completion Details



Drilled By: Geo Projects/Benny Hinoja

Drill Method: HSA

Drilling Equipment: B-61

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA
(703)478-5186 FAX (703)471-4180

Hole Size: 8"

Total Depth Drilled: 25 5'

Sheet: 1 of 2

671 380

Well ID: WHGLTA039

HYDRO GeoLogic INC.

Project No: AFC00115BBC
Project: NASFWJRB
Client: AFCEE
Location: SWMU-51
Date: 5/18/00

Engineer: K Duran
Northing: 6964408 76
Easting: 2299277 71
Surface Elevation: 590 21
Elevation TOC:

SUBSURFACE PROFILE					SAMPLE		Well Completion Details
Depth	Symbol	Description	Elev.	ASTM	PID (ppm)	Moisture	
14				ML		Moist	Bentonite seal = 11 5'-13 5'
						Moist	
15			-15 0				
		Sand and gravel Gray/white, chalky, iron staining, friable, large cobbles		SP		Dry	
16							
17			-17 0				
		Sand 7 5 YR 6/4 Yellow, yellow staining, limey, many cobbles, no odor		SP	160	Moist	
18							
19			-19 0				
		Sand Tan/yellow, plastic, white calcareous material throughout	-20 0	SP	0	Moist	20/40 Silica sand from 13 5'
20		*Silty Sand* 7.5 YR 6/6 Tan/yellow, 20% silt, soft, plastic, many calcareous nodules, no odor		SP	0	Moist	0 001" slot 2" PVC screen = 10'
21							
22			-22 0				
		Sand Soft, mixture of gravel and cobbles, not sorted, plastic		SP	0	Wet	
23							
24			-24 0				
		Sand Tan/yellow, few calcareous material, soft, cobbles > 5cm in diameter, no odor, Refusal at top of Walnut		SP	0	Saturated	
25			-25 5				
		End of Borehole					
26							
27							

Drilled By: Geo Projects/Benny Hinoja

Drill Method: HSA

Drilling Equipment: B-61

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA
(703)478-5186 FAX (703)471-4180

Hole Size: 8"

Total Depth Drilled: 25 5'

Sheet: 2 of 2

TAB

APPENDIX F

APPENDIX F

DATA VALIDATION REPORTS

Site: NAS Fort Worth JRB, TX

SDG #. 9906G678

Laboratory STL-Chicago

Date: 6/9/00

HydroGeoLogic, Inc. Reviewer: Ken Rapuano

Validation Criteria: NAS Fort Worth JRB Basewide QAPP, February 1998

Data package 9906G678, containing analytical results for Appendix IX VOCs, Appendix IX SVOCs, Appendix IX metals, and TPH by TX1005 was validated at Level IV by IT Corporation. HydroGeoLogic's project chemist compared the Level IV review results to the Level III review conducted by EDS. There were some differences noted between the Level III and Level IV reviews, however these were not caused by a difference in review level but by differences in interpretation of the QAPP and validator's judgment. The differences are discussed below by analytical method. There is good overall agreement between the Level III and Level IV data reviews for this round of sampling, and the data reported with Level III qualifiers meet the project DQOs for definitive data.

Appendix IX VOCs

1) IT rejected several compounds that are listed in Appendix A of the QAPP due to initial calibration correlation coefficient less than 0.995. This is not an initial calibration criterion for the affected compounds and no data are qualified.

2) IT rejected several compounds that are listed in Appendix A of the QAPP due to percent differences greater than 25% in continuing calibration verifications. This is not a continuing calibration criterion for the affected compounds and no data are qualified.

3) EDS rejected 1,1-dichloroethene based on low RRF; however, 1,1-dichloroethene is not an SPCC and this qualification is not necessary. The R-qualifiers should be removed for this compound in samples BHGLSWMU31002-01, BHGLSWMU31002-02, BHGLSWMU31002-03, and BHGLSWMU31002-04.

Appendix IX SVOCs

1) Although it was noted as present in the equipment blank, IT did not qualify bis(2-ethylhexyl)phthalate detections as field artifacts in samples BHGLSWMU31002-01 and BHGLSWMU31001-01.

2) EDS did not note that the 2,4-dinitrophenol initial calibration was out of control (both correlation coefficient and %RSD). The results should be rejected for this compound in all soil samples in this SDG.

3) IT rejected several compounds that are listed in Appendix A of the QAPP due to percent differences greater than 25% in continuing calibration verifications. This is not a continuing calibration criterion for the affected compounds and no data are qualified.

Appendix IX Metals

1) IT rejected antimony, arsenic, beryllium, cobalt, and nickel in EB060799 due to negative values in the preparation blank. These results only required UJ qualification because the absolute values of the negative drift for these elements was not greater than the PQL.

2) IT and EDS J-qualified arsenic detections in BHGLSWMU31001-02, BHGLSWMU31002-01, and BHGLSWMU31002-02 due to a negative value in the preparation blank. These results only required F qualification because the arsenic detection in each of these samples was not greater than the PQL.

3) Although the field duplicate results had an RPD out of control for chromium, the results are close enough to the PQL that the 4xPQL rule should have been applied instead. EDS qualified the chromium results for BHGLSWMU31001-04 and DUP04 as estimated in error.

TPH

1) Samples BHGLSWMU31002-01, BHGLSWMU31002-02, BHGLSWMU31002-03, and BHGLSWMU31002-04 were extracted on day 14. EDS erroneously qualified these results as estimated, but they can be used without qualification.

Site: NAS Fort Worth JRB, TX

SDG #: 9905G510

Laboratory: STL-Chicago

Date: 6/9/00

HydroGeoLogic, Inc. Reviewer: Ken Rapuano

Validation Criteria: NAS Fort Worth JRB Basewide QAPP, February 1998

Data package 9905G510, containing analytical results for the full suite of Appendix IX analytes, TPH by TX1005, ethylene glycol, and soil pH, was validated at Level IV by IT Corporation. HydroGeoLogic's project chemist compared the Level IV review results to the Level III review conducted by EDS. There were some differences noted between the Level III and Level IV reviews, however these were not caused by a difference in review level but by differences in interpretation of the QAPP and validator's judgment. The differences are discussed below by analytical method. There is good overall agreement between the Level III and Level IV data reviews for this round of sampling, and the data reported with Level III qualifiers meet the project DQOs for definitive data.

Appendix IX VOCs

1) IT rejected several compounds that are listed in Appendix A of the QAPP due to initial calibration correlation coefficient less than 0.995. This is not an initial calibration criterion for the affected compounds and no data are qualified.

2) IT rejected several compounds that are listed in Appendix A of the QAPP due to percent differences greater than 25% in continuing calibration verifications. This is not a continuing calibration criterion for the affected compounds and no data are qualified.

3) Although it was noted as present in the equipment blank, IT did not qualify the toluene result as a field artifact in samples BHGLSWMU36002-01.

Appendix IX SVOCs

1) Although it was noted as present in the equipment blank, IT did not qualify the bis(2-ethylhexyl)phthalate detections as field artifacts in three samples.

2) IT did not note that the benzyl alcohol initial calibration was out of control (both correlation coefficient and %RSD).

3) IT rejected several compounds that are listed in Appendix A of the QAPP due to percent differences greater than 25% in continuing calibration verifications. This is not a continuing calibration criterion for the affected compounds and no data are qualified.

4) EDS incorrectly identified the sample with a low surrogate recovery. As no qualification was required, there is no impact on the data.

Appendix IX Metals

1) Neither validator validated cadmium results correctly. All cadmium detections in soil samples should be considered laboratory artifacts based on CCB results and qualified "PQL UJ". IT U-qualified only those results bracketed by the out of control CCB; EDS did not qualify based on this CCB at all.

2) EDS U-qualified the tin detection in sample BHGLSWMU36002-03; however, all tin detections in soil samples in this SDG should be U-qualified.

3) Although the field duplicate results had an RPD out of control for beryllium, the results are close enough to the PQL that the 4xPQL rule should have been applied instead. EDS qualified the beryllium results for BHGLSWMU31003-02 and DUP13 as estimated in error. The same error occurred with cadmium; however, the cadmium qualification is superseded by the CCB issue above.

Appendix IX Pesticides/PCBs

1) EDS did not R-qualify the kepone results for all samples due to initial calibration out of control.

2) IT notes the kepone and 4,4'-DDD continuing calibrations are out of control; however, as this is only for the secondary column and there are no detections, there should be no qualification of the data.

Appendix IX Organophosphorus Pesticides

1) IT R-qualified famphur due to continuing calibrations percent differences out of control; however, as this is only for the secondary column and there are no detections, there should be no qualification of the data.

TPH

1) IT did not note that sample EB052499 was extracted out of holding time.

Dioxins/Furans, Ethylene Glycol, Appendix IX Herbicides, Soil pH, Sulfide, and Cyanide

No discrepancies noted.

DATA VALIDATION SUMMARY REPORT

PROJECT:	NAS Ft Worth-DO 15
LABORATORY:	Severn Trent Laboratories (Pensacola, Chicago, and Philadelphia)
REVIEWERS:	George Csordas/Teresa Carleton/Ida Bennett/ Bruce Rohrbach
SDGS:	9905G510, 9906G678
MATRIX:	Soils, Waters
VALIDATION LEVEL:	IV
ANALYSES, METHODS:	Volatile Organic Compounds, SW846 Method 8260B Semivolatile Organic Compounds, SW846 Method 8270C Total Petroleum Hydrocarbons (TPH), Method TNRCC 1005 Ethylene Glycol by GC/FID, STL-PN SOP 641 Pesticides/Polychlorinated Biphenyls (PCBs), SW846 Method 8080 Organo-Phosphorus (O-P) Pesticides, SW846 Method 8141 Dioxins and Dibenzofurans, SW846 Method 8280 Inorganics, SW846 Methods 6010B, 7740, 7470/7471 Chlorinated Herbicides, SW846 Method 8150 Wet chemistry, SW846 Method 9010, 9045C, 9030A

INTRODUCTION

Twenty-five (25) soil samples and four (4) field blanks (listed in Tables 1 and 2) were submitted to two Severn Trent Laboratories for the analyses listed in the header. The samples were validated and reviewed in accordance with the following

- "Final Basewide Quality Assurance Project Plan, NAS Fort Worth JRB, Texas," dated February 1998,
- "Laboratory Data Validation Functional Guidelines for Evaluating Organics Analyses" (EPA, 1994)
- "Laboratory Data Validation Functional Guidelines for Evaluating Inorganic Analyses" (EPA, 1994)

Table 1. Listing of Samples in Delivery Order 15, SDG 9905G510

671 388

Field sample ID	Lab sample ID 9905G510 prefix	Sampling date	VOC analysis date	SVOC prep, analysis dates	TPH prep, analysis dates*	Ethylene glycol prep, analysis dates*	Pesticides/ PCB prep, analysis dates	O-P Pesticides prep, analysis dates	Dioxin, Furans prep, analysis dates	ICP/GFAA prep, analysis dates	Mercury prep, analysis dates	Herbicide Prep, analysis dates	Wet chemistry analysis dates
BHGLSWMU prefix (all but DUP)													
36001-01	001	5/24/99	6/3/99	6/7, 6/14/99	(001) 6/2/99	(001) 6/7/99	-	-	-	6/14, 6/20, 6/25, 6/15-6/17/99	5/27/99	-	pH 5/28/99
36001-02	002		6/4/99	6/7, 6/15/99	(002) 6/2, 6/3/99	(002) 6/7/99							
36001-03	003			6/7, 6/10/99	(003) 6/2, 6/3/99	(003) 6/7/99							
36001-04	004			6/7, 6/10/99	(004) 6/2, 6/3/99	(004) 6/7/99							
36002-01	005		6/6/99	6/7, 6/14/99	(005) 6/2, 6/3/99	(005) 6/7/99							
36002-02	006		6/6/99	6/7, 6/10/99	(006) 6/2, 6/3/99	(006) 6/7/99							
36002-03	007		6/4/99		(007) 6/2, 6/3/99	(007) 6/7/99							
36003-01	008		6/6/99		(008) 6/2, 6/3/99	(008) 6/7/99							
36003-02	009				(009) 6/2, 6/3/99	(009) 6/7/99							
36003-03	010			6/7, 6/14/99	(010) 6/2, 6/3/99	(010) 6/7/99							
DUP13	011			6/7, 6/10/99	(011) 6/2, 6/3/99	(011) 6/7/99							
BHGLAOC0 prefix													
15001-01	012	5/24/99	6/7/99	6/7, 6/14/99	-	-	6/4, 6/11/99	6/7, 6/12/99	6/3, 6/16/99	6/14, 6/20, 6/25, 6/15-6/17/99	5/27/99	6/4, 6/9/99	CN 6/2, 6/3/99 S 5/29/99
15001-02	013		6/6/99	6/7, 6/10/99			6/4, 6/10/99						
15001-03	014		6/6/99										
15001-04	015		6/7/99										
15001-05	016		6/7/99					6/7, 6/12/99, RL 6/14, 6/16/99				6/4, 6/10/99	
EB052499	017	5/24/99	6/4/99	5/28, 6/1/99	(012) 6/2, 6/3/99	(012) 6/7/99	5/28, 6/9/99	5/28, 6/10/99	5/28, 6/1699	6/10 6/17, 6/17, 6/11, 6/18/99	6/2, 6/3/99	5/28, 6/9/99	CN 6/2, 6/3/99 S 5/29/99
TB052499	018			-	-	-	-	-	-	-	-		-

Where * = lab ID numbers in ( ) are STL-Pensacola IDs with prefix 905561

Table 2. Listing of Samples in Delivery Order 15, SDG 9906G678

Field sample ID *BHGLSWMU prefix***	Lab sample ID 9906G678 prefix	Sampling date	VOC analysis date	SVOC prep, analysis dates	TPH prep, analysis dates*	ICP/GFAA prep, analysis dates	Mercury prep, analysis dates	pH
31001-01	001	6/7/99	6/14/99	6/15/99, 6/28/99	(001) 6/22, 6/26/99	7/15, 7/16, 7/17, 7/20/99	6/16/99	-
31001-02	002				(002) 6/22, 6/26/99			
31001-03	003			6/15/99, 6/25/99	(003) 6/22, 6/26/99			
31001-04	004				(004) 6/22, 6/26/99			
DUP04	005				(005) 6/22, 6/26/99			
31002-01	008	6/8/99	6/15/99	6/15/99, 6/28/99	906230-001* 6/22, 6/26/99			
31002-02	009				906230-002* 6/22 6/26/99			
31003-03	010			6/15/99, 6/25/99	906230-003* 6/22, 6/26/99			
31003-04	011				906230-004* 6/22, 6/26/99			
EB060799 ^	007	6/7/99	6/16/99	6/10, 6/18/99	(006) 6/11, 6/15/99	6/23, 6/29, 6/24, 6/25, 6/26/99	6/17/99	6/7/99
TB060799	006			-	-	-	-	-

** all with prefix except DUP, EB, and TB samples
* STL Pensacola lab numbers in ( ) with prefix 906215
* STL Pensacola lab numbers
^ pH analyzed 6/8/99

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6711390

VOLATILE ORGANIC COMPOUNDS BY SW846 METHOD 8260B

I-Sample Documentation/Holding Times

Both SDGs:

The validated samples were received by STL-Chicago in good condition in coolers chilled The samples met the holding time criteria from sample collection analysis except for BHGLAOC15001-01, -04, and -05. The holding time was exceeded by <1.5 hours, no qualifiers were assigned.

II-Blank Analysis

Both SDGs: Blanks are evaluated to determine the presence and magnitude of contamination problems resulting from field and laboratory activities There were no contaminants reported in the prep blanks

There were no contaminants reported in the trip blanks No action was taken.

The equipment blank, EB052499, had three reported contaminants acetone, methylene chloride, and toluene. No action was taken, because the samples reported nondetects for the compounds.

III-Instrument Performance Check Tune Standard

Both SDGs: The analysis of the instrument performance check solution. bromofluorobenzene (BFB), must be performed at the beginning of each 12-hour period during which standards and/or samples are analyzed The tunes met the ion abundance criteria No qualifications were required.

IV-Initial Calibration

Initial calibration is performed to ensure that the instrument is capable of producing acceptable qualitative and quantitative data. The initial calibrations were reviewed in accordance with the QAPP.

SDG 9905G510: No qualifiers were assigned to the compounds using the average relative response factor; there were no outliers However, of the compounds using a curve fit. the following compounds were R-qualified, per the QAPP, for correlation coefficients <0.995.

Compounds R-qualified	Samples affected
Acetone 2-butanone methacrylonitrile isobutanol methylmethacrylate	All samples in SDG except EB and TB

SDG 9906G678: No qualifiers were assigned to the compounds using the average relative response factor; there were no outliers However, of the compounds using a curve fit, the following compounds were R-qualified, per the QAPP, for correlation coefficients <0 995

Instrument Compounds R-qualified	Samples affected
GCL-2 Isobutanol. pentachloroethane	31002-01DL
GCL-6 Acrylonitrile, 2-butanone propionitrile. Pentachloroethane. 1.2-dibromo-3-chloropropane	TB EB
GCL-9 Acetone, methacrylonitrile. isobutanol. methylmethacrylate	All samples in SDG except EB. TB and DL

V-Continuing Calibration

Continuing calibration standards and the surrogates were analyzed at the beginning of each 12-hour analytical run.

SDG 9906G678: No qualifiers were assigned to the compounds using the average relative response factor, there were no outliers However, of the compounds using a curve fit, the following compounds were R-qualified. per the QAPP, for having %D >25%:

Instrument Compounds R-qualified	Samples affected
GCL-2 Acrolein, acetone. carbon disulfide. acetonitrile. Acrylonitrile. vinyl acetate, 2-butanone Propionitrile, 4-methyl-2-pentanone, 2-hexanone.Dibromochloromethane. 1 1 2,2-tetrachloroethane 1,2,3-trichloropropane 1,2-dibromo-3-chloropropane bromochloromethane [Note acetone was J-qualified instead of R-qualified because it was a detect]	31002-01DL
GCL-6 Dichlorodifluoromethane. carbon disulfide.Vinyl acetate. 2-chloro-1.3-butadiene 2-butanone 4-methyl-2-pentanone*. 2-hexanone*, pentachloroethane*	TB. EB
GCL-9 Dichlorodifluoromethane, bromomethane. Trichlorofluoromethane. acrolein. acetone. Vinyl acetate 2-butanone, propionitrile,4-methyl-2-pentanone. 2-hexanone. 1,2-dibromo-3-chloropropane	BHGLSWMU31001-01.-02 -03.-04. DUP04
GCL-9 acrolein. acetone, carbon disulfide, Vinyl acetate. methacrylonitrile methylmethacrylate, ethylmethacrylate	BHGLSWMU 31002-01, -02 -03. -04
GCL-9 Dichlorodifluoromethane, acetone carbon disulfide.Acetonitrile. acrylonitrile vinyl acetate 2-butanone.Propionitrile. 4-methyl-2-pentanone ethylmethacrylate 2-hexanone	BHGLSWMU 31002-01RE

* no continuing calibration data in package, data for these compounds J/UJ qualified

SDG 9905G510: No qualifiers were assigned to the compounds using the average relative response factor, there were no outliers. However, of the compounds using a curve fit. the following compounds were R-qualified, per the QAPP, for having %D >25%.

Compounds R-qualified	Samples affected
Dichlorodifluoromethane, acrolein. acetonitrile Acrylonitrile. vinyl acetate. 2-butanone. Propionitrile	36001-01
Acetonitrile, acrolein. acetone acrylonitrile propionitrile. trans-1,4-dichloro-2-butene.ethylmethacrylate. 2-chloro-1 3-butadiene	TB. EB
Dichlorodifluoromethane, trans-1,4-dichloro-2-butene. vinyl acetate,	36001-02. -03, -04 36002-03
Dichlorodifluoromethane, carbon disulfide. Vinyl acetate, 2-butanone, 2-hexanone	36002-01, 02 36003-01, -02. -03 DUP13 15001-02 -03
Dichlorodifluoromethane, acrolein, acetone,carbon disulfide. iodomethane, acetonitrile,3-chloropropene, vinyl acetate. 2-chloro-1,3-butadiene 2-butanone isobutanol, methacrylonitrile, methylmethacrylate, 4-methyl-2-pentanone 1 1.2-trichloroethane. 2-hexanone, trans-1 4-dichloro-2-butene	15001-01, -04 -05

VI-Surrogates Spikes

SDG 9906G678: Surrogate spike recoveries (%R) for the four volatile compounds met the criteria listed in the QAPP. No qualifiers were assigned.

SDG 9905G510: Surrogate spike recoveries (%R) for the four volatile compounds met the criteria listed in the QAPP except for samples EB052499 and TB052499 Each had a high recovery for dibromofluoromethane. Any detects would be J-qualified, however, no action was taken, because there were no detects for these two samples

VII-Matrix Spike/Matrix Spike Duplicate (MS/MSD)

SDG 9906G678: No MS/MSD was analyzed with this sample set

SDG 9905G510: Sample BHGLSWMU-36001-02 was analyzed as MS/MSD sample. There were no outliers Several samples had no control limits, no action was taken

VIII-Laboratory Control Samples/Samples Duplicates

The laboratory control samples were evaluated to determine the analytical method's accuracy The recoveries were within the control limits listed in the QAPP except for 1,1-dichloroethene in SDG 9906G678 (low recovery) and dichlorodifluoromethane in SDG 9905G510 Sample BHGLSWMU-31002-01DL had 1,1-dichloroethene J- (for detects) or R- (for nondetects) qualified; samples BHGLSWMU-36001-01, -02, -03, and -04 and BHGLSWMU-36002-03 had detects for dichlorodifluoromethane J-qualified There was no action on the latter, there were no detects.

IX-Internal Standards (IS)

Internal standards performance criteria ensure that instrument's sensitivity and response are stable during every analytical run. The areas and retention time for the four internal standards spiked into the samples, standards, and associated quality control samples were within the performance criteria except for samples listed in the table below:

Sample ID	IS 1	IS2	IS3	IS4*	Action
BHGLSWMU31002-01RE			low	low	J/UJ- however, RE data not used, therefore no action
BHGLAOC15001-02				low	J/UJ associated compounds
BHGLAOC15001-03				low	J/UJ associated compounds

*IS 4 = 1,4-dichlorobenzene-d4

X-Field Duplicates

Both SDGs: There were no qualifiers assigned because of poor correlation between the original and field duplicate samples

XII-Quantitation Verification

The analytical results were verified through a review of the relative retention times and the chromatograms. Compounds were F-flagged if the result was between the reporting limit, RL, and the method detection limit, MDL. Detects accepted without qualification were assigned "=". Data that should not be used because more acceptable data are present in a dilution/reanalysis run were Z-qualified. The validator determined which data were more "acceptable" based on dilutions made, reporting limits, and other quality issues. Tentatively identified compounds (TICS) were T-flagged in accordance with the QAPP

SEMIVOLATILE ORGANIC COMPOUNDS BY SW846 METHOD 8270C

I-Sample Documentation/Holding Times

The validated samples were received by STL-Chicago in good condition and within temperature limits. The samples met the holding time criteria of 7 days (for waters) and 14 days (soils) from sample collection to extraction, and 40 days from extraction to analysis; no qualifiers were assigned

II-Blank Analysis

Blanks are evaluated to determine the presence and magnitude of contamination problems resulting from field and laboratory activities.

Both SDGs: No target compounds were detected in the method blanks associated with the samples No qualifiers were applied. There were tentatively identified compounds (TICS) reported for the method blanks. The 5X rule was applied and the TIC was U-qualified if <5X the concentration found in the method blank

SDG 9906G678: Three target compounds (diethylphthalate, di-n-butylphthalate, and bis(2-ethylhexyl)phthalate) and two TICS were reported in EB060799. No action was taken, because the samples did not have reported concentrations for these compounds

SDG 9905G510: Three target compounds (acetophenone, di-n-butylphthalate, and bis(2-ethylhexyl)phthalate) and two TICS were reported in EB052499 No action was taken, because the samples did not have reported concentrations for these compounds

III-Instrument Tune

Both SDGs: Decafluorotriphenylphosphine (DFTPP) tunes were correctly run prior to any initial and/or continuing calibration. The tunes met the minimum acceptance criteria specified in the QAPP and the method for ion abundance. The samples/standards associated with each tune were analyzed within a 12-hour period following the tune No qualifiers were assigned

IV-Initial Calibration

Initial calibration of the instrument is performed to ensure that it is capable of producing acceptable qualitative and quantitative data.

SDG 9905G510: The initial calibrations were within the acceptance criteria. No qualifiers were assigned for outliers associated with the initial calibrations

SDG 9906G678: The compound, 2,4-dinitrophenol, was R-qualified for BHGLSWMU31001-01, -02, -03, -04, DUP04, BHGLSWMU 31002-01, -02, -03, and -04 because the correlation coefficient was <0 995 There were no other outliers.

V-Continuing Calibration

Continuing calibration standards were analyzed at regular intervals

SDG 9905G510: The following table lists the samples and associated compounds that were qualified because of high percent difference/drift:

Instrument Compounds R-qualified	Samples affected
GCL1 n-nitrosomethethylamine,N-nitrosodiethylamine 1-naphthylamine. 2-naphthylamine. sym-trinitrobenzene. diallate 3.3'-dimethylbenzidine hexachlorophene	EB052499
GCL4 2,4,5-trichlorophenol, benzyl alcohol, n-nitrosomethethylamine, N-nitrosodiethylamine. n-nitrosomorpholine, n-nitrosopiperdine, a,a-dimethylphenethylamine 1,4-naphthoquinone diallate 2-sec-butyl-4,6-dinitrophenol. 2-acetylaminofluorene	BHGLSWMU 36001-03, -04 BHGLSWMU 36002-02. -03 BHGLSWMU 36003-01. -02 BHGLAOC0 15001-02. -03. -04. -05
GCL1 n-nitrosomethethylamine N-nitrosodiethylamine n-nitrosopiperdine, a,a-dimethylphenethylamine. 2-naphthylamine, sym-trinitrobenzene. diallate, 4-nitroquinoline-1-oxide hexachlorophene	BHGLAOC0 15001-01 BHGLSWMU 36003-03 BHGLSWMU 36002-01 BHGLSWMU 36001-01
GCL4 1 4-dioxane, a,a-dimethylphenethylamine. p-phenylenediamine 1,4-naphthoquinone 1-naphthylamine. 2-naphthylamine. 4-nitroquinoline-1-oxide methapyrilene hexachlorophene	BHGLSWMU 36001-02

SDG 9906G678: The following table lists the samples and associated compounds that were qualified because of high percent difference/drift:

Instrument Compounds R-qualified	Samples affected
GCL4 4-nitroquinoline-1-oxide, n-nitrosomethethylamine, 1-naphthylamine, 2-naphthylamine, 1 4-naphthoquinone a,a-dimethylphenethylamine	EB060799
GCL4 n-nitrosomethethylamine isosafrole 1-naphthylamine, 2-naphthylamine. methapyrilene 1,4-naphthoquinone	BHGLSWMU 31001-03 -04 DUP04 BHGLSWMU 31002-03 -04
GCL4 a a-dimethylphenethylamine. isosafrole 1,4-naphthoquinone, 1-naphthylamine, 2-naphthylamine 4-nitroquinoline-1-oxide. 2-acetylaminofluorene 3-methylchloanthrene	BHGLSWMU 31002-01. -02 BHGLSWMU 31001-01 -02

VI-Surrogate Spike

SDG 9906G678: Surrogate spike recovery (%R) for the surrogates met the criteria on the report form. No action was taken on these samples.

SDG 9905G510: Sample BHGLSWMU36001-01 had one surrogate out. Criteria allow two outlier compounds for any one fraction, no action was required.

VII-Matrix Spike/Matrix Spike Duplicate (MS/MSD)

SDG 9906G678: Sample BHGLSWMU 31001-01 was used as the MS/MSD for this SDG The compound, 4-chloroaniline, was J/UJ qualified for all samples in the SDG because of low spike recovery. Hexachlorocyclopentadiene and 4-nitroaniline had detects J-qualified for high RPD for all samples in the SDG

SDG 9905G510: Sample BHGLSWMU 36001-02 was used as the MS/MSD for this SDG Fifteen compounds had high RPDs. In accordance with the QAPP, detects for these compounds would be J-qualified if from the same sample site as the parent sample. No action was taken, because no detects were present. Hexachlorocyclopentadiene had a low MSD recovery All BHGLSWMU samples had this compound J/UJ qualified.

Both SDGs had compounds without control limits, no qualifiers were assigned.

VIII-Laboratory Control Samples/Sample Duplicates

The laboratory control samples associated with the samples was evaluated to determine the analytical method's accuracy.

Both SDGs: There were no outliers; no qualifiers were assigned Both SDGs had compounds without control limits, no qualifiers were assigned.

IX-Internal Standards (IS)

Internal standards performance criteria ensure that instrument's sensitivity and response are stable during every analytical run. The areas and retention time for the six internal standards spiked into the samples, standards, and associated quality control samples were within the performance criteria except for samples listed in the table below:

Sample ID	IS 1	IS2	IS3	IS4	IS5	IS6	Action
EB060799	low	low	low	low	low	low	J/UJ all compounds associated with IS1-IS4

There were no other outliers for either SDG.

X-Field Duplicates

Both SDGs: No target compounds had poor correlation between the original sample and its field duplicate. No qualifiers were assigned.

XI-Quantitation Verification

Both SDGs: The analytical results were verified through a review of the relative retention times and the chromatograms Several samples had compounds F-flagged (>MDL, <RL). The tentatively identified compounds (TICS) were T-flagged and J-qualified as estimated. Detects accepted without qualification were assigned "=". Data that should not be used because more acceptable data are present in a dilution/reanalysis run were Z-qualified The validator determined which data were more "acceptable" based on dilutions made, reporting limits, and other quality issues.

TPH BY METHOD TNRCC 1005

I-Sample Documentation/Holding Times
Both SDGs: STL-Pensacola received the chilled samples for TPH
SDG 9906G510: The samples were analyzed within the holding time. No qualifiers were assigned.
SDG 9906G678: Samples BHGLSWMU 31001-01, -02 -03, -04, and DUP04 had all compounds J/UJ qualified for holding time exceedance (>14 days).

II-Blank Analysis
Both SDGs: There were no detects reported in the method s associated with the samples. There were no detects in the equipment blank associated with both SDGs No qualifiers were assigned.

III-Initial Calibration
Both SDGs: The calibrations were performed in accordance with the method and QAPP requirements. No qualifiers were assigned.

IV-Continuing Calibration
Both SDGs: The continuing calibration was within the acceptance criteria listed in the QAPP. No qualifiers were assigned.

V-Surrogate Spike
Both SDGs: The surrogate recoveries were within the control limits. No qualifiers were assigned

VI-Matrix Spike/Matrix Spike Duplicate (MS/MSD)
SDG 9906G510: Sample BHGLSWMU 36001-02 was used as the MS/MSD. The matrix spike had low recoveries, the RPDs were high All the soil samples were J/UJ qualified.
SDG 9906G678: No MS/MSD was analyzed using a sample from the SDG.

VII-Laboratory Control Samples/Samples Duplicates
Both SDGs: The recoveries for the laboratory control samples were within the control limits. No qualifiers were assigned.

VIII-Field Duplicates
SDG 9906G510: The field duplicate had good correlation with the original sample. No qualifiers were assigned.
SDG 9906G678: No field duplicate was submitted with this SDG.

IX-Quantitation Verification
Both SDGs: Data are accepted as qualified, based on the information provided.

INORGANICS BY SW846 METHODS

I-Sample Documentation/Holding Times

Both SDGs: Most of the samples were received in good condition in coolers within the 2-6 degrees Centigrade (°C) temperature range. There was one cooler that was received at 6.8 deg C. It was not identified on the custody papers; no qualifiers were assigned The samples met the holding time criteria from sample collection to analysis. no qualifiers were assigned

II-Blank Analysis

Blanks are evaluated to determine the presence and magnitude of contamination problems resulting from field and laboratory activities

Method Blanks:

SDG 9906G678: Sample EB060799. Antimony, arsenic, beryllium, cobalt, and nickel had non-detects R-qualified because of negative values (per QAPP) Copper and zinc were U-qualified Samples BHGLSWMU-31001-02, 31002-01, 31002-02 had arsenic UJ/R qualified for blank contamination and negative values. All the samples had tin U-qualified Samples BHGLSWMU-31001-01, 31002-01, 31002-03 had silver U-qualified for blank contamination.

SDG 9905G510: Sample EB052499 had arsenic, cadmium, nickel, and tin (all nondetects) R-qualified for negative blank values. Copper, vanadium, and zinc were U-qualified for blank contamination. The following table presents the elements with blank contamination and affected samples

Contaminant	Affected samples	Action
Arsenic	BHGLSWMU-36001-04, BHGLAC0 15001-03 -05	U-qualified J-qualified for negative blank value
Beryllium	BHGLSWMU-36001-04, BHGLAC0 15001-04 -05	U-qualified J-qualified for negative blank value
Cadmium	BHGLSWMU-36001-01 - 04, 36002-01 - 03 36003-02 -03 DUP13, BHGLAC0 15001-02 - 05	U-qualified J-qualified for negative blank value
Tin	All samples	U-qualified

Calibration Blanks:

Both SDGs: No U-qualifiers were assigned to the samples because of calibration blanks The concentrations reported were U-qualified as the result of the method blank or the sample concentrations were >5X the blank concentrations

Field Blanks:

SDG 9906G678: There were no qualifiers assigned because of equipment blank contamination. The detects in the equipment blank were U-qualified as the result of the method blank.

SDG 9905G510: Barium was a reported detect. There were no qualifiers assigned, however, because the sample concentrations were >5X the blank concentration.

III-Initial Calibration

Both SDGs : Initial calibration of the instruments is required to ensure that they are capable of producing acceptable qualitative and quantitative data. The initial calibrations for the ICP, graphite furnace, and cold vapor methods were performed in accordance with the criteria specified in the QAPP. No qualifiers were assigned.

IV-Continuing Calibration

Both SDGs : Continuing calibration verification recoveries were within the acceptance criteria No action was required.

V-Interference Check Solution (ICS)
Both SDGs : Recoveries were within the acceptance criteria (80-120%) No qualifiers were assigned

VI-Matrix Spike/Matrix Spike Duplicate (MS/MSD)
SDG 9906G678: There was no MS/MSD analyzed in this SDG.
SDG 9905G510: Sample BHGLSWMU 36001-02 was analyzed as MS/MSD. Low recoveries were received for antimony, copper, lead, selenium, and silver. All the BHGLSWMU samples in this SDG had all but one of these elements J/UJ qualified. No action was taken on lead because the sample concentration was >4X the spike concentration Lead detects were J-qualified, however, for high RPD

VII-Laboratory Control Sample/ Duplicates (LCS/LCSD)
Both SDGs : The recoveries were within the acceptance range; no qualifiers were assigned.

VIII-Field Duplicates
Both SDGs : Field duplicates were submitted with each SDG. There were no qualifiers assigned to the samples, the results were within the acceptance criteria specified in the QAPP.

IX. Serial Dilution
Both SDGs : No serial dilutions were performed on these samples.

X. Graphite Furnace Analyses
Both SDGs : Graphite furnace atomic absorption (GFAA) techniques were used for elements in each SDG Many of the spike recoveries were outside of the control limits. No Method of Standard Addition (MSA) was performed. therefore, the following metals were J/UJ qualified for the listed samples

Elements Qualified	Affected Samples
Silver	BHGLSWMU- 36001-01, -02 -03, 36002-01, -02 -03 36003-01 -02, -03 DUP13, BHGLAOC 0 15001-01 -02 -03
Selenium	BHGLSWMU- 36001-02 -03 -04 36002-01 -02 -03 36003-01 -02, -03, DUP13 BHGLAOC 0 15001-01 -02 -03 -04, -05
Thallium	BHGLSWMU- 36001-01, -03 -04 36003-01 -02, -03, BHGLAOC 0 15001 -02, -04 -05
Silver	BHGLSWMU 31001-01, -02 -03 -04 DUP04, 31002-01 -02 -03 -04
Selenium	BHGLSWMU 31001-03, -04 -01 DUP04 31002-03, -01 -02 -04
Thallium	BHGLSWMU 31001-01 -02, -03 -04 DUP04 31002-01 -02, -04

XI-Quantitation Verification
The data are acceptable as qualified. Results were F-flagged if the reported value was less than the reporting limit but greater than the instrument detection limit

PESTICIDES/PCBs-SDG 9905G510 only-SW METHOD 8080A

I-Sampling Documentation
Chain-of-custody record indicates that the samples were received in good condition within the acceptable temperature range. No qualifiers were assigned

II-Holding Times
The samples were analyzed within the holding periods between sampling and extraction and extraction and analysis. No qualifiers were assigned.

III-Initial Calibration
Kepone was R-qualified for all soil samples because of %RSD>20% The remaining compounds were within the initial calibration control limits.

IV-Continuing Calibration
Continuing calibration was performed in accordance with the method. Kepone and 4,4'DDD had percent differences (%D)>15% and were J/UJ-qualified for the soil samples

V-Instrument Performance
The percent resolution check mixture was within the acceptance criteria specified in the method The DDT/endrin breakdown did not exceed 20% and the combined breakdown did not exceed 30% for the primary column. No qualifiers were assigned.

VI- Blanks
There were no detects in either the equipment blank or the method blank. No qualifiers were assigned

VII-System Monitoring Compound (surrogate)
Surrogate spike recoveries for the pesticide/PCB analyses met the acceptance criteria stated on the summary form Sample BHGLAOC0 15001-01 had the surrogates diluted out (1:100 dilution) No qualifiers were assigned.

VIII-Matrix Spike (MS)/Matrix Spike Duplicate (MSD)
No MS/MSD was analyzed with these samples No qualifiers were assigned.

IX-Laboratory Control Sample (LCS)
The laboratory control samples analyzed had recoveries within the control limits; no qualifiers were assigned.

X- Field Duplicates
There were no field duplicates in this SDG.

XI-Overall Assessment of the Data
The sample data in this SDG are acceptable as qualified, based on a Level D validation.

671 400

ORGANO-PHOSPHORUS PESTICIDES - SDG 9905G510 only- SW846 METHOD 8141

I-Sampling Documentation
Chain-of-custody record indicates that the samples were received in good condition within the acceptable temperature range. No qualifiers were assigned.

II-Holding Times
The samples were analyzed within the holding periods between sampling and extraction and extraction and analysis except for BHGLAOC015001-05RE. The re-extraction was performed on day 21 after sampling. All compounds for this sample were J/UJ qualified

III-Initial Calibration
There were no qualifications for initial calibration problems.

IV-Continuing Calibration
Famphur was R-qualified for BHGLAOC015001-05RE because %D>15 for the second-source calibrations standard.

V- Blanks
There were no detects in either the method blank or the equipment blank.

VI-System Monitoring Compound (surrogate)
Surrogate spike recoveries for the analyses met the acceptance criteria except for BHGLAOC15001-05 Both surrogates had low recoveries. The sample was re-extracted. All data for this original analytical run were J/UJ qualified.

VII-Matrix Spike (MS)/Matrix Spike Duplicate (MSD)
No MS/MSD was analyzed with this SDG No qualifiers were assigned

VIII-Laboratory Control Sample (LCS)
The LCSs for this SDG had recoveries within the control limits No qualifiers were assigned.

IX- Field Duplicates
There were no field duplicates in this SDG.

X-Overall Assessment of the Data
The sample data in this SDG are acceptable as qualified, based on a Level D validation. Sample BHGLAOC015001-05RE had all compounds Z-qualified. The validator, using professional, determined which data to use. The original data for the above sample reported an unconfirmed thionazin value This value was J-qualified for this reason. It was also F-flagged because it was a detect less than the reporting limit. Detects accepted without qualification were assigned "=".

POLYCHLORINATED DIBENZO-P-DIOXINS/DIBENZOFURANS- SDG 9905G510 only-
SW846 METHOD 8280

I-Sampling Documentation
The samples were received in Philadelphia at 8 degrees Centigrade. Per the QAPP, no qualifiers were assigned.

II-Holding Times
Samples were extracted and analyzed within the holding times. No qualifiers were assigned.

III-Calibrations
The initial and continuing calibrations met the acceptance criteria. No qualifiers were assigned.

IV-Blanks
The method blank and the equipment blank had no reported detects No qualifiers were assigned.

V-Internal Standards
The internal standards met the acceptance criteria. No qualifiers were assigned.

VII-Surrogates
The surrogate recoveries were acceptable; no qualifiers were assigned.

VII-Matrix Spike (MS)/Matrix Spike Duplicate (MSD)
No MS/MSD was analyzed with this SDG.

VIII-Laboratory Control Sample (LCS)
The recoveries for LCS were within the control limits No action was taken

IX-Field Duplicates
There were no field duplicates.

X-Overall Assessment of the Data
The data are acceptable as qualified.

ETHYLENE GLYCOL BY GC/FID-SDG 9905G510 only

I-Sampling Documentation
The samples were received in Pensacola at 2 degrees Centigrade No qualifiers were assigned.

II-Holding Times
Samples were extracted and analyzed within the holding times. No qualifiers were assigned.

III-Calibrations
The initial and continuing calibrations met the acceptance criteria. No qualifiers were assigned.

IV-Blanks
The method blank and the equipment blank had no reported detects No qualifiers were assigned.

V-Surrogates
No surrogates were added, based on available information.

VI-Matrix Spike (MS)/Matrix Spike Duplicate (MSD)
Sample BHGLSWMU 36001-02 was analyzed as the MS/MSD. Recoveries and RPDs were within the control limits; no qualifiers were assigned

VII-Laboratory Control Sample (LCS)
The recoveries for LCS were within the control limits. No action was taken

VIII-Field Duplicates
There was one field duplicate. The identification of the original sample was not provided A laboratory duplicate was analyzed for BHGLSWMU 36001-01, there were no problems, no qualifiers were assigned.

IX-Overall Assessment of the Data
The data are acceptable as qualified.

HERBICIDES-SDG 9905G510 only-SW846 METHOD 8150

I-Sampling Documentation
The samples were received in Chicago at 2-3 degrees Centigrade. No qualifiers were assigned.

II-Holding Times
Samples were extracted and analyzed within the holding times. No qualifiers were assigned.

III-Calibrations
The initial and continuing calibrations met the acceptance criteria. No qualifiers were assigned.

IV-Blanks
No target compounds were reported in the method blank or the equipment blank. No qualifiers were assigned

V-Surrogates
There were no outliers for the one surrogate. No qualifiers were assigned.

VI-Matrix Spike (MS)/Matrix Spike Duplicate (MSD)
There were no MS/MSD analyses performed, no qualifiers were assigned.

VII-Laboratory Control Sample (LCS)
The recoveries for LCS were within the control limits. No action was taken

VIII-Field Duplicates
There was no field duplicate analyzed for herbicides.

IX-Overall Assessment of the Data
The data are acceptable as qualified.

WET CHEMISTRY-CYANIDE, SULFIDE, pH

pH SW846 METHOD 9045C:

Sample EB060799 (SDG 9906G678) was analyzed for pH. There were no quality problems; no qualifiers were assigned.

Samples BHGLSWMU-36001-01-04; 36002-01-03, 360003-01-03, and DUP13 were analyzed for pH. There were no quality problems; no qualifiers were assigned.

CYANIDE:

Six samples in SDG 9905G510 were analyzed for cyanide. There were no quality problems, no qualifiers were assigned.

SULFIDE, SW METHOD 9030A:

Samples BHGLAOC015001-01, -02, -03, -04, -05, and EB052499 were analyzed for sulfide There were no quality problems; no qualifiers were assigned

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TAL METALS & CYANIDE
USEPA SW846 Methods 6010A, 7471 - Level III Review

Site: Naval Air Station Fort Worth - DO15 SDG #: 9905G510

Client: HydroGeoLogic, Inc. Date: September 12, 1999

Laboratory: Severn Trent Laboratories, Chicago, IL Reviewer: Nancy Weaver

Client Sample ID	Laboratory Sample ID	Matrix
BHGLSWMU36001-01	9905G510-001	Soil
BHGLSWMU36001-02	9905G510-002	Soil
BHGLSWMU36001-02MS	9905G510-002MS	Soil
BHGLSWMU36001-02MSD	9905G510-002MSD	Soil
BHGLSWMU36001-03	9905G510-003	Soil
BHGLSWMU36001-04	9905G510-004	Soil
BHGLSWMU36002-01	9905G510-005	Soil
BHGLSWMU36002-02	9905G510-006	Soil
BHGLSWMU36002-03	9905G510-007	Soil
BHGLSWMU36003-01	9905G510-008	Soil
BHGLSWMU36003-02	9905G510-009	Soil
BHGLSWMU36003-03	9905G510-010	Soil
DUP13	9905G510-011	Soil
BHGLAOC015001-01	9905G510-012	Soil
BHGLAOC015001-02	9905G510-013	Soil
BHGLAOC015001-03	9905G510-014	Soil
BHGLAOC015001-04	9905G510-015	Soil
BHGLAOC015001-05	9905G510-016	Soil
EB052499	9905G510-017	Water

Holding Times: All samples were extracted and analyzed within the recommended holding time of 28 days for mercury, 180 days for all other metals, and 14 days for cyanide as specified in Table 5.1.2-1 of the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), February, 1998 No qualifications were required.

Calibration: All initial and continuing calibration verifications exhibited acceptable %R values No qualifications were required.

Method Blanks: The water preparation blank PBW (06/10/99), initial and continuing calibration blanks exhibited contamination for several compounds which warranted the following qualifications. Arsenic, cadmium, nickel, and tin have been qualified (UJ) in sample EB052499 Copper, vanadium, and zinc have been qualified (U) in sample EB052499.

The soil preparation blank PBS (06/14/99), initial and continuing calibration blanks exhibited contamination for several compounds which warranted the following qualifications. Arsenic has been qualified (J) in samples BHGLSWMU36001-04, BHGLAOC015001-03, and BHGLAOC015001-05. Beryllium has been qualified (J) in samples BHGLSWMU36001-04, BHGLAOC015001-04, and BHGLAOC015001-05. Cadmium has been qualified (J/UJ) in all soil samples. Tin has been qualified (U) in sample BHGLSWMU36003-02.

Field and equipment blanks: Equipment blank EB052499 exhibited barium contamination at 0.80 ug/L, however, all associated results are greater than 5X the blank concentration and no qualifications were required.

ICP Interference Check Sample: All % recovery values met the QC acceptance criteria. No qualifications were required.

LCS: The LCS analysis met the QC acceptance criteria of as specified in the QAPP. No qualifications were required.

ICP Serial Dilutions: An ICP serial dilution sample was not analyzed with this data package

Matrix Spike: Matrix spike sample BHGLSWMU36001-02 exhibited low %R values for antimony, copper, selenium, and silver of 28.7%, 41 6%, 63.3%. and 72 6%, respectively. All four compounds have been qualified (J/UJ) in all soil samples.

Matrix Spike Duplicate: Matrix duplicate sample BHGLSWMU36001-02 exhibited acceptable RPD values. No qualifications were required.

Field Duplicates. Field duplicate results are summarized in the following table. Beryllium, cadmium, and lead have been qualified (J) in both samples.

Compound	DUP13 mg/kg	BHGLSWMU36003-02 mg/kg	RPD
Arsenic	3 7	3 9	5
Barium	67 6	80.4	17
Beryllium	0 61	0 86	34*
Cadmium	0.09	0 05	57*
Chromium	18 2	14 2	25
Cobalt	4 4	5 1	15

Compound	DUP13 mg/kg	BHGLSWMU36003-02 mg/kg	RPD
Copper	8 1	10 2	23
Lead	46 7	10 2	128*
Nickel	8 6	10.7	22
Tin	1 5	1 9	24
Vanadium	22 7	26 7	16
Zinc	21.1	25 0	17

Graphite Furnace Atomic Absorption (GFAA) Analysis: Several samples exhibited a postdigestion spike for selenium, silver, and thallium analysis out of control limits (85-115%) and sample absorbance is less than 50% of spike absorbance The laboratory flagged these results (W) and the reviewer further qualified these results (J/UJ).

Compound Quantitation: All results between the MDL and the PQL have been qualified (F)

Comments: The analyses of environmental samples and quality control samples are valid within the constraints identified with the data quality flags as presented in the method blank, matrix spike, field duplicates, GFAA, and compound quantitation sections of this report. The NAS Fort Worth JRB Basewide Quality Assurance Project Plan, February, 1998, data validation criteria were used in evaluating the data in this summary report.

Data Validation Summary Table: The following table summarizes all qualifications as described in this data validation summary report.

Qualification Summary Table – Metals/Cyanide SDG 9905G510					
Sample No.	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
BHGLSWMU36001-01	Antimony	42	UN	.42	UJ
	Arsenic	3 3	B	3 3	F
	Cadmium	16	B	16	J F
	Cobalt	4.0	B	4 0	F
	Copper	8 8	BN	8 8	J F
	Nickel	9 2	B	9.2	F
	Selenium	.79	UN	79	UJ
	Silver	10	UN	10	UJ
	Thallium	19	UW	19	UJ
	Tin	2 4	B	2 4	F
	Vanadium	27 6	B	27 6	F
	Zinc	24 3	B	24 3	F
BHGLSWMU36001-02	Antimony	37	UN	37	UJ
	Arsenic	4 2	B	4 2	F

Qualification Summary Table – Metals/Cyanide SDG 9905G510					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc.	Qualifier
	Cadmium	21	B	21	J F
	Cobalt	4 7	B	4 7	F
	Copper	23 3	N	23.3	J
	Nickel	9 5	B	9 5	F
	Selenium	.16	UWN	16	UJ
	Silver	.10	UWN	10	UJ
	Tin	2 0	B	2 0	F
	Vanadium	23.8	B	23 8	F
BHGLSWMU36001-03	Antimony	36	UN	36	UJ
	Arsenic	4 2	B	4 2	F
	Cadmium	07	B	07	J
	Copper	9 9	N	9 9	J
	Selenium	17	UWN	.17	UJ
	Silver	10	UWN	.10	UJ
	Thallium	.20	UW	20	UJ
	Tin	1 8	B	1 8	F
	Zinc	23 6	B	23 6	F
BHGLSWMU36001-04	Antimony	43	UN	43	UJ
	Arsenic	1 5	B	1 5	J F
	Beryllium	26	B	26	J F
	Cadmium	18	B	18	J F
	Chromium	6 8	B	6 8	F
	Cobalt	2.0	B	2 0	F
	Copper	4 3	BN	4 3	J F
	Nickel	4.6	B	4 6	F
	Selenium	18	UWN	18	UJ
	Silver	11	UN	11	UJ
	Thallium	21	UW	21	UJ
	Tin	1 8	B	1 8	F
	Vanadium	11 8	B	11.8	F
	Zinc	15 8	B	15 8	F
BHGLSWMU36002-01	Antimony	41	UN	41	UJ
	Arsenic	3 9	B	3 9	F
	Cadmium	10	B	10	J F
	Cobalt	3.9	B	3.9	F
	Copper	7 4	BN	7.4	J F
	Nickel	8 3	B	8.3	F
	Selenium	.17	UWN	.17	UJ
	Silver	.11	UWN	11	UJ
	Tin	2 0	B	2.0	F
	Vanadium	25.7	B	25 7	F
	Zinc	21.4	B	21 4	F
BHGLSWMU36002-02	Antimony	40	UN	40	UJ
	Arsenic	3 5	B	3 5	F
	Cadmium	.09	B	09	J F
	Cobalt	3 5	B	3 5	F
	Copper	8 7	BN	8 7	J F
	Nickel	8 7	B	8 7	F
	Selenium	16	UWN	16	UJ

Qualification Summary Table – Metals/Cyanide SDG 9905G510					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
	Silver	10	UWN	10	UJ
	Tin	1 7	B	1 7	F
	Vanadium	21 4	B	21 4	F
	Zinc	21 2	B	21.2	F
BHGLSWMU36002-03	Antimony	38	UN	38	UJ
	Arsenic	3 7	B	3 7	F
	Cadmium	.05	U	05	UJ
	Copper	10 3	N	10 3	J
	Selenium	.15	UWN	.15	UJ
	Silver	10	UWN	10	UJ
	Tin	1 7	B	1 7	F
	Vanadium	27 5	B	27 5	F
	Zinc	20 8	B	20 8	F
BHGLSWMU36003-01	Antimony	38	UN	.38	UJ
	Arsenic	3 8	B	3 8	F
	Cadmium	11	B	11	J F
	Cobalt	4 7	B	4.7	F
	Copper	7 3	BN	7 3	J F
	Nickel	9 3	B	9 3	F
	Selenium	16	UWN	16	UJ
	Silver	10	UWN	10	UJ
	Thallium	18	UW	18	UJ
	Tin	1.6	B	1 6	F
	Vanadium	23 3	B	23 3	F
	Zinc	27 4	B	27.4	F
BHGLSWMU36003-02	Antimony	46	BN	46	UJ F
	Arsenic	3.9	B	3 9	F
	Beryllium	86		86	J
	Cadmium	05	B	05	J F
	Cobalt	5 1	B	5 1	F
	Copper	10 2	N	10.2	J
	Lead	10 2		10 2	J
	Selenium	16	UWN	.16	UJ
	Silver	10	UWN	10	UJ
	Thallium	20	UW	.20	UJ
	Tin	1 9	B	1 9	F
	Vanadium	26 7	B	26 7	F
	Zinc	25 0	B	25 0	F
BHGLSWMU36003-03	Antimony	.38	UN	38	UJ
	Arsenic	3 7	B	3.7	F
	Cadmium	.15	B	.15	J F
	Cobalt	5 1	B	5 1	F
	Copper	10 5	N	10 5	J
	Selenium	.14	UWN	14	UJ
	Silver	09	UWN	09	UJ
	Thallium	16	UW	.16	UJ
	Tin	1.9	B	1.9	F
	Vanadium	26 7	B	26 7	F

Qualification Summary Table – Metals/Cyanide SDG· 9905G510					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
DUP13	Antimony	.38	UN	38	UJ
	Arsenic	3 7	B	3 7	F
	Beryllium	61		61	J
	Cadmium	09	B	09	J F
	Cobalt	4 4	B	4.4	F
	Copper	8 1	BN	8.1	J F
	Lead	46 7		46.7	J
	Nickel	8 6	B	8 6	F
	Selenium	16	UWN	16	UJ
	Silver	.10	UWN	.10	UJ
	Tin	1 5	B	1 5	F
	Vanadium	22 7	B	22 7	F
	Zinc	21.1	B	21 1	F
BHGLAOC015001-01	Antimony	37	UN	.37	UJ
	Arsenic	4 2	B	4 2	F
	Cadmium	.05	U	.05	UJ
	Copper	7 4	BN	7 4	J F
	Selenium	16	UWN	.16	UJ
	Silver	10	UWN	10	UJ
	Tin	1 8	B	1 8	F
	Zinc	21 7	B	21 7	F
BHGLAOC015001-02	Antimony	39	UN	39	UJ
	Arsenic	4 6	B	4 6	F
	Cadmium	13	B	13	J F
	Cobalt	4 5	B	4 5	F
	Copper	6 8	BN	6 8	J F
	Nickel	8 9	B	8 9	F
	Selenium	16	UWN	16	UJ
	Silver	.10	UWN	10	UJ
	Thallium	19	UW	19	UJ
	Tin	1.5	B	1.5	F
	Vanadium	27.2	B	27 2	F
	Zinc	20 5	B	20.5	F
BHGLAOC015001-03	Antimony	.35	UN	35	UJ
	Arsenic	2 7	B	2 7	J F
	Cadmium	08	B	08	J F
	Cobalt	2 8	B	2 8	F
	Copper	5.5	BN	5 5	J F
	Nickel	6 3	B	6.3	F
	Selenium	16	UWN	16	UJ
	Silver	.10	UWN	.10	UJ
	Tin	1 5	B	1 5	F
	Vanadium	17 8	B	17 8	F
	Zinc	16 0	B	16 0	F
BHGLAOC015001-04	Antimony	39	UN	39	UJ
	Arsenic	3 1	B	3 1	F
	Cadmium	09	B	09	J F
	Chromium	8 1	B	8.1	J F
	Cobalt	3.1	B	3.1	F

Qualification Summary Table – Metals/Cyanide SDG 9905G510					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
	Copper	3 1	BN	3.1	F
	Nickel	6 4	B	6 4	J F
	Selenium	16	UWN	16	F
	Silver	10	UN	.10	UJ
	Thallium	.19	UW	.19	UJ
	Tin	1 3	B	1.3	UJ
	Vanadium	15 1	B	15 1	F
	Zinc	13.6	B	13.6	F
BHGLAOC015001-05	Antimony	36	UN	36	UJ
	Arsenic	2 6	B	2 6	J F
	Beryllium	16	B	.16	J F
	Cadmium	07	B	07	J F
	Chromium	5.3	B	5.3	F
	Cobalt	2.8	B	2 8	F
	Copper	2 4	BN	2 4	J F
	Nickel	4 6	B	4.6	F
	Selenium	15	UWN	15	UJ
	Silver	09	UN	09	UJ
	Thallium	18	UW	18	UJ
	Tin	1 2	B	1 2	F
	Vanadium	11 2	B	11.2	F
	Zinc	9 8	B	9 8	F
EB052499	Arsenic	3 5	U	3 5	UJ
	Barium	80	B	80	F
	Cadmium	30	U	30	UJ
	Copper	2 0	B	2.0	URL
	Nickel	1 7	U	1.7	UJ
	Tin	4 4	U	4 4	UJ
	Vanadium	1 0	B	1 0	URL
	Zinc	11 4	B	11 4	URL

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APPENDIX IX VOLATILE ORGANIC COMPOUNDS
USEPA SW846 Method 8260B - Level III Review

Site: Naval Air Station Fort Worth - D015 SDG #. 9905G510

Client: HydroGeoLogic. Inc. Date: September 13. 1999

Laboratory Severn Trent Laboratories. Chicago, IL Reviewer. Cathy Shelby

Client Sample ID	Laboratory Sample ID	Matrix
BHGLSWMU36001-01	9905G510-001	Soil
BHGLSWMU36001-02	9905G510-002	Soil
BHGLSWMU36001-02MS	9905G510-002MS	Soil
BHGLSWMU36001-02MSD	9905G510-002MSD	Soil
BHGLSWMU36001-03	9905G510-003	Soil
BHGLSWMU36001-04	9905G510-004	Soil
BHGLSWMU36002-01	9905G510-005	Soil
BHGLSWMU36002-02	9905G510-006	Soil
BHGLSWMU36002-03	9905G510-007	Soil
BHGLSWMU36003-01	9905G510-008	Soil
BHGLSWMU36003-02	9905G510-009	Soil
BHGLSWMU36003-03	9905G510-010	Soil
DUP13	9905G510-011	Soil
BHGLAOC015001-01	9905G510-012	Soil
BHGLAOC015001-02	9905G510-013	Soil
BHGLAOC015001-03	9905G510-014	Soil
BHGLAOC015001-04	9905G510-015	Soil
BHGLAOC015001-05	9905G510-016	Soil
EB052499	9905G510-017	Water
TB052499	9905G510-018	Water

Holding Times - All samples were analyzed within the recommended holding time of 14 days for preserved water and soil samples as specified in Table 5.1.2-1 of the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), February, 1998. No qualifications were required.

GC/MS Tuning - All of the BFB tunes in the initial and continuing calibrations met the percent relative abundance criteria No qualifications were required.

Initial Calibration - The initial calibrations analyzed on 01/24/99-06/3/99 and 03/09/99-05/31/99 exhibited acceptable %RSD and mean RRF values. No qualifications were required

Continuing Calibration - The continuing calibration analyzed on 06/03/99 exhibited acceptable %D and RRF values. No qualifications were required.

The continuing calibration analyzed on 06/03/99 (1039) exhibited a high %D value for dichlorodifluoromethane of 93.4%. Dichlorodifluoromethane has been rejected (R) in sample BHGLSWMU36001-01

The continuing calibration analyzed on 06/04/99 exhibited a high %D value for dichlorodifluoromethane of 75 7%. Dichlorodifluoromethane has been rejected (R) in samples BHGLSWMU36001-02, BHGLSWMU36001-03, BHGLSWMU36001-04, and BHGLSWMU36002-03.

The continuing calibration analyzed on 06/06/99 exhibited a high %D value for dichlorodifluoromethane of 53.2%. Dichlorodifluoromethane has been rejected (R) in samples BHGLSWMU36002-01, BHGLSWMU36002-02, BHGLSWMU36003-01, BHGLSWMU36003-02, BHGLSWMU36003-03, DUP13, BHGLAOC015001-02, BHGLAOC015001-03.

The continuing calibration analyzed on 06/07/99 exhibited a high %D value for dichlorodifluoromethane and 1,1,2-trichloroethane of 53.1% and 25.8%, respectively. Both compounds have been rejected (R) in samples BHGLAOC015001-01, BHGLAOC015001-04 and BHGLAOC015001-05.

Surrogates - Samples TB052499 and EB052499 exhibited high %R values for dibromofluoromethane of 127% and 129%, respectively, however, this compound is not a reported analyte and no qualifications were required.

Laboratory Control Samples - LCS samples VBLKAABS, VBLKA1BA, and VBLKAGBS exhibited acceptable %R values. No qualifications were required.

LCS sample VBLKAEBS exhibited a high %R value for dichlorodifluoromethane of 147%, however, all associated results are non-detect and no qualifications were required.

MS/MSD - MS/MSD sample BHGLSWMU36001-02 exhibited acceptable %R and RPD values. No qualifications were required.

Internal Standard (IS) Area Performance - Samples BHGLAOF015001-02 and BHGLAOC015001-03 exhibited low area counts for internal standard 1,4-dichlorobenzene-d4. All associated compounds have been qualified (J/UJ)

Method Blank - Method blanks VBLKAI (06/03/99), VBLKAE (06/04/99), VBLKAG (06/06/99), VBLKAC (06/07/99) and VBLKAA (06/03/99) were free of contamination. No qualifications were required.

Trip, field, equipment blank - Trip blank TB052499 was free of contamination. No qualifications were required.

Equipment blank EB052499 exhibited acetone, methylene chloride, and toluene contamination at 4 ug/L, 0.6 ug/L, and 0 6 ug/L, respectively Toluene has been qualified (U) in sample BHGLSWMU36002-01.

Field Duplicates - Field duplicate results for samples BHGLSWMU36003-02 and DUP13 are non-detect. No qualifications were required.

Tentatively Identified Compounds (TICs) - All TICs were qualified (T).

Compound Quantitation - No discrepancies were identified

Comments - The analyses of environmental samples and quality control samples are valid within the constraints identified with the data quality flags as presented in the internal standard and field blank section of this report with the exception of one compound which was rejected due to calibration problems in most samples. The NAS Fort Worth JRB Basewide Quality Assurance Project Plan, February, 1998, data validation criteria were used in evaluating the data in this summary report.

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report

Qualification Summary Table - Volatiles SDG 9905G510					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc.	Qualifier
BHGLSWMU36001-01	Dichlorodifluoromethane	6	U	6	R
BHGLSWMU36001-02	Dichlorodifluoromethane	5	U	5	R
BHGLSWMU36001-03	Dichlorodifluoromethane	5	U	5	R
BHGLSWMU36001-04	Dichlorodifluoromethane	6	U	6	R
BHGLSWMU36002-01	Dichlorodifluoromethane Toluene	6 5	U J	6 6	R U

Qualification Summary Table - Volatiles SDG 9905G510					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
BHGLSWMU36002-02	Dichlorodifluoromethane	5	U	5	R
BHGLSWMU36002-03	Dichlorodifluoromethane	6	U	6	R
BHGLSWMU36003-01	Dichlorodifluoromethane	6	U	6	R
BHGLSWMU36003-02	Dichlorodifluoromethane	5	U	5	R
BHGLSWMU-36003-03	Dichlorodifluoromethane	5	U	5	R
DUP13	Dichlorodifluoromethane	5	U	5	R
BHGLA0C015001-01	Dichlorodifluoromethane	5	U	5	R
	1,1,2-Trichloroethane	5	U	5	R
BHGLA0C015001-02	Dichlorodifluoromethane	4	U	4	R
	1,1,2,2-Tetrachloroethane	2	U	2	UJ
	1,2,3-Trichloropropane	4	U	4	UJ
	1,2-Dibromo-3-Chloropropane	4	U	4	UJ
BHGLA0C015001-03	Dichlorodifluoromethane	5	U	5	R
	1,1,2,2-Tetrachloroethane	2	U	2	UJ
	1,2,3-Trichloropropane	5	U	5	UJ
	1,2-Dibromo-3-Chloropropane	5	U	5	UJ
BHGLA0C015001-04	Dichlorodifluoromethane	5	U	5	R
	1,1,2-Tetrachloroethane	5	U	5	R
BHGLA0C015001-05	Dichlorodifluoromethane	4	U	4	R
	1,1,2-Tetrachloroethane	4	U	4	R

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APPENDIX IX SEMIVOLATILE ORGANIC COMPOUNDS

USEPA SW846 Method 8270C - Level III Review

Site: Naval Air Station Fort Worth - D015 SDG #: 9905G510

Client: HydroGeoLogic, Inc. Date. September 13, 1999

Laboratory: Severn Trent, Chicago, IL Reviewer: Cathy Shelby

Client Sample ID	Laboratory Sample ID	Matrix
BHGLSWMU36001-01	9905G510-001	Soil
BHGLSWMU36001-02	9905G510-002	Soil
BHGLSWMU36001-02MS	9905G510-002MS	Soil
BHGLSWMU36001-02MSD	9905G510-002MSD	Soil
BHGLSWMU36001-03	9905G510-003	Soil
BHGLSWMU36001-04	9905G510-004	Soil
BHGLSWMU36002-01	9905G510-005	Soil
BHGLSWMU36002-02	9905G510-006	Soil
BHGLSWMU36002-03	9905G510-007	Soil
BHGLSWMU36003-01	9905G510-008	Soil
BHGLSWMU36003-02	9905G510-009	Soil
BHGLSWMU36003-03	9905G510-010	Soil
DUP13	9905G510-011	Soil
BHGLAOC015001-01	9905G510-012	Soil
BHGLAOC015001-02	9905G510-013	Soil
BHGLAOC015001-03	9905G510-014	Soil
BHGLAOC015001-04	9905G510-015	Soil
BHGLAOC015001-05	9905G510-016	Soil
EB052499	9905G510-017	Water

Holding Times - All samples were extracted within 7 days for water samples and 14 days for soil samples and analyzed within the recommended holding time of 40 days for all samples as specified in Table 5.1 2-1 of the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), February, 1998. No qualifications were required.

GC/MS Tuning - All of the DFTPP tunes in the initial and continuing calibrations met the percent relative abundance criteria. No qualifications were required.

Initial Calibration - The initial calibrations analyzed 02/01/99-06/15/99 exhibited acceptable %RSD and mean RRF values. No qualifications were required.

The initial calibrations analyzed 02/19/99-6/9/99 exhibited a high %RSD value for benzyl alcohol of 36.1%. Benzyl alcohol has been rejected (R) in all samples except BHGLSWMU36001-02 and EB052499.

Continuing Calibration - The continuing calibrations analyzed on 06/01/99, 06/14/99, 06/15/99 and 06/16/99 exhibited acceptable %D values. No qualifications were required.

The continuing calibration analyzed on 06/10/99 exhibited high %D values for 2,4,5-trichlorophenol and benzyl alcohol of 26.6% and 31.4%, respectively. 2,4,5-Trichlorophenol has been rejected (R) in samples BHGLSWMU36001-03, BHGLSWMU36001-04, BHGLSWMU36002-02, BHGLSWMU36002-03, BHGLSWMU36003-01, BHGLSWMU36003-02, DUP13, BHGLAOC015001-02, BHGLAOC015001-03, BHGLAOC015001-04 and BHGLAOC015001-05. All associated benzyl alcohol results have already been rejected due to the initial calibration and no further qualifications were required.

Surrogates - Sample BHGLSWMU36002-02 exhibited a low %R value for surrogate compound 2,4,6-tribromophenol of 13%, however, no qualifications are required for only surrogate outside of QC limits

Laboratory Control Samples - LCS sample SBLKRUBS exhibited acceptable %R values. No qualifications were required.

MS/MSD - MS/MSD sample BHGLSWMU36001-02 exhibited a low MSD %R value for hexachlorocyclopentadiene of 1%, and high RPD values for bis(2-chloroethyl)ether, 1,3-dichlorobenzene, 1,4-dichlorobenzene, 1,2-dichlorobenzene, hexachloroethane, 4-chloroaniline, hexachlorocyclopentadiene, 2,6-dinitrotoluene, dimethylphthalate, diethylphthalate, 3,3'-dichlorobenzidene and benzoic acid of 31%, 46%, 43%, 35%, 38%, 84%, 169%, 31%, 40%, 40%, 45% and 33%, respectively. Hexachlorocyclopentadiene has been qualified (J) for positive results and (UJ) for non-detects in all samples. All other above compounds are non-detect in all samples and no further qualifications were required.

Internal Standard (IS) Area Performance - All internal standards met response and retention time (RT) criteria. No qualifications were required.

Method Blank - Method blanks SBLKRU (05/28/99) and SBLKSF (06/7/99) were free of contamination. No qualifications were required.

Field, equipment blank - Equipment blank EB052499 exhibited di-n-butylphthalate, bis(2-ethylhexylphthalate), and acetophenone at 2 ug/L, 7 ug/L, and 1 ug/L, respectively Bis(2-ethylhexylphthalate) has been qualified (U) in samples BHGLSWMU36001-02, BHGLSWMU36003-03 and BHGLAOC15001-05.

Field Duplicates - Field duplicate results for samples DUP13 and BHGLSWMU36003-02 are non-detect. No qualifications were required.

Tentatively Identified Compounds (TICs) - All TICs were qualified (T)

Compound Quantitation - All results between the MDL and PQL have been qualified (F).

Comments - The analyses of environmental samples and quality control samples are valid within the constraints identified with the data quality flags as presented in the MS/MSD, Field Blank, TICs, and compound quantitation sections of this report with the exception of two compounds which were rejected due to calibration problems in most samples. The NAS Fort Worth JRB Basewide Quality Assurance Project Plan, February, 1998, data validation criteria were used in evaluating the data in this summary report

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report.

Qualification Summary Table - Semivolatiles SDG 9905G510					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
BHGLSWMU36001-01	Hexachlorocyclopentadiene	410	U	410	UJ
	Benzyl alcohol	410	U	410	R
BHGLSWMU36001-02	Hexachlorocyclopentadiene	380	U	380	UJ
	Bis(2-Ethylhexyl)phthalate	51	J	380	U
BHGLSWMU-36001-03	Hexachlorocyclopentadiene	390	U	390	UJ
	2,4,5-Trichlorophenol	1900	U	1900	R
	Benzyl alcohol	390	U	390	R
BHGLSWMU-36001-04	Hexachlorocyclopentadiene	410	U	410	UJ
	2,4,5-Trichlorophenol	2100	U	2100	R
	Benzyl alcohol	410	U	410	R
BHGLSWMU-36002-01	Hexachlorocyclopentadiene	390	U	390	UJ
	Benzyl alcohol	390	U	390	R
BHGLSWMU-36002-02	Hexachlorocyclopentadiene	390	U	390	UJ
	2,4,5-Trichlorophenol	1900	U	1900	R
	Benzyl alcohol	390	U	390	R
BHGLSWMU-36002-03	Hexachlorocyclopentadiene	400	U	400	UJ

Qualification Summary Table - Semivolatiles SDG 9905G510					
Sample No	Compound(s)	Reported		Validated	
		Conc.	Qualifier	Conc	Qualifier
	2,4,5-Trichlorophenol	2000	U	2000	R
	Benzyl alcohol	400	U	400	R
BHGLSWMU-36003-01	Hexachlorocyclopentadiene	400	U	400	UJ
	2,4,5-Trichlorophenol	2000	U	2000	R
	Benzyl alcohol	400	U	400	R
BHGLSWMU-36003-02	Hexachlorocyclopentadiene	400	U	400	UJ
	2,4,5-Trichlorophenol	2000	U	2000	R
	Benzyl alcohol	400	U	400	R
BHGLSWMU-36003-03	Hexachlorocyclopentadiene	400	U	400	UJ
	Bis(2-ethylhexyl)phthalate	140	J	400	U
	Benzyl alcohol	400	U	400	R
DUP13	Hexachlorocyclopentadiene	380	U	380	UJ
	2,4,5-Trichlorophenol	1900	U	1900	R
	Benzyl alcohol	380	U	380	R
BHGLA0C015001-01	Naphthalene	41	J	41	F
	Hexachlorocyclopentadiene	380	U	380	UJ
	Acenaphthene	300	J	300	F
	Dibenzofuran	180	J	180	F
	Fluorene	310	J	310	F
	Dibenzo(a,h)anthracene	160	J	160	F
	Benzyl alcohol	380	U	380	R
BHGLA0C015001-02	Hexachlorocyclopentadiene	380	U	380	UJ
	2,4,5-Trichlorophenol	1900	U	1900	R
	Benzyl alcohol	380	U	380	R
BHGLA0C015001-03	Hexachlorocyclopentadiene	380	U	380	UJ
	2,4,5-Trichlorophenol	1900	U	1900	R
	Fluoranthene	40	J	40	F
	Benzyl alcohol	380	U	380	R
BHGLA0C015001-04	Hexachlorocyclopentadiene	380	U	380	UJ
	2,4,5-Trichlorophenol	1900	U	1900	R
	Benzyl alcohol	380	U	380	R
BHGLA0C015001-05	Hexachlorocyclopentadiene	370	U	370	UJ
	2,4,5-Trichlorophenol	1900	U	1900	R
	Bis(2-ethylhexyl)phthalate	42	J	370	U
	Benzyl alcohol	370	U	370	R
EB052499	Hexachlorocyclopentadiene	10	U	10	UJ
	Di-n-butylphthalate	2	J	2	F
	Bis(2-ethylhexyl)phthalate	7	J	7	F
	Acetophenone	1	J	1	F

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TOTAL PETROLEUM HYDROCARBONS
Texas Method 1005 (Rev. 4/98) - Level III Review

Site: Naval Air Station Fort Worth - DO15 SDG #: 9905G510

Client: HydroGeoLogic, Inc. Date: October 21, 1999

Laboratory: Severn Trent Laboratories, Pensacola, FL Reviewer: Nancy Weaver

Client Sample ID	Laboratory Sample ID	Matrix
BHGLSWMU36001-01	905561-001	Soil
BHGLSWMU36001-02	905561-002	Soil
BHGLSWMU36001-02MS	905561-002MS	Soil
BHGLSWMU36001-02MSD	905561-002MSD	Soil
BHGLSWMU36001-03	905561-003	Soil
BHGLSWMU36001-04	905561-004	Soil
BHGLSWMU36002-01	905561-005	Soil
BHGLSWMU36002-02	905561-006	Soil
BHGLSWMU36002-03	905561-007	Soil
BHGLSWMU36003-01	905561-008	Soil
BHGLSWMU36003-02	905561-009	Soil
BHGLSWMU36003-03	905561-010	Soil
DUP13	905561-011	Soil
EB052499	905561-012	Water

Holding Times - All samples were analyzed within the recommended holding time of 7 days for water samples and 14 days for soil samples as specified in Table 5.1.2-1 of the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), February, 1998 with the exception of sample EB052499 which was analyzed at 10 days. All results for this sample have been qualified (UJ).

Initial Calibration - The initial calibration on 06/02/99 exhibited correlation coefficients >0.995 No qualifications were required.

Continuing Calibration - The continuing calibrations analyzed on 06/02/99 and 06/03/99 exhibited acceptable %D values. No qualifications were required.

Surrogates - All samples exhibited acceptable surrogate %R values. No qualifications were required.

Laboratory Control Samples - The LCS sample exhibited acceptable %R values. No qualifications were required.

MS/MSD - MS/MSD sample BHGLSWMU36001-02 exhibited low MS/MSD %R values for C6-C10, C10-C28 and C6-C28 of 54%/ok, 38%/42%, and 44%/57%, respectively, and a high RPD value for C6-C10 of 35 All results in all soil samples have been qualified (J/UJ).

Method Blank - The method blank was free of contamination. No qualifications were required.

Field. equipment blank - Equipment blank EB052499 was free of contamination. No qualifications were required.

Field Duplicates - Field duplicate results are summarized in the following table. No qualifications were required.

Compound	BHGLSWMU36003-02 mg/kg	DUP13 mg/kg	RPD
None	ND	ND	--

Compound Quantitation - No discrepancies were identified.

Comments - The analyses of environmental samples and quality control samples are valid within the constraints identified with the data quality flags as presented in the holding time and MS/MSD sections of this report. The NAS Fort Worth JRB Basewide Quality Assurance Project Plan, February, 1998, data validation criteria were used in evaluating the data in this summary report.

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report.

Qualification Summary Table - TPH SDG. 9905G510					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc.	Qualifier
BHGLSWMU36001-01	C6-C10	ND	-	ND	UJ
	>C10-C28	ND	-	ND	UJ
	C6-C28	ND	-	ND	UJ
BHGLSWMU36001-02	C6-C10	ND	-	ND	UJ
	>C10-C28	ND	-	ND	UJ

Qualification Summary Table - TPH SDG: 9905G510					
Sample No.	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc.	Qualifier
	C6-C28	ND	-	ND	UJ
BHGLSWMU36001-03	C6-C10	ND	-	ND	UJ
	>C10-C28	ND	-	ND	UJ
	C6-C28	ND	-	ND	UJ
BHGLSWMU36001-04	C6-C10	ND	-	ND	UJ
	>C10-C28	ND	-	ND	UJ
	C6-C28	ND	-	ND	UJ
BHGLSWMU36002-01	C6-C10	ND	-	ND	UJ
	>C10-C28	ND	-	ND	UJ
	C6-C28	ND	-	ND	UJ
BHGLSWMU36002-02	C6-C10	ND	-	ND	UJ
	>C10-C28	ND	-	ND	UJ
	C6-C28	ND	-	ND	UJ
BHGLSWMU36002-03	C6-C10	ND	-	ND	UJ
	>C10-C28	ND	-	ND	UJ
	C6-C28	ND	-	ND	UJ
BHGLSWMU36003-01	C6-C10	ND	-	ND	UJ
	>C10-C28	ND	-	ND	UJ
	C6-C28	ND	-	ND	UJ
BHGLSWMU36003-02	C6-C10	ND	-	ND	UJ
	>C10-C28	ND	-	ND	UJ
	C6-C28	ND	-	ND	UJ
BHGLSWMU36003-03	C6-C10	ND	-	ND	UJ
	>C10-C28	ND	-	ND	UJ
	C6-C28	ND	-	ND	UJ
DUP13	C6-C10	ND	-	ND	UJ
	>C10-C28	ND	-	ND	UJ
	C6-C28	ND	-	ND	UJ
EB052499	C6-C10	ND	-	ND	UJ
	>C10-C28	ND	-	ND	UJ
	C6-C28	ND	-	ND	UJ

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APPENDIX IX PESTICIDES/PCBs
USEPA SW846 Method 8080A - Level III Review

Site: Naval Air Station Fort Worth - D015 SDG #: 9905G510

Client: HydroGeoLogic, Inc Date: September 14, 1999

Laboratory: Severn Trent Laboratories, Chicago, IL Reviewer: Cathy Shelby

Client Sample ID	Laboratory Sample ID	Matrix
BHGLAOC015001-01	9905G510-012	Soil
BHGLAOC015001-02	9905G510-013	Soil
BHGLAOC015001-03	9905G510-014	Soil
BHGLAOC015001-04	9905G510-015	Soil
BHGLAOC015001-05	9905G510-016	Soil
EB052499	9905G510-017	Water

Holding Times - All samples were extracted within 7 days for water and 14 days for soil samples and analyzed within the recommended holding time of 40 days for all samples as specified in Table 5.1 2-1 of the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), February, 1998 No qualifications were required.

Initial Calibration - The initial calibrations analyzed 06/07/99 and 06/08/99 exhibited acceptable %RSD values of less than 20%. No qualifications were required.

Continuing Calibration Verification - The continuing calibrations analyzed 06/09/99, 06/10/99 and 06/11/99 exhibited acceptable %D values. No qualifications were required.

Method Blank - Method blanks PBLKMC (05/28/99) and PBLKNY (06/04/99) were free of contamination. No qualifications were required.

Field, equipment blank - Equipment blank EB052499 was free of contamination. No qualifications were required.

Surrogates - All samples exhibited acceptable surrogate %R values. No qualifications were required.

Laboratory Control Samples - LCS samples PBLKMCBS, PBLKMDBS, PBLKNYBS and PBLKNZBS exhibited acceptable %R values. No qualifications were required.

MS/MSD - A MS/MSD sample was not associated with the samples in this data package.

Field Duplicates - Field duplicate samples were not analyzed with this data package

Compound Identification - The retention times met the QC acceptance criteria and no qualifications were required.

Compound Quantitation - No discrepancies were identified.

Comments - The analyses of environmental samples and quality control samples are valid. The NAS Fort Worth JRB Basewide Quality Assurance Project Plan, February, 1998, data validation criteria were used in evaluating the data in this summary report.

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report.

Qualification Summary Table - Pesticide/PCBs SDG· 9905G510					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc.	Qualifier
None Qualified	--	--	--	--	--

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ORGANOPHOPHORUS PESTICIDES
USEPA SW846 Method 8141 - Level III Review

Site Naval Air Station Fort Worth - D015 SDG # 9905G510

Client: HydroGeoLogic, Inc. Date. September 9, 1999

Laboratory. Severn Trent Laboratories, Chicago, IL Reviewer· Cathy Shelby

Client Sample ID	Laboratory Sample ID	Matrix
BHGLA0C015001-01	9905G510-012	Soil
BHGLA0C015001-02	9905G510-013	Soil
BHGLA0C015001-03	9905G510-014	Soil
BHGLA0C015001-04	9905G510-015	Soil
BHGLA0C015001-05	9905G510-016	Soil
BHGLA0C015001-05RE	9905G510-016RE	Soil
EB052499	99C5G510-017	Water

Holding Times - All samples were extracted within 7 days for water samples and 14 days for soil samples and analyzed within the recommended holding time of 40 days for all samples as specified in Table 5.1 2-1 of the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), February, 1998 with the exception of sample BHGLAOC015001-05RE which was extracted outside of holding times All results for this sample have been qualified (UJ)

Initial Calibration - The initial calibrations analyzed on 6/10/99, 6/11/99 and 6/15/99 exhibited acceptable %RSD values of less than 20% and/or correlation coefficients of >0.995. No qualifications were required

Continuing Calibration Verification - The continuing calibration verifications analyzed on 6/10/99, 6/11/99, 6/12/99 and 6/16/99 exhibited acceptable %D values. No qualifications were required.

Method Blank - Method blanks PBLKMN (6/10/99), PBLKOH (6/11/99), PBLKPN (6/16/99) were free of contamination. No qualifications were required.

Field. equipment blank - Equipment blank EB052499 was free of contamination. No qualifications were required.

Surrogates - Sample BHGLAOC015001-05 exhibited low %R values for surrogate compounds TBP and TPP of 26% and 36%, respectively. All results for this sample have been qualified (J/UJ).

Laboratory Control Samples - LCS samples PBLKMNBS, PBLKOHBS, and PBLKPMBS exhibited acceptable %R values. No qualifications were required.

MS/MSD - A MS/MSD sample was not associated with the sample in this data package

Field Duplicates - Field duplicate samples were not analyzed with this data package.

Compound Identification - Several compounds exhibited a slight RT shift during the 06/16/99 calibration verification, however, none of the data were affected and no qualifications were required.

Compound Quantitation - All results between the MDL and the PQL have been qualified (F).

Comments - The analyses of environmental samples and quality control samples are valid within the constraints identified with the data quality flags as presented in the holding time and surrogate sections of this report. The analyses of environmental samples and quality control samples are valid. The NAS Fort Worth JRB Basewide Quality Assurance Project Plan, February, 1998, data validation criteria were used in evaluating the data in this summary report.

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report.

Qualification Summary Table - OP Pesticides SDG 9905G510					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc.	Qualifier
BHGLA0C015001-05	Disulfoton	73	U	73	UJ
	Methyl parathion	73	U	73	UJ
	Phorate	73	U	73	UJ
	o o o-Triethylphosphorothioat	73	U	73	UJ
	Thionazin	21	J	21	F
	Sulfotep	73	U	73	UJ
	Dimethoate	73	U	73	UJ
	Parathion	73	U	73	UJ

Qualification Summary Table - OP Pesticides SDG: 9905G510					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
	Famphur	73	U	73	UJ
BHGLA0C015001-05	Disulfoton	74	U	74	UJ
	Methyl parathion	74	U	74	UJ
	Phorate	74	U	74	UJ
	o o o-Triethylphosphorothioat	74	U	74	UJ
	Thionazin	74	U	74	UJ
	Sulfotep	74	U	74	UJ
	Dimethoate	74	U	74	UJ
	Parathion	74	U	74	UJ
	Famphur	74	U	74	UJ

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2,3,7,8-TCDD & 2,3,7,8-TCDF
USEPA SW846 Method 8280 - Level III Review

Site: Naval Air Station Fort Worth - DO15 SDG #: 9905G510

Client: HydroGeoLogic, Inc. Date September 13, 1999

Laboratory: RECRA LabNet - Philadelphia Reviewer: Nancy Weaver

Client Sample ID	Laboratory Sample ID	Matrix
BHGLAOC015001-01	9905G510-012	Soil
BHGLAOC015001-02	9905G510-013	Soil
BHGLAOC015001-03	9905G510-014	Soil
BHGLAOC015001-04	9905G510-015	Soil
BHGLAOC015001-05	9905G510-016	Soil
EB052499	9905G510-017	Water

Holding Times: All samples were extracted within 30 days of collection and analyzed within the recommended holding time of 45 days as specified in Table 5.1 2-1 of the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), February, 1998. No qualifications were required.

Initial Calibration: The initial calibrations analyzed on 12/29/98, 12/30/98 and 12/31/98 exhibited acceptable %RSD values of less than 15% for the RFs. All ICAL ion abundance ratios met QC acceptance criteria. No qualifications were required

Continuing Calibration: The continuing calibrations analyzed on 06/16/98 exhibited acceptable %D values and ion abundance ratios within QC acceptance criteria and no qualifications were required.

Column Performance Check: Resolution check criteria were met since the valley was less than 25%.

Surrogates All surrogate recovery values met QC acceptance criteria and no qualifications were required.

Method Blanks: The water and soil method blanks were free of contamination and no qualifications were required.

Field. equipment blanks: Equipment blank EB052499 was free of contamination. No qualifications were required.

Internal Standards: The internal standards met QC acceptance criteria and no qualifications were required.

MS/MSD: A MS/MSD sample was not associated with the samples in this data package.

Laboratory Control Sample/Duplicate. The water and soil LCS samples exhibited acceptable %R values within the QC acceptance criteria and no qualifications were required.

Field Duplicates: Field duplicate samples were not analyzed with this data package.

Compound Quantitation: No discrepancies were identified. All sample results were non-detect.

Comments: The analyses of environmental samples and quality control samples are valid The NAS Fort Worth JRB Basewide Quality Assurance Project Plan, February, 1998, data validation criteria were used in evaluating the data in this summary report

Data Validation Summary Table: The following table summarizes all qualifications as described in this data validation summary report.

Qualification Summary Table - Dioxin/Furans SDG. 9905G510					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc.	Qualifier
None Qualified	--	--	--	--	--

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ETHYLENE GLYCOL by GC/FID
Method SOP 641 - Level III Review

Site: Naval Air Station Fort Worth - DO15 SDG #: 9905G510

Client: HydroGeoLogic, Inc. Date: October 25, 1999

Laboratory: Severn Trent Laboratories, Pensacola, FL Reviewer: Nancy Weaver

Client Sample ID	Laboratory Sample ID	Matrix
BHGLSWMU36001-01	905561-001	Soil
BHGLSWMU36001-02	905561-002	Soil
BHGLSWMU36001-02MS	905561-002MS	Soil
BHGLSWMU36001-02MSD	905561-002MSD	Soil
BHGLSWMU36001-03	905561-003	Soil
BHGLSWMU36001-04	905561-004	Soil
BHGLSWMU36002-01	905561-005	Soil
BHGLSWMU36002-02	905561-006	Soil
BHGLSWMU36002-03	905561-007	Soil
BHGLSWMU36003-01	905561-008	Soil
BHGLSWMU36003-02	905561-009	Soil
BHGLSWMU36003-03	905561-010	Soil
DUP13	905561-011	Soil
EB052499	905561-012	Water

Holding Times - All samples were analyzed within the recommended holding time of 30 days as specified in SOP 641. No qualifications were required.

Initial Calibration - The initial calibration analyzed on 06/07/99 exhibited acceptable correlation coefficients >0.995. No qualifications were required.

Continuing Calibration - The continuing calibration analyzed on 06/07/99 exhibited acceptable %D values. No qualifications were required.

MS/MSD - MS/MSD sample BHGLSWMU36001-02 exhibited acceptable %R and RPD values. No qualifications were required.

LCS - The LCS sample exhibited acceptable %R values. No qualifications were required.

Method Blank - The method blank was free of contamination. No qualifications were required

Trip, Field and Equipment Blanks - Equipment blank EB052499 was free of contamination. No qualifications were required.

Field Duplicates - Field duplicate results are summarized in the table below. No qualifications were required.

Compound	BHGLSWMU36003-02 mg/kg	DUP13 mg/kg	RPD
None	ND	ND	--

Compound Quantitation - No discrepancies were identified.

Comments - The analyses of environmental samples and quality control samples are valid. The NAS Fort Worth JRB Basewide Quality Assurance Project Plan, February, 1998, data validation criteria were used in evaluating the data in this summary report.

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report.

Qualification Summary Table - Ethylene Glycol SDG. 9905G510					
Sample No	Compound(s)	Reported		Validated	
		Conc ug/L	Qualifier	Conc ug/L	Qualifier
None Qualified	--	--	--	--	--

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HERBICIDES
USEPA SW846 Method 8150B - Level III Review

Site: Naval Air Station Fort Worth - DO15 SDG #: 9905G510

Client: HydroGeoLogic, Inc. Date: September 12, 1999

Laboratory: Severn Trent Laboratories, Chicago, IL Reviewer: Nancy Weaver

Client Sample ID	Laboratory Sample ID	Matrix
BHGLAOC015001-01	9905G510-012	Soil
BHGLAOC015001-02	9905G510-013	Soil
BHGLAOC015001-03	9905G510-014	Soil
BHGLAOC015001-04	9905G510-015	Soil
BHGLAOC015001-05	9905G510-016	Soil
EB052499	9905G510-017	Water

Holding Times - All samples were extracted within 7 days for water samples and 14 days for soil samples and analyzed within the recommended holding time of 40 days for all samples as specified in Table 5 1.2-1 of the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), February, 1998. No qualifications were required.

Initial Calibration - The initial calibration analyzed on 06/08/99 exhibited acceptable %RSD values less than 20%. No qualifications were required.

Continuing Calibration Verification - The continuing calibration verifications analyzed on 06/08/99, 06/09/99 and 06/10/99 exhibited acceptable %D values. No qualifications were required.

Method Blank - Method blanks PBLKOE (06/04/99) and PBLKMM (05/28/99) were free of contamination. No qualifications were required

Field. equipment blank - Equipment blank EB052499 was free of contamination. No qualifications were required.

Surrogates - The sample exhibited acceptable surrogate %R values. No qualifications were required.

Laboratory Control Samples - LCS samples PBLKMMBS and PBLKOEBS exhibited acceptable %R values No qualifications were required.

MS/MSD - A MS/MSD sample was not associated with the samples in this data package.

Field Duplicates - Field duplicate samples were not analyzed with this data package.

Compound Identification - The retention times met the QC acceptance criteria. No qualifications were required.

Compound Quantitation - No discrepancies were identified

Comments - The analyses of environmental samples and quality control samples are valid The NAS Fort Worth JRB Basewide Quality Assurance Project Plan, February, 1998, data validation criteria were used in evaluating the data in this summary report.

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report.

Qualification Summary Table - Herbicides SDG. 9905G510					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc.	Qualifier
None Qualified	--	--	--	--	--

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SULFIDE
USEPA SW846 Method 9030 - Level III Review

Site: Naval Air Station Fort Worth - D015 SDG #: 9905G510

Client: HydroGeoLogic, Inc. Date: September 13, 1999

Laboratory: Severn Trent Laboratories, Chicago, IL Reviewer Cathy Shelby

Client Sample ID	Laboratory Sample ID	Matrix
BHGLAOC015001-01	9905G510-012	Soil
BHGLAOC015001-02	9905G510-013	Soil
BHGLAOC015001-03	9905G510-014	Soil
BHGLAOC015001-04	9905G510-015	Soil
BHGLAOC015001-05	9905G510-016	Soil
EB052499	9905G510-017	Water

Holding Times - All samples were analyzed within the recommended holding times as specified in Table 5 1.2-1 of the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), February, 1998. No qualifications were required.

Method and Calibration Blanks - The method blanks were free of contamination. No qualifications were required.

Field and Equipment Blank - Equipment blank EB052499 was free of contamination. No qualifications were required.

LCS - The LCS samples exhibited acceptable %R values. No qualifications were required.

Matrix Spike/Duplicate - A MS/MSD sample was not associated with the samples in this data package.

Field Duplicates - Field duplicate samples were not analyzed with this data package.

Compound Quantitation - No discrepancies were identified.

Comments - The analyses of environmental samples and quality control samples are valid. The NAS Fort Worth JRB Basewide Quality Assurance Project Plan, February, 1998, data validation criteria were used in evaluating the data in this summary report.

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report.

Qualification Summary Table - Sulfide SDG 9905G510					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
None Qualified	--	--	--	--	--

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TAL METALS & CYANIDE
USEPA SW846 Methods 6010A, 7471 - Level III Review

Site: Naval Air Station Fort Worth - DO15 SDG #: 9905G554

Client: HydroGeoLogic, Inc Date: September 13, 1999

Laboratory: Severn Trent Laboratories, Chicago, IL Reviewer: Nancy Weaver

Client Sample ID	Laboratory Sample ID	Matrix
EB052599	9905G554-002	Water
BHGLSWMU51001-01	9905G554-003	Soil
BHGLSWMU51001-02	9905G554-004	Soil
BHGLSWMU51002-01	9905G554-005	Soil
BHGLSWMU51002-02	9905G554-006	Soil
BHGLSWMU51002-03	9905G554-007	Soil
DUP16	9905G554-008	Soil
BHGLSWMU51003-01	9905G554-009	Soil
BHGLSWMU51003-02	9905G554-010	Soil
BHGLSWMU51003-02MS	9905G554-010MS	Soil
BHGLSWMU51003-02MSD	9905G554-010MSD	Soil
BHGLSWMU51003-03	9905G554-011	Soil
BHGLSWMU51003-04	9905G554-012	Soil
BHGLSWMU51003-05	9905G554-013	Soil
BHGLSWMU51004-01	9905G554-014	Soil
BHGLSWMU51004-02	9905G554-015	Soil
BHGLSWMU51004-03	9905G554-016	Soil
BHGLSWMU51004-04	9905G554-017	Soil
BHGLSWMU51004-05	9905G554-018	Soil
EB052699	9905G554-019	Water

Holding Times: All samples were extracted and analyzed within the recommended holding time of 28 days for mercury, 180 days for all other metals, and 14 days for cyanide as specified in Table 5.1.2-1 of the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), February, 1998. No qualifications were required.

Calibration: All initial and continuing calibration verifications exhibited acceptable %R values. No qualifications were required.

Method Blanks: The water preparation blank PBW (06/10/99), initial and continuing calibration blanks exhibited contamination for several compounds which warranted the following qualifications. Arsenic, cadmium, nickel, and tin have been qualified (UJ) in both water

samples. Copper has been qualified (U) in both water samples. Vanadium and zinc have been qualified (U) in sample EB052599.

The soil preparation blank PBS (06/07/99), initial and continuing calibration blanks exhibited contamination for several compounds which warranted the following qualifications. Arsenic has been qualified (J) in samples BHGLSWMU51001-02, BHGLSWMU51002-03, DUP16, and BHGLTASWMU51004-04. Beryllium has been qualified (J) in samples BHGLSWMU51002-03 and BHGLSWMU51003-04. Lead has been qualified (U) in sample BHGLSWMU51003-04 Tin has been qualified (U) in all soil samples. Cyanide has been qualified (UJ) in all soil samples

Field and equipment blank: Equipment blank EB052599 was free of contamination. No qualifications were required.

Equipment blank EB052699 was free of contamination. No qualifications were required

ICP Interference Check Sample All % recovery values met the QC acceptance criteria. No qualifications were required.

LCS: The LCS analysis met the QC acceptance criteria of as specified in the QAPP. No qualifications were required.

ICP Serial Dilutions: An ICP serial dilution sample was not analyzed with this data package.

Matrix Spike: Matrix spike sample BHGLSWMU51003-02 exhibited low %R values for antimony, arsenic, and cyanide of 32.0%, 68 4%, and 67.8%, respectively, and a high %R value for chromium of 133.2%. Antimony and arsenic have been qualified (J/UJ) in all soil samples Chromium has been qualified (J) for positive results in all soil samples. Cyanide has already been qualified in all soil samples due to method blanks and no further qualifications were required.

Matrix Spike Duplicate: Matrix duplicate sample BHGLSWMU51003-02 exhibited acceptable RPD values. No qualifications were required.

Field Duplicates: Field duplicate results are summarized in the table below Cadmium, copper, vanadium, and zinc have been qualified (J) in both samples.

Compound	BHGLSWMU51002-02 mg/kg	DUP16 mg/kg	RPD
Antimony	0.49	0 46	6
Arsenic	2.4	3 5	37
Barium	71 4	64 7	10
Beryllium	0 59	0 57	3
Cadmium	0 13	0 21	47*
Chromium	11.3	11 1	2
Cobalt	3 1	3 4	9
Copper	10 8	6 5	50*
Lead	10.1	10 1	0
Mercury	0 11	0 09	20
Nickel	8 0	8.7	8
Vanadium	17 3	23 9	32*
Zinc	26.7	20.5	26*

Graphite Furnace Atomic Absorption (GFAA) Analysis: Several samples exhibited a postdigestion spike for selenium, silver, and thallium analysis out of control limits (85-115%) and sample absorbance is less than 50% of spike absorbance The laboratory flagged these results (W) and the reviewer further qualified these results (J/UJ).

Compound Quantitation. All results between the MDL and the PQL have been qualified (F).

Comments: The analyses of environmental samples and quality control samples are valid within the constraints identified with the data quality flags as presented in the method blank, matrix spike, field duplicates, GFAA, and compound quantitation sections of this report. The NAS Fort Worth JRB Basewide Quality Assurance Project Plan, February, 1998, data validation criteria were used in evaluating the data in this summary report.

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report.

Qualification Summary Table - Metals/Cyanide SDG 9905G554					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
EB052599	Arsenic	3 5	U	3.5	UJ
	Cadmium	0 30	U	0.30	UJ
	Copper	2.4	B	2.4	U
	Nickel	1 7	U	1.7	UJ
	Tin	4 4	U	4 4	UJ
	Vanadium	0 89	B	0.89	U
	Zinc	4.2	B	4 2	U
BHGLSWMU51001-01	Antimony	0 43	BN	0 43	J F
	Arsenic	4 6	BN	4 6	J F

Qualification Summary Table - Metals/Cyanide SDG 9905G554					
Sample No.	Compound(s)	Reported		Validated	
		Conc.	Qualifier	Conc	Qualifier
	Cadmium	0.05	B	0 05	F
	Chromium	13 1	N	13 1	J
	Copper	8 9	B	8 9	F
	Selenium	0 68	UW	0.68	UJ
	Thallium	0 23	BW	0 23	J F
	Tin	1 7	B	1 7	U
	Zinc	17 1	B	17 1	F
	Cyanide	0 24	UN	0.24	UJ
BHGLSWMU51001-02	Antimony	0 34	UN	0 34	UJ
	Arsenic	2 9	BN	2 9	J F
	Cadmium	0 17	B	0 17	F
	Chromium	8 4	BN	8 4	J F
	Cobalt	3 0	B	3 0	F
	Copper	5.6	B	5 6	F
	Nickel	6 3	B	6 3	F
	Selenium	0 16	UW	0 16	UJ
	Silver	0 10	UW	0 10	UJ
	Thallium	0.19	UW	0 19	UJ
	Tin	1 3	B	1 3	U
	Vanadium	20.0	B	20 0	F
	Zinc	12 9	B	12 9	F
	Cyanide	0 24	UN	0 24	UJ
BHGLSWMU51002-01	Antimony	0.39	UN	0 39	UJ
	Arsenic	4 3	BN	4 3	J F
	Cadmium	0 14	B	0.14	F
	Chromium	12 8	N	12.8	J
	Cobalt	5.6	B	5 6	F
	Copper	7 7	B	7 7	F
	Mercury	0 04	B	0 04	F
	Selenium	0 83	UW	0 83	UJ
	Silver	0.10	UW	0 10	UJ
	Thallium	0 20	UW	0 20	UJ
	Tin	1 7	B	1 7	U
	Vanadium	28.9	B	28 9	F
	Zinc	19 9	B	19 9	F
	Cyanide	0 26	UN	0 26	UJ
BHGLSWMU51002-02	Antimony	0 46	BN	0.46	J F
	Arsenic	3.5	BN	3 5	J F
	Cadmium	0 21	B	0.21	J F
	Chromium	11 1	N	11 1	J
	Cobalt	3 4	B	3.4	J F
	Copper	6 5	B	6 5	J F
	Nickel	8 7	B	8 7	J F
	Silver	0 08	UW	0 08	UJ
	Thallium	0 15	UW	0 15	UJ
	Tin	1.8	B	1 8	U
	Vanadium	23.9	B	23 9	J F
	Zinc	20.5	B	20 5	J F
	Cyanide	0 33	UN	0 33	UJ

Qualification Summary Table - Metals/Cyanide SDG· 9905G554					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
BHGLSWMU51002-03	Antimony	0 36	UN	0 36	UJ
	Arsenic	2.8	BN	2.8	J F
	Beryllium	0 36	-	0 36	J
	Cadmium	0 08	B	0 08	F
	Chromium	8 4	BN	8 4	J F
	Cobalt	3 8	B	3 8	F
	Copper	4 4	B	4.4	F
	Nickel	6 6	B	6 6	F
	Selenium	0 14	UW	0 14	UJ
	Thallium	0.16	UW	0 16	UJ
	Tin	1 5	B	1 5	U
	Vanadium	21 7	B	21.7	F
	Zinc	13 8	B	13 8	F
	Cyanide	0 26	UN	0 26	UJ
DUP16	Antimony	0.49	BN	0.49	J F
	Arsenic	2 4	BN	2 4	J F
	Cadmium	0 13	B	0 13	J F
	Chromium	11 3	N	11 3	J
	Cobalt	3 1	B	3 1	F
	Copper	10 8	-	10 8	J
	Nickel	8 0	B	8 0	F
	Selenium	0 16	UW	0 16	UJ
	Thallium	0 18	U	0 18	UJ
	Tin	1 7	B	1.7	U
	Vanadium	17 3	B	17 3	J F
	Zinc	26.7	-	26 7	J
	Cyanide	0 29	0 29	0.29	UJ
BHGLSWMU51003-01	Antimony	0.39	UN	0 39	UJ
	Arsenic	4 3	BN	4 3	J F
	Chromium	18 8	N	18 8	J
	Tin	2 3	B	2 3	U
	Zinc	26 9	B	26 9	F
	Cyanide	0 19	UN	0.19	UJ
BHGLSWMU51003-02	Antimony	0.39	UN	0 39	UJ
	Arsenic	5 3	N	5 3	J
	Chromium	12 4	N	12 4	J
	Cobalt	3 8	B	3.8	F
	Copper	5 5	B	5.5	F
	Nickel	8 0	B	8 0	F
	Selenium	0 17	UW	0.17	UJ
	Tin	1 8	B	1 8	U
	Vanadium	29.5	B	29.5	F
	Zinc	16.3	B	16.3	F
	Cyanide	0 20	UN	0 20	UJ
BHGLSWMU51003-03	Antimony	0 59	BN	0.59	J F
	Arsenic	3 9	BN	3 9	J F
	Chromium	14 2	N	14 2	J
	Cobalt	3.9	B	3.9	F
	Copper	3 5	B	3 5	F

Qualification Summary Table - Metals/Cyanide SDG. 9905G554					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
	Nickel	8 3	B	8 3	F
	Selenium	0.16	UW	0 16	UJ
	Silver	0.10	UW	0 10	UJ
	Thallium	0 18	UW	0 18	UJ
	Tin	2 0	B	2 0	U
	Zinc	21 3	B	21 3	F
	Cyanide	0 25	UN	0 25	UJ
BHGLSWMU51003-04	Antimony	0 38	UN	0.38	UJ
	Arsenic	6 2	N	6 2	J
	Barium	38 1	B	38 1	F
	Beryllium	0 27	B	0 27	J F
	Cadmium	0 08	B	0 08	F
	Chromium	8 7	BN	8 7	J F
	Cobalt	1 5	B	1 5	F
	Copper	3 0	B	3.0	F
	Lead	3 5	-	3 5	U
	Nickel	6 3	B	6 3	F
	Selenium	0 16	UW	0 16	UJ
	Thallium	0 92	UW	0 92	UJ
	Tin	1 7	B	1 7	U
	Vanadium	18 1	B	18 1	F
	Zinc	13 0	B	13 0	F
	Cyanide	0.31	UN	0.31	UJ
BHGLSWMU51003-05	Antimony	0 44	BN	0 44	J F
	Arsenic	4.1	BN	4 1	J F
	Chromium	12 1	N	12 1	J
	Copper	8 4	B	8 4	F
	Selenium	0 17	UW	0.17	UJ
	Silver	0 11	W	0 11	UJ
	Thallium	0 20	UW	0 20	UJ
	Tin	1.8	B	1 8	U
	Vanadium	14 8	B	14 8	F
	Zinc	23.9	B	23 9	F
	Cyanide	0 28	UN	0 28	UJ
BHGLSWMU51004-01	Antimony	0 34	UN	0 34	UJ
	Arsenic	3.9	BN	3.9	J F
	Chromium	15.7	N	15 7	J
	Copper	8.6	B	8 6	F
	Selenium	0 17	UW	0.17	UJ
	Silver	0 10	UW	0.10	UJ
	Tin	1 7	B	1 7	U
	Zinc	22 6	B	22.6	F
	Cyanide	0 23	UN	0 23	UJ
BHGLSWMU51004-02	Antimony	0 39	UN	0.39	UJ
	Arsenic	5 1	N	5 1	J
	Chromium	9.0	BN	9.0	J F
	Cobalt	4 6	B	4 6	F
	Copper	6 0	B	6 0	F
	Nickel	8 4	B	8 4	F

Qualification Summary Table - Metals/Cyanide SDG 9905G554					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
	Selenium	0 17	UW	0 17	UJ
	Silver	0.11	UW	0.11	UJ
	Thallium	0 20	UW	0 20	UJ
	Tin	1 8	B	1 8	U
	Vanadium	26.5	B	26 5	F
	Zinc	19.6	B	19 6	F
	Cyanide	0 25	UN	0.25	UJ
BHGLSWMU51004-03	Antimony	0.35	UN	0 35	UJ
	Arsenic	3 3	BN	3 3	J
	Chromium	11 8	N	11 8	J
	Cobalt	4 8	B	4 8	F
	Copper	6.0	B	6 0	F
	Nickel	8 8	B	8 8	F
	Selenium	0.15	UW	0 15	UJ
	Silver	0 10	UW	0 10	UJ
	Thallium	0 18	UW	0 18	UJ
	Tin	1.5	B	1 5	U
	Zinc	22 5	B	22.5	F
	Cyanide	0.28	UN	0 28	UJ
BHGLSWMU51004-04	Antimony	0 35	UN	0.35	UJ
	Arsenic	1 7	BN	1.7	J
	Chromium	10 0	N	10.0	J
	Cobalt	3 3	B	3 3	F
	Copper	4 1	B	4 1	F
	Nickel	6.1	B	6.1	F
	Selenium	0.15	UW	0 15	UJ
	Silver	0.09	UW	0.09	UJ
	Thallium	0.18	UW	0 18	UJ
	Tin	1 6	B	1 6	U
	Vanadium	15.2	B	15.2	F
	Zinc	17 1	B	17 1	F
	Cyanide	0 31	UN	0 31	UJ
BHGLSWMU51004-05	Antimony	0 36	UN	0 36	UJ
	Arsenic	14.9	N	14.9	J
	Chromium	9 0	BN	9 0	J
	Copper	8 9	B	8 9	F
	Selenium	0.16	UW	0 16	UJ
	Silver	0.10	UW	0.10	UJ
	Thallium	0 19	UW	0.19	UJ
	Tin	1.9	B	1.9	U
	Vanadium	20 3	B	20 3	F
	Zinc	23 1	B	23.1	F
	Cyanide	0 26	UN	0.26	UJ
EB052699	Arsenic	3 5	U	3.5	UJ
	Cadmium	0.30	U	0 30	UJ
	Copper	1 9	B	1 9	U
	Nickel	1 7	U	1 7	UJ
	Tin	4 4	U	4 4	UJ

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APPENDIX IX VOLATILE ORGANIC COMPOUNDS
USEPA SW846 Method 8260B - Level III Review

Site: Naval Air Station Fort Worth - D015 SDG #: 9905G554

Client: HydroGeoLogic, Inc Date: September 10, 1999

Laboratory: Severn Trent Laboratories, Chicago, IL Reviewer: Cathy Shelby

Client Sample ID	Laboratory Sample ID	Matrix
TB052599	9905G554-001	Water
EB052599	9905G554-002	Water
BHGLSWMU51001-01	9905G554-003	Soil
BHGLSWMU51001-02	9905G554-004	Soil
BHGLSWMU51002-01	9905G554-005	Soil
BHGLSWMU51002-02	9905G554-006	Soil
BHGLSWMU51002-03	9905G554-007	Soil
DUP16	9905G554-008	Soil
BHGLSWMU51003-01	9905G554-009	Soil
BHGLSWMU51003-02	9905G554-010	Soil
BHGLSWMU51003-02MS	9905G554-010MS	Soil
BHGLSWMU51003-02MSD	9905G554-010MSD	Soil
BHGLSWMU51003-03	9905G554-011	Soil
BHGLSWMU51003-04	9905G554-012	Soil
BHGLSWMU51003-05	9905G554-013	Soil
BHGLSWMU51004-01	9905G554-014	Soil
BHGLSWMU51004-02	9905G554-015	Soil
BHGLSWMU51004-03	9905G554-016	Soil
BHGLSWMU51004-04	9905G554-017	Soil
BHGLSWMU51004-05	9905G554-018	Soil
EB052699	9905G554-019	Water
TB052699	9905G554-020	Water

Holding Times - All samples were analyzed within the recommended holding time of 14 days for preserved water and soil samples as specified in Table 5.1.2-1 of the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), February, 1998. No qualifications were required.

GC/MS Tuning - All of the BFB tunes in the initial and continuing calibrations met the percent relative abundance criteria. No qualifications were required

Initial Calibration - The initial calibrations analyzed on 05/31/99 and 06/03/99 exhibited acceptable %RSD and mean RRF values. No qualifications were required.

Continuing Calibration - The continuing calibration analyzed on 06/03/99 exhibited acceptable %D and RRF values. No qualifications were required.

The continuing calibrations analyzed on 06/07/99, 06/08/99, 06/08/99, and 06/09/99 exhibited high %D values for dichlorodifluoromethane of 53.1%, 42 3%, 82.7%, and 62 6%, respectively Dichlorodifluoromethane has been rejected (R) in all soil samples

The continuing calibration analyzed on 06/07/99 exhibited a high %D value for 1,1,2-trichloroethane of 25.8% 1,1,2-Trichloroethane has been rejected (R) in samples BHGLSWMU51001-01, BHGLSWMU51001-02, BHGLSWMU51002-01, and BHGLSWMU51002-02.

Surrogates - Samples TB052599, EB052599 and EB052699 exhibited high %R values for dibromofluoromethane of 140%, 132% and 134%, respectively. All positive results have been qualified (J) in these samples.

Laboratory Control Samples - LCS samples VBLKAABS, VBLKCKBA, VBLKACBS, VBLK2MBS, VBLK2OBS and VBLKGXBS exhibited acceptable %R values No qualifications were required.

MS/MSD - MS/MSD sample BHGLSWMU51003-02 exhibited several %R values outside of control limits and are summarized in the table below. Toluene, ethylbenzene, p&m xylene, and styrene have been qualified (J/UJ) in all soil samples. All other below compounds have been qualified (J) for positive results in all soil samples unless already qualified due to other problems.

Compound	MS %R	MSD %R	Qualifier
Dichlorodifluoromethane	200	161	J
Chloromethane	141	Ok	J
Vinyl Chloride	148	Ok	J
Bromomethane	138	Ok	J
Chloroethane	142	Ok	J
Toluene	59	60	J/UJ
Dibromochloromethane	156	Ok	J
1,1,1,2-Trichloroethane	136	120	J
Ethylbenzene	Ok	64	J/UJ
p&m Xylene	60	53	J/UJ
Styrene	64	60	J/UJ
Bromoform	150	Ok	J
1,1,2,2-Trichloroethane	341	Ok	J

Compound	MS %R	MSD %R	Qualifier
1,2,3-Trichloropropane	432	354	J
1,2-Dibromo-3-chloropropane	326	264	J

Internal Standard (IS) Area Performance - Sample BHGLSWMU51003-02 exhibited low area counts for internal standards chlorobenzene and 1,4-dichlorobenzene-d4. All associated compounds have been qualified (J/UJ).

Sample DUP16 exhibited low area counts for internal standards pentafluorobenzene, 1,4-difluorobenzne, and 1,4-dichlorobenzene-d4. All associated compounds have been qualified (J/UJ).

Method Blank - Method blanks VBLKAA (06/03/99), VBLKAC (06/07/99), VBLK2O (06/09/99), VBLKCK (06/09/99), VBLK2M (06/08/99) and VBLKGX (06/09/99) were free of contamination. No qualifications were required.

Trip, field, equipment blank - Trip blank TB052599 was free of contamination No qualifications were required.

Trip blank TB052699 was free of contamination No qualifications were required

Equipment blank EB052599 exhibited methylene chloride and toluene contamination at 0.8 ug/L and 0.9 ug/L, respectively, however, all associated results are non-detect and no qualifications were required.

Equipment blank EB052699 exhibited acetone, methylene chloride, chloroform, and toluene contamination at 4 ug/L, 0 8 ug/L, 0 3 ug/L, and 0 9 ug/L, respectively, all associated results are non-detect and no qualifications were required.

Field Duplicates - Field duplicate results for samples BHGLSWMU51002-02 and DUP16 are non-detect. No qualifications were required.

Tentatively Identified Compounds (TICs) - All TICs were qualified (T)

Compound Quantitation - No discrepancies were identified.

Comments - The analyses of environmental samples and quality control samples are valid within the constraints identified with the data quality flags as presented in the surrogate, MS/MSD, internal standard and TICs sections of this report with the exception of one compound which was rejected due to calibration problems in all soil samples. The NAS Fort Worth JRB Basewide Quality Assurance Project Plan, February, 1998, data validation criteria were used in evaluating the data in this summary report.

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report.

Qualification Summary Table - Volatiles
SDG 9905G554

Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc.	Qualifier
BHGLSWMU51001-01	Dichlorodifluoromethane	6	U	6	R
	Toluene	6	U	6	UJ
	1,1,2-Trichloroethane	6	U	6	R
	Ethylbenzene	3	U	3	UJ
	p,m-Xylene	6	U	6	UJ
	Styrene	2	U	2	UJ
BHGLSWMU51001-02	Dichlorodifluoromethane	5	U	5	R
	Toluene	5	U	5	UJ
	1,1,2-Trichloroethane	5	U	5	R
	Ethylbenzene	3	U	3	UJ
	p,m-Xylene	5	U	5	UJ
	Styrene	2	U	2	UJ
BHGLSWMU51002-01	Dichlorodifluoromethane	5	U	5	R
	Toluene	5	U	5	UJ
	1,1,2-Trichloroethane	5	U	5	R
	Ethylbenzene	3	U	3	UJ
	p,m-Xylene	5	U	5	UJ
	Styrene	2	U	2	UJ
BHGLSWMU51002-02	Dichlorodifluoromethane	5	U	5	R
	Toluene	5	U	5	UJ
	1,1,2-Trichloroethane	5	U	5	R
	Ethylbenzene	3	U	3	UJ
	p,m-Xylene	5	U	5	UJ
	Styrene	2	U	2	UJ
BHGLSWMU51002-03	Dichlorodifluoromethane	4	U	4	R
	Toluene	4	U	4	UJ
	Ethylbenzene	3	U	3	UJ
	p,m-Xylene	4	U	4	UJ
	Styrene	2	U	2	UJ
DUP16	Dichlorodifluoromethane	5	U	5	R
	Toluene	5	U	5	UJ
	Ethylbenzene	3	U	3	UJ
	p,m-Xylene	5	U	5	UJ
	Styrene	2	U	2	UJ
	All IS Associated Compounds	-	U	-	UJ

Qualification Summary Table - Volatiles SDG 9905G554					
Sample No	Compound(s)	Reported		Validated	
		Conc.	Qualifier	Conc.	Qualifier
BHGLSWMU51003-01	Dichlorodifluoromethane	5	U	5	R
	Toluene	5	U	5	UJ
	Ethylbenzene	3	U	3	UJ
	p,m-Xylene	5	U	5	UJ
	Styrene	2	U	2	UJ
BHGLSWMU51003-02	Dichlorodifluoromethane	5	U	5	R
	Toluene	5	U	5	UJ
	Ethylbenzene	3	U	3	UJ
	p,m-Xylene	5	U	5	UJ
	Styrene	2	U	2	UJ
	All IS Associated Compounds	-	U	-	UJ
BHGLSWMU51003-03	Dichlorodifluoromethane	6	U	6	R
	Toluene	6	U	6	UJ
	Ethylbenzene	3	U	3	UJ
	p,m-Xylene	6	U	6	UJ
	Styrene	2	U	2	UJ
BHGLSWMU51003-04	Dichlorodifluoromethane	5	U	5	R
	Toluene	5	U	5	UJ
	Ethylbenzene	3	U	3	UJ
	p,m-Xylene	5	U	5	UJ
	Styrene	2	U	2	UJ
BHGLSWMU51003-05	Dichlorodifluoromethane	5	U	5	R
	Toluene	5	U	5	UJ
	Ethylbenzene	3	U	3	UJ
	p,m-Xylene	5	U	5	UJ
	Styrene	2	U	2	UJ
BHGLSWMU51004-01	Dichlorodifluoromethane	5	U	5	R
	Toluene	5	U	5	UJ
	Ethylbenzene	3	U	3	UJ
	p,m-Xylene	5	U	5	UJ
	Styrene	2	U	2	UJ
BHGLSWMU51004-02	Dichlorodifluoromethane	5	U	5	R
	Toluene	5	U	5	UJ
	Ethylbenzene	3	U	3	UJ
	p,m-Xylene	5	U	5	UJ
	Styrene	2	U	2	UJ
BHGLSWMU51004-03	Dichlorodifluoromethane	6	U	6	R
	Toluene	6	U	6	UJ
	Ethylbenzene	3	U	3	UJ
	p,m-Xylene	6	U	6	UJ
	Styrene	2	U	2	UJ
BHGLSWMU51004-04	Dichlorodifluoromethane	5	U	5	R
	Toluene	5	U	5	UJ
	Ethylbenzene	3	U	3	UJ
	p,m-Xylene	5	U	5	UJ
	Styrene	2	U	2	UJ
BHGLSWMU51004-05	Dichlorodifluoromethane	5	U	5	R
	Toluene	5	U	5	UJ

Qualification Summary Table - Volatiles SDG. 9905G554					
Sample No.	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
	Ethylbenzene	3	U	3	UJ
	p,m-Xylene	5	U	5	UJ
	Styrene	2	U	2	UJ

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APPENDIX IX SEMIVOLATILE ORGANIC COMPOUNDS
USEPA SW846 Method 8270C - Level III Review

Site: Naval Air Station Fort Worth - D015 SDG #: 9905G554

Client: HydroGeoLogic, Inc. Date: September 11, 1999

Laboratory: Severn Trent, Chicago, IL Reviewer: Cathy Shelby

Client Sample ID	Laboratory Sample ID	Matrix
EB052599	9905G554-002	Water
BHGLSWMU51001-01	9905G554-003	Soil
BHGLSWMU51001-02	9905G554-004	Soil
BHGLSWMU51002-01	9905G554-005	Soil
BHGLSWMU51002-02	9905G554-006	Soil
BHGLSWMU51002-03	9905G554-007	Soil
DUP16	9905G554-008	Soil
BHGLSWMU51003-01	9905G554-009	Soil
BHGLSWMU51003-02	9905G554-010	Soil
BHGLSWMU51003-02MS	9905G554-010MS	Soil
BHGLSWMU51003-02MSD	9905G554-010MSD	Soil
BHGLSWMU51003-03	9905G554-011	Soil
BHGLSWMU51003-04	9905G554-012	Soil
BHGLSWMU51003-05	9905G554-013	Soil
BHGLSWMU51004-01	9905G554-014	Soil
BHGLSWMU51004-02	9905G554-015	Soil
BHGLSWMU51004-03	9905G554-016	Soil
BHGLSWMU51004-04	9905G554-017	Soil
BHGLSWMU51004-05	9905G554-018	Soil
EB052699	9905G554-019	Water

Holding Times - All samples were extracted within 7 days for water samples and 14 days for soil samples and analyzed within the recommended holding time of 40 days for all samples as specified in Table 5.1 2-1 of the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), February, 1998 No qualifications were required.

GC/MS Tuning - All of the DFTPP tunes in the initial and continuing calibrations met the percent relative abundance criteria. No qualifications were required

Initial Calibration - The initial calibrations analyzed 05/26/99-06/18/99 exhibited acceptable %RSD and mean RRF values. No qualifications were required

Continuing Calibration - The continuing calibrations analyzed on 06/01/99, 06/16/99, and 06/18/99 exhibited acceptable %D values No qualifications were required.

Surrogates - All samples exhibited acceptable surrogate %R values. No qualifications were required.

Laboratory Control Samples - LCS samples SBLKRUBS and SBLKTBBS exhibited acceptable %R values No qualifications were required.

MS/MSD - MS/MSD sample BHGLSWMU51003-02 exhibited acceptable %R and RPD values. No qualifications were required.

Internal Standard (IS) Area Performance - All internal standards met response and retention time (RT) criteria. No qualifications were required.

Method Blank - Method blanks SBLKRU (05/28/99) and SBLKTB (06/08/99) were free of contamination. No qualifications were required.

Field, equipment blank - Equipment blanks EB052599 and EB052699 were free of contamination. No qualifications were required.

Field Duplicates - Field duplicate results for samples BHGLSWMU51002-02 and DUP16 are non-detect. No qualifications were required.

Tentatively Identified Compounds (TICs) - All TICs were qualified (T).

Compound Quantitation - No discrepancies were identified

Comments - The analyses of environmental samples and quality control samples are valid within the constraints identified with the data quality flags as presented in the TICs section of this report. The NAS Fort Worth JRB Basewide Quality Assurance Project Plan, February, 1998, data validation criteria were used in evaluating the data in this summary report.

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report.

Qualification Summary Table - Semivolatiles SDG 9905G554					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
None Qualified	--	--	--	--	--

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APPENDIX IX PESTICIDES/PCBs
USEPA SW846 Method 8080A - Level III Review

Site: Naval Air Station Fort Worth - D015 SDG #: 9905G554

Client: HydroGeoLogic, Inc. Date: September 13, 1999

Laboratory: Severn Trent Laboratories, Chicago, IL Reviewer Cathy Shelby

Client Sample ID	Laboratory Sample ID	Matrix
EB052599	9905G554-002	Water
BHGLSWMU51001-01	9905G554-003	Soil
BHGLSWMU51001-02	9905G554-004	Soil
BHGLSWMU51002-01	9905G554-005	Soil
BHGLSWMU51002-02	9905G554-006	Soil
BHGLSWMU51002-03	9905G554-007	Soil
DUP16	9905G554-008	Soil
BHGLSWMU51003-01	9905G554-009	Soil
BHGLSWMU51003-02	9905G554-010	Soil
BHGLSWMU51003-02MS	9905G554-010MS	Soil
BHGLSWMU51003-02MSD	9905G554-010MSD	Soil
BHGLSWMU51003-03	9905G554-011	Soil
BHGLSWMU51003-04	9905G554-012	Soil
BHGLSWMU51003-05	9905G554-013	Soil
BHGLSWMU51004-01	9905G554-014	Soil
BHGLSWMU51004-02	9905G554-015	Soil
BHGLSWMU51004-03	9905G554-016	Soil
BHGLSWMU51004-04	9905G554-017	Soil
BHGLSWMU51004-05	9905G554-018	Soil
EB052699	9905G554-019	Water

Holding Times - All samples were extracted within 7 days for water and 14 days for soil samples and analyzed within the recommended holding time of 40 days for all samples as specified in Table 5.1.2-1 of the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), February, 1998. No qualifications were required.

Initial Calibration - The initial calibration analyzed 06/07/99 exhibited acceptable %RSD values of less than 20%. No qualifications were required.

Continuing Calibration Verification - The continuing calibrations analyzed 06/09/99, 06/14/99, 06/15/99 and 06/19/99 exhibited acceptable %D values. No qualifications were required.

Method Blank - Method blanks PBLKMC (05/28/99), PBLKPG (06/08/99) and PBLKQN (06/14/99) were free of contamination. No qualifications were required.

Field. equipment blank - Equipment blanks EB052599 and EB052699 were free of contamination. No qualifications were required.

Surrogates - All samples exhibited acceptable surrogate %R values. No qualifications were required.

Laboratory Control Samples - LCS samples PBLKMCBS, PBLKMDBS, PBLKPGBS, PBLKPHBS and PBLKQNBS exhibited acceptable %R values. No qualifications were required.

MS/MSD - MS/MSD sample BHGLSWMU51003-02 exhibited acceptable %R and RPD values. No qualifications were required.

Field Duplicates - Field duplicate results for samples BHGLSWMU51002-02 and DUP16 are non-detect. No qualifications were required.

Compound Identification - The retention times met the QC acceptance criteria and no qualifications were required.

Compound Quantitation - No discrepancies were identified.

Comments - The analyses of environmental samples and quality control samples are valid. The NAS Fort Worth JRB Basewide Quality Assurance Project Plan, February, 1998, data validation criteria were used in evaluating the data in this summary report.

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report

Qualification Summary Table - Pesticide/PCBs SDG 9905G554					
Sample No	Compound(s)	Reported		Validated	
		Conc.	Qualifier	Conc.	Qualifier
None Qualified	--	--	--	--	--

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ORGANOPHOPHORUS PESTICIDES
USEPA SW846 Method 8141 - Level III Review

Site: Naval Air Station Fort Worth - D015 SDG #. 9905G554

Client: HydroGeoLogic, Inc. Date: September 14, 1999

Laboratory Severn Trent Laboratories, Chicago, IL Reviewer: Cathy Shelby

Client Sample ID	Laboratory Sample ID	Matrix
EB052599	9905G554-002	Water
BHGLSWMU51001-01	9905G554-003	Soil
BHGLSWMU51001-02	9905G554-004	Soil
BHGLSWMU51002-01	9905G554-005	Soil
BHGLSWMU51002-02	9905G554-006	Soil
BHGLSWMU51002-03	9905G554-007	Soil
DUP16	9905G554-008	Soil
BHGLSWMU51003-01	9905G554-009	Soil
BHGLSWMU51003-02	9905G554-010	Soil
BHGLSWMU51003-02MS	9905G554-010MS	Soil
BHGLSWMU51003-02MSD	9905G554-010MSD	Soil
BHGLSWMU51003-03	9905G554-011	Soil
BHGLSWMU51003-04	9905G554-012	Soil
BHGLSWMU51003-05	9905G554-013	Soil
BHGLSWMU51004-01	9905G554-014	Soil
BHGLSWMU51004-02	9905G554-015	Soil
BHGLSWMU51004-03	9905G554-016	Soil
BHGLSWMU51004-04	9905G554-017	Soil
BHGLSWMU51004-05	9905G554-018	Soil
EB052699	9905G554-019	Water

Holding Times - All samples were extracted within 7 days for water samples and 14 days for soil samples and analyzed within the recommended holding time of 40 days for all samples as specified in Table 5.1.2-1 of the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), February, 1998 No qualifications were required.

Initial Calibration - The initial calibrations analyzed on 06/15/99, 06/18/99 and 06/20/99 exhibited acceptable %RSD values of less than 20% and/or correlation coefficients of >0.995. No qualifications were required.

Continuing Calibration Verification - The continuing calibration verifications analyzed on 06/10/99, 06/11/99, 06/16/99 and 06/18/99 exhibited acceptable %D values. No qualifications were required.

Method Blank - Method blanks PBLKMN (05/28/99) and PBLKP1 (06/08/99) were free of contamination. No qualifications were required.

Field. equipment blank - Equipment blanks EB052599 and EB052699 were free of contamination No qualifications were required

Surrogates - Sample BHGLSWMU51004-02 exhibited a low %R value for surrogate compound TPP of 64%. All results for this sample have been qualified (J/UJ)

Laboratory Control Samples - LCS samples PBLKMNBS and PBLKJGBS exhibited acceptable %R values No qualifications were required.

MS/MSD - MS/MSD sample BHGLSWMU51003-02 exhibited acceptable %R and RPD values No qualifications were required

Field Duplicates - Field duplicate results for samples BHGLSWMU51002-02 and DUP16 are non-detect. No qualifications were required.

Compound Identification - Several compounds exhibited a slight RT shift during the 06/16/99 calibration verification, however, none of the data were affected and no qualifications were required.

Compound Quantitation - All results between the MDL and the PQL have been qualified (F).

Comments - The analyses of environmental samples and quality control samples are valid within the constraints identified with the data quality flags as presented in the surrogate section of this report. The analyses of environmental samples and quality control samples are valid. The NAS Fort Worth JRB Basewide Quality Assurance Project Plan, February, 1998, data validation criteria were used in evaluating the data in this summary report.

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report.

Qualification Summary Table - OP Pesticides SDG 9905G554					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
BHGLSWMU51004-02	Disulfoton	78	U	78	UJ
	Methyl parathion	78	U	78	UJ
	Phorate	78	U	78	UJ
	o o o-Triethylphosphorothioat	78	U	78	UJ
	Thionazin	78	U	78	UJ
	Sulfotep	78	U	78	UJ
	Dimethoate	78	U	78	UJ
	Parathion	78	U	78	UJ
	Famphur	78	U	78	UJ

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HERBICIDES
USEPA SW846 Method 8150B - Level III Review

Site: Naval Air Station Fort Worth - DO15 SDG #. 9905G554

Client: HydroGeoLogic, Inc. Date. September 13, 1999

Laboratory: Severn Trent Laboratories, Chicago, IL Reviewer Nancy Weaver

Client Sample ID	Laboratory Sample ID	Matrix
EB052599	9905G554-002	Water
BHGLSWMU51001-01	9905G554-003	Soil
BHGLSWMU51001-02	9905G554-004	Soil
BHGLSWMU51002-01	9905G554-005	Soil
BHGLSWMU51002-02	9905G554-006	Soil
BHGLSWMU51002-03	9905G554-007	Soil
DUP16	9905G554-008	Soil
BHGLSWMU51003-01	9905G554-009	Soil
BHGLSWMU51003-02	9905G554-010	Soil
BHGLSWMU51003-02MS	9905G554-010MS	Soil
BHGLSWMU51003-02MSD	9905G554-010MSD	Soil
BHGLSWMU51003-03	9905G554-011	Soil
BHGLSWMU51003-04	9905G554-012	Soil
BHGLSWMU51003-05	9905G554-013	Soil
BHGLSWMU51004-01	9905G554-014	Soil
BHGLSWMU51004-02	9905G554-015	Soil
BHGLSWMU51004-03	9905G554-016	Soil
BHGLSWMU51004-04	9905G554-017	Soil
BHGLSWMU51004-05	9905G554-018	Soil
EB052699	9905G554-019	Water

Holding Times - All samples were extracted within 7 days for water samples and 14 days for soil samples and analyzed within the recommended holding time of 40 days for all samples as specified in Table 5.1.2-1 of the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), February, 1998. No qualifications were required.

Initial Calibration - The initial calibrations analyzed on 06/08/99 and 06/14/99 exhibited acceptable %RSD values less than 20%. No qualifications were required.

Continuing Calibration Verification - The continuing calibration verifications analyzed on 06/08/99, 06/09/99, 06/14/99 and 06/15/99 exhibited acceptable %D values. No qualifications were required.

Method Blank - Method blanks PBLKMM (05/28/99) and PBLKPD (06/08/99) were free of contamination. No qualifications were required.

Field. equipment blank - Equipment blanks EB052599 and EB052699 were free of contamination. No qualifications were required.

Surrogates - The sample exhibited acceptable surrogate %R values. No qualifications were required.

Laboratory Control Samples - LCS samples PBLKMMBS and PBLKPDBS exhibited acceptable %R values. No qualifications were required.

MS/MSD - MS/MSD sample BHGLSWMU51003-02 exhibited acceptable %R and RPD values. No qualifications were required.

Field Duplicates - Field duplicate results for samples BHGLSWMU51002-02 and DUP16 are non-detect. No qualifications were required.

Compound Identification - The retention times met the QC acceptance criteria. No qualifications were required.

Compound Quantitation - No discrepancies were identified.

Comments - The analyses of environmental samples and quality control samples are valid. The NAS Fort Worth JRB Basewide Quality Assurance Project Plan, February, 1998, data validation criteria were used in evaluating the data in this summary report.

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report.

Qualification Summary Table - Herbicides SDG 9905G554					
Sample No	Compound(s)	Reported		Validated	
		Conc.	Qualifier	Conc.	Qualifier
None Qualified	--	--	--	--	--

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2,3,7,8-TCDD & 2,3,7,8-TCDF
USEPA SW846 Method 8280 - Level III Review

Site: Naval Air Station Fort Worth - DO15 SDG #. 9905G554

Client: HydroGeoLogic, Inc. Date: September 13, 1999

Laboratory: RECRA LabNet - Philadelphia Reviewer: Nancy Weaver

Client Sample ID	Laboratory Sample ID	Matrix
EB052599	9905G554-002	Water
BHGLSWMU51001-01	9905G554-003	Soil
BHGLSWMU51001-02	9905G554-004	Soil
BHGLSWMU51002-01	9905G554-005	Soil
BHGLSWMU51002-02	9905G554-006	Soil
BHGLSWMU51002-03	9905G554-007	Soil
DUP16	9905G554-008	Soil
BHGLSWMU51003-01	9905G554-009	Soil
BHGLSWMU51003-02	9905G554-010	Soil
BHGLSWMU51003-02MS	9905G554-010MS	Soil
BHGLSWMU51003-02MSD	9905G554-010MSD	Soil
BHGLSWMU51003-03	9905G554-011	Soil
BHGLSWMU51003-04	9905G554-012	Soil
BHGLSWMU51003-05	9905G554-013	Soil
BHGLSWMU51004-01	9905G554-014	Soil
BHGLSWMU51004-02	9905G554-015	Soil
BHGLSWMU51004-03	9905G554-016	Soil
BHGLSWMU51004-04	9905G554-017	Soil
BHGLSWMU51004-05	9905G554-018	Soil
EB052699	9905G554-019	Water

Holding Times: All samples were extracted within 30 days of collection and analyzed within the recommended holding time of 45 days as specified in Table 5.1.2-1 of the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), February, 1998. No qualifications were required.

Initial Calibration: The initial calibrations analyzed on 12/29/98, 12/30/98 and 12/31/98 exhibited acceptable %RSD values of less than 15% for the RFs All ICAL ion abundance ratios met QC acceptance criteria. No qualifications were required.

Continuing Calibration: The continuing calibrations analyzed on 06/17/99, 06/18/99, and 06/21/99 exhibited acceptable %D values and ion abundance ratios within QC acceptance criteria and no qualifications were required.

Column Performance Check: Resolution check criteria were met since the valley was less than 25%

Surrogates: All surrogate recovery values met QC acceptance criteria and no qualifications were required.

Method Blanks: The water and soil method blanks were free of contamination and no qualifications were required.

Field, equipment blanks. Equipment blank EB052599 was free of contamination. No qualifications were required.

Equipment blank EB052699 was free of contamination. No qualifications were required.

Internal Standards: The internal standards met QC acceptance criteria and no qualifications were required

MS/MSD MS/MSD sample BHGLSWMU51003-02 exhibited acceptable %R and RPD values No qualifications were required

Laboratory Control Sample/Duplicate: The water and soil LCS samples exhibited acceptable %R values within the QC acceptance criteria and no qualifications were required.

Field Duplicates. Field duplicate results for samples BHGLSWMU51002-02 and DUP16 are non-detect. No qualifications were required.

Compound Quantitation: No discrepancies were identified. All sample results were non-detect.

Comments. The analyses of environmental samples and quality control samples are valid. The NAS Fort Worth JRB Basewide Quality Assurance Project Plan, February, 1998. data validation criteria were used in evaluating the data in this summary report.

Data Validation Summary Table: The following table summarizes all qualifications as described in this data validation summary report.

Qualification Summary Table - Dioxin/Furans SDG 9905G554					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
None Qualified	--	--	--	--	--

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SULFIDE
USEPA SW846 Method 9030 - Level III Review

Site: Naval Air Station Fort Worth - D015 SDG #: 9905G554

Client: HydroGeoLogic, Inc. Date: September 10, 1999

Laboratory: Severn Trent Laboratories, Chicago, IL Reviewer: Cathy Shelby

Client Sample ID	Laboratory Sample ID	Matrix
EB052599	9905G554-002	Water
BHGLSWMU51001-01	9905G554-003	Soil
BHGLSWMU51001-02	9905G554-004	Soil
BHGLSWMU51002-01	9905G554-005	Soil
BHGLSWMU51002-02	9905G554-006	Soil
BHGLSWMU51002-03	9905G554-007	Soil
DUP16	9905G554-008	Soil
BHGLSWMU51003-01	9905G554-009	Soil
BHGLSWMU51003-02	9905G554-010	Soil
BHGLSWMU51003-02MS	9905G554-010MS	Soil
BHGLSWMU51003-02MSD	9905G554-010MSD	Soil
BHGLSWMU51003-03	9905G554-011	Soil
BHGLSWMU51003-04	9905G554-012	Soil
BHGLSWMU51003-05	9905G554-013	Soil
BHGLSWMU51004-01	9905G554-014	Soil
BHGLSWMU51004-02	9905G554-015	Soil
BHGLSWMU51004-03	9905G554-016	Soil
BHGLSWMU51004-04	9905G554-017	Soil
BHGLSWMU51004-05	9905G554-018	Soil
EB052699	9905G554-019	Water

Holding Times - All samples were analyzed within the recommended holding times as specified in Table 5.1.2-1 of the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), February, 1998. No qualifications were required.

Method Blanks - The method blanks were free of contamination. No qualifications were required.

Field and Equipment Blanks - Equipment blanks EB052599 and EB052699 were free of contamination. No qualifications were required.

LCS - The LCS samples exhibited acceptable %R values. No qualifications were required

Matrix Spike/Duplicate - MS/MSD sample BHGLSWMU51003-02 exhibited acceptable %R values and a high RPD value of 25.4%, however, no qualifications are required for a high RPD value alone.

Field Duplicates - Field duplicate results are summarized in the following table No qualifications were made based on this result.

Compound	BHGLSWMU51002-02 mg/kg	DUP16 mg/kg	RPD
Sulfide	67 3	123	59

Compound Quantitation - No discrepancies were identified.

Comments - The analyses of environmental samples and quality control samples are valid. The NAS Fort Worth JRB Basewide Quality Assurance Project Plan, February, 1998, data validation criteria were used in evaluating the data in this summary report.

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report.

Qualification Summary Table - Sulfide SDG 9905G554					
Sample No	Compound(s)	Reported		Validated	
		Conc.	Qualifier	Conc.	Qualifier
None Qualified	--	--	--	--	--

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TAL METALS & CYANIDE
USEPA SW846 Methods 6010A, 7471 - Level III Review

Site: Naval Air Station Fort Worth - DO15 SDG #. 9905G579

Client: HydroGeoLogic, Inc. Date: September 23, 1999

Laboratory: Severn Trent Laboratories, Chicago, IL Reviewer: Nancy Weaver

Client Sample ID	Laboratory Sample ID	Matrix
BHGLSWMU51005-01	9905G579-001	Soil
BHGLSWMU51005-02	9905G579-002	Soil
BHGLSWMU51006-01	9905G579-003	Soil
BHGLSWMU51006-02	9905G579-004	Soil
BHGLSWMU51007-01	9905G579-005	Soil
BHGLSWMU51007-02	9905G579-006	Soil
DUP17	9905G579-007	Soil
EB052799	9905G579-008	Water

Holding Times: All samples were extracted and analyzed within the recommended holding time of 28 days for mercury, 180 days for all other metals, and 14 days for cyanide as specified in Table 5.1 2-1 of the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), February, 1998. No qualifications were required.

Calibration: All initial and continuing calibration verifications exhibited acceptable %R values. No qualifications were required.

Method Blanks: The water preparation blank PBW (06/09/99), initial and continuing calibration blanks exhibited contamination for several compounds which warranted the following qualifications. Antimony, beryllium, cadmium, nickel, and thallium have been qualified (UJ) in the water sample. Cyanide, copper, and zinc have been qualified (U) in the water sample.

The soil preparation blank PBS (06/23/99), initial and continuing calibration blanks exhibited contamination for several compounds which warranted the following qualifications. Tin has been qualified (U) in all soil samples.

Field and equipment blank: Equipment blank EB052799 was free of contamination. No qualifications were required.

ICP Interference Check Sample: All % recovery values met the QC acceptance criteria. No qualifications were required.

LCS: The LCS analysis met the QC acceptance criteria of as specified in the QAPP. No qualifications were required.

ICP Serial Dilutions: An ICP serial dilution sample was not analyzed with this data package.

Matrix Spike. A matrix spike sample was not analyzed with this data package.

Matrix Spike Duplicate. A matrix duplicate sample was not analyzed with this data package.

Field Duplicates: Field duplicate results are summarized in the table below. Barium has been qualified (J) in both samples.

Compound	BHGLSWMU51006-01 mg/kg	DUP17 mg/kg	RPD
Arsenic	4 2	9 4	76
Barium	111	69.3	46*
Beryllium	0 92	0 59	44
Cadmium	0 37	0 64	53
Chromium	19 2	19 5	2
Cobalt	5 5	4.0	32
Copper	8 2	9 8	18
Lead	8 4	26 0	102
Mercury	0.12	0 05	82
Nickel	13 1	9 5	32
Vanadium	35 5	27 6	25
Zinc	29 6	37 3	23
Cyanide	0 25U	0 85	NC

Graphite Furnace Atomic Absorption (GFAA) Analysis: Several samples exhibited a postdigestion spike for selenium, silver, and thallium analysis out of control limits (85-115%) and sample absorbance is less than 50% of spike absorbance. The laboratory flagged these results (W) and the reviewer further qualified these results (UJ).

Compound Quantitation: All results between the MDL and the PQL have been qualified (F).

Comments: The analyses of environmental samples and quality control samples are valid within the constraints identified with the data quality flags as presented in the method blank, field duplicates, GFAA, and compound quantitation sections of this report. The NAS Fort Worth JRB Basewide Quality Assurance Project Plan, February, 1998, data validation criteria were used in evaluating the data in this summary report.

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report.

Qualification Summary Table - Metals/Cyanide SDG: 9905G579					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
BHGLSWMU51005-01	Arsenic	4 6	B	4 6	F
	Copper	7 5	B	7 5	F
	Silver	0.41	UW	0 41	UJ
	Thallium	0 16	UW	0.16	UJ
	Tin	1.9	B	1 9	U
BHGLSWMU51005-02	Arsenic	1.2	B	1 2	F
	Barium	13 0	B	13 0	F
	Beryllium	0.10	B	0.10	F
	Chromium	3 8	B	3 8	F
	Cobalt	1 9	B	1 9	F
	Copper	2 0	B	2.0	F
	Nickel	2.9	B	2.9	F
	Selenium	0.13	UW	0 13	UJ
	Silver	0 08	UW	0.08	UJ
	Thallium	0 15	UW	0.15	UJ
	Tin	1 1	B	1 1	U
	Vanadium	6 7	B	6 7	F
	Zinc	8 0	B	8 0	F
BHGLSWMU51006-01	Arsenic	4 2	B	4 2	F
	Barium	111	-	111	J
	Cadmium	0.37	B	0 37	F
	Copper	8 2	B	8 2	F
	Lead	8.4	B	8.4	F
	Silver	0 08	UW	0 08	UJ
	Thallium	0 16	UW	0 16	UJ
	Tin	2.2	B	2 2	U
BHGLSWMU51006-02	Arsenic	2 7	B	2.7	F
	Barium	21 2	B	21.2	F
	Beryllium	0 19	B	0.19	F
	Cadmium	0 11	B	0.11	F
	Chromium	5.3	B	5.3	F
	Cobalt	3 1	B	3.1	F
	Copper	3 5	B	3 5	F
	Nickel	5 1	B	5 1	F
	Silver	0.08	UW	0 08	UJ
	Tin	1.4	B	1 4	U
	Vanadium	16 2	B	16 2	F

Qualification Summary Table - Metals/Cyanide SDG· 9905G579					
Sample No	Compound(s)	Reported		Validated	
		Conc.	Qualifier	Conc	Qualifier
	Zinc	11 4	B	11 4	F
BHGLSWMU51007-01	Antimony	0 43	B	0.43	F
	Arsenic	3 8	B	3.8	F
	Cadmium	0 31	B	0 31	F
	Selenium	0.13	UW	0 13	UJ
	Silver	0.08	UW	0 08	UJ
	Thallium	0.16	UW	0 16	UJ
	Tin	1.8	B	1 8	U
	Cyanide	0 32	B	0 32	F
BHGLSWMU51007-02	Arsenic	3 8	B	3 8	F
	Barium	18.3	B	18 3	F
	Beryllium	0.10	B	0 10	F
	Cadmium	0.19	B	0.19	F
	Chromium	5 2	B	5.2	F
	Cobalt	3 2	B	3.2	F
	Copper	3.2	B	3.2	F
	Lead	3 5	B	3.5	F
	Nickel	4 7	B	4.7	F
	Selenium	0 12	UW	0 12	UJ
	Silver	0.07	UW	0 07	UJ
	Thallium	0 14	UW	0.14	UJ
	Tin	1 1	B	1.1	U
	Vanadium	14 3	B	14 3	F
	Zinc	11 7	B	11.7	F
	Cyanide	0 51	B	0.51	F
DUP17	Arsenic	9.4	B	9 4	F
	Barium	69.3	-	69.3	J
	Cobalt	4.0	B	4.0	F
	Selenium	0 69	UW	0 69	UJ
	Silver	0.43	UW	0.43	UJ
	Thallium	0 16	UW	0 16	UJ
	Tin	2 4	B	2.4	U
	Cyanide	0.85	B	0.85	F
EB052799	Arsenic	2 2	U	2 2	UJ
	Beryllium	0.30	U	0.30	UJ
	Cadmium	0.30	U	0.30	UJ
	Copper	4.0	B	4.0	U
	Nickel	1 7	U	1.7	UJ
	Selenium	1.7	UW	1 7	UJ
	Thallium	2.5	U	2 5	UJ
	Zinc	94 7	B	94.7	U
	Cyanide	12 7	B	12.7	U

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APPENDIX IX VOLATILE ORGANIC COMPOUNDS
USEPA SW846 Method 8260B - Level III Review

Site: Naval Air Station Fort Worth - D015 SDG #: 9905G579

Client: HydroGeoLogic, Inc. Date: September 25, 1999

Laboratory: Severn Trent Laboratories, Chicago, IL Reviewer: Cathy Shelby

Client Sample ID	Laboratory Sample ID	Matrix
BHGLSWMU51005-01	9905G579-001	Soil
BHGLSWMU51005-02	9905G579-002	Soil
BHGLSWMU51006-01	9905G579-003	Soil
BHGLSWMU51006-02	9905G579-004	Soil
BHGLSWMU51007-01	9905G579-005	Soil
BHGLSWMU51007-02	9905G579-006	Soil
DUP17	9905G579-007	Soil
EB052799	9905G579-008	Water
TB052799	9905G579-009	Water

Holding Times - All samples were analyzed within the recommended holding time of 14 days for preserved water and soil samples as specified in Table 5.1.2-1 of the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), February, 1998. No qualifications were required.

GC/MS Tuning - All of the BFB tunes in the initial and continuing calibrations met the percent relative abundance criteria. No qualifications were required.

Initial Calibration - The initial calibrations analyzed on 01/24/99-06/03/99 and 03/09/99-05/31/99 exhibited acceptable %RSD and mean RRF values. No qualifications were required.

Continuing Calibration - The continuing calibrations analyzed on 06/03/99 and 06/08/99 exhibited acceptable %D and RRF values. No qualifications were required.

The continuing calibration analyzed on 06/10/99 exhibited a high %D value for dichlorodifluoromethane of 70.5%. Dichlorodifluoromethane has been rejected (R) in all soil samples.

Surrogates - Sample TB052799 exhibited a high %R value for dibromofluoromethane of 137%, however, all associated results are non-detect and no qualifications were required.

Laboratory Control Samples - LCS samples VBLKAABS, VBLKCKBA, and VBLKGZBS exhibited acceptable %R values. No qualifications were required.

MS/MSD - A MS/MSD sample was not analyzed with this data package.

Internal Standard (IS) Area Performance - All internal standards met response and retention time (RT) criteria No qualifications were required.

Method Blank - Method blanks VBLKAA (06/03/99), VBLKCK (06/09/99), and VBLKGZ (06/10/99) were free of contamination. No qualifications were required.

Trip, field, equipment blank - Trip blank TB052799 was free of contamination. No qualifications were required.

Equipment blank EB052799 exhibited acetone, methylene chloride, and toluene contamination at 3 ug/L, 0 9 ug/L, and 0.8 ug/L, respectively, however, all associated results are non-detect and no qualifications were required.

Field Duplicates - Field duplicate results for samples BHGLSWMU51006-01 and DUP17 are non-detect. No qualifications were required.

Tentatively Identified Compounds (TICs) - TICs were not detected in any of the samples.

Compound Quantitation - No discrepancies were identified.

Comments - The analyses of environmental samples and quality control samples are valid with the exception of one compound which was rejected due to calibration problems in all soil samples The NAS Fort Worth JRB Basewide Quality Assurance Project Plan, February, 1998, data validation criteria were used in evaluating the data in this summary report.

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report.

Qualification Summary Table - Volatiles SDG 9905G579					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
BHGLSWMU51005-01	Dichlorodifluoromethane	5	U	5	R
BHGLSWMU51005-02	Dichlorodifluoromethane	6	U	6	R
BHGLSWMU51006-01	Dichlorodifluoromethane	6	U	6	R
BHGLSWMU51006-02	Dichlorodifluoromethane	6	U	6	R
BHGLSWMU51007-01	Dichlorodifluoromethane	5	U	5	R
BHGLSWMU51007-02	Dichlorodifluoromethane	6	U	6	R
DUP17	Dichlorodifluoromethane	5	U	5	R

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APPENDIX IX SEMIVOLATILE ORGANIC COMPOUNDS
USEPA SW846 Method 8270C - Level III Review

Site: Naval Air Station Fort Worth - D015 SDG #: 9905G579

Client: HydroGeoLogic, Inc. Date: September 25, 1999

Laboratory: Severn Trent, Chicago, IL Reviewer: Cathy Shelby

Client Sample ID	Laboratory Sample ID	Matrix
BHGLSWMU51005-01	9905G579-001	Soil
BHGLSWMU51005-02	9905G579-002	Soil
BHGLSWMU51005-02MS	9905G579-002MS	Soil
BHGLSWMU51005-02MSD	9905G579-002MSD	Soil
BHGLSWMU51006-01	9905G579-003	Soil
BHGLSWMU51006-02	9905G579-004	Soil
BHGLSWMU51007-01	9905G579-005	Soil
BHGLSWMU51007-02	9905G579-006	Soil
DUP17	9905G579-007	Soil
EB052799	9905G579-008	Water

Holding Times - All samples were extracted within 7 days for water samples and 14 days for soil samples and analyzed within the recommended holding time of 40 days for all samples as specified in Table 5.1.2-1 of the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), February, 1998 No qualifications were required

GC/MS Tuning - All of the DFTPP tunes in the initial and continuing calibrations met the percent relative abundance criteria No qualifications were required.

Initial Calibration - The initial calibrations analyzed 02/01/99-06/15/99 exhibited acceptable %RSD and mean RRF values. No qualifications were required.

Continuing Calibration - The continuing calibrations analyzed on 06/15/99 and 06/16/99 exhibited acceptable %D values. No qualifications were required.

Surrogates - All samples exhibited acceptable surrogate %R values. No qualifications were required.

Laboratory Control Samples - LCS sample SBLKSPBS exhibited acceptable %R values No qualifications were required.

LCS sample SBLKRVBS exhibited low %R values for 2-chlorophenol, 1,3-dichlorobenzene, 1,2-dichlorobenzene, 1,2,4-trichlorobenzene, and hexachlorocyclopentadiene of 32%, 32%, 36%, 42%, and 6%, respectively. All of the above compounds have been rejected (R) in associated sample EB052799.

MS/MSD - MS/MSD sample BHGLSWMU51005-02 exhibited acceptable %R and RPD values. No qualifications were required

Internal Standard (IS) Area Performance - All internal standards met response and retention time (RT) criteria. No qualifications were required.

Method Blank - Method blanks SBLKRV (06/01/99) and SBLKSP (06/09/99) were free of contamination. No qualifications were required.

Field, equipment blank - Equipment blank EB052799 was free of contamination. No qualifications were required.

Field Duplicates - Field duplicate results are summarized in the table below. No qualifications were required.

Compound	BHGLSWMU51006-01 ug/kg	DUP17 ug/kg	RPD
Fluoranthene	390U	180J	NC
Chrysene	390U	110J	NC
Benzo(b)fluoranthene	390U	160J	NC
Benzo(a)pyrene	390U	100J	NC

Tentatively Identified Compounds (TICs) - All TICs were qualified (T).

Compound Quantitation - All results between the MDL and the PQL have been qualified (F).

Comments - The analyses of environmental samples and quality control samples are valid within the constraints identified with the data quality flags as presented in the TICs and compound quantitation sections of this report with the exception of five compounds which were rejected in the equipment blank due to low LCS recoveries. The NAS Fort Worth JRB Basewide Quality Assurance Project Plan, February, 1998, data validation criteria were used in evaluating the data in this summary report.

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report.

Qualification Summary Table - Semivolatiles SDG. 9905G579					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
DUP17	Fluoranthene	180	J	180	F
	Chrysene	110	J	110	F
	Benzo(b)fluoranthene	160	J	160	F
	Benzo(a)pyrene	100	J	100	F
EB052799	2-Chlorophenol	10	U	10	R
	1,3-Dichlorobenzene	10	U	10	R
	1,2-Dichlorobenzene	10	U	10	R
	1,2,4-Trichlorobenzene	10	U	10	R
	Hexachlorocyclopentadiene	10	U	10	R

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APPENDIX IX PESTICIDES/PCBs
USEPA SW846 Method 8080A - Level III Review

Site: Naval Air Station Fort Worth - D015 SDG #: 9905G579

Client: HydroGeoLogic, Inc. Date: September 24, 1999

Laboratory: Severn Trent Laboratories, Chicago, IL Reviewer: Cathy Shelby

Client Sample ID	Laboratory Sample ID	Matrix
BHGLSWMU51005-01	9905G579-001	Soil
BHGLSWMU51005-02	9905G579-002	Soil
BHGLSWMU51006-01	9905G579-003	Soil
BHGLSWMU51006-02	9905G579-004	Soil
BHGLSWMU51007-01	9905G579-005	Soil
BHGLSWMU51007-02	9905G579-006	Soil
DUP17	9905G579-007	Soil
EB052799	9905G579-008	Water

Holding Times - All samples were extracted within 7 days for water and 14 days for soil samples and analyzed within the recommended holding time of 40 days for all samples as specified in Table 5.1.2-1 of the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), February, 1998. No qualifications were required.

Initial Calibration - The initial calibrations analyzed 06/07/99, 06/08/99, and 06/18/99 exhibited acceptable %RSD values of less than 20% No qualifications were required.

Continuing Calibration Verification - The continuing calibrations analyzed 06/10/99, 06/11/99, 06/22/99 exhibited acceptable %D values. No qualifications were required.

The continuing calibrations analyzed 06/22/99 (2336) and 06/23/99 (0009) exhibited high %D values for alpha-BHC, beta-BHC, and endrin of 15.2%, 15.6%, and 17.4%, respectively. All three compounds have been rejected (R) in samples BHGLSWMU51007-01, BHGLSWMU51007-02, and DUP17.

Method Blank - Method blanks PBLKMQ (06/02/99) and PBLKPY (06/09/99) were free of contamination No qualifications were required.

Field. equipment blank - Equipment blank EB052799 was free of contamination. No qualifications were required.

Surrogates - All samples exhibited acceptable surrogate %R values No qualifications were required.

Laboratory Control Samples - LCS samples PBLKMQBS and PBLKPYBS exhibited acceptable %R values. No qualifications were required.

MS/MSD - A MS/MSD sample was not analyzed with this data package.

Field Duplicates - Field duplicate results for samples BHGLSWMU51006-01 and DUP17 are non-detect No qualifications were required.

Compound Identification - Several compounds in several continuing calibrations exhibited a slight RT shift, however, the data were not affected and no qualifications were required.

Compound Quantitation - Several samples were analyzed at a dilution due to the color of the extraction. No action was taken on this basis

Comments - The analyses of environmental samples and quality control samples are valid with the exception of three compounds which were rejected in three samples due to high calibration %D values. The NAS Fort Worth JRB Basewide Quality Assurance Project Plan, February, 1998, data validation criteria were used in evaluating the data in this summary report.

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report.

Qualification Summary Table - Pesticide/PCBs
SDG 9905G579

Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc.	Qualifier
BHGLSWMU51007-01	Alpha-BHC	4 6	U	4 6	R
	Beta-BHC	9 2	U	9.2	R
	Endrin	9 2	U	9 2	R
BHGLSWMU51007-02	Alpha-BHC	2 2	U	2 2	R
	Beta-BHC	4.5	U	4 5	R

Qualification Summary Table - Pesticide/PCBs SDG 9905G579					
Sample No.	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
	Endrin	4 5	U	4.5	R
DUP17	Alpha-BHC	12	U	12	R
	Beta-BHC	24	U	24	R
	Endrin	24	U	24	R

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ORGANOPHOPHORUS PESTICIDES
USEPA SW846 Method 8141 - Level III Review

Site: Naval Air Station Fort Worth - D015 SDG #: 9905G579

Client: HydroGeoLogic, Inc. Date: September 24, 1999

Laboratory. Severn Trent Laboratories, Chicago. IL Reviewer: Cathy Shelby

Client Sample ID	Laboratory Sample ID	Matrix
BHGLSWMU51005-01	9905G579-001	Soil
BHGLSWMU51005-02	9905G579-002	Soil
BHGLSWMU51006-01	9905G579-003	Soil
BHGLSWMU51006-02	9905G579-004	Soil
BHGLSWMU51007-01	9905G579-005	Soil
BHGLSWMU51007-02	9905G579-006	Soil
DUP17	9905G579-007	Soil
EB052799	9905G579-008	Water

Holding Times - All samples were extracted within 7 days for water samples and 14 days for soil samples and analyzed within the recommended holding time of 40 days for all samples as specified in Table 5.1.2-1 of the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), February, 1998 No qualifications were required.

Initial Calibration - The initial calibrations analyzed on 06/11/99 and 06/16/99 exhibited acceptable %RSD values of less than 20% and/or correlation coefficients of >0.995. No qualifications were required.

Continuing Calibration Verification - The continuing calibration verifications analyzed on 06/11/99, 06/16/99 and 06/17/99 exhibited acceptable %D values No qualifications were required.

Method Blank - Method blanks PBLKMO (06/03/99) and PBLKQA (06/09/99) were free of contamination. No qualifications were required.

Field, equipment blank - Equipment blank EB052799 was free of contamination. No qualifications were required.

Surrogates - Samples BHGLSWMU51005-01 and DUP17 exhibited low %R values for surrogate compound TPP of 60% and 60%, respectively. All results for these samples have been qualified (UJ)

Laboratory Control Samples - LCS samples PBLKMOBS and PBLKQABS exhibited acceptable %R values No qualifications were required.

MS/MSD - A MS/MSD sample was not analyzed with this data package.

Field Duplicates - Field duplicate results for samples BHGLSWMU51006-01 and DUP17 are non-detect No qualifications were required.

Compound Identification - The retention times met the QC acceptance criteria and no qualifications were required.

Compound Quantitation - No discrepancies were identified.

Comments - The analyses of environmental samples and quality control samples are valid within the constraints identified with the data quality flags as presented in the surrogate section of this report. The analyses of environmental samples and quality control samples are valid. The NAS Fort Worth JRB Basewide Quality Assurance Project Plan, February, 1998, data validation criteria were used in evaluating the data in this summary report.

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report.

Qualification Summary Table - OP Pesticides SDG. 9905G579					
Sample No.	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
BHGLSWMU51005-01	Disulfoton	74	U	74	UJ
	Methyl parathion	74	U	74	UJ
	Phorate	74	U	74	UJ
	o o.o-Triethylphosphorothioat	74	U	74	UJ
	Thionazin	74	U	74	UJ
	Sulfotep	74	U	74	UJ
	Dimethoate	74	U	74	UJ

Qualification Summary Table - OP Pesticides SDG: 9905G579					
Sample No	Compound(s)	Reported		Validated	
		Conc.	Qualifier	Conc	Qualifier
	Parathion	74	U	74	UJ
	Famphur	74	U	74	UJ
DUP17	Disulfoton	80	U	80	UJ
	Methyl parathion	80	U	80	UJ
	Phorate	80	U	80	UJ
	o o o-Triethylphosphorothioat	80	U	80	UJ
	Thionazin	80	U	80	UJ
	Sulfotep	80	U	80	UJ
	Dimethoate	80	U	80	UJ
	Parathion	80	U	80	UJ
	Famphur	80	U	80	UJ

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HERBICIDES
USEPA SW846 Method 8150B - Level III Review

Site: Naval Air Station Fort Worth - DO15 SDG #: 9905G579

Client: HydroGeoLogic, Inc. Date: September 24, 1999

Laboratory: Severn Trent Laboratories, Chicago, IL Reviewer: Nancy Weaver

Client Sample ID	Laboratory Sample ID	Matrix
BHGLSWMU51005-01	9905G579-001	Soil
BHGLSWMU51005-02	9905G579-002	Soil
BHGLSWMU51006-01	9905G579-003	Soil
BHGLSWMU51006-02	9905G579-004	Soil
BHGLSWMU51007-01	9905G579-005	Soil
BHGLSWMU51007-02	9905G579-006	Soil
DUP17	9905G579-007	Soil
EB052799	9905G579-008	Water

Holding Times - All samples were extracted within 7 days for water samples and 14 days for soil samples and analyzed within the recommended holding time of 40 days for all samples as specified in Table 5.1.2-1 of the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), February, 1998. No qualifications were required.

Initial Calibration - The initial calibrations analyzed on 06/08/99 and 06/14/99 exhibited acceptable %RSD values less than 20%. No qualifications were required.

Continuing Calibration Verification - The continuing calibration verifications analyzed on 06/08/99, 06/09/99, 06/10/99, 06/14/99 and 06/15/99 exhibited acceptable %D values. No qualifications were required.

Method Blank - Method blanks PBLKPF (06/03/99) and PBLKOE (06/04/99) were free of contamination. No qualifications were required.

Field, equipment blank - Equipment blank EB052799 was free of contamination. No qualifications were required.

Surrogates - The sample exhibited acceptable surrogate %R values. No qualifications were required.

Laboratory Control Samples - LCS samples PBLKPFBS and PBLKOEBS exhibited acceptable %R values. No qualifications were required.

MS/MSD - A MS/MSD sample was not analyzed with this data package.

Field Duplicates - Field duplicate results for samples BHGLSWMU51006-01 and DUP17 are non-detect. No qualifications were required.

Compound Identification - The retention times met the QC acceptance criteria. No qualifications were required

Compound Quantitation - No discrepancies were identified.

Comments - The analyses of environmental samples and quality control samples are valid. The NAS Fort Worth JRB Basewide Quality Assurance Project Plan, February, 1998, data validation criteria were used in evaluating the data in this summary report

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report.

Qualification Summary Table - Herbicides SDG 9905G579					
Sample No	Compound(s)	Reported		Validated	
		Conc.	Qualifier	Conc	Qualifier
None Qualified	--	--	--	--	--

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2,3,7,8-TCDD & 2,3,7,8-TCDF
USEPA SW846 Method 8280 - Level III Review

Site: Naval Air Station Fort Worth - DO15 SDG #: 9906G579

Client: HydroGeoLogic, Inc. Date: September 27, 1999

Laboratory: RECRA LabNet - Philadelphia Reviewer: Nancy Weaver

Client Sample ID	Laboratory Sample ID	Matrix
BHGLSWMU51005-01	9905G579-001	Soil
BHGLSWMU51005-02	9905G579-002	Soil
BHGLSWMU51006-01	9905G579-003	Soil
BHGLSWMU51006-02	9905G579-004	Soil
BHGLSWMU51007-01	9905G579-005	Soil
BHGLSWMU51007-02	9905G579-006	Soil
DUP17	9905G579-007	Soil
EB052799	9905G579-008	Water

Holding Times: All samples were extracted within 30 days of collection and analyzed within the recommended holding time of 45 days as specified in Table 5.1.2-1 of the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), February, 1998. No qualifications were required

Initial Calibration: The initial calibrations analyzed on 12/29/98, 12/30/98 and 12/31/98 exhibited acceptable %RSD values of less than 15% for the RFs. All ICAL ion abundance ratios met QC acceptance criteria. No qualifications were required.

Continuing Calibration: The continuing calibrations analyzed on 06/16/99 and 06/21/99 exhibited acceptable %D values and ion abundance ratios within QC acceptance criteria and no qualifications were required

Column Performance Check: Resolution check criteria were met since the valley was less than 25%.

Surrogates: All surrogate recovery values met QC acceptance criteria and no qualifications were required.

Method Blanks: The water and soil method blanks were free of contamination and no qualifications were required

Field, equipment blanks: Equipment blank EB052799 was free of contamination. No qualifications were required.

Internal Standards: The internal standards met QC acceptance criteria and no qualifications were required.

MS/MSD: A MS/MSD sample was not analyzed with this data package.

Laboratory Control Sample/Duplicate: The water and soil LCS samples exhibited acceptable %R values within the QC acceptance criteria and no qualifications were required.

Field Duplicates: Field duplicate samples were not analyzed with this data package

Compound Quantitation: No discrepancies were identified. All sample results were non-detect.

Comments: The analyses of environmental samples and quality control samples are valid. The NAS Fort Worth JRB Basewide Quality Assurance Project Plan, February, 1998, data validation criteria were used in evaluating the data in this summary report.

Data Validation Summary Table: The following table summarizes all qualifications as described in this data validation summary report.

Qualification Summary Table - Dioxin/Furans SDG. 9906G579					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc.	Qualifier
None Qualified	--	--	--	--	--

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SULFIDE
USEPA SW846 Method 9030 - Level III Review

Site: Naval Air Station Fort Worth - D015 SDG #: 9905G579

Client: HydroGeoLogic, Inc. Date: September 30, 1999

Laboratory: Severn Trent Laboratories, Chicago, IL Reviewer: Nancy Weaver

Client Sample ID	Laboratory Sample ID	Matrix
BHGLSWMU51005-01	9905G579-001	Soil
BHGLSWMU51005-02	9905G579-002	Soil
BHGLSWMU51006-01	9905G579-003	Soil
BHGLSWMU51006-02	9905G579-004	Soil
BHGLSWMU51007-01	9905G579-005	Soil
BHGLSWMU51007-02	9905G579-005	Soil
DUP17	9905G579-006	Soil
EB052799	9905G579-007	Water

Holding Times - All samples were analyzed within the recommended holding times as specified in Table 5.1.2-1 of the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), February, 1998 No qualifications were required

Method Blanks - The method blanks were free of contamination. No qualifications were required.

Field and Equipment Blanks - Equipment blank EB052799 was free of contamination. No qualifications were required.

LCS - The LCS samples exhibited acceptable %R values. No qualifications were required.

Matrix Spike/Duplicate - A MS/MSD sample was not analyzed with this data package.

Field Duplicates - Field duplicate results are summarized in the following table. No qualifications were made based on this result

Compound	BHGLSWMU51006-01 mg/kg	DUP17 mg/kg	RPD
Sulfide	ND	ND	--

Compound Quantitation - No discrepancies were identified

Comments - The analyses of environmental samples and quality control samples are valid The NAS Fort Worth JRB Basewide Quality Assurance Project Plan, February, 1998, data validation criteria were used in evaluating the data in this summary report.

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report.

Qualification Summary Table - Sulfide SDG. 9905G579					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
None Qualified	--	--	--	--	--

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TAL METALS & CYANIDE
USEPA SW846 Methods 6010A, 7471 - Level III Review

Site: Naval Air Station Fort Worth - DO15 SDG #: 9906G597

Client. HydroGeoLogic. Inc. Date: September 22. 1999

Laboratory: Severn Trent Laboratories. Chicago. IL Reviewer. Nancy Weaver

Chent Sample ID	Laboratory Sample ID	Matrix
BHGLSWMU51008-01	9906G597-001	Soil
BHGLSWMU51008-02	9906G597-002	Soil
BHGLSWMU51009-01	9906G597-003	Soil
BHGLSWMU51009-02	9906G597-004	Soil
EB060199	9906G597-005	Water
EB060299	9906G597-008	Water
BHGLAOC006001-01	9906G597-009	Soil
BHGLAOC006001-02	9906G597-010	Soil
BHGLAOC006002-01	9906G597-011	Soil
BHGLAOC006002-02	9906G597-012	Soil
BHGLAOC006003-01	9906G597-013	Soil
BHGLAOC006003-02	9906G597-014	Soil
BHGLAOC006003-02MS	9906G597-014MS	Soil
BHGLAOC006003-02MSD	9906G597-014MSD	Soil
BHGLAOC006004-01	9906G597-015	Soil
BHGLAOC006004-02	9906G597-016	Soil
DUP01	9906G597-017	Soil

Holding Times: All samples were extracted and analyzed within the recommended holding time of 28 days for mercury, 180 days for all other metals, and 14 days for cyanide as specified in Table 5.1.2-1 of the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), February, 1998. No qualifications were required.

Calibration: All initial and continuing calibration verifications exhibited acceptable %R values. No qualifications were required.

Method Blanks: The water preparation blank PBW (06/23/99), initial and continuing calibration blanks exhibited contamination for several compounds which warranted the following qualifications. Antimony, arsenic, beryllium, cobalt, and nickel have been qualified (UJ) in both water samples. Copper and zinc have been qualified (U) in both water samples.

The soil preparation blank PBS (06/26/99), initial and continuing calibration blanks exhibited contamination for several compounds which warranted the following qualifications. Tin has been qualified (U) in all soil samples.

Field and equipment blank: Equipment blank EB060199 exhibited barium contamination at 0.55 ug/L, however, all associated results are greater than 5X the blank concentration and no qualifications were required.

Equipment blank EB060299 exhibited barium contamination at 0.55 ug/L, however. all associated results are greater than 5X the blank concentration and no qualifications were required.

ICP Interference Check Sample: All % recovery values met the QC acceptance criteria. No qualifications were required.

LCS: The LCS analysis met the QC acceptance criteria of as specified in the QAPP. No qualifications were required.

ICP Serial Dilutions: An ICP serial dilution sample was not analyzed with this data package.

Matrix Spike: Matrix spike sample BHGLAOC006003-02 exhibited low %R values for antimony, selenium, silver, and thallium of 32.1%, 50.9%, 66.7%, and 52.8%, respectively, and a high %R value for lead of 134.5%. Antimony selenium, silver, and thallium have been qualified (J/UJ) in all soil samples Lead has been qualified (J) for positive results in all soil samples

Matrix Spike Duplicate: Matrix duplicate sample BHGLAOC006003-02 exhibited acceptable RPD values. No qualifications were required.

Field Duplicates: Field duplicate results are summarized in the table below. No qualifications were required.

Compound	BHGLAOC006001-02 mg/kg	DUP01 mg/kg	RPD
Arsenic	1.8	3 8	71
Barium	129	139	7
Beryllium	0.47	0 50	6
Cadmium	0.24	0 36	40
Chromium	10 4	11 2	7
Cobalt	2 6	3.2	21

Compound	BHGLAOC006001-02 mg/kg	DUP01 mg/kg	RPD
Copper	5 3	6 1	14
Lead	5 4	5 4	0
Nickel	6 0	7 0	15
Vanadium	15 5	23.2	40
Zinc	24 8	24 3	2

Graphite Furnace Atomic Absorption (GFAA) Analysis: Several samples exhibited a postdigestion spike for selenium, silver, and thallium analysis out of control limits (85-115%) and sample absorbance is less than 50% of spike absorbance. The laboratory flagged these results (W), however, all results have already been qualified due to matrix spike problems and no further qualifications were required.

Compound Quantitation All results between the MDL and the PQL have been qualified (F).

Comments: The analyses of environmental samples and quality control samples are valid within the constraints identified with the data quality flags as presented in the method blank, matrix spike, and compound quantitation sections of this report. The NAS Fort Worth JRB Basewide Quality Assurance Project Plan, February, 1998, data validation criteria were used in evaluating the data in this summary report.

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report

Qualification Summary Table - Metals/Cyanide SDG. 9906G597					
Sample No.	Compound(s)	Reported		Validated	
		Conc.	Qualifier	Conc	Qualifier
BHGLSWMU51008-01	Antimony	0 36	UN	~~0.36~~ 4.6	UJ
	Arsenic	3 5	B	3 5	F
	Cadmium	0 25	B	0.25	F
	Cobalt	5.1	B	5.1	F
	Lead	15 3	N	15 3	J
	Selenium	0.14	UWN	~~0.14~~ 6.26	UJ
	Silver	0.09	UWN	~~0.09~~ 0.17	UJ
	Thallium	0 19	BN	0 19	YF
	Tin	2.1	B	~~2.1~~ 36.6	U
BHGLSWMU51008-02	Antimony	0 32	UN	~~0.32~~ 4.1	UJ
	Arsenic	3.3	B	3.3	F
	Cadmium	0.31	B	0.31	F
	Cobalt	3 3	B	3 3	F
	Copper	7 8	B	7.8	F
	Lead	9 4	N	9 4	J
	Selenium	0 15	BWN	0 15	YF

Qualification Summary Table - Metals/Cyanide SDG 9906G597					
Sample No.	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
	Silver	0 08	UWN	~~0 08~~ 0.16	UJ
	Thallium	0.15	UWN	~~0 15~~ 0.79	UJ
	Tin	1 8	B	~~1.8~~ 32.7	U
BHGLSWMU51009-01	Antimony	0 30	UN	~~0 30~~ 3.7	UJ
	Cadmium	0 24	B	0 24	F
	Lead	11.4	N	11 4	J
	Selenium	0 13	UWN	~~0.13~~ 0.24	UJ
	Silver	0 08	UWN	~~0.08~~ 0.14	UJ
	Thallium	0.22	BWN	0 22	JF
	Tin	1 6	B	~~1.6~~ 31.1	U
BHGLSWMU51009-02	Antimony	0.29	UN	0.29 3.7	UJ
	Lead	10 7	N	10 7	J
	Selenium	0 14	UN	~~0.14~~ 0.25	UJ
	Silver	0 08	UWN	~~0.08~~ 0.17	UJ
	Thallium	0 16	UWN	~~0.16~~ 0.35	UJ
	Tin	1 7	B	~~1.7~~ 29.9	U
EB060199	Antimony	2 2	U	2 2	UJ
	Arsenic	3 5	U	3 5	UJ
	Barium	0 55	B	0 55	F
	Beryllium	0 30	U	0 30	UJ
	Cobalt	1 0	U	1 0	UJ
	Copper	5 0	B	5.0	U
	Nickel	1 7	U	1 7	UJ
	Zinc	6 2	B	6 2	U
EB060299	Antimony	2 2	U	2 2	UJ
	Arsenic	3 5	U	3 5	UJ
	Barium	0 55	B	0 55	F
	Beryllium	0 30	U	0.30	UJ
	Cobalt	1.0	U	1 0	UJ
	Copper	4.0	B	4 0	U
	Nickel	1 7	U	1 7	UJ
	Selenium	1 7	UW	1 7	UJ
	Zinc	4 8	B	4.8	U
BHGLAOC006001-01	Antimony	0.33	UN	~~0.33~~ 4.2	UJ
	Arsenic	2.4	B	2 4	F
	Cadmium	0 16	B	0 16	F
	Cobalt	4.6	B	4.6	F
	Lead	8.3	N	8 3	J
	Selenium	0 18	BWN	0.18	JF
	Silver	0 09	UWN	~~0.09~~ 0.17	UJ
	Thallium	0 16	UN	~~0.16~~ 0.85	UJ
	Tin	1.3	B	~~1.3~~ 33.5	U
	Vanadium	22.7	B	22 7	F
BHGLAOC006001-02	Antimony	0.30	UN	~~0.30~~ 3.8	UJ
	Arsenic	1 8	B	1.8	F
	Cadmium	0 24	B	0.24	F
	Cobalt	2 6	B	2.6	F
	Copper	5.3	B	5.3	F

Qualification Summary Table - Metals/Cyanide SDG. 9906G597					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc.	Qualifier
	Lead	5 4	N	5 4	J
	Nickel	6 0	B	6 0	F
	Selenium	0.66	UN	~~0.66~~ 1.2	UJ
	Silver	0 08	UWN	~~0.08~~ 0.16	UJ
	Thallium	0 16	UWN	~~0.16~~ 0.92	UJ
	Tin	1 4	B	~~1.4~~ 30.6	U
	Vanadium	15 5	B	15 5	F
BHGLAOC006002-01	Antimony	0.31	UN	~~0.31~~ 4	UJ
	Arsenic	2 7	B	2 7	F
	Cadmium	0 16	B	0 16	F
	Lead	8 8	N	8 8	J
	Selenium	0 13	UN	~~0.13~~ 0.24	UJ
	Silver	0.08	UWN	~~0.08~~ 0.16	UJ
	Thallium	0 15	UWN	~~0.15~~ 0.8	UJ
	Tin	1 6	B	~~1.6~~ 32.2	U
BHGLAOC006002-02	Antimony	0.30	UN	~~0.30~~ 3.9	UJ
	Arsenic	1 2	B	1 2	F
	Cadmium	0 16	B	0.16	F
	Chromium	6 1	B	6 1	F
	Cobalt	1 6	B	1 6	F
	Copper	3.1	B	3 1	F
	Lead	4 1	N	4 1	J
	Nickel	3.9	B	3.9	F
	Selenium	0 12	UWN	~~0.12~~ 0.23	UJ
	Silver	0 08	UWN	~~0.08~~ 0.15	UJ
	Thallium	0 15	UWN	~~0.15~~ 0.76	UJ
	Tin	1 4	B	~~1.4~~ 31.2	U
	Vanadium	9 9	B	9 9	F
	Zinc	11 3	B	11 3	F
BHGLAOC006003-01	Antimony	0.30	UN	~~0.30~~ 3.9	UJ
	Arsenic	1.7	B	1 7	F
	Cadmium	0.15	B	0 15	F
	Cobalt	3 5	B	3 5	F
	Copper	7.6	B	7 6	F
	Lead	6 9	N	6 9	J
	Nickel	6 3	B	6.3	F
	Selenium	0.12	BN	0 12	J
	Silver	0 07	UWN	~~0.07~~ 0.15	UJ
	Thallium	0 14	UN	~~0.14~~ 0.73	UJ
	Tin	1.4	B	~~1.4~~ 31.2	U
	Vanadium	14.4	B	14.4	F
	Zinc	20.4	B	20.4	F
BHGLAOC006003-02	Antimony	0 32	UN	~~0.32~~ 4.1	UJ
	Arsenic	3.3	B	3.3	F
	Cadmium	0.20	B	0 20	F
	Cobalt	3 6	B	3 6	F
	Copper	3 9	B	3.9	F
	Lead	4.3	N	4 3	J
	Nickel	6 8	B	6 8	F

Qualification Summary Table - Metals/Cyanide SDG 9906G597					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc.	Qualifier
	Selenium	0 12	UWN	~~0.12~~ 0.23	UJ
	Silver	0.08	UWN	~~0.08~~ 0.15	UJ
	Thallium	0.14	UWN	~~0.14~~ 0.76	UJ
	Tin	1.5	B	~~1.5~~ 32.5	U
	Vanadium	18 5	B	18.5	F
	Zinc	14.5	B	14 5	F
BHGLAOC006004-01	Antimony	0.33	UN	~~0.33~~ 4.2	UJ
	Arsenic	2 7	B	2 7	F
	Cadmium	0 13	B	0 13	F
	Chromium	7.3	B	7.3	F
	Cobalt	2.5	B	2 5	F
	Copper	4 7	B	4 7	F
	Lead	6 4	N	6 4	J
	Nickel	5 3	B	5 3	F
	Selenium	0 16	BWN	~~0.16~~ stet	RF
	Silver	0 09	UWN	~~0.09~~ 0.17	UJ
	Thallium	0 17	UWN	~~0.17~~ 0.37	UJ
	Tin	1.3	B	~~1.3~~ 33.5	U
	Vanadium	15 4	B	15 4	F
	Zinc	16 4	B	16 4	F
BHGLAOC006004-02	Antimony	0.30	UN	~~0.30~~ 3.9	UJ
	Arsenic	3.1	B	3 1	F
	Cadmium	0 17	B	0 17	F
	Cobalt	3 1	B	3.1	F
	Copper	5.6	B	5.6	F
	Lead	8 5	N	8 5	J
	Nickel	6 9	B	6 9	F
	Selenium	0 12	UWN	~~0.12~~ 0.23	UJ
	Silver	0 08	UWN	~~0.08~~ 0.15	UJ
	Thallium	0 15	UWN	~~0.15~~ ~~3.1~~ 0.77	UJ
	Tin	1.4	B	~~1.4~~ 31	U
	Vanadium	21.3	B	21 3	F
	Zinc	21.3	B	21 3	F
DUP01	Antimony	0 32	UN	~~0.32~~ 4.1	UJ
	Arsenic	3 8	B	3 8	F
	Cadmium	0 36	B	0.36	F
	Cobalt	3.2	B	3.2	F
	Copper	6.1	B	6 1	F
	Lead	5.4	N	5.4	J
	Nickel	7.0	B	7 0	F
	Selenium	0 66	UN	~~0.66~~ 1.2	UJ
	Silver	0 08	UWN	~~0.08~~ 0.16	UJ
	Thallium	0.16	UWN	~~0.16~~ 0.32	UJ
	Tin	1.6	B	~~1.6~~ 32.8	U
	Vanadium	23.2	B	23.2	F
	Zinc	24.3	B	24.3	F

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APPENDIX IX VOLATILE ORGANIC COMPOUNDS
USEPA SW846 Method 8260B - Level III Review

Site: Naval Air Station Fort Worth - D015 SDG #: 9906G597

Client: HydroGeoLogic, Inc. Date: September 22, 1999

Laboratory: Severn Trent Laboratories, Chicago, IL Reviewer: Cathy Shelby

Client Sample ID	Laboratory Sample ID	Matrix
BHGLSWMU51008-01	9906G597-001	Soil
BHGLSWMU51008-02	9906G597-002	Soil
BHGLSWMU51009-01	9906G597-003	Soil
BHGLSWMU51009-02	9906G597-004	Soil
EB060199	9906G597-005	Water
TB060199	9906G597-006	Water
TB060299	9906G597-007	Water
EB060299	9906G597-008	Water
BHGLAOC006001-01	9906G597-009	Soil
BHGLAOC006001-02	9906G597-010	Soil
BHGLAOC006002-01	9906G597-011	Soil
BHGLAOC006002-02	9906G597-012	Soil
BHGLAOC006003-01	9906G597-013	Soil
BHGLAOC006003-02	9906G597-014	Soil
BHGLAOC006003-02MS	9906G597-014MS	Soil
BHGLAOC006003-02MSD	9906G597-014MSD	Soil
BHGLAOC006004-01	9906G597-015	Soil
BHGLAOC006004-02	9906G597-016	Soil
DUP01	9906G597-017	Soil

Holding Times - All samples were analyzed within the recommended holding time of 14 days for preserved water and soil samples as specified in Table 5 1.2-1 of the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), February, 1998. No qualifications were required.

GC/MS Tuning - All of the BFB tunes in the initial and continuing calibrations met the percent relative abundance criteria. No qualifications were required.

Initial Calibration - The initial calibrations analyzed on 01/24/99-06/03/99 and 03/09/99-05/31/99 exhibited acceptable %RSD and mean RRF values. No qualifications were required.

Continuing Calibration - The continuing calibrations analyzed on 06/03/99 and 06/08/99 exhibited acceptable %D and RRF values. No qualifications were required.

The continuing calibrations analyzed on 06/10/99 (0610) exhibited a high %D value for dichlorodifluoromethane of 70.5%. Dichlorodifluoromethane has been rejected (R) in samples 51008-01 and 51008-02.

The continuing calibrations analyzed on 06/10/99 (1817) exhibited a high %D value for dichlorodifluoromethane of 80.5%. Dichlorodifluoromethane has been rejected (R) in samples 51009-01, 06001-01, 06002-02, 06003-01, and 06003-02.

The continuing calibrations analyzed on 06/11/99 exhibited a high %D value for dichlorodifluoromethane of 71.2%. Dichlorodifluoromethane has been rejected (R) in samples 51009-02, 06001-02, 06002-01, 06004-01, 06004-02, and DUP01.

Surrogates - Samples EB060199 and TB060199 exhibited high %R values for dibromofluoromethane of 138% and 126%, respectively. All positive results have been qualified (J).

Laboratory Control Samples - LCS samples VBLKAABS, VBLKCKBA, VBLG2MBS, and VBLKHTBS exhibited acceptable %R values. No qualifications were required.

LCS sample VBLKHRBS exhibited a high %R value for dichlorodifluoromethane of 148%, however, all associated results are non-detect and no qualifications were required.

MS/MSD - MS/MSD sample BHGLSWMU06003-02 exhibited high MS/MSD %R values for dichlorodifluoromethane and 1,2,3-trichloropropane of 144%/145% and 136%/ok, respectively, however, all associated results are non-detect and no qualifications were required.

Internal Standard (IS) Area Performance - All internal standards met response and retention time (RT) criteria. No qualifications were required.

Method Blank - Method blanks VBLKAA (06/03/99), VBLKCK (06/09/99), VBLKG2 (06/09/99), VBLKHT (06/10/99), and VBLKHR (06/11/99) were free of contamination. No qualifications were required.

Trip, field, equipment blank - Trip blank TB060199 was free of contamination. No qualifications were required.

Trip blank TB060299 was free of contamination No qualifications were required.

Equipment blank EB060199 exhibited methylene chloride contamination at 0.5 ug/L, however, all associated results are non-detect and no qualifications were required.

Equipment blank EB060299 exhibited acetone and methylene chloride contamination at 5 ug/L and 0.6 ug/L, respectively. Acetone has been qualified (U) in sample BHGLSWMU06004-02

Field Duplicates - Field duplicate results for samples BHGLSWMU06001-02 and DUP01 are non-detect No qualifications were required.

Tentatively Identified Compounds (TICs) - All TICs were qualified (T)

Compound Quantitation - No discrepancies were identified.

Comments - The analyses of environmental samples and quality control samples are valid within the constraints identified with the data quality flags as presented in the field blank and TICs sections of this report with the exception of one compound which was rejected due to calibration problems in all soil samples. The NAS Fort Worth JRB Basewide Quality Assurance Project Plan, February, 1998, data validation criteria were used in evaluating the data in this summary report.

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report.

Qualification Summary Table - Volatiles SDG 9906G597					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc.	Qualifier
BHGLSWMU51008-01	Dichlorodifluoromethane	5	U	5	R
BHGLSWMU51008-02	Dichlorodifluoromethane	5	U	5	R
BHGLSWMU51009-01	Dichlorodifluoromethane	5	U	5	R
BHGLSWMU51009-02	Dichlorodifluoromethane	5	U	5	R
EB060199	Acetone	5	-	5	J
	Methylene Chloride	0 6	-	0 6	J
BHGLAOC006001-01	Dichlorodifluoromethane	5	U	5	R
BHGLAOC006001-02	Dichlorodifluoromethane	5	U	5	R
BHGLAOC006002-01	Dichlorodifluoromethane	5	U	5	R
BHGLAOC006002-02	Dichlorodifluoromethane	5	U	5	R
BHGLAOC006003-01	Dichlorodifluoromethane	5	U	5	R

Qualification Summary Table - Volatiles SDG 9906G597					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
BHGLAOC006003-02	Dichlorodifluoromethane	5	U	5	R
BHGLAOC006004-01	Dichlorodifluoromethane	5	U	5	R
BHGLAOC006004-02	Dichlorodifluoromethane	5	U	5	R
	Acetone	6	U	6	U
DUP01	Dichlorodifluoromethane	5	U	5	R

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APPENDIX IX SEMIVOLATILE ORGANIC COMPOUNDS

USEPA SW846 Method 8270C - Level III Review

Site: Naval Air Station Fort Worth - D015 SDG #. 9906G597

Client: HydroGeoLogic, Inc. Date: September 23, 1999

Laboratory: Severn Trent, Chicago, IL Reviewer: Cathy Shelby

Client Sample ID	Laboratory Sample ID	Matrix
BHGLSWMU51008-01	9906G597-001	Soil
BHGLSWMU51008-02	9906G597-002	Soil
BHGLSWMU51009-01	9906G597-003	Soil
BHGLSWMU51009-02	9906G597-004	Soil
EB060199	9906G597-005	Water
EB060299	9906G597-008	Water
BHGLAOC006001-01	9906G597-009	Soil
BHGLAOC006001-02	9906G597-010	Soil
BHGLAOC006002-01	9906G597-011	Soil
BHGLAOC006002-02	9906G597-012	Soil
BHGLAOC006003-01	9906G597-013	Soil
BHGLAOC006003-02	9906G597-014	Soil
BHGLAOC006003-02MS	9906G597-014MS	Soil
BHGLAOC006003-02MSD	9906G597-014MSD	Soil
BHGLAOC006004-01	9906G597-015	Soil
BHGLAOC006004-02	9906G597-016	Soil
DUP01	9906G597-017	Soil

Holding Times - All samples were extracted within 7 days for water samples and 14 days for soil samples and analyzed within the recommended holding time of 40 days for all samples as specified in Table 5.1.2-1 of the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), February, 1998. No qualifications were required.

GC/MS Tuning - All of the DFTPP tunes in the initial and continuing calibrations met the percent relative abundance criteria. No qualifications were required.

Initial Calibration - The initial calibrations analyzed 02/24/99-05/26/99 and 02/24/99-06/22/99 exhibited acceptable %RSD and mean RRF values No qualifications were required.

Continuing Calibration - The continuing calibration analyzed on 06/14/99 exhibited acceptable %D values. No qualifications were required.

The continuing calibration analyzed on 06/15/99 exhibited high %D values for 4,6-dinitro-2-methylphenol, benzoic acid, and 2,2'-oxybis(1-chloropropane) of 36.2%, 27.4%, and 40.1%, respectively. All three compounds have been rejected (R) in samples EB060299, 51008-01, 51008-02, 51009-01, 51009-02, 06001-01, 06001-02, 06002-01, 06003-01, 06004-02, and 06003-02.

The continuing calibration analyzed on 06/23/99 exhibited a high %D value for benzoic acid of 26.4%. Benzoic acid has been rejected (R) in samples 06002-02, 06004-01, and DUP01.

Surrogates - Sample EB060199 exhibited a high %R value for surrogate compound terphenyl-d14 of 139%, however, no qualifications are required for only one surrogate outside of QC limits.

Laboratory Control Samples - LCS sample SBLKSNBS exhibited acceptable %R values. No qualifications were required.

LCS sample SBLKSDBS exhibited high %R values for pyrene and di-n-octylphthalate of 164% and 128%, respectively, however, all associated results are non-detect and no qualifications were required.

LCS sample SBLKSGBS exhibited high %R values for pyrene and di-n-octylphthalate of 151% and 131%, respectively, however, all associated results are non-detect and no qualifications were required.

MS/MSD - MS/MSD sample BHGLSWMU06003-02 exhibited high RPD values for 4-chloroaniline, 3,3'-dichlorobenzidine, and benzoic acid of 52%, 35%, and 36%, respectively, however, all associated results are non-detect or have already been qualified and no qualifications were required.

Internal Standard (IS) Area Performance - All internal standards met response and retention time (RT) criteria. No qualifications were required.

Method Blank - Method blanks SBLKSD (06/03/99), SBLKSG (06/07/99) and SBLKSN (06/10/99) were free of contamination. No qualifications were required.

Field, equipment blank - Equipment blank EB060199 was free of contamination. No qualifications were required.

Equipment blank EB060299 exhibited benzoic acid contamination at 12 ug/L, however, all associated samples are non-detect and no qualifications were required.

Field Duplicates - Field duplicate results for samples BHGLSWMU06001-02 and DUP01 are non-detect No qualifications were required.

Tentatively Identified Compounds (TICs) - All TICs were qualified (T).

Compound Quantitation - All results between the MDL and the PQL have been qualified (F).

Comments - The analyses of environmental samples and quality control samples are valid within the constraints identified with the data quality flags as presented in the TICs and compound quantitation sections of this report with the exception of several compounds which were rejected due to calibration problems. The NAS Fort Worth JRB Basewide Quality Assurance Project Plan, February, 1998, data validation criteria were used in evaluating the data in this summary report.

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report.

Qualification Summary Table - Semivolatiles SDG 9906G597					
Sample No.	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
BHGLSWMU51008-01	4,6-Dinitro-2-methylphenol	2000	U	2000	R
	Benzoic Acid	2000	U	2000	R
	2,2'-oxybis(1-Chloropropane)	400	U	400	R
BHGLSWMU51008-02	4,6-Dinitro-2-methylphenol	1900	U	1900	R
	Benzoic Acid	1900	U	1900	R
	2,2'-oxybis(1-Chloropropane)	380	U	380	R
BHGLSWMU51009-01	4,6-Dinitro-2-methylphenol	2000	U	2000	R
	Benzoic Acid	2000	U	2000	R
	2,2'-oxybis(1-Chloropropane)	400	U	400	R
BHGLSWMU51009-02	4,6-Dinitro-2-methylphenol	1900	U	1900	R
	Benzoic Acid	1900	U	1900	R
	2,2'-oxybis(1-Chloropropane)	370	U	370	R
EB060299	4,6-Dinitro-2-methylphenol	50	U	50	R
	Benzoic Acid	12	U	12	R
	2,2'-oxybis(1-Chloropropane)	10	U	10	R
BHGLAOC006001-01	4,6-Dinitro-2-methylphenol	2000	U	2000	R
	Benzoic Acid	2000	U	2000	R

Qualification Summary Table - Semivolatiles SDG. 9906G597					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
	2,2'-oxybis(1-Chloropropane)	390	U	390	R
BHGLAOC006001-02	4,6-Dinitro-2-methylphenol	2000	U	2000	R
	Benzoic Acid	2000	U	2000	R
	2,2'-oxybis(1-Chloropropane)	390	U	390	R
BHGLAOC006002-01	4,6-Dinitro-2-methylphenol	2000	U	2000	R
	Benzoic Acid	2000	U	2000	R
	2,2'-oxybis(1-Chloropropane)	390	U	390	R
BHGLAOC006002-02	Benzoic Acid	1900	U	1900	R
BHGLAOC006003-01	4,6-Dinitro-2-methylphenol	2000	U	2000	R
	Benzoic Acid	2000	U	2000	R
	2,2'-oxybis(1-Chloropropane)	370	U	370	R
BHGLAOC006003-02	4,6-Dinitro-2-methylphenol	1800	U	1800	R
	Benzoic Acid	1800	U	1800	R
	2,2'-oxybis(1-Chloropropane)	370	U	370	R
BHGLAOC006004-01	Butylbenzylphthalate	310	J	310	F
	Benzoic Acid	2000	U	2000	R
BHGLAOC006004-02	4,6-Dinitro-2-methylphenol	1900	U	1900	R
	Benzoic Acid	1900	U	1900	R
	2,2'-oxybis(1-Chloropropane)	380	U	380	R
DUP01	Benzoic Acid	1900	U	1900	R

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APPENDIX IX PESTICIDES/PCBs
USEPA SW846 Method 8080A - Level III Review

Site: Naval Air Station Fort Worth - D015 SDG #: 9906G597

Client: HydroGeoLogic, Inc. Date: September 22, 1999

Laboratory: Severn Trent Laboratories, Chicago, IL Reviewer: Cathy Shelby

Client Sample ID	Laboratory Sample ID	Matrix
BHGLSWMU51008-01	9906G597-001	Soil
BHGLSWMU51008-02	9906G597-002	Soil
BHGLSWMU51009-01	9906G597-003	Soil
BHGLSWMU51009-02	9906G597-004	Soil
EB060199	9906G597-005	Water

Holding Times - All samples were extracted within 7 days for water and 14 days for soil samples and analyzed within the recommended holding time of 40 days for all samples as specified in Table 5.1.2-1 of the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), February, 1998. No qualifications were required.

Instrument Performance - The retention time of dichlorodiphenyl-trichloroethane (DDT) was greater than 12 minutes and the DDT and endrin breakdown was less than 20%. No qualifications were required.

Initial Calibration - The initial calibration analyzed 06/18/99 exhibited acceptable %RSD values of less than 20%. No qualifications were required.

Continuing Calibration Verification - The continuing calibrations analyzed 06/22/99, 06/24/99, and 06/25/99 exhibited acceptable %D values. No qualifications were required.

The continuing calibrations analyzed 06/22/99 (2336) and 06/23/99 (0009) exhibited high %D values for alpha-BHC, beta-BHC, and endrin of 15 2%, 15.6%, and 17.4%, respectively. All three compounds have been rejected (R) in all soil samples.

Method Blank - Method blanks PBLKOF (06/07/99) and PBLKPY (06/09/99) were free of contamination. No qualifications were required.

Field, equipment blank - Equipment blank EB060199 were free of contamination No qualifications were required.

Surrogates - All samples exhibited acceptable surrogate %R values. No qualifications were required.

Laboratory Control Samples - LCS samples PBLKQ2BS, PBLKPYBS, and PBLKPZBS exhibited acceptable %R values. No qualifications were required

LCS sample PBLKOFBS exhibited a high %R value for delta-BHC of 130%, however, all associated results are non-detect and no qualifications were required.

MS/MSD - A MS/MSD sample was not analyzed with this data package.

Field Duplicates - Field duplicate samples were not analyzed with this data package.

Compound Identification - Several compounds exhibited s light RT shift during the 06/23/99 calibration, however, the data were not affected and no qualifications were required.

Compound Quantitation - No discrepancies were identified.

Comments - The analyses of environmental samples and quality control samples are valid with the exception of three compounds which were rejected in all soil samples due to calibration problems. The NAS Fort Worth JRB Basewide Quality Assurance Project Plan, February, 1998, data validation criteria were used in evaluating the data in this summary report

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report.

Qualification Summary Table - Pesticide/PCBs SDG 9906G597					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
BHGLSWMU51008-01	Alpha-BHC	2 4	U	2 4	R
	Beta-BHC	4 8	U	4 8	R

	Endrin	4 8	U	4 8	R
BHGLSWMU51008-02	Alpha-BHC	11	U	11	R
	Beta-BHC	23	U	23	R
	Endrin	23	U	23	R
BHGLSWMU51009-01	Alpha-BHC	12	U	12	R
	Beta-BHC	24	U	24	R
	Endrin	24	U	24	R
BHGLSWMU51009-02	Alpha-BHC	11	U	11	R
	Beta-BHC	23	U	23	R
	Endrin	23	U	23	R

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ORGANOPHOPHORUS PESTICIDES
USEPA SW846 Method 8141 - Level III Review

Site: Naval Air Station Fort Worth - D015 SDG #: 9906G597

Client HydroGeoLogic, Inc. Date: September 22, 1999

Laboratory: Severn Trent Laboratories, Chicago, IL Reviewer: Cathy Shelby

Client Sample ID	Laboratory Sample ID	Matrix
BHGLSWMU51008-01	9906G597-001	Soil
BHGLSWMU51008-02	9906G597-002	Soil
BHGLSWMU51009-01	9906G597-003	Soil
BHGLSWMU51009-02	9906G597-004	Soil
EB060199	9906G597-005	Water

Holding Times - All samples were extracted within 7 days for water samples and 14 days for soil samples and analyzed within the recommended holding time of 40 days for all samples as specified in Table 5.1 2-1 of the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), February, 1998. No qualifications were required.

Initial Calibration - The initial calibrations analyzed on 06/11/99 and 06/16/99 exhibited acceptable %RSD values of less than 20% and/or correlation coefficients of >0.995. No qualifications were required.

Continuing Calibration Verification - The continuing calibration verifications analyzed on 06/11/99, 06/16/99, and 06/17/99 exhibited acceptable %D values. No qualifications were required.

Method Blank - Method blanks PBLKMD (06/03/99) and PBLKQA (06/09/99) were free of contamination. No qualifications were required.

Field, equipment blank - Equipment blank EB060199 was free of contamination No qualifications were required.

Surrogates - Samples BHGLSWMU51008-01 and BHGLSWMU51009-01 exhibited low %R values for surrogate compound TPP of 64% and 64%, respectively. All results for these samples have been qualified (J/UJ).

Laboratory Control Samples - LCS samples PBLKMOBS and PBLKQBBS exhibited acceptable %R values. No qualifications were required.

MS/MSD - A MS/MSD sample was not analyzed with this data package.

Field Duplicates - Field duplicate samples were not analyzed with this data package

Compound Identification - Dimethoate exhibited a slight RT shift during the 06/17/99 calibration verification, however, none of the data were affected and no qualifications were required.

Compound Quantitation - All results between the MDL and the PQL have been qualified (F).

Comments - The analyses of environmental samples and quality control samples are valid within the constraints identified with the data quality flags as presented in the surrogate section of this report. The analyses of environmental samples and quality control samples are valid. The NAS Fort Worth JRB Basewide Quality Assurance Project Plan, February, 1998, data validation criteria were used in evaluating the data in this summary report.

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report.

Qualification Summary Table - OP Pesticides
SDG· 9906G597

Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc.	Qualifier
BHGLSWMU51008-01	Disulfoton	79	U	79	UJ
	Methyl parathion	79	U	79	UJ
	Phorate	79	U	79	UJ
	o.o.o-Triethylphosphorothioat	79	U	79	UJ
	Thionazin	79	U	79	UJ
	Sulfotep	79	U	79	UJ
	Dimethoate	79	U	79	UJ
	Parathion	79	U	79	UJ

Qualification Summary Table - OP Pesticides SDG 9906G597					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
	Famphur	79	U	79	UJ
BHGLSWMU51009-01	Disulfoton	79	U	79	UJ
	Methyl parathion	79	U	79	UJ
	Phorate	79	U	79	UJ
	o o o-Triethylphosphorothioat	79	U	79	UJ
	Thionazin	79	U	79	UJ
	Sulfotep	79	U	79	UJ
	Dimethoate	79	U	79	UJ
	Parathion	79	U	79	UJ
	Famphur	79	U	79	UJ

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HERBICIDES
USEPA SW846 Method 8150B - Level III Review

Site: Naval Air Station Fort Worth - DO15 SDG #. 9906G597

Client: HydroGeoLogic, Inc Date: September 22, 1999

Laboratory: Severn Trent Laboratories, Chicago, IL Reviewer: Nancy Weaver

Client Sample ID	Laboratory Sample ID	Matrix
BHGLSWMU51008-01	9906G597-001	Soil
BHGLSWMU51008-02	9906G597-002	Soil
BHGLSWMU51009-01	9906G597-003	Soil
BHGLSWMU51009-02	9906G597-004	Soil
EB060199	9906G597-005	Water

Holding Times - All samples were extracted within 7 days for water samples and 14 days for soil samples and analyzed within the recommended holding time of 40 days for all samples as specified in Table 5.1.2-1 of the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), February, 1998 No qualifications were required.

Initial Calibration - The initial calibrations analyzed on 06/14/99 and 06/18/99 exhibited acceptable %RSD values less than 20%. No qualifications were required

Continuing Calibration Verification - The continuing calibration verifications analyzed on 06/14/99, 06/15/99, 06/18/99 and 06/19/99 exhibited acceptable %D values. No qualifications were required.

Method Blank - Method blanks PBLKPF (06/03/99) and PBLKPW (06/15/99) were free of contamination. No qualifications were required.

Field, equipment blank - Equipment blank EB060199 was free of contamination No qualifications were required.

Surrogates - All samples exhibited acceptable surrogate %R values. No qualifications were required.

Laboratory Control Samples - LCS samples PBLKPFBS and PBLKPWBS exhibited acceptable %R values. No qualifications were required.

MS/MSD - A MS/MSD sample was not analyzed with this data package.

Field Duplicates - Field duplicate samples were not analyzed with this data package.

Compound Identification - The retention times met the QC acceptance criteria. No qualifications were required.

Compound Quantitation - No discrepancies were identified.

Comments - The analyses of environmental samples and quality control samples are valid. The NAS Fort Worth JRB Basewide Quality Assurance Project Plan, February, 1998, data validation criteria were used in evaluating the data in this summary report

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report.

Qualification Summary Table - Herbicides SDG 9906G597					
Sample No.	Compound(s)	Reported		Validated	
		Conc.	Qualifier	Conc.	Qualifier
None Qualified	--	--	--	--	--

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2,3,7,8-TCDD & 2,3,7,8-TCDF
USEPA SW846 Method 8280 - Level III Review

Site: Naval Air Station Fort Worth - DO15 SDG #: 9906G597

Client: HydroGeoLogic, Inc. Date: September 22, 1999

Laboratory RECRA LabNet - Philadelphia Reviewer: Nancy Weaver

Client Sample ID	Laboratory Sample ID	Matrix
BHGLSWMU51008-01	9906G597-001	Soil
BHGLSWMU51008-02	9906G597-002	Soil
BHGLSWMU51009-01	9906G597-003	Soil
BHGLSWMU51009-02	9906G597-004	Soil
EB060199	9906G597-005	Water

Holding Times: All samples were extracted within 30 days of collection and analyzed within the recommended holding time of 45 days as specified in Table 5.1.2-1 of the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), February, 1998. No qualifications were required.

Initial Calibration: The initial calibrations analyzed on 12/29/98, 12/30/98 and 12/31/98 exhibited acceptable %RSD values of less than 15% for the RFs All ICAL ion abundance ratios met QC acceptance criteria. No qualifications were required.

Continuing Calibration. The continuing calibrations analyzed on 06/22/99 exhibited acceptable %D values and ion abundance ratios within QC acceptance criteria and no qualifications were required.

Column Performance Check: Resolution check criteria were met since the valley was less than 25%.

Surrogates: All surrogate recovery values met QC acceptance criteria and no qualifications were required.

Method Blanks: The water and soil method blanks were free of contamination and no qualifications were required.

Field. equipment blanks: Equipment blank EB060199 was free of contamination. No qualifications were required.

Internal Standards. The internal standards met QC acceptance criteria and no qualifications were required.

MS/MSD: A MS/MSD sample was not analyzed with this data package.

Laboratory Control Sample/Duplicate: The water and soil LCS samples exhibited acceptable %R values within the QC acceptance criteria and no qualifications were required

Field Duplicates. Field duplicate samples were not analyzed with this data package.

Compound Quantitation: No discrepancies were identified All sample results were non-detect.

Comments: The analyses of environmental samples and quality control samples are valid. The NAS Fort Worth JRB Basewide Quality Assurance Project Plan, February, 1998, data validation criteria were used in evaluating the data in this summary report.

Data Validation Summary Table: The following table summarizes all qualifications as described in this data validation summary report.

Qualification Summary Table - Dioxin/Furans SDG: 9906G597					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
None Qualified	--	--	--	--	--

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TOTAL PETROLEUM HYDROCARBONS
Texas Method 1005 (Rev. 4/98) - Level III Review

Site: Naval Air Station Fort Worth - DO15 SDG #: 9905G597

Client: HydroGeoLogic, Inc. Date: October 25, 1999

Laboratory: Severn Trent Laboratories, Baltimore, MD Reviewer: Nancy Weaver

Client Sample ID	Laboratory Sample ID	Matrix
EB060299	906099-001	Water
BHGLAOC006001-01	906099-002	Soil
BHGLAOC006001-02	906099-003	Soil
BHGLAOC006002-01	906099-004	Soil
BHGLAOC006002-02	906099-005	Soil
BHGLAOC006003-01	906099-006	Soil
BHGLAOC006003-02	906099-007	Soil
BHGLAOC006003-02MS	906099-007MS	Soil
BHGLAOC006003-02MSD	906099-007MSD	Soil
BHGLAOC006004-01	906099-008	Soil
BHGLAOC006004-02	906099-009	Soil
DUP1	906099-010	Soil

Holding Times - All samples were analyzed outside the recommended holding time of 7 days for water samples and 14 days for soil samples as specified in Table 5.1.2-1 of the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), February, 1998 with the exception of samples EB060299. All results for this sample have been qualified (J/UJ).

Initial Calibration - Information not provided by the laboratory.

Continuing Calibration - Information not provided by the laboratory.

Surrogates - All samples exhibited acceptable surrogate %R values No qualifications were required.

Laboratory Control Samples - The LCS samples exhibited acceptable %R values. No qualifications were required.

MS/MSD - MS/MSD sample BHGLAOC006003-02 exhibited acceptable %R and RPD values. No qualifications were required.

Method Blank - The method blanks were free of contamination. No qualifications were required.

Field. equipment blank - Equipment blanks EB060299 was free of contamination.

Field Duplicates - Field duplicate samples DUP1 and BHGLAOC006001-02 were non-detect. No qualifications were required.

Compound Quantitation - No discrepancies were identified.

Comments - The analyses of environmental samples and quality control samples are valid within the constraints identified with the data quality flags as presented in the holding time section of this report. The NAS Fort Worth JRB Basewide Quality Assurance Project Plan. February. 1998, data validation criteria were used in evaluating the data in this summary report.

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report.

Qualification Summary Table - TPH SDG. 9905G597					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc.	Qualifier
EB060299	C6-C10	ND	-	ND	UJ
	>C10-C28	ND	-	ND	UJ
	C6-C28	ND	-	ND	UJ

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ETHYLENE GLYCOL by GC/FID
Method SOP 641 - Level III Review

Site: Naval Air Station Fort Worth - DO15 SDG #: 9906G597

Client: HydroGeoLogic, Inc. Date: October 25, 1999

Laboratory: Severn Trent Laboratories, Pensacola, FL Reviewer: Nancy Weaver

Client Sample ID	Laboratory Sample ID	Matrix
EB060299	906099-001	Water
BHGLAOC006001-01	906099-002	Soil
BHGLAOC006001-02	906099-003	Soil
BHGLAOC006002-01	906099-004	Soil
BHGLAOC006002-02	906099-005	Soil
BHGLAOC006003-01	906099-006	Soil
BHGLAOC006003-02	906099-007	Soil
BHGLAOC006003-02MS	906099-007MS	Soil
BHGLAOC006003-02MSD	906099-007MSD	Soil
BHGLAOC006004-01	906099-008	Soil
BHGLAOC006004-02	906099-009	Soil
DUP1	906099-010	Soil

Holding Times - All samples were analyzed within the recommended holding time of 30 days as specified in SOP 641. No qualifications were required.

Initial Calibration - Information not provided by the laboratory.

Continuing Calibration - Information not provided by the laboratory.

MS/MSD - MS/MSD sample BHGLAOC006003-02 exhibited acceptable %R and RPD values. No qualifications were required.

LCS - The LCS sample exhibited acceptable %R values. No qualifications were required.

Method Blank - The method blank was free of contamination. No qualifications were required.

Trip, Field and Equipment Blanks - Equipment blank EB060299 was free of contamination. No qualifications were required

Field Duplicates - Field duplicate results are summarized in the table below. No qualifications were required.

Compound	BHGLAOC006001-02 mg/kg	DUP1 mg/kg	RPD
Ethylene Glycol	23	5U	NC

Compound Quantitation - No discrepancies were identified.

Comments - The analyses of environmental samples and quality control samples are valid. The NAS Fort Worth JRB Basewide Quality Assurance Project Plan, February, 1998, data validation criteria were used in evaluating the data in this summary report.

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report.

Qualification Summary Table - Ethylene Glycol SDG: 9906G597					
Sample No	Compound(s)	Reported		Validated	
		Conc ug/L	Qualifier	Conc. ug/L	Qualifier
None Qualified	--	--	--	--	--

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TAL METALS
USEPA SW846 Methods 6010A, 7471 - Level III Review

Site: Naval Air Station Fort Worth - DO15 SDG #: 9906G677

Client: HydroGeoLogic, Inc Date: September 22, 1999

Laboratory: Severn Trent Laboratories, Chicago, IL Reviewer: Nancy Weaver

Client Sample ID	Laboratory Sample ID	Matrix
BHGLSWMU32001-01	9906G677-001	Soil
BHGLSWMU32001-02	9906G677-002	Soil
BHGLSWMU32001-03	9906G677-003	Soil
BHGLSWMU32001-04	9906G677-004	Soil
BHGLSWMU32002-01	9906G677-005	Soil
BHGLSWMU32002-02	9906G677-006	Soil
BHGLSWMU32002-03	9906G677-007	Soil
BHGLSWMU32003-01	9906G677-008	Soil
BHGLSWMU32003-02	9906G677-009	Soil
BHGLSWMU32003-03	9906G677-010	Soil
BHGLSWMU32003-04	9906G677-011	Soil
DUP03	9906G677-012	Soil
BHGLSWMU12001-01	9906G677-013	Soil
BHGLSWMU12001-02	9906G677-014	Soil
BHGLSWMU12001-03	9906G677-015	Soil
BHGLSWMU12002-01	9906G677-016	Soil
BHGLSWMU12002-02	9906G677-017	Soil
BHGLSWMU12002-03	9906G677-018	Soil
BHGLSWMU12003-01	9906G677-019	Soil
BHGLSWMU12003-02	9906G677-020	Soil
BHGLSWMU12003-02MS	9906G677-020MS	Soil
BHGLSWMU12003-02MSD	9906G677-020MSD	Soil
BHGLSWMU12003-03	9906G677-021	Soil

Holding Times. All samples were extracted and analyzed within the recommended holding time of 28 days for mercury and 180 days for all other metals as specified in Table 5.1.2-1 of the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), February, 1998. No qualifications were required.

Calibration: All initial and continuing calibration verifications exhibited acceptable %R values. No qualifications were required.

Method Blanks. The soil preparation blanks PBS (07/14/99) and (07/15/99), initial and continuing calibration blanks exhibited contamination for several compounds which warranted the following qualifications. Arsenic has been qualified (J) in sample BHGLSWMU12003-03 Silver has been qualified (U) in samples BHGLSWMU12003-02 and BHGLSWMU12003-03. Tin has been qualified (U) in all samples.

Field and equipment blank: Field QC samples were not associated with the samples in this data package.

ICP Interference Check Sample: All % recovery values met the QC acceptance criteria. No qualifications were required.

LCS: The LCS analysis met the QC acceptance criteria of as specified in the QAPP. No qualifications were required

ICP Serial Dilutions. An ICP serial dilution sample was not analyzed with this data package

Matrix Spike: Matrix spike sample BHGLSWMU12003-02 exhibited low %R values for antimony, arsenic, copper, and silver of 28.2%, 1.4%, 56 7%, and 70.9%, respectively, and high %R values for chromium, selenium, and vanadium of 145.1%, 278 0%, and 131.9%, respectively Antimony, arsenic, copper, and silver have been qualified (J/UJ) in all soil samples. Chromium, selenium, and vanadium have been qualified (J) for positive results in all soil samples.

Matrix Spike Duplicate: Matrix duplicate sample BHGLSWMU12003-02 exhibited acceptable RPD values No qualifications were required

Field Duplicates: Field duplicate results are summarized in the table below Cadmium and zinc have been qualified (J) in both samples unless already qualified (F).

Compound	BHGLSWMU32001-01 mg/kg	DUP03 mg/kg	RPD
Arsenic	2 8	1.7	49
Barium	68.6	86 1	23
Beryllium	0.41	0 65	45
Cadmium	0 61	0 08	154*
Chromium	12.0	9 8	20
Cobalt	4 7	4 8	2
Copper	6 5	7.1	9

Compound	BHGLSWMU32001-01 mg/kg	DUP03 mg/kg	RPD
Lead	10 8	9 4	14
Nickel	7.2	6 6	9
Selenium	0 12U	0 15	NC
Silver	0 14	0 11	24
Vanadium	19 6	17.4	12
Zinc	24.3	15 5	44*

Graphite Furnace Atomic Absorption (GFAA) Analysis: Several samples exhibited a postdigestion spike for selenium, silver, and thallium analysis out of control limits (85-115%) and sample absorbance is less than 50% of spike absorbance. The laboratory flagged these results (W) and the reviewer further qualified these results (J/UJ).

Compound Quantitation. All results between the MDL and the PQL have been qualified (F).

Comments: The analyses of environmental samples and quality control samples are valid within the constraints identified with the data quality flags as presented in the method blank, matrix spike, field duplicates, GFAA, and compound quantitation sections of this report The NAS Fort Worth JRB Basewide Quality Assurance Project Plan, February, 1998, data validation criteria were used in evaluating the data in this summary report.

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report.

Qualification Summary Table - Metals SDG 9906G677					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
BHGLSWMU32001-01	Antimony	0.30	UN	0 30	UJ
	Arsenic	2.8	BN	2.8	~~J~~ F(Qv)
	Cadmium	0.61	-	0.61	J
	Chromium	12 0	N	12.0	J
	Copper	6.5	BN	6.5	~~J~~ F(Qv)
	Nickel	7.2	B	7 2	F
	Selenium	0 12	UWN	0.12	UJ
	Silver	0 14	BWN	0 14	UJ
	Thallium	0.14	UW	0.14	UJ
	Tin	1.5	B	1 5	U
	Vanadium	19 6	BN	19 6	~~J~~ F(Qv)
	Zinc	24.3	-	24 3	J
BHGLSWMU32001-02	Antimony	0.31	UN	0 31	UJ
	Arsenic	2 3	BN	2.3	~~J~~ F(Qv)
	Cadmium	0 14	B	0.14	F
	Chromium	11 7	N	11 7	J

Qualification Summary Table - Metals SDG 9906G677					
Sample No.	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
	Copper	6.4	BN	6 4	J F (Qv)
	Selenium	0 12	UWN	0 12	UJ
	Silver	0 11	BWN	0 11	J F (Qv)
	Tin	1 6	B	1 6	U
	Vanadium	22 6	BN	22 6	J F (Qv)
	Zinc	19 0	B	19 0	F
BHGLSWMU32001-03	Antimony	0 31	UN	0 31	UJ
	Arsenic	2 2	BN	2.2	J F (Qv)
	Chromium	6 7	BN	6 7	J F (Qv)
	Cobalt	3 8	B	3 8	F
	Copper	6.2	BN	6 2	J F (Qv)
	Nickel	5.2	B	5.2	F
	Silver	0.14	BWN	0 14	J F (Qv)
	Tin	0.95	B	0 95	U
	Vanadium	17 5	B	17.5	J F (Qv)
	Zinc	11.2	B	11 2	F
BHGLSWMU32001-04	Antimony	0 28	UN	0 28	UJ
	Arsenic	2 2	BN	2.2	J F (Qv)
	Cadmium	0.09	B	0 09	F
	Chromium	5 3	BN	5 3	J F (Qv)
	Cobalt	3 0	B	3.0	F
	Copper	3.6	BN	3 6	J F (Qv)
	Nickel	5 5	B	5 5	F
	Silver	0.09	BWN	0 09	J F (Qv)
	Tin	0 95	B	0 95	U
	Vanadium	12 5	B	12 5	J F (Qv)
	Zinc	9 0	B	9 0	F
BHGLSWMU32002-01	Antimony	0 31	UN	0 31	UJ
	Arsenic	4 4	N	4 4	J
	Cadmium	0 32	B	0 32	F
	Chromium	12 0	N	12.0	J
	Copper	8 4	N	8 4	J
	Selenium	0 12	UWN	0 12	UJ
	Silver	0 08	BWN	0 08	J F
	Thallium	0 14	UW	0 14	UJ
	Tin	1.6	B	1.6	U
	Vanadium	25 0	N	25 0	J
	Zinc	19.6	B	19 6	F
BHGLSWMU32002-02	Antimony	0 29	UN	0.29	UJ
	Arsenic	2 2	BN	2 2	J F
	Chromium	7 6	N	7 6	J
	Cobalt	4 1	B	4 1	F
	Copper	6.6	BN	6 6	J F
	Nickel	6 5	B	6.5	F
	Selenium	0 13	UWN	0 13	UJ
	Silver	0.12	BWN	0 12	J F
	Tin	1 1	B	1 1	U
	Vanadium	18 2	BN	18.2	J F
	Zinc	11 8	B	11 8	F

Qualification Summary Table - Metals SDG 9906G677					
Sample No	Compound(s)	Reported		Validated	
		Conc.	Qualifier	Conc	Qualifier
BHGLSWMU32002-03	Antimony	0 31	UN	0 31	UJ
	Arsenic	2 7	BN	2.7	J F
	Cadmium	0.09	B	0 09	F
	Chromium	7 8	BN	7 8	J F
	Cobalt	4 8	B	4 8	F
	Copper	13 0	N	13 0	J
	Nickel	7 6	B	7 6	F
	Selenium	0 12	UWN	0 12	UJ
	Silver	0 12	BWN	0 12	J F
	Tin	1 6	B	1 6	U
	Vanadium	15.4	BN	15 4	J F
	Zinc	11 0	B	11 0	F
BHGLSWMU32003-01	Antimony	0 29	UN	0 29	UJ
	Arsenic	3 1	BN	3 1	J F
	Cadmium	0 23	B	0.23	F
	Chromium	10 0	N	10 0	J
	Copper	8 2	N	8 2	J
	Selenium	0 14	BWN	0.14	J F
	Silver	0 11	BWN	0 11	J F
	Tin	1 4	B	1 4	U
	Vanadium	19 3	BN	19 3	J F
	Zinc	17 0	B	17 0	F
BHGLSWMU32003-02	Antimony	0.31	UN	0.31	UJ
	Arsenic	1 5	BN	1 5	J F
	Chromium	6.8	BN	6.8	J F
	Cobalt	4 4	B	4 4	F
	Copper	5 7	BN	5 7	J F
	Nickel	5 8	B	5 8	F
	Selenium	0 13	BWN	0 13	J F
	Silver	0.11	BWN	0.11	J F
	Tin	1 1	B	1 1	U
	Vanadium	13 0	BN	13 0	J F
	Zinc	11 2	B	11 2	F
BHGLSWMU32003-03	Antimony	0 28	UN	0.28	UJ
	Arsenic	1 7	BN	1.7	J F
	Chromium	5.4	BN	5.4	J F
	Cobalt	3 8	B	3.8	F
	Copper	4 3	BN	4.3	J F
	Selenium	0 13	UWN	0 13	UJ
	Silver	0 09	BWN	0.09	J F
	Tin	0 95	B	0 95	U
	Vanadium	11 2	BN	11.2	J F
	Zinc	9 3	B	9 3	F
BHGLSWMU32003-04	Antimony	0 27	UN	0 27	UJ
	Arsenic	7.2	N	7.2	J
	Cadmium	0 23	B	0 23	F
	Chromium	9 3	N	9 3	J
	Copper	7.7	N	7.7	J
	Silver	0 07	UWN	0 07	UJ

Qualification Summary Table - Metals SDG 9906G677					
Sample No	Compound(s)	Reported		Validated	
		Conc.	Qualifier	Conc	Qualifier
	Thallium	0 13	UW	0 13	UJ
	Tin	1 2	B	1.2	U
	Vanadium	18 6	BN	18.6	J F
DUP03	Antimony	0 28	UN	0 28	UJ
	Arsenic	1.7	BN	1 7	J F
	Cadmium	0 08	B	0.08	F
	Chromium	9 8	N	9 8	J
	Cobalt	4 0	B	4 0	F
	Copper	7 1	BN	7 1	J F
	Nickel	6 6	B	6 6	F
	Selenium	0.15	BWN	0.15	J F
	Silver	0 11	BWN	0 11	J F
	Tin	1 3	B	1 3	U
	Vanadium	17 4	BN	17 4	J F
	Zinc	15 5	B	15.5	F
BHGLSWMU12001-01	Antimony	0 29	UN	0 29	UJ
	Arsenic	2 0	BN	2 0	J – F(g)
	Cadmium	0 05	B	0 05	F
	Chromium	10 8	N	10 8	J
	Cobalt	3 3	B	3 3	F
	Copper	5.8	BN	5.8	J F(g)
	Selenium	0 13	UWN	0 13	UJ
	Silver	0.09	BWN	0 09	J F(g)
	Tin	1 4	B	1 4	U
	Vanadium	16.4	BN	16.4	J F(g)
	Zinc	15 5	B	15 5	F
BHGLSWMU12001-02	Antimony	0 28	UN	0 28	UJ
	Arsenic	3 4	BN	3 4	J F
	Chromium	11.1	N	11 1	J
	Copper	7 1	BN	7 1	J F
	Selenium	0 11	UWN	0 11	UJ
	Silver	0 08	BWN	0.08	J F
	Thallium	0 17	B	0.17	F
	Tin	1.2	B	1 2	U
	Vanadium	21 8	N	21 8	J
	Zinc	15.7	B	15.7	F
BHGLSWMU12001-03	Antimony	0 29	UN	0.29	UJ
	Arsenic	10.5	N	10 5	J
	Chromium	4 2	BN	4 2	J F
	Cobalt	4 4	B	4 4	F
	Copper	5.7	BN	5.7	J F
	Nickel	6 3	B	6 3	F
	Silver	0 07	BWN	0 07	J F
	Tin	1 1	B	1.1	U
	Vanadium	10 2	BN	10 2	J F
	Zinc	10 5	B	10 5	F
BHGLSWMU12002-01	Antimony	0 27	UN	0.27	UJ
	Arsenic	4 4	N	4 4	J ~~F(g)~~ — stet "J" (gw)

Qualification Summary Table - Metals SDG: 9906G677					
Sample No	Compound(s)	Reported		Validated	
		Conc.	Qualifier	Conc.	Qualifier
	Chromium	15 2	N	15 2	J
	Cobalt	4 1	B	4.1	F
	Copper	10 3	N	10 3	J
	Selenium	0 25	BN	0 25	~~J~~ F
	Silver	0.11	BWN	0.11	J F
	Tin	1 4	B	1.4	U
	Vanadium	18 4	BN	18 4	~~J~~ F
BHGLSWMU12002-02	Antimony	0 31	UN	0 31	UJ
	Arsenic	3 9	BN	3.9	~~J~~ F
	Cadmium	0.06	B	0 06	F
	Chromium	14 2	N	14.2	J
	Copper	8 4	N	8 4	J
	Selenium	0 24	BWN	0 24	J F
	Silver	0 10	BWN	0 10	~~J~~ F
	Thallium	0 15	B	0.15	F
	Tin	1 4	B	1 4	U
	Vanadium	27 2	N	27 2	J
	Zinc	19 8	B	19 8	F
BHGLSWMU12002-03	Antimony	0 28	UN	0.28	UJ
	Arsenic	1 7	BN	1 7	~~J~~ F
	Cadmium	0 05	B	0 05	F
	Chromium	6 0	BN	6.0	~~J~~ F
	Copper	7 8	N	7.8	J
	Nickel	6.0	B	6 0	F
	Selenium	0 25	BWN	0.25	J F
	Silver	0 10	BWN	0.10	~~J~~ F
	Tin	1 2	B	1 2	U
	Vanadium	12 3	BN	12.3	J F
	Zinc	14 7	B	14 7	F
BHGLSWMU12003-01	Antimony	0 29	UN	0.29	UJ
	Arsenic	3 7	N	3 7	~~J~~ F
	Chromium	11 7	N	11 7	J
	Cobalt	3 3	B	3 3	F
	Copper	6 4	BN	6 4	~~J~~ F
	Nickel	7.0	B	7 0	F
	Selenium	0 16	BWN	0.16	~~J~~ F
	Silver	0.09	BWN	0.09	~~J~~ F
	Thallium	0 14	UW	0.14	UJ
	Tin	1 4	B	1 4	U
	Vanadium	17.2	BN	17.2	~~J~~ F
BHGLSWMU12003-02	Antimony	0 48	BN	0 48	~~J~~ F
	Arsenic	6 5	N	6.5	J
	Chromium	9.3	N	9 3	J
	Copper	15 8	N	15.8	J
	Selenium	0 15	BWN	0.15	~~J~~ F
	Silver	0 17	WN	0.17	U
	Thallium	0 14	UW	0.14	UJ
	Tin	1.3	B	1 3	~~F~~ U
	Vanadium	22 5	N	22.5	J

Qualification Summary Table - Metals SDG 9906G677					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
	Zinc	17.5	B	17 5	F
BHGLSWMU12003-03	Antimony	0.54	BN	0 54	~~J~~ F
	Arsenic	2 1	BN	2.1	~~J~~ F
	Cadmium	0 10	B	0 10	F
	Chromium	7 9	N	7 9	J
	Cobalt	3.8	B	3 8	F
	Copper	5.4	BN	5 4	~~J~~ F
	Nickel	7 0	B	7 0	F
	Silver	0 14	BWN	0.14	U
	Thallium	0 14	UW	0.14	UJ
	Tin	1 2	B	1 2	~~F~~ U (PW)
	Vanadium	13.7	BN	13 7	~~J~~ F
	Zinc	17 3	B	17 3	F

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APPENDIX IX VOLATILE ORGANIC COMPOUNDS
USEPA SW846 Method 8260B - Level III Review

Site: Naval Air Station Fort Worth - D015 SDG #. 9906G677

Client: HydroGeoLogic, Inc. Date: September 23, 1999

Laboratory: Severn Trent Laboratories, Chicago, IL Reviewer: Cathy Shelby

Client Sample ID	Laboratory Sample ID	Matrix
BHGLSWMU32001-01	9906G677-001	Soil
BHGLSWMU32001-02	9906G677-002	Soil
BHGLSWMU32001-03	9906G677-003	Soil
BHGLSWMU32001-04	9906G677-004	Soil
BHGLSWMU32002-01	9906G677-005	Soil
BHGLSWMU32002-02	9906G677-006	Soil
BHGLSWMU32002-03	9906G677-007	Soil
BHGLSWMU32003-01	9906G677-008	Soil
BHGLSWMU32003-02	9906G677-009	Soil
BHGLSWMU32003-03	9906G677-010	Soil
BHGLSWMU32003-04	9906G677-011	Soil
DUP03	9906G677-012	Soil
BHGLSWMU12001-01	9906G677-013	Soil
BHGLSWMU12001-02	9906G677-014	Soil
BHGLSWMU12001-03	9906G677-015	Soil
BHGLSWMU12002-01	9906G677-016	Soil
BHGLSWMU12002-02	9906G677-017	Soil
BHGLSWMU12002-03	9906G677-018	Soil
BHGLSWMU12003-01	9906G677-019	Soil
BHGLSWMU12003-02	9906G677-020	Soil
BHGLSWMU12003-02MS	9906G677-020MS	Soil
BHGLSWMU12003-02MSD	9906G677-020MSD	Soil
BHGLSWMU12003-03	9906G677-021	Soil

Holding Times - All samples were analyzed within the recommended holding time of 14 days for preserved water and soil samples as specified in Table 5.1.2-1 of the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), February, 1998 No qualifications were required.

GC/MS Tuning - All of the BFB tunes in the initial and continuing calibrations met the percent relative abundance criteria. No qualifications were required.

Initial Calibration - The initial calibrations analyzed on 03/09/99-05/31/99 exhibited acceptable %RSD and mean RRF values. No qualifications were required.

Continuing Calibration - The continuing calibration analyzed on 06/15/99 exhibited acceptable %D and RRF values. No qualifications were required.

The continuing calibrations analyzed on 06/16/99 and 06/17/99 exhibited high %D values for dichlorodifluoromethane of 36.8% and 31 0%, respectively. Dichlorodifluoromethane has been rejected (R) in samples BHGLSWMU32002-02, BHGLSWMU32002-03, BHGLSWMU32003-01, BHGLSWMU32003-02, BHGLSWMU32003-03, BHGLSWMU32003-04, DUP03, BHGLSWMU12001-01, BHGLSWMU12001-02, and BHGLSWMU12002-03

The continuing calibration analyzed on 06/18/99 exhibited high %D values for dichlorodifluoromethane, styrene, and bromoform of 48.0%, 27.4%, and 27.2%, respectively. All three compounds have been rejected (R) in samples BHGLSWMU12001-03, BHGLSWMU12002-01, BHGLSWMU12002-02, and BHGLSWMU12003-01.

The continuing calibration analyzed on 06/20/99 exhibited high %D values for dichlorodifluoromethane, bromomethane, p,m-xylene, and styrene of 53.7%, 25 7%, 25.8%, and 26.6%, respectively. All four compounds have been rejected (R) in samples BHGLSWMU12003-02 and BHGLSWMU12003-03.

Surrogates - Sample BHGLSWMU12001-02 exhibited a high %R value for toluene-d8 of 161% All positive results have been qualified (J) in this sample.

Laboratory Control Samples - LCS samples VBLKQPBS and VBLKQLBS exhibited acceptable %R values. No qualifications were required.

LCS samples VBLKRFBS, VBLKRDBS, and VBLKRBBS exhibited high %R values for dichlorodifluoromethane of 143%, 165%, and 137%, respectively, however, all associated results are non-detect and no qualifications were required

MS/MSD - MS/MSD sample BHGLSWMU12003-02 exhibited high MS/MSD %R values for dichlorodifluoromethane and 1,2,3-trichloropropane of 143%/140% and 143%/147%, respectively, however, all associated results are non-detect and no qualifications were required.

Internal Standard (IS) Area Performance - Samples BHGLSWMU32003-01 and BHGLSWMU12002-03 exhibited low area counts for internal standard 1,4-dichlorobenzene-d4. All associated compounds have been qualified (UJ).

Method Blank - Method blanks VBLKQP (06/15/99), VBLKQL (06/16/99), VBLKRF (06/17/99), VBLKRD (06/18/99), VBLKQZ (06/19/99) and VBLKRB (06/20/99) were free of contamination. No qualifications were required.

Trip, field, equipment blank - Field QC samples were not associated with the samples in this data package.

Field Duplicates - Field duplicate results are summarized in the table below. Ethylbenzene has been qualified (J) in both samples.

Compound	BHGLSWMU32001-01 ug/kg	DUP03 ug/kg	RPD
Ethylbenzene	7	10	35

Tentatively Identified Compounds (TICs) - All TICs were qualified (T)

Compound Quantitation - All results between the MDL and the PQL have been qualified (F).

Comments - The analyses of environmental samples and quality control samples are valid within the constraints identified with the data quality flags as presented in the surrogate, internal standard, field duplicate, TICs, and compound quantitation sections of this report with the exception of several compounds which were rejected due to calibration problems in several samples The NAS Fort Worth JRB Basewide Quality Assurance Project Plan, February, 1998, data validation criteria were used in evaluating the data in this summary report.

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report

Qualification Summary Table - Volatiles SDG 9906G677					
Sample No	Compound(s)	Reported		Validated	
		Conc.	Qualifier	Conc	Qualifier
BHGLSWMU32001-01	Ethylbenzene	7	-	7	J
BHGLSWMU32002-01	Vinyl Chloride	4	J	4	F
BHGLSWMU32002-02	Dichlorodifluoromethane	5	U	5	R
BHGLSWMU32002-03	Dichlorodifluoromethane	5	U	5	R
BHGLSWMU32003-01	Dichlorodifluoromethane	5	U	5	R
	1,1,2,2-Tetrachloroethane	2	U	2	UJ
	1,2,3-Trichloropropane	5	U	5	UJ
	1,2-Dibromo-3-chloropropane	5	U	5	UJ

Qualification Summary Table - Volatiles SDG 9906G677					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
BHGLSWMU32003-02	Dichlorodifluoromethane	5	U	5	R
BHGLSWMU32003-03	Dichlorodifluoromethane	5	U	5	R
BHGLSWMU32003-04	Dichlorodifluoromethane	5	U	5	R
DUP03	Dichlorodifluoromethane	7	U	7	R
	Ethylbenzene	10	-	10	J
BHGLSWMU12001-01	Dichlorodifluoromethane	5	U	5	R
BHGLSWMU32001-02	Dichlorodifluoromethane	5	U	5	R
	Benzene	100	-	100	J
	Ethylbenzene	6	-	6	J
BHGLSWMU32001-03	Dichlorodifluoromethane	5	U	5	R
	Styrene	2	U	2	R
	Bromoform	5	U	5	R
BHGLSWMU12002-01	Dichlorodifluoromethane	4	U	4	R
	Styrene	2	U	2	R
	Bromoform	4	U	4	R
BHGLSWMU12002-02	Dichlorodifluoromethane	5	U	5	R
	Styrene	2	U	2	R
	Bromoform	5	U	5	R
BHGLSWMU12002-03	Dichlorodifluoromethane	5	U	5	R
	1,1,2,2-Tetrachloroethane	2	U	2	UJ
	1,2,3-Trichloropropane	5	U	5	UJ
	1,2-Dibromo-3-chloropropane	5	U	5	UJ
BHGLSWMU12003-01	Dichlorodifluoromethane	5	U	5	R
	Styrene	2	U	2	R
	Bromoform	5	U	5	R
BHGLSWMU12003-02	Dichlorodifluoromethane	5	U	5	R
	Bromomethane	5	U	5	R
	p,m-Xylene	5	U	5	R
	Styrene	2	U	2	R
BHGLSWMU12003-03	Dichlorodifluoromethane	5	U	5	R
	Vinyl Chloride	3	J	3	F
	Bromomethane	5	U	5	R
	p,m-Xylene	5	U	5	R
	Styrene	2	U	2	R

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APPENDIX IX SEMIVOLATILE ORGANIC COMPOUNDS

USEPA SW846 Method 8270C - Level III Review

Site: Naval Air Station Fort Worth - D015 SDG #: 9906G677

Client: HydroGeoLogic, Inc Date: September 27, 1999

Laboratory: Severn Trent, Chicago, IL Reviewer: Cathy Shelby

Client Sample ID	Laboratory Sample ID	Matrix
BHGLSWMU32001-01	9906G677-001	Soil
BHGLSWMU32001-02	9906G677-002	Soil
BHGLSWMU32001-03	9906G677-003	Soil
BHGLSWMU32001-04	9906G677-004	Soil
BHGLSWMU32002-01	9906G677-005	Soil
BHGLSWMU32002-02	9906G677-006	Soil
BHGLSWMU32002-03	9906G677-007	Soil
BHGLSWMU32003-01	9906G677-008	Soil
BHGLSWMU32003-02	9906G677-009	Soil
BHGLSWMU32003-03	9906G677-010	Soil
BHGLSWMU32003-04	9906G677-011	Soil
DUP03	9906G677-012	Soil
BHGLSWMU12001-01	9906G677-013	Soil
BHGLSWMU12001-02	9906G677-014	Soil
BHGLSWMU12001-03	9906G677-015	Soil
BHGLSWMU12002-01	9906G677-016	Soil
BHGLSWMU12002-02	9906G677-017	Soil
BHGLSWMU12002-03	9906G677-018	Soil
BHGLSWMU12003-01	9906G677-019	Soil
BHGLSWMU12003-02	9906G677-020	Soil
BHGLSWMU12003-02MS	9906G677-020MS	Soil
BHGLSWMU12003-02MSD	9906G677-020MSD	Soil
BHGLSWMU12003-03	9906G677-021	Soil

Holding Times - All samples were extracted within 7 days for water samples and 14 days for soil samples and analyzed within the recommended holding time of 40 days for all samples as specified in Table 5.1.2-1 of the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), February, 1998. No qualifications were required.

GC/MS Tuning - All of the DFTPP tunes in the initial and continuing calibrations met the percent relative abundance criteria. No qualifications were required.

Initial Calibration - The initial calibrations analyzed 02/24/99-06/22/99 exhibited a high %RSD value for n-nitrosodimethylamine of 68.6%. n-Nitrosodimethylamine has been rejected (R) in all samples.

Continuing Calibration - The continuing calibration analyzed on 06/23/99 exhibited a high %D value for pyridine of 53.6%. Pyridine has been rejected (R) in samples BHGLSWMU32001-01, BHGLSWMU32001-02, BHGLSWMU32001-03, BHGLSWMU32001-04, BHGLSWMU32002-01, BHGLSWMU32002-02, BHGLSWMU32002-03, BHGLSWMU32003-01, and BHGLSWMU32003-02.

The continuing calibration analyzed on 06/24/99 exhibited high %D values for 2,2'-oxybis(1-chloropropane), n-nitrosodimethylamine, and pyridine of 27.0%, 52.5%, and 59 9%, respectively 2,2'-oxybis(1-Chloropropane) and pyridine have been rejected (R) in samples BHGLSWMU12003-03, BHGLSWMU12003-02, BHGLSWMU32003-03, BHGLSWMU32003-04, DUP03, BHGLSWMU12001-01, BHGLSWMU12001-02, BHGLSWMU12001-03, BHGLSWMU12002-02, BHGLSWMU12002-03, BHGLSWMU12002-01, and BHGLSWMU12003-01 n-Nitrosodimethylamine has already been rejected in all samples due to the initial calibration and no further qualifications were required.

Surrogates - All samples exhibited acceptable surrogate %R values. No qualifications were required.

Laboratory Control Samples - LCS samples SBLKTKBS and SBLKTMBS exhibited acceptable %R values. No qualifications were required.

MS/MSD - MS/MSD sample BHGLSWMU12003-02 exhibited acceptable %R and RPD values No qualifications were required.

Internal Standard (IS) Area Performance - All internal standards met response and retention time (RT) criteria. No qualifications were required.

Method Blank - Method blanks SBLKTM (06/16/99) and SBLKTP (06/17/99) were free of contamination. No qualifications were required.

Field, equipment blank - Field QC samples were not associated with the samples in this data package.

Field Duplicates - Field duplicate results for samples BHGLSWMU32001-01 and DUP03 are non-detect. No qualifications were required.

Tentatively Identified Compounds (TICs) - All TICs were qualified (T).

Compound Quantitation - All results between the MDL and the PQL have been qualified (F).

Comments - The analyses of environmental samples and quality control samples are valid with the exception of several compounds which were rejected due to calibration problems in most samples. The NAS Fort Worth JRB Basewide Quality Assurance Project Plan, February, 1998, data validation criteria were used in evaluating the data in this summary report

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report.

Qualification Summary Table - Semivolatiles
SDG. 9906G677

Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
BHGLSWMU32001-01	n-Nitrosodimethylamine	770	U	770	R
	Pyridine	770	U	770	R
BHGLSWMU32001-02	n-Nitrosodimethylamine	810	U	810	R
	Pyridine	810	U	810	R
BHGLSWMU32001-03	n-Nitrosodimethylamine	780	U	780	R
	Pyridine	780	U	780	R
BHGLSWMU32001-04	n-Nitrosodimethylamine	730	U	730	R
	Pyridine	730	U	730	R
BHGLSWMU32002-01	n-Nitrosodimethylamine	800	U	800	R
	Pyridine	800	U	800	R
BHGLSWMU32002-02	n-Nitrosodimethylamine	790	U	790	R
	Pyridine	790	U	790	R
BHGLSWMU32002-03	n-Nitrosodimethylamine	810	U	810	R
	Pyridine	810	U	810	R
BHGLSWMU32003-01	n-Nitrosodimethylamine	800	U	800	R
	Pyridine	800	U	800	R
BHGLSWMU32003-02	n-Nitrosodimethylamine	790	U	790	R
	Pyridine	790	U	790	R
BHGLSWMU32003-03	n-Nitrosodimethylamine	770	U	770	R
	Pyridine	770	U	770	R
	2,2-oxybis(1-Chloropropane	380	U	380	R
BHGLSWMU32003-04	n-Nitrosodimethylamine	740	U	740	R
	Pyridine	740	U	740	R
	2,2-oxybis(1-Chloropropane	370	U	370	R

Qualification Summary Table - Semivolatiles SDG 9906G677					
Sample No.	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
DUP03	n-Nitrosodimethylamine	790	U	790	R
	Pyridine	790	U	790	R
	2,2-oxybis(1-Chloropropane	400	U	400	R
BHGLSWMU12001-01	n-Nitrosodimethylamine	820	U	820	R
	Pyridine	820	U	820	R
	2,2-oxybis(1-Chloropropane	410	U	410	R
BHGLSWMU12001-02	Dibenzofuran	260	J	260	F
	Bis(2-ethylhexyl)phthalate	220	J	220	F
	n-Nitrosodimethylamine	770	U	770	R
	Pyridine	770	U	770	R
	2,2-oxybis(1-Chloropropane	380	U	380	R
BHGLSWMU12001-03	n-Nitrosodimethylamine	760	U	760	R
	Pyridine	760	U	760	R
	2,2-oxybis(1-Chloropropane	380	U	380	R
BHGLSWMU12002-01	Phenanthrene	130	J	130	F
	Fluoranthene	370	J	370	F
	Benzo(a)anthracene	220	J	220	F
	Chrysene	250	J	250	F
	Benzo(b)fluoranthene	320	J	320	F
	Benzo(k)fluoranthene	130	J	130	F
	Benzo(a)pyrene	220	J	220	F
	Indeno(1,2,3-cd)pyrene	180	J	180	F
	Benzo(g,h,i)perylene	150	J	150	F
	n-Nitrosodimethylamine	740	U	740	R
	Pyridine	740	U	740	R
	2,2-oxybis(1-Chloropropane	370	U	370	R
BHGLSWMU12002-02	n-Nitrosodimethylamine	810	U	810	R
	Pyridine	810	U	810	R
	2,2-oxybis(1-Chloropropane	410	U	410	R
BHGLSWMU12002-03	n-Nitrosodimethylamine	780	U	780	R
	Pyridine	780	U	780	R
	2,2-oxybis(1-Chloropropane	390	U	390	R
BHGLSWMU12003-01	Fluorene	81	J	81	F
	Anthracene	290	J	290	F
	Dibenz(a,h)anthracene	200	J	200	F
	n-Nitrosodimethylamine	750	U	750	R
	Pyridine	750	U	750	R
	2,2-oxybis(1-Chloropropane	380	U	380	R
BHGLSWMU12003-02	n-Nitrosodimethylamine	800	U	800	R
	Pyridine	800	U	800	R
	2,2-oxybis(1-Chloropropane	400	U	400	R
BHGLSWMU12003-03	n-Nitrosodimethylamine	780	U	780	R
	Pyridine	780	U	780	R
	2,2-oxybis(1-Chloropropane	390	U	390	R

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TOTAL PETROLEUM HYDROCARBONS
Texas Method 1005 (Rev. 4/98) - Level III Review

Site: Naval Air Station Fort Worth - DO15 SDG #: 9906G677

Client: HydroGeoLogic, Inc. Date. October 23, 1999

Laboratory: Severn Trent Laboratories, Pensacola, FL Reviewer Nancy Weaver

Client Sample ID	Laboratory Sample ID	Matrix
BHGLSWMU32001-01	906213-001	Soil
BHGLSWMU32001-02	906213-002	Soil
BHGLSWMU32001-03	906213-003	Soil
BHGLSWMU32001-04	906213-004	Soil
BHGLSWMU32002-01	906213-005	Soil
BHGLSWMU32002-02	906213-006	Soil
BHGLSWMU32002-03	906213-007	Soil
BHGLSWMU32003-01	906213-008	Soil
BHGLSWMU32003-01MS	906213-008MS	Soil
BHGLSWMU32003-01MSD	906213-008MSD	Soil
BHGLSWMU32003-02	906213-009	Soil
BHGLSWMU32003-03	906213-010	Soil
BHGLSWMU32003-04	906213-011	Soil
DUP03	906213-012	Soil
BHGLSWMU12001-01	906229-001	Soil
BHGLSWMU12001-02	906229-002	Soil
BHGLSWMU12001-03	906229-003	Soil
BHGLSWMU12002-01	906229-004	Soil
BHGLSWMU12002-02	906229-005	Soil
BHGLSWMU12002-03	906229-006	Soil
BHGLSWMU12003-01	906229-007	Soil
BHGLSWMU12003-02	906229-008	Soil
BHGLSWMU12003-02MS	906229-008MS	Soil
BHGLSWMU12003-02MSD	906229-008MSD	Soil
BHGLSWMU12003-03	906229-009	Soil

Holding Times - All samples were analyzed outside the recommended holding time of 7 days for water samples and 14 days for soil samples as specified in Table 5.1.2-1 of the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), February, 1998 with the exception of all laboratory ID 906213 samples. All results for these samples have been qualified (J/UJ).

Initial Calibration - Information not provided by the laboratory.

Continuing Calibration - Information not provided by the laboratory.

Surrogates - All samples exhibited acceptable surrogate %R values. No qualifications were required

Laboratory Control Samples - The LCS samples exhibited acceptable %R values. No qualifications were required.

MS/MSD - MS/MSD sample BHGLSWMU32003-01 exhibited acceptable %R and RPD values. No qualifications were required.

MS/MSD sample BHGLSWMU12003-02 exhibited acceptable %R and RPD values. No qualifications were required.

Method Blank - The method blanks were free of contamination. No qualifications were required.

Field, equipment blank - Field QC samples were not associated with the samples in this data package.

Field Duplicates - Field duplicate results for samples DUP03 and BHGLSWMU32001-01 were non-detect. No qualifications were required.

Compound Quantitation - No discrepancies were identified.

Comments - The analyses of environmental samples and quality control samples are valid within the constraints identified with the data quality flags as presented in the holding time section of this report. The NAS Fort Worth JRB Basewide Quality Assurance Project Plan, February, 1998, data validation criteria were used in evaluating the data in this summary report.

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report.

Qualification Summary Table - TPH SDG. 9906G677					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc.	Qualifier
BHGLSWMU32001-01	C6-C10	ND	-	ND	UJ
	>C10-C28	ND	-	ND	UJ
	C6-C28	ND	-	ND	UJ
BHGLSWMU32001-02	C6-C10	ND	-	ND	UJ
	>C10-C28	ND	-	ND	UJ
	C6-C28	ND	-	ND	UJ
BHGLSWMU32001-03	C6-C10	ND	-	ND	UJ
	>C10-C28	ND	-	ND	UJ
	C6-C28	ND	-	ND	UJ
BHGLSWMU32001-04	C6-C10	ND	-	ND	UJ
	>C10-C28	ND	-	ND	UJ
	C6-C28	ND	-	ND	UJ
BHGLSWMU32002-01	C6-C10	ND	-	ND	UJ
	>C10-C28	ND	-	ND	UJ
	C6-C28	ND	-	ND	UJ
BHGLSWMU32002-02	C6-C10	ND	-	ND	UJ
	>C10-C28	ND	-	ND	UJ
	C6-C28	ND	-	ND	UJ
BHGLSWMU32002-03	C6-C10	ND	-	ND	UJ
	>C10-C28	ND	-	ND	UJ
	C6-C28	ND	-	ND	UJ
BHGLSWMU32003-01	C6-C10	ND	-	ND	UJ
	>C10-C28	ND	-	ND	UJ
	C6-C28	ND	-	ND	UJ
BHGLSWMU32003-02	C6-C10	ND	-	ND	UJ
	>C10-C28	ND	-	ND	UJ
	C6-C28	ND	-	ND	UJ
BHGLSWMU32003-03	C6-C10	ND	-	ND	UJ
	>C10-C28	ND	-	ND	UJ
	C6-C28	ND	-	ND	UJ
BHGLSWMU32003-04	C6-C10	ND	-	ND	UJ
	>C10-C28	ND	-	ND	UJ
	C6-C28	ND	-	ND	UJ
DUP03	C6-C10	ND	-	ND	UJ
	>C10-C28	ND	-	ND	UJ
	C6-C28	ND	-	ND	UJ

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METALS
USEPA SW846 Methods 6010A, 7471 - Level III Review

Site: Naval Air Station Fort Worth - DO15 SDG #: 9906G705

Client: HydroGeoLogic, Inc Date: September 23, 1999

Laboratory: Severn Trent Laboratories, Chicago, IL Reviewer: Nancy Weaver

Client Sample ID	Laboratory Sample ID	Matrix
BHGLSWMU11001-01	9906G705-001	Soil
BHGLSWMU11001-02	9906G705-002	Soil
BHGLSWMU11001-03	9906G705-003	Soil
BHGLSWMU11001-04	9906G705-004	Soil
BHGLSWMU11002-01	9906G705-005	Soil
BHGLSWMU11002-02	9906G705-006	Soil
BHGLSWMU11002-03	9906G705-007	Soil
DUP05	9906G705-008	Soil
BHGLSWMU39001-01	9906G705-009	Soil
BHGLSWMU39001-02	9906G705-010	Soil
EB060999	9906G705-012	Water
BHGLSWMU33003-03	9906G705-013	Soil
BHGLSWMU33003-03MS	9906G705-013MS	Soil
BHGLSWMU33003-03MSD	9906G705-013MSD	Soil
BHGLSWMU33003-04	9906G705-014	Soil
DUP06	9906G705-015	Soil
EB061099	9906G705-016	Water

Holding Times - All samples were extracted and analyzed within the recommended holding time of 180 days for all metals except 28 days for mercury as specified in Table 5.1.2-1 of the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), February, 1998. No qualifications were required.

Calibration - All initial and continuing calibration verifications exhibited acceptable %R values. No qualifications were required.

Method Blanks - The water preparation blank PBW (07/09/99), initial and continuing calibration blanks exhibited contamination for several compounds which warranted the following qualifications. Arsenic, beryllium, cadmium, cobalt, and nickel have been qualified (UJ) in both water samples. Antimony and zinc have been qualified (U) in both water samples

The soil preparation blank PBS (07/16/99), initial and continuing calibration blanks exhibited contamination for several compounds which warranted the following qualifications. Antimony has been qualified (U) for positive results in all soil samples. Arsenic has been qualified (J) in samples BHGLSWMU11002-01, BHGLSWMU39001-01, and BHGLSWMU33003-04. Beryllium has been qualified (J) in samples BHGLSWMU11001-04, BHGLSWMU39001-01, and BHGLSWMU33003-04. Silver and tin have been qualified (U) in all soil samples

Field and equipment blank - Equipment blank EB060999 exhibited barium and copper contamination at 0 44 ug/L and 0.88 ug/L, respectively, however, all associated results are greater than 5X the blank concentration and no qualifications were required.

Equipment blank EB061099 was free of contamination. No qualifications were required.

ICP Interference Check Sample - All % recovery values met the QC acceptance criteria. No qualifications were required.

LCS - The LCS analysis met the QC acceptance criteria of as specified in the QAPP. No qualifications were required.

ICP Serial Dilutions - An ICP serial dilution sample was not analyzed with this data package.

Matrix Spike - Matrix spike sample BHGLSWMU33003-03 exhibited low %R values for antimony, arsenic, and selenium of 53.9%, 43.1%, and 39.9%, respectively. All three compounds have been qualified (J/UJ) in all soil samples.

Matrix Spike Duplicate - Matrix duplicate sample BHGLSWMU33003-03 exhibited acceptable RPD values. No qualifications were required.

Field Duplicates - Field duplicate results are summarized in the following table. No qualifications were required.

Compound	BHGLSWMU11001-03 mg/kg	DUP05 mg/kg	RPD
Arsenic	4.6	4.2	9
Barium	52.9	55 1	4
Beryllium	0.63	0 68	8
Chromium	16 0	16 1	1
Cobalt	4 3	4.1	2
Copper	8 9	8 2	8

Compound	BHGLSWMU11001-03 mg/kg	DUP05 mg/kg	RPD
Lead	16 3	15 4	6
Nickel	9.1	9 6	5
Vanadium	32.2	28.3	13
Zinc	18.2	21.1	15

Compound	BHGLSWMU33002-02 mg/kg (SDG 9906G729)	DUP06 mg/kg	RPD
Arsenic	5 5	5.2	6
Barium	66.6	71.4	7
Beryllium	0 94	0.97	3
Chromium	14 4	17.0	17
Cobalt	4.1	3 4	19
Copper	7.5	7.3	3
Lead	7.6	22.5	99
Mercury	0 02U	0.03	NC
Nickel	10.9	12.6	14
Vanadium	34.9	33.6	4
Zinc	15 6	22 6	37

Graphite Furnace Atomic Absorption (GFAA) Analysis - Several samples exhibited a postdigestion spike for silver, selenium, and thallium analysis out of control limits (85-115%) and sample absorbance is less than 50% of spike absorbance. The laboratory flagged these results (W) and the reviewer further qualified these results (J/UJ)

Compound Quantitation - All results between the MDL and the PQL have been qualified (F)

Comments - The analyses of environmental samples and quality control samples are valid within the constraints identified with the data quality flags as presented in the method blank, matrix spike, GFAA, and compound quantitation sections of this report. The NAS Fort Worth JRB Basewide Quality Assurance Project Plan, February, 1998, data validation criteria were used in evaluating the data in this summary report.

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report.

Qualification Summary Table - Metals SDG 9906G705					
Sample No.	Compound(s)	Reported		Validated	
		Conc.	Qualifier	Conc	Qualifier
BHGLSWMU11001-01	Antimony	0 62	BN	~~0.62~~ 3 7	UJ
	Arsenic	3.5	BN	3.5	F
	Selenium	0 12	UWN	~~0.12~~ 0.25	UJ
	Silver	0.17	W	~~0.17~~ 0.15	UJ

Qualification Summary Table - Metals SDG. 9906G705					
Sample No	Compound(s)	Reported		Validated	
		Conc.	Qualifier	Conc	Qualifier
	Thallium	0.15	UW	~~0.15~~ 0.77	UJ
	Tin	1 3	B	~~1.3~~ 29.1	U
	Zinc	16.9	B	16.9	F
BHGLSWMU11001-02	Antimony	0.54	BN	~~0.54~~ 3.6	UJ
	Arsenic	4.5	N	4.5	J
	Cobalt	2 9	B	2.9	F
	Copper	6 9	B	6.9	F
	Selenium	0.12	UWN	~~0.12~~ 0.22	UJ
	Silver	0 11	BW	~~0.11~~ 0.15	UJ
	Tin	1.4	B	~~1.4~~ 30.0	U
	Zinc	18 4	B	18.4	F
BHGLSWMU11001-03	Antimony	0.48	BN	~~0.48~~ 3.9	UJ
	Arsenic	4.6	N	4.6	J
	Cobalt	4 3	B	4 3	F
	Selenium	0 14	UWN	~~0.14~~ 0.20	UJ
	Silver	0 10	BW	~~0.10~~ 0.18	UJ
	Tin	1 3	B	~~1.3~~ 31.5	U
	Zinc	18 2	B	18 2	F
BHGLSWMU11001-04	Antimony	0.34	UN	~~0.34~~ 4.4	UJ
	Arsenic	4.7	N	4 7	J
	Beryllium	0 33	-	0 33	J
	Copper	7 5	B	7.5	F
	Selenium	0 13	UWN	~~0.13~~ 0.24	UJ
	Silver	0 11	BW	~~0.11~~ 0.10	UJ
	Tin	1 3	B	~~1.3~~ 35	U
	Vanadium	16.3	B	16.3	F
	Zinc	21 6	B	21 6	F
BHGLSWMU11002-01	Antimony	0.63	BN	~~0.63~~ 4	UJ
	Arsenic	2.9	BN	2.9	J
	Cobalt	4 6	B	4.6	F
	Nickel	7.8	B	7 8	F
	Selenium	0 14	BWN	0 14	F
	Silver	0.12	BW	~~0.12~~ 0.15	UJ
	Tin	0 95	B	~~0.95~~ 32.2	U
	Zinc	12 9	B	12.9	F
BHGLSWMU11002-02	Antimony	0 29	UN	~~0.29~~ 3.8	UJ
	Arsenic	4.4	N	4 4	J
	Cobalt	4.4	B	4 4	F
	Copper	6 7	B	6.7	F
	Selenium	0.13	UWN	~~0.13~~ 0.25	UJ
	Silver	0 12	BW	~~0.12~~ 0.17	UJ
	Tin	1.0	B	~~1.0~~ 30.2	U
	Zinc	18 7	B	18 7	F
BHGLSWMU11002-03	Antimony	0 50	BN	~~0.50~~ 3.9	UJ
	Arsenic	7.1	N	7 1	J
	Barium	14 2	B	12.7 ~~14.2~~	F
	Selenium	0 12	UN	~~0.12~~ 0.25	UJ
	Silver	0.10	B	~~0.10~~ 0.15	U

Qualification Summary Table - Metals SDG: 9906G705					
Sample No.	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
	Tin	1 3	B	~~1.3~~ 31	U
	Zinc	22 2	B	22 2	F
DUP05	Antimony	0 44	BN	~~0.44~~ 4.1	UJ
	Arsenic	4.2	N	4.2	J
	Cobalt	4.1	B	4 1	~~F~~ Sheet
	Copper	8 2	B	8 2	F
	Selenium	0 14	UWN	~~0.14~~ 0.27	UJ
	Silver	0 09	B	~~0 09~~ 0.12	U
	Tin	1.5	B	~~1.5~~ 32.7	U
	Zinc	21.1	B	21 1	F
BHGLSWMU39001-01	Antimony	0.27	UN	~~0.27~~ 3.5	UJ
	Arsenic	1 5	BN	1.5	J
	Beryllium	0 16	B	0 16	J
	Cobalt	3.2	B	3 2	F
	Copper	4.4	B	4 4	F
	Nickel	3.9	B	3.9	F
	Selenium	0 10	UWN	~~0.10~~ 0.13	UJ
	Silver	0.09	B	~~0.09~~ 0.12	U
	Tin	0 76	B	~~0.76~~ 28	U
	Vanadium	10 5	B	10 5	F
	Zinc	7.7	B	7 7	F
BHGLSWMU39001-02	Antimony	0 47	BN	~~0.47~~ 4.3	UJ
	Arsenic	6.0	N	6 0	J
	Cobalt	4 9	B	4.9	F
	Copper	6 7	B	6 7	F
	Selenium	0 13	UWN	~~0.13~~ 0.24	UJ
	Silver	0 11	B	~~0.11~~ 0.16	U
	Tin	1.3	B	~~1.3~~ 31.5	U
	Zinc	22 3	B	22.3	F
EB060999	Antimony	3 0	B	3 0	U
	Arsenic	3 5	U	3.5	UJ
	Barium	0 44	B	0 44	F
	Beryllium	0.30	U	0 30	UJ
	Cadmium	0.30	U	0.30	UJ
	Cobalt	1 0	U	1 0	UJ
	Copper	0.88	B	0 88	F
	Nickel	1.7	U	1.7	UJ
	Zinc	13.4	B	13 4	U
BHGLSWMU3300~~1~~3-03	Antimony	0 34	UN	~~0.34~~ 4.4	UJ
	Arsenic	5 2	N	5.2	J
	Cobalt	5.2	B	5.2	~~F~~ — Sheet
	Selenium	0.14	UN	~~0.14~~ 0.26	UJ
	Silver	0 11	B	~~0.11~~ 0.17	U
	Tin	1.3	B	~~1.3~~ 35	U
	Zinc	20 3	B	20 3	F
BHGLSWMU3300~~1~~3-04	Antimony	0.32	UN	~~0.32~~ 4.1	UJ
	Arsenic	1.3	BN	1 3	~~J~~ F
	Barium	13 5	B	13 5	F

Qualification Summary Table - Metals SDG· 9906G705					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc.	Qualifier
	Beryllium	0.09	B	0 09	FF
	Chromium	4 2	B	4 2	F
	Cobalt	2.7	B	2.7	F
	Copper	3 7	B	3 7	F
	Lead	4.5	B	4.5	F
	Nickel	4.1	B	4 1	F
	Selenium	0 13	UN	0~~13~~ 0.25	UJ
	Silver	0 15	B	0~~15~~ 0.16	U
	Tin	0 87	B	0~~87~~ 32.7	U
	Vanadium	8.0	B	8.0	F
	Zinc	10.2	B	10 2	F
DUP06	Antimony	0.45	BN	~~0.45~~ 4.2	UJ
	Arsenic	5 2	N	5.2	J
	Cobalt	3.4	B	3 4	F
	Copper	7 3	B	7.3	F
	Mercury	0 03	B	0 03	F
	Selenium	0.15	UWN	~~0.15~~ 0.27	UJ
	Silver	0.18	B	0 18	U
	Tin	1.8	B	~~1.8~~ 33.3	U
	Zinc	22.6	B	22 6	F
EB061099	Antimony	2 3	B	2.3	U
	Arsenic	3 5	U	3 5	UJ
	Beryllium	0.30	U	0.30	UJ
	Cadmium	0.30	U	0 30	UJ
	Cobalt	1 0	U	1 0	UJ
	Nickel	1 7	U	1 7	UJ
	Zinc	3 8	B	3.8	U

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APPENDIX IX VOLATILE ORGANIC COMPOUNDS
USEPA SW846 Method 8260B - Level III Review

Site: Naval Air Station Fort Worth - D015 SDG #: 9906G705

Client: HydroGeoLogic, Inc. Date: September 22, 1999

Laboratory: Severn Trent Laboratories, Chicago, IL Reviewer: Cathy Shelby

Client Sample ID	Laboratory Sample ID	Matrix
BHGLSWMU11001-01	9906G705-001	Soil
BHGLSWMU11001-02	9906G705-002	Soil
BHGLSWMU11001-03	9906G705-003	Soil
BHGLSWMU11001-04	9906G705-004	Soil
BHGLSWMU11002-01	9906G705-005	Soil
BHGLSWMU11002-02	9906G705-006	Soil
BHGLSWMU11002-03	9906G705-007	Soil
DUP05	9906G705-008	Soil
BHGLSWMU39001-01	9906G705-009	Soil
BHGLSWMU39001-02	9906G705-010	Soil
TB060999	9906G705-011	Water
EB060999	9906G705-012	Water
BHGLSWMU33003-03	9906G705-013	Soil
BHGLSWMU33003-03MS	9906G705-013MS	Soil
BHGLSWMU33003-03MSD	9906G705-013MSD	Soil
BHGLSWMU33003-04	9906G705-014	Soil
DUP06	9906G705-015	Soil
EB061099	9906G705-016	Water
TB061099	9906G705-017	Water

Holding Times - All samples were analyzed within the recommended holding time of 14 days for preserved water and soil samples as specified in Table 5.1 2-1 of the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), February, 1998. No qualifications were required.

GC/MS Tuning - All of the BFB tunes in the initial and continuing calibrations met the percent relative abundance criteria. No qualifications were required.

Initial Calibration - The initial calibrations analyzed on 03/09/99-05/31/99, 05/12/99-05/14/99, and 05/31/99-06/23/99 exhibited acceptable %RSD and mean RRF values. No qualifications were required.

Continuing Calibration - The continuing calibration analyzed on 06/20/99 exhibited high %D values for dichlorodifluoromethane, bromomethane, p,m-xylene, and styrene of 53.7%, 25.7%, 25.8%, and 26.6%, respectively. All four compounds have been rejected (R) in samples BHGLSWMU11001-01, BHGLSWMU11001-02, BHGLSWMU11001-03, BHGLSWMU11001-04, BHGLSWMU11002-01, BHGLSWMU11002-02, and BHGLSWMU11002-03.

The continuing calibration analyzed on 06/22/99 exhibited high %D values for dichlorodifluoromethane and chloromethane of 49.4% and 27.7%, respectively. Both compounds have been rejected (R) in all water samples.

The continuing calibration analyzed on 06/23/99 exhibited acceptable %D and RRF values. No qualifications were required.

Surrogates - All samples exhibited acceptable surrogate %R values No qualifications were required.

Laboratory Control Samples - LCS samples VBLKWNBS and VBLKWJBS exhibited acceptable %R values. No qualifications were required.

LCS sample VBLKRBBS exhibited a high %R value for dichlorodifluoromethane of 137%, however, the associated results are non-detect and no qualifications were required.

MS/MSD - MS/MSD sample BHGLSWMU33003-03 exhibited acceptable %R and RPD values. No qualifications were required.

Internal Standard (IS) Area Performance - All internal standards met response and retention time (RT) criteria. No qualifications were required.

Method Blank - Method blanks VBLKRB (06/20/99), VBLKWN (06/22/99), and VBLKJB (06/24/99) were free of contamination No qualifications were required.

Trip, field, equipment blank - Trip blank TB060999 was free of contamination. No qualifications were required.

Trip blank TB061099 was free of contamination. No qualifications were required.

Equipment blank EB060999 exhibited methylene chloride contamination at 0.5 ug/L, however, all associated results are non-detect and no qualifications were required.

Equipment blank EB061099 was free of contamination. No qualifications were required

Field Duplicates - Field duplicate results are summarized in the tables below. Acetone has been qualified (J/UJ) in samples BHGLSWMU11001-03 and DUP05. Methylene chloride has been qualified (J/UJ) in samples BHGLSWMU33002-02 and DUP06.

Compound	BHGLSWMU11001-03 ug/kg	DUP05 ug/kg	RPD
Acetone	5U	8	200

Compound	BHGLSWMU33002-02 ug/kg (SDG 9906G729)	DUP06 ug/kg	RPD
Methylene Chloride	4	2U	200

Tentatively Identified Compounds (TICs) - All TICs were qualified (T)

Compound Quantitation - No discrepancies were identified.

Comments - The analyses of environmental samples and quality control samples are valid within the constraints identified with the data quality flags as presented in the field duplicate and TICs sections of this report with the exception of several compounds which were rejected due to calibration problems. The NAS Fort Worth JRB Basewide Quality Assurance Project Plan, February, 1998, data validation criteria were used in evaluating the data in this summary report.

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report.

Qualification Summary Table - Volatiles SDG 9906G705					
Sample No.	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
BHGLSWMU11001-01	Dichlorodifluoromethane	6	U	6	R
	Bromomethane	6	U	6	R
	p,m-Xylene	6	U	6	R
	Styrene	2	U	2	R
BHGLSWMU11001-02	Dichlorodifluoromethane	5	U	5	R
	Bromomethane	5	U	5	R
	p,m-Xylene	5	U	5	R
	Styrene	2	U	2	R
BHGLSWMU11001-03	Dichlorodifluoromethane	5	U	5	R

Qualification Summary Table - Volatiles SDG 9906G705					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc.	Qualifier
	Bromomethane	5	U	5	R
	Acetone	5	U	5	UJ
	p,m-Xylene	5	U	5	R
	Styrene	2	U	2	R
BHGLSWMU11001-04	Dichlorodifluoromethane	4	U	4	R
	Bromomethane	4	U	4	R
	p,m-Xylene	4	U	4	R
	Styrene	2	U	2	R
BHGLSWMU11002-01	Dichlorodifluoromethane	6	U	6	R
	Bromomethane	6	U	6	R
	p,m-Xylene	6	U	6	R
	Styrene	2	U	2	R
BHGLSWMU11002-02	Dichlorodifluoromethane	5	U	5	R
	Bromomethane	5	U	5	R
	p,m-Xylene	5	U	5	R
	Styrene	2	U	2	R
BHGLSWMU11002-03	Dichlorodifluoromethane	5	U	5	R
	Bromomethane	5	U	5	R
	p,m-Xylene	5	U	5	R
	Styrene	2	U	2	R
DUP05	Acetone	8	-	8	J
DUP06	Methylene Chloride	2	U	2	UJ
TB060999	Dichlorodifluoromethane	0 5	U	0 5	R
	Chloromethane	0 5	U	0 5	R
EB060999	Dichlorodifluoromethane	0 5	U	0.5	R
	Chloromethane	0 5	U	0.5	R
EB061099	Dichlorodifluoromethane	0.5	U	0.5	R
	Chloromethane	0 5	U	0.5	R
TB061099	Dichlorodifluoromethane	0 5	U	0 5	R
	Chloromethane	0 5	U	0 5	R

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APPENDIX IX SEMIVOLATILE ORGANIC COMPOUNDS
USEPA SW846 Method 8270C - Level III Review

Site: Naval Air Station Fort Worth - DO15 SDG #: 9906G705

Client: HydroGeoLogic, Inc Date: September 21, 1999

Laboratory: Severn Trent, Chicago, IL Reviewer: Cathy Shelby

Client Sample ID	Laboratory Sample ID	Matrix
BHGLSWMU11001-01	9906G705-001	Soil
BHGLSWMU11001-02	9906G705-002	Soil
BHGLSWMU11001-03	9906G705-003	Soil
BHGLSWMU11001-04	9906G705-004	Soil
BHGLSWMU11002-01	9906G705-005	Soil
BHGLSWMU11002-02	9906G705-006	Soil
BHGLSWMU11002-03	9906G705-007	Soil
DUP05	9906G705-008	Soil
BHGLSWMU39001-01	9906G705-009	Soil
BHGLSWMU39001-02	9906G705-010	Soil
EB060999	9906G705-012	Water
BHGLSWMU33003-03	9906G705-013	Soil
BHGLSWMU33003-03MS	9906G705-013MS	Soil
BHGLSWMU33003-03MSD	9906G705-013MSD	Soil
BHGLSWMU33003-04	9906G705-014	Soil
DUP06	9906G705-015	Soil
EB061099	9906G705-016	Water

Holding Times - All samples were extracted within 7 days for water samples and 14 days for soil samples and analyzed within the recommended holding time of 40 days for all samples as specified in Table 5.1 2-1 of the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), February, 1998. No qualifications were required.

GC/MS Tuning - All of the DFTPP tunes in the initial and continuing calibrations met the percent relative abundance criteria. No qualifications were required.

Initial Calibration - The initial calibrations analyzed 02/01/99-06/15/99 and 02/24/99-06/22/99 exhibited acceptable %RSD and mean RRF values No qualifications were required

Continuing Calibration - The continuing calibrations analyzed on 06/15/99, 06/24/99, 06/28/99, and 06/29/99 exhibited acceptable %D and RRF values. No qualifications were required.

The continuing calibration analyzed on 06/17/99 exhibited a high %D value for benzoic acid of 40.1%. Benzoic acid has been rejected (R) in sample EB060999.

Surrogates - All samples exhibited acceptable surrogate %R values. No qualifications were required.

Laboratory Control Samples - LCS samples SBLKRBBS, SBLKTHBS and SBLKTMBS exhibited acceptable %R values. No qualifications were required.

MS/MSD - MS/MSD sample BHGLSWMU33003-03 exhibited acceptable %R and RPD values. No qualifications were required.

Internal Standard (IS) Area Performance - All internal standards met response and retention time (RT) criteria. No qualifications were required.

Method Blank - Method blanks SBLKSR (06/14/99), SBLKTH (06/16/99) and SBLKTM (06/16/99) were free of contamination. No qualifications were required.

Field. equipment blank - Equipment blank EB060999 exhibited di-n-butylphthalate contamination at 2 ug/L, however, all associated results are non-detect and no qualifications were required.

Equipment blank EB061099 exhibited di-n-butylphthalate and acetophenone contamination at 2 ug/L and 1 ug/L, respectively, however, all associated results are non-detect and no qualifications were required.

Field Duplicates - Field duplicate results for samples BHGLSWMU11001-03 and DUP05 are non-detect. No qualifications were required.

Field duplicate results for samples BHGLSWMU33002-02 (from SDG 9906G729) and DUP06 are non-detect. No qualifications were required.

Tentatively Identified Compounds (TICs) - All TICs were qualified (T).

Compound Quantitation - All results between the MDL and PQL have been qualified (F)

Comments - The analyses of environmental samples and quality control samples are valid within the constraints identified with the data quality flags as presented in the TICs and compound quantitation sections of this report with the exception of one compound which was rejected in one sample due to calibration probelms. The NAS Fort Worth JRB Basewide Quality Assurance Project Plan, February, 1998, data validation criteria were used in evaluating the data in this summary report.

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report.

Qualification Summary Table - Semivolatiles SDG 9906G705					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc.	Qualifier
BHGLSWMU39001-01	Bis(2-ethylhexyl)phthalate	53	J	53	F
EB060999	Di-n-butylphthalate	2	J	2	F
	Benzoic Acid	51	U	51	R
EB061099	Di-n-butylphthalate	2	J	2	F
	Acetophenone	1	J	1	F

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TOTAL PETROLEUM HYDROCARBONS
Texas Method 1005 (Rev. 4/98) - Level III Review

Site: Naval Air Station Fort Worth - DO15 SDG #: 9906G705

Client: HydroGeoLogic, Inc Date: October 24, 1999

Laboratory: Severn Trent Laboratories, Pensacola, FL Reviewer: Nancy Weaver

Client Sample ID	Laboratory Sample ID	Matrix
BHGLSWMU39001-01	906311-001	Soil
BHGLSWMU39001-02	906311-002	Soil
EB060999	906311-003	Water
BHGLSWMU33003-03	906311-004	Soil
BHGLSWMU33003-03MSD	906311-004MS	Soil
BHGLSWMU33033-03MSD	906311-004MSD	Soil
BHGLSWMU33003-04	906311-005	Soil
DUP06	906311-006	Soil
EB061099	906311-007	Water

Holding Times - All samples were analyzed outside the recommended holding time of 7 days for water samples and 14 days for soil samples as specified in Table 5.1.2-1 of the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), February, 1998 with the exception of samples EB060999 and EB061099. All results for all samples have been qualified (J/UJ).

Initial Calibration - Information not provided by the laboratory.

Continuing Calibration - information not provided by the laboratory.

Surrogates - All samples exhibited acceptable surrogate %R values. No qualifications were required.

Laboratory Control Samples - The LCS samples exhibited acceptable %R values. No qualifications were required.

MS/MSD - MS/MSD sample BHGLSWMU33003-03 exhibited acceptable %R and RPD values No qualifications were required.

Method Blank - The method blanks were free of contamination. No qualifications were required.

Field, equipment blank - Equipment blanks EB060999 and EB061099 were free of contamination

Field Duplicates - Field duplicate samples DUP06 and BHGLSWMU33002-02 (in SDG 9906G677) were non-detect. No qualifications were required.

Compound Quantitation - No discrepancies were identified

Comments - The analyses of environmental samples and quality control samples are valid within the constraints identified with the data quality flags as presented in the holding time section of this report. The NAS Fort Worth JRB Basewide Quality Assurance Project Plan, February, 1998, data validation criteria were used in evaluating the data in this summary report.

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report.

Qualification Summary Table - TPH SDG 9906G705					
Sample No.	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc.	Qualifier
EB060999	C6-C10	ND	-	ND	UJ
	>C10-C28	ND	-	ND	UJ
	C6-C28	ND	-	ND	UJ
EB061099	C6-C10	ND	-	ND	UJ
	>C10-C28	ND	-	ND	UJ
	C6-C28	ND	-	ND	UJ

Received 1/10/00

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ENVIRONMENTAL
Data Services, Inc.

SPLP METALS, (Arsenic, Chromium, Cadmium and Lead)
USEPA SW846 Methods 6010A, - Level III Review

Site: Naval Air Station Fort Worth - DO15 SDG #. 9910G553

Client. HydroGeoLogic, Inc. Date: December 31, 1999

Laboratory. Severn Trent Laboratories, Chicago, IL Reviewer. Nancy Weaver

Client Sample ID	Laboratory Sample ID	Matrix
BHGLSWMU16001	9910G553-002	SPLP Extract - Water
BHGLSWMU36001	9910G553-004	SPLP Extract - Water
BHGLSWMU36003	9910G553-008	SPLP Extract - Water
BHGLSWMU51003	9910G553-022	SPLP Extract - Water
BHGLSWMU51004	9910G553-030	SPLP Extract - Water
BHGLSWMU51006	9910G553-032	SPLP Extract - Water
BHGLSWMU51009	9910G553-038	SPLP Extract - Water

Holding Times: All samples were extracted and analyzed within the recommended holding time of 180 days for SPLP metals (arsenic, chromium, cadmium, lead), as specified in Table 5.1.2-1 of the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), February, 1998. No qualifications were required.

Calibration. All initial and continuing calibration verifications exhibited acceptable %R values. No qualifications were required.

Method Blanks: The water preparation blank PBW (11/17/99), initial and continuing calibration blanks were free of contamination.

Field and equipment blank: Field quality control samples were not associated with the samples in this data package.

ICP Interference Check Sample: All % recovery values met the QC acceptance criteria No qualifications were required.

LCS. The LCS analysis met the QC acceptance criteria of as specified in the QAPP. No qualifications were required.

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ICP Serial Dilutions: An ICP serial dilution sample was not analyzed with this data package.

Matrix Spike: A matrix spike sample was not analyzed with this data package.

Matrix Spike Duplicate: A matrix duplicate sample was not analyzed with this data package.

Field Duplicates. A field duplicate was not associated with the samples in this data package.

Graphite Furnace Atomic Absorption (GFAA) Analysis: Sample BHGLSWMUS1006 exhibited a postdigestion spike for cadmium analysis out of control limits (85-115%) and sample absorbance is less than 50% of spike absorbance. The laboratory flagged these results (W) and the reviewer further qualified these results (UJ).

Compound Quantitation: All results between the MDL and the PQL have been qualified (F)

Comments. The analyses of environmental samples and quality control samples are valid within the constraints identified with the data quality flags as presented in the GFAA, and compound quantitation sections of this report The NAS Fort Worth JRB Basewide Quality Assurance Project Plan, February, 1998, data validation criteria were used in evaluating the data in this summary report.

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report.

Qualification Summary Table - Metals/Cyanide SDG 9910G553					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
BHGLSWMU16001	Lead	1.7	B	1 7	F
BHGLSWMU36001	Lead	3 8	B	3 8	F
BHGLSWMU51006	Arsenic	4.7	B	4 7	F
	Cadmium	0 20	UW	0 20	UJ

Received 1/1/00

671 550
ENVIRONMENTAL
Data Services, Inc.

SPLP METALS (Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium and Lead)
USEPA SW846 Methods 6010A, - Level III Review

Site: Naval Air Station Fort Worth - DO15 SDG #: 9910G554

Client: HydroGeoLogic, Inc. Date. December 31, 1999

Laboratory: Severn Trent Laboratories, Chicago, IL Reviewer: Nancy Weaver

Client Sample ID	Laboratory Sample ID	Matrix
BHGLSWMU6002	9910G554-002	SPLP Extract - Water
BHGLSWMU5001	9910G554-004	SPLP Extract - Water
BHGLSWMU32003	9910G554-010	SPLP Extract - Water
BHGLSWMU12001	9910G554-012	SPLP Extract - Water
BHGLSWMU12002	9910G554-014	SPLP Extract - Water
BHGLSWMU12003	9910G554-016	SPLP Extract - Water
BHGLSWMU31002	9910G554-020	SPLP Extract - Water
BHGLSWMU11001	9910G554-022	SPLP Extract - Water
BHGLSWMU11001	9910G554-024	SPLP Extract - Water
BHGLSWMU11001	9910G554-026	SPLP Extract - Water
BHGLSWMU11001	9910G554-028	SPLP Extract - Water
BHGLSWMU11002	9910G554-030	SPLP Extract - Water
BHGLSWMU11002	9910G554-032	SPLP Extract - Water
BHGLSWMU11002	9910G554-034	SPLP Extract - Water
BHGLSWMU39001	9910G554-036	SPLP Extract - Water
BHGLSWMU42004	9910G554-038	SPLP Extract - Water
BHGLSWMU33001	9910G554-040	SPLP Extract - Water
BHGLSWMU33002	9910G554-042	SPLP Extract - Water

Holding Times: All samples were extracted and analyzed within the recommended holding time of 180 days for SPLP Metals (antimony, arsenic, barium, beryllium, cadmium, chromium and lead), as specified in Table 5.1.2-1 of the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), February, 1998. No qualifications were required.

Calibration: All initial and continuing calibration verifications exhibited acceptable %R values No qualifications were required.

Method Blanks: The water preparation blanks PBW (11/17/99) and PBW (11/17/99), initial and continuing calibration blanks exhibited contamination for barium and beryllium. No qualifications were required.

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Field and equipment blank: Field quality control samples were not associated with the samples in this data package.

ICP Interference Check Sample: An ICP interference check sample was not analyzed with this data package.

LCS. An LCS was not analyzed with this data package.

ICP Serial Dilutions: An ICP serial dilution was not analyzed with this data package.

Matrix Spike: A matrix spike sample was not analyzed with this data package.

Matrix Spike Duplicate: A matrix duplicate sample was not analyzed with this data package

Field Duplicates: A field duplicate was not associated with the samples analyzed with this data package.

Graphite Furnace Atomic Absorption (GFAA) Analysis: Several samples exhibited a postdigestion spike for antimony, arsenic, and cadmium analysis out of control limits (85-115%) and sample absorbance is less than 50% of spike absorbance. The laboratory flagged these results (W) and the reviewer further qualified these results (UJ)

Compound Quantitation: All results between the MDL and the PQL have been qualified (F)

Comments: The analyses of environmental samples and quality control samples are valid within the constraints identified with the data quality flags as presented in the GFAA, and compound quantitation sections of this report. The NAS Fort Worth JRB Basewide Quality Assurance Project Plan, February, 1998, data validation criteria were used in evaluating the data in this summary report.

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report.

Qualification Summary Table - Metals/Cyanide SDG 9910G554					
Sample No	Compound(s)	Reported		Validated	
		Conc.	Qualifier	Conc	Qualifier
BHGLSWMU06002	Arsenic	9.8	B	9 8	F
BHGLSWMU05001	Arsenic	2.0	UW	2 0	UJ
BHGLSWMU32003	Arsenic	32 0	B	32 0	F
BHGLSWMU12002	Cadmium	0 20	UW	0 20	UJ
BHGLSWMU12003	Cadmium	1.3	B	1 3	F
BHGLSWMU31002	Cadmium	0 59	B	0 59	F
BHGLSWMU11001	Lead	9 4	B	9 4	F
BHGLSWMU11002	Antimony	2 6	UW	2 6	UJ
BHGLSWMU11002	Arsenic	9 5	B	9 5	F
BHGLSWMU33001	Antimony	2 6	UW	2 6	UJ
BHGLSWMU33002	Chromium	1 8	B	1.8	F

Metals
SW-846 ICP, furnace, and cold vapor methods
USEPA Level III Review

Site: Naval Air Station Fort Worth JRB, Texas — SDG #: 9911G981

Laboratory STL - Chicago — Date 02/17/00

HydroGeoLogic, Inc. Reviewer: Ken Rapuano — Project AFC001-15BBC

Client Sample ID	Laboratory Sample ID	Matrix
BHGLSWMU36003-02 (Cr & Pb)	9911G981-002	Water (SPLP Extract)
BHGLSWMU05003-02 (Pb)	9911G981-004	Water (SPLP Extract)
BHGLSWMU32001-01 (Cd)	9911G981-006	Water (SPLP Extract)
BHGLSWMU31001-01 (Ba, Cd, Cr, Hg, & Pb)	9911G981-008	Water (SPLP Extract)

Sample Delivery and Condition - These soil samples were originally analyzed for total metals in June and the results were reported in several SDGs. Proper custody (internal and external) was documented. No qualification required.

Holding Times - The holding time for metals SPLP extraction is 180 days, with the exception of mercury, which is 28 days. Sample BHGLSWMU36003-02 was extracted at day 191 for metals and sample BHGLSWMU31001-01 was extracted for mercury on day 177. All other samples were extracted within the method holding time All samples were analyzed within the required holding times after extraction. The chromium and lead detects in sample BHGLSWMU36003-02 are qualified J and the mercury non-detect in sample BHGLSWMU31001-01 is rejected (qualified R)

Calibration - The initial and continuing calibration verification standards had acceptable recoveries. The CRDL standard had a recovery of 100%. No qualification required.

Method and Calibration Blanks - The preparation blank had a detection of 228 µg/l for barium. The barium result in sample BHGLSWMU31001-01 is qualified U as an extraction artifact The initial and continuing calibration blanks had low-level detections for chromium. No data were qualified as both chromium detections were more than 10X the highest associated blank

Equipment Blanks - No equipment blanks were evaluated because all samples were SPLP extracts to determine leachability of analytes already verified as present in the original soil samples. No qualification necessary.

ICP Interference Check Sample - All %Rs were in control. No qualification necessary.

ICP Serial Dilution - No serial dilution was performed in this package No qualification required

Laboratory Control Samples - All LCSs had acceptable recoveries. No qualification required

Recovery Tests - The recovery test for cadmium was above the UCL for samples BHGLSWMU32001-01 and

BHGLSWMU31001-01 The cadmium non-detections in these samples are qualified UJ

MS/MSD - No MS/MSD was submitted with this package. No qualification required

Field Duplicates - No field duplicates were submitted No qualification required

Compound Quantitation - All elements detected below the PQL are qualified 'F'.

Qualification Summary Table

Sample ID	Analyte	Lab Val	Lab Qual	HGL Val	HGL Qual
BHGLSWMU36003-02	Chromium	135	--	135	J
	Lead	41 4	--	41 4	J
BHGLSWMU05003-02	Lead	27 1	--	27.1	--
BHGLSWMU32001-01	Cadmium	0.20	U	PQL	UJ
BHGLSWMU31001-01	Barium	403	--	403	U
	Cadmium	0.20	U	PQL	UJ
	Chromium	16 3	B	16 3	F
	Lead	17 5	--	17.5	--
	Mercury	2 0	U	2 0	R

671 555 received

ENVIRONMENTAL
Data Services, Inc.

METALS (As, Cr, Cd, Pb)
USEPA SW846 Methods 6010B. 7421 - Level III Review

Site. Naval Air Station Fort Worth - DO15 SDG #: 9A04G023

Client. HydroGeoLogic. Inc Date· June 16, 2000

Laboratory. Severn Trent Laboratories. Chicago. IL Reviewer· Cathy Shelby

Client Sample ID	Laboratory Sample ID	Matrix
BHGLSWMU3600602	9A04G023-001	Soil
BHGLSWMU3600502	9A04G023-002	Soil
BHGLSWMU1200501	9A04G023-004	Soil
BHGLSWMU1200703	9A04G023-005	Soil
BHGLSWMU1200701	9A04G023-006	Soil
BHGLSWMU1200603	9A04G023-007	Soil
DUP04	9A04G023-008	Soil
BHGLSWMU1200601	9A04G023-009	Soil

Holding Times - All samples were extracted and analyzed within the recommended holding time of 180 days for all metals as specified in the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), March 2000. No qualifications were required

Calibration - All initial and continuing calibration verifications exhibited acceptable %R values No qualifications were required

Method Blanks - The preparation blank PBS, initial and continuing calibration blanks exhibited arsenic contamination at 4 7 ug/L, however, all associated arsenic results are greater than 5X the blank concentration and no qualifications were required.

The preparation blank PBS, initial and calibration blanks exhibited negative blank contamination for cadmium, chromium and lead at -0.5 ug/L, -1.0 ug/L and -1.8 ug/L, respectively. Cadmium has been qualified (UJ) in sample BHGLSWMU1200501 All other associated results are less than the PQL or greater than 5X the blank concentration and no further qualifications were required.

Field and equipment blank - Equipment blank EB042800 (from SDG 9A04G032) was free of contamination. No qualifications were required.

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ICP Interference Check Sample - All % recovery values met the QC acceptance criteria No qualifications were required.

LCS - The LCS sample exhibited acceptable %R values. No qualifications were required

ICP Serial Dilution - An ICP serial dilution sample was not analyzed with this data package.

Matrix Spike/Duplicate - A matrix spike/duplicate sample was not analyzed with this data package.

Field Duplicates - Field duplicate results are summarized in the table below. No qualifications were required

Compound	BHGLSWMU1200601 ug/L	DUP04 ug/L	RPD of Difference
Cadmium	0 24	0 70	0 46
Lead	11 3	9 6	1 7

Graphite Furnace Atomic Absorption (GFAA) Analysis - No discrepancies were identified

Compound Quantitation - All results between the MDL and the PQL have been qualified (F).

Comments - The analyses of environmental samples and quality control samples are valid within the constraints identified with the data quality flags as presented in the method blank and compound quantitation sections of this report The NAS Fort Worth JRB 2000 Basewide Quality Assurance Project Plan, March 2000, data validation criteria were used in evaluating the data in this summary report.

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report.

Qualification Summary Table - Metals SDG 9A04G023					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
BHGLSWMU3600602	Lead	12 0	B	12 0	F
BHGLSWMU3600502	Lead	11 7	B	11 7	F

Qualification Summary Table - Metals SDG 9A04G023					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
BHGLSWMU1200501	Cadmium	0 4	U	0 4	UJ
	Lead	5 4	B	5 4	F
BHGLSWMU1200703	Arsenic	8 4	B	8 4	F
BHGLSWMU1200701	Cadmium	0 08	B	0 08	F
	Lead	4 5	B	4 5	F
BHGLSWMU1200603	Arsenic	6 8	B	6 8	F
DUP04	Cadmium	0 70	B	0 70	F
	Lead	9 6	B	9 6	F
BHGLSWMU1200601	Cadmium	0 24	B	0.24	F
	Lead	11 3	B	11 3	F

Where dup data?
(in Spreadsheet)

671-558

ENVIRONMENTAL
Data Services, Inc.

Received

METALS (As, Ba, Co, Pb)
USEPA SW846 Methods 6010B & 7421 - Level III Review

Site: Naval Air Station Fort Worth - DO15 SDG #: 9A04G923

Client. HydroGeoLogic, Inc. Date June 13, 2000

Laboratory: Severn Trent Laboratories, Chicago, IL Reviewer Cathy Shelby

Client Sample ID	Laboratory Sample ID	Matrix
BHGLSWMU0500602	9A04G923-001	Soil
BHGLSWMU0500502	9A04G923-002	Soil
BHGLSWMU0500402	9A04G923-003	Soil
BHGLSWMU0600402	9A04G923-004	Soil
DUP-01	9A04G923-005	Soil
DUP-02	9A04G923-006	Soil
BHGLSWMU1100302	9A04G923-007	Soil
BHGLSWMU1100303	9A04G923-008	Soil
BHGLSWMU1100304	9A04G923-009	Soil
BHGLSWMU1100304MS	9A04G923-009MS	Soil
BHGLSWMU1100304MSD	9A04G923-009MSD	Soil
EB042400	9A04G923-010	Water
BHGLTWMU1100402	9A04G923-011	Soil
BHGLSWMU1100403	9A04G923-012	Soil
BHGLSWMU1100502	9A04G923-013	Soil
DUP03	9A04G923-014	Soil
BHGLSWMU1100503	9A04G923-015	Soil
BHGLSWMU110600302	9A04G923-016	Soil

Holding Times - All samples were extracted and analyzed within the recommended holding time of 180 days for all metals as specified in the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), March 2000. No qualifications were required.

Calibration - All initial and continuing calibration verifications exhibited acceptable %R values. No qualifications were required.

Method Blanks - The water preparation blank PBW, initial and continuing calibration blanks were free of contamination. No qualifications were required

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The water preparation blank PBW, initial and continuing calibration blanks were free of negative blank contamination No qualifications were required.

The soil preparation blank PBS, initial and continuing calibration blanks exhibited arsenic contamination at 4.7 ug/L Arsenic has been qualified (U) samples BHGLSWMU0600402 and DUP-02.

The soil preparation blank PBS, initial and continuing calibration blanks exhibited negative blank contamination for cobalt and lead at -0 240 mg/kg and -1 88 ug/L, respectively, however, all associated results are greater than 5X the blank concentration and no qualifications were required

Field and equipment blank - Equipment blank EB042400 exhibited barium contamination at 16 5 ug/L, however, all associated results are greater than 5X the blank concentration and no qualifications were required.

ICP Interference Check Sample - All % recovery values met the QC acceptance criteria No qualifications were required.

LCS - The LCS sample exhibited acceptable %R values No qualifications were required

ICP Serial Dilution - An ICP serial dilution sample was not analyzed with this data package

Matrix Spike/Duplicate - Matrix spike/duplicate sample BHGLSWMU1100304 exhibited a low %R value for lead of 73 7%. Lead has been qualified (J) in this sample.

Field Duplicates - Field duplicate results are summarized in the table below Barium has been qualified (J) in sample BHGLSWMU600402.

Compound	BHGLSWMU0500402 mg/kg	DUP01 mg/kg	Diff %RPD
Barium	58 8	66 2	11 8%
Cobalt	5.4	15 7	10 3

Compound	BHGLSWMU0600402 mg/kg	DUP02 mg/kg	Diff %RPD
Barium	44 3	33 7B	27%*
Cobalt	21 IB	I 8B	0 3
Lead	5 0	4 7	0 3

Compound	BHGLSWMU1100503 mg/kg	DUP03 mg/kg	Diff %RPD
Arsenic	5 6	3 0	2 6
Lead	11 2	10 4	0.8

Graphite Furnace Atomic Absorption (GFAA) Analysis - Sample BHGLSWMU1100402 exhibited a postdigestion spike for lead analysis out of control limits (85-125%) and sample absorbance is less than 50% of spike absorbance. The lab flagged this result (W), however, since this result is less than the PQL and has already been qualified (F), no further qualifications were required.

Compound Quantitation - All results between the MDL and the PQL have been qualified (F)

Comments - The analyses of environmental samples and quality control samples are valid within the constraints identified with the data quality flags as presented in the method blank, matrix spike/duplicate, field duplicate and compound quantitation sections of this report. The NAS Fort Worth JRB 2000 Basewide Quality Assurance Project Plan, March 2000, data validation criteria were used in evaluating the data in this summary report.

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report

Qualification Summary Table - Metals SDG 9A04G923					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
BHGLSWMU0500602	Arsenic	3 1	B	3 1	F
	Cobalt	2 4	B	2 4	F
BHGLSWMU0500502	Lead	7.7	BN	7 7	F
BHGLSWMU0600402	Arsenic	0 82	B	0 82	U
	Barium	44 3	-	44 3	J
	Cobalt	2 1	B	2 1	F
DUP-02	Arsenic	0 90	B	0 90	U
	Barium	33 7	B	33 7	F
	Cobalt	1 8	B	1 8	F
BHGLSWMU1100303	Lead	6 4	BN	6 4	F
BHGLSWMU1100304	Lead	4 4	N	4 4	J
EB042400	Barium	16 5	B	16 5	F
BHGLSWMU1100402	Lead	8 4	BWN	8 4	F
BHGLSWMU1100403	Lead	6 7	BN	6 7	F
BHGLSWMU1100502	Lead	7 9	BN	7 9	F
DUP-03	Arsenic	3 0	B	3 0	F
BHGLSWMU110600302	Barium	20 3	B	20 3	F

671 561

ENVIRONMENTAL
Data Services, Inc.

VOLATILE ORGANIC COMPOUNDS
(ETHYLBENZENE)
USEPA SW846 Method 8260B - Level III Review

Site. Naval Air Station Fort Worth - DO15 SDG # 9A04G956

Client HydroGeoLogic, Inc Date: June 13, 2000

Laboratory: Severn Trent Laboratories, Chicago, IL Reviewer: Cathy Shelby

Client Sample ID	Laboratory Sample ID	Matrix
BHGLSWMU3200701	9A04G956-001	Soil
BHGLSWMU3200601	9A04G956-002	Soil

Holding Times - All samples were analyzed within the recommended holding time of 14 days for soil samples as specified in the NAS Fort Worth JRB 2000 Basewide Quality Assurance Project Plan (QAPP), March 2000. No qualifications were required.

GC/MS Tuning - All of the BFB tunes in the initial and continuing calibrations met the percent relative abundance criteria No qualifications were required.

Initial Calibration - The initial calibration analyzed on 04/30/00 exhibited acceptable %RSD values and/or correlation coefficients and mean RRF values. No qualifications were required

Continuing Calibration - The continuing calibrations analyzed on 05/04/00 exhibited acceptable %D and RRF values. No qualifications were required

Surrogates - All samples exhibited acceptable surrogate %R values. No qualifications were required.

Laboratory Control Samples - LCS samples VBLKDU exhibited acceptable %R values No qualifications were required

MS/MSD - A MS/MSD sample was not analyzed with this data package.

Internal Standard (IS) Area Performance - All internal standards met response and retention time (RT) criteria. No qualifications were required

Method Blank - Method blank VBLKDU (05/04/00) was free of contamination. No qualifications were required.

Trip, field, equipment blank - Trip blank TB042500 (from SDG 9A04G961) was free of contamination No qualifications were required.

Equipment blank (from SDG 9A04G961) exhibited methylene chloride contamination at 17 ug/L. however, this is not a reported compound in the samples in this data package and no qualifications were required.

Field Duplicates - Field duplicate samples were not included with this data package.

Tentatively Identified Compounds - TICs were not analyzed with this data package

Compound Quantitation - No discrepancies were identified.

Comments - The analyses of environmental samples and quality control samples are valid The NAS Fort Worth JRB 2000 Basewide Quality Assurance Project Plan, March 2000, data validation criteria were used in evaluating the data in this summary report.

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report

Qualification Summary Table - Volatiles SDG 9A04G956					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
None Qualified	--	--	--	--	--

ENVIRONMENTAL
Data Services, Inc.

received
671 563

METALS (Cd)

USEPA SW846 Methods 6010B - Level III Review

Site. Naval Air Station Fort Worth - DO15 SDG #: 9A04G956

Client. HydroGeoLogic, Inc. Date: June 13, 2000

Laboratory: Severn Trent Laboratories, Chicago, IL Reviewer. Cathy Shelby

Client Sample ID	Laboratory Sample ID	Matrix
BHGLSWMU3200701	9A04G956-01	Soil

Holding Times - All samples were extracted and analyzed within the recommended holding time of 180 days for cadmium as specified in the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), March 2000. No qualifications were required.

Calibration - All initial and continuing calibration verifications exhibited acceptable %R values. No qualifications were required.

Method Blanks - The soil preparation blank, initial and continuing calibration blanks were free of contamination No qualifications were required.

The soil preparation blank PBS, initial and continuing calibration blanks exhibited negative blank contamination for cadmium of -0.08 mg/kg, however, the associated result is less than the PQL and no qualifications were required

Field and equipment blank - Equipment blank EB042500 (from SDG 9A04G961) was free of contamination. No qualifications were required.

ICP Interference Check Sample - All % recovery values met the QC acceptance criteria. No qualifications were required.

LCS - The LCS sample exhibited acceptable %R values. No qualifications were required.

ICP Serial Dilution - An ICP serial dilution was not included in this data package.

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Matrix Spike/Duplicate - A matrix spike/duplicate sample was not analyzed with this data package

Field Duplicates - Field duplicate samples were not analyzed with this data package.

Graphite Furnace Atomic Absorption (GFAA) Analysis - GFAA analysis was not performed.

Compound Quantitation - All results between the MDL and the PQL have been qualified (F).

Comments - The analyses of environmental samples and quality control samples are valid within the constraints identified with the data quality flags as presented in the compound quantitation section of this report. The NAS Fort Worth JRB 2000 Basewide Quality Assurance Project Plan, March 2000, data validation criteria were used in evaluating the data in this summary report

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report

Qualification Summary Table - Metals SDG 9A04G956					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
BHGLSWMU3200701	Cadmium	0 44	B	0 44	F

671 565 Received

ENVIRONMENTAL
Data Services, Inc.

TOTAL PETROLEUM HYDROCARBONS

Texas Method 1005 (Rev. 4/98) - Level III Review

Site. Naval Air Station Fort Worth - DO15 SDG #: 9A04G959/954

Client: HydroGeoLogic, Inc. Date. May 26, 2000

Laboratory Severn Trent Laboratories, Austin, TX Reviewer: Cathy Shelby

Client Sample ID	Laboratory Sample ID	Matrix
BHGLSWMU3200601	9A04G959-001	Soil
EB042500	9A04G959-002	Water
EB042500MS	9A04G959-002MS	Water
EB042500MSD	9A04G959-002MSD	Water
BHGLTA247-02	9A04G954-002	Soil

Holding Times - All samples were analyzed within 7 days for water samples and 14 days for soil samples as specified in the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), March 2000 with the exception of sample EB042500 Sample EB042500 was analyzed outside of 7 days and all results have been qualified (UJ).

Initial Calibration - The initial calibration analyzed on 04/28/00 exhibited acceptable %RSD and mean RRF values No qualifications were required.

Continuing Calibration - The continuing calibrations analyzed on 05/02/00, 05/03/00, 05/06/00, 05/08/00, 05/10/00 and 05/11/00 exhibited acceptable %D and RRF values No qualifications were required.

Laboratory Control Samples - LCS samples DCPVR102 (soil) and DCP2N102 (water) exhibited acceptable %R values. No qualifications were required.

MS/MSD - MS/MSD sample EB042500 (water) exhibited acceptable %R and RPD values. No qualifications were required.

Method Blank - Method blanks DCPVR101 (05/02/00) and DCP2N101 (05/03/00) were free of contamination No qualifications were required.

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Field. equipment blank - Equipment blank EB042500 was free of contamination No qualifications were required

Field Duplicates - Field duplicate samples were not analyzed with this data package.

Compound Quantitation - All results between MDL and PQL have been qualified (F).

Comments - The analyses of environmental samples and quality control samples are valid within the constraints identified with the data quality flags as presented in the holding time and compound quantitation sections of this report The NAS Fort Worth JRB Basewide Quality Assurance Project Plan, March 2000, data validation criteria were used in evaluating the data in this summary report.

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report.

Qualification Summary Table - TPH SDG 9A04G959/954					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
EB042500	>C10-C28	ND	-	ND	UJ
	C6-C28	ND	-	ND	UJ
	C6-C10	ND	-	ND	UJ
BHGLTA247-02	>C10-C28	40	F	40	F
	C6-C28	43	F	43	F

Received

ENVIRONMENTAL
Data Services, Inc.

METALS (As, Ba)

USEPA SW846 Methods 6010B - Level III Review

Site: Naval Air Station Fort Worth - DO15 SDG #. 9A04G960

Client: HydroGeoLogic, Inc. Date. June 15. 2000

Laboratory Severn Trent Laboratories, Chicago. IL Reviewer: Cathy Shelby

Client Sample ID	Laboratory Sample ID	Matrix
BHGLSWMU3200404	9A04G960-004	Soil
BHGLSWMU3200504	9A04G960-009	Soil

Holding Times - All samples were extracted and analyzed within the recommended holding time of 180 days for all metals as specified in the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), March 2000. No qualifications were required.

Calibration - All initial and continuing calibration verifications exhibited acceptable %R values No qualifications were required.

Method Blanks - The soil preparation blank PBS, initial and continuing calibration blanks exhibited arsenic contamination at 4.7 ug/L Arsenic has been qualified (U) in sample BHGLSWMU3200404.

The soil preparation blank PBS, initial and continuing calibration blanks exhibited negative blank contamination for arsenic at -0 290 mg/kg. Arsenic has been qualified (UJ) in sample BHGLSWMU3200404.

Field and equipment blank - Equipment blank EB042500 (from SDG 9A04G961) was free of contamination. No qualifications were required

ICP Interference Check Sample - All % recovery values met the QC acceptance criteria No qualifications were required.

LCS - The LCS sample exhibited acceptable %R values No qualifications were required.

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ICP Serial Dilution - An ICP serial dilution sample was not analyzed with this data package

Matrix Spike/Duplicate - A matrix spike/duplicate sample was not analyzed with this data package.

Field Duplicates - Field duplicate samples were not analyzed with this data package.

Graphite Furnace Atomic Absorption (GFAA) Analysis - GFAA analysis was not performed in this data package.

Compound Quantitation - All results between the MDL and the PQL have been qualified (F)

Comments - The analyses of environmental samples and quality control samples are valid within the constraints identified with the data quality flags as presented in the method blank and compound quantitation sections of this report The NAS Fort Worth JRB 2000 Basewide Quality Assurance Project Plan. March 2000, data validation criteria were used in evaluating the data in this summary report.

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report.

Qualification Summary Table - Metals SDG· 9A04G960					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
BHGLSWMU3200404	Arsenic	0 48	B	0 48	UJ
	Barium	14.3	B	14 3	F
BHGLSWMU3200504	Barium	30 9	B	30 9	F

671 569 Received

ENVIRONMENTAL
Data Services, Inc.

VOLATILE ORGANIC COMPOUNDS
(CHLOROBENZENE)

USEPA SW846 Method 8260B - Level III Review

Site Naval Air Station Fort Worth - DO15 SDG # 9A04G960

Client: HydroGeoLogic, Inc Date. June 15, 2000

Laboratory Severn Trent Laboratories, Chicago, IL Reviewer: Cathy Shelby

Client Sample ID	Laboratory Sample ID	Matrix
BHGLSWMU3200602	9A04G960-001	Soil
BHGLSWMU3200402	9A04G960-002	Soil
BHGLSWMU3200403	9A04G960-003	Soil
DUP05	9A04G960-005	Soil
AB042500	9A04G960-006	Water
BHGLSWMU3200502	9A04G960-007	Soil
BHGLSWMU3200502MS	9A04G960-007MS	Soil
BHGLSWMU3200502MSD	9A04G960-007MSD	Soil
BHGLSWMU3200503	9A04G960-008	Soil

Holding Times - All samples were analyzed within the recommended holding time of 14 days for preserved water and soil samples as specified in the NAS Fort Worth JRB 2000 Basewide Quality Assurance Project Plan (QAPP), March 2000. No qualifications were required.

GC/MS Tuning - All of the BFB tunes in the initial and continuing calibrations met the percent relative abundance criteria. No qualifications were required.

Initial Calibration - The initial calibration analyzed on 04/30/00 exhibited acceptable %RSD values and/or correlation coefficients and mean RRF values. No qualifications were required

Continuing Calibration - The continuing calibrations analyzed on 05/04/00, 05/05/00 and 05/08/00 exhibited acceptable %D and RRF values No qualifications were required

Surrogates - All samples exhibited acceptable surrogate %R values. No qualifications were required

Laboratory Control Samples - LCS samples VBLKTV, VBLKG2, VBLKWL and VBLKDU exhibited acceptable %R values No qualifications were required.

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MS/MSD - MS/MSD sample BHGLSWMU3200502 exhibited acceptable %R and RPD values No qualifications were required.

Internal Standard (IS) Area Performance - Samples BHGLSWMU3200402 and BHGLSWMU3200403 exhibited low area counts for internal standard IS4-1,4-dichlorobenzene-d4. However, since the reported compound is not associated with this internal standard, no qualifications were required

Method Blank - Method blanks VBLKDU (05/04/00), VBLKG2 (05/05/00), VBLKWL (05/05/00) and VBLKVT (05/18/00) were free of contamination No qualifications were required

Trip, field, equipment blank - Trip blank TB042500 (from SDG 9A04G961) was free of contamination. No qualifications were required.

Equipment blank EB042500 (from SDG 9A04G961) exhibited methylene chloride contamination at 17 ug/L, however. this is not a reported compound in this data package and no qualifications were required.

Ambient blank AB042500 was free of contamination. No qualifications were required.

Field Duplicates - Field duplicate results are summarized in the table below. No qualifications were required

Compound	BHGLSWMU3200403 ug/kg	DUP05 ug/kg	RPD
Chlorobenzene	ND	ND	--

Tentatively Identified Compounds - TICs were not analyzed with this data package.

Compound Quantitation - All results between the MDL and PQL have been qualified (F).

Comments - The analyses of environmental samples and quality control samples are valid within the constraints identified with the data quality flags as presented in the compound quantitation section of this report The NAS Fort Worth JRB 2000 Basewide Quality Assurance Project Plan. March 2000, data validation criteria were used in evaluating the data in this summary report.

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report.

Qualification Summary Table - Volatiles SDG 9A04G960					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
BHGLSWMU3200602	Chlorobenzene	1	J	1	F

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ENVIRONMENTAL
Data Services, Inc.

received

METALS (As, Cd, Cr, Co, Pb, Hg)
USEPA SW846 Methods 6010B, 7191/7421/7470A - Level III Review

Site Naval Air Station Fort Worth - DO15 SDG #: 9A04G997

Client: HydroGeoLogic, Inc Date: June 16, 2000

Laboratory. Severn Trent Laboratories. Chicago. IL Reviewer: Cathy Shelby

Client Sample ID	Laboratory Sample ID	Matrix
BHGLSWMU5101002	9A04G997-001	Soil
BHGLSWMU5101305	9A04G997-002	Soil
BHGLSWMU5101304	9A04G997-003	Soil
BHGLSWMU5101303	9A04G997-004	Soil
BHGLSWMU5101302	9A04G997-005	Soil
BHGLSWMU5101405	9A04G997-006	Soil
BHGLSWMU5101404	9A04G997-007	Soil
BHGLSWMU5101403	9A04G997-008	Soil
BHGLSWMU5101402	9A04G997-009	Soil
BHGLSWMU5101102	9A04G997-010	Soil
BHGLSWMU5101101	9A04G997-011	Soil
BHGLSWMU5101201	9A04G997-012	Soil
BHGLSWMU3600702	9A04G997-013	Soil
BHGLSWMU3600404	9A04G997-014	Soil
BHGLSWMU3600404MS	9A04G997-014MS	Soil
BHGLSWMU3600404MSD	9A04G997-014MSD	Soil
BHGLSWMU3600802	9A04G997-015	Soil
EB042700	9A04G997-016	Water
DUP06	9A04G997-017	Soil

Holding Times - All samples were extracted and analyzed within the recommended holding time of 28 days for mercury and 180 days for all other metals as specified in the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), March 2000. No qualifications were required.

Calibration - All initial and continuing calibration verifications exhibited acceptable %R values. No qualifications were required

Method Blanks - The water preparation blank PBW, initial and continuing calibration blanks exhibited cadmium contamination at 0.5 ug/L, however, the associated result is non-detect and no qualifications were required

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The water preparation blank PBW, initial and continuing calibration blanks were free of negative blank contamination. No qualifications were required

The soil preparation blank PBS, initial and calibration blank exhibited arsenic contamination at 4.7 ug/L, however, all associated results are greater than 5X the blank concentration and no qualifications were required

The soil preparation blank PBS, initial and calibration blank exhibited negative blank contamination for cadmium, chromium and cobalt at -0 1 mg/kg, -1 0 ug/L and -0 18 mg/kg, respectively Cadmium has been qualified (J) in sample BHGLSWMU5101201. All other associated results are greater than 5X the blank concentration and no further qualifications were required

Field and equipment blank - Equipment blank EB042700 was free of contamination No qualifications were required

ICP Interference Check Sample - All % recovery values met the QC acceptance criteria No qualifications were required.

LCS - The LCS sample exhibited acceptable %R values No qualifications were required

ICP Serial Dilution - ICP serial dilution sample BHGLSWMU3600402 exhibited acceptable %D values No qualifications were required

Matrix Spike/Duplicate - Matrix spike/duplicate sample BHGLSWMU3600402 exhibited high %R values for chromium of 125 0%/132.1% Chromium has been qualified (J) in this sample

Field Duplicates - Field duplicate results are summarized in the table below No qualifications were required.

Compound	BHGLSWMU3600802 mg/kg	DUP06 mg/kg	Diff %RPD
Chromium	7 1	7 1	0%
Lead	10	7 0	3 0%

Graphite Furnace Atomic Absorption (GFAA) Analysis - No discrepancies were identified

Compound Quantitation - All results between MDL and PQL have been qualified (F)

Comments - The analyses of environmental samples and quality control samples are valid within the constraints identified with the data quality flags as presented in the method blank, MS/MSD and compound quantitation sections of this report The NAS Fort Worth JRB 2000 Basewide Quality Assurance Project Plan, March 2000, data validation criteria were used in evaluating the data in this summary report.

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report.

Qualification Summary Table - Metals SDG 9A04G997					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
BHGLSWMU5101305	Lead	7 0	B	7 0	F
BHGLSWMU5101302	Mercury	0 03	B	0 03	F
BHGLSWMU5101405	Lead	9 6	B	9 6	F
BHGLSWMU5101101	Arsenic	4 0	B	4 0	F
	Cadmium	0 43	B	0 43	F
BHGLSWMU5101201	Cadmium	0 33	-	0 33	J
BHGLSWMU3600702	Lead	6 5	B	6 5	F
BHGLSWMU3600402	Chromium	9 3	N	9 3	J
BHGLSWMU3600802	Chromium	7 1	BN	7 1	F
DUP06	Chromium	7 1	BN	7 1	F
	Lead	7 0	B	7 0	F

received

ENVIRONMENTAL
Data Services, Inc.

METALS (As, Cd, Co, Ni, Hg)

USEPA SW846 Methods 6010B, 7471A - Level III Review

Site: Naval Air Station Fort Worth - DO15BBC SDG #. 9A05G219

Client: HydroGeoLogic, Inc. Date: June 20, 2000

Laboratory: Severn Trent Laboratories, Chicago, IL Reviewer. Cathy Shelby

Client Sample ID	Laboratory Sample ID	Matrix
WHGLTA031-01	9A05G219-001	Soil
WHGLTA031-02	9A05G219-002	Soil
WHGLTA031-03	9A05G219-003	Soil
WHGLTA030-01	9A05G219-004	Soil
WHGLTA030-02	9A05G219-005	Soil
DUP02	9A05G219-006	Soil

Holding Times - All samples were extracted and analyzed within the recommended holding time of 28 days for mercury and 180 days for all other metals as specified in the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), March 2000 No qualifications were required.

Calibration - All initial and continuing calibration verifications exhibited acceptable %R values. No qualifications were required.

Method Blanks - The soil preparation blank PBS, initial and calibration blank were free of contamination. No qualifications were required.

The soil preparation blank PBS, initial and calibration blank exhibited negative blank contamination for arsenic, cadmium, cobalt and nickel at -0.590 mg/kg, -0.100 mg/kg, -0.240 mg/kg and -0 500 mg/kg, respectively, however, all associated results are less than the PQL or greater than 5X the blank concentration and no qualifications were required.

Field and equipment blank - Equipment blank EB042800 (from SDG 9A04G032) was free of contamination. No qualifications were required.

ICP Interference Check Sample - All % recovery values met the QC acceptance criteria. No qualifications were required.

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LCS - The LCS sample exhibited acceptable %R values No qualifications were required.

ICP Serial Dilution - An ICP serial dilution sample was not analyzed with this data package.

Matrix Spike/Duplicate - A matrix spike/duplicate sample was not analyzed with this data package.

Field Duplicates - Field duplicate results for samples WHGLTA031-02 and DUP02 are non-detect. No qualifications were required.

Graphite Furnace Atomic Absorption (GFAA) Analysis - GFAA analysis was not performed with this data package.

Compound Quantitation - All results between MDL and PQL have been qualified (F).

Comments - The analyses of environmental samples and quality control samples are valid within the constraints identified with the data quality flags as presented in the compound quantitation section of this report The NAS Fort Worth JRB 2000 Basewide Quality Assurance Project Plan, March 2000, data validation criteria were used in evaluating the data in this summary report.

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report.

Qualification Summary Table - Metals SDG 9A05G219					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
WHGLTA031-01	Cobalt	2 0	B	2 0	F
	Nickel	5 8	B	5.8	F
WHGLTA030-01	Cadmium	0 10	B	0.10	F

671 577

ENVIRONMENTAL
Data Services, Inc.

METALS (As, Co, Hg, Pb)
USEPA SW846 Methods 6010B, 7421/7471A - Level III Review

Site Naval Air Station Fort Worth - DO15BBC SDG #: 9A05G260

Client HydroGeoLogic, Inc Date: June 20, 2000

Laboratory Severn Trent Laboratories, Chicago, IL Reviewer: Cathy Shelby

Client Sample ID	Laboratory Sample ID	Matrix
WHGLTA032-01	9A05G260-001	Soil
WHGLTA032-02	9A05G260-002	Soil
WHGLTA032-03	9A05G260-003	Soil
WHGLTA032-04	9A05G260-004	Soil
WHGLTA032-05	9A05G260-005	Soil

Holding Times - All samples were extracted and analyzed within the recommended holding time of 28 days for mercury and 180 days for all other metals as specified in the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), March 2000 No qualifications were required

Calibration - All initial and continuing calibration verifications exhibited acceptable %R values No qualifications were required

Method Blanks - The soil preparation blank PBS, initial and calibration blank were free of contamination No qualifications were required

The soil preparation blank PBS, initial and calibration blank exhibited negative blank contamination for arsenic, cobalt and lead at -0 590 mg/kg, -0.240 mg/kg and -2.0 ug/L, respectively, however, all associated results are less than the PQL or greater than 5X the blank concentration and no qualifications were required.

Field and equipment blank - Equipment blank EB051200 (from SDG 9A05G263) was free of contamination. No qualifications were required

ICP Interference Check Sample - All % recovery values met the QC acceptance criteria. No qualifications were required

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LCS - The LCS sample exhibited acceptable %R values No qualifications were required.

ICP Serial Dilution - An ICP serial dilution sample was not analyzed with this data package.

Matrix Spike/Duplicate - A matrix spike/duplicate sample was not analyzed with this data package.

Field Duplicates - Field duplicate samples were not analyzed with this data package.

Graphite Furnace Atomic Absorption (GFAA) Analysis - No discrepancies were identified.

Compound Quantitation - All results between MDL and PQL have been qualified (F)

Comments - The analyses of environmental samples and quality control samples are valid within the constraints identified with the data quality flags as presented in the compound quantitation section of this report. The NAS Fort Worth JRB 2000 Basewide Quality Assurance Project Plan, March 2000, data validation criteria were used in evaluating the data in this summary report.

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report

Qualification Summary Table - Metals SDG 9A05G260					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
WHGLTA032-01	Cobalt	2 4	B	2 4	F
WHGLTA032-05	Arsenic	4 1	B	4 1	F
	Cobalt	2.4	B	2 4	F

671 579 received

ENVIRONMENTAL
Data Services, Inc.

METALS (As, Cr, Pb)

USEPA SW846 Methods 6010B, 7421 - Level III Review

Site: Naval Air Station Fort Worth - DO15BBC SDG #: 9A05G272

Client HydroGeoLogic, Inc. Date: June 20, 2000

Laboratory: Severn Trent Laboratories, Chicago, IL Reviewer: Cathy Shelby

Client Sample ID	Laboratory Sample ID	Matrix
WHGLTA033-02	9A05G272-001	Soil
WHGLTA027-02	9A05G272-002	Soil
WHGLTA027-03	9A05G272-003	Soil
WHGLTA027-03MS	9A05G272-003MS	Soil
WHGLTA027-03MSD	9A05G272-003MSD	Soil
WHGLTA027-04	9A05G272-004	Soil

Holding Times - All samples were extracted and analyzed within the recommended holding time of 180 days as specified in the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), March 2000. No qualifications were required

Calibration - All initial and continuing calibration verifications exhibited acceptable %R values. No qualifications were required

Method Blanks - The soil preparation blank PBS, initial and calibration blank were free of contamination. No qualifications were required.

The soil preparation blank PBS, initial and calibration blank exhibited negative blank contamination for arsenic and lead at -0.770 mg/kg and -1.9 ug/L, respectively, however, all associated results are less than the PQL or greater than 5X the blank concentration and no qualifications were required

Field and equipment blank - Equipment blank EB051500 (from SDG 9A05G273) was free of contamination No qualifications were required

ICP Interference Check Sample - All % recovery values met the QC acceptance criteria No qualifications were required.

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LCS - The LCS sample exhibited acceptable %R values No qualifications were required

ICP Serial Dilution - ICP serial dilution sample WHGLTA027-03 exhibited acceptable %D values. No qualifications were required.

Matrix Spike/Duplicate - Matrix spike/duplicate sample WHGLTA027-03 exhibited a high %R value for lead of 254.6% Lead has been qualified (J) in this sample.

Field Duplicates - Field duplicate samples were not analyzed with this data package.

Graphite Furnace Atomic Absorption (GFAA) Analysis - No discrepancies were identified.

Compound Quantitation - All results between MDL and PQL have been qualified (F).

Comments - The analyses of environmental samples and quality control samples are valid within the constraints identified with the data quality flags as presented in the MS/MSD and compound quantitation sections of this report. The NAS Fort Worth JRB 2000 Basewide Quality Assurance Project Plan, March 2000, data validation criteria were used in evaluating the data in this summary report

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report

Qualification Summary Table - Metals SDG 9A05G272					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc.	Qualifier
WHGLTA027-03	Arsenic	1 7	B	1.7	F
	Lead	7 5	N	7.5	J
WHGLTA027-04	Lead	3 1	B	3 1	F

671 581

ENVIRONMENTAL
Data Services, Inc.

METALS (As, Ba, Cd, Pb)
USEPA SW846 Method 6010B & 7421 - Level III Review

Site Naval Air Station Fort Worth - DO15BBC SDG #: 9A05G295

Client: HydroGeoLogic, Inc Date: June 20, 2000

Laboratory: Severn Trent Laboratories, Chicago, IL Reviewer: Cathy Shelby

Client Sample ID	Laboratory Sample ID	Matrix
WHGLTA029-04	9A05G295-003	Soil
DUP01	9A05G295-004	Soil
WHGLTA028-01	9A05G295-005	Soil

Holding Times - All samples were extracted and analyzed within 180 days for metals as specified in the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), March 2000. No qualifications were required

Calibration - All initial and continuing calibration verifications exhibited acceptable %R values. No qualifications were required.

Method Blanks - The soil preparation blank PBS, initial and calibration blanks were free of contamination. No qualifications were required

The soil preparation blank PBS, initial and calibration blanks exhibited negative blank contamination for arsenic and lead at -0.770 mg/kg and -0 19 mg/kg, respectively. However, all associated results are less than the PQL or greater than 5X the blank contamination and no qualifications were required.

Field and equipment blank - Equipment blank EB051600 (from SDG 9A05G294) was free of contamination. No qualifications were required

ICP Interference Check Sample - All % recovery values met the QC acceptance criteria. No qualifications were required

LCS - The LCS sample exhibited acceptable %R values No qualifications were required

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ICP Serial Dilution - ICP serial dilution sample was not analyzed with this data package.

Matrix Spike/Duplicate - A matrix spike/duplicate sample was not analyzed with this data package

Field Duplicates - Field duplicate results are summarized below. No qualifications are made based on field duplicate results.

Analyte	WHGLTA029-04	DUP01	RPD or Difference
Arsenic	2 4	2 2	0.2
Barium	25 2	28 5	3 3

Graphite Furnace Atomic Absorption (GFAA) Analysis - No discrepancies were identified.

Compound Quantitation - All results between the MDL and the PQL have been qualified (F)

Comments - The analyses of environmental samples and quality control samples are valid within the constraints identified with the data quality flags as presented in the compound quantitation section of this report. The NAS Fort Worth JRB 2000 Basewide Quality Assurance Project Plan, March 2000, data validation criteria were used in evaluating the data in this summary report

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report.

Qualification Summary Table - Metals SDG 9A05G295					
Sample No	Compound(s)	Reported		Validated	
		Conc.	Qualifier	Conc	Qualifier
WHGLTA029-04	Arsenic	2 4	B	2.4	F
	Barium	25 2	B	25.2	F
DUP01	Arsenic	2 2	B	2 2	F
	Barium	28.5	B	28 5	F

671 583

Received

ENVIRONMENTAL
Data Services, Inc.

VOLATILE ORGANIC COMPOUNDS
(CHLOROBENZENE)
USEPA SW846 Method 8260B - Level III Review

Site: Naval Air Station Fort Worth - DO15BBC SDG #: 9A05G297

Client. HydroGeoLogic, Inc Date: June 20, 2000

Laboratory: Severn Trent Laboratories, Chicago, IL Reviewer: Cathy Shelby

Client Sample ID	Laboratory Sample ID	Matrix
WHGLTA029-03	9A05G297-001	Soil
WHGLTA029-02	9A05G297-002	Soil

Holding Times - All samples were analyzed within 14 days for soil samples as specified in the NAS Fort Worth JRB 2000 Basewide Quality Assurance Project Plan (QAPP), March 2000 No qualifications were required.

GC/MS Tuning - All of the BFB tunes in the initial and continuing calibrations met the percent relative abundance criteria No qualifications were required.

Initial Calibration - The initial calibration analyzed on 03/27/00 exhibited acceptable %RSD values and/or correlation coefficients and mean RRF values. No qualifications were required.

Continuing Calibration - The continuing calibration analyzed on 05/30/00 exhibited acceptable %D and RRF values No qualifications were required

Surrogates - All samples exhibited acceptable surrogate %R values. No qualifications were required.

Laboratory Control Samples - LCS sample VBLKHX exhibited acceptable %R values No qualifications were required.

MS/MSD - A MS/MSD sample was not analyzed with this data package.

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Internal Standard (IS) Area Performance - All internal standards met response and retention time (RT) criteria No qualifications were required

Method Blank - Method blank VBLKHX (05/30/00) was free of contamination. No qualifications were required

Trip, field, equipment blank - Trip blank TB051600 (from SDG 9A05G294) was free of contamination. No qualifications were required.

Equipment blank EB051600 (from SDG 9A05G294) was free of contamination No qualifications were required

Field Duplicates - Field duplicate samples were not analyzed with this data package

Tentatively Identified Compounds - TICs were not reported with the samples in this data package

Compound Quantitation - No discrepancies were identified

Comments - The analyses of environmental samples and quality control samples are valid The NAS Basewide Quality Assurance Project Plan, March 2000, data validation criteria were used in evaluating the data in this summary report

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report.

Qualification Summary Table - Volatiles SDG· 9A05G297					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
None Qualified	--	--	--	--	--

671 585 Received

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SPLP VOLATILE ORGANIC COMPOUNDS (ETHYLBENZENE)

USEPA SW846 Method 8260B - Level III Review

Site: Naval Air Station Fort Worth - DO15 SDG #: 9A04G958

Client: HydroGeoLogic, Inc. Date: June 13, 2000

Laboratory: Severn Trent Laboratories, Chicago, IL Reviewer: Cathy Shelby

Client Sample ID	Laboratory Sample ID	Matrix
BHGLSWMU3200701	9A04G958-002	Water
BHGLSWMU3200601	9A04G958-004	Water

Holding Times - All samples were extracted within 14 days and analyzed within 14 days of extraction as specified in the NAS Fort Worth JRB 2000 Basewide Quality Assurance Project Plan (QAPP), March 2000 No qualifications were required.

GC/MS Tuning - All of the BFB tunes in the initial and continuing calibrations met the percent relative abundance criteria. No qualifications were required.

Initial Calibration - The initial calibration analyzed on 05/03/00 exhibited acceptable %RSD values and/or correlation coefficients and mean RRF values No qualifications were required.

Continuing Calibration - The continuing calibrations analyzed on 05/05/00 exhibited acceptable %D and RRF values No qualifications were required

Surrogates - All samples exhibited acceptable surrogate %R values No qualifications were required.

Laboratory Control Samples - LCS sample VBLKHV exhibited acceptable %R values. No qualifications were required

MS/MSD - A MS/MSD sample was not analyzed with this data package

Internal Standard (IS) Area Performance - All internal standards met response and retention time (RT) criteria. No qualifications were required

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Method Blank - Method blank VBLKHX (05/05/00) was free of contamination. No qualifications were required.

Trip. field. equipment blank - Trip blank TB042500 (from SDG 9A04G961) was free of contamination No qualifications were required

Equipment blank EB042500 (from SDG 9A04G961) exhibited methylene chloride contamination at 17 ug/L, however, this is not a reported compound in this data package and no qualifications were required

Field Duplicates - Field duplicate samples were not analyzed with this data package

Tentatively Identified Compounds - TICs were not analyzed with this data package

Compound Quantitation - No discrepancies were identified

Comments - The analyses of environmental samples and quality control samples are valid The NAS Fort Worth JRB 2000 Basewide Quality Assurance Project Plan. March 2000, data validation criteria were used in evaluating the data in this summary report.

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report.

Qualification Summary Table - SPLP Volatiles SDG 9A04G958					
Sample No	Compound(s)	Reported		Validated	
		Conc.	Qualifier	Conc	Qualifier
None Qualified	--	--	--	--	--

671 587 received

ENVIRONMENTAL
Data Services, Inc.

SPLP VOLATILE ORGANIC COMPOUNDS (CHLOROBENZENE)

USEPA SW846 Method 8260B - Level III Review

Site: Naval Air Station Fort Worth - DO15 SDG #. 9A04G962

Client HydroGeoLogic, Inc Date: June 15, 2000

Laboratory: Severn Trent Laboratories, Chicago, IL Reviewer: Cathy Shelby

Client Sample ID	Laboratory Sample ID	Matrix
BHGLSWMU3200602	9A04G962-002	Water
BHGLSWMU3200402	9A04G962-004	Water
BHGLSWMU3200403	9A04G962-006	Water
DUP05	9A04G962-008	Water
BHGLSWMU3200502	9A04G962-010	Water
BHGLSWMU3200502MS	9A04G962-010MS	Water
BHGLSWMU3200503	9A04G962-012	Water

Holding Times - All samples were extracted within 14 days and analyzed within 14 days of extraction as specified in the NAS Fort Worth JRB 2000 Basewide Quality Assurance Project Plan (QAPP), March 2000. No qualifications were required.

GC/MS Tuning - All of the BFB tunes in the initial and continuing calibrations met the percent relative abundance criteria No qualifications were required.

Initial Calibration - The initial calibration analyzed on 05/03/00 exhibited acceptable %RSD values and/or correlation coefficients and mean RRF values No qualifications were required.

Continuing Calibration - The continuing calibration analyzed on 05/05/00 exhibited acceptable %D and RRF values. No qualifications were required

Surrogates - All samples exhibited acceptable surrogate %R values. No qualifications were required

Laboratory Control Samples - LCS sample VBLKHV exhibited acceptable %R values. No qualifications were required.

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MS/MSD - MS sample BHGLSWMU3200502 exhibited acceptable %R values. No qualifications were required

Internal Standard (IS) Area Performance - All internal standards met response and retention time (RT) criteria. No qualifications were required

Method Blank - Method blank VBLKHV (05/05/00) was free of contamination. No qualifications were required

Trip, field, equipment blank - Trip blank TB042500 (from SDG 9A04G961) was free of contamination No qualifications were required

Equipment blank EB042500 (from SDG 9A04G961) exhibited methylene chloride contamination at 17 ug/L. however, this is not a reported compound in this data package and no qualifications were required

Field Duplicates - Field duplicate results are summarized in the table below. No qualifications were required.

Compound	BHGLSWMU3200403 ug/L	DUP05 ug/L	RPD
Chlorobenzene	ND	ND	--

Tentatively Identified Compounds - TICs were not reported with the samples in this data package

Compound Quantitation - No discrepancies were identified.

Comments - The analyses of environmental samples and quality control samples are valid The NAS Basewide Quality Assurance Project Plan, March 2000, data validation criteria were used in evaluating the data in this summary report.

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report

Qualification Summary Table - SPLP Volatiles SDG 9A04G962					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
None Qualified	--	--	--	--	--

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SPLP VOLATILE ORGANIC COMPOUNDS (CHLOROBENZENE)

USEPA SW846 Method 8260B - Level III Review

Site: Naval Air Station Fort Worth - DO15BBC SDG #: 9A05G298

Client. HydroGeoLogic, Inc. Date. June 20, 2000

Laboratory Severn Trent Laboratories, Chicago, IL Reviewer: Cathy Shelby

Client Sample ID	Laboratory Sample ID	Matrix
WHGLTA029-03	9A05G298-002	Water
WHGLTA029-02	9A05G298-004	Water

Holding Times - All samples were extracted within 14 days and analyzed within 14 days of extraction as specified in the NAS Fort Worth JRB 2000 Basewide Quality Assurance Project Plan (QAPP), March 2000 No qualifications were required.

GC/MS Tuning - All of the BFB tunes in the initial and continuing calibrations met the percent relative abundance criteria. No qualifications were required.

Initial Calibration - The initial calibration analyzed on 05/03/00 exhibited acceptable %RSD values and/or correlation coefficients and mean RRF values No qualifications were required

Continuing Calibration - The continuing calibration analyzed on 05/30/00 exhibited acceptable %D and RRF values. No qualifications were required.

Surrogates - All samples exhibited acceptable surrogate %R values No qualifications were required.

Laboratory Control Samples - LCS sample VBLKQM exhibited acceptable %R values. No qualifications were required.

MS/MSD - A MS/MSD sample was not analyzed with this data package.

Internal Standard (IS) Area Performance - All internal standards met response and retention time (RT) criteria No qualifications were required

Method Blank - Method blanks VBLKHU (05/30/00) and VBLKQM (05/30/00) were free of contamination. No qualifications were required.

Trip, field, equipment blank - Trip blank TB051600 (from SDG 9A05G294) was free of contamination. No qualifications were required.

Equipment blank EB051600 (from SDG 9A05G294) was free of contamination. No qualifications were required

Field Duplicates - Field duplicate samples were not analyzed with this data package.

Tentatively Identified Compounds - TICs were not reported with the samples in this data package

Compound Quantitation - No discrepancies were identified

Comments - The analyses of environmental samples and quality control samples are valid The NAS Basewide Quality Assurance Project Plan. March 2000. data validation criteria were used in evaluating the data in this summary report.

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report.

Qualification Summary Table - SPLP Volatiles SDG 9A05G298					
Sample No	Compound(s)	Reported		Validated	
		Conc.	Qualifier	Conc	Qualifier
None Qualified	--	--	--	--	--

671 592

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received

METALS (As, Co, Hg, Pb)

USEPA SW846 Methods 6010B, 7421/7470A - Level III Review

Site Naval Air Station Fort Worth - DO15BBH SDG #. 9A05G261

Client: HydroGeoLogic, Inc Date: June 20, 2000

Laboratory: Severn Trent Laboratories, Chicago, IL Reviewer: Cathy Shelby

Client Sample ID	Laboratory Sample ID	Matrix
ST14-25WG01	9A05G261-001	Water

Holding Times - All samples were extracted and analyzed within the recommended holding time of 28 days for mercury and 180 days for all other metals as specified in the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), March 2000 No qualifications were required.

Calibration - All initial and continuing calibration verifications exhibited acceptable %R values. No qualifications were required

Method Blanks - The water preparation blank PBW, initial and calibration blanks exhibited arsenic contamination at 4.2 ug/L, however, the associated result is non-detect and no qualifications were required.

The water preparation blank PBW, initial and calibration blanks were free of negative blank contamination. No qualifications were required.

Field and equipment blank - Equipment blank EB051200 (from SDG 9A05G263) was free of contamination. No qualifications were required.

ICP Interference Check Sample - All % recovery values met the QC acceptance criteria. No qualifications were required.

LCS - The LCS sample exhibited acceptable %R values. No qualifications were required

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ICP Serial Dilution - An ICP serial dilution sample was not analyzed with this data package

Matrix Spike/Duplicate - A matrix spike/duplicate sample was not analyzed with this data package.

Field Duplicates - Field duplicate samples were not analyzed with this data package

Graphite Furnace Atomic Absorption (GFAA) Analysis - No discrepancies were identified.

Compound Quantitation - No discrepancies were identified.

Comments - The analyses of environmental samples and quality control samples are valid. The NAS Fort Worth JRB 2000 Basewide Quality Assurance Project Plan, March 2000, data validation criteria were used in evaluating the data in this summary report

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report.

Qualification Summary Table - Metals SDG 9A05G261					
Sample No	Compound(s)	Reported		Validated	
		Conc.	Qualifier	Conc.	Qualifier
None Qualified	--	--	--	--	--

671 591

ENVIRONMENTAL
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received
8-8-00

METALS (As, Ba, Pb)

USEPA SW846 Methods 6010B/7000A - Level III Review

Site. Naval Air Station Fort Worth - DO15BBH SDG #: 9A05G529

Client: HydroGeoLogic, Inc. Date: July 20, 2000

Laboratory Severn Trent Laboratories, Chicago, IL Reviewer. Tara Lambert

Client Sample ID	Laboratory Sample ID	Matrix
WHGLTA027WG01	9A05G529-002	Water
DUP01	9A05G529-005	Water
EB053000	9A05G529-006	Water

Holding Times - All samples were extracted and analyzed within 180 days for all metals as specified in the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), March 2000. No qualifications were required.

Calibration - All initial and continuing calibration verifications exhibited acceptable %R values. No qualifications were required.

Method Blanks - The water preparation blank PBW, initial and/or continuing calibration blanks exhibited negative blank contamination for arsenic and lead at -3 8 ug/L and -1.9 ug/L, respectively Arsenic has been qualified (UJ) in sample EB053000. Lead has been qualified (UJ) in all three samples.

Field and equipment blank - Equipment blank EB053000 was free of contamination. No qualifications were required.

ICP Interference Check Sample - All % recovery values met the QC acceptance criteria. No qualifications were reuired

LCS - The LCS sample exhibited acceptable %R values. No qualifications were required.

ICP Serial Dilution - An ICP serial dilution sample was not analyzed with this data package.

Matrix Spike/Duplicate - A matrix spike/duplicate sample was not analyzed with this data package.

Field Duplicates - Field duplicate results are summarized in the table below. No qualifications were required.

Compound	WHGLTA027WG01 ug/L	DUP01 ug/L	RPD or Difference
Arsenic	31 2	26.4	17%

Graphite Furnace Atomic Absorption (GFAA) Analysis - Two samples exhibited a postdigestion spike for lead analysis out of control limits (85-115%), and sample absorbance is less than 50% of spike absorbance. These results were flagged (W) by the laboratory, however, they were already qualified (UJ) due to negative blank contamination and no further qualifications were required

Compound Quantitation - All results between the MDL and the PQL have been qualified (F).

Comments - The analyses of environmental samples and quality control samples are valid within the constraints identified with the data quality flags as presented in the method blanks and compound quantitation sections of this report. The NAS Fort Worth JRB 2000 Basewide Quality Assurance Project Plan, March 2000, data validation criteria were used in evaluating the data in this summary report.

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report.

Qualification Summary Table - Metals SDG 9A05G529					
Sample No.	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
WHGLTA027WG01	Arsenic	31 2	B	31 2	F
	Lead	7 5	UW	7.5	UJ
DUP01	Arsenic	26 4	B	26 4	F
	Lead	7 5	UW	7 5	UJ
EB053000	Arsenic	3 7	U	3 7	UJ
	Lead	1 5	U	1 5	UJ

671 596

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Received 8-8-00

VOLATILE ORGANIC COMPOUNDS
(VINYL CHLORIDE, BENZENE, CHLOROBENZENE)
USEPA SW846 Method 8260B - Level III Review

Site: Naval Air Station Fort Worth - DO15BBH SDG #: 9A05G529

Client: HydroGeoLogic, Inc Date: July 25, 2000

Laboratory: Severn Trent Laboratories, Chicago, IL Reviewer Cathy Shelby

Client Sample ID	Laboratory Sample ID	Matrix
TB053000	9A05G529-001	Water
EB053000	9A05G529-006	Water

Holding Times - All samples were analyzed within the recommended holding time of 14 days for preserved water samples as specified in the NAS Fort Worth JRB 2000 Basewide Quality Assurance Project Plan (QAPP), March 2000. No qualifications were required.

GC/MS Tuning - All of the BFB tunes in the initial and continuing calibrations met the percent relative abundance criteria. No qualifications were required.

Initial Calibration - The initial calibration analyzed on 06/01/00 exhibited acceptable %RSD values and/or correlation coefficients and mean RRF values. No qualifications were required

Continuing Calibration - The continuing calibration analyzed on 06/08/00 exhibited acceptable %D and RRF values. No qualifications were required.

Surrogates - All samples exhibited acceptable surrogate %R values No qualifications were required.

Laboratory Control Samples - LCS sample VBLKLM exhibited acceptable %R values. No qualifications were required.

MS/MSD - A MS/MSD sample was not analyzed with this data package

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Internal Standard (IS) Area Performance - All internal standards met response and retention time (RT) criteria. No qualifications were required.

Method Blank - Method blank VBLKLM (06/08/00) was free of contamination. No qualifications were required.

Trip, field, equipment blank - Trip blank TB053000 was free of contamination No qualifications were required.

Equipment blank EB053000 was free of contamination. No qualifications were required.

Field Duplicates - Field duplicate samples were not analyzed with this data package.

Tentatively Identified Compounds - TICs were not reported with this data package.

Compound Quantitation - No discrepancies were identified.

Comments - The analyses of environmental samples and quality control samples are valid. The NAS Fort Worth JRB 2000 Basewide Quality Assurance Project Plan, March 2000, data validation criteria were used in evaluating the data in this summary report.

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report.

Qualification Summary Table - Volatiles SDG 9A05G529					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
None Qualified	--	--	--	--	--

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received
8-8-00

METALS (As, Ba)
USEPA SW846 Methods 6010B - Level III Review

Site: Naval Air Station Fort Worth - DO15BBH SDG #: 9A05G531

Client: HydroGeoLogic, Inc. Date: July 20, 2000

Laboratory: Severn Trent Laboratories, Chicago, IL Reviewer: Tara Lambert

Client Sample ID	Laboratory Sample ID	Matrix
WHGLTA029WG01	9A05G531-001	Water

Holding Times - All samples were extracted and analyzed within 180 days for both metals as specified in the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), March 2000. No qualifications were required.

Calibration - All initial and continuing calibration verifications exhibited acceptable %R values. No qualifications were required.

Method Blanks - The water preparation blank PBW, initial and/or continuing calibration blanks exhibited negative blank contamination for arsenic at -3.8 ug/L, however, the associated arsenic result is greater than 5X the blank concentration and no qualifications were required.

Field and equipment blank - Equipment blank EB053000 (from SDG 9A05G529) was free of contamination. No qualifications were required.

ICP Interference Check Sample - All % recovery values met the QC acceptance criteria. No qualifications were required.

LCS - The LCS sample exhibited acceptable %R values. No qualifications were required.

ICP Serial Dilution - An ICP serial dilution sample was not analyzed with this data package

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Matrix Spike/Duplicate - A matrix spike/duplicate sample was not analyzed with this data package.

Field Duplicates - Field duplicate samples were not analyzed with this data package.

Graphite Furnace Atomic Absorption (GFAA) Analysis - GFAA analysis was not performed with this data package.

Compound Quantitation - All results between the MDL and PQL have been qualified (F).

Comments - The analyses of environmental samples and quality control samples are valid within the constraints identified with the data quality flags as presented in the compound quantitation section of this report. The NAS Fort Worth JRB 2000 Basewide Quality Assurance Project Plan, March 2000, data validation criteria were used in evaluating the data in this summary report.

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report.

Qualification Summary Table - Metals SDG 9A05G531					
Sample No	Compound(s)	Reported		Validated	
		Conc.	Qualifier	Conc.	Qualifier
WHGLTA029WG01	Arsenic	31 5	B	31.5	F

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RECEIVED 7-21-00

METALS (As, Cr, Co, Pb, Hg)
USEPA SW846 Method 6010B/7000 - Level III Review

Site: Naval Air Station Fort Worth - DO15BBH SDG #: 9A06G551

Client. HydroGeoLogic, Inc Date: July 15, 2000

Laboratory Severn Trent Laboratories, Chicago, IL Reviewer. Tara Lambert

Client Sample ID	Laboratory Sample ID	Matrix
WHGLTA030WG01	9A05G551-001	Water
WHGLTA031WG01	9A05G551-002	Water
WHGLTA039WG01	9A05G551-003	Water
WHGLTA033WG01	9A05G551-004	Water
WHGLTA033WG01MS	9A05G551-004MS	Water
WHGLTA033WG01MSD	9A05G551-004MSD	Water
EB053100	9A05G551-005	Water

Holding Times - All samples were extracted and analyzed within 28 days for mercury and 180 days for all other metals as specified in the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), March 2000. No qualifications were required.

Calibration - All initial and continuing calibration verifications exhibited acceptable %R values. No qualifications were required.

Method Blanks - The water preparation blank PBW, initial and calibration blanks exhibited negative blank contamination for arsenic and lead at -3 0 ug/L and -1 9 ug/L, respectively Arsenic has been qualified (UJ) in samples WHGLTA039WG01 and EB053100. Since the absolute value of the lead result is greater than the lead PQL, lead has been rejected (R) in samples WHGLTA031WG01, WHGLTA039WG01, WHGLTA033WG01 and EB053100.

Field and equipment blank - Equipment blank EB053100 was free of contamination. No qualifications were required.

ICP Interference Check Sample - All % recovery values met the QC acceptable criteria. No qualifications were required.

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LCS - The LCS sample exhibited acceptable %R values. No qualifications were required

ICP Serial Dilution - An ICP serial dilution sample was not analyzed with this data package.

Matrix Spike/Duplicate - Matrix spike/duplicate sample WHGLTA033WG01 exhibited acceptable %R and RPD values. No qualifications were required.

Field Duplicates - Field duplicate samples were not analyzed with this data package

Graphite Furnace Atomic Absorption (GFAA) Analysis - Samples WHGLTA039WG01 and WHGLTA033WG01 exhibited a postdigestion spike for the chromium and/or lead analyses out of control limits (85-115%) and sample absorbance is less than 50% of spike absorbance. The laboratory flagged these results (W) and the reviewer further qualified these results as estimated (UJ) unless already qualified due to other problems.

Compound Quantitation - No discrepancies were identified.

Comments - The analyses of environmental samples and quality control samples are valid within the constraints identified with the data quality flags as presented in the method blanks and GFAA sections of this report with the exception of lead which was rejected in four samples due to the negative blank contamination. The NAS Fort Worth JRB 2000 Basewide Quality Assurance Project Plan, March 2000, data validation criteria were used in evaluating the data in this summary report.

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report.

Qualification Summary Table - Metals SDG 9A06G551					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
WHGLTA031WG01	Lead	7 5	U	7 5	R
WHGLTA039WG01	Arsenic	3 7	U	3 7	UJ
	Lead	1 5	UW	1 5	R
WHGLTA033WG01	Chromium	1 7	UW	1 7	UJ
	Lead	1 5	U	1 5	R
EB053100	Arsenic	3 7	U	3 7	UJ
	Lead	1 5	U	1 5	R

ENVIRONMENTAL
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Received
12-21-00

METALS (As, Cr, Pb, Hg)
USEPA SW846 Methods 7060A/7191/7421/7470A - Level III Review

Site Naval Air Station Fort Worth - DO15BBH SDG # 9A10G830

Client: HydroGeoLogic, Inc. Date December 17, 2000

Laboratory: Severn Trent Laboratories, Chicago, IL Reviewer Nancy Weaver

Client Sample ID	Laboratory Sample ID	Matrix
WHGLTA030WG02	9A10G830-004	Water
ST14-25WG02	9A10G830-005	Water
WHGLTA033WG02	9A10G830-007	Water
WHGLTA027WG02	9A10G830-008	Water
EB101700	9A10G830-009	Water

Holding Times - All samples were extracted and analyzed within 28 days for mercury and 180 days for all other metals as specified in the NAS Fort Worth JRB 2000 Basewide Quality Assurance Project Plan (QAPP), March 2000. No qualifications were required.

Calibration - All initial and continuing calibration verifications exhibited acceptable %R values No qualifications were required.

Method Blanks - The water preparation blank PBW, initial and continuing calibration blanks were free of contamination No qualifications were required.

Field and equipment blank - Equipment blank EB101700 was free of contamination. No qualifications were required.

ICP Interference Check Sample - An ICP interference check sample was not analyzed with this data package

LCS - The LCS sample exhibited acceptable %R values. No qualifications were required.

ICP Serial Dilutions - An ICP serial dilution sample was not analyzed with this data package

Matrix Spike/Duplicate - A matrix spike/duplicate sample was not analyzed with this data package

Field Duplicates - Field duplicate samples were not analyzed with this data package.

Graphite Furnace Atomic Absorption (GFAA) Analysis - Sample WHGLTA027WG02 exhibited a postdigestion spike for the lead analysis out of control limits (85-115%) and sample absorbance is less than 50% of spike absorbance. The laboratory flagged this result (W) and the reviewer further qualified this result (UJ).

Compound Quantitation - No discrepancies were identified.

Comments - The analyses of environmental samples and quality control samples are valid within the constraints identified with the data quality flags as presented in the GFAA section of this report. The NAS Fort Worth JRB 2000 Basewide Quality Assurance Project Plan, March 2000, data validation criteria were used in evaluating the data in this summary report

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report.

Qualification Summary Table - Metals SDG 9A10G830					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
WHGLTA027WG02	Lead	1 5	U	1 5	UJ

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12-21-00

METALS (As, Ba)
USEPA SW846 Methods 6010B/7060A - Level III Review

Site. Naval Air Station Fort Worth - DO15BBH SDG #· 9A10G837

Client: HydroGeoLogic. Inc Date: December 17, 2000

Laboratory: Severn Trent Laboratories, Chicago, IL Reviewer. Nancy Weaver

Client Sample ID	Laboratory Sample ID	Matrix
WHGLTA029WG02	9A10G837-002	Water

Holding Times - The sample was extracted and analyzed within 180 days for arsenic and barium as specified in the NAS Fort Worth JRB 2000 Basewide Quality Assurance Project Plan (QAPP), March 2000 No qualifications were required

Calibration - All initial and continuing calibration verifications exhibited acceptable %R values. No qualifications were required

Method Blanks - The water preparation blank PBW, initial and continuing calibration blanks were free of contamination No qualifications were required

Field and equipment blank - Field QC samples were not analyzed with this data package.

ICP Interference Check Sample - An ICP interference check sample was not analyzed with this data package

LCS - The LCS sample exhibited acceptable %R values No qualifications were required

ICP Serial Dilutions - An ICP serial dilution sample was not analyzed with this data package.

Matrix Spike/Duplicate - A matrix spike/duplicate sample was not analyzed with this data package

Field Duplicates - Field duplicate samples were not analyzed with this data package.

Graphite Furnace Atomic Absorption (GFAA) Analysis - No discrepancies were identified.

Compound Quantitation - All results between the MDL and the PQL have been qualified (F).

Comments - The analyses of environmental samples and quality control samples are valid within the constraints identified with the data quality flags as presented in the compound quantitation section of this report. The NAS Fort Worth JRB 2000 Basewide Quality Assurance Project Plan, March 2000, data validation criteria were used in evaluating the data in this summary report.

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report.

Qualification Summary Table - Metals SDG 9A10G837					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
WHGLTA029WG02	Arsenic	37 6	B	37 6	F
	Barium	169	B	169	F

ENVIRONMENTAL
Data Services, Inc.

12-21-00

CHLOROBENZENE

USEPA SW846 Method 8260B - Level III Review

Site: Naval Air Station Fort Worth - DO15BBH SDG #: 9A10G837

Client: HydroGeoLogic, Inc Date: December 17, 2000

Laboratory: Severn Trent Laboratories, Chicago, IL Reviewer: Nancy Weaver

Client Sample ID	Laboratory Sample ID	Matrix
TB101800	9A10G837-001	Water
WHGLTA029WG02	9A10G837-002	Water

Holding Times - All samples were analyzed within 14 days for preserved water samples as specified in the NAS Fort Worth JRB 2000 Basewide Quality Assurance Project Plan (QAPP), March 2000 No qualifications were required

GC/MS Tuning - All of the BFB tunes in the initial and continuing calibrations met the percent relative abundance criteria No qualifications were required.

Initial Calibration - The initial calibrations analyzed on 01/14/00-10/05/00 exhibited acceptable %RSD values and/or correlation coefficients and mean RRF values. No qualifications were required

Continuing Calibration - The continuing calibration analyzed on 10/30/00 exhibited acceptable %D and RRF values No qualifications were required

Surrogates -All samples exhibited acceptable surrogate %R values No qualifications were required.

Laboratory Control Samples - LCS sample VBLKZU exhibited acceptable %R values. No qualifications were required

MS/MSD - A MS/MSD sample was not analyzed with this data package

Internal Standard (IS) Area Performance - All internal standards met response and retention time (RT) criteria. No qualifications were required.

Method Blank - Method blank VBLKZU (10/30/00) was free of contamination No qualifications were required.

Trip, field, equipment blank - Trip blank TB101800 was free of contamination. No qualifications were required.

Field Duplicates - Field duplicate samples were not analyzed with this data package

Tentatively Identified Compounds - TIC results were not reported.

Compound Quantitation - No discrepancies were identified.

Comments - The analyses of environmental samples and quality control samples are valid. The NAS Fort Worth JRB 2000 Basewide Quality Assurance Project Plan, March 2000, data validation criteria were used in evaluating the data in this summary report.

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report

Qualification Summary Table - Volatiles SDG. 9A10G837					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
None Qualified	--	--	--	--	--

ENVIRONMENTAL
Data Services, Inc.

12-21-00

METALS (As, Pb, Hg)
USEPA SW846 Methods 7060A/7421/7470A - Level III Review

Site Naval Air Station Fort Worth - DO15BBH SDG #. 9A10G851

Client. HydroGeoLogic. Inc Date: December 18. 2000

Laboratory. Severn Trent Laboratories. Chicago. IL Reviewer. Nancy Weaver

Client Sample ID	Laboratory Sample ID	Matrix
EB101900	9A10G851-002	Water
WCHMHTA012WG02	9A10G851-003	Water
WHGLTA039WG02	9A10G851-004	Water
WHGLTA028WG02	9A10G851-005	Water
DUP01WG02	9A10G851-006	Water

Holding Times - All samples were extracted and analyzed within 28 days for mercury and 180 days for all other metals as specified in the NAS Fort Worth JRB 2000 Basewide Quality Assurance Project Plan (QAPP), March 2000 No qualifications were required.

Calibration - All initial and continuing calibration verifications exhibited acceptable %R values No qualifications were required.

Method Blanks - The water preparation blank PBW, initial and continuing calibration blanks were free of contamination No qualifications were required

Field and equipment blank - Equipment blank EB101900 was free of contamination No qualifications were required.

ICP Interference Check Sample - An ICP interference check sample was not analyzed with this data package.

LCS - The LCS sample exhibited acceptable %R values. No qualifications were required

ICP Serial Dilutions - An ICP serial dilution sample was not analyzed with this data package.

Matrix Spike/Duplicate - A matrix spike/duplicate sample was not analyzed with this data package.

Field Duplicates - Field duplicate results are summarized in the table below. No qualifications were required.

Compound	WHGLTA028WG02 ug/L	DUP01WG02 ug/L	RPD
Arsenic	16 5	20 1	20%

Graphite Furnace Atomic Absorption (GFAA) Analysis - Three samples exhibited a postdigestion spike for the lead analysis out of control limits (85-115%) and sample absorbance is less than 50% of spike absorbance The laboratory flagged these results (W) and the reviewer further qualified these results (UJ).

Compound Quantitation - All results between the MDL and the PQL have been qualified (F).

Comments - The analyses of environmental samples and quality control samples are valid within the constraints identified with the data quality flags as presented in the GFAA and compound quantitation sections of this report. The NAS Fort Worth JRB 2000 Basewide Quality Assurance Project Plan, March 2000, data validation criteria were used in evaluating the data in this summary report.

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report.

Qualification Summary Table - Metals SDG 9A10G851					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
WCHMHTA012WG02	Arsenic	35.0	B	35.0	F
	Lead	1 5	UW	1 5	UJ
WHGLTA039WG02	Lead	1 5	UW	1.5	UJ
WHGLTA028WG02	Arsenic	16 5	B	16 5	F
	Lead	1 5	UW	1 5	UJ
DUP01WG02	Arsenic	20 1	B	20 1	F

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ENVIRONMENTAL
Data Services, Inc.

Received
12-21-00

METALS (Pb, Hg)
USEPA SW846 Methods 7421/7470A - Level III Review

Site Naval Air Station Fort Worth - DO15BBH SDG #: 9A10G881

Client HydroGeoLogic, Inc Date: December 18, 2000

Laboratory: Severn Trent Laboratories, Chicago, IL Reviewer: Nancy Weaver

Client Sample ID	Laboratory Sample ID	Matrix
WHGLTA031WG02	9A10G881-001	Water

Holding Times - All samples were extracted and analyzed within 28 days for mercury and 180 days for lead as specified in the NAS Fort Worth JRB 2000 Basewide Quality Assurance Project Plan (QAPP), March 2000 No qualifications were required.

Calibration - All initial and continuing calibration verifications exhibited acceptable %R values No qualifications were required.

Method Blanks - The water preparation blank PBW, initial and/or continuing calibration blanks exhibited lead contamination at 2 38 ug/L, however, the associated result is non-detect and no qualifications were required

Field and equipment blank - Field QC samples were not analyzed with this data package.

ICP Interference Check Sample - An ICP interference check sample was not analyzed with this data package.

LCS - The LCS sample exhibited acceptable %R values. No qualifications were required.

ICP Serial Dilutions - An ICP serial dilution sample was not analyzed with this data package.

Matrix Spike/Duplicate - A matrix spike/duplicate sample was not analyzed with this data package

Field Duplicates - Field duplicate samples were not analyzed with this data package.

Graphite Furnace Atomic Absorption (GFAA) Analysis - No discrepancies were identified.

Compound Quantitation - No discrepancies were identified.

Comments - The analyses of environmental samples and quality control samples are valid. The NAS Fort Worth JRB 2000 Basewide Quality Assurance Project Plan, March 2000, data validation criteria were used in evaluating the data in this summary report.

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report.

Qualification Summary Table - Metals SDG 9A10G881					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
None Qualified	--	--	--	--	--

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ADMINISTRATIVE RECORD

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