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FINAL RCRA FACILITY INVESTIGATION REPORT FOR SOLID WASTE MANAGEMENT UNIT 53 STORMWATER DRAINAGE SYSTEM NAS FORT WORTH TX

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NAVAL AIR STATION FORT WORTH JRB CARSWELL FIELD TEXAS

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FINAL
RCRA FACILITY INVESTIGATION REPORT
SWMU 53, STORMWATER DRAINAGE SYSTEM
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

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

27 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, SWMU 53

Dear Mr. Risner,

Two copies (one original and one copy) of the Final RCRA Facility Investigation Report requesting closure of Solid Waste Management Unit 53, the Stormwater Drainage System, are enclosed for your review per the TNRCC RCRA permit No. HW50289 for NAS Fort Worth JRB. 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

cc:

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TNRCC Region IV
Tim Sewell (letter only)

RESPONSES TO COMMENTS:
DRAFT RCRA FACILITY INVESTIGATION REPORT
SWMU 53 STORMWATER DRAINAGE SYSTEM
NAS FORT WORTH JRB, TEXAS

General Comment

A technical review was conducted for the subject document submitted by HydroGeologic, Inc. under Contract F41624-95-D-8005, Delivery Order 0029. The document was reviewed for technical adequacy and completeness. Overall, the document is adequate to meet the proposed objectives outlined in the report, however, there are minor issues that should be addressed before submitting the final document. These issues are detailed in the following comments.

Specific Comments

Comment 1 *Page 1-2, Section 1.2. First paragraph, last sentence: Table 1.1 does not provide a summary description of the waste handled at SWMU 53 and the current status of the site. Please revise.*

Response **The sentence has been changed to the following, "Table 1.1 provides a summary description of the waste handled at SWMU 53."**

Comment 2 *Page 1-2, Section 1.2. Second paragraph, first sentence: Please make reference to Figure 1-2 which shows SWMU 53 in relation to SWMU 51 and SWMU 68.*

Response **This change has been made.**

Comment 3 *Page 1-2, Section 1.2. Fourth paragraph, first sentence: Please include a figure that shows SWMU 53 in relation to SWMUs 49 and 50. The last sentence states SWMU 51 did not serve as WAA. What does the WAA 1187 in the middle of SWMU51 on Figure 3-2 stand for?*

Response **Figure 1.2 has been enlarged to show SWMU 53 in relation to SWMUs 49 and 50. AOC 15 and SWMU 51 have not served as active WAAs since shortly after 1990. WAA 1187 should be labeled WAA 1189; this change has been made.**

Comment 4 *Figure 1.2. Photo taken at Point B: The photo is not very clear. It is recommended that a better quality photo be inserted. Also include the SWMU 52 Designation.*

Response **The photo has been enlarged to make it clearer.**

Comment 5 *Page 2-1, Section 2.1.2. First sentence: The Goodland Limestone lies over the Walnut Formation, however, according to Figure 2.2, the Goodland Limestone and the Walnut Formation are considered to be one, the Goodland Walnut Formation. Please clarify.*

Response **Figure 2.2 is a generalized cross-section and groups the Goodland and Walnut Formations into one formation as they are treated as a single aquitard.**

Comment 6 *Page 2-2, Section 2.1.3.1. First paragraph, second and third sentences: The third sentence "Groundwater from the terrace deposits is rarely used as a source of potable water...." contradicts the second sentence, "In some parts of Tarrant County, groundwater from the terrace deposits is used for irrigation and residential use." Please clarify.*

Response **The second and third sentences of Section 2.1.3.1, paragraph one have been changed to the following, "In some parts of Tarrant County, primarily in the areas adjacent to the Trinity River, groundwater from the terrace deposits is developed for irrigation and residential potable use. However, the groundwater within the terrace deposits is not economically developable due to its limited distribution and susceptibility to surface/stormwater pollution. (CH2M Hill, 1984)"**

Comment 7 *Page 4-3, Section 4.3. Fourth sentence: Section 3.2.1.2 covers "1985 IRP Phase II, Stage I Investigation," not a list of analyses for subsurface soil samples as stated. Please revise.*

Response **The sixth sentence, first paragraph, page 3-2 has been changed to the following, "The surface and subsurface soil samples were analyzed for metals by inductively coupled plasma emissions spectroscopy (ICPES) and oil and grease by an infrared method." The text in Section 4.3 has been changed to the following "All subsurface soil samples were analyzed for the analyses described in Section 3.2.1.2."**

Comment 8 *Page 4-3, Section 4.3.1. Section 5.1 indicates that detections of Barium were found above Risk Reduction Standard (RRS) 2; however, this was not mentioned in Section 4.3.1. It is recommended that a bullet describing Barium detections above RRS 2 be included in Section 4.3.1.*

Response **The reference in Section 5.1 to barium detections exceeding RRS 2 values was incorrect, as barium detections only exceeded background concentrations. The third sentence of the third paragraph on Page 5-1 has been changed as follows, "Although these detections exceed the background concentration, they are not significantly greater than the background concentration."**

Comment 9 *Page 5-5, Section 5.3. Fifth Paragraph, Sixth sentence: The text indicates that Dames & Moore excavated soil from the unlined drainage ditch in 1993, however, it does not mention whether confirmation samples were collected. Please revise.*

Response **The confirmation sampling conducted as part of the soil excavation activities is discussed in Section 3.2.1.4, the first sentence of the third paragraph.**

Comment 10 *Page 5-5, Section 5.3. Fifth Paragraph, Sixth sentence: Please state the amount of soil excavated and disposal location. Also, please show soil excavation location on Figure 3.1.*

Response **The quantity of excavated material and disposal location are discussed in Section 3.2.1.4, the fourth sentence of the second paragraph.**

Appendix B Comments

Comment 11 *Page 50, Table B.1. Data Qualifiers: According to the analytical data summary qualifier "F", the analyte was positively identified, but the associated numerical value is below the Method Quantitation Limit (MQL). This is inconsistent with the Basewide QAPP Table 8.1, which indicates that the analyte was positively identified but the associated numerical value is between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL). Please revise.*

Response **The change has been made.**

Comment 12 *Page 50, Table B.1. Data Qualifiers: According to the analytical data summary qualifier "U", the analyte was analyzed for, but not detected. The associated numerical value is below the MQL. This is inconsistent with the Basewide QAPP Table 8.1 which indicates that the analyte was analyzed for, but not detected. The associated numerical value is at or below the MDL. Please revise.*

Response **The change has been made.**

Comment 13 *Page 50, Table B.1. Data Qualifiers: According to the analytical data summary qualifier "UJ", the analyte was analyzed for, but not detected. The associated numerical value is a MQL that is estimated due to deficiencies in the QC criteria. This is inconsistent with the Basewide QAPP Table 8.1 which indicates that the analyte was analyzed for, but not detected. The associated numerical value is an MDL, estimated due to deficiencies in the QC criteria. Please revise.*

Response **The change has been made.**

Comment 14 *Page 50, Table B.1. Please define "MQL".*

Response **This change has been made.**

Appendix E Comments

Comment 15 *Qualification Summary Tables. Please include the units for the concentrations in the Tables.*

Response **A page listing the units for the concentrations on the Qualification Summary Tables has been inserted at the beginning of Appendix E.**

Comment 16 *Qualification Summary Table. Please address the discrepancy for SDG:9A05G157 in the Qualification Summary Table and SDG: 9A05G332 in the Data Validation Report summary.*

Response **The Qualification Summary Table was incorrectly labeled by the laboratory, and has been corrected.**

Comment 17 *Qualification Summary Table. Please define the qualifiers UWN, E, and B used in this document, but not listed in the Basewide QAPP Table 8.1.*

Response **These qualifiers are laboratory designations and not AFCEE qualifiers.**

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March 2001

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13 ABSTRACT (Maximum 200 words)

This document presents the Final RCRA Facility Investigation Report for SWMU 53 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. Based on this information, no further action is warranted and the subject site is recommended for closure.

14 SUBJECT TERMS			15 NUMBER OF PAGES 16 PRICE CODE
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PREFACE

This document contains the Final Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) Report for Solid Waste Management Unit (SWMU) 53 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. 0029, in support of the Air Force Installation Restoration Program (IRP).

Responsible key HydroGeoLogic personnel are as follows:

James P. Costello, P.G.	Program Manager
Miquette Rochford, P.G.	Project Manager

This contract will be administered by the Defense Contract Management Command (DCMC), 10500 Battleview Pkwy., 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
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
DCMC	Defense Contract Management Command
DPT	direct push technology
DQE	data quality evaluation
EDD	electronic data deliverable
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
HydroGeoLogic	HydroGeoLogic, Inc.
ICPES	inductively coupled plasma emissions spectroscopy
IRP	Installation Restoration Program
ITS	Inchape Testing Services
JP-4	jet propulsion (grade-4) fuel
JRB	Joint Reserve Base
MDL	method detection limit
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
MQL	method quantitation limit
MSC	medium-specific concentration

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
P1	Paluxy 1
PD-680	petroleum naptha
POL	petroleum/oils/lubricants
QAPP	quality assurance project plan
QA	quality assurance
QC	quality control
RCRA	Resource Conservation and Recovery Act
RI/FS	remedial investigation/feasibility study
RFA	RCRA Facility Assessment
RFI	RCRA Facility Investigation
RRS	risk reduction standard
SVOC	semivolatile organic compound
SWMU	solid waste management unit
TNRCC	Texas Natural Resource Conservation Commission
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

TAB

SECTION L.0

FINAL
RCRA FACILITY INVESTIGATION REPORT
SWMU 53, STORMWATER DRAINAGE SYSTEM
NAS FORT WORTH JRB, TEXAS

1.0 INTRODUCTION

The Texas Natural Resource Conservation Commission (TNRCC) requested that the USAF investigate SWMUs and areas of concern (AOCs) 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 SWMU 53, the Stormwater Drainage System, to determine whether any hazardous constituents listed in 40 Code of Federal Regulations (CFR) Part 264, Appendix IX, have been released into the environment. This RFI Report demonstrates that a release from SWMU 53 has not occurred. Therefore SWMU 53 can pose no significant risk to human health or the environment, which justifies a determination for no further action (NFA).

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 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. SWMU 53 is the subject of this RFI and was listed in a TNRCC letter dated March 2, 1995, to the U.S. Air Force Base Conversion Agency, for inclusion into the permit requirement for Corrective Action.

This RFI Report demonstrates that SWMU 53 poses no significant risk to human health or the environment and provides justification for NFA and closure under risk reduction standard (RRS) 1. 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 SWMU 53.

1.2 SITE IDENTIFICATION AND DESCRIPTION

The area of interest for this RFI Report is SWMU 53 located on the eastern side of the NAS Fort Worth JRB installation. The location of SWMU 53 in relation to the base is presented on Figure 1.1. Table 1.1 provides a summary description of the waste handled at SWMU 53.

SWMU 53, the Storm Water Drainage System, begins east of Haile Drive on the north side of the Building 1190 oil/water separator (OWS) (SWMU 52), and continues to the southeast through the petroleum/oils/lubricants (POL) Tank Farm (SWMU 68), to where it eventually ends at the intersection of Hercules and Desert Storm Roads (Figure 1.2). SWMU 53 formerly consisted of an unlined ditch from its point of origin to the point where it intersected the POL Tank Farm, where it became a concrete-lined channel (CH2M Hill, 1984).

SWMU 53 currently receives waste water discharge from the Building 1190 OWS (SWMU 52). Discharge from SWMU 52 includes waste water from Hangar 1048, which houses the fuel systems shop. Discharges from the fuel systems shop consist of waste jet propulsion grade-4 fuel (JP-4), which pass through the OWS at SWMU 52 before being discharged into SWMU 53. SWMU 53 also receives storm water runoff from the flightline and hangar areas, and the POL tank farm. Storm water runoff from these areas may include traces of fuels, oils, pesticides, and solvents used on base (A.T. Kearney, 1989).

Historically, discharges to SWMU 53 included washrack wastes from SWMUs 49 and 50 (former Aircraft Wash Areas 1 and 2 respectively), that contained traces of fuels, oils, solvents, and soaps (Figure 1.2). From approximately 1979 to 1984, the pipe leading from the fuel systems shop to the Building 1190 OWS was ruptured, allowing JP-4 and washrack wastes to flow directly into SWMU 53 (CH2M Hill, 1984). SMWU 53 also received storm water runoff from the Building 1190 storage shed (AOC 15), and the central waste storage area (SWMU 51)[1]. Waste stored at AOC 15 included petroleum naptha (PD-680) and xylene. Waste stored at SWMU 51 included unspecified quantities of various wastes produced from all industrial activities conducted throughout the base. Neither AOC 15 nor SWMU 51 serve as waste accumulation areas (WAAs).

SWMU 53 is suspected to have existed since maintenance operations began at Carswell AFB in 1942. In 1993, approximately 700 cubic yards of soil was removed from the culvert, and a concrete liner was installed along the entire length of the SWMU (CH2M Hill, 1996). SWMU 53 continues to be operational as a concrete lined drainage system. Figure 1.2 depicts the site location and photographs.

[1] AOC 15 was closed December 2000 NFA, under RRS 1, and SWMU 51 has been submitted for closure under RRS 2.

1.3 REGULATORY REQUIREMENTS

RFI field activities were conducted in May and December 2000. The RFI was designed to meet the requirements of Permit Provision VIII of RCRA permit HW-50289. The RFI Work Plans (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.

This RFI was conducted in accordance with the RFI WPs prepared by HydroGeoLogic dated April 2000. The RFI WPs contain the Field Sampling Plan, which was followed during all sampling activities. The Final 2000 Basewide Quality Assurance Project Plan (QAPP), prepared by HydroGeoLogic dated March 2000, was used as guidance for managing specific quality assurance (QA) and quality control (QC) procedures as well as analytical data generated from the RFI. Analytical data generation and assessment were designed to achieve data quality goals in accordance with the 2000 Basewide QAPP (HydroGeoLogic, 2000).

The overall objective of this project is to obtain closure of SWMU 53 under the TNRCC RRS program. An overview of the RRS program is presented in Section 4.1 of the RFI WP (HydroGeoLogic, 2000a). In addition, SWMU 53 at NAS Fort Worth JRB is subject to the specific requirements of the RCRA permit HW-50289.

To determine if a release has occurred at SWMU 53, the results from samples collected and analyzed for inorganic compounds were compared to the approved 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 method quantitation limits (MQLs). Furthermore, all analytical results were compared to available medium-specific concentrations (MSCs) to determine if detected contaminants posed a threat to shallow groundwater. Evaluation of initial RFI results screened against the above criteria indicated that a release of contaminants to soils has not occurred at SWMU 53. Additionally, the data evaluation indicated that no further sampling is required to delineate detected contaminants to background or MQLs at SWMU 53, as required by the Texas Risk Reduction Rules (30 TAC §335 Subchapter S).

1.4 INVESTIGATION STRATEGY

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

- Determine if a release from the unit has occurred.
- If contamination was encountered, characterize the nature and extent of the contamination. As no evidence of contamination was encountered during the initial soil investigation, no further sampling will be conducted.

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.

Soil samples were collected from each soil boring at 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. As previously noted, SWMU 53 has received various types and amounts of water discharge throughout its period of operation. In order to determine if a release has occurred from SWMU 53 that presents a threat to human health or the environment, essential information regarding the site was obtained. This information includes:

- The lithology of soils to the top of the water table beneath SWMU 53, and
- An assessment of potential contaminant impacts on the quality of soil within and around SWMU 53.

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 SWMU 53, and if not, to request closure of SWMU 53 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 (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 soil 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 2000 Basewide QAPP (HydroGeoLogic, 2000) describes each method that was performed as part of the investigation and outlines the quality assurance measures followed by the contract laboratory.

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 any previous site investigations as well as activities that were conducted during this RFI. The activities conducted during this RFI included the collection of soil samples for analysis.

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

Section 5.0 presents a discussion and analysis 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.

Appendix A presents the survey data for the 15 borings advanced at SWMU 53.

Appendix B presents the analytical data summary tables.

Appendix C presents the lithologic boring logs from the RFI work at SWMU 53.

Appendix D presents a data quality assessment of the analytical data collected during this RFI.

Appendix E presents the data validation reports.

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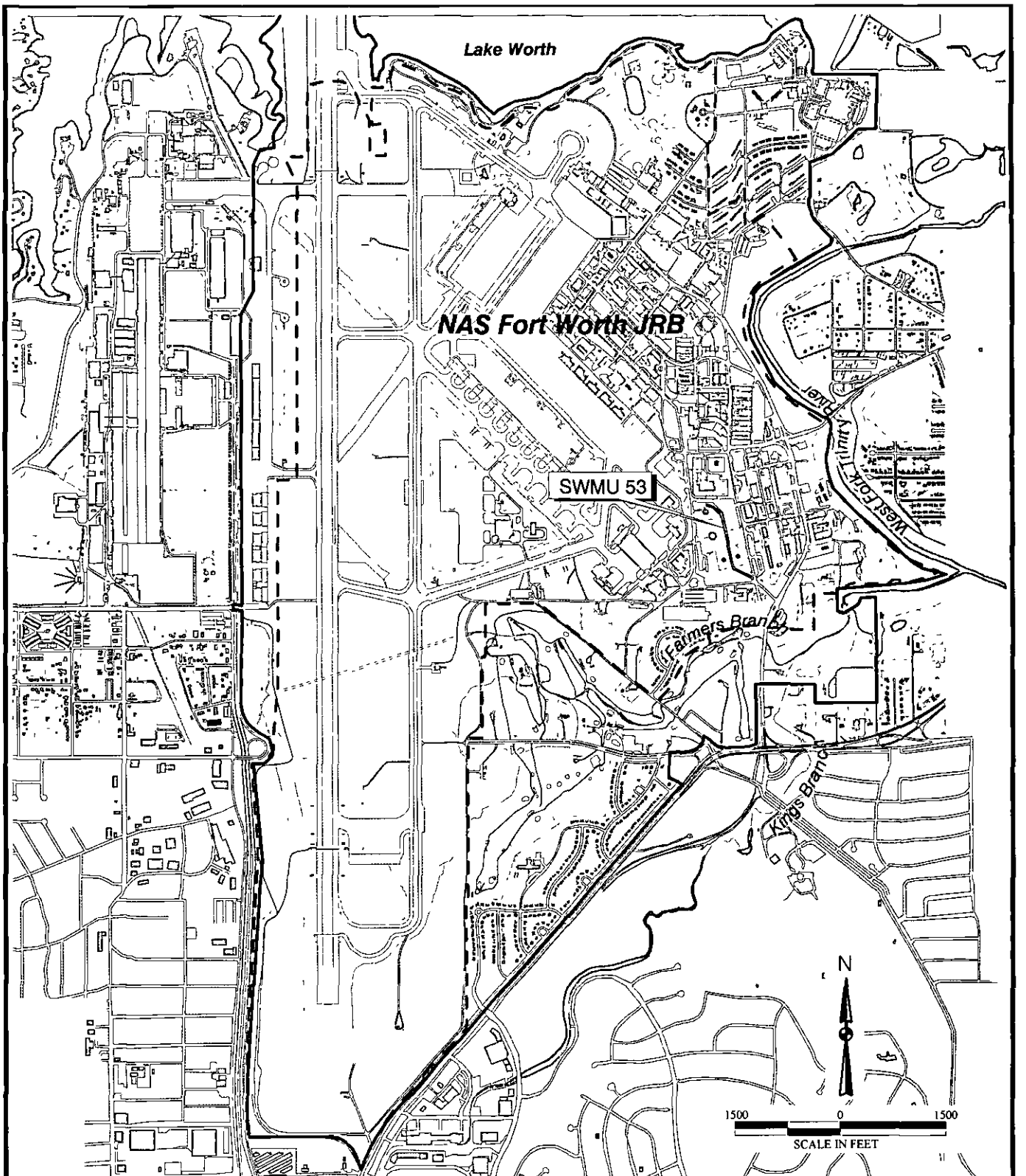
TABLES

Table 1.1
SWMU 53 Summary Table
NAS Fort Worth JRB, Texas

SWMU	Waste Source	Operational Period	Materials Received	Status
SWMU 53	Storm Water Drainage System	Approx. 1942 – Present	JP-4, solvents, waste water, aircraft soaps	Approximately 700 cubic feet of soil was removed from the drainage ditch in 1993. Concrete liner installed along the entire length of the SWMU.

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

FIGURES



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Project AFC001-15BDA
Created 03/11/99 jbelcher
Revised 03/26/01 avp
Source HydroGeoLogic, Inc—GIS Database

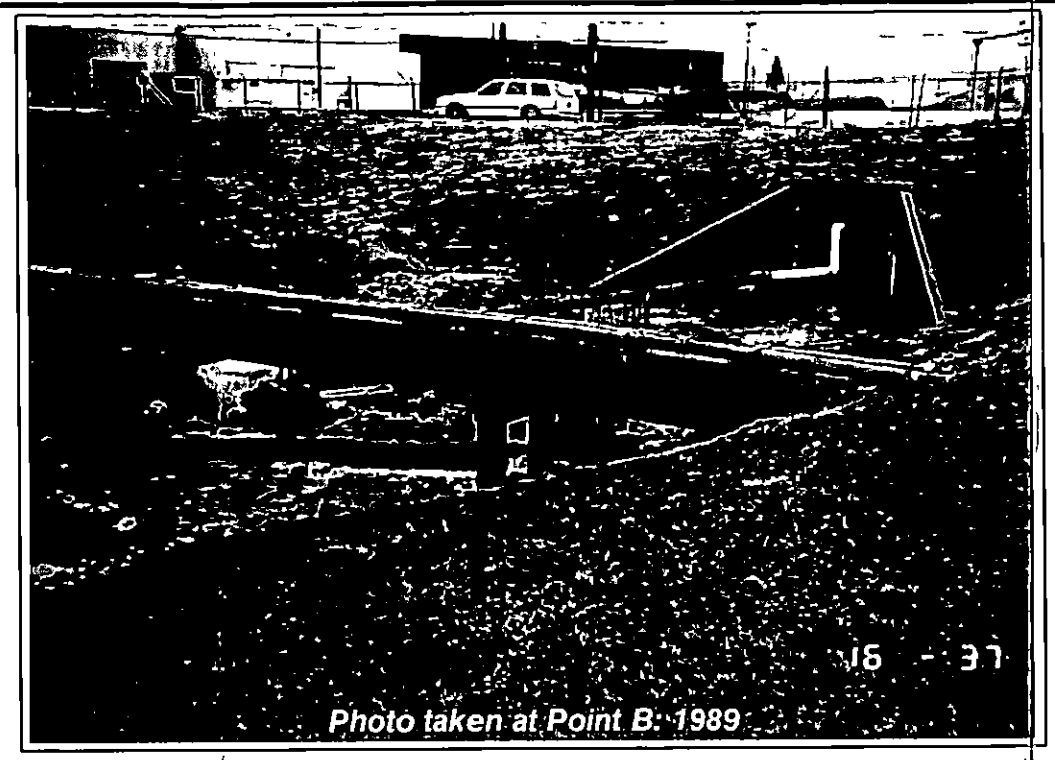
HYDRO GeoLogic

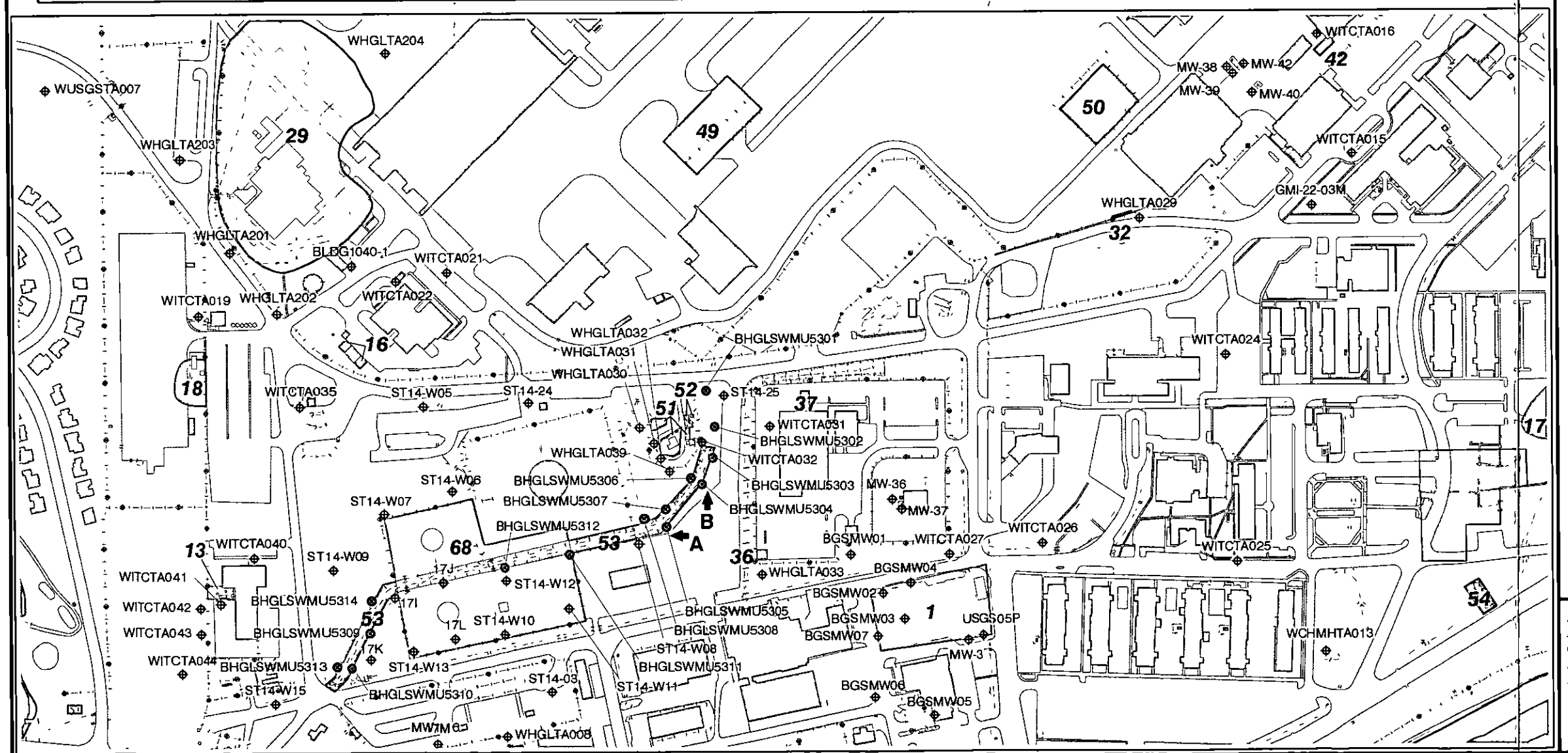
Legend

- NAS Fort Worth JRB Boundary
- Former Carswell AFB Boundary
- Solid Waste Management Unit (SWMU)

Figure 1.1

SWMU 53 Location Map





HydroGeoLogic, Inc —RCRA Facility Investigation Report, SWMU 53
NAS Fort Worth JRB, Texas

Figure 1.2

Photos and Location Map
SWMU 53
Storm Water Drainage System

U.S. Air Force Center For Environmental Excellence

Legend

- Solid Waste Management Unit (SWMU)
- Area of Concern (AOC)
- Monitoring Well Location
- Soil Boring Location
- Photograph Orientation

Filename X:\Afc001\29bdc\Report\swmu53_photo apr
Project AFC001-29BDC
Created 03/20/01 jbelcher
Revised 03/21/01 jb
Map Source HydroGeoLogic, Inc
ArcView GIS Database, 2001

HYDRO GeoLogic INC

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 developed for irrigation and residential potable use. However, the groundwater within the terrace deposits is not economically developable 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.

A potentiometric map of the NAS Fort Worth JRB and AFP 4 alluvial terrace groundwater is presented as Figure 2.9. The July 2000 groundwater elevation data shows an easterly trend in groundwater flow over the area of NAS Fort Worth JRB toward the West Fork Trinity River (HydroGeoLogic, 1999a,b).

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 2.4 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 quifer. 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 2.10 illustrates the locations of 59 wells that were identified from TWC records. All of these wells were installed and completed in the Paluxy aquifer or the Twin Mountains aquifer. 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, 1996d).

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, 1996d).

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, 1996d).

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 was 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, 1996d).

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. The higher elevations on the base are covered by native and cultivated grasses such as little bluestem, Indian grass, big bluestem, side oats, grama, and buffalo grass. 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, 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, 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 2.11.

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.

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FIGURES

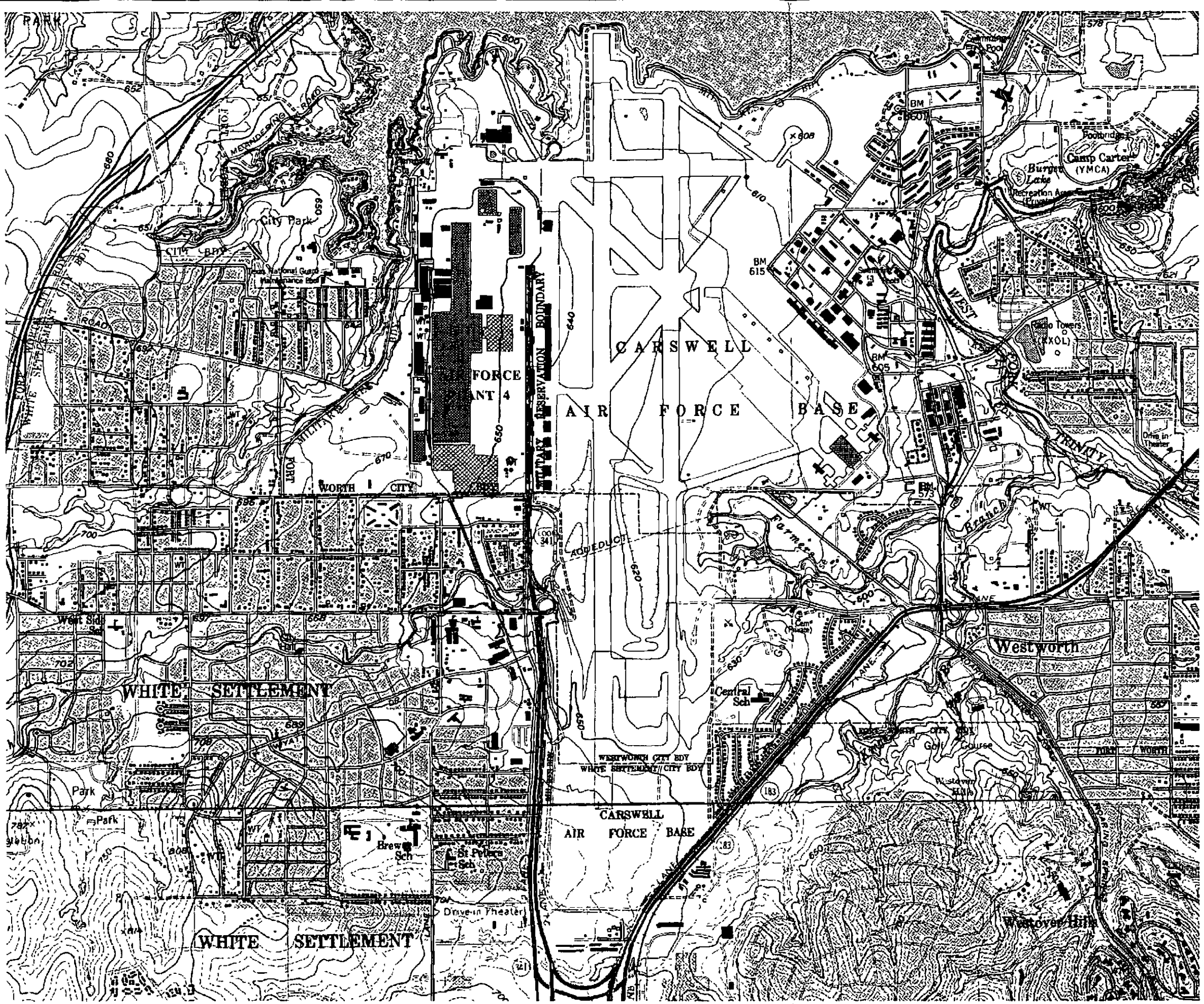

Figure 2.1

NAS Fort Worth JRB
Regional Topographic Map

Air Force Center for Environmental Excellence

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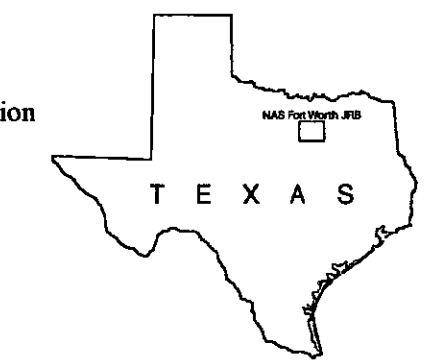
Site Location



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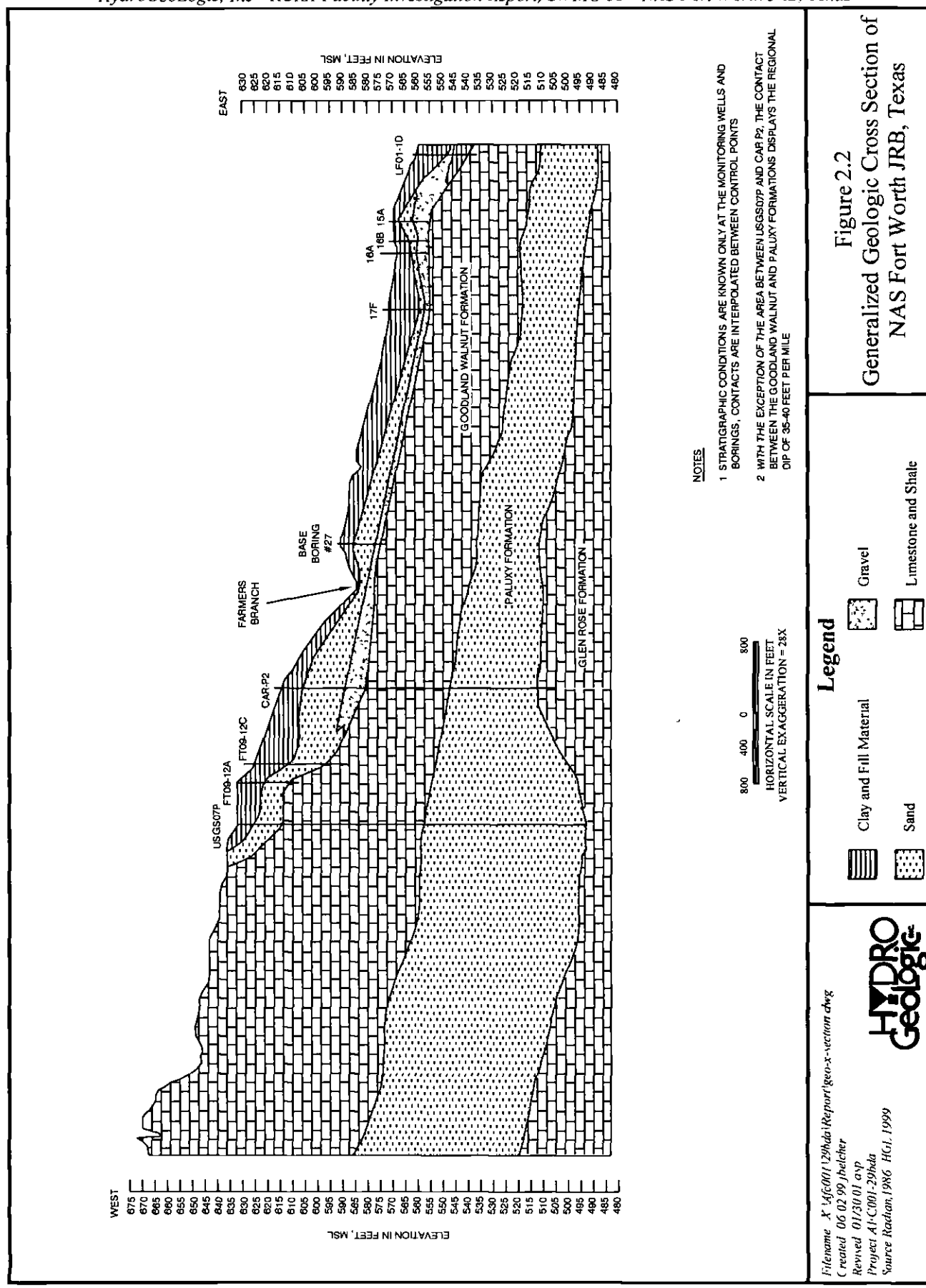
HYDRO GeoLogic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FT09-12C
CAR-P2
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17F
16A
16B
15A
LF01-1D
GOODLAND WALNUT FORMATION
PALUXY FORMATION
GLEN ROSE FORMATION
NOTES
1 STRATIGRAPHIC CONDITIONS ARE KNOWN ONLY AT THE MONITORING WELLS AND BORINGS, 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
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HORIZONTAL SCALE IN FEET
VERTICAL EXAGGERATION = 28X
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Clay and Fill Material
Gravel
Sand
Limestone and Shale
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HYDRO Geologic

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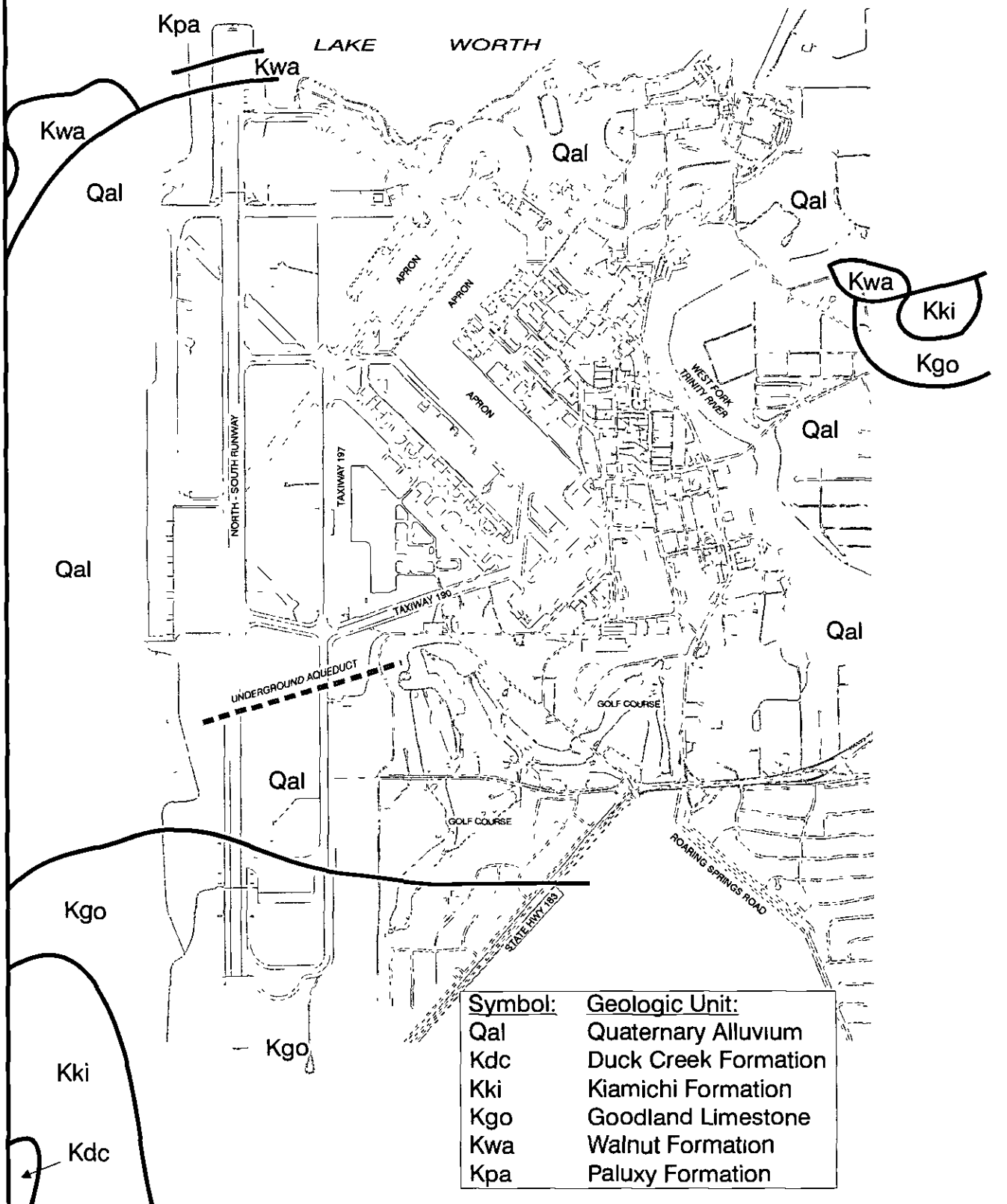

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HYDRO GeoLogic INC

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SCALE IN FEET

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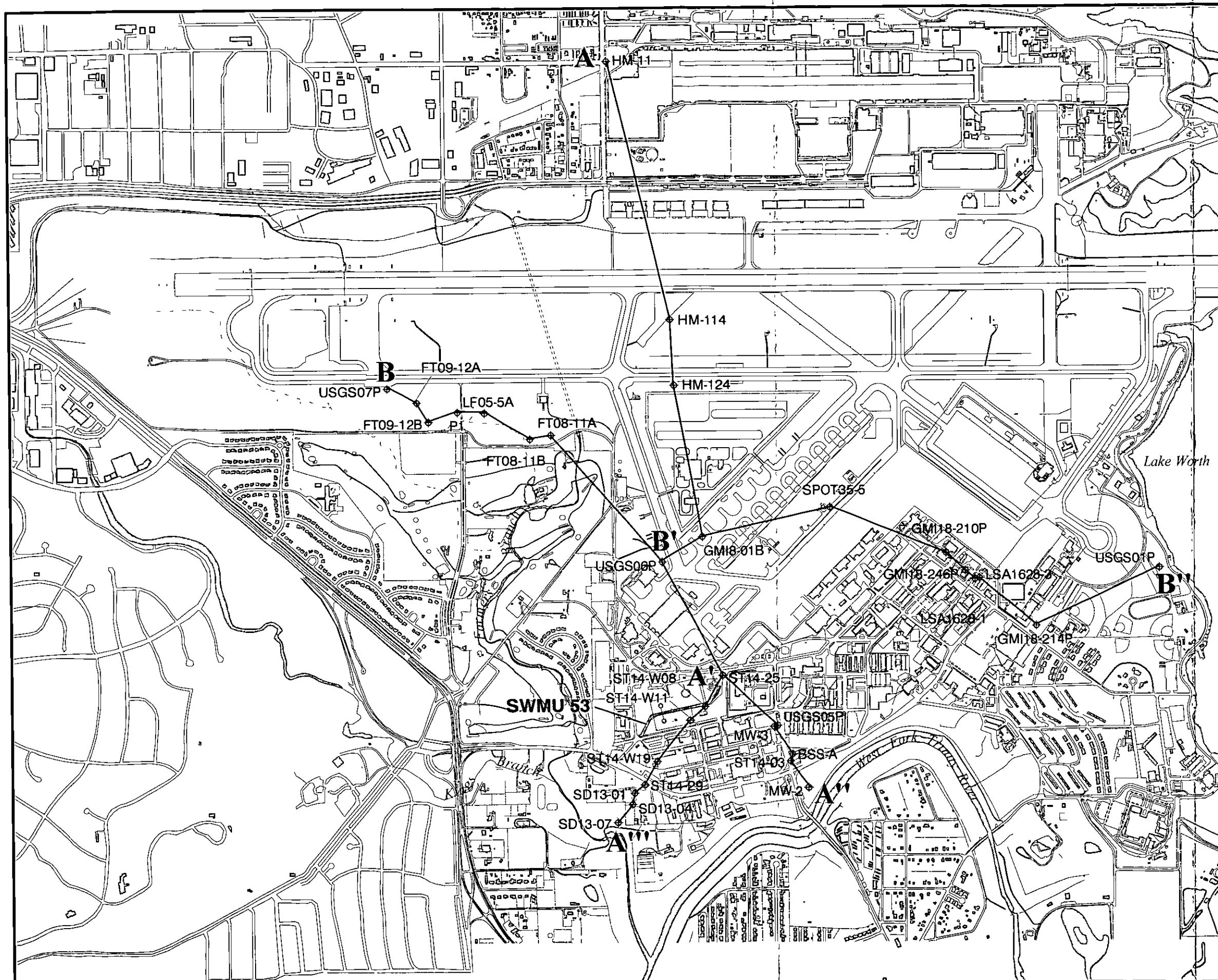
Figure 2.3
Areal Distribution of Geologic Units of NAS Fort Worth JRB, Texas



HydroGeoLogic, Inc —RCRA Facility Investigation Report, SWMU 53
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

Solid Waste Management Unit

N

0 650 1300 2600

SCALE IN FEET

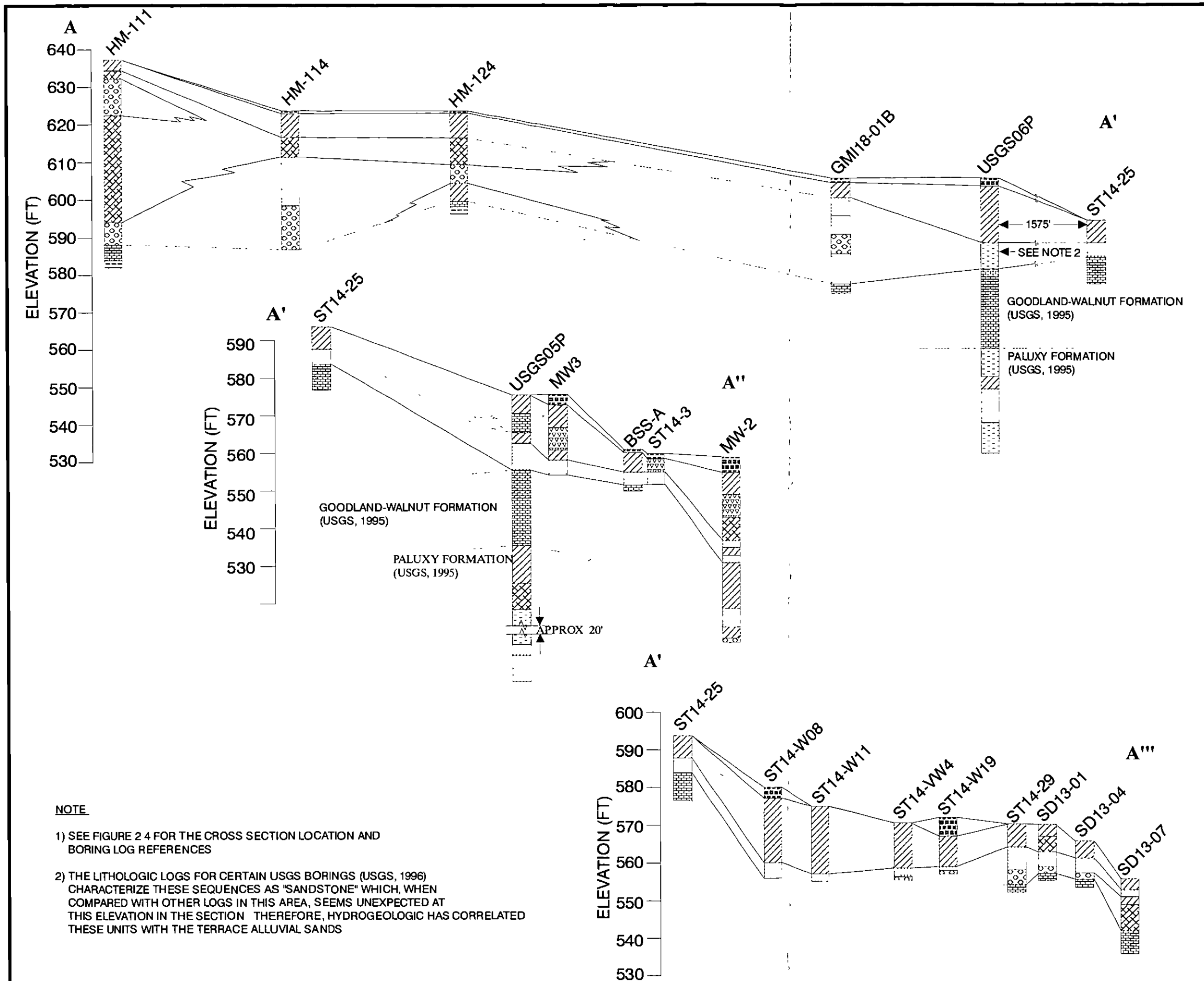
Filename X \Afc001\29bda\Report\xsection_locations apr
Project AFC001-29BDA
Created 02/22/01 jbelcher
Revised
Map Source HydroGeoLogic, Inc ,
ArcView GIS Database, 2001
Jacobs, 1996

HYDRO GeoLogic INC

Figure 2.5

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

U.S. Air Force Center for Environmental Excellence



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

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

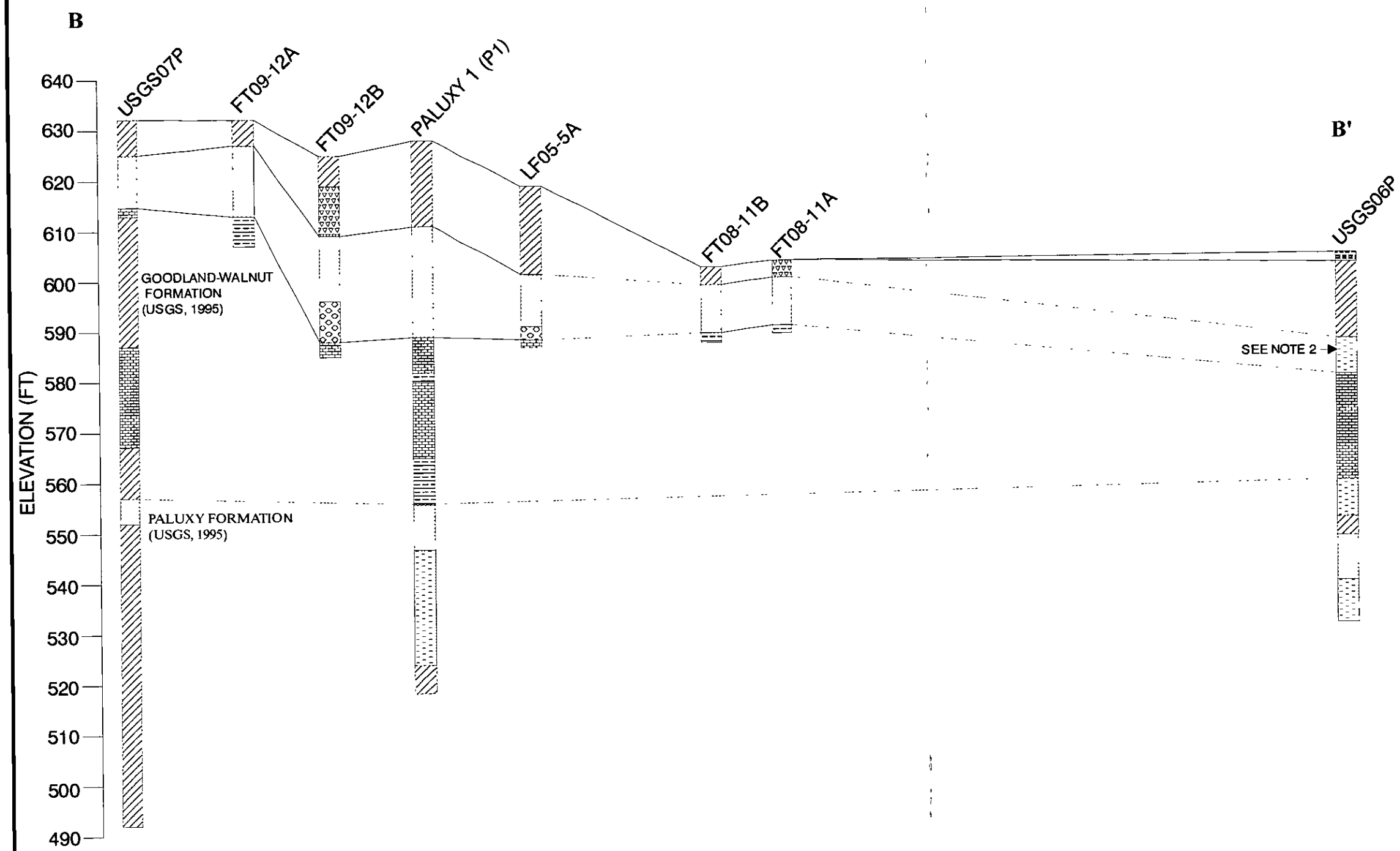
Filename X AFC001\29bda \Report\A-A ''_x-sections cdr
Project AFC001-29bda
Revised 01/30/01 asp
Source CH2M HILL, 1996 b

HYDRO GeoLogic INC

Figure 2.6

Cross Section B-B'

U.S. Air Force Center for Environmental Excellence



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

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

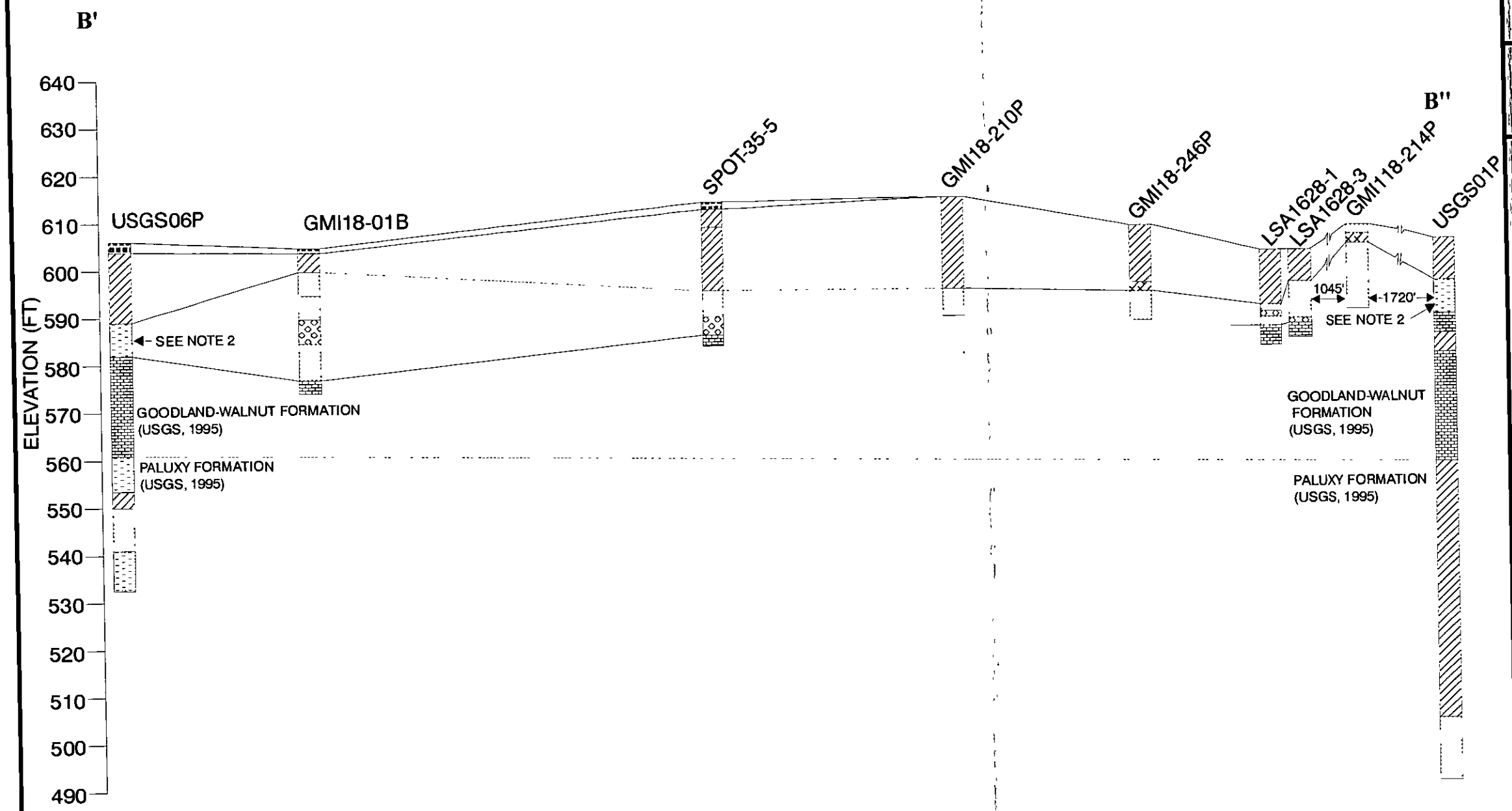
Filename X AFC001\29bda
\Report\B-B' x-section cdr
Project AFC001-29bda
Revised 02/23/01 jb
Source CH2M HILL, 1996

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\29bda
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Project AFC001-29bda
Revised 01/30/01 asp
Source CH2M HILL, 1996

HYDRO GeoLogic INC

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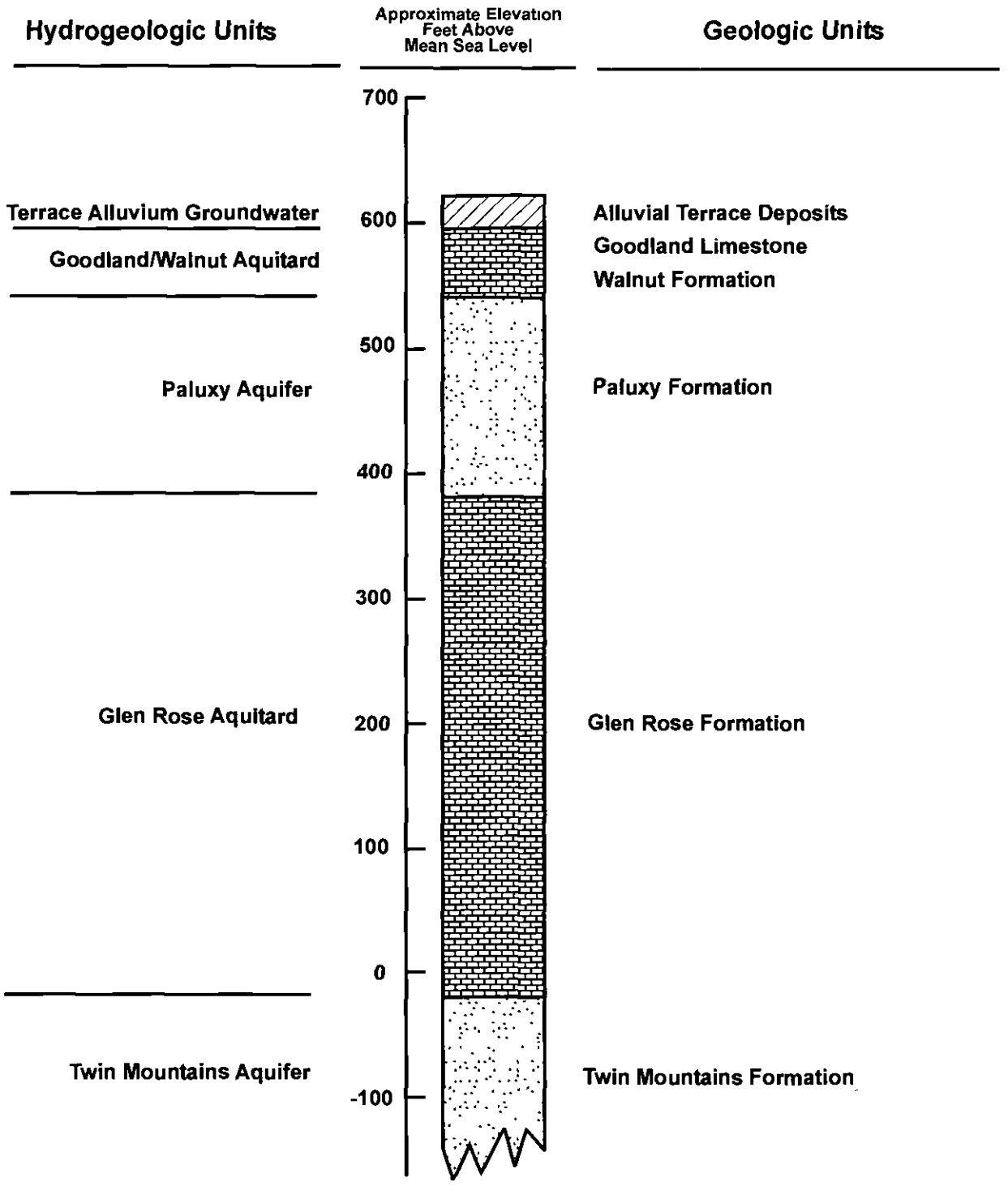

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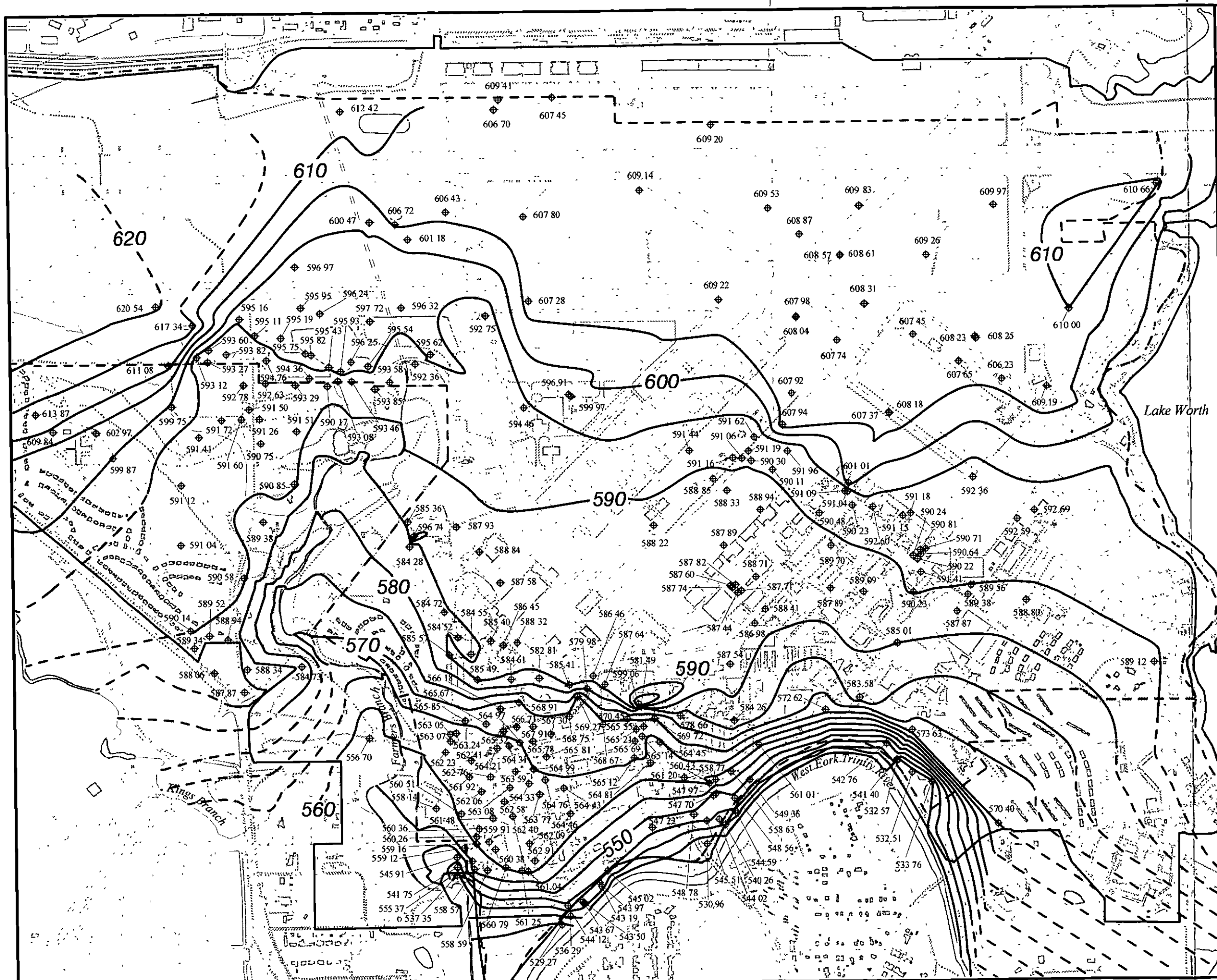
Project AFC001-29bda
Revised 01/30/01 asp
Map Source Radian, 1989

HYDRO GeoLogic INC

Legend

- Alluvium
- Limestone
- Sandstone

Figure 2.8
Stratigraphic Column Correlating Hydrogeologic and Geologic Units



HydroGeoLogic, Inc —RCRA Facility Investigation Report, SWMU 53
NAS Fort Worth JRB, Texas

Figure 2.9

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

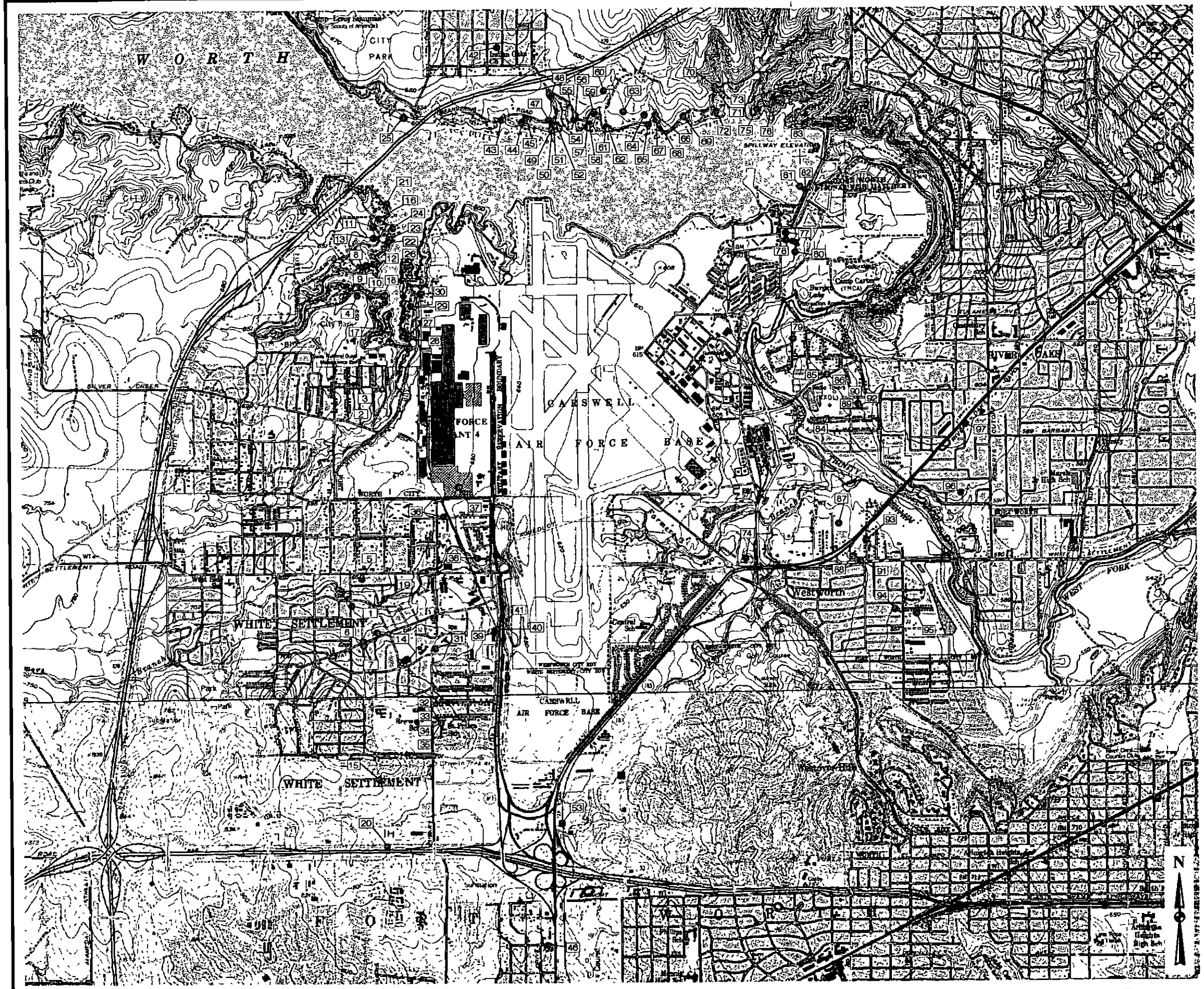
Filename X:\AFC001\29bda\Report\groundwater elev july2000.apr
Project AFC001-29Gbda
Created 01/22/00 jbelcher
Revised 02/22/01 jb
Map Source HydroGeoLogic Inc GIS Database

HYDRO GeoLogic INC.

Figure 2.10

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	32-13-9	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	32-13-9e	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	32-13-9e	Domestic
96	32-13-9	Irrigation
97	32-31-1N	Irrigation

Filename X:\AFC001\29BDA
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Project AFC001-29BDA
Created by cfarmer 01/17/01
Revised 02/21/01 asp
Maps Lake Worth and Benbrook TX
Dates Photorevised 1981, 1982

HYDRO GeoLogic Inc

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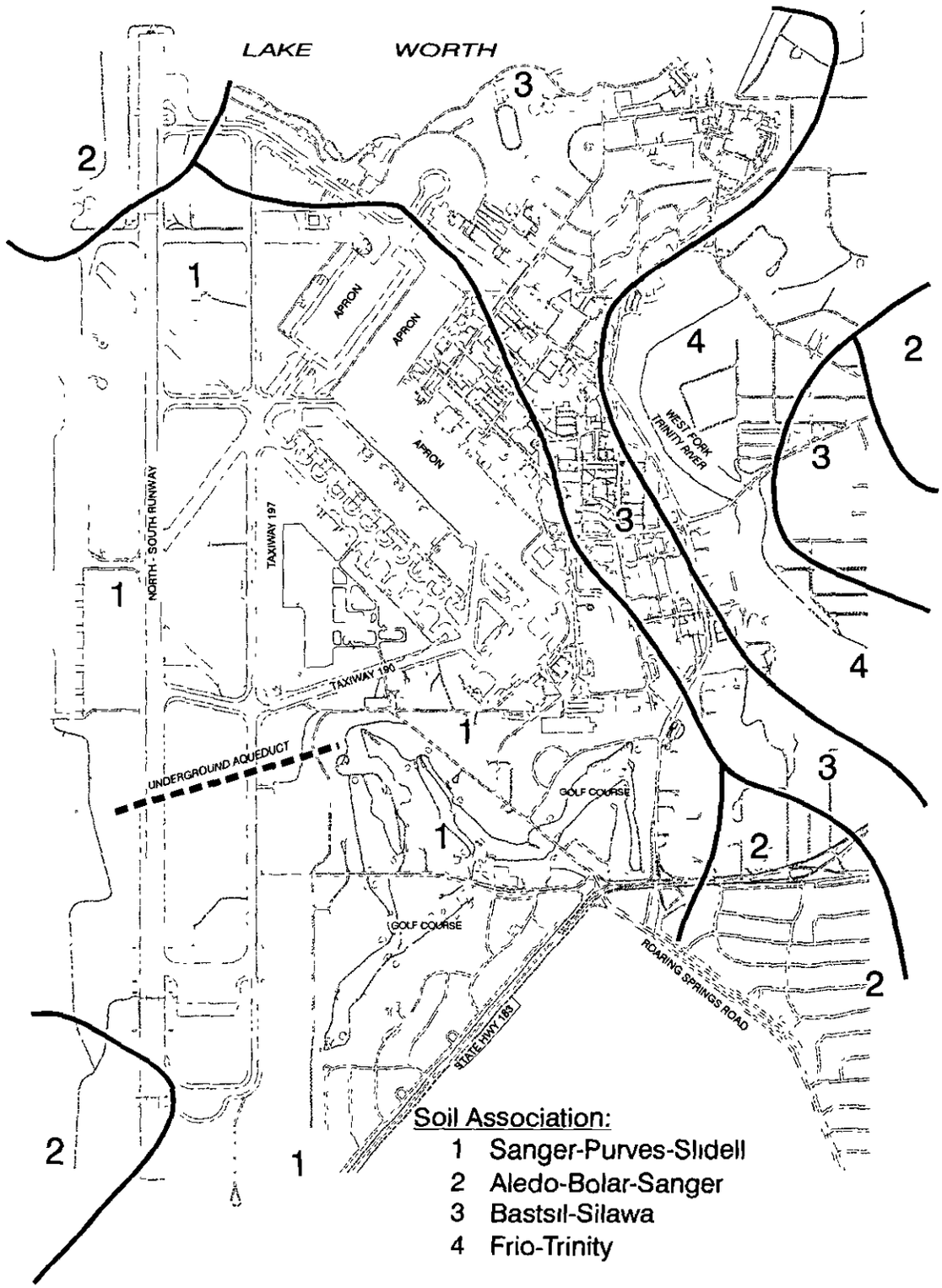

Filename X AFC001\29bda\Report \soil association map cdr
Project AFC001-29bda
Revised 02/22/01 jb
Source Radian, 1989

Legend

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SCALE IN FEET

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Figure 2.11
Soil Association Map
NAS Fort Worth JRB, Texas

TAB

SECTION 3.0

3.0 SUMMARY OF INVESTIGATION ACTIVITIES

This section provides a summary of previous investigations at SWMU 53 and describes activities conducted as part of this RI. Preliminary activities conducted for the site characterization included site reconnaissance and utility clearance. Chemical characterization activities included surface and subsurface soil sample collection intended to identify the nature and extent of contamination that may have resulted from past activities at this 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 SWMU 53. The Navy Public Works office issued a dig permit for SWMU 53 when utility clearance was completed at the site prior to both the May 2000 and December 2000 field sampling events. Each dig permit was valid for 30 days, and HydroGeoLogic's field efforts were conducted during these 30 day windows.

3.2 SITE INVESTIGATION ACTIVITIES

The following sections provide a summary of the previous investigations at SWMU 53 and describe activities conducted as part of this RFI investigation. RFI activities were conducted at SWMU 53 during May and December of 2000. As stated previously in Section 1.0, all sampling activities were conducted in accordance with the RFI WPs (HydroGeoLogic, 2000a). Based on the results of the initial soil investigation conducted at SWMU 53, a groundwater investigation was not conducted as part of this RFI.

3.2.1 Site Investigation History

3.2.1.1 <u>1983 Phase I Investigation</u>

In 1983 CH2M Hill conducted a Phase I Investigation in order to identify potential environmental problems at Carswell AFB. During a base visit investigators observed aircraft soap entering the north end of SWMU 53 through a small pipe connected to the nearby airplane washracks (SWMU 49 and SWMU 50). Investigators also noted the presence of petroleum products on the surface of water within the drainage ditch. In addition, investigators noted the presence of a dark zone of fuel or oil saturation and the absence of vegetation along the banks of the drainage ditch. As a result, SWMU 53 received a high hazard assessment rating and the site was recommended for Phase II Investigation (CH2M Hill, 1984).

3.2.1.2 1985 IRP Phase II, Stage I Investigation

In 1985 Radian conducted an IRP Phase II, Stage 1 investigation at SWMU 53[2]. During the investigation, six hand-augered soil borings were installed (13A through 13F) and three surface sediment samples (13G through 13I) were collected along the northern half of the drainage ditch. Soil borings and sediment samples were collected along the drainage ditch from where it emerged (unlined) east of Haile Drive to where it became lined with concrete as it entered the POL Tank Farm. Figure 3.1 depicts the soil boring and sediment sampling locations. Soil samples were collected for analysis based on the depth, location, and the presence of water. The surface and subsurface soil samples were analyzed for metals by inductively coupled plasma emissions spectroscopy (ICPES) and oil and grease by an infrared method. The specific analytical methods used were not reported. Surface and subsurface soil analytical results are presented in Tables 3.1 and 3.2 respectively.

All concentrations of metals were detected below the established background concentrations in both the surface and subsurface soil samples collected. Concentrations of oil and grease were detected above the method detection limit (MDL) in the majority of the surface samples collected. Among them, the highest concentration of oil and grease in the surface was detected in the sample collected from boring 13F (1,300 milligrams per kilogram (mg/kg)) at 2 feet below ground surface (bgs). There were no concentrations of oil and grease detected in the samples collected from the subsurface soils, with the exception of boring 13F. Concentrations of oil and grease in boring 13F ranged from 160 mg/kg at 6 feet bgs, to 2,000 mg/kg at 4 feet bgs. The high concentrations of oil and grease in this boring suggest that water may have pooled in this area prior to entering the concrete-lined portion of the ditch, allowing for infiltration of contaminants into the soil. As a result of this investigation, Radian recommended: (1) dredging the ditch to remove contaminated soil and sediment, (2) installing a liner in the ditch, (3) repairing the pipe that supplies fuel from the Fuel System Shop to the Building 1190 OWS, and (4) directing flow through an OWS prior to discharge into Farmers Branch Creek (Radian, 1986a,b).

3.2.1.3 1988 IRP Stage II RI/FS

In 1988 Radian conducted a remedial investigation/feasibility study (RI/FS) Stage 2 investigation at SWMU 53. The purpose of the investigation was to determine the magnitude and extent of contamination identified in the Stage 1 investigation (Radian, 1986). Activities performed consisted of the collection and analyses of surface sediment samples. Sediment samples were collected from five locations (13G through 13K) during each of two sampling rounds (March 5, 1988 and March 31, 1988) and analyzed for metals (method SW6010), total petroleum hydrocarbons (TPH) (method 418.1), volatile organic compounds (VOCs) (method SW8240), and semivolatile organic compounds (SVOCs) (method SW8270). Surface soil analytical results are presented in Table 3.3. Three of the sample locations (13G, 13H, and 13I) have the same name as locations sampled in 1985 by Radian. In order to differentiate

[2] SWMU 53 was referred to as Site 13 in the 1985 Radian investigation.

between the two, 1988 locations will be designated as 13G*, 13H*, and 13I*. Sample locations are depicted on Figure 3.1.

Several metals were detected in the surface samples collected during both sampling events, and concentrations appeared to be distributed fairly randomly. Ten of the twenty three metals detected at the site exceeded background concentrations. Of these, seven metals (arsenic, antimony, barium, cadmium, chromium, lead, and selenium) exceeded the MSCs. TPH was detected in all boring locations during both sampling events. Concentrations of TPH ranged from 34 mg/kg in boring 13K to 3,500 mg/kg in boring 13H*. Several VOCs were detected in the samples collected during both sampling events from boring 13G. Of these VOCs, concentrations of 2-butanone, 4-methyl-2-pentanone, ethylbenzene, toluene, acetone, and total xylenes exceeded the MDLs. Toluene was also detected above the MDL in the sample collected from boring 13K during the March 31, 1988 sampling event. A total of 24 SVOCs were detected during this investigation. Of these, ten exceeded the MDLs and eight exceeded both the MDLs and the MSCs. Analytical results are summarized in Table 3.3. Concentrations of these VOCs and SVOCs were distributed fairly evenly throughout both sampling events.

Due to the findings of this RI/FS Stage 2 investigation Radian concluded that the trends of increasing or decreasing concentrations between sampling rounds and at different locations in the drainage ditch may be attributed to conditions of variable stream flow, possible pooling or trapping of contaminants in some segments of the ditch, as well as intermittent discharges of fuels or runoff that would influence the distribution of contaminants. As a result, Radian recommended that the drainage ditch be dredged to remove contaminated soil and sediments, and that a concrete liner be installed in the unlined portion.

3.2.1.4 1993 Remedial Actions

In 1993 Dames & Moore performed remedial activities at SWMU 53, which included the collection and analysis of surface soil and surface water samples and the replacement of existing structures with a newly lined drainage ditch.

During the remedial actions, the concrete headwall and four asbestos/cement transit pipes were removed from the northern end of the drainage ditch, (Figure 3.1). The pipes were approximately 160 feet in length and, at one time, held telephone conduits. During the removal of the old concrete headwall, unidentified red and black waste materials were discovered in the soil (Dames & Moore, 1995). One foot of soil was excavated from each side of the drainage ditch (668 cubic yards) and was stockpiled for its eventual transportation and disposal. No analytical results were reported for the excavated soil. In addition, the concrete rubble from the removal of the headwall (240 cubic yards) was disposed of off-site. A new 66-inch reinforced concrete pipe, concrete headwall, and bottom slab were placed at the northern end of the drainage ditch over a layer of clay backfill (Dames & Moore, 1995).

Surface soil samples were collected at 0.5 and 1.5 feet bgs from six locations (DFLD 1 through DFLD 12) within the northern unlined portion of the drainage ditch (Figure 3.1).

However, sample DFLD-2 could not be collected at 1.5 feet bgs due to refusal. Sample locations are depicted on Figure 3.1. Surface soil samples were analyzed for TPH (method 418.1) and benzene, toluene, ethylbenzene, and xylenes (BTEX) (method SW8020). Surface soil analytical results are presented in Table 3.4. Concentrations of TPH in the surface soils were detected below TNRCC action levels in several sample locations within the drainage ditch. Low concentrations of BTEX compounds were detected above the MDLs in the surface soil samples collected from DFLD-5, DFLD-6, DFLD-9, and DFLD-10.

One surface water sample (WFLD-1) was collected from the northern end of the drainage ditch and analyzed for TPH (method 418.1) and BTEX (method 8020). The location of the surface water sample is presented in Figure 3.1. Results of analyses indicated low concentrations of TPH (14 milligrams per liter (mg/L)) and BTEX concentrations below the detection limits in the surface water (Dames & Moore, 1995). All of the laboratory analyses for this investigation were performed by Inchape Testing Services (ITS). ITS data was found to be unreliable by AFCEE and therefore, is provided for informational purposes only.

After the soil and surface water samples were collected, a concrete liner was installed in the excavated portion of SWMU 53.

3.2.1.5 Previous Investigation Summary

The results of previous investigative activities confirm the presence of metals and petroleum hydrocarbon contamination in the soil at SWMU 53. However, data gaps still existed at the site. Soil samples were not collected every 5 feet from the surface to the top of the water table along the length of SWMU 53. In addition, soil analyses performed during previous investigations were not analyzed for all of the parameters necessary to characterize the site in accordance with the TNRCC permit specifications. Although remedial actions were performed at the northern portion of SWMU 53, verification soil samples were not collected after soil was excavated from the site, and all data collected during the remedial investigation was rejected. As a result, additional investigative activities were necessary in order to more accurately characterize SWMU 53.

3.2.2 Phase I RFI Soil Sampling Activities

The first phase of soil sampling for this RFI was conducted at SWMU 53 between May 16 and May 18, 2000. A total of 14 soil borings BHGLSWMU5301 through BHGLSWMU5314 were advanced at SWMU 53 along the edges of the storm water drainage ditch. Soil sampling locations, analyses, and intervals are presented in Figure 3.2. A total of 14 surface and 35 subsurface soil samples were submitted for chemical analysis. Soil samples were collected from each borings at 5-foot intervals from ground surface to the top of the water table or until refusal occurred. The soil samples collected at SWMU 53 were analyzed for a reduced list of Appendix IX analyses based on the historical use of the site and the nature of the sources that discharged into SWMU 53. The following is the reduced list of Appendix IX analyses for SWMU 53:

Appendix IX

- SW8260B - VOCs
- SW8270C - SVOCs
- SW6010B/SW7000 Series - Metals

The analytical results obtained from samples collected from the soil borings are to characterize the nature and extent of wastes released into the environment. Analytical results of the SWMU 53 soil investigation are presented in Section 4.0.

In addition to sampling, an inspection was conducted of the concrete liner present the entire length of SWMU 53. Photographs were taken and observations were recorded, detailing any cracks and damage that occur along the length of the storm water drainage ditch. Results of the inspection are presented in Section 4.0.

3.2.3 Phase II RFI Soil Sampling Activities

A second round of soil sampling was conducted at SWMU 53 on December 5, 2000. One confirmation subsurface soil sample was collected at BHGLSWMU5315 at the 15-foot interval to confirm the bis(2-ethylhexyl)phthalate detection at BHGLSWMU5308 in the 15-foot interval. BHGLSWMU5315 was located adjacent to BHGLSWMU5308. Soil sampling locations, analyses, and intervals are presented in Figure 3.2. Sample BHGLSWMU5315 was analyzed for bis(2-ethylhexyl)phthalate by method SW8270B.

3.3 ELEVATION AND LOCATION SURVEY

The 15 DPT soil borings were surveyed in August 2000, and January 2001, by Baird, Hampton & Brown, Inc., of Fort Worth, Texas. Vertical and horizontal measurements were collected in accordance with the RFI WPs (HydroGeoLogic, 2000a). Surveying data are provided in Appendix A.

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TABLES

Table 3.1
1985 Surface Soil Analytical Results Summary
SWMU 53
NAS Fort Worth JRB, Texas

Compound[1]	Parameter		Soil Boring												
	BG/MDL (mg/kg)	MSC (mg/kg)	13A (0 ft)	13B (0 ft)	13B (2 ft)	13C (0 ft)	13C (2 ft)	13D (0 ft)	13D (2 ft)	13E (0 ft)	13F (0 ft)	13F (2 ft)	13G (0 ft)	13H (0 ft)	13I (0 ft)
Metals*															
Arsenic	5 855	5 855	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	NA	0 19
Barium	233	233	1 1	1 0	1 0	0.89	0 86	1 1	1 2	NA	0 99	0 94	0 38	NA	0 37
Cadium	0 5562	0 5562	ND	0 023	ND	0 031	ND	ND	ND	NA	0 03	ND	ND	NA	0 007
Chromium	21 056	21 056	ND	0 006	0 007	ND	ND	ND	ND	NA	ND	ND	ND	NA	0 022
Lead	30 97	30 97	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	NA	0 12
Mercury	0 14	0 2	0 0003	0 0007	0 0004	0 0003	0 0003	0 0003	0 0004	NA	0 0016	0 0004	0 0006	NA	0 13
Selenium	0 9072	5	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	NA	0 18
Silver	0 213	51	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	NA	0 027
Organic Indicators*															
Oil & Grease	10	NV	510	ND	ND	60	ND	650	ND	80	30	1300	ND	270	69

Notes
Shaded boxes show results above the BG/MDL.
BG =Background Concentrations (Jacobs, 1998)
MDL =Method Detection Limit
MSC =Medium-specific concentrations for industrial use based on groundwater protection
NA =Not Analyzed
ND =Not Detected
NV =No Value
[1] =Only compounds with detectable concentrations are reported
*Analytical methods not reported
Source Radian, 1986

Table 3.2
1985 Subsurface Soil Analytical Results Summary
SWMU 53
NAS Fort Worth JRB, Texas

Compound[1]	Parameter		Soil Boring								
	BG/MDL (mg/kg)	MSC (mg/kg)	13B (4 ft)	13C (4 ft)	13C (6 ft)	13D (4 ft)	13D (6 ft)	13D (8 ft)	13F (4 ft)	13F (6 ft)	13F (8 ft)
Metals*											
Barium	128.1	200	0 91	0.72	0.45	0.78	0.66	0.54	NA	NA	NA
Chromium	16.31	16 31	ND	ND	ND	0.014	0.006	ND	NA	NA	NA
Mercury	0 035	0 2	0.0003	0.0016	0 0006	0 0004	ND	0.0011	NA	NA	NA
Silver	0 1277	51	ND	ND	ND	0 005	ND	ND	NA	NA	NA
Organic Indicators*											
Oil & Grease	10	NV	ND	ND	ND	ND	ND	ND	2000	160	1400

Notes·
Shaded boxes with show results above the BG/MDL
BG = Basewide background concentrations (Jacobs, 1998)
MDL = Method Detection Limit
MSC = Medium-specific concentration for industrial use based on groundwater protection
NA = Not Analyze
NV = No Value
[1] = Only compounds with detectable concentrations are reported
*Analytical methods not reported
Source. Radian, 1986

Table 3.3
1988 Surface Soil Analytical Results Summary
SWMU 53
NAS Fort Worth JRB, Texas

Compound[1]	Parameter		Soil Boring									
			March 05, 1988					March 31, 1988				
	BG/MDL[3] (mg/kg)	MSC (mg/kg)	13G* (0 ft)	13H* (0 ft)	13I* (0 ft)	13J (0 ft)	13K (0 ft)	13G* (0.1 ft)	13H* (0.1 ft)	13I* (0.1 ft)	13J (0.1 ft)	13K (0.1 ft)
Metals (6010)												
Silver	0 213	51	<0 76	1 3	<0 83	1 0	<0 84	<0 89	<0 90	<0 87	<0 89	<0 88
Aluminum	22035	22035	9500 0 B+	10000 0	13000 0	8200 0	12000 0	11000 0	14000 0	14000 0	9300 0	12000 0
Arsenic	5 855	5 855	50 0 R	60.0	<28.0	60.0	70.0	<30.0	<30.0	<29.0	<30.0	<29.0
Barium	233	233	63 0 R	160 0	55 0	310 0	630 0^	260 0^	55 0	66 0	290 0	160 0
Beryllium	1 02	0 4	0 2	0 2	0 3	0 2	0 2	0 3	0 2	0 3	0 2	0 2
Calcium	167788	167788	86000 0 B	45000 0	61000 0	88000 0	85000 0	91000 0	87000 0	59000 0	66000 0	63000 0
Cadmium	0 5562	0 5562	0 7	0.6	0.6	3.0	1.2	1.0	0.6	1 7	0.9	1 0
Cobalt	11 05	610	2 9	2 5	4 5	3 3	5 1	2 7	2 0	3 0	1 5	1 7
Chromium	21 056	21 056	27 0	17 0	15 0	26 0	16 0	27.0 +	16 0	24.0	20 0	22 0
Copper	17 373	130	4 8	5 3	4 1	18 0	5 4	4 9	6 0	17 0	11 0	8 7
Iron	17717	17717	6900 0 B	6000 0	8300 0	7400 0	15000 0^	7700 0	8900 0	11000 0	6700 0	8800 0
Potassium	2895	2895	1100 0	1200 0	1400 0	930 0	1700 0	1400 0	1700 0	1800 0	1100 0	1500 0
Magnesium	3003	3003	1600 0	1400 0	1700 0	1500 0	1900 0	1700 0	2100 0	2200 0	1500 0	1700 0
Manganese	849 1	1400	130 0 R+	86 0	160 0	150 0	200 0^	130 0	160 0	190 0	110 0	120 0
Sodium	25800	25800	70 0	35 0	88 0	110 0	67 0^	<7 9	<8 0	<7 7	23 0	<7 8
Nickel	14 6	200	6 0	6 0	9 0	7 0	10 0	6 0	6 0	8 0	6 0	6 0
Lead	30 97	30 97	64 0 R	31.0	21 0	58.0	14 0	58.0 R+	19 0	39 0	50.0	50 0
Antimony	0 56	0 6	13.0 R	15 0	10.0	20 0	14 0	8.5 R	<6.0	<5.8	<5.9	<5 9
Selenium	0 9072	5	40 0 R+	30.0	40.0	30.0	50 0	44.0 R+	44.0	44.0	<30.0	37.0
Silicon	NV	NV	200 0 R	290 0	250 0	310 0	200 0	280 0	210 0	250 0	210 0	260 0
Thallium	63 9	63 9	<7 6	23 0	26 0	21 0	20 0	<8 9	<9 0	<8 7	<8 9	<8 8
Vanadium	46 26	72	23 0	18 0	26 0	24 0	29 0	24 0	27 0	28 0	21 0	25 0
Zinc	38 8	3100	33 0	34 0	47 0	58 0	34 0^	46 0^	26 0	42 0	37 0	35 0
TPH (418.1)												
TPH	50	500[2]	1130.0	1320 0	960.0	420 0	34 0	410 0^	3500.0	99 0	230 0	55 0
VOCs (8240)												

067 2364

Table 3.3 (continued)
1988 Surface Soil Analytical Results Summary
SWMU 53
NAS Fort Worth JRB, Texas

Compound[1]	Parameter		Soil Boring									
			March 05, 1988					March 31, 1988				
	BG/MDL[3] (mg/kg)	MSC (mg/kg)	13G* (0 ft)	13H* (0 ft)	13I* (0 ft)	13J (0 ft)	13K (0 ft)	13G* (0.1 ft)	13H* (0.1 ft)	13I* (0.1 ft)	13J (0.1 ft)	13K (0.1 ft)
2-Butanone	0 1	NV	<0 18	<0 040	<0 039	<0 035	<0 034	6 3 B	<0 036	<0 037	<0 035	0 024 J
4-Methyl-2-pentanone	0 1	NV	<0 33	<0 073	<0 072	<0 064	<0 062	0 21 BJ	<0 066	<0 068	<0 064	<0 067
Benzene	0 1	0 5	0 011 J	0 0031 J	0 0075	0 0030 J	0 0038 J	<0 80	<0 0063	<0 0065	0 0015 J	0 0025 J
Ethylbenzene	0 1	70	0 75	0 011J	0 017	0 0037 J	0 0041 J	<1 3	0 0030J	0 0021 J	0 0051 J	0 0044 J
Toluene	0 1	100	0 16	0 034	0 36	0 0083 J	0 012	3 0	0 023	0 018	0 095	0 11
Acetone	0 1	1000	0 020 BJ	0 088 B	0 036 B	0 011 B	<0 010	2 2 B	0 031 B	0 044 B	0 056 B	0 047B
Methylene chloride	0 1	0 5	<0 020	<0 0045	0 017 B	<0 0039	0 0065 B	<0.51	0 006 B	0 0044 B	0 013 B	0 0016 J
Total Xylenes	0 1	1000	3 9	0 063	0 15	0 020	0 028	<0 83	0 018	0 014	0 036	0 021
SVOCs (8270)												
2,4-Dinitrotoluene	1 0	0 042	<1.0	<1.0	<0 59	0 29 J	<0.51	<0.57	<25.0	<0.47	<0.52	<0 50
2-Methylnaphthalene	1 0	410	3 2	1 4 J	0 42 J	2 3	0 46 J	0 11 J	5 0 J	0 51 J	3 1	0 21 J
4-Methylphenol	1 0	NV	1 0 J	<1 8	<1 0	<0 91	<0 90	1 5	<44 0	0 22 J	<0 92	<0 88
Acenaphthene	1 0	610	0 56	<0 33	0 34	0 23	<0 17	<0 19	<8 4	0 78	0 25	0 29
Acenaphthylene	1 0	610	<0 61	0 19 J	<0 36	0 12 J	<0 31	<0 35	<15 0	<0 29	<0 32	0 11 J
Anthracene	1 0	3100	1 2	<0 33	1 1	0 24	<0 17	0 11 J	<8 4	2 4	0 43	1 5
Benzo[*a*]anthracene	1 0	0 039	3 9	0 57 J	3.2	0.53 J	<0.70	0.41 J	<35 0	5.4	1.3	8 2
Benzo[*a*]pyrene	1 0	0 02	6.2	0.89	5.9	0.86	<0 22	0.74	<11.0	7.6	2.1	12.0
Benzo[*b*]fluoranthene	1 0	0 039	<0.84	<0.84	7 0	<0.44	<0.43	0.66	<21.0	5.5	2 0	8 6
Benzo[*k*]fluoranthene	1 0	0 39	8.5	1.1	3.6	1.1	<0 22	0 55	<11 0	5.1	1 6	13 0
Benzoic Acid	1 0	41000	<8 8	<8 8	<5 2	<4 6	<4 5	0 25 J	<220 0	<4 1	0 27 J	<4 4
Bis(2-ethylhexyl)phthalate	1 0	0 6	3.5	23.0	2.6	2.7	0 34	1 5 B	<11 0	2.1 B	2.2 B	2.4 B
Butylbenzyl Phthalate	1 0	2000	<0 44	<0 44	<0 26	<0 23	<0 22	0 41	4 3 BJ	0 14 J	0 14J	0 13 J
Chrysene	1 0	3 9	6 2	0 93	4.3	0 72	<0 22	0 57	<11 0	5 4	1 5	8.1
Dibenzo[*a,h*]anthracene	1 0	0 02	1.2	<0.44	1 2	<0 23	<0.22	<0.25	<11.0	0.58	0 30	1 8
Dibenzofuran	1 0	NV	0 37J	0 31 J	0 17 J	0 093 J	<0 90	<1 0	<44 0	0 67 J	0 19 J	0 14 J
Fluoranthene	1 0	410	9 7	1 8	7 6	1 6	0 12 J	1 2	<9 7	9 9	3 6	14 0
Fluorene	1 0	410	0 51	0 44	0 32	0 23	<0 17	<0 19	<8 4	1 2	<0 17	0 29

Table 3.3 (continued)
1988 Surface Soil Analytical Results Summary
SWMU 53
NAS Fort Worth JRB, Texas

Compound[1]	Parameter		Soil Boring									
			March 05, 1988					March 31, 1988				
	BG/MDL[3] (mg/kg)	MSC (mg/kg)	13G* (0 ft)	13H* (0 ft)	13I* (0 ft)	13J (0 ft)	13K (0 ft)	13G* (0.1 ft)	13H* (0.1 ft)	13I* (0.1 ft)	13J (0.1 ft)	13K (0.1 ft)
Indeno(1,2,3-cd)pyrene	1 0	390	3 3	0 34 J	3 1	0 42	<0 33	0 45	<16 0	3 0	0 78	4 4
N-nitrosodiphenylamine	1 0	NV	<0 33	<0 33	<0 20	0 75	<0 17	<0 19	<8 4	<0 16	<0 17	<0 17
Naphthalene	1 0	200	1 4	0 37	0 17 J	0 25	0 097 J	<0 16	<7 1	0 77	0 38	0 13 J
Phenanthrene	1 0	310	4 4	1 7	3 9	0 91	<0 48	0 37 J	<24 0	8 4	1 9	5 1
Phenol	1 0	6100	<0 26	<0 26	<0 16	<0 14	<0 13	0 20	<6 6	0 11 J	<0 14	0 088 J
Pyrene	1 0	310	9 1	1 7	6 8	1 4	0 095 J	0 84	<8 4	12 0	3 3	10 0

Notes
Shaded boxes show results above the BG/MDL
Shaded boxes with double borders show results above both the BG/MDL and the MSC
BG = Background Concentrations (Jacobs, 1998)
J = Estimated Value
MDL = Method Detection Limit
MSC = Medium-specific concentration for industrial use based on groundwater protection
ND = Not Detected
NV = No Value
B = Compound detected in reagent blank
R = Matrix spike recovery is not within control limits
1 = Only compounds with detectable concentrations are reported
2 = Action level from TNRCC RG-17
3 = Value listed for the MDL for the soil sampling requirements from Radian 1989a.
* = Differentiates Radian 1988 soil borings from the Radian 1985 soil borings of the same name
+ = % difference between the MS and MSD is not within control limits
^ = Duplicate analysis is not within control limits
Source: Radian, 1989

Table 3.4
1993 Surface Soil Analytical Results Summary
SWMU 53
NAS Fort Worth JRB, Texas

Compound[1]	Parameter		Sample Numbers					
	MDL (mg/kg)	MSC (mg/kg)	DFLD-1 (0.5 ft)	DFLD-5 (0.5 ft)	DFLD-6 (1.5 ft)	DFLD-9 (0.5 ft)	DFLD-10 (1.5 ft)	DFLD-11 (0.5 ft)
VOCs (8020)								
Benzene	0 002	0 5	ND	ND	ND	ND	ND	ND
Ethylbenzene	0 002	70	ND	0 0028	ND	0 002	ND	ND
Toluene	0 002	100	ND	ND	ND	ND	ND	ND
Xylenes	0 002	1000	ND	0 012	0 0038	0 011	0 0065	ND
BTEX	0 002	NV	ND	0 0148	0 0038	0 013	0.0065	ND
TPH (418.1)								
TPH	10	500[2]	120	20	37	ND	ND	93

Notes
Shaded boxes show results above the MDL
Shaded boxes with double borders show results above the MDL and the MSC.
MDL = Method Detection Limit
MSC = Medium-specific concentrations for industrial use based on groundwater protection
ND = Not Detected

1 = Only compounds with detectable concentrations are reported
2 = Action level for course soils from TNRCC RG-17
Source Dames & Moore, 1995

FIGURES

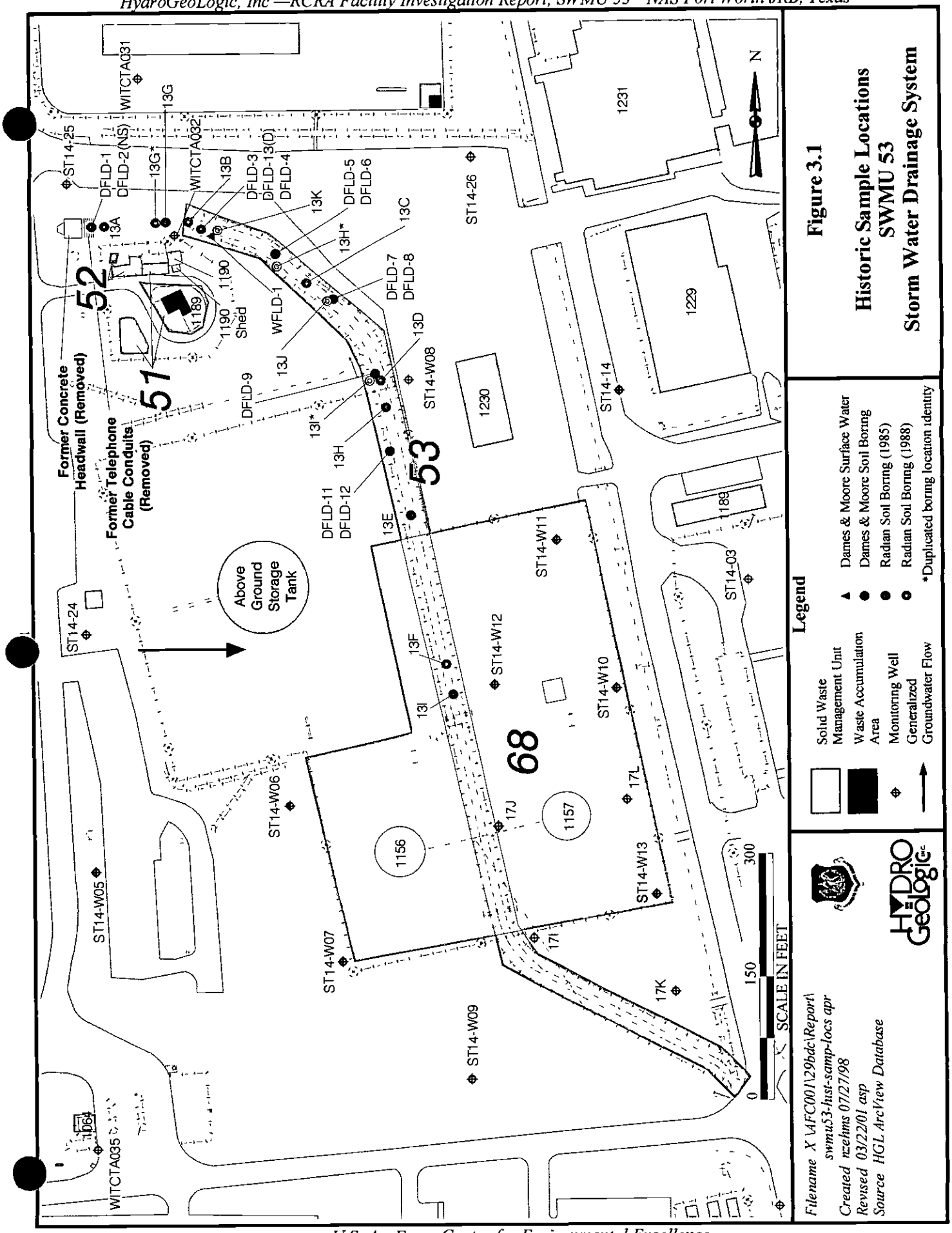
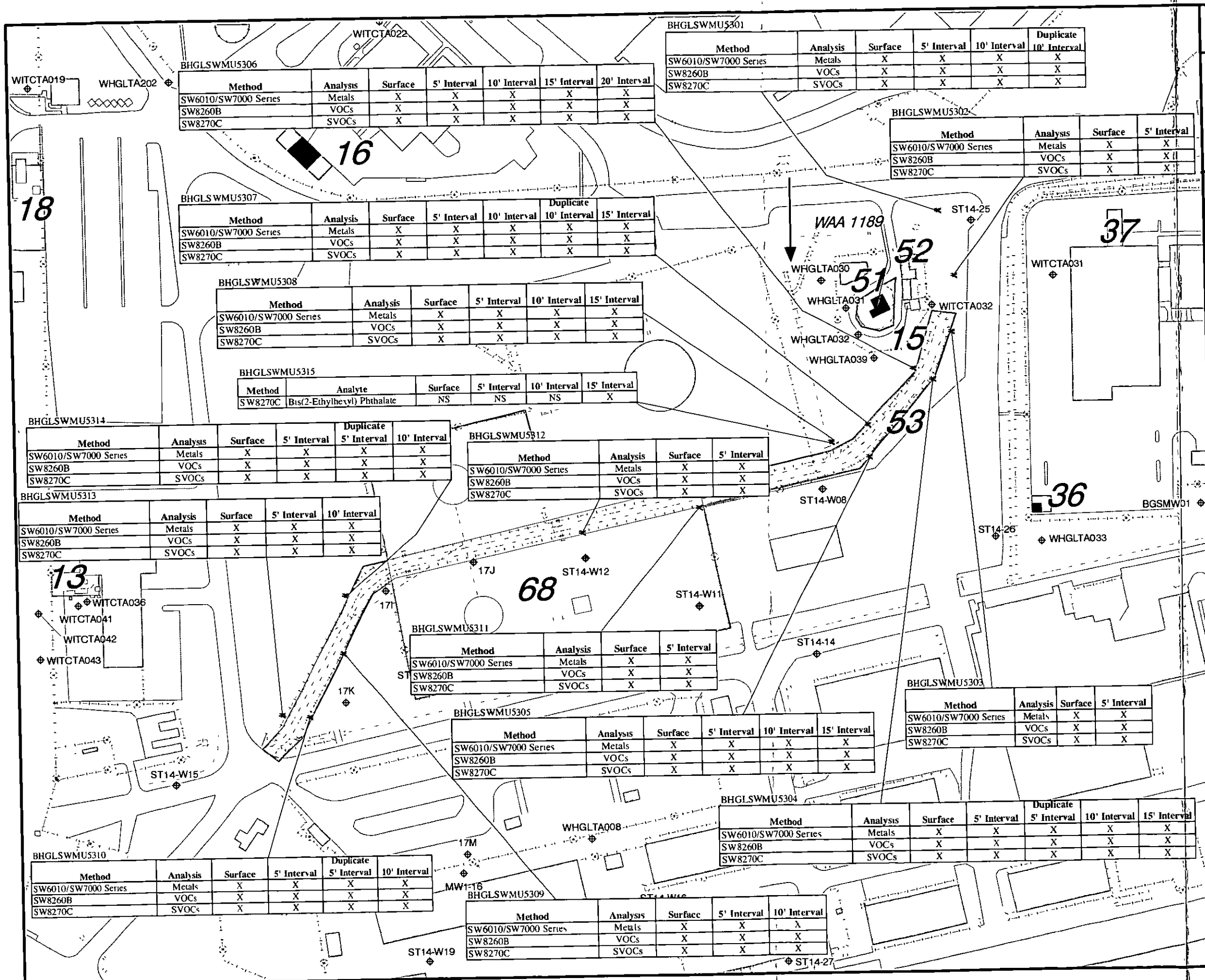


Figure 3.1
Historic Sample Locations
SWMU 53
Storm Water Drainage System
Legend
Solid Waste Management Unit
Waste Accumulation Area
Monitoring Well
Generalized Groundwater Flow
Dames & Moore Surface Water
Dames & Moore Soil Boring
Radian Soil Boring (1985)
Radian Soil Boring (1988)
*Duplicated boring location identity
SCALE IN FEET
0
150
300
N
Filename X \AFC001\29bdc\Report\ swmu53-hist-samp-locs apr
Created rzehms 07/27/98
Revised 03/22/01 asp
Source HGL ArcView Database
HYDRO GEOLOGIC
Above Ground Storage Tank
Former Concrete Headwall (Removed)
Former Telephone Cable Conduits (Removed)
51
52
53
68
1156
1157
1189
1190
1190 Shed
1229
1230
1231
1189
WITCTA031
WITCTA032
WITCTA035
ST14-25
ST14-24
ST14-26
ST14-14
ST14-03
ST14-W05
ST14-W06
ST14-W07
ST14-W08
ST14-W09
ST14-W10
ST14-W11
ST14-W12
ST14-W13
DFLD-1
DFLD-2(NS)
DFLD-3
DFLD-13(D)
DFLD-4
DFLD-5
DFLD-6
DFLD-7
DFLD-8
DFLD-9
DFLD-11
DFLD-12
WFLD-1
13A
13B
13C
13D
13E
13F
13G
13G*
13H
13H*
13I
13I*
13J
13K
17I
17J
17K
17L



BHGLSWMU5306

Method	Analysis	Surface	5' Interval	10' Interval	15' Interval	20' Interval
SW6010/SW7000 Series	Metals	X	X	X	X	X
SW8260B	VOCs	X	X	X	X	X
SW8270C	SVOCs	X	X	X	X	X

BHGLSWMU5301

Method	Analysis	Surface	5' Interval	10' Interval	Duplicate 10' Interval
SW6010/SW7000 Series	Metals	X	X	X	X
SW8260B	VOCs	X	X	X	X
SW8270C	SVOCs	X	X	X	X

BHGLSWMU5302

Method	Analysis	Surface	5' Interval
SW6010/SW7000 Series	Metals	X	X
SW8260B	VOCs	X	X
SW8270C	SVOCs	X	X

BHGLSWMU5307

Method	Analysis	Surface	5' Interval	10' Interval	Duplicate 10' Interval	15' Interval
SW6010/SW7000 Series	Metals	X	X	X	X	X
SW8260B	VOCs	X	X	X	X	X
SW8270C	SVOCs	X	X	X	X	X

BHGLSWMU5308

Method	Analysis	Surface	5' Interval	10' Interval	15' Interval
SW6010/SW7000 Series	Metals	X	X	X	X
SW8260B	VOCs	X	X	X	X
SW8270C	SVOCs	X	X	X	X

BHGLSWMU5315

Method	Analyte	Surface	5' Interval	10' Interval	15' Interval
SW8270C	Bis(2-Ethylhexyl) Phthalate	NS	NS	NS	X

BHGLSWMU5314

Method	Analysis	Surface	5' Interval	Duplicate 5' Interval	10' Interval
SW6010/SW7000 Series	Metals	X	X	X	X
SW8260B	VOCs	X	X	X	X
SW8270C	SVOCs	X	X	X	X

BHGLSWMU5312

Method	Analysis	Surface	5' Interval
SW6010/SW7000 Series	Metals	X	X
SW8260B	VOCs	X	X
SW8270C	SVOCs	X	X

BHGLSWMU5313

Method	Analysis	Surface	5' Interval	10' Interval
SW6010/SW7000 Series	Metals	X	X	X
SW8260B	VOCs	X	X	X
SW8270C	SVOCs	X	X	X

BHGLSWMU5311

Method	Analysis	Surface	5' Interval
SW6010/SW7000 Series	Metals	X	X
SW8260B	VOCs	X	X
SW8270C	SVOCs	X	X

BHGLSWMU5305

Method	Analysis	Surface	5' Interval	10' Interval	15' Interval
SW6010/SW7000 Series	Metals	X	X	X	X
SW8260B	VOCs	X	X	X	X
SW8270C	SVOCs	X	X	X	X

BHGLSWMU5303

Method	Analysis	Surface	5' Interval
SW6010/SW7000 Series	Metals	X	X
SW8260B	VOCs	X	X
SW8270C	SVOCs	X	X

BHGLSWMU5304

Method	Analysis	Surface	5' Interval	Duplicate 5' Interval	10' Interval	15' Interval
SW6010/SW7000 Series	Metals	X	X	X	X	X
SW8260B	VOCs	X	X	X	X	X
SW8270C	SVOCs	X	X	X	X	X

BHGLSWMU5310

Method	Analysis	Surface	5' Interval	Duplicate 5' Interval	10' Interval
SW6010/SW7000 Series	Metals	X	X	X	X
SW8260B	VOCs	X	X	X	X
SW8270C	SVOCs	X	X	X	X

BHGLSWMU5309

Method	Analysis	Surface	5' Interval	10' Interval
SW6010/SW7000 Series	Metals	X	X	X
SW8260B	VOCs	X	X	X
SW8270C	SVOCs	X	X	X

HydroGeoLogic, Inc —RCRA Facility Investigation Report, SWMU 53
NAS Fort Worth JRB, Texas

Figure 3.2
RFI Soil Sampling Locations, Analyses, and Intervals
SWMU 53

U.S. Air Force Center For Environmental Excellence

Legend

- NAS Fort Worth JRB (Carswell Field)
- Former Carswell Air Force Base
- Solid Waste Management Unit
- Area of Concern
- Waste Accumulation Area
- Monitoring Well Location
- Soil Boring Location
- Generalized Groundwater Flow
- Phase I Analyses
- Phase II Analyses

NS - Not Sampled
X - Sampled

N

0 75 150 300
SCALE IN FEET

Filename X \Afc001\29bdc\Report\ Soil_samp_locs_SWMU_53 apr
Project AFC001-29BDC
Created 7/28/00 ap
Revised 03/22/01 asp
Map Source HydroGeoLogic, Inc— GIS Database 2000

HYDRO GeoLogic INC

TAB

SECTION 4.0

4.0 INVESTIGATION RESULTS

This section provides a discussion of the analytical results for soil samples collected at SWMU 53 by HydroGeoLogic, during May and December 2000. All soil samples were analyzed in accordance with the procedures presented in the RFI WPs (HydroGeoLogic, 2000a).

To determine if a release has occurred at SWMU 53, the results from samples collected and analyzed for inorganic compounds were compared to the approved 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. Furthermore, all analytical results were compared to available MSCs to determine if detected contaminants posed a threat to shallow groundwater. Analytical data summaries are presented in Appendix B.

4.1 LITHOLOGIC FINDINGS

Fifteen DPT soil borings, BHGLSWMU5301 through BHGLSWMU5315 were advanced at SWMU 53. Five of the borings are located on the western edge of the storm water drainage ditch, eight are located on the eastern edge of the storm water drainage ditch, and two are located west of the northern end of the storm water drainage ditch in an upgradient position. Boring BHGLSWMU5315, was not logged for lithology as it was advanced only to collect a confirmation sample adjacent to the boring BHGLSWMU5308. Boring logs are presented as Appendix C.

Lithologic cross-sections for SWMU 53 are presented as Figure 4.1. Lithology was analyzed using a northwest by southeast transect, cross-section A-A' along boring BHGLSWMU5313, BHGLSWMU5309, BHGLSWMU5314, BHGLSWMU5312, BHGLSWMU5311, BHGLSWMU5305, BHGLSWMU5306, BHGLSWMU5303, BHGLSWMU5302, and BHGLSWMU5301. In addition, two west to east cross-sections are presented, cross-section B-B', from borings BHGLSWMU5307 to BHGLSWMU5305, and cross-section C-C', from boring BHGLSWMU5314 to BHGLSWMU5309.

BHGLSWMU5313 exhibited silt with some clay from the surface to a depth of 8 feet bgs grading into a silty clay from 8 feet bgs to 11 feet bgs, overlying a silty sand from 11 feet bgs to 14 feet bgs. Boring BHGLSWMU5309 exhibited similar stratification to BHGLSWMU5313 except that the sand layer began slightly deeper. Boring BHGLSWMU5314 exhibited similar stratification to BHGLSWMU5313 except that the clay layer began slightly shallower and the sand layer is not present. BHGLSWMU5312 exhibited silt from the surface to the bottom of the boring at 8 feet bgs. Boring BHGLSWMU5311 exhibited similar stratification to BHGLSWMU5313 except that the silty sand layer was encountered slightly shallower. BHGLSWMU5305 exhibited silt from the surface to a depth of 2 feet bgs, grading into a silt and clay from a depth of 2 feet bgs to a depth of 19 feet bgs, with a thin layer of clayey sand inside the silt and clay from a depth of 17.5 feet bgs to a depth of 18 feet bgs. BHGLSWMU5306 exhibited silt from the surface to a depth of 11 feet bgs, grading into a silty

clay from 11 feet bgs to a depth of 20.5 feet bgs with increasing sand and gravel toward the bottom, overlying a clayey silt from a depth of 20.5 feet bgs to a depth of 22 feet bgs. BHGLSWMU5303 exhibited silt from the surface to a depth of 4 feet bgs, grading into a silt and clay from a depth of 4 feet bgs to a depth of 6 feet bgs, overlying a layer of sandy silty clay from a depth of 6 feet bgs to a depth of 8 feet bgs. BHGLSWMU5302 exhibited sitl and clay from the surface to a depth of 7.5 feet bgs, overlying a layer of clay from a depth of 7.5 feet bgs to depth of 8 feet bgs. BHGLSWMU5301 exhibited silt and clay from the surface to a depth of 4 feet bgs, overlying sandy silty clay from 4 feet bgs to 10 feet bgs, overlying clay from a depth of 10 feet bgs to 10.5 feet bgs. Cross-section B-B' includes boring BHGLSWMU5307, which exhibited silt from the surface to a depth of 4 feet bgs grading into a silt and clay from a depth of 4 feet bgs to a depth of 19 feet bgs. The lithology of BHGLSWMU5305 was described for cross-section A-A'. The borings for cross-section C-C' were described in the section for cross-section A-A'.

4.2 SURFACE SOIL DETECTIONS

A total of 14 surface soil samples were collected for analysis at SWMU 53: BHGLSWMU5301-0' through BHGLSWMU5314-0'. Soil sampling locations, analyses, and sample intervals are depicted in Figure 3.2. All surface soil samples were analyzed for the list of analyses presented in Section 3.5.2.2. The analytical results of surface soil samples indicate low concentrations of several metals above background, as presented in Table 4.1 and depicted in Figure 4.2.

4.2.1 Inorganic Constituents

Two inorganic constituents were detected above background concentrations in the surface soil samples at SWMU 53. These constituents included the following:

- **Selenium** was detected in the surface soil above RRS 1 (0.907 mg/kg) in boring BHGLSWMU5310 (1.1 F mg/kg).
- **Zinc** was detected in the surface soil above RRS 1 (38.8 mg/kg) in the two borings BHGLSWMU5305 (66.5 mg/kg) and BHGLSWMU5306 (66.9 mg/kg).

In addition three inorganic constituents were detected above the RRS 2 values in the surface soil samples at SWMU 53. These constituents included the following:

- **Cadmium** was detected at the surface above RRS 2 (0.556 mg/kg) in boring BHGLSWMU5306 (0.72 mg/kg).
- **Chromium (total)** was detected at the surface above RRS 2 (25.86 mg/kg) in boring BHGLSWMU5306 (36.6 J mg/kg).
- **Lead** was detected in the surface soil above RRS 2 (30.97 mg/kg) in boring BHGLSWMU5305 (41.5 mg/kg).

4.2.2 Organic Constituents

There were no organic constituents detected in the surface soil samples collected at SWMU 53.

4.3 SUBSURFACE SOIL DETECTIONS

A total of 35 subsurface soil samples were collected for analysis at the 15 soil boring locations within SWMU 53. Soil sampling locations, analyses, and sample intervals are depicted in Figure 3.2. Soil samples were collected at 5-foot intervals until the water table was encountered or refusal occurred. All subsurface soil samples were analyzed for the analyses described in Section 3.2.1.2. As presented in Table 4.2 and depicted in Figure 4.2, analytical results of subsurface soil samples indicate low concentrations of metals and VOCs and an SVOC in the subsurface soils sampled at SWMU 53.

4.3.1 Inorganic Constituents

Five inorganic constituents were detected above the background concentrations in the the subsurface soil samples at SWMU 53. These constituents included the following:

- **Barium** was detected above RRS 1 (128.1 mg/kg) in three borings at the 5-foot interval BHGLSWMU5305 (142 mg/kg), BHGLSWMU5309 (143 mg/kg), and both the parent and duplicate samples for BHGLSWMU5310 (162 mg/kg) and (176 mg/kg) respectively.

- **Cobalt** was detected in three borings in the subsurface soil above RRS 1 (6.19 mg/kg), two borings at the 5-foot interval BHGLSWMU5303 (6.2 mg/kg) and BHGLSWMU5305 (6.9 mg/kg), and in one boring at the 15-foot interval BHGLSWMU5306 (6.6 mg/kg).

- **Copper** was detected in the subsurface soil above RRS 1 (13.72 mg/kg) twice in the same boring BHGLSWMU5310, at the 5-foot interval in the duplicate sample (13.8 J mg/kg) and at the 10-foot interval (19 J mg/kg).

- **Vanadium** was detected in the subsurface soil above RRS 1 (37.4 mg/kg) at the 5-foot interval in the duplicate at boring BHGLSWMU5310 (63.6 mg/kg).

- **Zinc** was detected in the subsurface soil above RRS 1 (31.3 mg/kg) in two borings at the 5-foot interval in borings BHGLSWMU5305 (31.7 mg/kg) and BHGLSWMU5307 (33.5 mg/kg) and in one boring at the 10-foot interval in boring BHGLSWMU5310 (40.8 mg/kg).

In addition four inorganic constituents were detected above the RRS 2 values in the subsurface soils at SWMU 53. These constituents included the following:

- **Arsenic** was detected above RRS 2 (6.58 mg/kg) in the subsurface soil sample at the 15-foot interval of boring BHGLSWMU5306 (7.7 mg/kg).

- **Cadmium** was detected in the subsurface soil above RRS 2 (0.59 mg/kg) at the 15-foot interval in boring BHGLSWMU5304 (0.78 mg/kg).

- **Chromium (total)** was detected in the subsurface soil above RRS 2 (16.31 mg/kg) at the 10-foot interval in three borings BHGLSWMU5308 (16.8 J mg/kg), BHGLSWMU5310 (18 J mg/kg), and BHGLSWMU5314 (20.4 J mg/kg).

- **Lead** was detected in the subsurface soil above RRS 2 (12.66 mg/kg) at the 10-foot interval in boring BHGLSWMU5301 (25.1 mg/kg).

4.3.2 Organic Constituents

Four VOCs were detected above the RRS 1 values in the subsurface soil samples at SWMU 53, though no VOCs were detected above the RRS 2 values. These constituents included the following:

- **Acetone** was detected in the subsurface soil above RRS 1 (0.005 mg/kg) in one boring at the 5-foot interval in the duplicate sample in boring BHGLSWMU5314 (0.062 J mg/kg), in one boring at the 10-foot interval in the parent and duplicate samples of BHGLSWMU5301 (0.03 mg/kg) and (0.037 mg/kg) respectively, and in one boring at the 15-foot interval in boring BHGLSWMU5305 (0.044 mg/kg)

- **Benzene** was detected in the subsurface soil above RRS 1 (0.002 mg/kg) in one boring at the 5-foot interval in the duplicate sample in boring BHGLSWMU5314 (0.015 J mg/kg).

- **Methyl Ethyl Ketone (2 - Butanone)** was detected in the subsurface soil above RRS 1 (0.005 mg/kg) in one boring at the 5-foot interval in the duplicate sample in boring BHGLSWMU5314 (0.019 J mg/kg) and in one boring at the 10-foot interval in the duplicate sample in boring BHGLSWMU5301 (0.007 J mg/kg).

- **Toluene** was detected in the subsurface soil above RRS 1 (0.005 mg/kg) in one boring at the 5-foot interval in the duplicate sample in boring BHGLSWMU5314 (0.014 J mg/kg).

One SVOC was detected above the RRS 2 value in the subsurface soil samples collected at SWMU 53:

- **bis(2-Ethylhexyl)Phthalate** was detected in the subsurface soil above RRS 2 (0.6 mg/kg) in one boring at the 15-foot interval in boring BHGLSWMU5308 (5.6 mg/kg). The confirmation sample collected adjacent to BHGLSWMU5308 at the 15-foot interval from the boring BHGLSWMU5315 was nondetect for bis(2-ethylhexyl)phthalate.

4.4 VISUAL INSPECTION OF CONCRETE LINER

The condition of the concrete liner of the storm water drainage system was visually inspected during RFI activities. It was observed that several of the sidewalls and joints were deteriorating. In addition, cracks and gaps in the concrete lining were observed in five areas along the length of the storm water drainage ditch (Figure 4.3). Photographs of the five areas are presented in Figures 4.4 through 4.8. Several of the soil borings installed during the first phase of this RFI were advanced adjacent to SWMU 53 in the areas where cracks and gaps existed in order to characterize potential releases in these areas.

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TABLES

Table 4.1
Surface Soil Detections
SWMU 53
NAS Fort Worth JRB, Texas

ANMCODE	PARNAME	RRS 1	RRS 2	BHGLSWMU5301 - 0'	BHGLSWMU5302 - 0'	BHGLSWMU5303 - 0'	BHGLSWMU5304 - 0'	BHGLSWMU5305 - 0'
SW6010	ARSENIC	5 85	5 85	- -	- -	3 9 F	4 2 F	4 4
SW6010	BARIUM	233	233	223	26 7	83 6	68 9	63 6
SW6010	BERYLLIUM	1 02	1 02	0 61 J	0 69 J	0 8 J	0 6 J	0 5
SW6010	CADMIUM	0 556	0 556	0 04 F	0 09 F	0 53	0 38 F	0 26 F
SW6010	CHROMIUM, TOTAL	25 86	25 86	8 8 F	3 5 F	17 2 J	13 4 J	11 5 J
SW6010	COBALT	11 05	610	4 1 F	3 5 F	3 9 F	4 7 F	4
SW6010	COPPER	17 37	130	5 9 F	4 7 F	7 8 F	6 4 F	8 9
SW6010	NICKEL	14 6	200	5 3 F	4 5 F	10 9 J	9 1 J	8 4
SW6010	TIN	10	6132	- -	- -	- -	- -	- -
SW6010	VANADIUM	46 3	72	7 7 F	7 3 F	32 6	29 6	20 8
SW6010	ZINC	38 8	3100	5 2 F	3 F	27 3	20 6 F	**(66.5)**
SW7041	ANTIMONY	0 56	0 6	- -	- -	- -	- -	- -
SW7421	LEAD	30 97	30 97	9 2 F	5 4	8 3 F	8 8 F	**[(41.5)]**
SW7740	SELENIUM	0 907	5	- -	- -	- -	- -	- -
SW7841	THALLIUM	2 43	2 43	- -	- -	- -	- -	- -
SW8270C	BENZO(A)ANTHRACENE	0 33	0 33	- -	- -	- -	- -	- -
SW8270C	BENZO(A)PYRENE	0 33	0 33	- -	- -	- -	- -	- -
SW8270C	BENZO(B)FLUORANTHENE	0 33	0 33	- -	- -	- -	- -	- -
SW8270C	BENZO(K)FLUORANTHENE	0 33	0 39	- -	- -	- -	- -	- -
SW8270C	CHRYSENE	0 33	3 9	- -	- -	- -	- -	- -
SW8270C	FLUORANTHENE	0 33	410	- -	- -	- -	- -	- -
SW8270C	PHENANTHRENE	0 33	310	- -	- -	- -	- -	- -

Notes
All concentrations reported in mg/kg
- - = Result not detected at or above MDL
F = The analyte was positively identified but the associated numerical value is below the MQL
J = The analyte was positively indentified, the quantitation limit is an estimation
Results in bold and enclosed in (parentheses) exceed RRS 1
Results in bold and enclosed in [brackets] exceed RRS 2

Table 4.1
Surface Soil Detections
SWMU 53
NAS Fort Worth JRB, Texas

ANMCODE	PARNAME	RRS 1	RRS 2	BHGLSWMU5306 - 0'	BHGLSWMU5307 - 0'	BHGLSWMU5308 - 0'	BHGLSWMU5309 - 0'	BHGLSWMU5310 - 0'
SW6010	ARSENIC	5 85	5 85	3 4 F	3 8	2 8 F	2 6 F	2 1 F
SW6010	BARIUM	233	233	69 6	93 9	69 8	91 2	89 5
SW6010	BERYLLIUM	1 02	1 02	0 63	0 97	0 57	0 83	0 79
SW6010	CADMIUM	0 556	0 556	**[(0 72)]**	- -	0 26 F	0 16 F	0 13 F
SW6010	CHROMIUM, TOTAL	25 86	25 86	**[(36.6 J)]**	15 4 J	11 6 J	14 7 J	13 8 J
SW6010	COBALT	11 05	610	4 F	5 2	3 8 F	4 5	3 9 F
SW6010	COPPER	17 37	130	11 4	9 2	8 4	13 2	13 9 J
SW6010	NICKEL	14 6	200	9 2 F	10 9	7 5	11	10 5
SW6010	TIN	10	6132	- -	- -	- -	- -	- -
SW6010	VANADIUM	46 3	72	26 4 F	31 7	21 7	19 6 F	20 6 F
SW6010	ZINC	38 8	3100	**(66.9)**	25 8	23	32 8	31 4
SW7041	ANTIMONY	0 56	0 6	- -	- -	- -	- -	- -
SW7421	LEAD	30 97	30 97	11	6 6	10 9 F	8 6 F	10 6 F
SW7740	SELENIUM	0 907	5	- -	- -	- -	0 2 F	**(1.1 F)**
SW7841	THALLIUM	2 43	2 43	- -	- -	- -	- -	- -
SW8270C	BENZO(A)ANTHRACENE	0 33	0 33	0 069 F	- -	- -	- -	- -
SW8270C	BENZO(A)PYRENE	0 33	0 33	- -	- -	- -	- -	- -
SW8270C	BENZO(B)FLUORANTHENE	0 33	0 33	- -	- -	- -	- -	- -
SW8270C	BENZO(K)FLUORANTHENE	0 33	0 39	- -	- -	- -	- -	- -
SW8270C	CHRYSENE	0 33	3 9	0 084 F	- -	- -	- -	- -
SW8270C	FLUORANTHENE	0 33	410	0 19 F	- -	- -	- -	- -
SW8270C	PHENANTHRENE	0 33	310	0 13 F	- -	- -	- -	- -

Notes
All concentrations reported in mg/kg
- - = Result not detected at or above MDL
F = The analyte was positively identified but the associated numerical value is below the MQL
J = The analyte was positively indentified, the quantitation limit is an estimation
Results in **bold** and enclosed in (parentheses) exceed RRS 1.
Results in **bold** and enclosed in [brackets] exceed RRS 2

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Table 4.1
Surface Soil Detections
SWMU 53
NAS Fort Worth JRB, Texas

ANMCODE	PARNAME	RRS 1	RRS 2	BHGLSWMU5311 - 0'	BHGLSWMU5312 - 0'	BHGLSWMU5313 - 0'	BHGLSWMU5314 - 0'
SW6010	ARSENIC	5 85	5 85	3 4 F	3 1 F	2 3 F	3 7 F
SW6010	BARIUM	233	233	81 5	92 2	106	88 6
SW6010	BERYLLIUM	1 02	1 02	0 81	0 62	0 9	0 77
SW6010	CADMIUM	0 556	0 556	- -	0 33 F	0 28 F	0 22 F
SW6010	CHROMIUM, TOTAL	25 86	25 86	14 5 J	14 8 J	18 J	16 7 J
SW6010	COBALT	11 05	610	5 4 F	4 4 F	4 3 F	4 6 F
SW6010	COPPER	17 37	130	12 J	13 J	13 7 J	11 J
SW6010	NICKEL	14 6	200	10 9	10 2 F	11 6	11
SW6010	TIN	10	6132	- -	- -	1 9 F	- -
SW6010	VANADIUM	46 3	72	27 6 F	24 2 F	29 6	29 7
SW6010	ZINC	38 8	3100	37 2	35 4	35 4	29 5
SW7041	ANTIMONY	0 56	0 6	0 37 F	- -	- -	- -
SW7421	LEAD	30 97	30 97	9 7	6 4 F	3 8 F	5 4 F
SW7740	SELENIUM	0 907	5	- -	- -	- -	0 26 F
SW7841	THALLIUM	2 43	2 43	0 23 F	- -	0 25 F	- -
SW8270C	BENZO(A)ANTHRACENE	0 33	0 33	- -	0 1 F	- -	- -
SW8270C	BENZO(A)PYRENE	0 33	0 33	- -	0 13 F	- -	- -
SW8270C	BENZO(B)FLUORANTHENE	0 33	0 33	- -	0 16 F	- -	- -
SW8270C	BENZO(K)FLUORANTHENE	0 33	0 39	- -	0 13 F	- -	- -
SW8270C	CHRYSENE	0 33	3 9	- -	0 13 F	- -	- -
SW8270C	FLUORANTHENE	0 33	410	- -	0 22 F	- -	- -
SW8270C	PHENANTHRENE	0 33	310	- -	- -	- -	- -

Notes
All concentrations reported in mg/kg
- - = Result not detected at or above MDL
F = The analyte was positively identified but the associated numerical value is below the MQL
J = The analyte was positively indentified, the quantitation limit is an estimation
Results in bold and enclosed in (parentheses) exceed RRS 1
Results in bold and enclosed in [brackets] exceed RRS 2

Table 4.2
Subsurface Soil Detections
SWMU 53
NAS Fort Worth

ANMCODE	PARNAME	RRS 1	RRS 2	BHGLSWMU5301 - 5'	BHGLSWMU5301 - 10'	BHGLSWMU5301 - 10' Duplicate	BHGLSWMU5302 - 5'
SW6010	ARSENIC	6 58	6 58	- -	3 1 F	4 F	2 2 F
SW6010	BARIUM	128 1	200	39 5	77 9	69 1	61 5
SW6010	BERYLLIUM	1 13	1 13	0 81 J	0 22 F	0 42 J	0 34 J
SW6010	CADMIUM	0 59	0 59	0 1 F	0 37 F	0 55	0 4 F
SW6010	CHROMIUM, TOTAL	16 31	16 31	- -	11 6 J	11 7 J	10 4 J
SW6010	COBALT	6 19	610	2 2 F	3 7 F	4 F	2 3 F
SW6010	COPPER	13 72	130	3 6 J	6 5 F	6 7 F	4 8 F
SW6010	NICKEL	19 76	200	3 F	7 6 F	8 4 J	5 8 F
SW6010	TIN	10	6132	- -	- -	- -	- -
SW6010	VANADIUM	37 4	72	6 7 F	21 2 F	24 2 F	24 5 F
SW6010	ZINC	31 3	3100	1 8 F	19 6 F	22 F	16 9 F
SW7421	LEAD	12 66	12 66	5 7	**[(25.1)]**	7 F	6 9 F
SW7841	THALLIUM	1 5	1 5	- -	- -	- -	- -
SW8260B	ACETONE	0 005	1000	- -	**(0 03)**	**(0.037)**	- -
SW8260B	BENZENE	0 002	0 5	- -	- -	- -	- -
SW8260B	CARBON DISULFIDE	0 005	1000	- -	0 001 F	- -	- -
SW8260B	ETHYLBENZENE	0 003	70	- -	- -	- -	- -
SW8260B	M,P-XYLENE (SUM OF ISOMERS)	0 005	1000	- -	- -	- -	- -
SW8260B	METHYL ETHYL KETONE (2-BUTANONE)	0 005	6100	- -	- -	**(0.007 J)**	- -
SW8260B	METHYL ISOBUTYL KETONE (4-METHYL-2-PENTANONE)	0 005	820	- -	- -	- -	- -
SW8260B	O-XYLENE (1,2-DIMETHYLBENZENE)	0 005	1000	- -	- -	- -	- -
SW8260B	TOLUENE	0 005	100	- -	- -	- -	- -
SW8270C	BENZO(A)ANTHRACENE	0 33	0 33	- -	0 069 F	- -	- -
SW8270C	BENZO(A)PYRENE	0 33	0 33	- -	0 072 F	- -	- -
SW8270C	BIS(2-ETHYLHEXYL) PHTHALATE	0 33	0 6	- -	- -	- -	- -
SW8270C	CHRYSENE	0 33	3 9	- -	0 075 F	- -	- -
SW8270C	FLUORANTHENE	0 33	410	- -	0 14 F	- -	- -

Notes.
All concentrations reported in mg/kg.
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F = The analyte was positively identified but the associated numerical value is below the MQL
J = The analyte was positively indentified, the quantitation limit is an estimation
Results in bold and enclosed in (parentheses) exceed RRS 1
Results in bold and enclosed in [brackets] exceed RRS 2

Table 4.2
Subsurface Soil Detections
SWMU 53
NAS Fort Worth

ANMCODE	PARNAME	RRS 1	RRS 2	BHGLSWMU5303 - 5'	BHGLSWMU5304 - 5'	BHGLSWMU5304 - 5' Duplicate	BHGLSWMU5304 - 10'
SW6010	ARSENIC	6 58	6 58	4 J	2 F	- -	- -
SW6010	BARIUM	128 1	200	88 9	58 8	52 4	35 8 F
SW6010	BERYLLIUM	1 13	1 13	0 87 J	0 62 J	0 38 J	0 51 J
SW6010	CADMIUM	0 59	0 59	0 44	0 48	0 3 F	0 34 F
SW6010	CHROMIUM, TOTAL	16 31	16 31	15 6 J	14 J	8 5 J	14 7 J
SW6010	COBALT	6 19	610	**(6.2)**	2 7 F	1 9 F	2 6 F
SW6010	COPPER	13 72	130	8 5 J	7 5 F	5 1 F	4 9 F
SW6010	NICKEL	19 76	200	11 3 J	7 7 J	5 2 F	7 1 F
SW6010	TIN	10	6132	- -	- -	- -	- -
SW6010	VANADIUM	37 4	72	33 1	24 3	12 6 F	9 4 F
SW6010	ZINC	31 3	3100	25 4	26 8	18 3 F	22 2 F
SW7421	LEAD	12 66	12 66	8 6 F	6 2 F	7 2 F	7 F
SW7841	THALLIUM	1 5	1 5	- -	- -	- -	- -
SW8260B	ACETONE	0 005	1000	- -	- -	- -	- -
SW8260B	BENZENE	0 002	0 5	- -	- -	- -	- -
SW8260B	CARBON DISULFIDE	0 005	1000	- -	- -	- -	- -
SW8260B	ETHYLBENZENE	0 003	70	- -	- -	- -	- -
SW8260B	M,P-XYLENE (SUM OF ISOMERS)	0 005	1000	- -	- -	- -	- -
SW8260B	METHYL ETHYL KETONE (2-BUTANONE)	0 005	6100	- -	- -	- -	- -
SW8260B	METHYL ISOBUTYL KETONE (4-METHYL-2-PENTANONE)	0 005	820	- -	- -	- -	- -
SW8260B	O-XYLENE (1,2-DIMETHYLBENZENE)	0 005	1000	- -	- -	- -	- -
SW8260B	TOLUENE	0 005	100	- -	- -	- -	- -
SW8270C	BENZO(A)ANTHRACENE	0 33	0 33	- -	- -	- -	- -
SW8270C	BENZO(A)PYRENE	0 33	0 33	- -	- -	- -	- -
SW8270C	BIS(2-ETHYLHEXYL) PHTHALATE	0 33	0 6	- -	- -	- -	- -
SW8270C	CHRYSENE	0 33	3 9	- -	- -	- -	- -
SW8270C	FLUORANTHENE	0 33	410	- -	- -	- -	- -

Notes
All concentrations reported in mg/kg
- - = Result not detected at or above MDL
F = The analyte was positively identified but the associated numerical value is below the MQL
J = The analyte was positively indentified, the quantitation limit is an estimation
Results in bold and enclosed in (parentheses) exceed RRS 1
Results in bold and enclosed in [brackets] exceed RRS 2

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Table 4.2
Subsurface Soil Detections
SWMU 53
NAS Fort Worth

ANMCODE	PARNAME	RRS 1	RRS 2	BHGLSWMU5304 - 15'	BHGLSWMU5305 - 5'	BHGLSWMU5305 - 10'	BHGLSWMU5305 - 15'
SW6010	ARSENIC	6 58	6 58	2 2 F	3 2 F	0 55 F	0 62 F
SW6010	BARIUM	128 1	200	21 5 F	(142)	46 8	48 6
SW6010	BERYLLIUM	1 13	1 13	0 18 F	0 9	0 65	0 6
SW6010	CADMIUM	0 59	0 59	[(0.78)]	0 05 F	- -	- -
SW6010	CHROMIUM, TOTAL	16 31	16 31	8 J	15 7 J	11 2 J	13 7 J
SW6010	COBALT	6 19	610	2 3 F	(6.9)	2 3 F	2 7 F
SW6010	COPPER	13 72	130	5 F	11 6	6 7 F	9 4
SW6010	NICKEL	19 76	200	7 2 F	13 3	7 3 F	7 8 F
SW6010	TIN	10	6132	- -	- -	- -	- -
SW6010	VANADIUM	37 4	72	25 3	31 F	22 4 F	22 9 F
SW6010	ZINC	31 3	3100	13 7 F	(31.7)	21 6 F	26 7 F
SW7421	LEAD	12 66	12 66	4 7 F	8 1 F	7 3 F	5 7 F
SW7841	THALLIUM	1 5	1 5	- -	- -	- -	- -
SW8260B	ACETONE	0 005	1000	- -	- -	- -	(0.044)
SW8260B	BENZENE	0 002	0 5	- -	- -	- -	- -
SW8260B	CARBON DISULFIDE	0 005	1000	- -	- -	- -	- -
SW8260B	ETHYLBENZENE	0 003	70	- -	- -	- -	- -
SW8260B	M,P-XYLENE (SUM OF ISOMERS)	0 005	1000	- -	- -	- -	- -
SW8260B	METHYL ETHYL KETONE (2-BUTANONE)	0 005	6100	- -	- -	- -	- -
SW8260B	METHYL ISOBUTYL KETONE (4-METHYL-2-PENTANONE)	0 005	820	- -	- -	- -	- -
SW8260B	O-XYLENE (1,2-DIMETHYLBENZENE)	0 005	1000	- -	- -	- -	- -
SW8260B	TOLUENE	0 005	100	- -	- -	- -	- -
SW8270C	BENZO(A)ANTHRACENE	0 33	0 33	- -	- -	- -	- -
SW8270C	BENZO(A)PYRENE	0 33	0 33	- -	- -	- -	- -
SW8270C	BIS(2-ETHYLHEXYL) PHTHALATE	0 33	0 6	- -	- -	- -	- -
SW8270C	CHRYSENE	0 33	3 9	- -	- -	- -	- -
SW8270C	FLUORANTHENE	0 33	410	- -	- -	- -	- -

Notes
All concentrations reported in mg/kg
- - = Result not detected at or above MDL
F = The analyte was positively identified but the associated numerical value is below the MQL
J = The analyte was positively indentified, the quantitation limit is an estimation.
Results in bold and enclosed in (parentheses) exceed RRS 1
Results in bold and enclosed in [brackets] exceed RRS 2

Table 4.2
Subsurface Soil Detections
SWMU 53
NAS Fort Worth

ANMCODE	PARNAME	RRS 1	RRS 2	BHGLSWMU5306 - 5'	BHGLSWMU5306 - 10'	BHGLSWMU5306 - 15'	BHGLSWMU5306 - 20'
SW6010	ARSENIC	6 58	6 58	1 1 F	0 74 F	[(7.7)]	5 2
SW6010	BARIUM	128 1	200	77 6	38 9 F	45 1	41 3
SW6010	BERYLLIUM	1 13	1 13	0 59	0 58	0 54	0 4
SW6010	CADMIUM	0 59	0 59	0 15 F	- -	0 03 F	0 04 F
SW6010	CHROMIUM, TOTAL	16 31	16 31	10 6 J	12 4 J	10 3 J	12 7 J
SW6010	COBALT	6 19	610	2 3 F	4 1 F	(6.6)	4 6
SW6010	COPPER	13 72	130	4.7 F	5 F	8 5	6 5 F
SW6010	NICKEL	19 76	200	5 9 F	7 5 F	11 2	8 9
SW6010	TIN	10	6132	- -	- -	- -	- -
SW6010	VANADIUM	37 4	72	16 1 F	27 7 F	35 9	26 6
SW6010	ZINC	31 3	3100	21 2 F	19 1 F	19 4 F	19 F
SW7421	LEAD	12 66	12 66	4 8 F	4 5 F	3 6 F	3 8 F
SW7841	THALLIUM	1 5	1 5	- -	- -	- -	- -
SW8260B	ACETONE	0 005	1000	- -	- -	- -	- -
SW8260B	BENZENE	0 002	0 5	- -	- -	- -	- -
SW8260B	CARBON DISULFIDE	0 005	1000	- -	- -	- -	- -
SW8260B	ETHYLBENZENE	0 003	70	- -	- -	- -	- -
SW8260B	M,P-XYLENE (SUM OF ISOMERS)	0 005	1000	- -	- -	- -	- -
SW8260B	METHYL ETHYL KETONE (2-BUTANONE)	0 005	6100	- -	- -	- -	- -
SW8260B	METHYL ISOBUTYL KETONE (4-METHYL-2-PENTANONE)	0 005	820	- -	- -	- -	- -
SW8260B	O-XYLENE (1,2-DIMETHYLBENZENE)	0 005	1000	- -	- -	- -	- -
SW8260B	TOLUENE	0 005	100	- -	- -	- -	- -
SW8270C	BENZO(A)ANTHRACENE	0 33	0 33	- -	- -	- -	- -
SW8270C	BENZO(A)PYRENE	0 33	0 33	- -	- -	- -	- -
SW8270C	BIS(2-ETHYLHEXYL) PHTHALATE	0 33	0 6	- -	- -	- -	0 14 F
SW8270C	CHRYSENE	0 33	3 9	- -	- -	- -	- -
SW8270C	FLUORANTHENE	0 33	410	- -	- -	- -	- -

Notes
All concentrations reported in mg/kg
- - = Result not detected at or above MDL
F = The analyte was positively identified but the associated numerical value is below the MQL
J = The analyte was positively indentified, the quantitation limit is an estimation
Results in bold and enclosed in (parentheses) exceed RRS 1
Results in bold and enclosed in [brackets] exceed RRS 2

672 85

Table 4.2
Subsurface Soil Detections
SWMU 53
NAS Fort Worth

ANMCODE	PARNAME	RRS 1	RRS 2	BHGLSWMU5307 - 5'	BHGLSWMU5307 - 10'	BHGLSWMU5307 - 10' Duplicate	BHGLSWMU5307 - 15'
SW6010	ARSENIC	6 58	6 58	2 6 F	- -	0 35 F	0 33 F
SW6010	BARIUM	128 1	200	76 9	47	47 3	38 3
SW6010	BERYLLIUM	1 13	1 13	0 87	0 66	0 66	0 54
SW6010	CADMIUM	0 59	0 59	0 11 F	- -	- -	- -
SW6010	CHROMIUM, TOTAL	16 31	16 31	14 7 J	12 1 J	13 3 J	11 6 J
SW6010	COBALT	6 19	610	5 1 F	2 3 F	2 6 F	1 8 F
SW6010	COPPER	13 72	130	11 6	6 7 F	6 4 F	6 5
SW6010	NICKEL	19 76	200	12	7 5	7 7	6 5
SW6010	TIN	10	6132	1 6 F	- -	- -	- -
SW6010	VANADIUM	37 4	72	26 6 F	19 9 F	19 6 F	13 5 F
SW6010	ZINC	31 3	3100	**(33.5)**	22	23 2	22
SW7421	LEAD	12 66	12 66	4 8 F	4 2 F	5 2 F	4 F
SW7841	THALLIUM	1 5	1 5	- -	- -	- -	- -
SW8260B	ACETONE	0 005	1000	- -	- -	- -	- -
SW8260B	BENZENE	0 002	0 5	- -	- -	- -	- -
SW8260B	CARBON DISULFIDE	0 005	1000	- -	- -	- -	- -
SW8260B	ETHYLBENZENE	0 003	70	- -	- -	- -	- -
SW8260B	M,P-XYLENE (SUM OF ISOMERS)	0 005	1000	- -	- -	- -	- -
SW8260B	METHYL ETHYL KETONE (2-BUTANONE)	0 005	6100	- -	- -	- -	- -
SW8260B	METHYL ISOBUTYL KETONE (4-METHYL-2-PENTANONE)	0 005	820	- -	- -	- -	- -
SW8260B	O-XYLENE (1,2-DIMETHYLBENZENE)	0 005	1000	- -	- -	- -	- -
SW8260B	TOLUENE	0 005	100	- -	- -	- -	- -
SW8270C	BENZO(A)ANTHRACENE	0 33	0 33	- -	- -	- -	- -
SW8270C	BENZO(A)PYRENE	0 33	0 33	- -	- -	- -	- -
SW8270C	BIS(2-ETHYLHEXYL) PHTHALATE	0 33	0 6	- -	- -	- -	- -
SW8270C	CHRYSENE	0 33	3 9	- -	- -	- -	- -
SW8270C	FLUORANTHENE	0 33	410	- -	- -	- -	- -

Notes
All concentrations reported in mg/kg
- - = Result not detected at or above MDL
F = The analyte was positively identified but the associated numerical value is below the MQL
J = The analyte was positively indentified, the quantitation limit is an estimation
Results in bold and enclosed in (parentheses) exceed RRS 1
Results in bold and enclosed in [brackets] exceed RRS 2

Table 4.2
Subsurface Soil Detections
SWMU 53
NAS Fort Worth

ANMCODE	PARNAME	RRS 1	RRS 2	BHGLSWMU5308 - 5'	BHGLSWMU5308 - 10'	BHGLSWMU5308 - 15'	BHGLSWMU5309 - 5'
SW6010	ARSENIC	6 58	6 58	0 86 F	--	0 62 F	0 59 F
SW6010	BARIUM	128 1	200	93 9	59	59	**(143)**
SW6010	BERYLLIUM	1 13	1 13	--	0 73	0 71	0 37
SW6010	CADMIUM	0 59	0 59	0.16 F	--	--	0 11 F
SW6010	CHROMIUM, TOTAL	16 31	16 31	8 9 F	**[(16.8 J)]**	15 7 J	11 J
SW6010	COBALT	6 19	610	1 9 F	2 6 F	2 5 F	1 9 F
SW6010	COPPER	13 72	130	5 7 F	11	10	9 6 F
SW6010	NICKEL	19 76	200	6 1 F	8 7 F	8 1 F	6 F
SW6010	TIN	10	6132	--	--	--	--
SW6010	VANADIUM	37 4	72	14 4 F	23 F	21 2 F	20 7 F
SW6010	ZINC	31 3	3100	18 9 F	30 7 F	25 9 F	17 7 F
SW7421	LEAD	12 66	12 66	4 7 F	5 8 F	5 8 F	3 7 F
SW7841	THALLIUM	1 5	1 5	--	--	--	--
SW8260B	ACETONE	0 005	1000	--	--	--	--
SW8260B	BENZENE	0 002	0 5	--	--	--	--
SW8260B	CARBON DISULFIDE	0 005	1000	--	--	--	--
SW8260B	ETHYLBENZENE	0 003	70	--	--	--	--
SW8260B	M,P-XYLENE (SUM OF ISOMERS)	0 005	1000	--	--	--	--
SW8260B	METHYL ETHYL KETONE (2-BUTANONE)	0 005	6100	--	--	--	--
SW8260B	METHYL ISOBUTYL KETONE (4-METHYL-2-PENTANONE)	0 005	820	--	--	--	--
SW8260B	O-XYLENE (1,2-DIMETHYLBENZENE)	0 005	1000	--	--	--	--
SW8260B	TOLUENE	0 005	100	--	--	--	--
SW8270C	BENZO(A)ANTHRACENE	0 33	0 33	--	--	--	--
SW8270C	BENZO(A)PYRENE	0 33	0 33	--	--	--	--
SW8270C	BIS(2-ETHYLHEXYL) PHTHALATE	0 33	0 6	--	--	**[(5.6)]**	--
SW8270C	CHRYSENE	0 33	3 9	--	--	--	--
SW8270C	FLUORANTHENE	0 33	410	--	--	--	--

Notes
All concentrations reported in mg/kg
-- = Result not detected at or above MDL
F = The analyte was positively identified but the associated numerical value is below the MQL
J = The analyte was positively indentified, the quantitation limit is an estimation
Results in bold and enclosed in (parentheses) exceed RRS 1
Results in bold and enclosed in [brackets] exceed RRS 2

Table 4.2
Subsurface Soil Detections
SWMU 53
NAS Fort Worth

ANMCODE	PARNAME	RRS 1	RRS 2	BHGLSWMU5309 - 10'	BHGLSWMU5310 - 5'	BHGLSWMU5310 - 5' Duplicate	BHGLSWMU5310 - 10'
SW6010	ARSENIC	6 58	6 58	- -	1 7 F	5 6	- -
SW6010	BARIUM	128 1	200	116	**(162)**	**(176)**	99 4
SW6010	BERYLLIUM	1 13	1 13	0 65	0 58	0 61	1
SW6010	CADMIUM	0 59	0 59	- -	0 08 F	0 07 F	- -
SW6010	CHROMIUM, TOTAL	16 31	16 31	16 1 J	16 3 J	13 9 J	**[(18 J)]**
SW6010	COBALT	6 19	610	2 1 F	3 4 F	3 3 F	4 F
SW6010	COPPER	13 72	130	8 1 F	8 5 F	**(13.8 J)**	(19 J)
SW6010	NICKEL	19 76	200	6 7 F	7 2 F	8 2 F	13 1
SW6010	TIN	10	6132	- -	- -	- -	1 5 F
SW6010	VANADIUM	37 4	72	20 5 F	35 2	**(63.6)**	20 4 F
SW6010	ZINC	31 3	3100	24 8 F	24 5 F	21 9 F	**(40 8)**
SW7421	LEAD	12 66	12 66	4 6 F	6 5 F	6 1 F	11 4 F
SW7841	THALLIUM	1 5	1 5	- -	0 25 F	- -	- -
SW8260B	ACETONE	0 005	1000	- -	- -	- -	- -
SW8260B	BENZENE	0 002	0 5	- -	- -	- -	- -
SW8260B	CARBON DISULFIDE	0 005	1000	- -	- -	- -	- -
SW8260B	ETHYLBENZENE	0 003	70	- -	- -	- -	- -
SW8260B	M,P-XYLENE (SUM OF ISOMERS)	0 005	1000	- -	- -	- -	- -
SW8260B	METHYL ETHYL KETONE (2-BUTANONE)	0 005	6100	- -	- -	- -	- -
SW8260B	METHYL ISOBUTYL KETONE (4-METHYL-2-PENTANONE)	0 005	820	- -	- -	0 005 J	- -
SW8260B	O-XYLENE (1,2-DIMETHYLBENZENE)	0 005	1000	- -	- -	- -	- -
SW8260B	TOLUENE	0 005	100	- -	- -	- -	- -
SW8270C	BENZO(A)ANTHRACENE	0 33	0 33	- -	- -	- -	- -
SW8270C	BENZO(A)PYRENE	0 33	0 33	- -	- -	- -	- -
SW8270C	BIS(2-ETHYLHEXYL) PHTHALATE	0 33	0 6	- -	- -	- -	- -
SW8270C	CHRYSENE	0 33	3 9	- -	- -	- -	- -
SW8270C	FLUORANTHENE	0 33	410	- -	- -	- -	- -

Notes
All concentrations reported in mg/kg
- - = Result not detected at or above MDL.
F = The analyte was positively identified but the associated numerical value is below the MQL
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Results in **bold** and enclosed in (parentheses) exceed RRS 1
Results in **bold** and enclosed in [brackets] exceed RRS 2

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Table 4.2
Subsurface Soil Detections
SWMU 53
NAS Fort Worth

ANMCODE	PARNAME	RRS 1	RRS 2	BHGLSWMU5311 - 5'	BHGLSWMU5312 - 5'	BHGLSWMU5313 - 5'	BHGLSWMU5313 - 10'
SW6010	ARSENIC	6 58	6 58	1 4 F	0.53 F	1 2 F	- -
SW6010	BARIUM	128 1	200	119	94 1	113	42 8
SW6010	BERYLLIUM	1 13	1 13	- -	- -	0 53	- -
SW6010	CADMIUM	0 59	0 59	0 14 F	- -	0 13 F	- -
SW6010	CHROMIUM, TOTAL	16 31	16 31	8 9 J	5 2 F	12 9 J	7 5 F
SW6010	COBALT	6 19	610	1 9 F	0 44 F	2 3 F	3 2 F
SW6010	COPPER	13 72	130	5 1 F	- -	6 F	6 4 F
SW6010	NICKEL	19 76	200	5 7 F	1 8 F	6 3 F	6 7 F
SW6010	TIN	10	6132	- -	0 73 F	- -	0 72 F
SW6010	VANADIUM	37 4	72	22 9	5 4 F	32	12 1 F
SW6010	ZINC	31 3	3100	19 4 F	- -	21 9 F	21 F
SW7421	LEAD	12 66	12 66	5 F	1 3 F	4 9 F	5 F
SW7841	THALLIUM	1 5	1 5	- -	- -	0 23 F	- -
SW8260B	ACETONE	0 005	1000	- -	- -	- -	- -
SW8260B	BENZENE	0 002	0 5	- -	- -	- -	- -
SW8260B	CARBON DISULFIDE	0 005	1000	- -	- -	- -	- -
SW8260B	ETHYLBENZENE	0 003	70	- -	- -	- -	- -
SW8260B	M,P-XYLENE (SUM OF ISOMERS)	0 005	1000	- -	- -	- -	- -
SW8260B	METHYL ETHYL KETONE (2-BUTANONE)	0 005	6100	- -	- -	- -	- -
SW8260B	METHYL ISOBUTYL KETONE (4-METHYL-2-PENTANONE)	0 005	820	- -	- -	- -	- -
SW8260B	O-XYLENE (1,2-DIMETHYLBENZENE)	0 005	1000	- -	- -	- -	- -
SW8260B	TOLUENE	0 005	100	- -	- -	- -	- -
SW8270C	BENZO(A)ANTHRACENE	0 33	0 33	- -	- -	- -	- -
SW8270C	BENZO(A)PYRENE	0 33	0 33	- -	- -	- -	- -
SW8270C	BIS(2-ETHYLHEXYL) PHTHALATE	0 33	0 6	- -	- -	- -	- -
SW8270C	CHRYSENE	0 33	3 9	- -	- -	- -	- -
SW8270C	FLUORANTHENE	0 33	410	- -	- -	- -	- -

Notes
All concentrations reported in mg/kg
- - = Result not detected at or above MDL
F = The analyte was positively identified but the associated numerical value is below the MQL
J = The analyte was positively indentified, the quantitation limit is an estimation
Results in **bold** and enclosed in (parentheses) exceed RRS 1
Results in **bold** and enclosed in [brackets] exceed RRS 2

672 189

Table 4.2
Subsurface Soil Detections
SWMU 53
NAS Fort Worth

ANMCODE	PARNAME	RRS 1	RRS 2	BHGLSWMU5314 - 5'	BHGLSWMU5314 - 5' Duplicate	BHGLSWMU5314 - 10'
SW6010	ARSENIC	6 58	6 58	0 33 F	0 24 F	1 3 F
SW6010	BARIUM	128 1	200	82 9	88 9	95 2
SW6010	BERYLLIUM	1 13	1 13	--	--	0 78
SW6010	CADMIUM	0 59	0 59	0 12 F	0 09 F	0 09 F
SW6010	CHROMIUM, TOTAL	16 31	16 31	4 9 F	6 3 F	**[(20.4 J)]**
SW6010	COBALT	6 19	610	1 2 F	1 F	2 9 F
SW6010	COPPER	13 72	130	2 7 F	2 7 F	7 3 F
SW6010	NICKEL	19 76	200	3 3 F	3 3 F	7 8 F
SW6010	TIN	10	6132	--	0 94 F	--
SW6010	VANADIUM	37 4	72	8 7 F	10 F	28 6 F
SW6010	ZINC	31 3	3100	9 9 F	12 4 F	28 8 F
SW7421	LEAD	12 66	12 66	2 5 F	2 F	2 6 F
SW7841	THALLIUM	1 5	1 5	--	--	--
SW8260B	ACETONE	0 005	1000	--	**(0.062 J)**	--
SW8260B	BENZENE	0 002	0 5	--	**(0.015 J)**	--
SW8260B	CARBON DISULFIDE	0 005	1000	--	--	--
SW8260B	ETHYLBENZENE	0 003	70	--	0 002 F	--
SW8260B	M,P-XYLENE (SUM OF ISOMERS)	0 005	1000	--	0 004 F	--
SW8260B	METHYL ETHYL KETONE (2-BUTANONE)	0 005	6100	--	**(0.019 J)**	--
SW8260B	METHYL ISOBUTYL KETONE (4-METHYL-2-PENTANONE)	0 005	820	--	--	--
SW8260B	O-XYLENE (1,2-DIMETHYLBENZENE)	0 005	1000	--	0 002 F	--
SW8260B	TOLUENE	0 005	100	--	**(0.014 J)**	--
SW8270C	BENZO(A)ANTHRACENE	0 33	0 33	--	--	--
SW8270C	BENZO(A)PYRENE	0 33	0 33	--	--	--
SW8270C	BIS(2-ETHYLHEXYL) PHTHALATE	0 33	0 6	--	--	--
SW8270C	CHRYSENE	0 33	3 9	--	--	--
SW8270C	FLUORANTHENE	0 33	410	--	--	--

Notes
All concentrations reported in mg/kg
-- = Result not detected at or above MDL
F = The analyte was positively identified but the associated numerical value is below the MQL
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Results in **bold** and enclosed in (parentheses) exceed RRS 1
Results in **bold** and enclosed in [brackets] exceed RRS 2

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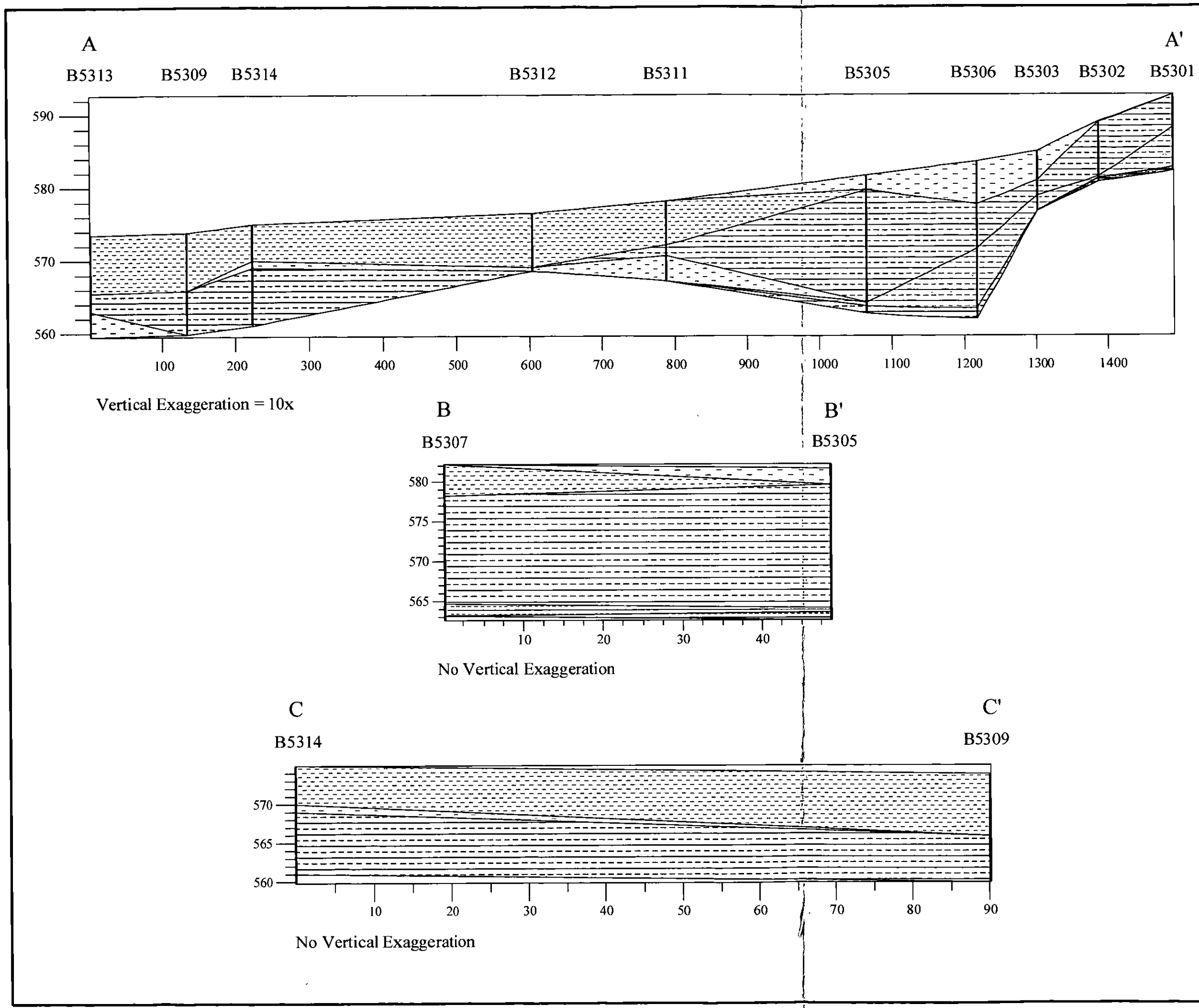
FIGURES



HydroGeoLogic, Inc -- RCRA Facility Investigation Report SWMU 53
NAS Fort Worth JRB, Texas

Figure 4.1

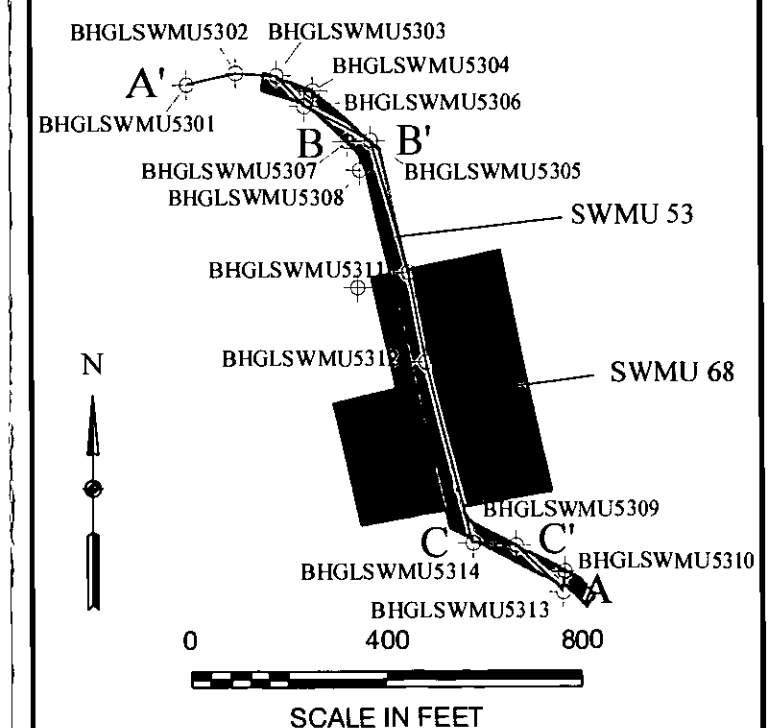
Cross Secti ns SWMU 53

Air Force Center For Environmental Excellence

Legend

- Silt with Sand
- Silt
- Silt and Clay
- Silty Sand
- Sandy Silty Clay
- Silt and Clay
- Clay
- Silty Sand

B5302 - BHGLSWMU5302



HYDRO GeoLogic INC

Project AFC001-29BDA
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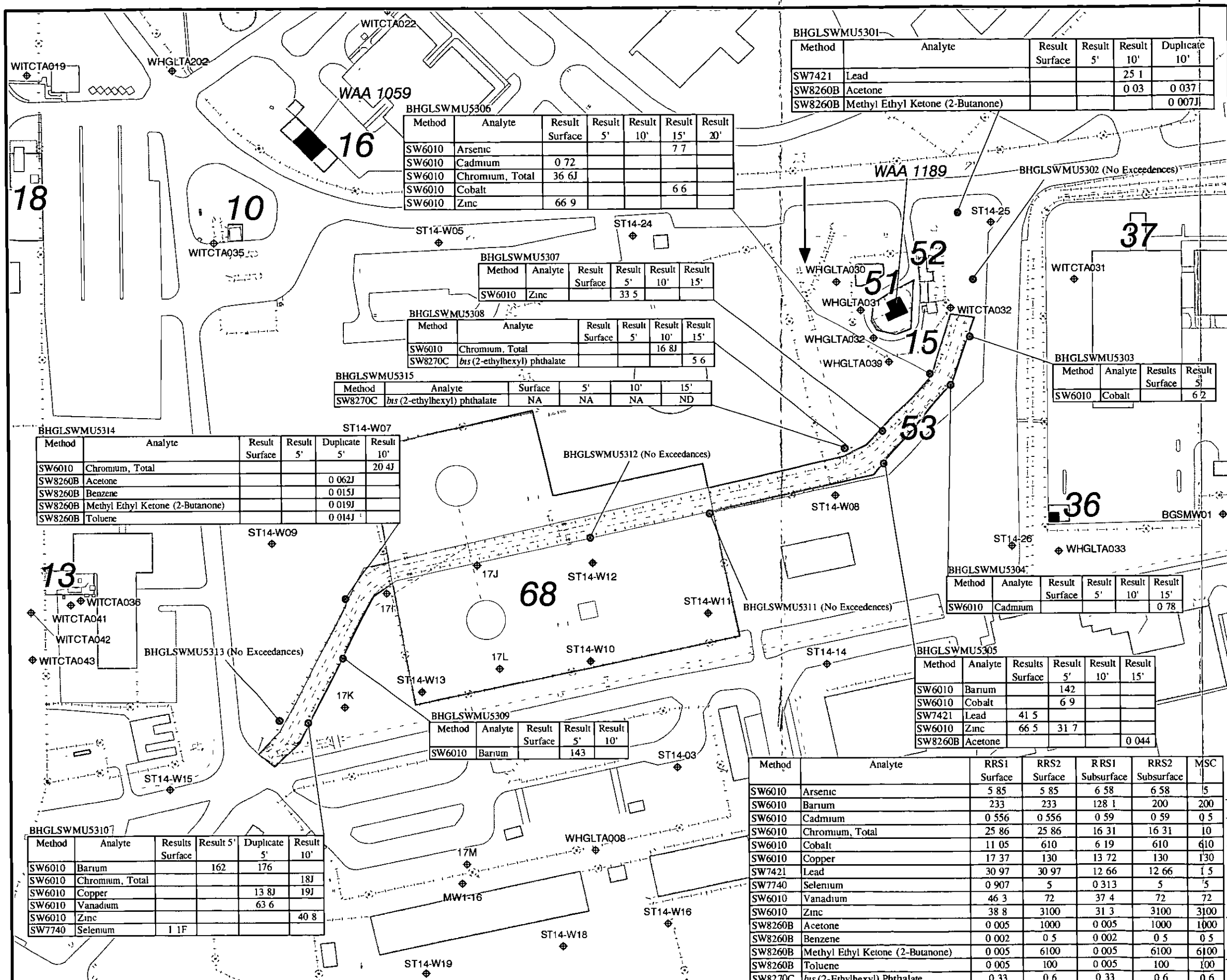

BHGLSWMU5301

Method	Analyte	Result Surface	Result 5'	Result 10'	Duplicate 10'
SW7421	Lead			25 1	
SW8260B	Acetone			0 03	0 037
SW8260B	Methyl Ethyl Ketone (2-Butanone)				0 007J

BHGLSWMU5306

Method	Analyte	Result Surface	Result 5'	Result 10'	Result 15'	Result 20'
SW6010	Arsenic				7 7	
SW6010	Cadmium	0 72				
SW6010	Chromium, Total	36 6J				
SW6010	Cobalt				6 6	
SW6010	Zinc	66 9				

BHGLSWMU5307

Method	Analyte	Result Surface	Result 5'	Result 10'	Result 15'
SW6010	Zinc		33 5		

BHGLSWMU5308

Method	Analyte	Result Surface	Result 5'	Result 10'	Result 15'
SW6010	Chromium, Total			16 8J	
SW8270C	*bis* (2-ethylhexyl) phthalate				5 6

BHGLSWMU5315

Method	Analyte	Surface	5'	10'	15'
SW8270C	*bis* (2-ethylhexyl) phthalate	NA	NA	NA	ND

BHGLSWMU5314

Method	Analyte	Result Surface	Result 5'	Duplicate 5'	Result 10'
SW6010	Chromium, Total				20 4J
SW8260B	Acetone			0 062J	
SW8260B	Benzene			0 015J	
SW8260B	Methyl Ethyl Ketone (2-Butanone)			0 019J	
SW8260B	Toluene			0 014J	

BHGLSWMU5303

Method	Analyte	Results Surface	Result 5'
SW6010	Cobalt		6 2

BHGLSWMU5304

Method	Analyte	Result Surface	Result 5'	Result 10'	Result 15'
SW6010	Cadmium				0 78

BHGLSWMU5305

Method	Analyte	Results Surface	Result 5'	Result 10'	Result 15'
SW6010	Barium		142		
SW6010	Cobalt		6 9		
SW7421	Lead	41 5			
SW6010	Zinc	66 5	31 7		
SW8260B	Acetone				0 044

BHGLSWMU5309

Method	Analyte	Result Surface	Result 5'	Result 10'
SW6010	Barium		143	

BHGLSWMU5310

Method	Analyte	Results Surface	Result 5'	Duplicate 5'	Result 10'
SW6010	Barium		162	176	
SW6010	Chromium, Total				18J
SW6010	Copper			13 8J	19J
SW6010	Vanadium			63 6	
SW6010	Zinc				40 8
SW7740	Selenium	1 1F			

Method	Analyte	RRS1 Surface	RRS2 Surface	RRS1 Subsurface	RRS2 Subsurface	MSC
SW6010	Arsenic	5 85	5 85	6 58	6 58	5
SW6010	Barium	233	233	128 1	200	200
SW6010	Cadmium	0 556	0 556	0 59	0 59	0 5
SW6010	Chromium, Total	25 86	25 86	16 31	16 31	10
SW6010	Cobalt	11 05	610	6 19	610	610
SW6010	Copper	17 37	130	13 72	130	130
SW7421	Lead	30 97	30 97	12 66	12 66	1 5
SW7740	Selenium	0 907	5	0 313	5	5
SW6010	Vanadium	46 3	72	37 4	72	72
SW6010	Zinc	38 8	3100	31 3	3100	3100
SW8260B	Acetone	0 005	1000	0 005	1000	1000
SW8260B	Benzene	0 002	0 5	0 002	0 5	0 5
SW8260B	Methyl Ethyl Ketone (2-Butanone)	0 005	6100	0 005	6100	6100
SW8260B	Toluene	0 005	100	0 005	100	100
SW8270C	*bis* (2-Ethylhexyl) Phthalate	0 33	0 6	0 33	0 6	0 6

HydroGeoLogic, Inc —RCRA Facility Investigation Report, SWMU 53
NAS Fort Worth JRB, Texas

Figure 4.2
Analytical Concentrations Above Background SWMU 53

U.S. Air Force Center For Environmental Excellence

Legend

- NAS Fort Worth JRB (Carswell Field)
- Former Carswell Air Force Base
- Solid Waste Management Unit
- Area of Concern
- Waste Accumulation Area
- Monitoring Well Location
- Soil Boring Location
- Generalized Groundwater Flow

Phase I Results
Phase II Results
Analyte detected above RRS2 SPLP not performed
Analyte not detected or detected below RRS2

All concentrations in mg/kg
NA - Not analyzed
ND - Non-detect

N

0 75 150 300
SCALE IN FEET

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Project AFC001-29BDC
Created 7/28/00 ap
Revised 03/22/01 asp
Map Source HydroGeoLogic, Inc— GIS Database 2000

HYDRO GeoLogic INC.

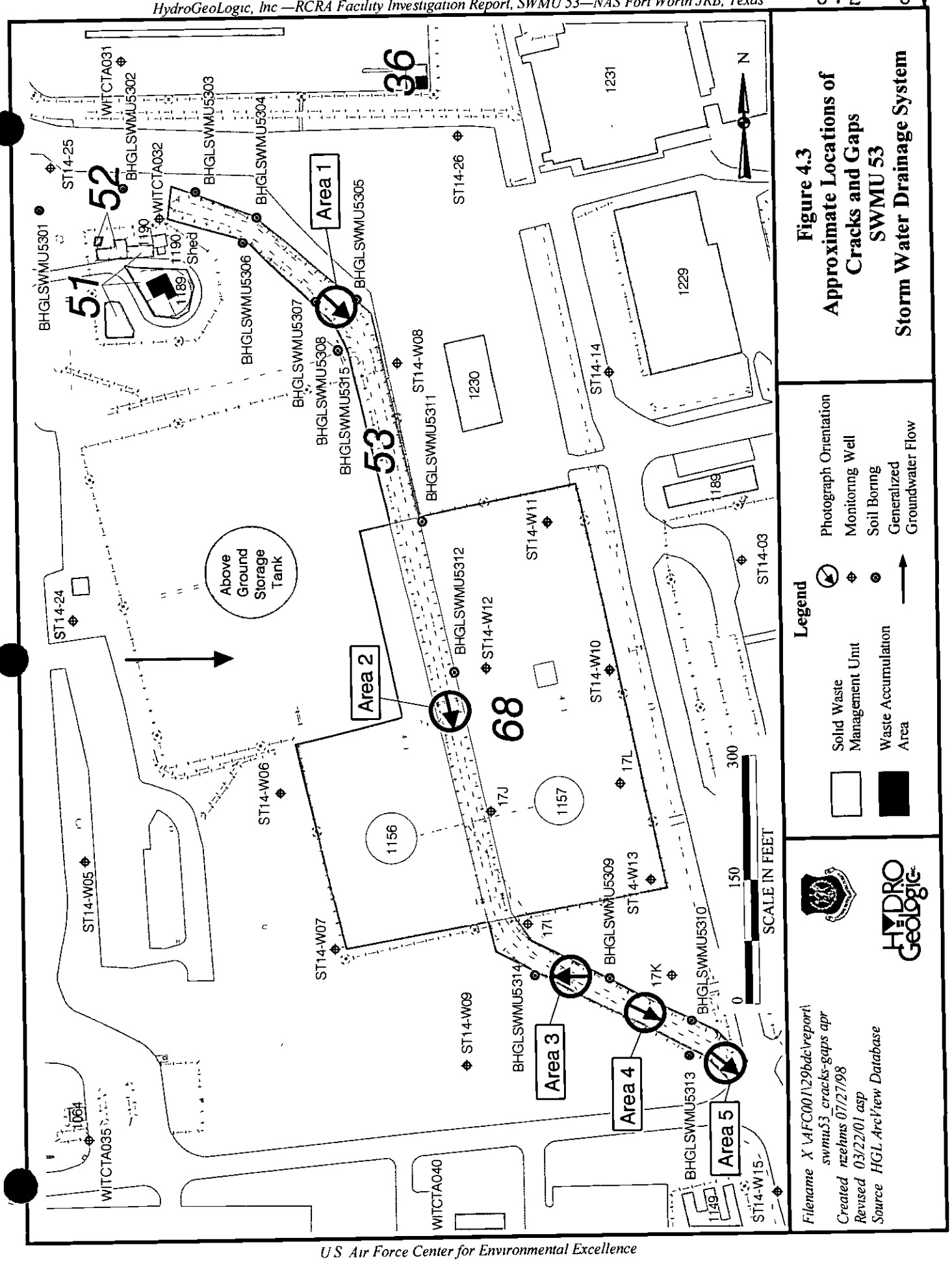
Figure 4.3
Approximate Locations of Cracks and Gaps
SWMU 53
Storm Water Drainage System
Legend
Solid Waste Management Unit
Waste Accumulation Area
Photograph Orientation
Monitoring Well
Soil Boring
Generalized Groundwater Flow
SCALE IN FEET
0
150
300
N
Area 1
Area 2
Area 3
Area 4
Area 5
51
52
53
68
36
Above Ground Storage Tank
1156
1157
1189
1190
1190 Shed
1230
1229
1231
1149
1064
ST14-24
ST14-25
ST14-26
ST14-14
ST14-03
ST14-W05
ST14-W06
ST14-W07
ST14-W08
ST14-W09
ST14-W10
ST14-W11
ST14-W12
ST14-W13
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17J
17K
17L
17I
WITCTA031
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BHGLSWMU5309
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BHGLSWMU5311
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HYDRO GeoLogic
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Revised 03/22/01 asp
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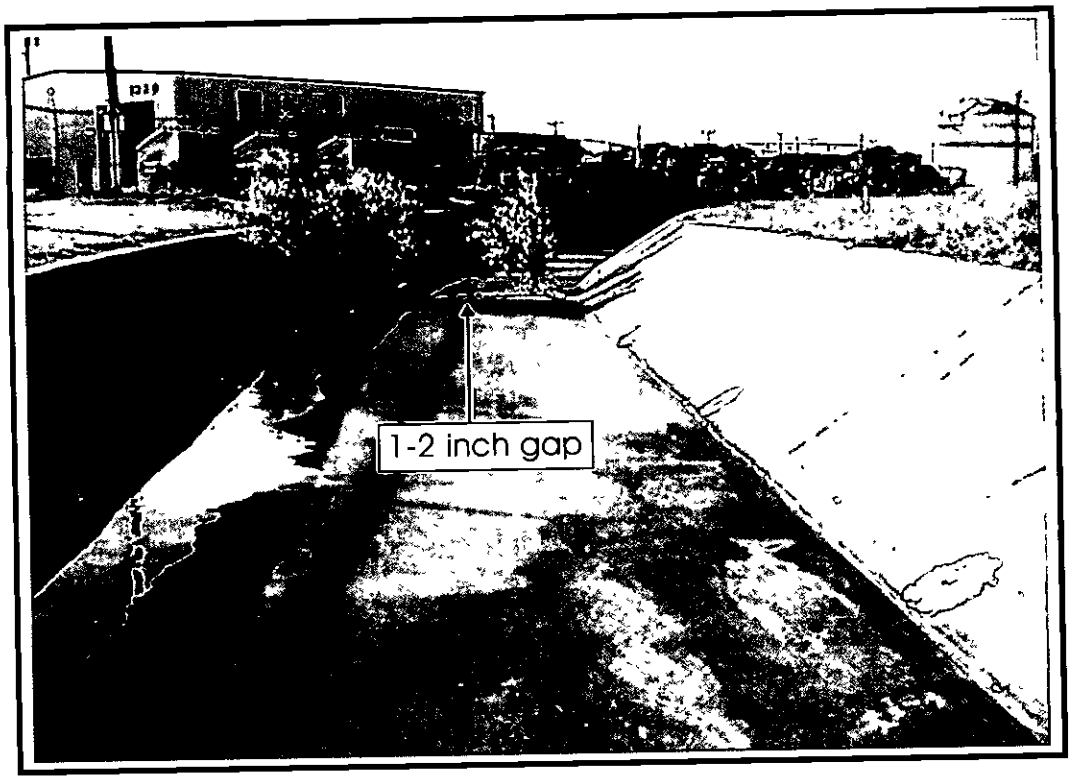

Figure 4.4 Photograph - Area 1 Inspection of Concrete Liner - SWMU 53

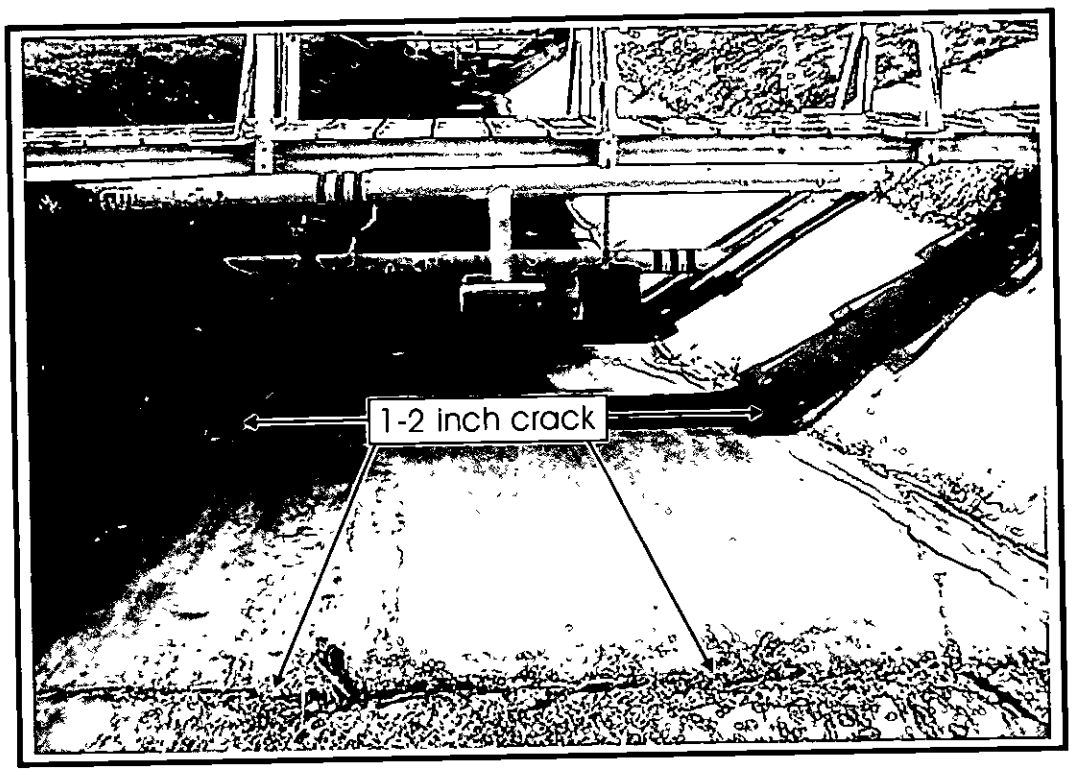

Figure 4.5 Photograph - Area 2 Inspection of Concrete Liner - SWMU 53

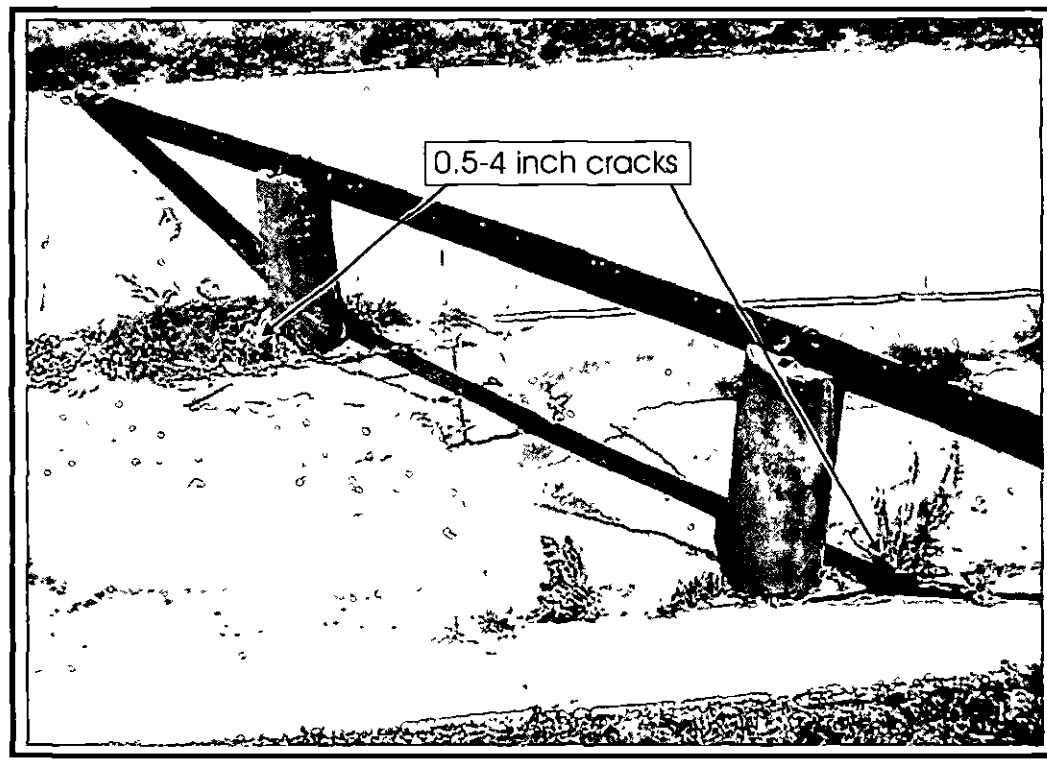

Figure 4.6 Photograph - Area 3 Inspection of Concrete Liner - SWMU 53

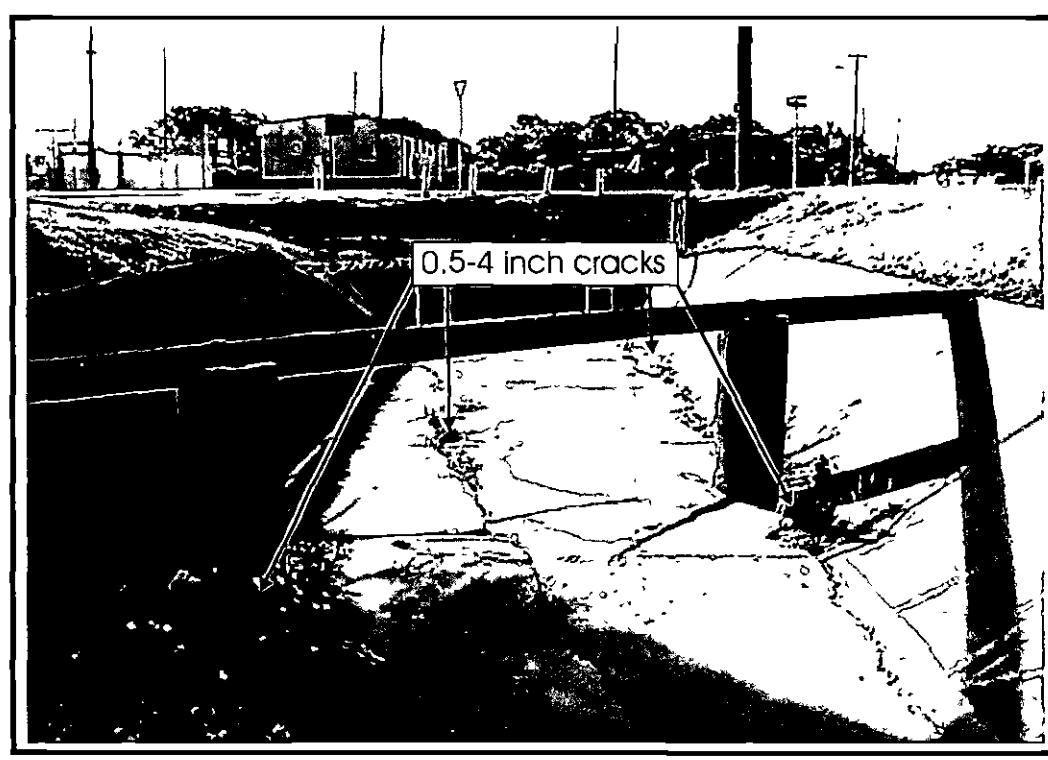

Figure 4.7 Photograph - Area 4 Inspection of Concrete Liner - SWMU 53

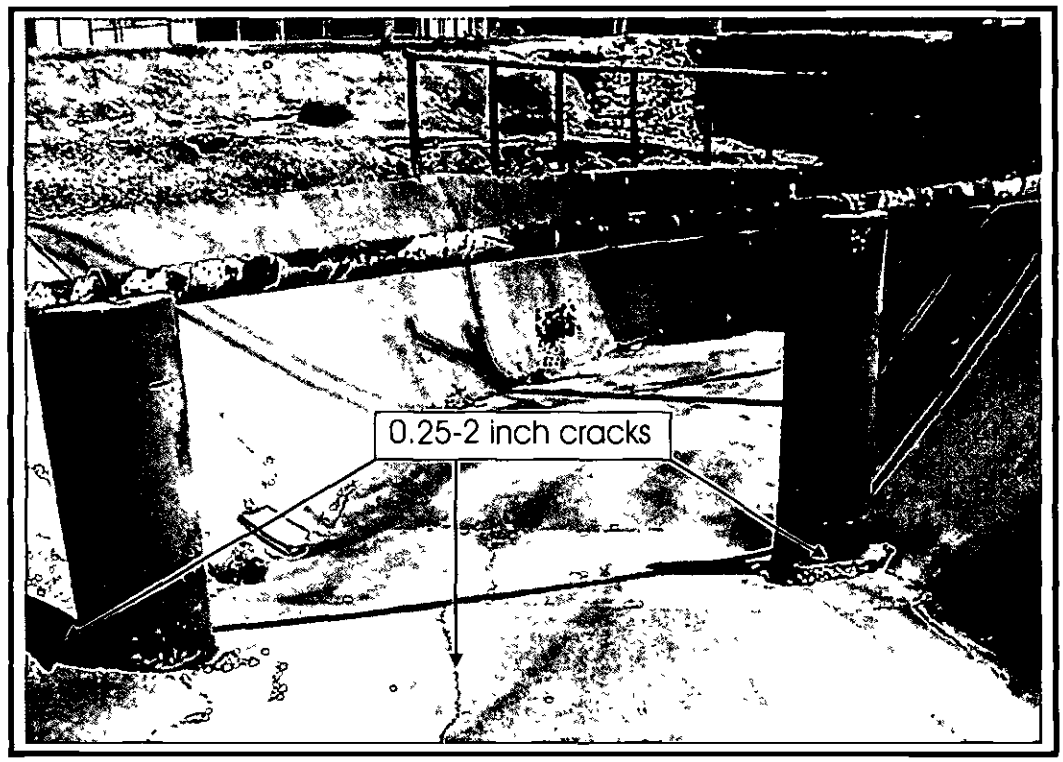

Figure 4.8 Photograph - Area 5 Inspection of Concrete Liner - SWMU 53

TAB

SECTION 5.0

5.0 DISCUSSION OF ANALYTICAL RESULTS

5.1 INORGANIC ANALYTICAL RESULTS

Only ten inorganic constituents were detected in soil samples collected at SWMU 53 that exceed background concentrations. These organic constituents include: arsenic, barium, cadmium, chromium, cobalt, copper, lead, selenium, vanadium, and zinc. Only four of these constituents were detected at concentrations that exceeded the RRS 2 value, arsenic, cadmium, chromium, and lead.

Arsenic was detected in only one soil sample at SWMU 53 above background concentrations. This sample was collected at the 15-foot interval of BHGLSWMU5306. Although this detection exceeds background and also the RRS 2 value, it is not significantly greater that the RRS 2 value. Because this was the only detection, no pattern of occurrence can be identified based on its location and/or sampling interval. Therefore, it is likely that this arsenic detection is indicative of an extreme but true background concentration. Based on this information, this constituent does not warrant additional consideration.

Barium was detected in three soil samples at SWMU 53 above background concentrations. All of three of these samples were collected in the subsurface at the 5-foot interval from borings BHGLSWMU5305, BHGLSWMU5309, and BHGLSWMU5310. Although these detections exceed the background concentration, they are not significantly greater than the background concentration. Two of the borings are located east and down gradient of the storm water drainage ditch on its southerly end, while the third boring is located east and down gradient of the storm water drainage ditch on its northerly end. None of the borings located between these two areas have barium detections above the background value. As a result, these barium detections appear to be isolated and no pattern of occurrence can be identified based on their locations and/or sampling intervals. Therefore it is likely that these barium detections are indicative of extreme but true background values. Based on this information, this constituent does not warrant additional consideration.

Cadmium was detected in only two soil samples at SWMU 53 above background concentrations. One of these samples was collected at the surface from boring BHGLSWMU5306 and the other was collected at the 15-foot interval from boring BHGLSWMU5304. Although these detections exceeded background concentrations and also the RRS 2 value, they are not significantly greater than the RRS 2 value. The absence of cadmium detections in the other intervals of the borings, and the fact that the borings are located on opposite sides of the storm water drainage ditch, one upgradient, and one down gradient of SWMU 53, suggests that there is no pattern of occurrence. Instead it is likely that these cadmium detections are indicative of extreme but true background values. Based on this information, this constituent does not warrant additional consideration.

Chromium was detected in only four soil samples at SWMU 53 above background concentrations. One of the soil samples was collected at the surface from boring

BHGLSWMU5306, and three of the soil samples were collected at the 10-foot interval from borings BHGLSWMU5308, BHGLSWMU5310, and BHGLSWMU5314. Although these chromium detections exceeded background concentrations and also the RRS 2 value, they are not significantly greater than the RRS 2 value. The borings are located at opposite ends of the storm water drainage ditch and the borings between them do not have chromium detections above background concentrations. The absence of chromium detections in the other intervals of these four borings and the their locations on opposite ends of the SWMU 53 suggest that there is no pattern of occurrence. Instead it is likely that these chromium detections are indicative of extreme but true background values. Based on this information, this constituent does not warrant additional consideration.

Cobalt was detected in only three samples at SWMU 53 above the background concentration. Two of the samples were collected at the 5-foot interval from borings BHGLSWMU5303 and BHGLSWMU5305, and one sample was collected at the 15-foot interval from boring BHGLSWMU5306. Although the three samples exceeded the background concentration, they were not significantly greater than the background concentration. Two of the borings are located downgradient of SWMU 53 and one is located upgradient. The borings located between these three did not have any samples with detections of cobalt above the background. Based on this information, the detections of cobalt appear to be isolated and are likely indicative of extreme but true background values. Based on this information, this constituent does not warrant additional consideration.

Copper was detected in only two samples at SWMU 53 above the background concentration. The two samples were collected from the same boring, BHGLSWMU5310, at the 5-foot interval and the 10-foot interval. Although the two samples exceeded the background concentration, they were not significantly greater than the background concentration. Copper was only detected in the duplicate sample at the 5-foot interval. Because there were no other borings with copper detections above background concentrations in SWMU 53, there is no pattern of occurrence and these isolated detections of copper are likely indicative of extreme but true background values. Based on this information, this constituent does not warrant additional consideration.

Lead was detected in only two samples at SWMU 53 above the background concentration. The two samples were collected at the surface from boring BHGLSWMU5305 and at the 10-foot interval from boring, BHGLSWMU5301. Although the two samples exceeded the background concentration and the RRS 2 value, they were not significantly greater than the RRS 2 value. One boring is located east and down gradient of the storm water drainage ditch and the other boring is located west and upgradient of the northern end of the site. None of the borings between these two have lead detections above the background concentration. As a result, these detections of lead appear to be isolated and no pattern of occurrence can be identified based on their location and/or sampling interval. The lead detections are likely indicative of extreme but true background values. Based on this information, this constituent does not warrant additional consideration

Selenium was detected in only one sample at SWMU 53 above the background concentration. The sample was collected at the surface from boring BHGLSWMU5310. Although this sample exceeded the background concentration, it was not significantly greater than the background concentration. Therefore, this detection of selenium appears to be isolated and no pattern of occurrence can be identified based on its location and/or sampling interval. This selenium detection is therefore likely indicative of an extreme but true background value. Based on this information, this constituent does not warrant additional consideration.

Vanadium was detected in only one sample above the background concentration at SWMU 53. The sample was collected at the 5-foot interval from boring BHGLSWMU5310. Although the sample was detected above the background concentration, it was not significantly greater than the background value. Since there is only one vanadium detection above the background concentration, vanadium is isolated, and no pattern of occurrence can be identified based on its location and/or sampling interval. The vanadium detection is likely to represent an extreme but true background value. Based on this information, this constituent does not warrant additional consideration.

Zinc was detected in only five samples above the background concentrations at SWMU 53. Two of the samples were collected at the surface from the borings, BHGLSWMU5305 and BHGLSWMU5306, two samples were collected at the 5-foot interval from the borings, BHGLSWMU5305 and BHGLSWMU5307, and one sample was collected at the 10-foot interval from boring, BHGLSWMU5310. Two of the samples were collected from the same boring, BHGLSWMU5305. Although five samples exceeded the background concentrations, none were significantly greater than the background concentration. Three of the borings are located on the northern end of SWMU 53, within approximately 150 feet of each other on both the upgradient and down gradient sides of the storm water drainage ditch. The fourth boring is located down gradient on the southern end of SWMU 53. Zinc was not detected above the background concentrations in any of the surrounding borings. While zinc was detected twice in the same boring in the surface and 5-foot interval, the zinc concentrations decrease with depth. As a result, these detections of zinc appear to be isolated and no pattern of occurrence can be identified based on their location and/or sampling interval. The zinc detections are likely indicative of extreme but true background values. Based on this information, this constituent does not warrant additional consideration.

5.2 ORGANIC ANALYTICAL RESULTS

Only five organic constituents were detected in soil samples collected at SWMU 53 that exceed the RRS 1 values. The organic constituents include: acetone, bis(2-ethylhexyl)phthalate, benzene, methyl ethyl ketone (2-butanone), and toluene. Only one of these constituents was detected at a concentration that exceeded the RRS 2 value, bis(2-ethylhexyl)phthalate.

Acetone was detected in only three samples above the RRS 1 value at SWMU 53. One of the samples was collected at the 5-foot interval from boring BHGLSWMU5314, one sample was collected at the 10-foot interval from boring BHGLSWMU5301, and one sample was collected at the 15-foot interval from boring, BHGLSWMU5305. Two of the borings are located at

opposite ends of the storm water drainage ditch and the third boring is located along the northeastern edge of the stormwater drainage ditch. None of the samples collected from borings located between these three have acetone detections above the RRS 1 value. Because acetone is a common laboratory contaminant, and it shows no pattern of occurrence at SWMU 53, acetone is therefore more likely attributed to laboratory contamination than to a release from the site. Based on this information this constituent does not warrant additional consideration.

Benzene was detected in only one soil sample above the RRS 1 value at SWMU 53. The one sample was collected at the 5-foot interval from the boring BHGLSWMU5314. Although the benzene detection exceeded the RRS 1 value, it was not significantly greater than the RRS 1 value. The close proximity of boring BHGLSWMU5314 to SWMU 68 (POL Tank Farm) may be responsible for the benzene detection. Benzene shows no pattern of occurrence and is most likely attributable to SWMU 68 (POL Tank Farm) because of its close proximity. Based on this information, this constituent does not warrant additional consideration.

Bis(2-ethylhexyl)phthalate was detected in only one sample above RRS 1 value at SWMU 53. The one sample was collected at the 15-foot interval from boring, BHGLSWMU5308. Bis(2-ethylhexyl)phthalate was detected above the RRS 1 value and the RRS 2 value, but the confirmation sample collected adjacent to boring BHGLSWMU5308, from boring BHGLSWMU5315 at the 15-foot interval was nondetect for bis(2-ethylhexyl)phthalate. Bis(2-ethylhexyl)phthalate is a common laboratory contaminant Bis(2-ethylhexyl)phthalate shows no pattern of occurrence and is therefore more likely attributed to laboratory contamination than to a release from the site. Based on this information this constituent does not warrant additional consideration.

Methyl ethyl ketone (2-butanone) was detected in only two soil samples above the RRS 1 value at SWMU 53. One sample was collected at the 5-foot interval from boring BHGLSWMU5314, and one sample was collected at the 10-foot interval from boring BHGLSWMU5301. Although two samples contained detections of methyl ethyl ketone that exceeded the RRS 1 value, they were not significantly greater than the RRS 1 value. The two borings with detections of methyl ethyl ketone are located at opposite ends of the storm water drainage ditch. None of the borings between these two borings have methyl ethyl ketone detections above the RRS 1 value. Because methyl ethyl ketone is a common laboratory contaminant and methyl ethyl ketone shows no pattern of occurrence, it is likely attributed to laboratory contamination than to a release from the site. Based on this information, this constituent does not warrant additional consideration.

Toluene was detected in only one sample above the RRS 1 value at SWMU 53. The one sample was collected at the 5-foot interval from the boring BHGLSWMU5314. Although one sample contained a detection of toluene that exceeded the RRS 1 value, it was not significantly greater than the RRS 1 value. The close proximity of boring BHGLSWMU5314 to SWMU 68 (POL Tank Farm) may be responsible for the toluene detection. Toluene shows no pattern of occurrence and is most likely attributable to SWMU 68 (POL Tank Farm) because of its close

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

5.3 CONCEPTUAL SITE MODEL

SWMU 53 is located on the eastern side of the NAS Fort Worth JRB. As previously described SWMU 53, the Storm Water Drainage System, begins east of Haile Drive on the north side of the Building 1190 OWS (SWMU 52), and continues to the southeast through the POL Tank Farm (SWMU 68), to where it eventually ends at the intersection of Hercules and Desert Storm Roads. SWMU 53 currently consists of a concrete lined channel. Formerly, the northern section of the Storm Water Drainage System consisted of an unlined ditch from its point of origin to the point where it intersected the POL Tank Farm, while the remainder of the SWMU 53 was concrete lined.

SWMU 53 currently receives waste water discharge from the Building 1190 OWS (SWMU 52). Discharge from SWMU 52 includes waste water from Hangar 1048, which houses the fuel systems shop. Discharges from the fuel systems shop consists of waste JP-4. SWMU 53 also receives storm water runoff from the flightline and hangar areas, and the POL tank farm. Storm water runoff from these areas may include traces of fuels, oils, pesticides, and solvents used on base (A.T. Kearney, 1989).

Lithologic findings from the 15 soil borings installed at SWMU 53 during this RFI are described in Section 4.1 and SWMU-specific geologic cross-sections are presented in Figure 4.1. The aerial distribution of geologic units at NAS Fort Worth JRB is depicted in Figure 2.2. A generalized cross-section key and cross-section are presented in Figures 2.3 and 2.4. This cross-section depicts the relationship between surface topography, geologic formations, and aquifers at NAS Fort Worth JRB.

Groundwater was reached at an average depth of 12 feet bgs, ranging between 6 feet bgs and 21 feet bgs in the soil borings advanced at SWMU 53. The groundwater level is higher toward the northwestern end of the site and is lower toward the southeastern end of the site. The general groundwater flow for SWMU 53 to the east (Figure 2.9).

During times of high flow it is possible that the banks of SWMU 53 could be receptors to overflow from the storm water drainage system, though the high volume of water would also greatly dilute any contamination contained within the stormwater. Numerous cracks in the concrete liner exist that could allow the soil beneath the concrete liner to serve as a receptor of the wastewater moving through SWMU 53. The stormwater/wastewater discharged into SWMU 53 is subsequently discharged into another stormwater drainage system, which routes the water to SWMU 55, an OWS. SWMU 55 is located east/northeast of SWMU 53 near the West Fork Trinity River. Historically the unlined portion of SWMU 53 north of the POL Tank Farm (SWMU 68) was a receptor to waste water discharged into SWMU 53. However, the surficial soils that existed in the unlined drainage ditch were excavated and removed by Dames & Moore in 1993. After these soils were removed a concrete liner was installed.

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SECTION 6.0

6.0 CONCLUSIONS AND RECOMENDATIONS

Field observations and analytical results indicate that a release of hazardous constituents has not occurred from SWMU 53. Although low concentrations of several analytes, primarily metals, were detected above the RRS 1 and RRS 2 values at the site, there were no patterns of occurrence of any detections based on location or sampling interval, that suggest a release has occurred at SWMU 53. The detections of metals are most likely due to extreme but true background concentrations. The low number of organic constituents detected are likely to be a result of laboratory contaminants or are related to SWMU 68. Based on this information, NFA is warranted and SWMU 53 is recommended for closure under RRS 1.

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SECTION 7.0

7.0 REFERENCES

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APPENDIX A

APPENDIX A

SURVEY DATA

HYDROGEOLOGIC, INC.
Prime Contract No. F41624-95-D-8005
HGL Project/Task No. AFC001-33CBB

SUBCONTRACTOR
Baird, Hampton & Brown, Inc.

SWMU 53

DESCRIPTION	NORTHING	EASTING	GROUND/PVC ELEVATION
BHGLSWMU5301	6964513 15	2299051.46	592 68
BHGLSWMU5302	6964536 92	2299152 45	588 95
BHGLSWMU5303	6964531 41	2299239 66	584 84
BHGLSWMU5304	6964500 59	2299313 25	583 21
BHGLSWMU5305	6964399 68	2299432 15	581 58
BHGLSWMU5306	6964469 27	2299295 98	583 43
BHGLSWMU5307	6964397.73	2299382 72	582 18
BHGLSWMU5308	6964339 74	2299408.65	578 04
BHGLSWMU5309	6963576 20	2299724 88	573 79
BHGLSWMU5310	6963523 37	2299822 73	573.35
BHGLSWMU5311	6964131 85	2299507 18	578 10
BHGLSWMU5312	6963949 80	2299543 21	576 46
BHGLSWMU5313	6963481.28	2299819 24	573 49
BHGLSWMU5314	6963580 66	2299634 65	574 98
BHGLSWMU5315	6964338 77	2299408 76	578 02

NOTE All coordinates values are NAD83 State Plane Coordinates, Texas North Central Zone, Feet

TAB

APPENDIX B

APPENDIX B

ANALYTICAL DATA SUMMARY TABLES

Table B.1
Analytical Data-Soil
SWMU 53
NAS Fort Worth, JRB, Texas

ANMCODE	PARNAME	BHGLSWMU5301 - 0'	BHGLSWMU5301 - 5'	BHGLSWMU5301 - 10' Duplicate	BHGLSWMU5301 - 10'	BHGLSWMU5302 - 0'
SW6010	ARSENIC	5 U	4 2 U	4 F	3.1 F	3 1 U
SW6010	BARIUM	223	39 5	69 1	77 9	26 7
SW6010	BERYLLIUM	0 61 J	0 81 J	0 42 J	0 22 F	0 69 J
SW6010	CADMIUM	0 04 F	0 1 F	0 55	0 37 F	0 09 F
SW6010	CHROMIUM, TOTAL	8 8 F	8 4 UJ	11 7 J	11 6 J	3 5 F
SW6010	COBALT	4 1 F	2 2 F	4 F	3 7 F	3 5 F
SW6010	COPPER	5 9 F	3 6 J	6 7 F	6 5 F	4 7 F
SW6010	NICKEL	5 3 F	3 F	8 4 J	7 6 F	4 5 F
SW6010	TIN	10 1 UJ	8 4 UJ	8 2 UJ	9 9 UJ	6 2 UJ
SW6010	VANADIUM	7 7 F	6 7 F	24 2 F	21 2 F	7 3 F
SW6010	ZINC	5 2 F	1 8 F	22 F	19 6 F	3 F
SW7041	ANTIMONY	0 51 U	0 5 U	0 47 UJ	0 48 UJ	0 52 UJ
SW7421	LEAD	9 2 F	5 7	7 F	25 1	5 4
SW7471	MERCURY	0 04 U	0 04 U	0 04 U	0 04 U	0 04 U
SW7740	SELENIUM	0 31 UJ	0 3 UJ	0 28 UJ	1 5 U	0 31 UJ
SW7761	SILVER	0 2 R	0 2 R	0 19 R	0 19 R	0 21 R
SW7841	THALLIUM	1 U	1 U	0 95 UJ	0 97 UJ	1 U
SW8260B	1,1,1,2-TETRACHLOROETHANE	0 003 U	0 003 U	0 003 U	0.003 U	0 003 U
SW8260B	1,1,1-TRICHLOROETHANE	0 004 U	0 004 U	0 004 U	0 004 U	0 004 U
SW8260B	1,1,2,2-TETRACHLOROETHANE	0 002 U	0 002 U	0 002 U	0 002 UJ	0 002 U
SW8260B	1,1,2-TRICHLOROETHANE	0 004 U	0 005 U	0 005 U	0 005 U	0 004 U
SW8260B	1,1-DICHLOROETHANE	0 002 U	0 002 U	0 002 U	0.002 U	0 002 U
SW8260B	1,1-DICHLOROETHENE	0 004 U	0 005 U	0 005 U	0 005 U	0 004 U
SW8260B	1,2,3-TRICHLOROPROPANE	0 004 U	0 005 U	0 005 U	0 005 UJ	0 004 U
SW8260B	1,2-DIBROMO-3-CHLOROPROPANE	0 004 U	0 005 U	0 005 U	0 005 UJ	0 004 U
SW8260B	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	0 003 U	0 003 U	0 003 U	0 003 U	0 003 U
SW8260B	1,2-DICHLOROETHANE	0 003 U	0 003 U	0 003 U	0 003 U	0 003 U
SW8260B	1,2-DICHLOROPROPANE	0 002 U	0 002 U	0 002 U	0.002 U	0 002 U
SW8260B	2-CHLORO-1,3-BUTADIENE	0 004 U	0 005 U	0 005 U	0 005 U	0 004 U
SW8260B	2-HEXANONE	0 004 U	0 005 U	0 005 U	0 005 U	0 004 U
SW8260B	ACETONE	0 004 U	0 005 U	0 037	0 03	0 004 U
SW8260B	ACETONITRILE	0 036 U	0 038 U	0 037 U	0 04 U	0 036 U
SW8260B	ACROLEIN	0 089 U	0 096 U	0 093 U	0 1 U	0 089 U
SW8260B	ACRYLONITRILE	0 036 U	0 038 U	0 037 U	0 04 U	0 036 U
SW8260B	ALLYL CHLORIDE (3-CHLOROPROPENE)	0 009 U	0 01 U	0.009 U	0 01 U	0 009 U
SW8260B	BENZENE	0 002 U	0 002 U	0 002 U	0.002 U	0 002 U
SW8260B	BROMODICHLOROMETHANE	0 004 U	0 004 U	0 004 U	0 004 U	0 004 U
SW8260B	BROMOFORM	0 004 U	0 005 U	0 005 U	0 005 U	0 004 U
SW8260B	BROMOMETHANE	0 004 U	0 005 U	0 005 U	0 005 U	0 004 U
SW8260B	CARBON DISULFIDE	0 004 U	0 005 U	0 005 U	0 001 F	0 004 U
SW8260B	CARBON TETRACHLORIDE	0 004 U	0 005 U	0 005 U	0 005 U	0 004 U

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Table B.1
Analytical Data-Soil
SWMU 53
NAS Fort Worth, JRB, Texas

ANMCODE	PARNAME	BHGLSWMU5301 - 0'	BHGLSWMU5301 - 5'	BHGLSWMU5301 - 10' Duplicate	BHGLSWMU5301 - 10'	BHGLSWMU5302 - 0'
SW8260B	CHLOROBENZENE	0 002 U	0 002 U	0 002 U	0 002 U	0 002 U
SW8260B	CHLOROETHANE	0 004 U	0 005 U	0 005 U	0 005 U	0 004 U
SW8260B	CHLOROFORM	0 002 U	0 002 U	0 002 U	0 002 U	0 002 U
SW8260B	CHLOROMETHANE	0 004 U	0 005 U	0 005 U	0 005 U	0 004 U
SW8260B	CIS-1,2-DICHLOROETHYLENE	0 004 U	0 005 U	0 005 U	0 005 U	0 004 U
SW8260B	CIS-1,3-DICHLOROPROPENE	0 004 U	0 005 U	0 005 U	0 005 U	0 004 U
SW8260B	DIBROMOCHLOROMETHANE	0 003 U	0 003 U	0 003 U	0 003 U	0 003 U
SW8260B	DIBROMOMETHANE	0 004 U	0 005 U	0 005 R	0 005 R	0 004 U
SW8260B	DICHLORODIFLUOROMETHANE	0 004 U	0 005 U	0 005 U	0 005 U	0 004 U
SW8260B	ETHYL METHACRYLATE	0 004 U	0 005 U	0 005 U	0 005 U	0 004 U
SW8260B	ETHYLBENZENE	0 003 U	0 003 U	0 003 U	0 003 U	0 003 U
SW8260B	IODOMETHANE (METHYL IODIDE)	0 004 U	0 005 U	0 005 U	0 005 U	0 004 U
SW8260B	ISOBUTANOL	0 18 U	0 19 U	0 19 U	0 2 U	0 18 U
SW8260B	M,P-XYLENE (SUM OF ISOMERS)	0 004 U	0 005 U	0 005 U	0 005 U	0 004 U
SW8260B	METHYL ETHYL KETONE (2-BUTANONE)	0 004 U	0 005 U	0 007 J	0 005 UJ	0 004 U
SW8260B	METHYL ISOBUTYL KETONE (4-METHYL-2-PENTANONE)	0 004 U	0 005 U	0 005 U	0 005 U	0 004 U
SW8260B	METHYL METHACRYLATE	0 004 U	0 005 U	0 005 U	0 005 U	0 004 U
SW8260B	METHYLACRYLONITRILE	0 004 U	0 005 U	0 005 U	0 005 U	0 004 U
SW8260B	METHYLENE CHLORIDE	0 002 U	0 002 U	0 002 U	0 002 U	0 002 U
SW8260B	O-XYLENE (1,2-DIMETHYLBENZENE)	0 004 U	0 005 U	0 005 U	0 005 U	0 004 U
SW8260B	PENTACHLOROETHANE	0 004 U	0 005 U	0 005 U	0 005 UJ	0 004 U
SW8260B	PROPANE NITRILE (PROPIONITRILE)	0 018 U	0 019 U	0 019 U	0 02 U	0 018 U
SW8260B	STYRENE	0 002 U	0 002 U	0 002 U	0 002 U	0 002 U
SW8260B	TETRACHLOROETHYLENE(PCE)	0 004 U	0 005 U	0 005 U	0 005 U	0 004 U
SW8260B	TOLUENE	0 004 U	0 005 U	0 005 U	0 005 U	0 004 U
SW8260B	TRANS-1,2-DICHLOROETHENE	0 003 U	0 003 U	0 003 U	0 003 U	0 003 U
SW8260B	TRANS-1,3-DICHLOROPROPENE	0 004 U	0 005 U	0 005 U	0 005 U	0 004 U
SW8260B	TRANS-1,4-DICHLORO-2-BUTENE	0 004 U	0 005 U	0 005 U	0 005 U	0 004 U
SW8260B	TRICHLOROETHYLENE (TCE)	0 004 U	0 005 U	0 005 U	0 005 U	0 004 U
SW8260B	TRICHLOROFLUOROMETHANE	0 004 U	0 004 U	0 004 U	0 004 U	0 004 U
SW8260B	VINYL ACETATE	0 004 U	0 005 U	0 005 U	0 005 U	0 004 U
SW8260B	VINYL CHLORIDE	0 004 U	0 005 U	0 005 U	0 005 U	0 004 U
SW8270C	1,2,4,5-TETRACHLOROBENZENE	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U
SW8270C	1,2,4-TRICHLOROBENZENE	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U
SW8270C	1,2-DICHLOROBENZENE	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U
SW8270C	1,3,5-TRINITROBENZENE	1 5 U	1 5 U	1 5 U	1 5 U	1 4 U
SW8270C	1,3-DICHLOROBENZENE	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U
SW8270C	1,3-DINITROBENZENE	0 74 U	0 76 U	0 74 U	0 73 U	0 7 U
SW8270C	1,4-DICHLOROBENZENE	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U
SW8270C	1,4-DIOXANE (P-DIOXANE)	1 5 U	1 5 U	1 5 U	1 5 U	1 4 U

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Table B.1
Analytical Data-Soil
SWMU 53
NAS Fort Worth, JRB, Texas

ANMCODE	PARNAME	BHGLSWMU5301 - 0'	BHGLSWMU5301 - 5'	BHGLSWMU5301 - 10' Duplicate	BHGLSWMU5301 - 10'	BHGLSWMU5302 - 0'
SW8270C	1,4-NAPHTHOQUINONE	1 9 U	1 9 U	1 8 U	1 8 U	1 8 U
SW8270C	1-NAPHTHYLAMINE	0 74 U	0 76 U	0 74 U	0 73 U	0 7 U
SW8270C	2,2'-OXYBIS(1-CHLORO)PROPANE	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U
SW8270C	2,3,4,6-TETRACHLOROPHENOL	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U
SW8270C	2,4,5-TRICHLOROPHENOL	1 9 U	1 9 U	1 8 U	1 8 U	1 8 U
SW8270C	2,4,6-TRICHLOROPHENOL	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U
SW8270C	2,4-DICHLOROPHENOL	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U
SW8270C	2,4-DIMETHYLPHENOL	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U
SW8270C	2,4-DINITROPHENOL	1 9 U	1 9 U	1 8 U	1 8 U	1 8 U
SW8270C	2,4-DINITROTOLUENE	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U
SW8270C	2,6-DICHLOROPHENOL	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U
SW8270C	2,6-DINITROTOLUENE	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U
SW8270C	2-ACETYLAMINOFLUORENE	0 74 U	0 76 U	0 74 U	0 73 U	0 7 U
SW8270C	2-AMINONAPHTHALENE (BETA NAPHTHYLAMINE)	0 74 U	0 76 U	0 74 U	0 73 U	0 7 U
SW8270C	2-CHLORONAPHTHALENE	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U
SW8270C	2-CHLOROPHENOL	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U
SW8270C	2-METHYLNAPHTHALENE	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U
SW8270C	2-METHYLPHENOL (O-CRESOL)	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U
SW8270C	2-NITROANILINE	1 9 U	1 9 U	1 8 U	1 8 U	1 8 U
SW8270C	2-NITROPHENOL	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U
SW8270C	2-PICOLINE (ALPHA-PICOLINE)	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U
SW8270C	3,3'-DICHLOROBENZIDINE	0 74 U	0 76 U	0 74 U	0 73 U	0 7 U
SW8270C	3,3'-DIMETHYLBENZIDINE	1 9 U	1 9 U	1 8 U	1 8 U	1 8 U
SW8270C	3-METHYLCHOLANTHRENE	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U
SW8270C	3-NITROANILINE	1 9 U	1 9 U	1 8 U	1 8 U	1 8 U
SW8270C	4,6-DINITRO-2-METHYLPHENOL	1 9 U	1 9 U	1 8 U	1 8 U	1 8 U
SW8270C	4-AMINOBIPHENYL (4-BIPHENYLAMINE)	0 74 U	0 76 U	0 74 U	0 73 U	0 7 U
SW8270C	4-BROMOPHENYL PHENYL ETHER	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U
SW8270C	4-CHLORO-3-METHYLPHENOL	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U
SW8270C	4-CHLOROANILINE	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U
SW8270C	4-CHLOROPHENYL PHENYL ETHER	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U
SW8270C	4-NITROANILINE	1 9 U	1 9 U	1 8 U	1 8 U	1 8 U
SW8270C	4-NITROPHENOL	1 9 U	1 9 U	1 8 U	1 8 U	1 8 U
SW8270C	4-NITROQUINOLINE-N-OXIDE	1 9 U	1 9 U	1 8 U	1 8 U	1 8 U
SW8270C	5-NITRO-O-TOLUIDINE	0 74 U	0 76 U	0 74 U	0 73 U	0 7 U
SW8270C	7,12-DIMETHYLBENZ(A)ANTHRACENE	0 74 U	0 76 U	0 74 U	0 73 U	0 7 U
SW8270C	ACENAPHTHENE	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U
SW8270C	ACENAPHTHYLENE	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U
SW8270C	ACETOPHENONE	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U
SW8270C	ALPHA, ALPHA DIMETHYLPHENETHYLAMINE	1 9 U	1 9 U	1 8 U	1 8 U	1 8 U
SW8270C	ANILINE (PHENYLAMINE, AMINOBENZENE)	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U

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Table B.1
Analytical Data-Soil
SWMU 53
NAS Fort Worth, JRB, Texas

ANMCODE	PARNAME	BHGLSWMU5301 - 0'	BHGLSWMU5301 - 5'	BHGLSWMU5301 - 10' Duplicate	BHGLSWMU5301 - 10'	BHGLSWMU5302 - 0'
SW8270C	ANTHRACENE	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U
SW8270C	ARAMITE (TOTAL)	0 74 U	0 76 U	0 74 U	0 73 U	0 7 U
SW8270C	BENZO(A)ANTHRACENE	0 37 U	0 38 U	0 37 U	0 069 F	0 35 U
SW8270C	BENZO(A)PYRENE	0 37 U	0 38 U	0 37 U	0 072 F	0 35 U
SW8270C	BENZO(B)FLUORANTHENE	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U
SW8270C	BENZO(G,H,I)PERYLENE	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U
SW8270C	BENZO(K)FLUORANTHENE	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U
SW8270C	BENZOIC ACID	1 9 U	1 9 U	1 8 U	1 8 U	1 8 U
SW8270C	BENZYL ALCOHOL	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U
SW8270C	BENZYL BUTYL PHTHALATE	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U
SW8270C	BIS(2-CHLOROETHOXY) METHANE	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U
SW8270C	BIS(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHER)	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U
SW8270C	BIS(2-ETHYLHEXYL) PHTHALATE	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U
SW8270C	CHLOROBENZILATE	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U
SW8270C	CHRYSENE	0 37 U	0 38 U	0 37 U	0 075 F	0 35 U
SW8270C	CRESOLS, M & P	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U
SW8270C	DIALLATE (TOTAL OF CIS AND TRANS ISOMERS)	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U
SW8270C	DIBENZ(A,H)ANTHRACENE	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U
SW8270C	DIBENZOFURAN	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U
SW8270C	DIETHYL PHTHALATE	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U
SW8270C	DIMETHYL PHTHALATE	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U
SW8270C	DI-N-BUTYL PHTHALATE	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U
SW8270C	DI-N-OCTYLPHTHALATE	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U
SW8270C	DINOSEB	0 74 U	0 76 U	0 74 U	0 73 U	0 7 U
SW8270C	DIPHENYLAMINE	0 37 U	0 38 U	0 37 U	0.37 U	0 35 U
SW8270C	ETHYL METHANESULFONATE	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U
SW8270C	FLUORANTHENE	0 37 U	0 38 U	0 37 U	0 14 F	0 35 U
SW8270C	FLUORENE	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U
SW8270C	HEXACHLOROBENZENE	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U
SW8270C	HEXACHLOROBUTADIENE	0 37 U	0 38 U	0 37 U	0.37 U	0 35 U
SW8270C	HEXACHLOROCYCLOPENTADIENE	0 37 U	0 38 U	0 37 U	0.37 U	0 35 U
SW8270C	HEXACHLOROETHANE	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U
SW8270C	HEXACHLOROPHENE	5 6 R	5 7 R	5 5 R	5 5 R	5 3 R
SW8270C	HEXACHLOROPROPENE	1 9 U	1 9 U	1 8 U	1 8 U	1 8 U
SW8270C	INDENO(1,2,3-C,D)PYRENE	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U
SW8270C	ISOPHORONE	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U
SW8270C	ISOSAFROLE	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U
SW8270C	METHAPYRILENE	1 9 U	1 9 U	1 8 U	1 8 U	1 8 U
SW8270C	METHYL METHANESULFONATE	0 74 U	0 76 U	0 74 U	0 73 U	0 7 U
SW8270C	NAPHTHALENE	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U

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Table B.1
Analytical Data-Soil
SWMU 53
NAS Fort Worth, JRB, Texas

ANMCODE	PARNAME	BHGLSWMU5301 - 0'	BHGLSWMU5301 - 5'	BHGLSWMU5301 - 10' Duplicate	BHGLSWMU5301 - 10'	BHGLSWMU5302 - 0'
SW8270C	NITROBENZENE	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U
SW8270C	NITROSOMETHYLETHYLAMINE	0 74 U	0 76 U	0 74 U	0 73 U	0 7 U
SW8270C	N-NITROSODIETHYLAMINE	0 74 U	0 76 U	0 74 U	0 73 U	0 7 U
SW8270C	N-NITROSODIMETHYLAMINE	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U
SW8270C	N-NITROSO-DI-N-BUTYLAMINE	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U
SW8270C	N-NITROSODI-N-PROPYLAMINE	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U
SW8270C	N-NITROSODIPHENYLAMINE	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U
SW8270C	N-NITROSOMORPHOLINE	0 74 U	0 76 U	0 74 U	0 73 U	0 7 U
SW8270C	N-NITROSOPIPERIDINE	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U
SW8270C	N-NITROSOPYRROLIDINE	1 9 U	1 9 U	1 8 U	1 8 U	1.8 U
SW8270C	O-TOLUIDINE	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U
SW8270C	P-DIMETHYLAMINOAZOBENZENE	0 74 U	0 76 U	0 74 U	0 73 U	0 7 U
SW8270C	PENTACHLOROBENZENE	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U
SW8270C	PENTACHLORONITROBENZENE	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U
SW8270C	PENTACHLOROPHENOL	1 9 U	1 9 U	1 8 U	1 8 U	1 8 U
SW8270C	PHENACETIN	0 74 U	0 76 U	0 74 U	0 73 U	0 7 U
SW8270C	PHENANTHRENE	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U
SW8270C	PHENOL	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U
SW8270C	P-PHENYLENEDIAMINE	1 5 U	1 5 U	1 5 U	1 5 U	1 4 U
SW8270C	PRONAMIDE	0 74 U	0 76 U	0 74 U	0 73 U	0 7 U
SW8270C	PYRENE	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U
SW8270C	PYRIDINE	0 74 U	0 76 U	0 74 U	0 73 U	0 7 U
SW8270C	SAFROLE	0 37 U	0 38 U	0 37 U	0 37 U	0 35 U

Data Qualifiers
MQL = Method Quantitation Limit
MDL = Method Detection Limit
PQL = Practical Quantitation Limit
J = This analyte was positively identified, but the quantitation is an estimation
U = The analyte was analyzed for, but not detected, the associated numerical value is at or below the MDL
F = This analyte was positively identified, but the associated numerical value is between the MDL and the PQL
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 numerical value is a MDL, estimated due to deficiences in the QC criteria
S = Screening Criteria

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Table B.1
Analytical Data-Soil
SWMU 53
NAS Fort Worth, JRB, Texas

ANMCODE	PARNAME	BHGLSWMU5302 - 5'	BHGLSWMU5303 - 0'	BHGLSWMU5303 - 5'	BHGLSWMU5304 - 0'	BHGLSWMU5304 - 5' Duplicate
SW6010	ARSENIC	2 2 F	3 9 F	4 J	4 2 F	3 8 U
SW6010	BARIUM	61 5	83 6	88 9	68 9	52 4
SW6010	BERYLLIUM	0 34 J	0 8 J	0 87 J	0 6 J	0 38 J
SW6010	CADMIUM	0 4 F	0 53	0 44	0 38 F	0 3 F
SW6010	CHROMIUM, TOTAL	10 4 J	17 2 J	15 6 J	13 4 J	8 5 J
SW6010	COBALT	2 3 F	3 9 F	6 2	4 7 F	1 9 F
SW6010	COPPER	4 8 F	7 8 F	8 5 J	6 4 F	5 1 F
SW6010	NICKEL	5 8 F	10 9 J	11 3 J	9 1 J	5 2 F
SW6010	TIN	8 6 UJ	7 9 UJ	7 5 UJ	8 6 UJ	7 7 UJ
SW6010	VANADIUM	24 5 F	32 6	33 1	29 6	12 6 F
SW6010	ZINC	16 9 F	27 3	25 4	20 6 F	18 3 F
SW7041	ANTIMONY	0 5 UJ	0 5 U	0 54 R	0 45 UJ	0 5 UJ
SW7421	LEAD	6 9 F	8 3 F	8 6 F	8 8 F	7 2 F
SW7471	MERCURY	0 04 U	0 04 U	0 04 U	0 04 U	0 04 U
SW7740	SELENIUM	1 5 U	0 3 UJ	1 6 U	0 27 UJ	1 5 U
SW7761	SILVER	0 2 R	0 2 R	0 22 R	0 18 R	0 2 R
SW7841	THALLIUM	1 UJ	1 UJ	1 1 U	0 9 UJ	1 UJ
SW8260B	1,1,1,2-TETRACHLOROETHANE	0 003 U	0 003 U	0 004 U	0 003 U	0 003 U
SW8260B	1,1,1-TRICHLOROETHANE	0 004 U	0 004 U	0 005 U	0 004 U	0 004 U
SW8260B	1,1,2,2-TETRACHLOROETHANE	0 002 U	0 002 U	0.002 U	0 002 U	0 002 U
SW8260B	1,1,2-TRICHLOROETHANE	0 005 U	0 006 U	0 006 U	0 006 U	0 005 U
SW8260B	1,1-DICHLOROETHANE	0 002 U	0 002 U	0 002 U	0 002 U	0 002 U
SW8260B	1,1-DICHLOROETHENE	0 005 U	0 006 U	0 006 U	0 006 U	0 005 U
SW8260B	1,2,3-TRICHLOROPROPANE	0 005 U	0 006 U	0 006 U	0 006 U	0 005 U
SW8260B	1,2-DIBROMO-3-CHLOROPROPANE	0 005 U	0 006 U	0 006 U	0 006 U	0 005 U
SW8260B	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	0 003 U	0 003 U	0 004 U	0 003 U	0 003 U
SW8260B	1,2-DICHLOROETHANE	0 003 U	0 003 U	0 004 U	0 003 U	0 003 U
SW8260B	1,2-DICHLOROPROPANE	0 002 U	0 002 U	0 002 U	0 002 U	0 002 U
SW8260B	2-CHLORO-1,3-BUTADIENE	0 005 U	0 006 U	0 006 U	0 006 U	0 005 U
SW8260B	2-HEXANONE	0 005 U	0 006 U	0 006 U	0 006 U	0 005 U
SW8260B	ACETONE	0 005 U	0 006 U	0 006 U	0 006 U	0 005 U
SW8260B	ACETONITRILE	0 038 U	0 046 U	0 047 U	0 045 U	0 041 U
SW8260B	ACROLEIN	0 096 U	0 11 U	0 12 U	0 11 U	0 1 U
SW8260B	ACRYLONITRILE	0 038 U	0 046 U	0 047 U	0 045 U	0 041 U
SW8260B	ALLYL CHLORIDE (3-CHLOROPROPENE)	0 01 U	0 011 U	0 012 U	0 011 U	0 01 U
SW8260B	BENZENE	0 002 U	0 002 U	0 002 U	0 002 U	0 002 U
SW8260B	BROMODICHLOROMETHANE	0 004 U	0 004 U	0 005 U	0 004 U	0 004 U
SW8260B	BROMOFORM	0 005 U	0 006 U	0 006 U	0 006 U	0 005 U
SW8260B	BROMOMETHANE	0 005 U	0 006 U	0 006 U	0 006 U	0 005 U
SW8260B	CARBON DISULFIDE	0 005 U	0 006 U	0 006 U	0 006 U	0 005 U
SW8260B	CARBON TETRACHLORIDE	0 005 U	0 006 U	0 006 U	0 006 U	0 005 U

Table B.1
Analytical Data-Soil
SWMU 53
NAS Fort Worth, JRB, Texas

ANMCODE	PARNAME	BHGLSWMU5302 - 5'	BHGLSWMU5303 - 0'	BHGLSWMU5303 - 5'	BHGLSWMU5304 - 0'	BHGLSWMU5304 - 5' Duplicate
SW8260B	CHLOROBENZENE	0 002 U	0 002 U	0 002 U	0 002 U	0 002 U
SW8260B	CHLOROETHANE	0 005 U	0 006 U	0 006 U	0 006 U	0 005 U
SW8260B	CHLOROFORM	0 002 U	0 002 U	0 002 U	0 002 U	0 002 U
SW8260B	CHLOROMETHANE	0 005 U	0 006 U	0 006 U	0 006 U	0 005 U
SW8260B	CIS-1,2-DICHLOROETHYLENE	0 005 U	0 006 U	0 006 U	0 006 U	0 005 U
SW8260B	CIS-1,3-DICHLOROPROPENE	0 005 U	0 006 U	0 006 U	0 006 U	0 005 U
SW8260B	DIBROMOCHLOROMETHANE	0 003 U	0 003 U	0 004 U	0 003 U	0 003 U
SW8260B	DIBROMOMETHANE	0 005 U	0 006 U	0 006 U	0 006 U	0 005 U
SW8260B	DICHLORODIFLUOROMETHANE	0 005 U	0 006 U	0 006 U	0 006 U	0 005 U
SW8260B	ETHYL METHACRYLATE	0 005 U	0 006 U	0 006 U	0 006 U	0 005 U
SW8260B	ETHYLBENZENE	0 003 U	0 003 U	0 004 U	0 003 U	0 003 U
SW8260B	IODOMETHANE (METHYL IODIDE)	0 005 U	0 006 U	0 006 U	0 006 U	0 005 U
SW8260B	ISOBUTANOL	0 19 U	0 23 U	0 24 U	0 22 U	0 2 U
SW8260B	M,P-XYLENE (SUM OF ISOMERS)	0 005 U	0 006 U	0 006 U	0 006 U	0 005 U
SW8260B	METHYL ETHYL KETONE (2-BUTANONE)	0 005 U	0 006 U	0 006 U	0 006 U	0 005 U
SW8260B	METHYL ISOBUTYL KETONE (4-METHYL-2-PENTANONE)	0 005 U	0 006 U	0 006 U	0 006 U	0 005 U
SW8260B	METHYL METHACRYLATE	0 005 U	0 006 U	0 006 U	0 006 U	0 005 U
SW8260B	METHYLACRYLONITRILE	0 005 U	0 006 U	0 006 U	0 006 U	0 005 U
SW8260B	METHYLENE CHLORIDE	0 002 U	0 002 U	0 002 U	0 002 U	0 002 U
SW8260B	O-XYLENE (1,2-DIMETHYLBENZENE)	0 005 U	0 006 U	0 006 U	0 006 U	0 005 U
SW8260B	PENTACHLOROETHANE	0 005 U	0 006 U	0 006 U	0 006 U	0 005 U
SW8260B	PROPANE NITRILE (PROPIONITRILE)	0 019 U	0 023 U	0 024 U	0 022 U	0 02 U
SW8260B	STYRENE	0 002 U	0 002 U	0 002 U	0 002 U	0 002 U
SW8260B	TETRACHLOROETHYLENE(PCE)	0 005 U	0 006 U	0 006 U	0 006 U	0 005 U
SW8260B	TOLUENE	0 005 U	0 006 U	0 006 U	0 006 U	0 005 U
SW8260B	TRANS-1,2-DICHLOROETHENE	0 003 U	0 003 U	0 004 U	0 003 U	0 003 U
SW8260B	TRANS-1,3-DICHLOROPROPENE	0 005 U	0 006 U	0 006 U	0 006 U	0 005 U
SW8260B	TRANS-1,4-DICHLORO-2-BUTENE	0 005 U	0 006 U	0 006 U	0 006 U	0 005 U
SW8260B	TRICHLOROETHYLENE (TCE)	0 005 U	0 006 U	0 006 U	0 006 U	0 005 U
SW8260B	TRICHLOROFLUOROMETHANE	0 004 U	0 004 U	0 005 U	0 004 U	0 004 U
SW8260B	VINYL ACETATE	0 005 U	0 006 U	0 006 U	0 006 U	0 005 U
SW8260B	VINYL CHLORIDE	0 005 U	0 006 U	0 006 U	0 006 U	0 005 U
SW8270C	1,2,4,5-TETRACHLOROBENZENE	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	1,2,4-TRICHLOROBENZENE	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	1,2-DICHLOROBENZENE	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	1,3,5-TRINITROBENZENE	1.5 U	1 5 U	1 6 U	1 4 U	1 5 U
SW8270C	1,3-DICHLOROBENZENE	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	1,3-DINITROBENZENE	0 76 U	0 74 U	0 81 U	0 72 U	0 74 U
SW8270C	1,4-DICHLOROBENZENE	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	1,4-DIOXANE (P-DIOXANE)	1 5 U	1 5 U	1 6 U	1 4 U	1 5 U

Table B.1
Analytical Data-Soil
SWMU 53
NAS Fort Worth, JRB, Texas

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ANMCODE	PARNAME	BHGLSWMU5302 - 5'	BHGLSWMU5303 - 0'	BHGLSWMU5303 - 5'	BHGLSWMU5304 - 0'	BHGLSWMU5304 - 5' Duplicate
SW8270C	1,4-NAPHTHOQUINONE	1 9 U	1 8 U	2 U	1 8 U	1 9 U
SW8270C	1-NAPHTHYLAMINE	0 76 U	0 74 U	0 81 U	0 72 U	0 74 U
SW8270C	2,2'-OXYBIS(1-CHLORO)PROPANE	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	2,3,4,6-TETRACHLOROPHENOL	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	2,4,5-TRICHLOROPHENOL	1 9 U	1 8 U	2 U	1 8 U	1 9 U
SW8270C	2,4,6-TRICHLOROPHENOL	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	2,4-DICHLOROPHENOL	0 38 U	0 37 U	0 4 U	0 36 U	0.37 U
SW8270C	2,4-DIMETHYLPHENOL	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	2,4-DINITROPHENOL	1 9 U	1 8 U	2 U	1 8 U	1.9 U
SW8270C	2,4-DINITROTOLUENE	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	2,6-DICHLOROPHENOL	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	2,6-DINITROTOLUENE	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	2-ACETYLAMINOFLUORENE	0 76 U	0 74 U	0 81 U	0 72 U	0 74 U
SW8270C	2-AMINONAPHTHALENE (BETA NAPHTHYLAMINE)	0 76 U	0 74 U	0 81 U	0 72 U	0 74 U
SW8270C	2-CHLORONAPHTHALENE	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	2-CHLOROPHENOL	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	2-METHYLNAPHTHALENE	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	2-METHYLPHENOL (O-CRESOL)	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	2-NITROANILINE	1 9 U	1 8 U	2 U	1 8 U	1 9 U
SW8270C	2-NITROPHENOL	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	2-PICOLINE (ALPHA-PICOLINE)	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	3,3'-DICHLOROBENZIDINE	0 76 U	0 74 U	0 81 U	0 72 U	0 74 U
SW8270C	3,3'-DIMETHYLBENZIDINE	1 9 U	1 8 U	2 U	1 8 U	1 9 U
SW8270C	3-METHYLCHOLANTHRENE	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	3-NITROANILINE	1 9 U	1 8 U	2 U	1 8 U	1 9 U
SW8270C	4,6-DINITRO-2-METHYLPHENOL	1 9 U	1 8 U	2 U	1 8 U	1 9 U
SW8270C	4-AMINOBIPHENYL (4-BIPHENYLAMINE)	0 76 U	0 74 U	0 81 U	0 72 U	0 74 U
SW8270C	4-BROMOPHENYL PHENYL ETHER	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	4-CHLORO-3-METHYLPHENOL	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	4-CHLOROANILINE	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	4-CHLOROPHENYL PHENYL ETHER	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	4-NITROANILINE	1 9 U	1 8 U	2 U	1 8 U	1 9 U
SW8270C	4-NITROPHENOL	1 9 U	1 8 U	2 U	1 8 U	1 9 U
SW8270C	4-NITROQUINOLINE-N-OXIDE	1 9 U	1 8 U	2 U	1 8 U	1 9 U
SW8270C	5-NITRO-O-TOLUIDINE	0 76 U	0 74 U	0 81 U	0 72 U	0 74 U
SW8270C	7,12-DIMETHYLBENZ(A)ANTHRACENE	0 76 U	0 74 U	0 81 U	0 72 U	0 74 U
SW8270C	ACENAPHTHENE	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	ACENAPHTHYLENE	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	ACETOPHENONE	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	ALPHA, ALPHA DIMETHYLPHENETHYLAMINE	1 9 U	1 8 U	2 U	1 8 U	1 9 U
SW8270C	ANILINE (PHENYLAMINE, AMINOBENZENE)	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U

Table B.1
Analytical Data-Soil
SWMU 53
NAS Fort Worth, JRB, Texas

ANMCODE	PARNAME	BHGLSWMU5302 - 5'	BHGLSWMU5303 - 0'	BHGLSWMU5303 - 5'	BHGLSWMU5304 - 0'	BHGLSWMU5304 - 5' Duplicate
SW8270C	ANTHRACENE	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	ARAMITE (TOTAL)	0 76 U	0 74 U	0 81 U	0 72 U	0 74 U
SW8270C	BENZO(A)ANTHRACENE	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	BENZO(A)PYRENE	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	BENZO(B)FLUORANTHENE	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	BENZO(G,H,I)PERYLENE	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	BENZO(K)FLUORANTHENE	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	BENZOIC ACID	1 9 U	1 8 U	2 U	1 8 U	1 9 U
SW8270C	BENZYL ALCOHOL	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	BENZYL BUTYL PHTHALATE	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	BIS(2-CHLOROETHOXY) METHANE	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	BIS(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHER)	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	BIS(2-ETHYLHEXYL) PHTHALATE	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	CHLOROBENZILATE	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	CHRYSENE	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	CRESOLS, M & P	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	DIALLATE (TOTAL OF CIS AND TRANS ISOMERS)	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	DIBENZ(A,H)ANTHRACENE	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	DIBENZOFURAN	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	DIETHYL PHTHALATE	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	DIMETHYL PHTHALATE	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	DI-N-BUTYL PHTHALATE	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	DI-N-OCTYLPHTHALATE	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	DINOSEB	0 76 U	0 74 U	0 81 U	0 72 U	0 74 U
SW8270C	DIPHENYLAMINE	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	ETHYL METHANESULFONATE	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	FLUORANTHENE	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	FLUORENE	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	HEXACHLOROBENZENE	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	HEXACHLOROBUTADIENE	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	HEXACHLOROCYCLOPENTADIENE	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	HEXACHLOROETHANE	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	HEXACHLOROPHENE	5 7 R	5 5 R	6 R	5 4 R	5 6 R
SW8270C	HEXACHLOROPROPENE	1 9 U	1 8 U	2 U	1 8 U	1 9 U
SW8270C	INDENO(1,2,3-C,D)PYRENE	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	ISOPHORONE	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	ISOSAFROLE	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	METHAPYRILENE	1 9 U	1 8 U	2 U	1 8 U	1 9 U
SW8270C	METHYL METHANESULFONATE	0 76 U	0 74 U	0 81 U	0 72 U	0 74 U
SW8270C	NAPHTHALENE	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U

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Table B.1
Analytical Data-Soil
SWMU 53
NAS Fort Worth, JRB, Texas

ANMCODE	PARNAME	BHGLSWMU5302 - 5'	BHGLSWMU5303 - 0'	BHGLSWMU5303 - 5'	BHGLSWMU5304 - 0'	BHGLSWMU5304 - 5' Duplicate
SW8270C	NITROBENZENE	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	NITROSOMETHYLETHYLAMINE	0 76 U	0 74 U	0 81 U	0 72 U	0 74 U
SW8270C	N-NITROSODIETHYLAMINE	0 76 U	0 74 U	0 81 U	0 72 U	0 74 U
SW8270C	N-NITROSODIMETHYLAMINE	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	N-NITROSO-DI-N-BUTYLAMINE	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	N-NITROSODI-N-PROPYLAMINE	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	N-NITROSODIPHENYLAMINE	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	N-NITROSOMORPHOLINE	0 76 U	0 74 U	0 81 U	0 72 U	0 74 U
SW8270C	N-NITROSOPIPERIDINE	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	N-NITROSOPYRROLIDINE	1 9 U	1 8 U	2 U	1 8 U	1 9 U
SW8270C	O-TOLUIDINE	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	P-DIMETHYLAMINOAZOBENZENE	0 76 U	0 74 U	0 81 U	0 72 U	0.74 U
SW8270C	PENTACHLOROBENZENE	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	PENTACHLORONITROBENZENE	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	PENTACHLOROPHENOL	1 9 U	1 8 U	2 U	1 8 U	1 9 U
SW8270C	PHENACETIN	0 76 U	0 74 U	0 81 U	0 72 U	0 74 U
SW8270C	PHENANTHRENE	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	PHENOL	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	P-PHENYLENEDIAMINE	1 5 U	1 5 U	1 6 U	1 4 U	1 5 U
SW8270C	PRONAMIDE	0.76 U	0 74 U	0 81 U	0.72 U	0 74 U
SW8270C	PYRENE	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U
SW8270C	PYRIDINE	0 76 U	0 74 U	0 81 U	0 72 U	0 74 U
SW8270C	SAFROLE	0 38 U	0 37 U	0 4 U	0 36 U	0 37 U

Data Qualifiers:
MQL = Method Quantitation Limit
MDL = Method Detection Limit
PQL = Practical Quantitation Limit
J = This analyte was positively identified, but the quantitation is an estimation
U = The analyte was analyzed for, but not detected, the associated numerical value is at or below the MDL.
F = This analyte was positively identified, but the associated numerical value is between the MDL and the PQL
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 numerical value is a MDL, estimated due to deficiences in the QC criteria
S = Screening Criteria

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Table B.1
Analytical Data-Soil
SWMU 53
NAS Fort Worth, JRB, Texas

ANMCODE	PARNAME	BHGLSWMU5304 - 5'	BHGLSWMU5304 - 10'	BHGLSWMU5304 - 15'	BHGLSWMU5305 - 0'	BHGLSWMU5305 - 5'
SW6010	ARSENIC	2 F	4 7 U	2 2 F	4 4	3 2 F
SW6010	BARIUM	58 8	35 8 F	21 5 F	63 6	142
SW6010	BERYLLIUM	0 62 J	0 51 J	0 18 F	0 5	0 9
SW6010	CADMIUM	0 48	0 34 F	0 78	0 26 F	0 05 F
SW6010	CHROMIUM, TOTAL	14 J	14 7 J	8 J	11 5 J	15 7 J
SW6010	COBALT	2 7 F	2 6 F	2 3 F	4	6 9
SW6010	COPPER	7 5 F	4 9 F	5 F	8 9	11 6
SW6010	NICKEL	7 7 J	7 1 F	7 2 F	8 4	13 3
SW6010	TIN	7 6 UJ	9 4 UJ	7 7 UJ	6 4 UJ	10 5 UJ
SW6010	VANADIUM	24 3	9 4 F	25 3	20 8	31 F
SW6010	ZINC	26 8	22 2 F	13 7 F	66 5	31 7
SW7041	ANTIMONY	0 53 UJ	0 48 UJ	0 51 UJ	0 49 UJ	0 5 UJ
SW7421	LEAD	6 2 F	7 F	4 7 F	41 5	8 1 F
SW7471	MERCURY	0 04 U	0 04 U	0 04 U	0 04 U	0 04 U
SW7740	SELENIUM	1 6 UJ	1 5 U	1 5 U	0 29 UJ	0 3 UJ
SW7761	SILVER	0 21 R	0 19 R	0 2 R	0 2 R	0 2 R
SW7841	THALLIUM	1 1 UJ	0 97 UJ	5 1 U	0 98 UJ	1 UJ
SW8260B	1,1,1,2-TETRACHLOROETHANE	0 003 U	0 003 U	0 003 U	0 002 U	0 003 U
SW8260B	1,1,1-TRICHLOROETHANE	0 004 U	0 004 U	0 004 U	0 003 U	0 004 U
SW8260B	1,1,2,2-TETRACHLOROETHANE	0 002 U	0 002 U	0 002 U	0 002 U	0 002 U
SW8260B	1,1,2-TRICHLOROETHANE	0 005 U	0 005 U	0 004 U	0 004 U	0 005 U
SW8260B	1,1-DICHLOROETHANE	0 002 U	0 002 U	0 002 U	0 004 U	0 005 U
SW8260B	1,1-DICHLOROETHENE	0 005 U	0 005 U	0 004 U	0 002 U	0 002 U
SW8260B	1,2,3-TRICHLOROPROPANE	0 005 U	0 005 U	0 004 U	0 004 U	0 005 U
SW8260B	1,2-DIBROMO-3-CHLOROPROPANE	0 005 U	0 005 U	0 004 U	0 004 U	0 005 U
SW8260B	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	0 003 U	0 003 U	0 003 U	0 002 U	0 003 U
SW8260B	1,2-DICHLOROETHANE	0 003 U	0 003 U	0 003 U	0 002 U	0 003 U
SW8260B	1,2-DICHLOROPROPANE	0 002 U	0 002 U	0 002 U	0 002 U	0 002 U
SW8260B	2-CHLORO-1,3-BUTADIENE	0 005 U	0 005 U	0 004 U	0 004 U	0 005 U
SW8260B	2-HEXANONE	0 005 U	0 005 U	0 004 U	0 004 U	0 005 U
SW8260B	ACETONE	0 005 U	0 005 U	0 004 U	0 004 U	0 005 U
SW8260B	ACETONITRILE	0 037 U	0 038 U	0 036 U	0 032 U	0 041 U
SW8260B	ACROLEIN	0 093 U	0 094 U	0 09 U	0 079 U	0 1 U
SW8260B	ACRYLONITRILE	0 037 U	0 038 U	0 036 U	0 032 U	0 041 U
SW8260B	ALLYL CHLORIDE (3-CHLOROPROPENE)	0 009 U	0 009 U	0 009 U	0 008 U	0 01 U
SW8260B	BENZENE	0 002 U	0 002 U	0 002 U	0 002 U	0 002 U
SW8260B	BROMODICHLOROMETHANE	0 004 U	0 004 U	0 004 U	0 003 U	0 004 U
SW8260B	BROMOFORM	0 005 U	0 005 U	0 004 U	0 004 U	0 005 U
SW8260B	BROMOMETHANE	0 005 U	0 005 U	0 004 U	0 004 U	0 005 U
SW8260B	CARBON DISULFIDE	0 005 U	0 005 U	0 004 U	0 004 U	0 005 U
SW8260B	CARBON TETRACHLORIDE	0 005 U	0 005 U	0 004 U	0 004 U	0 005 U

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Table B.1
Analytical Data-Soil
SWMU 53
NAS Fort Worth, JRB, Texas

ANMCODE	PARNAME	BHGLSWMU5304 - 5'	BHGLSWMU5304 - 10'	BHGLSWMU5304 - 15'	BHGLSWMU5305 - 0'	BHGLSWMU5305 - 5'
SW8260B	CHLOROBENZENE	0 002 U	0 002 U	0 002 U	0 002 U	0 002 U
SW8260B	CHLOROETHANE	0 005 U	0 005 U	0 004 U	0 004 U	0 005 U
SW8260B	CHLOROFORM	0 002 U	0 002 U	0 002 U	0 002 U	0 002 U
SW8260B	CHLOROMETHANE	0 005 U	0 005 U	0 004 U	0 004 U	0 005 U
SW8260B	CIS-1,2-DICHLOROETHYLENE	0 005 U	0 005 U	0 004 U	0 004 U	0 005 U
SW8260B	CIS-1,3-DICHLOROPROPENE	0 005 U	0 005 U	0 004 U	0 004 U	0 005 U
SW8260B	DIBROMOCHLOROMETHANE	0 003 U	0 003 U	0 003 U	0 002 U	0 003 U
SW8260B	DIBROMOMETHANE	0 005 U	0 005 U	0 004 U	0 004 U	0 005 U
SW8260B	DICHLORODIFLUOROMETHANE	0 005 U	0 005 U	0 004 U	0 004 U	0 005 U
SW8260B	ETHYL METHACRYLATE	0 005 U	0 005 U	0 004 U	0 008 U	0 01 U
SW8260B	ETHYLBENZENE	0 003 U	0 003 U	0 003 U	0 002 U	0 003 U
SW8260B	IODOMETHANE (METHYL IODIDE)	0 005 U	0 005 U	0 004 U	0 004 U	0 005 U
SW8260B	ISOBUTANOL	0 19 U	0 19 U	0 18 U	0 16 U	0 2 U
SW8260B	M,P-XYLENE (SUM OF ISOMERS)	0 005 U	0 005 U	0 004 U	0 004 U	0 005 U
SW8260B	METHYL ETHYL KETONE (2-BUTANONE)	0 005 U	0 005 U	0 004 U	0 004 U	0 005 U
SW8260B	METHYL ISOBUTYL KETONE (4-METHYL-2-PENTANONE)	0 005 U	0 005 U	0 004 U	0 004 U	0 005 U
SW8260B	METHYL METHACRYLATE	0 005 U	0 005 U	0 004 U	0 008 U	0 01 U
SW8260B	METHYLACRYLONITRILE	0 005 U	0 005 U	0 004 U	0 008 U	0 01 U
SW8260B	METHYLENE CHLORIDE	0 002 U	0 002 U	0 002 U	0 002 U	0 002 U
SW8260B	O-XYLENE (1,2-DIMETHYLBENZENE)	0 005 U	0 005 U	0 004 U	0 004 U	0 005 U
SW8260B	PENTACHLOROETHANE	0 005 U	0 005 U	0 004 U	0 008 U	0 01 U
SW8260B	PROPANE NITRILE (PROPIONITRILE)	0 019 U	0 019 U	0 018 U	0 032 U	0 041 U
SW8260B	STYRENE	0 002 U	0 002 U	0 002 U	0 002 U	0 002 U
SW8260B	TETRACHLOROETHYLENE(PCE)	0 005 U	0 005 U	0 004 U	0 004 U	0 005 U
SW8260B	TOLUENE	0 005 U	0 005 U	0 004 U	0 004 U	0 005 U
SW8260B	TRANS-1,2-DICHLOROETHENE	0 003 U	0 003 U	0 003 U	0 002 U	0 003 U
SW8260B	TRANS-1,3-DICHLOROPROPENE	0 005 U	0 005 U	0 004 U	0 004 U	0 005 U
SW8260B	TRANS-1,4-DICHLORO-2-BUTENE	0 005 U	0 005 U	0 004 U	0 008 U	0 01 U
SW8260B	TRICHLOROETHYLENE (TCE)	0 005 U	0 005 U	0 004 U	0 004 U	0 005 U
SW8260B	TRICHLOROFLUOROMETHANE	0 004 U	0 004 U	0 004 U	0 003 U	0 004 U
SW8260B	VINYL ACETATE	0 005 U	0 005 U	0 004 U	0 004 U	0 005 U
SW8260B	VINYL CHLORIDE	0 005 U	0 005 U	0 004 U	0 004 U	0 005 U
SW8270C	1,2,4,5-TETRACHLOROBENZENE	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	1,2,4-TRICHLOROBENZENE	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	1,2-DICHLOROBENZENE	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	1,3,5-TRINITROBENZENE	1 5 U	1 5 U	1 6 U	1 4 U	1 5 U
SW8270C	1,3-DICHLOROBENZENE	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	1,3-DINITROBENZENE	0 74 U	0 77 U	0 78 U	0 72 U	0 75 U
SW8270C	1,4-DICHLOROBENZENE	0 37 U	0 38 U	0 39 U	0 36 U	0.38 U
SW8270C	1,4-DIOXANE (P-DIOXANE)	1 5 U	1 5 U	1 6 U	1 4 U	1 5 U

Table B.1
Analytical Data-Soil
SWMU 53
NAS Fort Worth, JRB, Texas

ANMCODE	PARNAME	BHGLSWMU5304 - 5'	BHGLSWMU5304 - 10'	BHGLSWMU5304 - 15'	BHGLSWMU5305 - 0'	BHGLSWMU5305 - 5'
SW8270C	1,4-NAPHTHOQUINONE	1 9 U	1 9 U	2 U	1 8 U	1 9 U
SW8270C	1-NAPHTHYLAMINE	0 74 U	0 77 U	0 78 U	0 72 U	0 75 U
SW8270C	2,2'-OXYBIS(1-CHLORO)PROPANE	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	2,3,4,6-TETRACHLOROPHENOL	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	2,4,5-TRICHLOROPHENOL	1 9 U	1 9 U	2 U	1 8 U	1 9 U
SW8270C	2,4,6-TRICHLOROPHENOL	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	2,4-DICHLOROPHENOL	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	2,4-DIMETHYLPHENOL	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	2,4-DINITROPHENOL	1 9 U	1 9 U	2 U	1 8 U	1 9 U
SW8270C	2,4-DINITROTOLUENE	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	2,6-DICHLOROPHENOL	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	2,6-DINITROTOLUENE	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	2-ACETYLAMINOFLUORENE	0 74 U	0 77 U	0 78 U	0 72 U	0 75 U
SW8270C	2-AMINONAPHTHALENE (BETA NAPHTHYLAMINE)	0 74 U	0 77 U	0 78 U	0 72 U	0 75 U
SW8270C	2-CHLORONAPHTHALENE	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	2-CHLOROPHENOL	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	2-METHYLNAPHTHALENE	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	2-METHYLPHENOL (O-CRESOL)	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	2-NITROANILINE	1 9 U	1 9 U	2 U	1 8 U	1.9 U
SW8270C	2-NITROPHENOL	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	2-PICOLINE (ALPHA-PICOLINE)	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	3,3'-DICHLOROBENZIDINE	0 74 U	0 77 U	0 78 U	0 72 U	0 75 U
SW8270C	3,3'-DIMETHYLBENZIDINE	1 9 U	1 9 U	2 U	1 8 U	1 9 U
SW8270C	3-METHYLCHOLANTHRENE	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	3-NITROANILINE	1 9 U	1 9 U	2 U	1 8 U	1 9 U
SW8270C	4,6-DINITRO-2-METHYLPHENOL	1 9 U	1 9 U	2 U	1 8 U	1 9 U
SW8270C	4-AMINOBIPHENYL (4-BIPHENYLAMINE)	0 74 U	0 77 U	0 78 U	0 72 U	0 75 U
SW8270C	4-BROMOPHENYL PHENYL ETHER	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	4-CHLORO-3-METHYLPHENOL	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	4-CHLOROANILINE	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	4-CHLOROPHENYL PHENYL ETHER	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	4-NITROANILINE	1 9 U	1 9 U	2 U	1 8 U	1 9 U
SW8270C	4-NITROPHENOL	1 9 U	1 9 U	2 U	1 8 U	1.9 U
SW8270C	4-NITROQUINOLINE-N-OXIDE	1 9 U	1 9 U	2 U	1 8 U	1 9 U
SW8270C	5-NITRO-O-TOLUIDINE	0 74 U	0 77 U	0 78 U	0 72 U	0 75 U
SW8270C	7,12-DIMETHYLBENZ(A)ANTHRACENE	0 74 U	0 77 U	0 78 U	0 72 U	0 75 U
SW8270C	ACENAPHTHENE	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	ACENAPHTHYLENE	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	ACETOPHENONE	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	ALPHA, ALPHA DIMETHYLPHENETHYLAMINE	1 9 U	1 9 U	2 U	1 8 U	1 9 U
SW8270C	ANILINE (PHENYLAMINE, AMINOBENZENE)	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U

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Table B.1
Analytical Data-Soil
SWMU 53
NAS Fort Worth, JRB, Texas

ANMCODE	PARNAME	BHGLSWMU5304 - 5'	BHGLSWMU5304 - 10'	BHGLSWMU5304 - 15'	BHGLSWMU5305 - 0'	BHGLSWMU5305 - 5'
SW8270C	ANTHRACENE	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	ARAMITE (TOTAL)	0 74 U	0 77 U	0 78 U	0 72 U	0 75 U
SW8270C	BENZO(A)ANTHRACENE	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	BENZO(A)PYRENE	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	BENZO(B)FLUORANTHENE	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	BENZO(G,H,I)PERYLENE	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	BENZO(K)FLUORANTHENE	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	BENZOIC ACID	1 9 U	1 9 U	2 U	1 8 U	1 9 U
SW8270C	BENZYL ALCOHOL	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	BENZYL BUTYL PHTHALATE	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	BIS(2-CHLOROETHOXY) METHANE	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	BIS(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHER)	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	BIS(2-ETHYLHEXYL) PHTHALATE	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	CHLOROBENZILATE	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	CHRYSENE	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	CRESOLS, M & P	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	DIALLATE (TOTAL OF CIS AND TRANS ISOMERS)	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	DIBENZ(A,H)ANTHRACENE	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	DIBENZOFURAN	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	DIETHYL PHTHALATE	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	DIMETHYL PHTHALATE	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	DI-N-BUTYL PHTHALATE	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	DI-N-OCTYLPHTHALATE	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	DINOSEB	0 74 U	0 77 U	0 78 U	0 72 U	0 75 U
SW8270C	DIPHENYLAMINE	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	ETHYL METHANESULFONATE	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	FLUORANTHENE	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	FLUORENE	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	HEXACHLOROBENZENE	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	HEXACHLOROBUTADIENE	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	HEXACHLOROCYCLOPENTADIENE	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	HEXACHLOROETHANE	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	HEXACHLOROPHENE	5 6 R	5 8 R	5 9 R	5 4 R	5 6 R
SW8270C	HEXACHLOROPROPENE	1 9 U	1 9 U	2 U	1 8 U	1 9 U
SW8270C	INDENO(1,2,3-C,D)PYRENE	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	ISOPHORONE	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	ISOSAFROLE	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	METHAPYRILENE	1 9 U	1 9 U	2 U	1 8 U	1 9 U
SW8270C	METHYL METHANESULFONATE	0 74 U	0 77 U	0 78 U	0 72 U	0 75 U
SW8270C	NAPHTHALENE	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U

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Table B.1
Analytical Data-Soil
SWMU 53
NAS Fort Worth, JRB, Texas

ANMCODE	PARNAME	BHGLSWMU5304 - 5'	BHGLSWMU5304 - 10'	BHGLSWMU5304 - 15'	BHGLSWMU5305 - 0'	BHGLSWMU5305 - 5'
SW8270C	NITROBENZENE	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	NITROSOMETHYLETHYLAMINE	0 74 U	0 77 U	0 78 U	0 72 U	0 75 U
SW8270C	N-NITROSODIETHYLAMINE	0 74 U	0 77 U	0 78 U	0 72 U	0 75 U
SW8270C	N-NITROSODIMETHYLAMINE	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	N-NITROSO-DI-N-BUTYLAMINE	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	N-NITROSODI-N-PROPYLAMINE	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	N-NITROSODIPHENYLAMINE	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	N-NITROSOMORPHOLINE	0 74 U	0 77 U	0 78 U	0 72 U	0 75 U
SW8270C	N-NITROSOPIPERIDINE	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	N-NITROSOPYRROLIDINE	1 9 U	1 9 U	2 U	1 8 U	1 9 U
SW8270C	O-TOLUIDINE	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	P-DIMETHYLAMINOAZOBENZENE	0 74 U	0 77 U	0 78 U	0 72 U	0 75 U
SW8270C	PENTACHLOROBENZENE	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	PENTACHLORONITROBENZENE	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	PENTACHLOROPHENOL	1 9 U	1 9 U	2 U	1 8 U	1 9 U
SW8270C	PHENACETIN	0 74 U	0 77 U	0 78 U	0 72 U	0 75 U
SW8270C	PHENANTHRENE	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	PHENOL	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	P-PHENYLENEDIAMINE	1 5 U	1 5 U	1 6 U	1 4 U	1 5 U
SW8270C	PRONAMIDE	0 74 U	0 77 U	0 78 U	0 72 U	0 75 U
SW8270C	PYRENE	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U
SW8270C	PYRIDINE	0 74 U	0 77 U	0 78 U	0 72 U	0 75 U
SW8270C	SAFROLE	0 37 U	0 38 U	0 39 U	0 36 U	0 38 U

Data Qualifiers
MQL = Method Quantitation Limit
MDL = Method Detection Limit
PQL = Practical Quantitation Limit
J = This analyte was positively identified, but the quantitation is an estimation
U = The analyte was analyzed for, but not detected, the associated numerical value is at or below the MDL
F = This analyte was positively identified, but the associated numerical value is between the MDL and the PQL
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 numerical value is a MDL, estimated due to deficiences in the QC criteria
S = Screening Criteria

Table B.1
Analytical Data-Soil
SWMU 53
NAS Fort Worth, JRB, Texas

ANMCODE	PARNAME	BHGLSWMU5305 - 10'	BHGLSWMU5305 - 15'	BHGLSWMU5306 - 0'	BHGLSWMU5306 - 5'	BHGLSWMU5306 - 10'
SW6010	ARSENIC	0 55 F	0 62 F	3 4 F	1 1 F	0 74 F
SW6010	BARIUM	46 8	48 6	69 6	77 6	38 9 F
SW6010	BERYLLIUM	0 65	0 6	0 63	0 59	0 58
SW6010	CADMIUM	0 45 UJ	0 45 UJ	0 72	0 15 F	0 49 UJ
SW6010	CHROMIUM, TOTAL	11 2 J	13 7 J	36 6 J	10 6 J	12 4 J
SW6010	COBALT	2 3 F	2 7 F	4 F	2 3 F	4 1 F
SW6010	COPPER	6 7 F	9 4	11 4	4 7 F	5 F
SW6010	NICKEL	7 3 F	7 8 F	9 2 F	5 9 F	7 5 F
SW6010	TIN	8 9 UJ	8 9 UJ	9 8 UJ	9 6 UJ	9 9 UJ
SW6010	VANADIUM	22 4 F	22 9 F	26 4 F	16 1 F	27 7 F
SW6010	ZINC	21 6 F	26 7 F	66 9	21 2 F	19 1 F
SW7041	ANTIMONY	0 52 UJ	0 57 UJ	0 54 UJ	0 5 UJ	0 51 UJ
SW7421	LEAD	7 3 F	5 7 F	11	4 8 F	4 5 F
SW7471	MERCURY	0 04 U	0 04 U	0 04 U	0 04 U	0 04 U
SW7740	SELENIUM	0 31 UJ	0 34 UJ	1 6 U	0 3 UJ	0 31 UJ
SW7761	SILVER	0 21 R	0 23 R	0 22 R	0 2 R	0 2 R
SW7841	THALLIUM	1 U	1 1 UJ	1 1 U	1 UJ	1 UJ
SW8260B	1,1,1,2-TETRACHLOROETHANE	0 003 U	0 003 U	0 003 U	0 003 U	0 003 U
SW8260B	1,1,1-TRICHLOROETHANE	0 004 U	0 004 U	0 004 U	0 004 U	0 004 U
SW8260B	1,1,2,2-TETRACHLOROETHANE	0 002 U	0 002 U	0 002 U	0 002 U	0 002 U
SW8260B	1,1,2-TRICHLOROETHANE	0 005 U	0 005 U	0 005 U	0 006 U	0 005 U
SW8260B	1,1-DICHLOROETHANE	0 005 U	0 005 U	0 005 U	0 006 U	0 005 U
SW8260B	1,1-DICHLOROETHENE	0 002 U	0 002 U	0 002 U	0 002 U	0 002 U
SW8260B	1,2,3-TRICHLOROPROPANE	0 005 U	0 005 U	0 005 U	0 006 U	0 005 U
SW8260B	1,2-DIBROMO-3-CHLOROPROPANE	0 005 U	0 005 U	0 005 U	0 006 U	0 005 U
SW8260B	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	0 003 U	0 003 U	0 003 U	0 003 U	0 003 U
SW8260B	1,2-DICHLOROETHANE	0 003 U	0 003 U	0 003 U	0 003 U	0 003 U
SW8260B	1,2-DICHLOROPROPANE	0 002 U	0 002 U	0 002 U	0 002 U	0 002 U
SW8260B	2-CHLORO-1,3-BUTADIENE	0 005 U	0 005 U	0 005 U	0 006 U	0 005 U
SW8260B	2-HEXANONE	0 005 U	0 005 U	0 005 U	0 006 U	0 005 U
SW8260B	ACETONE	0 005 U	0 044	0 005 U	0 006 U	0 005 U
SW8260B	ACETONITRILE	0 038 U	0 042 U	0 042 U	0 044 U	0 04 U
SW8260B	ACROLEIN	0 094 U	0 1 U	0 1 U	0 11 U	0 1 U
SW8260B	ACRYLONITRILE	0 038 U	0 042 U	0 042 U	0 044 U	0 04 U
SW8260B	ALLYL CHLORIDE (3-CHLOROPROPENE)	0 009 U	0 01 U	0 01 U	0 011 U	0 01 U
SW8260B	BENZENE	0 002 U	0 002 U	0 002 U	0 002 U	0 002 U
SW8260B	BROMODICHLOROMETHANE	0 004 U	0 004 U	0 004 U	0 004 U	0 004 U
SW8260B	BROMOFORM	0 005 U	0 005 U	0 005 U	0 006 U	0 005 U
SW8260B	BROMOMETHANE	0 005 U	0 005 U	0 005 U	0 006 U	0 005 U
SW8260B	CARBON DISULFIDE	0 005 U	0 005 U	0 005 U	0 006 U	0 005 U
SW8260B	CARBON TETRACHLORIDE	0 005 U	0 005 U	0 005 U	0 006 U	0 005 U

Table B.1
Analytical Data-Soil
SWMU 53
NAS Fort Worth, JRB, Texas

ANMCODE	PARNAME	BHGLSWMU5305 - 10'	BHGLSWMU5305 - 15'	BHGLSWMU5306 - 0'	BHGLSWMU5306 - 5'	BHGLSWMU5306 - 10'
SW8260B	CHLOROBENZENE	0 002 U	0 002 U	0 002 U	0 002 U	0 002 U
SW8260B	CHLOROETHANE	0 005 U	0 005 U	0 005 U	0 006 U	0 005 U
SW8260B	CHLOROFORM	0 002 U	0 002 U	0 002 U	0 002 U	0 002 U
SW8260B	CHLOROMETHANE	0 005 U	0 005 U	0 005 U	0 006 U	0 005 U
SW8260B	CIS-1,2-DICHLOROETHYLENE	0 005 U	0 005 U	0 005 U	0 006 U	0 005 U
SW8260B	CIS-1,3-DICHLOROPROPENE	0 005 U	0 005 U	0 005 U	0 006 U	0 005 U
SW8260B	DIBROMOCHLOROMETHANE	0 003 U	0 003 U	0 003 U	0 003 U	0 003 U
SW8260B	DIBROMOMETHANE	0 005 U	0 005 U	0 005 U	0 006 U	0 005 U
SW8260B	DICHLORODIFLUOROMETHANE	0 005 U	0 005 U	0 005 U	0 006 U	0 005 U
SW8260B	ETHYL METHACRYLATE	0 009 U	0 01 U	0 01 U	0 011 U	0 01 U
SW8260B	ETHYLBENZENE	0 003 U	0 003 U	0 003 U	0 003 U	0 003 U
SW8260B	IODOMETHANE (METHYL IODIDE)	0 005 U	0 005 U	0 005 U	0 006 U	0 005 U
SW8260B	ISOBUTANOL	0 19 U	0 21 U	0 21 U	0 22 U	0 2 U
SW8260B	M,P-XYLENE (SUM OF ISOMERS)	0 005 U	0 005 U	0 005 U	0 006 U	0 005 U
SW8260B	METHYL ETHYL KETONE (2-BUTANONE)	0 005 U	0 005 U	0 005 U	0 006 U	0 005 U
SW8260B	METHYL ISOBUTYL KETONE (4-METHYL-2-PENTANONE)	0 005 U	0 005 U	0 005 U	0 006 U	0 005 U
SW8260B	METHYL METHACRYLATE	0 009 U	0 01 U	0 01 U	0 011 U	0 01 U
SW8260B	METHYLACRYLONITRILE	0 009 U	0 01 U	0 01 U	0 011 U	0 01 U
SW8260B	METHYLENE CHLORIDE	0 002 U	0 002 U	0 002 U	0 002 U	0 002 U
SW8260B	O-XYLENE (1,2-DIMETHYLBENZENE)	0 005 U	0 005 U	0 005 U	0 006 U	0 005 U
SW8260B	PENTACHLOROETHANE	0 009 U	0 01 U	0 01 U	0 011 U	0 01 U
SW8260B	PROPANE NITRILE (PROPIONITRILE)	0 038 U	0 042 U	0 042 U	0 044 U	0 04 U
SW8260B	STYRENE	0 002 U	0 002 U	0 002 U	0 002 U	0 002 U
SW8260B	TETRACHLOROETHYLENE(PCE)	0 005 U	0 005 U	0 005 U	0 006 U	0 005 U
SW8260B	TOLUENE	0 005 U	0 005 U	0 005 U	0 006 U	0 005 U
SW8260B	TRANS-1,2-DICHLOROETHENE	0 003 U	0 003 U	0 003 U	0 003 U	0 003 U
SW8260B	TRANS-1,3-DICHLOROPROPENE	0 005 U	0 005 U	0 005 U	0 006 U	0 005 U
SW8260B	TRANS-1,4-DICHLORO-2-BUTENE	0 009 U	0 01 U	0 01 U	0 011 U	0 01 U
SW8260B	TRICHLOROETHYLENE (TCE)	0 005 U	0 005 U	0 005 U	0 006 U	0 005 U
SW8260B	TRICHLOROFLUOROMETHANE	0 004 U	0 004 U	0 004 U	0 004 U	0 004 U
SW8260B	VINYL ACETATE	0 005 U	0 005 U	0 005 U	0 006 U	0 005 U
SW8260B	VINYL CHLORIDE	0 005 U	0 005 U	0 005 U	0 006 U	0 005 U
SW8270C	1,2,4,5-TETRACHLOROBENZENE	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	1,2,4-TRICHLOROBENZENE	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	1,2-DICHLOROBENZENE	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	1,3,5-TRINITROBENZENE	1 5 U	1 6 U	1 5 U	1 5 U	1 5 U
SW8270C	1,3-DICHLOROBENZENE	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	1,3-DINITROBENZENE	0 77 U	0 81 U	0 76 U	0 74 U	0 77 U
SW8270C	1,4-DICHLOROBENZENE	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	1,4-DIOXANE (P-DIOXANE)	1 5 U	1 6 U	1 5 U	1 5 U	1 5 U

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Table B.1
Analytical Data-Soil
SWMU 53
NAS Fort Worth, JRB, Texas

ANMCODE	PARNAME	BHGLSWMU5305 - 10'	BHGLSWMU5305 - 15'	BHGLSWMU5306 - 0'	BHGLSWMU5306 - 5'	BHGLSWMU5306 - 10'
SW8270C	1,4-NAPHTHOQUINONE	1 9 U	2 U	1 9 U	1 8 U	1 9 U
SW8270C	1-NAPHTHYLAMINE	0 77 U	0 81 U	0 76 U	0 74 U	0 77 U
SW8270C	2,2'-OXYBIS(1-CHLORO)PROPANE	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	2,3,4,6-TETRACHLOROPHENOL	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	2,4,5-TRICHLOROPHENOL	1 9 U	2 U	1 9 U	1 8 U	1 9 U
SW8270C	2,4,6-TRICHLOROPHENOL	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	2,4-DICHLOROPHENOL	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	2,4-DIMETHYLPHENOL	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	2,4-DINITROPHENOL	1 9 U	2 U	1 9 U	1 8 U	1 9 U
SW8270C	2,4-DINITROTOLUENE	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	2,6-DICHLOROPHENOL	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	2,6-DINITROTOLUENE	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	2-ACETYLAMINOFLUORENE	0 77 U	0 81 U	0 76 U	0 74 U	0 77 U
SW8270C	2-AMINONAPHTHALENE (BETA NAPHTHYLAMINE)	0 77 U	0 81 U	0 76 U	0 74 U	0 77 U
SW8270C	2-CHLORONAPHTHALENE	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	2-CHLOROPHENOL	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	2-METHYLNAPHTHALENE	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	2-METHYLPHENOL (O-CRESOL)	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	2-NITROANILINE	1 9 U	2 U	1 9 U	1 8 U	1 9 U
SW8270C	2-NITROPHENOL	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	2-PICOLINE (ALPHA-PICOLINE)	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	3,3'-DICHLOROBENZIDINE	0 77 U	0 81 U	0 76 U	0 74 U	0 77 U
SW8270C	3,3'-DIMETHYLBENZIDINE	1 9 U	2 U	1.9 U	1 8 U	1 9 U
SW8270C	3-METHYLCHOLANTHRENE	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	3-NITROANILINE	1 9 U	2 U	1 9 U	1 8 U	1 9 U
SW8270C	4,6-DINITRO-2-METHYLPHENOL	1 9 U	2 U	1 9 U	1 8 U	1 9 U
SW8270C	4-AMINOBIPHENYL (4-BIPHENYLAMINE)	0 77 U	0 81 U	0 76 U	0 74 U	0 77 U
SW8270C	4-BROMOPHENYL PHENYL ETHER	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	4-CHLORO-3-METHYLPHENOL	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	4-CHLOROANILINE	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	4-CHLOROPHENYL PHENYL ETHER	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	4-NITROANILINE	1 9 U	2 U	1 9 U	1 8 U	1 9 U
SW8270C	4-NITROPHENOL	1 9 U	2 U	1 9 U	1 8 U	1 9 U
SW8270C	4-NITROQUINOLINE-N-OXIDE	1 9 U	2 U	1 9 U	1 8 U	1 9 U
SW8270C	5-NITRO-O-TOLUIDINE	0 77 U	0 81 U	0 76 U	0 74 U	0 77 U
SW8270C	7,12-DIMETHYLBENZ(A)ANTHRACENE	0 77 U	0 81 U	0 76 U	0 74 U	0 77 U
SW8270C	ACENAPHTHENE	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	ACENAPHTHYLENE	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	ACETOPHENONE	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	ALPHA, ALPHA DIMETHYLPHENETHYLAMINE	1 9 U	2 U	1 9 U	1 8 U	1 9 U
SW8270C	ANILINE (PHENYLAMINE, AMINOBENZENE)	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U

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Table B.1
Analytical Data-Soil
SWMU 53
NAS Fort Worth, JRB, Texas

ANMCODE	PARNAME	BHGLSWMU5305 - 10'	BHGLSWMU5305 - 15'	BHGLSWMU5306 - 0'	BHGLSWMU5306 - 5'	BHGLSWMU5306 - 10'
SW8270C	ANTHRACENE	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	ARAMITE (TOTAL)	0 77 U	0 81 U	0 76 U	0 74 U	0 77 U
SW8270C	BENZO(A)ANTHRACENE	0 39 U	0 41 U	0 069 F	0 37 U	0 39 U
SW8270C	BENZO(A)PYRENE	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	BENZO(B)FLUORANTHENE	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	BENZO(G,H,I)PERYLENE	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	BENZO(K)FLUORANTHENE	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	BENZOIC ACID	1 9 U	2 U	1 9 U	1 8 U	1 9 U
SW8270C	BENZYL ALCOHOL	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	BENZYL BUTYL PHTHALATE	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	BIS(2-CHLOROETHOXY) METHANE	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	BIS(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHER)	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	BIS(2-ETHYLHEXYL) PHTHALATE	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	CHLOROBENZILATE	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	CHRYSENE	0 39 U	0 41 U	0 084 F	0 37 U	0 39 U
SW8270C	CRESOLS, M & P	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	DIALLATE (TOTAL OF CIS AND TRANS ISOMERS)	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	DIBENZ(A,H)ANTHRACENE	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	DIBENZOFURAN	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	DIETHYL PHTHALATE	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	DIMETHYL PHTHALATE	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	DI-N-BUTYL PHTHALATE	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	DI-N-OCTYLPHTHALATE	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	DINOSEB	0 77 U	0 81 U	0 76 U	0 74 U	0 77 U
SW8270C	DIPHENYLAMINE	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	ETHYL METHANESULFONATE	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	FLUORANTHENE	0 39 U	0 41 U	0 19 F	0 37 U	0 39 U
SW8270C	FLUORENE	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	HEXACHLOROBENZENE	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	HEXACHLOROBUTADIENE	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	HEXACHLOROCYCLOPENTADIENE	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	HEXACHLOROETHANE	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	HEXACHLOROPHENE	5 8 R	6 1 R	5 7 R	5 5 R	5 8 R
SW8270C	HEXACHLOROPROPENE	1 9 U	2 U	1 9 U	1 8 U	1 9 U
SW8270C	INDENO(1,2,3-C,D)PYRENE	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	ISOPHORONE	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	ISOSAFROLE	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	METHAPYRILENE	1 9 U	2 U	1 9 U	1 8 U	1 9 U
SW8270C	METHYL METHANESULFONATE	0 77 U	0 81 U	0 76 U	0 74 U	0 77 U
SW8270C	NAPHTHALENE	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U

Table B.1
Analytical Data-Soil
SWMU 53
NAS Fort Worth, JRB, Texas

ANMCODE	PARNAME	BHGLSWMU5305 - 10'	BHGLSWMU5305 - 15'	BHGLSWMU5306 - 0'	BHGLSWMU5306 - 5'	BHGLSWMU5306 - 10'
SW8270C	NITROBENZENE	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	NITROSOMETHYLETHYLAMINE	0 77 U	0 81 U	0 76 U	0 74 U	0 77 U
SW8270C	N-NITROSODIETHYLAMINE	0 77 U	0 81 U	0 76 U	0 74 U	0 77 U
SW8270C	N-NITROSODIMETHYLAMINE	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	N-NITROSO-DI-N-BUTYLAMINE	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	N-NITROSODI-N-PROPYLAMINE	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	N-NITROSODIPHENYLAMINE	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	N-NITROSOMORPHOLINE	0 77 U	0 81 U	0 76 U	0 74 U	0 77 U
SW8270C	N-NITROSOPIPERIDINE	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	N-NITROSOPYRROLIDINE	1 9 U	2 U	1 9 U	1 8 U	1 9 U
SW8270C	O-TOLUIDINE	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	P-DIMETHYLAMINOAZOBENZENE	0 77 U	0 81 U	0 76 U	0 74 U	0 77 U
SW8270C	PENTACHLOROBENZENE	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	PENTACHLORONITROBENZENE	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	PENTACHLOROPHENOL	1 9 U	2 U	1 9 U	1 8 U	1 9 U
SW8270C	PHENACETIN	0 77 U	0 81 U	0 76 U	0 74 U	0 77 U
SW8270C	PHENANTHRENE	0 39 U	0 41 U	0.13 F	0 37 U	0 39 U
SW8270C	PHENOL	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	P-PHENYLENEDIAMINE	1 5 U	1 6 U	1 5 U	1 5 U	1 5 U
SW8270C	PRONAMIDE	0 77 U	0 81 U	0 76 U	0 74 U	0 77 U
SW8270C	PYRENE	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U
SW8270C	PYRIDINE	0 77 U	0 81 U	0 76 U	0 74 U	0 77 U
SW8270C	SAFROLE	0 39 U	0 41 U	0 38 U	0 37 U	0 39 U

Data Qualifiers
MQL = Method Quantitation Limit
MDL = Method Detection Limit
PQL = Practical Quantitation Limit
J = This analyte was positively identified, but the quantitation is an estimation
U = The analyte was analyzed for, but not detected, the associated numerical value is at or below the MDL.
F = This analyte was positively identified, but the associated numerical value is between the MDL and the PQL
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 numerical value is a MDL, estimated due to deficiences in the QC criteria
S = Screening Criteria

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Table B.1
Analytical Data-Soil
SWMU 53
NAS Fort Worth, JRB, Texas

ANMCODE	PARNAME	BHGLSWMU5306 - 15'	BHGLSWMU5306 - 20'	BHGLSWMU5307 - 0'	BHGLSWMU5307 - 5'	BHGLSWMU5307 - 10' Duplicate
SW6010	ARSENIC	7 7	5 2	3 8	2 6 F	0 35 F
SW6010	BARIUM	45 1	41 3	93 9	76 9	47 3
SW6010	BERYLLIUM	0 54	0 4	0 97	0 87	0 66
SW6010	CADMIUM	0 03 F	0 04 F	0 31 UJ	0 11 F	0 35 UJ
SW6010	CHROMIUM, TOTAL	10 3 J	12 7 J	15 4 J	14 7 J	13 3 J
SW6010	COBALT	6 6	4 6	5 2	5 1 F	2 6 F
SW6010	COPPER	8 5	6 5 F	9 2	11 6	6 4 F
SW6010	NICKEL	11 2	8 9	10 9	12	7 7
SW6010	TIN	6 8 UJ	7 3 UJ	6 1 UJ	1 6 F	7 UJ
SW6010	VANADIUM	35 9	26 6	31 7	26 6 F	19 6 F
SW6010	ZINC	19 4 F	19 F	25.8	33 5	23 2
SW7041	ANTIMONY	0 49 UJ	0 51 UJ	0 53 UJ	0 55 UJ	0 52 UJ
SW7421	LEAD	3 6 F	3 8 F	6 6	4 8 F	5 2 F
SW7471	MERCURY	0 04 U	0 04 U	0 04 U	0 04 U	0 04 U
SW7740	SELENIUM	0 3 UJ	0 31 UJ	1 6 U	0 33 UJ	0 31 UJ
SW7761	SILVER	0 2 R	0 2 R	0 21 R	0 22 R	0 21 R
SW7841	THALLIUM	0 99 UJ	1 UJ	1 1 U	1 1 UJ	1 UJ
SW8260B	1,1,1,2-TETRACHLOROETHANE	0 003 U	0 003 U	0 003 U	0 003 U	0 003 U
SW8260B	1,1,1-TRICHLOROETHANE	0 004 U	0 004 U	0 004 U	0 004 U	0 004 U
SW8260B	1,1,2,2-TETRACHLOROETHANE	0 002 U	0 002 U	0 002 U	0 002 U	0 002 U
SW8260B	1,1,2-TRICHLOROETHANE	0 004 U	0 005 U	0 005 U	0 005 U	0 005 U
SW8260B	1,1-DICHLOROETHANE	0 004 U	0 005 U	0 005 U	0 005 U	0 005 U
SW8260B	1,1-DICHLOROETHENE	0 002 U	0 002 U	0 002 U	0 002 U	0 002 U
SW8260B	1,2,3-TRICHLOROPROPANE	0 004 U	0 005 U	0 005 U	0 005 U	0 005 U
SW8260B	1,2-DIBROMO-3-CHLOROPROPANE	0 004 U	0 005 U	0 005 U	0 005 U	0 005 U
SW8260B	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	0 003 U	0 003 U	0 003 U	0 003 U	0 003 U
SW8260B	1,2-DICHLOROETHANE	0 003 U	0 003 U	0 003 U	0 003 U	0 003 U
SW8260B	1,2-DICHLOROPROPANE	0 002 U	0 002 U	0 002 U	0 002 U	0 002 U
SW8260B	2-CHLORO-1,3-BUTADIENE	0 004 U	0 005 U	0 005 U	0 005 U	0 005 U
SW8260B	2-HEXANONE	0 004 U	0 005 U	0 005 U	0 005 U	0 005 U
SW8260B	ACETONE	0 004 U	0 01 U	0 006 U	0 005 U	0 005 U
SW8260B	ACETONITRILE	0 036 U	0 044 U	0 041 U	0 04 U	0 037 U
SW8260B	ACROLEIN	0 089 U	0 11 U	0 1 U	0 1 U	0 093 U
SW8260B	ACRYLONITRILE	0 036 U	0 044 U	0 041 U	0 04 U	0 037 U
SW8260B	ALLYL CHLORIDE (3-CHLOROPROPENE)	0 009 U	0 011 U	0 01 U	0 01 U	0 009 U
SW8260B	BENZENE	0 002 U	0 002 U	0 002 U	0 002 U	0 002 U
SW8260B	BROMODICHLOROMETHANE	0 004 U	0 004 U	0 004 U	0 004 U	0 004 U
SW8260B	BROMOFORM	0 004 U	0 005 U	0 005 U	0 005 U	0 005 U
SW8260B	BROMOMETHANE	0 004 U	0 005 U	0 005 U	0 005 U	0 005 U
SW8260B	CARBON DISULFIDE	0 004 U	0 005 U	0 005 U	0 005 U	0 005 U
SW8260B	CARBON TETRACHLORIDE	0 004 U	0 005 U	0 005 U	0 005 U	0 005 U

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Table B.1
Analytical Data-Soil
SWMU 53
NAS Fort Worth, JRB, Texas

ANMCODE	PARNAME	BHGLSWMU5306 - 15'	BHGLSWMU5306 - 20'	BHGLSWMU5307 - 0'	BHGLSWMU5307 - 5'	BHGLSWMU5307 - 10' Duplicate
SW8260B	CHLOROBENZENE	0 002 U	0 002 U	0 002 U	0 002 U	0 002 U
SW8260B	CHLOROETHANE	0 004 U	0 005 U	0 005 U	0 005 U	0 005 U
SW8260B	CHLOROFORM	0 002 U	0 002 U	0 002 U	0 002 U	0 002 U
SW8260B	CHLOROMETHANE	0 004 U	0 005 U	0 005 U	0 005 U	0 005 U
SW8260B	CIS-1,2-DICHLOROETHYLENE	0 004 U	0 005 U	0 005 U	0 005 U	0 005 U
SW8260B	CIS-1,3-DICHLOROPROPENE	0 004 U	0 005 U	0 005 U	0 005 U	0 005 U
SW8260B	DIBROMOCHLOROMETHANE	0 003 U	0 003 U	0 003 U	0 003 U	0 003 U
SW8260B	DIBROMOMETHANE	0 004 U	0 005 U	0 005 U	0 005 U	0 005 U
SW8260B	DICHLORODIFLUOROMETHANE	0 004 U	0 005 U	0 005 U	0 005 U	0 005 U
SW8260B	ETHYL METHACRYLATE	0 009 U	0 011 U	0 01 U	0 01 U	0 009 U
SW8260B	ETHYLBENZENE	0 003 U	0 003 U	0 003 U	0 003 U	0 003 U
SW8260B	IODOMETHANE (METHYL IODIDE)	0 004 U	0 005 U	0 005 U	0 005 U	0 005 U
SW8260B	ISOBUTANOL	0 18 U	0 22 U	0 2 U	0 2 U	0 18 U
SW8260B	M,P-XYLENE (SUM OF ISOMERS)	0 004 U	0 005 U	0 005 U	0 005 U	0 005 U
SW8260B	METHYL ETHYL KETONE (2-BUTANONE)	0 004 U	0 005 U	0 005 U	0 005 U	0 005 U
SW8260B	METHYL ISOBUTYL KETONE (4-METHYL-2-PENTANONE)	0 004 U	0 005 U	0 005 U	0 005 U	0 005 U
SW8260B	METHYL METHACRYLATE	0 009 U	0 011 U	0 01 U	0 01 U	0 009 U
SW8260B	METHYLACRYLONITRILE	0 009 U	0 011 U	0 01 U	0 01 U	0 009 U
SW8260B	METHYLENE CHLORIDE	0 002 U	0 002 U	0 002 U	0 002 U	0 002 U
SW8260B	O-XYLENE (1,2-DIMETHYLBENZENE)	0 004 U	0 005 U	0 005 U	0 005 U	0 005 U
SW8260B	PENTACHLOROETHANE	0 009 U	0 011 U	0 01 U	0 01 U	0 009 U
SW8260B	PROPANE NITRILE (PROPIONITRILE)	0 036 U	0 044 U	0 041 U	0 04 U	0 037 U
SW8260B	STYRENE	0 002 U	0 002 U	0 002 U	0 002 U	0 002 U
SW8260B	TETRACHLOROETHYLENE(PCE)	0 004 U	0 005 U	0 005 U	0 005 U	0 005 U
SW8260B	TOLUENE	0 004 U	0 005 U	0 005 U	0 005 U	0 005 U
SW8260B	TRANS-1,2-DICHLOROETHENE	0 003 U	0 003 U	0 003 U	0 003 U	0 003 U
SW8260B	TRANS-1,3-DICHLOROPROPENE	0 004 U	0 005 U	0 005 U	0 005 U	0 005 U
SW8260B	TRANS-1,4-DICHLORO-2-BUTENE	0 009 U	0 011 U	0 01 U	0 01 U	0 009 U
SW8260B	TRICHLOROETHYLENE (TCE)	0 004 U	0 005 U	0 005 U	0 005 U	0 005 U
SW8260B	TRICHLOROFLUOROMETHANE	0 004 U	0 004 U	0 004 U	0 004 U	0 004 U
SW8260B	VINYL ACETATE	0 004 U	0 005 U	0 005 U	0 005 U	0 005 U
SW8260B	VINYL CHLORIDE	0 004 U	0 005 U	0 005 U	0 005 U	0 005 U
SW8270C	1,2,4,5-TETRACHLOROBENZENE	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	1,2,4-TRICHLOROBENZENE	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	1,2-DICHLOROBENZENE	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	1,3,5-TRINITROBENZENE	1 5 U	1 6 U	1 5 U	1 5 U	1.5 U
SW8270C	1,3-DICHLOROBENZENE	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	1,3-DINITROBENZENE	0 76 U	0 78 U	0 76 U	0 77 U	0 76 U
SW8270C	1,4-DICHLOROBENZENE	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	1,4-DIOXANE (P-DIOXANE)	1 5 U	1 6 U	1 5 U	1 5 U	1 5 U

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Table B.1
Analytical Data-Soil
SWMU 53
NAS Fort Worth, JRB, Texas

ANMCODE	PARNAME	BHGLSWMU5306 - 15'	BHGLSWMU5306 - 20'	BHGLSWMU5307 - 0'	BHGLSWMU5307 - 5'	BHGLSWMU5307 - 10' Duplicate
SW8270C	1,4-NAPHTHOQUINONE	1 9 U	1 9 U	1 9 U	1 9 U	1 9 U
SW8270C	1-NAPHTHYLAMINE	0 76 U	0 78 U	0 76 U	0 77 U	0 76 U
SW8270C	2,2'-OXYBIS(1-CHLORO)PROPANE	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	2,3,4,6-TETRACHLOROPHENOL	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	2,4,5-TRICHLOROPHENOL	1 9 U	1 9 U	1 9 U	1 9 U	1 9 U
SW8270C	2,4,6-TRICHLOROPHENOL	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	2,4-DICHLOROPHENOL	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	2,4-DIMETHYLPHENOL	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	2,4-DINITROPHENOL	1 9 U	1 9 U	1 9 U	1 9 U	1 9 U
SW8270C	2,4-DINITROTOLUENE	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	2,6-DICHLOROPHENOL	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	2,6-DINITROTOLUENE	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	2-ACETYLAMINOFLUORENE	0 76 U	0 78 U	0 76 U	0 77 U	0 76 U
SW8270C	2-AMINONAPHTHALENE (BETA NAPHTHYLAMINE)	0 76 U	0 78 U	0 76 U	0 77 U	0 76 U
SW8270C	2-CHLORONAPHTHALENE	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	2-CHLOROPHENOL	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	2-METHYLNAPHTHALENE	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	2-METHYLPHENOL (O-CRESOL)	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	2-NITROANILINE	1 9 U	1 9 U	1 9 U	1 9 U	1 9 U
SW8270C	2-NITROPHENOL	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	2-PICOLINE (ALPHA-PICOLINE)	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	3,3'-DICHLOROBENZIDINE	0 76 U	0 78 U	0 76 U	0 77 U	0 76 U
SW8270C	3,3'-DIMETHYLBENZIDINE	1 9 U	1 9 U	1.9 U	1 9 U	1 9 U
SW8270C	3-METHYLCHOLANTHRENE	0 38 U	0 39 U	0.38 U	0 38 U	0 38 U
SW8270C	3-NITROANILINE	1 9 U	1 9 U	1 9 U	1 9 U	1 9 U
SW8270C	4,6-DINITRO-2-METHYLPHENOL	1 9 U	1 9 U	1 9 U	1 9 U	1 9 U
SW8270C	4-AMINOBIPHENYL (4-BIPHENYLAMINE)	0 76 U	0 78 U	0 76 U	0 77 U	0 76 U
SW8270C	4-BROMOPHENYL PHENYL ETHER	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	4-CHLORO-3-METHYLPHENOL	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	4-CHLOROANILINE	0 38 U	0 39 U	0.38 U	0 38 U	0 38 U
SW8270C	4-CHLOROPHENYL PHENYL ETHER	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	4-NITROANILINE	1 9 U	1 9 U	1.9 U	1 9 U	1 9 U
SW8270C	4-NITROPHENOL	1 9 U	1 9 U	1 9 U	1 9 U	1 9 U
SW8270C	4-NITROQUINOLINE-N-OXIDE	1 9 U	1 9 U	1 9 U	1 9 U	1 9 U
SW8270C	5-NITRO-O-TOLUIDINE	0 76 U	0 78 U	0 76 U	0 77 U	0 76 U
SW8270C	7,12-DIMETHYLBENZ(A)ANTHRACENE	0 76 U	0 78 U	0.76 U	0 77 U	0 76 U
SW8270C	ACENAPHTHENE	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	ACENAPHTHYLENE	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	ACETOPHENONE	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	ALPHA, ALPHA DIMETHYLPHENETHYLAMINE	1 9 U	1 9 U	1 9 U	1 9 U	1 9 U
SW8270C	ANILINE (PHENYLAMINE, AMINOBENZENE)	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U

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Table B.1
Analytical Data-Soil
SWMU 53
NAS Fort Worth, JRB, Texas

ANMCODE	PARNAME	BHGLSWMU5306 - 15'	BHGLSWMU5306 - 20'	BHGLSWMU5307 - 0'	BHGLSWMU5307 - 5'	BHGLSWMU5307 - 10' Duplicate
SW8270C	ANTHRACENE	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	ARAMITE (TOTAL)	0 76 U	0 78 U	0 76 U	0 77 U	0 76 U
SW8270C	BENZO(A)ANTHRACENE	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	BENZO(A)PYRENE	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	BENZO(B)FLUORANTHENE	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	BENZO(G,H,I)PERYLENE	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	BENZO(K)FLUORANTHENE	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	BENZOIC ACID	1 9 U	1 9 U	1 9 U	1 9 U	1 9 U
SW8270C	BENZYL ALCOHOL	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	BENZYL BUTYL PHTHALATE	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	BIS(2-CHLOROETHOXY) METHANE	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	BIS(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHER)	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	BIS(2-ETHYLHEXYL) PHTHALATE	0 38 U	0 14 F	0 38 U	0 38 U	0 38 U
SW8270C	CHLOROBENZILATE	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	CHRYSENE	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	CRESOLS, M & P	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	DIALLATE (TOTAL OF CIS AND TRANS ISOMERS)	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	DIBENZ(A,H)ANTHRACENE	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	DIBENZOFURAN	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	DIETHYL PHTHALATE	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	DIMETHYL PHTHALATE	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	DI-N-BUTYL PHTHALATE	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	DI-N-OCTYLPHTHALATE	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	DINOSEB	0 76 U	0 78 U	0 76 U	0 77 U	0 76 U
SW8270C	DIPHENYLAMINE	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	ETHYL METHANESULFONATE	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	FLUORANTHENE	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	FLUORENE	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	HEXACHLOROBENZENE	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	HEXACHLOROBUTADIENE	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	HEXACHLOROCYCLOPENTADIENE	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	HEXACHLOROETHANE	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	HEXACHLOROPHENE	5 7 R	5 8 R	5 7 R	5 8 R	5 7 R
SW8270C	HEXACHLOROPROPENE	1 9 U	1 9 U	1 9 U	1 9 U	1 9 U
SW8270C	INDENO(1,2,3-C,D)PYRENE	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	ISOPHORONE	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	ISOSAFROLE	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	METHAPYRILENE	1.9 U	1 9 U	1 9 U	1 9 U	1 9 U
SW8270C	METHYL METHANESULFONATE	0 76 U	0 78 U	0 76 U	0 77 U	0 76 U
SW8270C	NAPHTHALENE	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U

Table B.1
Analytical Data-Soil
SWMU 53
NAS Fort Worth, JRB, Texas

ANMCODE	PARNAME	BHGLSWMU5306 - 15'	BHGLSWMU5306 - 20'	BHGLSWMU5307 - 0'	BHGLSWMU5307 - 5'	BHGLSWMU5307 - 10' Duplicate
SW8270C	NITROBENZENE	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	NITROSOMETHYLETHYLAMINE	0 76 U	0 78 U	0 76 U	0.77 U	0 76 U
SW8270C	N-NITROSODIETHYLAMINE	0 76 U	0 78 U	0 76 U	0 77 U	0 76 U
SW8270C	N-NITROSODIMETHYLAMINE	0 38 U	0 39 U	0 38 U	0.38 U	0 38 U
SW8270C	N-NITROSO-DI-N-BUTYLAMINE	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	N-NITROSODI-N-PROPYLAMINE	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	N-NITROSODIPHENYLAMINE	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	N-NITROSOMORPHOLINE	0 76 U	0 78 U	0 76 U	0 77 U	0 76 U
SW8270C	N-NITROSOPIPERIDINE	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	N-NITROSOPYRROLIDINE	1 9 U	1 9 U	1 9 U	1 9 U	1 9 U
SW8270C	O-TOLUIDINE	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	P-DIMETHYLAMINOAZOBENZENE	0 76 U	0 78 U	0 76 U	0 77 U	0 76 U
SW8270C	PENTACHLOROBENZENE	0.38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	PENTACHLORONITROBENZENE	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	PENTACHLOROPHENOL	1.9 U	1 9 U	1 9 U	1 9 U	1 9 U
SW8270C	PHENACETIN	0 76 U	0 78 U	0 76 U	0 77 U	0 76 U
SW8270C	PHENANTHRENE	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	PHENOL	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	P-PHENYLENEDIAMINE	1.5 U	1 6 U	1 5 U	1 5 U	1.5 U
SW8270C	PRONAMIDE	0 76 U	0 78 U	0 76 U	0 77 U	0 76 U
SW8270C	PYRENE	0 38 U	0 39 U	0 38 U	0 38 U	0 38 U
SW8270C	PYRIDINE	0 76 U	0 78 U	0 76 U	0 77 U	0 76 U
SW8270C	SAFROLE	0 38 U	0 39 U	0 38 U	0.38 U	0 38 U

Data Qualifiers
MQL = Method Quantitation Limit
MDL = Method Detection Limit
PQL = Practical Quantitation Limit
J = This analyte was positively identified, but the quantitation is an estimation
U = The analyte was analyzed for, but not detected, the associated numerical value is at or below the MDL
F = This analyte was positively identified, but the associated numerical value is between the MDL and the PQL
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 numerical value is a MDL, estimated due to deficiences in the QC criteria
S = Screening Criteria

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Table B.1
Analytical Data-Soil
SWMU 53
NAS Fort Worth, JRB, Texas

ANMCODE	PARNAME	BHGLSWMU5307 - 10'	BHGLSWMU5307 - 15'	BHGLSWMU5308 - 0'	BHGLSWMU5308 - 5'	BHGLSWMU5308 - 10'
SW6010	ARSENIC	3 4 UJ	0 33 F	2 8 F	0 86 F	5 2 UJ
SW6010	BARIUM	47	38 3	69 8	93 9	59
SW6010	BERYLLIUM	0 66	0 54	0 57	0 36 UJ	0 73
SW6010	CADMIUM	0 34 UJ	0 32 UJ	0 26 F	0 16 F	0 52 UJ
SW6010	CHROMIUM, TOTAL	12 1 J	11 6 J	11 6 J	8 9 F	16 8 J
SW6010	COBALT	2 3 F	1 8 F	3 8 F	1 9 F	2 6 F
SW6010	COPPER	6 7 F	6 5	8 4	5 7 F	11
SW6010	NICKEL	7 5	6 5	7 5	6 1 F	8 7 F
SW6010	TIN	6 8 UJ	6 4 UJ	6 9 UJ	10 5 UJ	10 3 UJ
SW6010	VANADIUM	19 9 F	13 5 F	21 7	14 4 F	23 F
SW6010	ZINC	22	22	23	18 9 F	30 7 F
SW7041	ANTIMONY	0 51 UJ	0 56 UJ	0 53 UJ	0 63 R	0 53 UJ
SW7421	LEAD	4 2 F	4 F	10 9 F	4 7 F	5 8 F
SW7471	MERCURY	0 04 U	0 04 U	0 04 U	0 04 U	0 04 U
SW7740	SELENIUM	0 31 UJ	0 33 UJ	0 32 UJ	0 38 UJ	0 32 UJ
SW7761	SILVER	0 2 R	0 22 R	0 21 R	0 25 R	0 21 R
SW7841	THALLIUM	1 UJ	1 1 UJ	1 1 UJ	1 3 UJ	1 1 UJ
SW8260B	1,1,1,2-TETRACHLOROETHANE	0 003 UJ	0 003 UJ	0 003 U	0 004 U	0 003 U
SW8260B	1,1,1-TRICHLOROETHANE	0 004 UJ	0 004 UJ	0 004 U	0 005 U	0 004 U
SW8260B	1,1,2,2-TETRACHLOROETHANE	0 002 UJ	0 002 UJ	0 002 U	0 002 U	0 002 U
SW8260B	1,1,2-TRICHLOROETHANE	0 005 UJ	0 004 UJ	0 005 U	0 006 U	0 005 U
SW8260B	1,1-DICHLOROETHANE	0 005 UJ	0 004 UJ	0 005 U	0 006 U	0 005 U
SW8260B	1,1-DICHLOROETHENE	0 002 UJ	0 002 UJ	0 002 U	0 002 U	0 002 U
SW8260B	1,2,3-TRICHLOROPROPANE	0 005 UJ	0 004 UJ	0 005 U	0 006 U	0 005 U
SW8260B	1,2-DIBROMO-3-CHLOROPROPANE	0 005 UJ	0 004 UJ	0 005 U	0 006 U	0 005 U
SW8260B	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	0 003 UJ	0 003 UJ	0 003 U	0 004 U	0 003 U
SW8260B	1,2-DICHLOROETHANE	0 003 UJ	0 003 UJ	0 003 U	0 004 U	0 003 U
SW8260B	1,2-DICHLOROPROPANE	0 002 UJ	0 002 UJ	0 002 U	0 002 U	0 002 U
SW8260B	2-CHLORO-1,3-BUTADIENE	0 005 UJ	0 004 UJ	0 005 U	0 006 U	0 005 U
SW8260B	2-HEXANONE	0 005 UJ	0 004 UJ	0 005 U	0 006 U	0 005 U
SW8260B	ACETONE	0 005 UJ	0 004 UJ	0 005 U	0 006 U	0 005 U
SW8260B	ACETONITRILE	0 04 UJ	0 035 UJ	0 043 U	0 048 U	0 04 U
SW8260B	ACROLEIN	0 1 UJ	0 088 UJ	0 11 U	0 12 U	0 1 U
SW8260B	ACRYLONITRILE	0 04 UJ	0 035 UJ	0 043 U	0 048 U	0 04 U
SW8260B	ALLYL CHLORIDE (3-CHLOROPROPENE)	0 01 UJ	0 009 UJ	0 011 U	0 012 U	0 01 U
SW8260B	BENZENE	0 002 UJ	0 002 UJ	0 002 U	0 002 U	0 002 U
SW8260B	BROMODICHLOROMETHANE	0 004 UJ	0 004 UJ	0 004 U	0 005 U	0 004 U
SW8260B	BROMOFORM	0 005 UJ	0 004 UJ	0 005 U	0 006 U	0 005 U
SW8260B	BROMOMETHANE	0 005 UJ	0 004 UJ	0 005 U	0 006 U	0 005 U
SW8260B	CARBON DISULFIDE	0 005 UJ	0 004 UJ	0 005 U	0 006 U	0 005 U
SW8260B	CARBON TETRACHLORIDE	0 005 UJ	0 004 UJ	0 005 U	0 006 U	0 005 U

Table B.1
Analytical Data-Soil
SWMU 53
NAS Fort Worth, JRB, Texas

ANMCODE	PARNAME	BHGLSWMU5307 - 10'	BHGLSWMU5307 - 15'	BHGLSWMU5308 - 0'	BHGLSWMU5308 - 5'	BHGLSWMU5308 - 10'
SW8260B	CHLOROBENZENE	0 002 UJ	0 002 UJ	0 002 U	0 002 U	0 002 U
SW8260B	CHLOROETHANE	0 005 UJ	0 004 UJ	0 005 U	0 006 U	0 005 U
SW8260B	CHLOROFORM	0 002 UJ	0 002 UJ	0 002 U	0 002 U	0 002 U
SW8260B	CHLOROMETHANE	0 005 UJ	0 004 UJ	0 005 U	0 006 U	0 005 U
SW8260B	CIS-1,2-DICHLOROETHYLENE	0 005 UJ	0 004 UJ	0 005 U	0 006 U	0 005 U
SW8260B	CIS-1,3-DICHLOROPROPENE	0 005 UJ	0 004 UJ	0 005 U	0 006 U	0 005 U
SW8260B	DIBROMOCHLOROMETHANE	0 003 UJ	0 003 UJ	0 003 U	0 004 U	0 003 U
SW8260B	DIBROMOMETHANE	0 005 UJ	0 004 UJ	0 005 U	0 006 U	0 005 U
SW8260B	DICHLORODIFLUOROMETHANE	0 005 UJ	0 004 UJ	0 005 U	0 006 U	0 005 U
SW8260B	ETHYL METHACRYLATE	0 01 UJ	0 009 UJ	0 011 U	0 012 U	0 01 U
SW8260B	ETHYLBENZENE	0 003 UJ	0 003 UJ	0 003 U	0 004 U	0 003 U
SW8260B	IODOMETHANE (METHYL IODIDE)	0 005 UJ	0 004 UJ	0 005 U	0 006 U	0 005 U
SW8260B	ISOBUTANOL	0 2 UJ	0 18 UJ	0 21 U	0 24 U	0 2 U
SW8260B	M,P-XYLENE (SUM OF ISOMERS)	0 005 UJ	0 004 UJ	0 005 U	0 006 U	0 005 U
SW8260B	METHYL ETHYL KETONE (2-BUTANONE)	0 005 UJ	0 004 UJ	0 005 U	0 006 U	0 005 U
SW8260B	METHYL ISOBUTYL KETONE (4-METHYL-2-PENTANONE)	0 005 UJ	0 004 UJ	0 005 U	0 006 U	0 005 U
SW8260B	METHYL METHACRYLATE	0 01 UJ	0 009 UJ	0 011 U	0 012 U	0 01 U
SW8260B	METHYLACRYLONITRILE	0 01 UJ	0 009 UJ	0 011 U	0 012 U	0 01 U
SW8260B	METHYLENE CHLORIDE	0 002 UJ	0 002 UJ	0 002 U	0 002 U	0 002 U
SW8260B	O-XYLENE (1,2-DIMETHYLBENZENE)	0 005 UJ	0 004 UJ	0 005 U	0 006 U	0 005 U
SW8260B	PENTACHLOROETHANE	0 01 UJ	0 009 UJ	0 011 U	0 012 U	0 01 U
SW8260B	PROPANE NITRILE (PROPIONITRILE)	0 04 UJ	0 035 UJ	0 043 U	0 048 U	0 04 U
SW8260B	STYRENE	0 002 UJ	0 002 UJ	0 002 U	0 002 U	0 002 U
SW8260B	TETRACHLOROETHYLENE(PCE)	0 005 UJ	0 004 UJ	0 005 U	0 006 U	0 005 U
SW8260B	TOLUENE	0 005 UJ	0 004 UJ	0 005 U	0 006 U	0 005 U
SW8260B	TRANS-1,2-DICHLOROETHENE	0 003 UJ	0 003 UJ	0 003 U	0 004 U	0 003 U
SW8260B	TRANS-1,3-DICHLOROPROPENE	0 005 UJ	0 004 UJ	0 005 U	0 006 U	0 005 U
SW8260B	TRANS-1,4-DICHLORO-2-BUTENE	0 01 UJ	0 009 UJ	0 011 U	0 012 U	0 01 U
SW8260B	TRICHLOROETHYLENE (TCE)	0 005 UJ	0 004 UJ	0 005 U	0 006 U	0 005 U
SW8260B	TRICHLOROFLUOROMETHANE	0 004 UJ	0 004 UJ	0 004 U	0 005 U	0 004 U
SW8260B	VINYL ACETATE	0 005 UJ	0 004 UJ	0 005 U	0 006 U	0 005 U
SW8260B	VINYL CHLORIDE	0 005 UJ	0 004 UJ	0 005 U	0 006 U	0 005 U
SW8270C	1,2,4,5-TETRACHLOROBENZENE	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	1,2,4-TRICHLOROBENZENE	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	1,2-DICHLOROBENZENE	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	1,3,5-TRINITROBENZENE	1 5 U	1 6 U	1 6 U	1 7 U	1 6 U
SW8270C	1,3-DICHLOROBENZENE	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	1,3-DINITROBENZENE	0 77 U	0 8 U	0 78 U	0 86 U	0 8 U
SW8270C	1,4-DICHLOROBENZENE	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	1,4-DIOXANE (P-DIOXANE)	1 5 U	1 6 U	1 6 U	1 7 U	1 6 U

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Table B.1
Analytical Data-Soil
SWMU 53
NAS Fort Worth, JRB, Texas

ANMCODE	PARNAME	BHGLSWMU5307 - 10'	BHGLSWMU5307 - 15'	BHGLSWMU5308 - 0'	BHGLSWMU5308 - 5'	BHGLSWMU5308 - 10'
SW8270C	1,4-NAPHTHOQUINONE	1 9 U	2 U	1 9 U	2 1 U	2 U
SW8270C	1-NAPHTHYLAMINE	0 77 U	0.8 U	0 78 U	0 86 U	0 8 U
SW8270C	2,2'-OXYBIS(1-CHLORO)PROPANE	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	2,3,4,6-TETRACHLOROPHENOL	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	2,4,5-TRICHLOROPHENOL	1 9 U	2 U	1 9 U	2 1 U	2 U
SW8270C	2,4,6-TRICHLOROPHENOL	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	2,4-DICHLOROPHENOL	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	2,4-DIMETHYLPHENOL	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	2,4-DINITROPHENOL	1 9 U	2 U	1 9 U	2 1 U	2 U
SW8270C	2,4-DINITROTOLUENE	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	2,6-DICHLOROPHENOL	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	2,6-DINITROTOLUENE	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	2-ACETYLAMINOFLUORENE	0 77 U	0 8 U	0 78 U	0 86 U	0 8 U
SW8270C	2-AMINONAPHTHALENE (BETA NAPHTHYLAMINE)	0 77 U	0 8 U	0 78 U	0 86 U	0 8 U
SW8270C	2-CHLORONAPHTHALENE	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	2-CHLOROPHENOL	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	2-METHYLNAPHTHALENE	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	2-METHYLPHENOL (O-CRESOL)	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	2-NITROANILINE	1 9 U	2 U	1 9 U	2 1 U	2 U
SW8270C	2-NITROPHENOL	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	2-PICOLINE (ALPHA-PICOLINE)	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	3,3'-DICHLOROBENZIDINE	0 77 U	0 8 U	0 78 U	0 86 U	0 8 U
SW8270C	3,3'-DIMETHYLBENZIDINE	1 9 U	2 U	1 9 U	2 1 U	2 U
SW8270C	3-METHYLCHOLANTHRENE	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	3-NITROANILINE	1 9 U	2 U	1 9 U	2 1 U	2 U
SW8270C	4,6-DINITRO-2-METHYLPHENOL	1 9 U	2 U	1 9 U	2 1 U	2 U
SW8270C	4-AMINOBIPHENYL (4-BIPHENYLAMINE)	0 77 U	0 8 U	0 78 U	0 86 U	0 8 U
SW8270C	4-BROMOPHENYL PHENYL ETHER	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	4-CHLORO-3-METHYLPHENOL	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	4-CHLOROANILINE	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	4-CHLOROPHENYL PHENYL ETHER	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	4-NITROANILINE	1 9 U	2 U	1 9 U	2 1 U	2 U
SW8270C	4-NITROPHENOL	1 9 U	2 U	1 9 U	2 1 U	2 U
SW8270C	4-NITROQUINOLINE-N-OXIDE	1 9 U	2 U	1 9 U	2 1 U	2 U
SW8270C	5-NITRO-O-TOLUIDINE	0 77 U	0 8 U	0 78 U	0 86 U	0 8 U
SW8270C	7,12-DIMETHYLBENZ(A)ANTHRACENE	0 77 U	0 8 U	0 78 U	0 86 U	0 8 U
SW8270C	ACENAPHTHENE	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	ACENAPHTHYLENE	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	ACETOPHENONE	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	ALPHA, ALPHA DIMETHYLPHENETHYLAMINE	1 9 U	2 U	1 9 U	2 1 U	2 U
SW8270C	ANILINE (PHENYLAMINE, AMINOBENZENE)	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U

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Table B.1
Analytical Data-Soil
SWMU 53
NAS Fort Worth, JRB, Texas

ANMCODE	PARNAME	BHGLSWMU5307 - 10'	BHGLSWMU5307 - 15'	BHGLSWMU5308 - 0'	BHGLSWMU5308 - 5'	BHGLSWMU5308 - 10'
SW8270C	ANTHRACENE	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	ARAMITE (TOTAL)	0 77 U	0 8 U	0 78 U	0 86 U	0 8 U
SW8270C	BENZO(A)ANTHRACENE	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	BENZO(A)PYRENE	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	BENZO(B)FLUORANTHENE	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	BENZO(G,H,I)PERYLENE	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	BENZO(K)FLUORANTHENE	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	BENZOIC ACID	1 9 U	2 U	1 9 U	2 1 U	2 U
SW8270C	BENZYL ALCOHOL	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	BENZYL BUTYL PHTHALATE	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	BIS(2-CHLOROETHOXY) METHANE	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	BIS(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHER)	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	BIS(2-ETHYLHEXYL) PHTHALATE	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	CHLOROBENZILATE	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	CHRYSENE	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	CRESOLS, M & P	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	DIALLATE (TOTAL OF CIS AND TRANS ISOMERS)	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	DIBENZ(A,H)ANTHRACENE	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	DIBENZOFURAN	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	DIETHYL PHTHALATE	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	DIMETHYL PHTHALATE	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	DI-N-BUTYL PHTHALATE	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	DI-N-OCTYLPHTHALATE	0 39 U	0 4 U	0 39 U	0.43 U	0 4 U
SW8270C	DINOSEB	0 77 U	0 8 U	0 78 U	0 86 U	0 8 U
SW8270C	DIPHENYLAMINE	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	ETHYL METHANESULFONATE	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	FLUORANTHENE	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	FLUORENE	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	HEXACHLOROBENZENE	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	HEXACHLOROBUTADIENE	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	HEXACHLOROCYCLOPENTADIENE	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	HEXACHLOROETHANE	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	HEXACHLOROPHENE	5 8 R	6 R	5 8 R	6.4 R	6 R
SW8270C	HEXACHLOROPROPENE	1 9 U	2 U	1 9 U	2 1 U	2 U
SW8270C	INDENO(1,2,3-C,D)PYRENE	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	ISOPHORONE	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	ISOSAFROLE	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	METHAPYRILENE	1 9 U	2 U	1 9 U	2 1 U	2 U
SW8270C	METHYL METHANESULFONATE	0 77 U	0 8 U	0 78 U	0 86 U	0 8 U
SW8270C	NAPHTHALENE	0 39 U	0 4 U	0 39 U	0.43 U	0 4 U

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Table B.1
Analytical Data-Soil
SWMU 53
NAS Fort Worth, JRB, Texas

ANMCODE	PARNAME	BHGLSWMU5307 - 10'	BHGLSWMU5307 - 15'	BHGLSWMU5308 - 0'	BHGLSWMU5308 - 5'	BHGLSWMU5308 - 10'
SW8270C	NITROBENZENE	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	NITROSOMETHYLETHYLAMINE	0 77 U	0 8 U	0 78 U	0 86 U	0 8 U
SW8270C	N-NITROSODIETHYLAMINE	0 77 U	0 8 U	0 78 U	0 86 U	0 8 U
SW8270C	N-NITROSODIMETHYLAMINE	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	N-NITROSO-DI-N-BUTYLAMINE	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	N-NITROSODI-N-PROPYLAMINE	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	N-NITROSODIPHENYLAMINE	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	N-NITROSOMORPHOLINE	0 77 U	0 8 U	0 78 U	0 86 U	0 8 U
SW8270C	N-NITROSOPIPERIDINE	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	N-NITROSOPYRROLIDINE	1 9 U	2 U	1 9 U	2 1 U	2 U
SW8270C	O-TOLUIDINE	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	P-DIMETHYLAMINOAZOBENZENE	0 77 U	0 8 U	0 78 U	0 86 U	0 8 U
SW8270C	PENTACHLOROBENZENE	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	PENTACHLORONITROBENZENE	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	PENTACHLOROPHENOL	1 9 U	2 U	1 9 U	2 1 U	2 U
SW8270C	PHENACETIN	0 77 U	0 8 U	0 78 U	0 86 U	0 8 U
SW8270C	PHENANTHRENE	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	PHENOL	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	P-PHENYLENEDIAMINE	1 5 U	1 6 U	1 6 U	1 7 U	1 6 U
SW8270C	PRONAMIDE	0 77 U	0 8 U	0 78 U	0 86 U	0 8 U
SW8270C	PYRENE	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U
SW8270C	PYRIDINE	0 77 U	0 8 U	0 78 U	0 86 U	0 8 U
SW8270C	SAFROLE	0 39 U	0 4 U	0 39 U	0 43 U	0 4 U

Data Qualifiers
MQL = Method Quantitation Limit
MDL = Method Detection Limit
PQL = Practical Quantitation Limit
J = This analyte was positively identified, but the quantitation is an estimation
U = The analyte was analyzed for, but not detected, the associated numerical value is at or below the MDL
F = This analyte was positively identified, but the associated numerical value is between the MDL and the PQL
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 numerical value is a MDL, estimated due to deficiences in the QC criteria
S = Screening Criteria

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Table B.1
Analytical Data-Soil
SWMU 53
NAS Fort Worth, JRB, Texas

ANMCODE	PARNAME	BHGLSWMU5308 - 15'	BHGLSWMU5309 - 0'	BHGLSWMU5309 - 5'	BHGLSWMU5309 - 10'	BHGLSWMU5310 - 0'
SW6010	ARSENIC	0 62 F	2 6 F	0 59 F	5 3 UJ	2 1 F
SW6010	BARIUM	59	91 2	143	116	89 5
SW6010	BERYLLIUM	0 71	0 83	0 37	0 65	0 79
SW6010	CADMIUM	0 46 UJ	0 16 F	0 11 F	0 53 UJ	0 13 F
SW6010	CHROMIUM, TOTAL	15 7 J	14 7 J	11 J	16 1 J	13 8 J
SW6010	COBALT	2 5 F	4 5	1 9 F	2 1 F	3 9 F
SW6010	COPPER	10	13 2	9 6 F	8 1 F	13 9 J
SW6010	NICKEL	8 1 F	11	6 F	6 7 F	10 5
SW6010	TIN	9 1 UJ	6 8 UJ	9 6 UJ	10 6 UJ	9 2 UJ
SW6010	VANADIUM	21 2 F	19 6 F	20 7 F	20 5 F	20 6 F
SW6010	ZINC	25 9 F	32 8	17 7 F	24 8 F	31 4
SW7041	ANTIMONY	0 57 UJ	0 51 UJ	0 56 UJ	0 58 UJ	0 54 UJ
SW7421	LEAD	5 8 F	8 6 F	3 7 F	4 6 F	10 6 F
SW7471	MERCURY	0 04 U	0 04 U	0 04 U	0 04 U	0 04 U
SW7740	SELENIUM	0 34 UJ	0 2 F	0 33 UJ	0 35 UJ	1 1 F
SW7761	SILVER	0 23 R	0 2 R	0 22 R	0 23 R	0 21 UJ
SW7841	THALLIUM	1 1 UJ	1 UJ	1 1 UJ	1 2 UJ	1 1 UJ
SW8260B	1,1,1,2-TETRACHLOROETHANE	0 003 UJ	0 003 UJ	0 003 U	0 003 U	0 003 U
SW8260B	1,1,1-TRICHLOROETHANE	0 004 UJ	0 004 UJ	0 004 U	0 004 U	0 004 U
SW8260B	1,1,2,2-TETRACHLOROETHANE	0 002 UJ	0 002 UJ	0 002 U	0 002 U	0 002 UJ
SW8260B	1,1,2-TRICHLOROETHANE	0 005 UJ	0 006 UJ	0 005 U	0 005 U	0 006 U
SW8260B	1,1-DICHLOROETHANE	0 005 UJ	0 006 UJ	0 005 U	0 005 U	0 002 U
SW8260B	1,1-DICHLOROETHENE	0 002 UJ	0 002 R	0 002 U	0 002 U	0 006 U
SW8260B	1,2,3-TRICHLOROPROPANE	0 005 UJ	0 006 UJ	0 005 U	0 005 U	0 006 UJ
SW8260B	1,2-DIBROMO-3-CHLOROPROPANE	0 005 UJ	0 006 UJ	0 005 U	0 005 U	0 006 UJ
SW8260B	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	0 003 UJ	0 003 UJ	0 003 U	0 003 U	0 003 U
SW8260B	1,2-DICHLOROETHANE	0 003 UJ	0 003 UJ	0 003 U	0 003 U	0 003 U
SW8260B	1,2-DICHLOROPROPANE	0 002 UJ	0 002 UJ	0 002 U	0 002 U	0 002 U
SW8260B	2-CHLORO-1,3-BUTADIENE	0 005 UJ	0 006 UJ	0 005 U	0 005 U	0 006 U
SW8260B	2-HEXANONE	0 005 UJ	0 006 UJ	0 005 U	0 005 U	0 006 U
SW8260B	ACETONE	0 005 UJ	0 024 UJ	0 005 U	0 005 U	0 006 U
SW8260B	ACETONITRILE	0 041 UJ	0 044 UJ	0 042 U	0 044 U	0 044 U
SW8260B	ACROLEIN	0 1 UJ	0 11 UJ	0 11 U	0 11 U	0 11 U
SW8260B	ACRYLONITRILE	0 041 UJ	0 044 UJ	0 042 U	0 044 U	0 044 U
SW8260B	ALLYL CHLORIDE (3-CHLOROPROPENE)	0 01 UJ	0 011 UJ	0 011 U	0 011 U	0 011 U
SW8260B	BENZENE	0 002 UJ	0 002 UJ	0 002 U	0 002 U	0 002 U
SW8260B	BROMODICHLOROMETHANE	0 004 UJ	0 004 UJ	0 004 U	0 004 U	0 004 U
SW8260B	BROMOFORM	0 005 UJ	0 006 UJ	0 005 U	0 005 U	0 006 U
SW8260B	BROMOMETHANE	0 005 UJ	0 006 UJ	0 005 U	0 005 U	0 006 U
SW8260B	CARBON DISULFIDE	0 005 UJ	0 006 UJ	0 005 U	0 005 U	0 006 U
SW8260B	CARBON TETRACHLORIDE	0 005 UJ	0 006 UJ	0 005 U	0 005 U	0 006 U

Table B.1
Analytical Data-Soil
SWMU 53
NAS Fort Worth, JRB, Texas

ANMCODE	PARNAME	BHGLSWMU5308 - 15'	BHGLSWMU5309 - 0'	BHGLSWMU5309 - 5'	BHGLSWMU5309 - 10'	BHGLSWMU5310 - 0'
SW8260B	CHLOROBENZENE	0 002 UJ	0 002 UJ	0 002 U	0 002 U	0 002 U
SW8260B	CHLOROETHANE	0 005 UJ	0 006 UJ	0 005 U	0 005 U	0 006 U
SW8260B	CHLOROFORM	0 002 UJ	0 002 UJ	0 002 U	0 002 U	0 002 U
SW8260B	CHLOROMETHANE	0 005 UJ	0 006 UJ	0 005 U	0 005 U	0 006 U
SW8260B	CIS-1,2-DICHLOROETHYLENE	0 005 UJ	0 006 UJ	0 005 U	0 005 U	0 006 U
SW8260B	CIS-1,3-DICHLOROPROPENE	0 005 UJ	0 006 UJ	0 005 U	0 005 U	0 006 U
SW8260B	DIBROMOCHLOROMETHANE	0 003 UJ	0 003 UJ	0 003 U	0 003 U	0 003 U
SW8260B	DIBROMOMETHANE	0 005 UJ	0 006 UJ	0 005 U	0 005 U	0 006 U
SW8260B	DICHLORODIFLUOROMETHANE	0 005 UJ	0 006 UJ	0 005 U	0 005 U	0 006 U
SW8260B	ETHYL METHACRYLATE	0 01 UJ	0 011 UJ	0 011 U	0 011 U	0 006 U
SW8260B	ETHYLBENZENE	0 003 UJ	0 003 UJ	0 003 U	0 003 U	0 003 U
SW8260B	IODOMETHANE (METHYL IODIDE)	0 005 UJ	0 006 UJ	0 005 U	0 005 U	0 006 U
SW8260B	ISOBUTANOL	0 2 UJ	0 22 UJ	0 21 U	0 22 U	0 22 U
SW8260B	M,P-XYLENE (SUM OF ISOMERS)	0 005 UJ	0 006 UJ	0 005 U	0 005 U	0 006 U
SW8260B	METHYL ETHYL KETONE (2-BUTANONE)	0 005 UJ	0 006 UJ	0 005 U	0 005 U	0 006 U
SW8260B	METHYL ISOBUTYL KETONE (4-METHYL-2-PENTANONE)	0 005 UJ	0 006 UJ	0 005 U	0 005 U	0 006 U
SW8260B	METHYL METHACRYLATE	0 01 UJ	0 011 UJ	0 011 U	0 011 U	0 006 U
SW8260B	METHYLACRYLONITRILE	0 01 UJ	0 011 UJ	0 011 U	0 011 U	0 006 U
SW8260B	METHYLENE CHLORIDE	0 002 UJ	0 002 UJ	0 002 U	0 002 U	0 002 U
SW8260B	O-XYLENE (1,2-DIMETHYLBENZENE)	0 005 UJ	0 006 UJ	0 005 U	0 005 U	0 006 U
SW8260B	PENTACHLOROETHANE	0 01 UJ	0 011 UJ	0 011 U	0 011 U	0 006 UJ
SW8260B	PROPANE NITRILE (PROPIONITRILE)	0 04 UJ	0 044 UJ	0 042 U	0 044 U	0 022 U
SW8260B	STYRENE	0 002 UJ	0 002 UJ	0 002 U	0 002 U	0 002 U
SW8260B	TETRACHLOROETHYLENE(PCE)	0 005 UJ	0 006 UJ	0 005 U	0 005 U	0 006 U
SW8260B	TOLUENE	0 005 UJ	0 006 UJ	0 005 U	0 005 U	0 006 U
SW8260B	TRANS-1,2-DICHLOROETHENE	0 003 UJ	0 003 UJ	0 003 U	0 003 U	0 003 U
SW8260B	TRANS-1,3-DICHLOROPROPENE	0 005 UJ	0 006 UJ	0 005 U	0 005 U	0 006 U
SW8260B	TRANS-1,4-DICHLORO-2-BUTENE	0 01 UJ	0 011 UJ	0 011 U	0 011 U	0 006 U
SW8260B	TRICHLOROETHYLENE (TCE)	0 005 UJ	0 006 UJ	0 005 U	0 005 U	0 006 U
SW8260B	TRICHLOROFLUOROMETHANE	0 004 UJ	0 004 UJ	0 004 U	0 004 U	0 004 U
SW8260B	VINYL ACETATE	0 005 UJ	0 006 UJ	0 005 U	0 005 U	0 006 U
SW8260B	VINYL CHLORIDE	0 005 UJ	0 006 UJ	0 005 U	0 005 U	0 006 U
SW8270C	1,2,4,5-TETRACHLOROBENZENE	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	1,2,4-TRICHLOROBENZENE	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	1,2-DICHLOROBENZENE	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	1,3,5-TRINITROBENZENE	1 6 U	1 6 U	1 6 U	1 7 U	1 5 U
SW8270C	1,3-DICHLOROBENZENE	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	1,3-DINITROBENZENE	0 82 U	0 8 U	0 8 U	0 85 U	0 77 U
SW8270C	1,4-DICHLOROBENZENE	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	1,4-DIOXANE (P-DIOXANE)	1 6 U	1 6 U	1 6 U	1 7 U	1 5 U

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Table B.1
Analytical Data-Soil
SWMU 53
NAS Fort Worth, JRB, Texas

ANMCODE	PARNAME	BHGLSWMU5308 - 15'	BHGLSWMU5309 - 0'	BHGLSWMU5309 - 5'	BHGLSWMU5309 - 10'	BHGLSWMU5310 - 0'
SW8270C	1,4-NAPHTHOQUINONE	2 1 U	2 U	2 U	2 1 R	1 9 R
SW8270C	1-NAPHTHYLAMINE	0 82 U	0 8 U	0 8 U	0 85 U	0 77 U
SW8270C	2,2'-OXYBIS(1-CHLORO)PROPANE	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	2,3,4,6-TETRACHLOROPHENOL	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	2,4,5-TRICHLOROPHENOL	2 1 U	2 U	2 U	2 1 U	1 9 U
SW8270C	2,4,6-TRICHLOROPHENOL	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	2,4-DICHLOROPHENOL	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	2,4-DIMETHYLPHENOL	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	2,4-DINITROPHENOL	2 1 U	2 U	2 U	2 1 U	1 9 U
SW8270C	2,4-DINITROTOLUENE	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	2,6-DICHLOROPHENOL	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	2,6-DINITROTOLUENE	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	2-ACETYLAMINOFLUORENE	0 82 U	0 8 U	0 8 U	0 85 U	0 77 U
SW8270C	2-AMINONAPHTHALENE (BETA NAPHTHYLAMINE)	0 82 U	0 8 U	0 8 U	0 85 U	0 77 U
SW8270C	2-CHLORONAPHTHALENE	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	2-CHLOROPHENOL	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	2-METHYLNAPHTHALENE	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	2-METHYLPHENOL (O-CRESOL)	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	2-NITROANILINE	2 1 U	2 U	2 U	2 1 U	1 9 U
SW8270C	2-NITROPHENOL	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	2-PICOLINE (ALPHA-PICOLINE)	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	3,3'-DICHLOROBENZIDINE	0 82 U	0 8 U	0 8 U	0 85 U	0 77 U
SW8270C	3,3'-DIMETHYLBENZIDINE	2 1 U	2 U	2 U	2 1 U	1 9 U
SW8270C	3-METHYLCHOLANTHRENE	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	3-NITROANILINE	2 1 U	2 U	2 U	2 1 U	1 9 U
SW8270C	4,6-DINITRO-2-METHYLPHENOL	2 1 U	2 U	2 U	2 1 U	1 9 U
SW8270C	4-AMINOBIPHENYL (4-BIPHENYLAMINE)	0 82 U	0 8 U	0 8 U	0 85 U	0 77 U
SW8270C	4-BROMOPHENYL PHENYL ETHER	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	4-CHLORO-3-METHYLPHENOL	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	4-CHLOROANILINE	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	4-CHLOROPHENYL PHENYL ETHER	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	4-NITROANILINE	2 1 U	2 U	2 U	2 1 U	1 9 U
SW8270C	4-NITROPHENOL	2 1 U	2 U	2 U	2 1 U	1 9 U
SW8270C	4-NITROQUINOLINE-N-OXIDE	2 1 U	2 U	2 U	2.1 R	1 9 R
SW8270C	5-NITRO-O-TOLUIDINE	0 82 U	0 8 U	0 8 U	0 85 U	0 77 U
SW8270C	7,12-DIMETHYLBENZ(A)ANTHRACENE	0 82 U	0 8 U	0 8 U	0 85 U	0 77 U
SW8270C	ACENAPHTHENE	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	ACENAPHTHYLENE	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	ACETOPHENONE	0 41 U	0 4 U	0.4 U	0 43 U	0 38 U
SW8270C	ALPHA, ALPHA DIMETHYLPHENETHYLAMINE	2 1 U	2 U	2 U	2 1 U	1 9 U
SW8270C	ANILINE (PHENYLAMINE, AMINOBENZENE)	0 41 U	0 4 U	0.4 U	0 43 U	0 38 U

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Table B.1
Analytical Data-Soil
SWMU 53
NAS Fort Worth, JRB, Texas

ANMCODE	PARNAME	BHGLSWMU5308 - 15'	BHGLSWMU5309 - 0'	BHGLSWMU5309 - 5'	BHGLSWMU5309 - 10'	BHGLSWMU5310 - 0'
SW8270C	ANTHRACENE	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	ARAMITE (TOTAL)	0 82 U	0 8 U	0 8 U	0 85 U	0 77 U
SW8270C	BENZO(A)ANTHRACENE	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	BENZO(A)PYRENE	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	BENZO(B)FLUORANTHENE	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	BENZO(G,H,I)PERYLENE	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	BENZO(K)FLUORANTHENE	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	BENZOIC ACID	2 1 U	2 U	2 U	2 1 U	1 9 R
SW8270C	BENZYL ALCOHOL	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	BENZYL BUTYL PHTHALATE	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	BIS(2-CHLOROETHOXY) METHANE	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	BIS(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHER)	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	BIS(2-ETHYLHEXYL) PHTHALATE	5 6	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	CHLOROBENZILATE	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	CHRYSENE	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	CRESOLS, M & P	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	DIALLATE (TOTAL OF CIS AND TRANS ISOMERS)	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	DIBENZ(A,H)ANTHRACENE	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	DIBENZOFURAN	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	DIETHYL PHTHALATE	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	DIMETHYL PHTHALATE	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	DI-N-BUTYL PHTHALATE	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	DI-N-OCTYLPHTHALATE	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	DINOSEB	0 82 U	0 8 U	0 8 U	0 85 U	0 77 U
SW8270C	DIPHENYLAMINE	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	ETHYL METHANESULFONATE	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	FLUORANTHENE	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	FLUORENE	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	HEXACHLOROBENZENE	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	HEXACHLOROBUTADIENE	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	HEXACHLOROCYCLOPENTADIENE	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	HEXACHLOROETHANE	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	HEXACHLOROPHENE	6 2 R	6 R	6 U	6 4 R	5 7 R
SW8270C	HEXACHLOROPROPENE	2 1 U	2 U	2 U	2 1 U	1 9 U
SW8270C	INDENO(1,2,3-C,D)PYRENE	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	ISOPHORONE	0.41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	ISOSAFROLE	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	METHAPYRILENE	2 1 U	2 U	2 U	2 1 U	1 9 U
SW8270C	METHYL METHANESULFONATE	0 82 U	0 8 U	0 8 U	0 85 U	0 77 U
SW8270C	NAPHTHALENE	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U

Table B.1
Analytical Data-Soil
SWMU 53
NAS Fort Worth, JRB, Texas

ANMCODE	PARNAME	BHGLSWMU5308 - 15'	BHGLSWMU5309 - 0'	BHGLSWMU5309 - 5'	BHGLSWMU5309 - 10'	BHGLSWMU5310 - 0'
SW8270C	NITROBENZENE	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	NITROSOMETHYLETHYLAMINE	0 82 U	0 8 U	0 8 U	0 85 U	0 77 U
SW8270C	N-NITROSODIETHYLAMINE	0 82 U	0 8 U	0 8 U	0 85 U	0 77 U
SW8270C	N-NITROSODIMETHYLAMINE	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	N-NITROSO-DI-N-BUTYLAMINE	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	N-NITROSODI-N-PROPYLAMINE	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	N-NITROSODIPHENYLAMINE	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	N-NITROSOMORPHOLINE	0 82 U	0 8 U	0 8 U	0 85 U	0 77 U
SW8270C	N-NITROSOPIPERIDINE	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	N-NITROSOPYRROLIDINE	2 1 U	2 U	2 U	2 1 U	1 9 U
SW8270C	O-TOLUIDINE	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	P-DIMETHYLAMINOAZOBENZENE	0 82 U	0 8 U	0 8 U	0 85 U	0 77 U
SW8270C	PENTACHLOROBENZENE	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	PENTACHLORONITROBENZENE	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	PENTACHLOROPHENOL	2 1 U	2 U	2 U	2 1 U	1 9 U
SW8270C	PHENACETIN	0 82 U	0 8 U	0 8 U	0 85 U	0 77 U
SW8270C	PHENANTHRENE	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	PHENOL	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	P-PHENYLENEDIAMINE	1 6 U	1 6 U	1 6 U	1 7 U	1 5 U
SW8270C	PRONAMIDE	0 82 U	0 8 U	0 8 U	0 85 U	0 77 U
SW8270C	PYRENE	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U
SW8270C	PYRIDINE	0 82 U	0 8 U	0 8 U	0 85 U	0 77 U
SW8270C	SAFROLE	0 41 U	0 4 U	0 4 U	0 43 U	0 38 U

Data Qualifiers
MQL = Method Quantitation Limit
MDL = Method Detection Limit
PQL = Practical Quantitation Limit
J = This analyte was positively identified, but the quantitation is an estimation
U = The analyte was analyzed for, but not detected, the associated numerical value is at or below the MDL
F = This analyte was positively identified, but the associated numerical value is between the MDL and the PQL
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 numerical value is a MDL, estimated due to deficiences in the QC criteria
S = Screening Criteria

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Table B.1
Analytical Data-Soil
SWMU 53
NAS Fort Worth, JRB, Texas

ANMCODE	PARNAME	BHGLSWMU5310 - 5' Duplicate	BHGLSWMU5310 - 5'	BHGLSWMU5310 - 10'	BHGLSWMU5311 - 0'	BHGLSWMU5311 - 5'
SW6010	ARSENIC	5 6	1 7 F	4 9 UJ	3 4 F	1.4 F
SW6010	BARIUM	176	162	99 4	81 5	119
SW6010	BERYLLIUM	0 61	0 58	1	0 81	0 25 U
SW6010	CADMIUM	0 07 F	0 08 F	0 49 UJ	0 49 UJ	0 14 F
SW6010	CHROMIUM, TOTAL	13 9 J	16 3 J	18 J	14 5 J	8 9 J
SW6010	COBALT	3 3 F	3 4 F	4 F	5 4 F	1 9 F
SW6010	COPPER	13 8 J	8 5 F	19 J	12 J	5 1 F
SW6010	NICKEL	8 2 F	7 2 F	13 1	10 9	5 7 F
SW6010	TIN	10 1 UJ	10 1 UJ	1 5 F	9 8 UJ	7 5 UJ
SW6010	VANADIUM	63 6	35 2	20 4 F	27 6 F	22 9
SW6010	ZINC	21 9 F	24 5 F	40 8	37 2	19 4 F
SW7041	ANTIMONY	0 54 UJ	0 52 UJ	0 58 UJ	0 37 F	0 49 R
SW7421	LEAD	6 1 F	6 5 F	11 4 F	9 7	5 F
SW7471	MERCURY	0 04 U	0 04 U	0 04 U	0 04 U	0 04 U
SW7740	SELENIUM	0 33 UJ	0 31 UJ	0 35 UJ	0 29 UJ	0 29 UJ
SW7761	SILVER	0 22 UJ	0 21 UJ	0 23 UJ	0 19 UJ	0 19 UJ
SW7841	THALLIUM	1 1 UJ	0 25 F	5 8 U	0 23 F	0 97 UJ
SW8260B	1,1,1,2-TETRACHLOROETHANE	0 003 U	0 004 U	0 003 U	0 004 U	0 003 U
SW8260B	1,1,1-TRICHLOROETHANE	0 004 U	0 005 U	0 004 U	0 005 U	0 004 U
SW8260B	1,1,2,2-TETRACHLOROETHANE	0 002 U	0 002 U	0 002 U	0 002 UJ	0 002 U
SW8260B	1,1,2-TRICHLOROETHANE	0 005 U	0 006 U	0 006 U	0 006 U	0 005 U
SW8260B	1,1-DICHLOROETHANE	0 002 U	0 002 U	0 002 U	0 002 U	0 002 U
SW8260B	1,1-DICHLOROETHENE	0 005 U	0 006 U	0 006 R	0 006 U	0 005 U
SW8260B	1,2,3-TRICHLOROPROPANE	0 005 U	0 006 U	0 006 U	0 006 UJ	0 005 U
SW8260B	1,2-DIBROMO-3-CHLOROPROPANE	0 005 U	0 006 U	0 006 U	0 006 UJ	0 005 U
SW8260B	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	0 003 U	0 004 U	0 003 U	0 004 U	0 003 U
SW8260B	1,2-DICHLOROETHANE	0 003 U	0 004 U	0 003 U	0 004 U	0 003 U
SW8260B	1,2-DICHLOROPROPANE	0 002 U	0 002 U	0 002 U	0 002 U	0 002 U
SW8260B	2-CHLORO-1,3-BUTADIENE	0 005 U	0 006 U	0 006 U	0 006 U	0 005 U
SW8260B	2-HEXANONE	0 005 U	0 006 U	0 006 U	0 006 U	0 005 U
SW8260B	ACETONE	0 005 U	0 006 U	0 006 U	0 006 U	0 005 U
SW8260B	ACETONITRILE	0 039 U	0 047 U	0 045 U	0 05 U	0 039 U
SW8260B	ACROLEIN	0 098 U	0 12 U	0 11 U	0 12 U	0 098 U
SW8260B	ACRYLONITRILE	0 039 U	0 047 U	0 045 U	0 05 U	0 039 U
SW8260B	ALLYL CHLORIDE (3-CHLOROPROPENE)	0 01 U	0 012 U	0 011 U	0 012 U	0 01 U
SW8260B	BENZENE	0 002 U	0 002 U	0 002 U	0 002 U	0 002 U
SW8260B	BROMODICHLOROMETHANE	0 004 U	0 005 U	0 004 U	0 005 U	0 004 U
SW8260B	BROMOFORM	0 005 U	0 006 U	0 006 U	0 006 U	0 005 U
SW8260B	BROMOMETHANE	0 005 U	0 006 U	0 006 U	0 006 U	0 005 U
SW8260B	CARBON DISULFIDE	0 005 U	0 006 U	0 006 U	0 006 U	0 005 U
SW8260B	CARBON TETRACHLORIDE	0 005 U	0 006 U	0 006 U	0 006 U	0 005 U

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Table B.1
Analytical Data-Soil
SWMU 53
NAS Fort Worth, JRB, Texas

ANMCODE	PARNAME	BHGLSWMU5310 - 5' Duplicate	BHGLSWMU5310 - 5'	BHGLSWMU5310 - 10'	BHGLSWMU5311 - 0'	BHGLSWMU5311 - 5'
SW8260B	CHLOROBENZENE	0 002 U	0 002 U	0 002 U	0 002 U	0 002 U
SW8260B	CHLOROETHANE	0 005 U	0 006 U	0 006 U	0 006 U	0 005 U
SW8260B	CHLOROFORM	0 002 U	0 002 U	0 002 U	0 002 U	0 002 U
SW8260B	CHLOROMETHANE	0 005 U	0 006 U	0 006 U	0 006 U	0 005 U
SW8260B	CIS-1,2-DICHLOROETHYLENE	0 005 U	0 006 U	0 006 U	0 006 U	0 005 U
SW8260B	CIS-1,3-DICHLOROPROPENE	0 005 U	0 006 U	0 006 U	0 006 U	0 005 U
SW8260B	DIBROMOCHLOROMETHANE	0 003 U	0 004 U	0 003 U	0 004 U	0 003 U
SW8260B	DIBROMOMETHANE	0 005 U	0 006 U	0 006 U	0 006 U	0 005 U
SW8260B	DICHLORODIFLUOROMETHANE	0 005 U	0 006 U	0 006 U	0.006 U	0 005 U
SW8260B	ETHYL METHACRYLATE	0 005 U	0 006 U	0 006 U	0 006 U	0 005 U
SW8260B	ETHYLBENZENE	0 003 U	0 004 U	0 003 U	0 004 U	0 003 U
SW8260B	IODOMETHANE (METHYL IODIDE)	0 005 U	0 006 U	0 006 U	0 006 U	0 005 U
SW8260B	ISOBUTANOL	0 2 U	0 24 U	0 22 U	0.25 U	0 2 U
SW8260B	M,P-XYLENE (SUM OF ISOMERS)	0 005 U	0 006 U	0 006 U	0 006 U	0 005 U
SW8260B	METHYL ETHYL KETONE (2-BUTANONE)	0 005 U	0 006 U	0 006 U	0 006 U	0 005 U
SW8260B	METHYL ISOBUTYL KETONE (4-METHYL-2-PENTANONE)	0 005 J	0 006 UJ	0 006 U	0 006 U	0 005 U
SW8260B	METHYL METHACRYLATE	0 005 U	0 006 U	0 006 U	0 006 U	0 005 U
SW8260B	METHYLACRYLONITRILE	0 005 U	0 006 U	0 006 U	0 006 U	0 005 U
SW8260B	METHYLENE CHLORIDE	0 002 U	0 002 U	0 002 U	0 002 U	0 002 U
SW8260B	O-XYLENE (1,2-DIMETHYLBENZENE)	0 005 U	0 006 U	0 006 U	0 006 U	0 005 U
SW8260B	PENTACHLOROETHANE	0 005 U	0 006 U	0 006 U	0 006 UJ	0 005 U
SW8260B	PROPANE NITRILE (PROPIONITRILE)	0 02 U	0 024 U	0 022 U	0 025 U	0 02 U
SW8260B	STYRENE	0 002 U	0 002 U	0 002 U	0 002 U	0 002 U
SW8260B	TETRACHLOROETHYLENE(PCE)	0 005 U	0 006 U	0 006 U	0 006 U	0 005 U
SW8260B	TOLUENE	0 005 U	0 006 U	0 006 U	0 006 U	0 005 U
SW8260B	TRANS-1,2-DICHLOROETHENE	0 003 U	0 004 U	0 003 U	0 004 U	0 003 U
SW8260B	TRANS-1,3-DICHLOROPROPENE	0 005 U	0 006 U	0 006 U	0 006 U	0 005 U
SW8260B	TRANS-1,4-DICHLORO-2-BUTENE	0 005 U	0 006 U	0 006 U	0 006 U	0 005 U
SW8260B	TRICHLOROETHYLENE (TCE)	0 005 U	0 006 U	0 006 U	0 006 U	0 005 U
SW8260B	TRICHLOROFLUOROMETHANE	0 004 U	0 005 U	0 004 U	0 005 U	0 004 U
SW8260B	VINYL ACETATE	0 005 U	0 006 U	0 006 U	0 006 U	0 005 U
SW8260B	VINYL CHLORIDE	0 005 U	0 006 U	0 006 U	0 006 U	0 005 U
SW8270C	1,2,4,5-TETRACHLOROBENZENE	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	1,2,4-TRICHLOROBENZENE	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	1,2-DICHLOROBENZENE	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	1,3,5-TRINITROBENZENE	1.5 U	1 5 U	1 8 U	1 5 U	1 5 U
SW8270C	1,3-DICHLOROBENZENE	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	1,3-DINITROBENZENE	0 77 U	0 77 U	0 88 U	0 73 U	0 75 U
SW8270C	1,4-DICHLOROBENZENE	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	1,4-DIOXANE (P-DIOXANE)	1 5 U	1 5 U	1 8 U	1 5 U	1 5 U

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Table B.1
Analytical Data-Soil
SWMU 53
NAS Fort Worth, JRB, Texas

ANMCODE	PARNAME	BHGLSWMU5310 - 5' Duplicate	BHGLSWMU5310 - 5'	BHGLSWMU5310 - 10'	BHGLSWMU5311 - 0'	BHGLSWMU5311 - 5'
SW8270C	1,4-NAPHTHOQUINONE	1 9 R	1 9 R	2 2 R	1 8 R	1 9 R
SW8270C	1-NAPHTHYLAMINE	0 77 U	0 77 U	0 88 U	0 73 U	0 75 U
SW8270C	2,2'-OXYBIS(1-CHLORO)PROPANE	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	2,3,4,6-TETRACHLOROPHENOL	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	2,4,5-TRICHLOROPHENOL	1 9 U	1 9 U	2 2 U	1 8 U	1 9 U
SW8270C	2,4,6-TRICHLOROPHENOL	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	2,4-DICHLOROPHENOL	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	2,4-DIMETHYLPHENOL	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	2,4-DINITROPHENOL	1 9 U	1 9 U	2 2 U	1 8 U	1 9 U
SW8270C	2,4-DINITROTOLUENE	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	2,6-DICHLOROPHENOL	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	2,6-DINITROTOLUENE	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	2-ACETYLAMINOFLUORENE	0 77 U	0 77 U	0 88 U	0 73 U	0 75 U
SW8270C	2-AMINONAPHTHALENE (BETA NAPHTHYLAMINE)	0 77 U	0 77 U	0 88 U	0 73 U	0 75 U
SW8270C	2-CHLORONAPHTHALENE	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	2-CHLOROPHENOL	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	2-METHYLNAPHTHALENE	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	2-METHYLPHENOL (O-CRESOL)	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	2-NITROANILINE	1 9 U	1.9 U	2 2 U	1 8 U	1 9 U
SW8270C	2-NITROPHENOL	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	2-PICOLINE (ALPHA-PICOLINE)	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	3,3'-DICHLOROBENZIDINE	0 77 U	0 77 U	0 88 U	0 73 U	0 75 U
SW8270C	3,3'-DIMETHYLBENZIDINE	1.9 U	1 9 U	2 2 U	1 8 U	1 9 U
SW8270C	3-METHYLCHOLANTHRENE	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	3-NITROANILINE	1 9 U	1 9 U	2 2 U	1 8 U	1 9 U
SW8270C	4,6-DINITRO-2-METHYLPHENOL	1 9 U	1 9 U	2 2 U	1 8 U	1 9 U
SW8270C	4-AMINOBIPHENYL (4-BIPHENYLAMINE)	0 77 U	0 77 U	0 88 U	0 73 U	0 75 U
SW8270C	4-BROMOPHENYL PHENYL ETHER	0.38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	4-CHLORO-3-METHYLPHENOL	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	4-CHLOROANILINE	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	4-CHLOROPHENYL PHENYL ETHER	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	4-NITROANILINE	1 9 U	1 9 U	2 2 U	1 8 U	1 9 U
SW8270C	4-NITROPHENOL	1 9 U	1 9 U	2 2 U	1 8 U	1 9 U
SW8270C	4-NITROQUINOLINE-N-OXIDE	1 9 R	1 9 R	2 2 R	1 8 R	1 9 R
SW8270C	5-NITRO-O-TOLUIDINE	0 77 U	0 77 U	0 88 U	0 73 U	0 75 U
SW8270C	7,12-DIMETHYLBENZ(A)ANTHRACENE	0 77 U	0 77 U	0 88 U	0 73 U	0 75 U
SW8270C	ACENAPHTHENE	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	ACENAPHTHYLENE	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	ACETOPHENONE	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	ALPHA, ALPHA DIMETHYLPHENETHYLAMINE	1 9 U	1 9 U	2 2 U	1 8 U	1 9 U
SW8270C	ANILINE (PHENYLAMINE, AMINOBENZENE)	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U

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Table B.1
Analytical Data-Soil
SWMU 53
NAS Fort Worth, JRB, Texas

ANMCODE	PARNAME	BHGLSWMU5310 - 5' Duplicate	BHGLSWMU5310 - 5'	BHGLSWMU5310 - 10'	BHGLSWMU5311 - 0'	BHGLSWMU5311 - 5'
SW8270C	ANTHRACENE	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	ARAMITE (TOTAL)	0 77 U	0 77 U	0 88 U	0 73 U	0 75 U
SW8270C	BENZO(A)ANTHRACENE	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	BENZO(A)PYRENE	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	BENZO(B)FLUORANTHENE	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	BENZO(G,H,I)PERYLENE	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	BENZO(K)FLUORANTHENE	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	BENZOIC ACID	1 9 R	1 9 R	2 2 R	1 8 R	1 9 R
SW8270C	BENZYL ALCOHOL	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	BENZYL BUTYL PHTHALATE	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	BIS(2-CHLOROETHOXY) METHANE	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	BIS(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHER)	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	BIS(2-ETHYLHEXYL) PHTHALATE	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	CHLOROBENZILATE	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	CHRYSENE	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	CRESOLS, M & P	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	DIALLATE (TOTAL OF CIS AND TRANS ISOMERS)	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	DIBENZ(A,H)ANTHRACENE	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	DIBENZOFURAN	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	DIETHYL PHTHALATE	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	DIMETHYL PHTHALATE	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	DI-N-BUTYL PHTHALATE	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	DI-N-OCTYLPHTHALATE	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	DINOSEB	0 77 U	0 77 U	0 88 U	0 73 U	0 75 U
SW8270C	DIPHENYLAMINE	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	ETHYL METHANESULFONATE	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	FLUORANTHENE	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	FLUORENE	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	HEXACHLOROBENZENE	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	HEXACHLOROBUTADIENE	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	HEXACHLOROCYCLOPENTADIENE	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	HEXACHLOROETHANE	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	HEXACHLOROPHENE	5 8 R	5 8 R	6 6 R	5 5 R	5 6 R
SW8270C	HEXACHLOROPROPENE	1 9 U	1 9 U	2 2 U	1 8 U	1 9 U
SW8270C	INDENO(1,2,3-C,D)PYRENE	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	ISOPHORONE	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	ISOSAFROLE	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	METHAPYRILENE	1 9 U	1 9 U	2 2 U	1 8 U	1 9 U
SW8270C	METHYL METHANESULFONATE	0 77 U	0 77 U	0 88 U	0 73 U	0 75 U
SW8270C	NAPHTHALENE	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U

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Table B.1
Analytical Data-Soil
SWMU 53
NAS Fort Worth, JRB, Texas

ANMCODE	PARNAME	BHGLSWMU5310 - 5' Duplicate	BHGLSWMU5310 - 5'	BHGLSWMU5310 - 10'	BHGLSWMU5311 - 0'	BHGLSWMU5311 - 5'
SW8270C	NITROBENZENE	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	NITROSOMETHYLETHYLAMINE	0 77 U	0 77 U	0 88 U	0 73 U	0 75 U
SW8270C	N-NITROSODIETHYLAMINE	0 77 U	0 77 U	0 88 U	0 73 U	0 75 U
SW8270C	N-NITROSODIMETHYLAMINE	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	N-NITROSO-DI-N-BUTYLAMINE	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	N-NITROSODI-N-PROPYLAMINE	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	N-NITROSODIPHENYLAMINE	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	N-NITROSOMORPHOLINE	0 77 U	0 77 U	0 88 U	0 73 U	0 75 U
SW8270C	N-NITROSOPIPERIDINE	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	N-NITROSOPYRROLIDINE	1 9 U	1 9 U	2 2 U	1 8 U	1 9 U
SW8270C	O-TOLUIDINE	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	P-DIMETHYLAMINOAZOBENZENE	0 77 U	0 77 U	0 88 U	0 73 U	0 75 U
SW8270C	PENTACHLOROBENZENE	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	PENTACHLORONITROBENZENE	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	PENTACHLOROPHENOL	1 9 U	1 9 U	2 2 U	1 8 U	1 9 U
SW8270C	PHENACETIN	0 77 U	0 77 U	0 88 U	0 73 U	0 75 U
SW8270C	PHENANTHRENE	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	PHENOL	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	P-PHENYLENEDIAMINE	1 5 U	1 5 U	1 8 U	1 5 U	1 5 U
SW8270C	PRONAMIDE	0 77 U	0 77 U	0 88 U	0 73 U	0 75 U
SW8270C	PYRENE	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U
SW8270C	PYRIDINE	0 77 U	0 77 U	0 88 U	0 73 U	0 75 U
SW8270C	SAFROLE	0 38 U	0 38 U	0 44 U	0 37 U	0 38 U

Data Qualifiers
MQL = Method Quantitation Limit
MDL = Method Detection Limit
PQL = Practical Quantitation Limit
J = This analyte was positively identified, but the quantitation is an estimation
U = The analyte was analyzed for, but not detected, the associated numerical value is at or below the MDL
F = This analyte was positively identified, but the associated numerical value is between the MDL and the PQL
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 numerical value is a MDL, estimated due to deficiences in the QC criteria
S = Screening Criteria

672' 157'

Table B.1
Analytical Data-Soil
SWMU 53
NAS Fort Worth, JRB, Texas

ANMCODE	PARNAME	BHGLSWMU5312 - 0'	BHGLSWMU5312 - 5'	BHGLSWMU5313 - 0'	BHGLSWMU5313 - 5'	BHGLSWMU5313 - 10'
SW6010	ARSENIC	3 1 F	0 53 F	2 3 F	1 2 F	4 4 UJ
SW6010	BARIUM	92 2	94 1	106	113	42 8
SW6010	BERYLLIUM	0 62	0 24 UJ	0 9	0 53	0 37 U
SW6010	CADMIUM	0 33 F	0 39 UJ	0 28 F	0 13 F	0 44 UJ
SW6010	CHROMIUM, TOTAL	14 8 J	5 2 F	18 J	12 9 J	7 5 F
SW6010	COBALT	4 4 F	0 44 F	4 3 F	2 3 F	3 2 F
SW6010	COPPER	13 J	7 8 UJ	13 7 J	6 F	6 4 F
SW6010	NICKEL	10 2 F	1 8 F	11 6	6 3 F	6 7 F
SW6010	TIN	10 5 UJ	0 73 F	1 9 F	9 UJ	0 72 F
SW6010	VANADIUM	24 2 F	5 4 F	29 6	32	12 1 F
SW6010	ZINC	35 4	23 5 UJ	35 4	21 9 F	21 F
SW7041	ANTIMONY	0 44 UJ	0 52 U	0 51 U	0 54 U	0 49 UJ
SW7421	LEAD	6 4 F	1 3 F	3 8 F	4 9 F	5 F
SW7471	MERCURY	0 04 U	0 04 U	0 04 U	0 04 U	0 04 U
SW7740	SELENIUM	0 27 U	0 31 UJ	0 31 UJ	0 32 UJ	0 29 UJ
SW7761	SILVER	0 18 UJ	0 21 UJ	0 2 UJ	0 22 UJ	0 2 UJ
SW7841	THALLIUM	0 89 UJ	1 UJ	0 25 F	0 23 F	0 98 UJ
SW8260B	1,1,1,2-TETRACHLOROETHANE	0 003 U	0 003 U	0 004 U	0 003 U	0 003 U
SW8260B	1,1,1-TRICHLOROETHANE	0 004 U	0 004 U	0 005 U	0 004 U	0 004 U
SW8260B	1,1,2,2-TETRACHLOROETHANE	0 002 U	0 002 UJ	0 002 UJ	0 002 U	0 002 UJ
SW8260B	1,1,2-TRICHLOROETHANE	0 005 U	0 005 U	0 006 U	0 005 U	0 005 U
SW8260B	1,1-DICHLOROETHANE	0 002 U	0 002 U	0 002 U	0 002 U	0 002 U
SW8260B	1,1-DICHLOROETHENE	0 005 U	0 005 U	0 006 U	0 005 U	0 005 U
SW8260B	1,2,3-TRICHLOROPROPANE	0 005 U	0 005 UJ	0 006 UJ	0 005 U	0 005 UJ
SW8260B	1,2-DIBROMO-3-CHLOROPROPANE	0 005 U	0 005 UJ	0 006 UJ	0 005 U	0 005 UJ
SW8260B	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	0 003 U	0 003 U	0 004 U	0 003 U	0 003 U
SW8260B	1,2-DICHLOROETHANE	0 003 U	0 003 U	0 004 U	0 003 U	0 003 U
SW8260B	1,2-DICHLOROPROPANE	0 002 U	0 002 U	0 002 U	0 002 U	0 002 U
SW8260B	2-CHLORO-1,3-BUTADIENE	0 005 U	0 005 U	0 006 U	0 005 U	0 005 U
SW8260B	2-HEXANONE	0 005 U	0 005 U	0 006 U	0 005 U	0 005 U
SW8260B	ACETONE	0 005 U	0 005 U	0 006 U	0 005 U	0 005 U
SW8260B	ACETONITRILE	0 043 U	0 044 U	0 051 U	0 041 U	0 041 U
SW8260B	ACROLEIN	0 11 U	0 11 U	0 13 U	0.1 U	0.1 U
SW8260B	ACRYLONITRILE	0 043 U	0 044 U	0 051 U	0 041 U	0 041 U
SW8260B	ALLYL CHLORIDE (3-CHLOROPROPENE)	0 011 U	0 011 U	0 013 U	0 01 U	0 01 U
SW8260B	BENZENE	0 002 U	0 002 U	0 002 U	0 002 U	0 002 U
SW8260B	BROMODICHLOROMETHANE	0 004 U	0 004 U	0 005 U	0 004 U	0 004 U
SW8260B	BROMOFORM	0 005 U	0 005 U	0 006 U	0 005 U	0 005 U
SW8260B	BROMOMETHANE	0 005 U	0 005 U	0 006 U	0 005 U	0 005 U
SW8260B	CARBON DISULFIDE	0 005 U	0 005 U	0 006 U	0 005 U	0 005 U
SW8260B	CARBON TETRACHLORIDE	0 005 U	0 005 U	0 006 U	0 005 U	0 005 U

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Table B.1
Analytical Data-Soil
SWMU 53
NAS Fort Worth, JRB, Texas

ANMCODE	PARNAME	BHGLSWMU5312 - 0'	BHGLSWMU5312 - 5'	BHGLSWMU5313 - 0'	BHGLSWMU5313 - 5'	BHGLSWMU5313 - 10'
SW8260B	CHLOROBENZENE	0 002 U	0 002 U	0 002 U	0 002 U	0 002 U
SW8260B	CHLOROETHANE	0 005 U	0 005 U	0 006 U	0 005 U	0 005 U
SW8260B	CHLOROFORM	0 002 U	0 002 U	0.002 U	0 002 U	0 002 U
SW8260B	CHLOROMETHANE	0 005 U	0 005 U	0 006 U	0 005 U	0 005 U
SW8260B	CIS-1,2-DICHLOROETHYLENE	0 005 U	0 005 U	0 006 U	0 005 U	0 005 U
SW8260B	CIS-1,3-DICHLOROPROPENE	0 005 U	0 005 U	0 006 U	0 005 U	0 005 U
SW8260B	DIBROMOCHLOROMETHANE	0 003 U	0 003 U	0 004 U	0 003 U	0 003 U
SW8260B	DIBROMOMETHANE	0 005 U	0 005 U	0 006 U	0 005 U	0 005 U
SW8260B	DICHLORODIFLUOROMETHANE	0 005 U	0 005 U	0 006 U	0 005 U	0 005 U
SW8260B	ETHYL METHACRYLATE	0 005 U	0 005 U	0 006 U	0 005 U	0 005 U
SW8260B	ETHYLBENZENE	0 003 U	0 003 U	0 004 U	0 003 U	0 003 U
SW8260B	IODOMETHANE (METHYL IODIDE)	0 005 U	0 005 U	0 006 U	0 005 U	0 005 U
SW8260B	ISOBUTANOL	0 22 U	0 22 U	0 26 U	0 2 U	0 2 U
SW8260B	M,P-XYLENE (SUM OF ISOMERS)	0 005 U	0 005 U	0 006 U	0 005 U	0 005 U
SW8260B	METHYL ETHYL KETONE (2-BUTANONE)	0 005 U	0 005 U	0 006 U	0 005 U	0 005 U
SW8260B	METHYL ISOBUTYL KETONE (4-METHYL-2-PENTANONE)	0 005 U	0 005 U	0 006 U	0 005 U	0 005 U
SW8260B	METHYL METHACRYLATE	0 005 U	0 005 U	0 006 U	0 005 U	0 005 U
SW8260B	METHYLACRYLONITRILE	0 005 U	0 005 U	0 006 U	0 005 U	0 005 U
SW8260B	METHYLENE CHLORIDE	0 002 U	0 002 U	0 002 U	0 002 U	0 002 U
SW8260B	O-XYLENE (1,2-DIMETHYLBENZENE)	0 005 U	0 005 U	0 006 U	0 005 U	0 005 U
SW8260B	PENTACHLOROETHANE	0 005 U	0 005 UJ	0 006 UJ	0 005 U	0 005 UJ
SW8260B	PROPANE NITRILE (PROPIONITRILE)	0 022 U	0 022 U	0 026 U	0 02 U	0 02 U
SW8260B	STYRENE	0 002 U	0 002 U	0 002 U	0 002 U	0 002 U
SW8260B	TETRACHLOROETHYLENE(PCE)	0 005 U	0 005 U	0 006 U	0 005 U	0 005 U
SW8260B	TOLUENE	0 005 U	0 005 U	0 006 U	0 005 U	0 005 U
SW8260B	TRANS-1,2-DICHLOROETHENE	0 003 U	0 003 U	0 004 U	0 003 U	0 003 U
SW8260B	TRANS-1,3-DICHLOROPROPENE	0 005 U	0 005 U	0 006 U	0 005 U	0 005 U
SW8260B	TRANS-1,4-DICHLORO-2-BUTENE	0 005 U	0 005 U	0 006 U	0 005 U	0 005 U
SW8260B	TRICHLOROETHYLENE (TCE)	0 005 U	0 005 U	0 006 U	0 005 U	0 005 U
SW8260B	TRICHLOROFLUOROMETHANE	0 004 U	0 004 U	0 005 U	0 004 U	0 004 U
SW8260B	VINYL ACETATE	0 005 U	0 005 U	0 006 U	0 005 U	0 005 U
SW8260B	VINYL CHLORIDE	0 005 U	0 005 U	0 006 U	0 005 U	0 005 U
SW8270C	1,2,4,5-TETRACHLOROBENZENE	0 37 U	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	1,2,4-TRICHLOROBENZENE	0 37 U	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	1,2-DICHLOROBENZENE	0 37 U	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	1,3,5-TRINITROBENZENE	1 5 U	1 6 U	1.5 U	1 5 U	1 6 U
SW8270C	1,3-DICHLOROBENZENE	0 37 U	0.41 U	0 38 U	0 39 U	0 39 U
SW8270C	1,3-DINITROBENZENE	0 74 U	0 81 U	0 75 U	0 77 U	0 79 U
SW8270C	1,4-DICHLOROBENZENE	0 37 U	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	1,4-DIOXANE (P-DIOXANE)	1 5 U	1 6 U	1 5 U	1 5 U	1 6 U

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Table B.1
Analytical Data-Soil
SWMU 53
NAS Fort Worth, JRB, Texas

ANMCODE	PARNAME	BHGLSWMU5312 - 0'	BHGLSWMU5312 - 5'	BHGLSWMU5313 - 0'	BHGLSWMU5313 - 5'	BHGLSWMU5313 - 10'
SW8270C	1,4-NAPHTHOQUINONE	1 8 R	2 R	1 9 R	1 9 R	2 R
SW8270C	1-NAPHTHYLAMINE	0 74 U	0 81 U	0 75 U	0 77 U	0 79 U
SW8270C	2,2'-OXYBIS(1-CHLORO)PROPANE	0 37 U	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	2,3,4,6-TETRACHLOROPHENOL	0 37 U	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	2,4,5-TRICHLOROPHENOL	1 8 U	2 U	1 9 U	1 9 U	2 U
SW8270C	2,4,6-TRICHLOROPHENOL	0 37 U	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	2,4-DICHLOROPHENOL	0 37 U	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	2,4-DIMETHYLPHENOL	0 37 U	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	2,4-DINITROPHENOL	1 8 U	2 U	1 9 U	1 9 U	2 U
SW8270C	2,4-DINITROTOLUENE	0 37 U	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	2,6-DICHLOROPHENOL	0 37 U	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	2,6-DINITROTOLUENE	0 37 U	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	2-ACETYLAMINOFLUORENE	0 74 U	0 81 U	0 75 U	0 77 U	0 79 U
SW8270C	2-AMINONAPHTHALENE (BETA NAPHTHYLAMINE)	0 74 U	0 81 U	0 75 U	0 77 U	0 79 U
SW8270C	2-CHLORONAPHTHALENE	0 37 U	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	2-CHLOROPHENOL	0 37 U	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	2-METHYLNAPHTHALENE	0 37 U	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	2-METHYLPHENOL (O-CRESOL)	0 37 U	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	2-NITROANILINE	1 8 U	2 U	1 9 U	1 9 U	2 U
SW8270C	2-NITROPHENOL	0 37 U	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	2-PICOLINE (ALPHA-PICOLINE)	0 37 U	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	3,3'-DICHLOROBENZIDINE	0 74 U	0 81 U	0 75 U	0.77 U	0 79 U
SW8270C	3,3'-DIMETHYLBENZIDINE	1 8 U	2 U	1 9 U	1 9 U	2 U
SW8270C	3-METHYLCHOLANTHRENE	0 37 U	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	3-NITROANILINE	1 8 U	2 U	1 9 U	1 9 U	2 U
SW8270C	4,6-DINITRO-2-METHYLPHENOL	1 8 U	2 U	1 9 U	1 9 U	2 U
SW8270C	4-AMINOBIPHENYL (4-BIPHENYLAMINE)	0 74 U	0 81 U	0 75 U	0 77 U	0 79 U
SW8270C	4-BROMOPHENYL PHENYL ETHER	0 37 U	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	4-CHLORO-3-METHYLPHENOL	0 37 U	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	4-CHLOROANILINE	0 37 U	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	4-CHLOROPHENYL PHENYL ETHER	0 37 U	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	4-NITROANILINE	1 8 U	2 U	1 9 U	1 9 U	2 U
SW8270C	4-NITROPHENOL	1 8 U	2 U	1 9 U	1 9 U	2 U
SW8270C	4-NITROQUINOLINE-N-OXIDE	1.8 R	2 R	1 9 R	1 9 R	2 R
SW8270C	5-NITRO-O-TOLUIDINE	0 74 U	0 81 U	0 75 U	0 77 U	0 79 U
SW8270C	7,12-DIMETHYLBENZ(A)ANTHRACENE	0 74 U	0 81 U	0 75 U	0.77 U	0 79 U
SW8270C	ACENAPHTHENE	0 37 U	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	ACENAPHTHYLENE	0 37 U	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	ACETOPHENONE	0 37 U	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	ALPHA, ALPHA DIMETHYLPHENETHYLAMINE	1 8 U	2 U	1 9 U	1 9 U	2 U
SW8270C	ANILINE (PHENYLAMINE, AMINOBENZENE)	0 37 U	0 41 U	0 38 U	0 39 U	0 39 U

Table B.1
Analytical Data-Soil
SWMU 53
NAS Fort Worth, JRB, Texas

ANMCODE	PARNAME	BHGLSWMU5312 - 0'	BHGLSWMU5312 - 5'	BHGLSWMU5313 - 0'	BHGLSWMU5313 - 5'	BHGLSWMU5313 - 10'
SW8270C	ANTHRACENE	0 37 U	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	ARAMITE (TOTAL)	0 74 U	0 81 U	0 75 U	0 77 U	0 79 U
SW8270C	BENZO(A)ANTHRACENE	0 1 F	0 41 U	0.38 U	0 39 U	0 39 U
SW8270C	BENZO(A)PYRENE	0 13 F	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	BENZO(B)FLUORANTHENE	0 16 F	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	BENZO(G,H,I)PERYLENE	0 37 U	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	BENZO(K)FLUORANTHENE	0 13 F	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	BENZOIC ACID	1 8 R	2 U	1 9 R	1 9 R	2 R
SW8270C	BENZYL ALCOHOL	0 37 U	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	BENZYL BUTYL PHTHALATE	0 37 U	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	BIS(2-CHLOROETHOXY) METHANE	0 37 U	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	BIS(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHER)	0 37 U	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	BIS(2-ETHYLHEXYL) PHTHALATE	0 37 U	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	CHLOROBENZILATE	0 37 U	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	CHRYSENE	0 13 F	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	CRESOLS, M & P	0 37 U	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	DIALLATE (TOTAL OF CIS AND TRANS ISOMERS)	0 37 U	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	DIBENZ(A,H)ANTHRACENE	0 37 U	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	DIBENZOFURAN	0 37 U	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	DIETHYL PHTHALATE	0 37 U	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	DIMETHYL PHTHALATE	0 37 U	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	DI-N-BUTYL PHTHALATE	0 37 U	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	DI-N-OCTYLPHTHALATE	0 37 U	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	DINOSEB	0 74 U	0 81 U	0 75 U	0 77 U	0 79 U
SW8270C	DIPHENYLAMINE	0 37 U	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	ETHYL METHANESULFONATE	0 37 U	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	FLUORANTHENE	0 22 F	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	FLUORENE	0 37 U	0 41 U	0.38 U	0 39 U	0 39 U
SW8270C	HEXACHLOROBENZENE	0 37 U	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	HEXACHLOROBUTADIENE	0 37 U	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	HEXACHLOROCYCLOPENTADIENE	0 37 U	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	HEXACHLOROETHANE	0 37 U	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	HEXACHLOROPHENE	5 6 R	6 1 R	5 6 R	5 8 R	5 9 R
SW8270C	HEXACHLOROPROPENE	1 8 U	2 U	1 9 U	1 9 U	2 U
SW8270C	INDENO(1,2,3-C,D)PYRENE	0 37 U	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	ISOPHORONE	0 37 U	0 41 U	0.38 U	0 39 U	0 39 U
SW8270C	ISOSAFROLE	0 37 U	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	METHAPYRILENE	1 8 U	2 U	1 9 U	1 9 U	2 U
SW8270C	METHYL METHANESULFONATE	0 74 U	0 81 U	0 75 U	0 77 U	0 79 U
SW8270C	NAPHTHALENE	0 37 U	0 41 U	0.38 U	0 39 U	0 39 U

Table B.1
Analytical Data-Soil
SWMU 53
NAS Fort Worth, JRB, Texas

ANMCODE	PARNAME	BHGLSWMU5312 - 0'	BHGLSWMU5312 - 5'	BHGLSWMU5313 - 0'	BHGLSWMU5313 - 5'	BHGLSWMU5313 - 10'
SW8270C	NITROBENZENE	0 37 U	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	NITROSOMETHYLETHYLAMINE	0 74 U	0 81 U	0 75 U	0 77 U	0 79 U
SW8270C	N-NITROSODIETHYLAMINE	0 74 U	0 81 U	0 75 U	0 77 U	0 79 U
SW8270C	N-NITROSODIMETHYLAMINE	0 37 U	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	N-NITROSO-DI-N-BUTYLAMINE	0 37 U	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	N-NITROSODI-N-PROPYLAMINE	0 37 U	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	N-NITROSODIPHENYLAMINE	0 37 U	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	N-NITROSOMORPHOLINE	0 74 U	0 81 U	0 75 U	0 77 U	0 79 U
SW8270C	N-NITROSOPIPERIDINE	0 37 U	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	N-NITROSOPYRROLIDINE	1 8 U	2 U	1 9 U	1 9 U	2 U
SW8270C	O-TOLUIDINE	0 37 U	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	P-DIMETHYLAMINOAZOBENZENE	0 74 U	0 81 U	0 75 U	0 77 U	0 79 U
SW8270C	PENTACHLOROBENZENE	0 37 U	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	PENTACHLORONITROBENZENE	0 37 U	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	PENTACHLOROPHENOL	1 8 U	2 U	1 9 U	1 9 U	2 U
SW8270C	PHENACETIN	0 74 U	0 81 U	0 75 U	0 77 U	0 79 U
SW8270C	PHENANTHRENE	0 37 U	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	PHENOL	0 37 U	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	P-PHENYLENEDIAMINE	1 5 U	1 6 U	1 5 U	1 5 U	1 6 U
SW8270C	PRONAMIDE	0 74 U	0 81 U	0 75 U	0 77 U	0 79 U
SW8270C	PYRENE	0 37 U	0 41 U	0 38 U	0 39 U	0 39 U
SW8270C	PYRIDINE	0 74 U	0 81 U	0 75 U	0 77 U	0 79 U
SW8270C	SAFROLE	0 37 U	0 41 U	0 38 U	0 39 U	0 39 U

Data Qualifiers
MQL = Method Quantitation Limit
MDL = Method Detection Limit
PQL = Practical Quantitation Limit
J = This analyte was positively identified, but the quantitation is an estimation
U = The analyte was analyzed for, but not detected, the associated numerical value is at or below the MDL.
F = This analyte was positively identified, but the associated numerical value is between the MDL and the PQL.
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 numerical value is a MDL, estimated due to deficiences in the QC criteria
S = Screening Criteria

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Table B.1
Analytical Data-Soil
SWMU 53
NAS Fort Worth, JRB, Texas

ANMCODE	PARNAME	BHGLSWMU5314 - 0'	BHGLSWMU5314 - 5' Duplicate	BHGLSWMU5314 - 5'	BHGLSWMU5314 - 10'	BHGLSWMU5315 - 15'
SW6010	ARSENIC	3 7 F	0 24 F	0 33 F	1 3 F	
SW6010	BARIUM	88 6	88 9	82 9	95 2	
SW6010	BERYLLIUM	0 77	0 27 UJ	0 2 UJ	0 78	
SW6010	CADMIUM	0 22 F	0 09 F	0 12 F	0.09 F	
SW6010	CHROMIUM, TOTAL	16 7 J	6 3 F	4 9 F	20 4 J	
SW6010	COBALT	4 6 F	1 F	1 2 F	2 9 F	
SW6010	COPPER	11 J	2 7 F	2 7 F	7 3 F	
SW6010	NICKEL	11	3 3 F	3 3 F	7 8 F	
SW6010	TIN	1 5 UJ	0 94 F	6 8 UJ	1 8 UJ	
SW6010	VANADIUM	29 7	10 F	8 7 F	28 6 F	
SW6010	ZINC	29 5	12 4 F	9 9 F	28 8 F	
SW7041	ANTIMONY	0 52 UJ	0 55 UJ	0 52 U	0 54 U	
SW7421	LEAD	5 4 F	2 F	2 5 F	2 6 F	
SW7471	MERCURY	0 04 U	0 04 U	0 04 U	0 04 U	
SW7740	SELENIUM	0 26 F	1 6 UJ	0 31 UJ	0 32 UJ	
SW7761	SILVER	0 21 UJ	0 22 UJ	0 21 UJ	0 22 UJ	
SW7841	THALLIUM	1 U	1 1 UJ	5 2 UJ	1.1 UJ	
SW8260B	1,1,1,2-TETRACHLOROETHANE	0 003 U	0 004 U	0 006 U	0 003 U	
SW8260B	1,1,1-TRICHLOROETHANE	0 004 U	0 005 U	0 008 U	0 005 U	
SW8260B	1,1,2,2-TETRACHLOROETHANE	0 002 UJ	0 002 UJ	0 004 UJ	0 002 U	
SW8260B	1,1,2-TRICHLOROETHANE	0 005 U	0 006 U	0 01 U	0 006 U	
SW8260B	1,1-DICHLOROETHANE	0 002 U	0 002 U	0 004 U	0 002 U	
SW8260B	1,1-DICHLOROETHENE	0 005 U	0 006 U	0 01 U	0 006 U	
SW8260B	1,2,3-TRICHLOROPROPANE	0 005 UJ	0 006 UJ	0 01 U	0 006 U	
SW8260B	1,2-DIBROMO-3-CHLOROPROPANE	0 005 UJ	0 006 UJ	0 01 U	0 006 U	
SW8260B	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	0 003 U	0 004 U	0 006 U	0 003 U	
SW8260B	1,2-DICHLOROETHANE	0 003 U	0 004 U	0 006 U	0 003 U	
SW8260B	1,2-DICHLOROPROPANE	0 002 U	0 002 U	0 004 U	0 002 U	
SW8260B	2-CHLORO-1,3-BUTADIENE	0 005 U	0 006 U	0 01 U	0 006 U	
SW8260B	2-HEXANONE	0 005 U	0 006 U	0 01 U	0 006 U	
SW8260B	ACETONE	0 005 U	0 062 J	0 01 UJ	0 006 U	
SW8260B	ACETONITRILE	0 042 U	0 05 U	0 076 U	0 046 U	
SW8260B	ACROLEIN	0 1 U	0 12 U	0 19 U	0 12 U	
SW8260B	ACRYLONITRILE	0 042 U	0 05 U	0 076 U	0 046 U	
SW8260B	ALLYL CHLORIDE (3-CHLOROPROPENE)	0 01 U	0 012 U	0 019 U	0 012 U	
SW8260B	BENZENE	0 002 U	0 015 J	0 004 UJ	0 002 U	
SW8260B	BROMODICHLOROMETHANE	0 004 U	0 005 U	0 008 U	0 005 U	
SW8260B	BROMOFORM	0 005 U	0 006 U	0 01 U	0 006 U	
SW8260B	BROMOMETHANE	0 005 U	0 006 U	0 01 U	0 006 U	
SW8260B	CARBON DISULFIDE	0 005 U	0 006 U	0 01 U	0 006 U	
SW8260B	CARBON TETRACHLORIDE	0 005 U	0 006 U	0 01 U	0 006 U	

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Table B.1
Analytical Data-Soil
SWMU 53
NAS Fort Worth, JRB, Texas

ANMCODE	PARNAME	BHGLSWMU5314 - 0'	BHGLSWMU5314 - 5' Duplicate	BHGLSWMU5314 - 5'	BHGLSWMU5314 - 10'	BHGLSWMU5315 - 15'
SW8260B	CHLOROBENZENE	0 002 U	0 002 U	0 004 U	0 002 U	
SW8260B	CHLOROETHANE	0 005 U	0 006 U	0 01 U	0 006 U	
SW8260B	CHLOROFORM	0 002 U	0 002 U	0 004 U	0 002 U	
SW8260B	CHLOROMETHANE	0 005 U	0 006 U	0 01 U	0 006 U	
SW8260B	CIS-1,2-DICHLOROETHYLENE	0 005 U	0 006 U	0 01 U	0 006 U	
SW8260B	CIS-1,3-DICHLOROPROPENE	0 005 U	0 006 U	0 01 U	0 006 U	
SW8260B	DIBROMOCHLOROMETHANE	0 003 U	0 004 U	0 006 U	0 003 U	
SW8260B	DIBROMOMETHANE	0 005 U	0 006 U	0 01 U	0 006 U	
SW8260B	DICHLORODIFLUOROMETHANE	0 005 U	0 006 U	0 01 U	0 006 U	
SW8260B	ETHYL METHACRYLATE	0 005 U	0 006 U	0 01 U	0 006 U	
SW8260B	ETHYLBENZENE	0 003 U	0 002 F	0 006 U	0 003 U	
SW8260B	IODOMETHANE (METHYL IODIDE)	0 005 U	0 006 U	0 01 U	0 006 U	
SW8260B	ISOBUTANOL	0 21 U	0 25 U	0 38 U	0 23 U	
SW8260B	M,P-XYLENE (SUM OF ISOMERS)	0 005 U	0 004 F	0 01 U	0 006 U	
SW8260B	METHYL ETHYL KETONE (2-BUTANONE)	0 005 U	0 019 J	0 01 UJ	0 006 U	
SW8260B	METHYL ISOBUTYL KETONE (4-METHYL-2-PENTANONE)	0 005 U	0 006 U	0 01 U	0 006 U	
SW8260B	METHYL METHACRYLATE	0 005 U	0 006 U	0 01 U	0 006 U	
SW8260B	METHYLACRYLONITRILE	0 005 U	0 006 U	0 01 U	0 006 U	
SW8260B	METHYLENE CHLORIDE	0 002 U	0 002 U	0 004 U	0 002 U	
SW8260B	O-XYLENE (1,2-DIMETHYLBENZENE)	0 005 U	0 002 F	0 01 U	0 006 U	
SW8260B	PENTACHLOROETHANE	0 005 UJ	0 006 UJ	0 01 U	0 006 U	
SW8260B	PROPANE NITRILE (PROPIONITRILE)	0 021 U	0 025 U	0 038 U	0 023 U	
SW8260B	STYRENE	0 002 U	0 002 U	0 004 U	0 002 U	
SW8260B	TETRACHLOROETHYLENE(PCE)	0 005 U	0 006 U	0 01 U	0 006 U	
SW8260B	TOLUENE	0 005 U	0 014 J	0 01 UJ	0 006 U	
SW8260B	TRANS-1,2-DICHLOROETHENE	0 003 U	0 004 U	0 006 U	0 003 U	
SW8260B	TRANS-1,3-DICHLOROPROPENE	0 005 U	0 006 U	0 01 U	0 006 U	
SW8260B	TRANS-1,4-DICHLORO-2-BUTENE	0 005 U	0 006 U	0 01 U	0 006 U	
SW8260B	TRICHLOROETHYLENE (TCE)	0 005 U	0 006 U	0 01 U	0 006 U	
SW8260B	TRICHLOROFLUOROMETHANE	0 004 U	0 005 U	0 008 U	0 005 U	
SW8260B	VINYL ACETATE	0 005 U	0 006 U	0 01 U	0 006 U	
SW8260B	VINYL CHLORIDE	0 005 U	0 006 U	0 01 U	0 006 U	
SW8270C	1,2,4,5-TETRACHLOROBENZENE	0 37 U	0 41 U	0 41 U	0 43 U	
SW8270C	1,2,4-TRICHLOROBENZENE	0 37 U	0 41 U	0 41 U	0 43 U	
SW8270C	1,2-DICHLOROBENZENE	0 37 U	0 41 U	0 41 U	0 43 U	
SW8270C	1,3,5-TRINITROBENZENE	1 5 U	1 6 U	1 6 U	1 7 U	
SW8270C	1,3-DICHLOROBENZENE	0 37 U	0.41 U	0 41 U	0 43 U	
SW8270C	1,3-DINITROBENZENE	0 75 U	0 82 U	0 82 U	0 86 U	
SW8270C	1,4-DICHLOROBENZENE	0 37 U	0 41 U	0 41 U	0 43 U	
SW8270C	1,4-DIOXANE (P-DIOXANE)	1 5 U	1.6 U	1 6 U	1 7 U	

Table B.1
Analytical Data-Soil
SWMU 53
NAS Fort Worth, JRB, Texas

ANMCODE	PARNAME	BHGLSWMU5314 - 0'	BHGLSWMU5314 - 5' Duplicate	BHGLSWMU5314 - 5'	BHGLSWMU5314 - 10'	BHGLSWMU5315 - 15'
SW8270C	1,4-NAPHTHOQUINONE	1 9 R	2 1 R	2 R	2 1 R	
SW8270C	1-NAPHTHYLAMINE	0 75 U	0 82 U	0 82 U	0 86 U	
SW8270C	2,2'-OXYBIS(1-CHLORO)PROPANE	0 37 U	0 41 U	0 41 U	0 43 U	
SW8270C	2,3,4,6-TETRACHLOROPHENOL	0 37 U	0 41 U	0 41 U	0.43 U	
SW8270C	2,4,5-TRICHLOROPHENOL	1 9 U	2 1 U	2 U	2 1 U	
SW8270C	2,4,6-TRICHLOROPHENOL	0 37 U	0 41 U	0 41 U	0 43 U	
SW8270C	2,4-DICHLOROPHENOL	0 37 U	0 41 U	0 41 U	0 43 U	
SW8270C	2,4-DIMETHYLPHENOL	0 37 U	0 41 U	0 41 U	0.43 U	
SW8270C	2,4-DINITROPHENOL	1 9 U	2 1 U	2 U	2 1 U	
SW8270C	2,4-DINITROTOLUENE	0 37 U	0 41 U	0 41 U	0 43 U	
SW8270C	2,6-DICHLOROPHENOL	0 37 U	0 41 U	0 41 U	0 43 U	
SW8270C	2,6-DINITROTOLUENE	0 37 U	0 41 U	0 41 U	0.43 U	
SW8270C	2-ACETYLAMINOFLUORENE	0 75 U	0 82 U	0 82 U	0 86 U	
SW8270C	2-AMINONAPHTHALENE (BETA NAPHTHYLAMINE)	0 75 U	0 82 U	0 82 U	0 86 U	
SW8270C	2-CHLORONAPHTHALENE	0 37 U	0 41 U	0 41 U	0 43 U	
SW8270C	2-CHLOROPHENOL	0 37 U	0 41 U	0 41 U	0.43 U	
SW8270C	2-METHYLNAPHTHALENE	0 37 U	0 41 U	0 41 U	0 43 U	
SW8270C	2-METHYLPHENOL (O-CRESOL)	0 37 U	0 41 U	0 41 U	0 43 U	
SW8270C	2-NITROANILINE	1 9 U	2 1 U	2 U	2 1 U	
SW8270C	2-NITROPHENOL	0 37 U	0 41 U	0 41 U	0 43 U	
SW8270C	2-PICOLINE (ALPHA-PICOLINE)	0 37 U	0 41 U	0 41 U	0 43 U	
SW8270C	3,3'-DICHLOROBENZIDINE	0 75 U	0 82 U	0 82 U	0 86 U	
SW8270C	3,3'-DIMETHYLBENZIDINE	1 9 U	2 1 U	2 U	2 1 U	
SW8270C	3-METHYLCHOLANTHRENE	0 37 U	0 41 U	0 41 U	0 43 U	
SW8270C	3-NITROANILINE	1 9 U	2 1 U	2 U	2 1 U	
SW8270C	4,6-DINITRO-2-METHYLPHENOL	1 9 U	2 1 U	2 U	2 1 U	
SW8270C	4-AMINOBIPHENYL (4-BIPHENYLAMINE)	0 75 U	0 82 U	0 82 U	0 86 U	
SW8270C	4-BROMOPHENYL PHENYL ETHER	0 37 U	0 41 U	0 41 U	0 43 U	
SW8270C	4-CHLORO-3-METHYLPHENOL	0 37 U	0 41 U	0 41 U	0 43 U	
SW8270C	4-CHLOROANILINE	0 37 U	0 41 U	0 41 U	0 43 U	
SW8270C	4-CHLOROPHENYL PHENYL ETHER	0 37 U	0 41 U	0 41 U	0 43 U	
SW8270C	4-NITROANILINE	1 9 U	2 1 U	2 U	2 1 U	
SW8270C	4-NITROPHENOL	1 9 U	2 1 U	2 U	2 1 U	
SW8270C	4-NITROQUINOLINE-N-OXIDE	1 9 R	2 1 R	2 R	2.1 R	
SW8270C	5-NITRO-O-TOLUIDINE	0 75 U	0 82 U	0 82 U	0 86 U	
SW8270C	7,12-DIMETHYLBENZ(A)ANTHRACENE	0 75 U	0 82 U	0 82 U	0 86 U	
SW8270C	ACENAPHTHENE	0 37 U	0 41 U	0 41 U	0 43 U	
SW8270C	ACENAPHTHYLENE	0 37 U	0 41 U	0 41 U	0 43 U	
SW8270C	ACETOPHENONE	0 37 U	0 41 U	0 41 U	0 43 U	
SW8270C	ALPHA, ALPHA DIMETHYLPHENETHYLAMINE	1 9 U	2 1 U	2 U	2 1 U	
SW8270C	ANILINE (PHENYLAMINE, AMINOBENZENE)	0 37 U	0 41 U	0 41 U	0 43 U	

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Table B.1
Analytical Data-Soil
SWMU 53
NAS Fort Worth, JRB, Texas

ANMCODE	PARNAME	BHGLSWMU5314 - 0'	BHGLSWMU5314 - 5' Duplicate	BHGLSWMU5314 - 5'	BHGLSWMU5314 - 10'	BHGLSWMU5315 - 15'
SW8270C	ANTHRACENE	0 37 U	0 41 U	0 41 U	0 43 U	
SW8270C	ARAMITE (TOTAL)	0 75 U	0 82 U	0 82 U	0 86 U	
SW8270C	BENZO(A)ANTHRACENE	0 37 U	0 41 U	0 41 U	0 43 U	
SW8270C	BENZO(A)PYRENE	0 37 U	0 41 U	0 41 U	0 43 U	
SW8270C	BENZO(B)FLUORANTHENE	0 37 U	0 41 U	0 41 U	0 43 U	
SW8270C	BENZO(G,H,I)PERYLENE	0 37 U	0 41 U	0 41 U	0 43 U	
SW8270C	BENZO(K)FLUORANTHENE	0 37 U	0 41 U	0 41 U	0 43 U	
SW8270C	BENZOIC ACID	1 9 R	2 1 R	2 R	2 1 R	
SW8270C	BENZYL ALCOHOL	0 37 U	0 41 U	0 41 U	0 43 U	
SW8270C	BENZYL BUTYL PHTHALATE	0 37 U	0 41 U	0 41 U	0 43 U	
SW8270C	BIS(2-CHLOROETHOXY) METHANE	0 37 U	0 41 U	0 41 U	0 43 U	
SW8270C	BIS(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHER)	0 37 U	0 41 U	0 41 U	0 43 U	
SW8270C	BIS(2-ETHYLHEXYL) PHTHALATE	0 37 U	0 41 U	0 41 U	0 43 U	0 4 U
SW8270C	CHLOROBENZILATE	0 37 U	0 41 U	0 41 U	0 43 U	
SW8270C	CHRYSENE	0 37 U	0 41 U	0 41 U	0 43 U	
SW8270C	CRESOLS, M & P	0 37 U	0 41 U	0 41 U	0 43 U	
SW8270C	DIALLATE (TOTAL OF CIS AND TRANS ISOMERS)	0 37 U	0 41 U	0 41 U	0 43 U	
SW8270C	DIBENZ(A,H)ANTHRACENE	0 37 U	0 41 U	0 41 U	0 43 U	
SW8270C	DIBENZOFURAN	0 37 U	0 41 U	0 41 U	0 43 U	
SW8270C	DIETHYL PHTHALATE	0 37 U	0 41 U	0 41 U	0 43 U	
SW8270C	DIMETHYL PHTHALATE	0 37 U	0 41 U	0 41 U	0 43 U	
SW8270C	DI-N-BUTYL PHTHALATE	0 37 U	0 41 U	0 41 U	0 43 U	
SW8270C	DI-N-OCTYLPHTHALATE	0 37 U	0 41 U	0 41 U	0 43 U	
SW8270C	DINOSEB	0 75 U	0 82 U	0 82 U	0 86 U	
SW8270C	DIPHENYLAMINE	0 37 U	0 41 U	0 41 U	0 43 U	
SW8270C	ETHYL METHANESULFONATE	0 37 U	0 41 U	0 41 U	0 43 U	
SW8270C	FLUORANTHENE	0 37 U	0 41 U	0 41 U	0 43 U	
SW8270C	FLUORENE	0 37 U	0 41 U	0 41 U	0 43 U	
SW8270C	HEXACHLOROBENZENE	0 37 U	0 41 U	0 41 U	0 43 U	
SW8270C	HEXACHLOROBUTADIENE	0 37 U	0 41 U	0 41 U	0 43 U	
SW8270C	HEXACHLOROCYCLOPENTADIENE	0 37 U	0 41 U	0 41 U	0 43 U	
SW8270C	HEXACHLOROETHANE	0 37 U	0 41 U	0 41 U	0 43 U	
SW8270C	HEXACHLOROPHENE	5 6 R	6 2 R	6 1 R	6 4 R	
SW8270C	HEXACHLOROPROPENE	1 9 U	2 1 U	2 U	2 1 U	
SW8270C	INDENO(1,2,3-C,D)PYRENE	0 37 U	0 41 U	0 41 U	0 43 U	
SW8270C	ISOPHORONE	0 37 U	0 41 U	0 41 U	0 43 U	
SW8270C	ISOSAFROLE	0 37 U	0 41 U	0 41 U	0 43 U	
SW8270C	METHAPYRILENE	1 9 U	2 1 U	2 U	2 1 U	
SW8270C	METHYL METHANESULFONATE	0 75 U	0 82 U	0 82 U	0 86 U	
SW8270C	NAPHTHALENE	0 37 U	0 41 U	0 41 U	0 43 U	

Table B.1
Analytical Data-Soil
SWMU 53
NAS Fort Worth, JRB, Texas

ANMCODE	PARNAME	BHGLSWMU5314 - 0'	BHGLSWMU5314 - 5' Duplicate	BHGLSWMU5314 - 5'	BHGLSWMU5314 - 10'	BHGLSWMU5315 - 15'
SW8270C	NITROBENZENE	0 37 U	0 41 U	0 41 U	0 43 U	
SW8270C	NITROSOMETHYLETHYLAMINE	0 75 U	0 82 U	0 82 U	0 86 U	
SW8270C	N-NITROSODIETHYLAMINE	0 75 U	0 82 U	0 82 U	0 86 U	
SW8270C	N-NITROSODIMETHYLAMINE	0 37 U	0 41 U	0 41 U	0 43 U	
SW8270C	N-NITROSO-DI-N-BUTYLAMINE	0 37 U	0 41 U	0 41 U	0 43 U	
SW8270C	N-NITROSODI-N-PROPYLAMINE	0 37 U	0 41 U	0 41 U	0 43 U	
SW8270C	N-NITROSODIPHENYLAMINE	0 37 U	0 41 U	0 41 U	0 43 U	
SW8270C	N-NITROSOMORPHOLINE	0 75 U	0 82 U	0 82 U	0 86 U	
SW8270C	N-NITROSOPIPERIDINE	0 37 U	0 41 U	0 41 U	0 43 U	
SW8270C	N-NITROSOPYRROLIDINE	1 9 U	2 1 U	2 U	2 1 U	
SW8270C	O-TOLUIDINE	0 37 U	0 41 U	0 41 U	0 43 U	
SW8270C	P-DIMETHYLAMINOAZOBENZENE	0 75 U	0 82 U	0 82 U	0 86 U	
SW8270C	PENTACHLOROBENZENE	0 37 U	0 41 U	0 41 U	0 43 U	
SW8270C	PENTACHLORONITROBENZENE	0 37 U	0 41 U	0 41 U	0 43 U	
SW8270C	PENTACHLOROPHENOL	1 9 U	2 1 U	2 U	2 1 U	
SW8270C	PHENACETIN	0 75 U	0 82 U	0 82 U	0 86 U	
SW8270C	PHENANTHRENE	0 37 U	0 41 U	0 41 U	0 43 U	
SW8270C	PHENOL	0 37 U	0 41 U	0 41 U	0 43 U	
SW8270C	P-PHENYLENEDIAMINE	1 5 U	1 6 U	1 6 U	1 7 U	
SW8270C	PRONAMIDE	0 75 U	0 82 U	0 82 U	0 86 U	
SW8270C	PYRENE	0 37 U	0 41 U	0 41 U	0 43 U	
SW8270C	PYRIDINE	0 75 U	0 82 U	0 82 U	0 86 U	
SW8270C	SAFROLE	0 37 U	0 41 U	0 41 U	0 43 U	

Data Qualifiers
MQL = Method Quantitation Limit
MDL = Method Detection Limit
PQL = Practical Quantitation Limit
J = This analyte was positively identified, but the quantitation is an estimation
U = The analyte was analyzed for, but not detected, the associated numerical value is at or below the MDL
F = This analyte was positively identified, but the associated numerical value is between the MDL and the PQL
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 numerical value is a MDL, estimated due to deficiences in the QC criteria
S = Screening Criteria

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TAB

APPENDIX C

APPENDIX C

BORING LOGS

HYDRO GeoLogic INC.

Borehole ID: BHGLSWMU5301

Project No: AFC001-29BBBA
Project: DO26/29 RFI/SI - Round 1
Client: AFCEE
Location: SWMU 53 - Stormwater Ditch
Northing: 6964513 15

Date: 5/16/00
Geologist: Jorie Wilson
Ground Surface Elevation: 592 68
Easting: 2299051 46

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1		*Clayey Silt* 10YR5/2 Greyish brown very stiff clayey silt with 10YR5/1 reddish grey and 7 5YR7/8 reddish yellow mottles 2-3' Same as above with 10% fine sand	-2	ML	100%	Dry	0 ppm	Sample Collected BHGLSWMU5301-01 @ 1'
3		*Silty Clay* 10YR 5/2 Greyish brown stiff silty clay with 10YR5/1 reddish grey, 7/5YR7/8 reddish yellow, and gley 6/1 greenish grey mottles	-4 5	CL		Dry	0 ppm	
5								Sample Collected BHGLSWMU5301-02 @ 5'
7		*Silty Clay with Sand* 10YR3/1 Very dark grey stiff silty clay Slightly plastic with 10% coarse sand 6-9 5' Same as above with medium plasticity and 10% sand		CL		Dry	0 ppm	Slightly moist @ 7 5'
9			-9 5			Dry	0 ppm	Sample Collected BHGLSWMU5301-03 + DUP015 @ 9'
10		*Gravelly Sand* 2 5Y 4/1 Dark grey coarse sand and gravel lens	-9 9	SW		Wet	0 ppm	
11		*Clay* 10YR8/2 Very pale brown very stiff clay	-10 5	CL				Refusal @ 10 5'

Drilled By ESN-South/John Braden
Drill Method DPT
Drilling Equipment SP-4

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Hole Size 2"
Total Depth Drilled 10 5'
Sheet 1 of 1

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HYDRO GeoLogic INC.

Borehole ID: BHGLSWMU5302

Project No. AFC001-29BBBA
Project: DO26/29 RFI/SI - Round 1
Client: AFCEE
Location. SWMU 53 - Stormwater Ditch
Northing: 6964536 92

Date: 5/16/00
Geologist: Jorie Wilson
Ground Surface Elevation: 588 95
Easting: 2299152 45

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
		Silt 10YR4/2 Dark greyish brown very stiff brittle silt	-0 5	ML				Sample Collected BHGLSWMU5302-01 @ 1'
1								
		Clayey Silt 10YR6/2 Light brownish grey very stiff clayey silt with 10R5/1 reddish grey mottles			100%	Dry	0 ppm	
2				ML				
3			-3					
		Clayey Silt 10YR3/2 Dark greyish brown clayey silt Medium stiff Slightly plastic		ML				
4					100%	Dry	0 ppm	Sample Collected BHGLSWMU5302-02 @ 5'
5			-5					
6		*Clayey Silt* 10YR8/2 Very pale brown clayey silt mixed with 10YR7/6 yellow silty clay Stiff		ML/CL				Moist @ 6'
7					100%	Dry	0 ppm	
		Clay 10YR8/2 Very pale brown very stiff brittle clay	-7 5	CL				
8			-8					Refusal @ 8'
9								

Drilled By. ESN-South/John Braden
Drill Method DPT
Drilling Equipment SP-4

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Hole Size 2"
Total Depth Drilled 8'
Sheet 1 of 1

HYDRO GeoLogic INC.

Borehole ID: BHGLSWMU5303

Project No: AFC001-29BBBA
Project: DO26/29 RFI/SI - Round 1
Client: AFCEE
Location: SWMU 53 - Stormwater Ditch
Northing: 6964531 41

Date: 5/16/00
Geologist: Jorie Wilson
Ground Surface Elevation: 584 84
Easting: 2299239 66

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1		*Sandy Silt* 10YR3/6 Dark yellowish brown very stiff silt with 10% coarse sand and 5% pebbles		ML	100%	Dry	0 ppm	Sample Collected BHGLSWMU5303-01 @ 1'
2								
3								
4			-4					Moist at 4'
5		*Silty Clay* 2 5Y4/2 Dark greyish brown silty clay Soft Plastic		CL	60%	Dry	0 ppm	Sample Collected BHGLSWMU5303-02 @ 5'
6			-6					Wet @ 6'
7		*Sandy Silty Clay* 10YR4/1 Dark grey silty clay with 30% sand Very soft, plastic		CL		Wet		
8			-8					Refusal @ 8'
9								

Drilled By ESN-South/John Braden
Drill Method DPT
Drilling Equipment SP-4

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Hole Size 2"
Total Depth Drilled 8'
Sheet 1 of 1

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HYDRO GeoLogic INC.

Borehole ID: BHGLSWMU5304

Project No: AFC001-29BBBA
Project: DO26/29 RFI/SI - Round 1
Client: AFCEE
Location: SWMU 53 - Stormwater Ditch
Northing: 6964500 59

Date: 5/16/00
Geologist: Jorie Wilson
Ground Surface Elevation: 583 21
Easting: 2299313 25

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1		*Silt with Sand* 10YR3/2 Very dark greyish brown very stiff silt with 10% sand and 5% pebbles		ML	100%	Dry	0 ppm	Sample Collected BHGLSWMU5304-01 @ 1'
2								
3			-3					
4					100%	Dry	0 ppm	
5								Sample Collected BHGLSWMU5304-02 + DUP016 @ 5'
6		*Silt with Sand* 10YR 4/2 Dark greyish brown very stiff silt with 10% coarse sand Very uniform		ML				
7					100%	Dry	0 ppm	
8								Sample Collected BHGLSWMU5304-03 @10'
9			-9					
10		*Silty Clay* 10YR4/2 Dark greyish brown silty clay Fossiliforous Stiff	-10	CL	100%	Dry	0 ppm	
11		*Silty Clay* 10YR5/2 Greysih brown silty clay Stiff Slightly plastic Becoming fossiliforous at 12'		CL				
12					100%	Dry	0 ppm	
13		12 5-14' Same as above with 10% coarse sand and pebbles						
14			-14					Sample Collected BHGLSWMU5304-04 @ 15'
15		*Sandy Clay with Silt* 10YR6/2 Light brownish grey silty clay with 30% sand		CL	100%	Dry	0 ppm	
16								
17			-17					
		Silty Clay 10YR6/8 Brownish yellow silty clay	-17 5	CL		Dry	0 ppm	Moist @ 17 5'
18		*Sandy Silty Clay* 10YR7/2 Light grey sandy silty clay Medium soft Medium plastic with a fine sand lens at 19'		CL				
19			-19			Wet	0 ppm	Wet @ 19' End Boring @ 19'
20								

Drilled By ESN-South/John Braden
Drill Method DPT
Drilling Equipment SP-4

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Hole Size 2"
Total Depth Drilled 19
Sheet 1 of 1

HYDRO GeoLogic INC.

Borehole ID: *BHGLSWMU5305*

Project No: AFC001-29BBBA
Project: DO26/29 RFI/SI - Round 1
Client: AFCEE
Location: SWMU 53 - Stormwater Ditch
Northing 6964399 68

Date: 5/17/00
Geologist: Jorie Wilson
Ground Surface Elevation: 581 58
Easting: 2299432 15

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1		*Clayey Silt* 10YR 4/3 Brown clayey silt Very stiff	-1	ML				Sample Collected BHGLSWMU5305-01 @ 1'
2		*Silt with Sand* 10YR 4/3 Brown silt with 10% coarse sand	-2	ML	100%	Dry	0 ppm	
3								Sample Collected BHGLSWMU5305-02 @ 5'
4		*Silty Clay* 10YR3/3 Dark brown very stiff silty clay Slightly plastic Very uniform		CL	100%	Dry	0 ppm	
5								
6			-6					
7		*Clayey Silt* 10YR5/3 Reddish brown stiff clayey silt	-7 5	ML	100%	Dry	0 ppm	
8		*Silt* 10YR5/3 Brown very soft silt	-8	ML				
9		*Silt* 10YR6/3 Pale brown medium stiff silt		ML	100%	Dry	0 ppm	Sample Collected BHGLSWMU5305-03 @ 10'
10			-10					
11		*Clayey Silt* 10YR5/2 Greyish brown stiff clayey silt	-11	ML				
12					100%	Dry	0 ppm	
13		*Silty Clay* 10YR5/1 Grey very stiff silty clay Slightly plastic		CL				
14								Sample Collected BHGLSWMU5305-04 @ 15'
15		14-17 5' Same as above Medium stiff with 5% subrounded pebbles			100%	Dry	0 ppm	
16								Slightly Moist @ 15'
17					100%	Dry	0 ppm	
			-17 5					Wet @ 17 5'
18		*Clayey Sand with Pebbles* 2/5Y7/1 Light grey clayey sand with 40% subrounded to rounded pebbles Mottled	-18	SC	100%	Wet	431 ppm	
19		*Silty Clay* 2/5Y6/1 Grey silty clay Medium stiff Plastic	-19	CL				End of Boring 19'
20								
21								

Drilled By ESN-South/John Braden
Drill Method DPT
Drilling Equipment SP-4

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Hole Size 2"
Total Depth Drilled 19
Sheet 1 of 1

HYDRO GeoLogic INC.

Borehole ID. BHGLSWMU5306

Project No: AFC001-29BBBA
Project: DO26/29 RFI/SI - Round 1
Client: AFCEE
Location: SWMU 53 - Stormwater Ditch
Northing: 6964469 27

Date: 5/17/00
Geologist. Jorie Wilson
Ground Surface Elevation: 583 43
Easting: 2299295 98

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1					100%	Dry	0 ppm	Sample Collected BHGLSWMU5306-01 @ 1'
2		*Silt with Sand* 10YR3/3 Dark brown very stiff silt with 5% coarse sand		ML				
3								Sample Collected BHGLSWMU5306-02 @ 5'
4			-4 5		100%	Dry	0 ppm	
5		*Clayey Silt with Sand* 10YR7/2 Light grey stiff clayey silt with 5% coarse sand		ML				
6			-6					
7					100%	Dry	0 ppm	
8		*Clayey Silt* 10YR6/2 Light brownish grey very stiff clayey silt Mottled						
9		8-11' Same as above but fossiliferous with 10% pebbles		ML	100%	Dry	0 ppm	Sample Collected BHGLSWMU5306-03 @ 10'
10								
11			-11					Slightly moist @ 11'
12		*Silty Clay* 10YR6/2 Light brownish grey silty clay Fossiliferous	-12	CL				

Drilled By ESN-South/John Braden
Drill Method DPT
Drilling Equipment SP-4

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Hole Size 2"
Total Depth Drilled 22'
Sheet 1 of 2

HYDRO GeoLogic INC.

Borehole ID: BHGLSWMU5306

Project No: AFC001-29BBBA
Project: DO26/29 RFI/SI - Round 1
Client: AFCEE
Location: SWMU 53 - Stormwater Ditch
Northing: 6964469 27

Date: 5/17/00
Geologist: Jorie Wilson
Ground Surface Elevation: 583 43
Easting: 2299295 98

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
13		*Sandy Silty Clay* 10YR6/4 Light yellowish brown silty clay Medium stiff Fossiliferous with 15% *medium sand*	-14	CL	100%	Dry	0 ppm	
14		*Sandy Silty Clay* 10YR6/6 Brownish yellow sandy silty clay	-15	CL	100%	Dry	0 ppm	Sample Collected BHGLSWMU5306-04 @ 15'
15								
16		*Silty Clay with Sand* 10YR5/4 Yellowish brown silty clay with sand	-17 5	CL	100%	Moist	0 ppm	
17								
18		*Sandy Silty Clay with Pebbles* 2/5Y6/6 Olive yellow silty clay with coarse sand lenses throughout, and 20% small rounded pebbles	-19	CL				
19								
20		*Sandy Silty Clay* 2/5Y6/4 Light yellowish brown sandy silty clay	-20 5	CL	100%	Moist	0 ppm	Sample Collected BHGLSWMU5306-05 @ 20'
21		*Clayey Silt* 10YR6/4 Light yellowish brown clayey silt	-22	ML	100%	Wet	0 ppm	Wet @ 21'
22								Refusal @ 22'
23								
24								

Drilled By ESN-South/John Braden
Drill Method DPT
Drilling Equipment SP-4

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Hole Size 2"
Total Depth Drilled 22'
Sheet 2 of 2

672 177

HYDRO GeoLogic INC.

Borehole ID: BHGLSWMU5307

Project No: AFC001-29BBBA
Project: DO26/29 RFI/SI - Round 1
Client: AFCEE
Location: SWMU 53 - Stormwater Ditch
Northing: 6964397 73

Date: 5/17/00
Geologist: Jone Wilson
Ground Surface Elevation: 582 18
Easting: 2299382 72

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1–3		*Silt* 10YR4/1 Dark grey very stiff silt	-4	ML	100%	Dry	0 ppm	Sample Collected BHGLSWMU5307-01 @ 1'
4–6		*Clayey Silt* 10YR4/2 Dark grey very stiff clayey silt	-6	ML	100%	Dry	0 ppm	Sample Collected BHGLSWMU5307-02 @ 5'
7–9		*Clayey Silt* 10YR4/2 Dark greyish brown stiff clayey silt Slightly plastic	-9 5	ML	100% 100%	Dry Dry	0 ppm 0 ppm	Sample Collected BHGLSWMU5307-03 + DUP017 @ 10'
10–14		*Clayey Silt* 10YR5/1 Grey clayey silt Fossiliforous Slightly plastic 11-14' Same as above with increased fossils at 13'	-14	ML	100%	Dry	0 ppm	Sample Collected BHGLSWMU5307-04 @ 15'
15–17		*Clayey Silt* 2 5Y5/2 Greyish brown clayey silt with 10% small pebbles Soft	-17 5	ML	100% 100%	Dry Moist	0 ppm 0 ppm	Moist @ 16'
18–19		*Sandy Clayey Silt with Pebbles* 2/5Y5/2 Greyish brown clayey silt with 40% coarse pebbles and sand	-19	ML	100%	Wet	0 ppm	Wet @ 19' End of Boring 19'
20								

Drilled By: ESN-South/John Braden
Drill Method DPT
Drilling Equipment SP-4

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Hole Size 2"
Total Depth Drilled 19
Sheet 1 of 1

HYDRO GeoLogic INC.

Borehole ID: BHGLSWMU5308

Project No: AFC001-29BBBA
Project: DO26/29 RFI/SI - Round 1
Client: AFCEE
Location: SWMU 53 - Stormwater Ditch
Northing: 6964339 74

Date: 5/17/00
Geologist. Jorie Wilson
Ground Surface Elevation: 578 04
Easting: 2299408 65

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1–3		*Clayey Silt* 10YR4/2 Dark greyish brown stiff clayey silt Medium plastic	-3	ML	100%	Dry	0 ppm	Sample Collected BHGLSWMU5308-01 @ 1'
4–8		*Clayey Silt* 10YR5/3 Brown stiff clayey silt Slightly plastic Uniform	-8	ML	100% 100%	Dry Dry	0 ppm 0 ppm	Sample Collected BHGLSWMU5308-02 @ 5'
9–12		*Silty Clay* 10YR5/1 Grey silty clay Stiff Medium plasticity Very uniform	-12	CL	100% 100%	Dry Moist	0 ppm 0 ppm	Sample Collected BHGLSWMU5308-03 @ 10'
13–15		*Silty Clay* 10YR6/1 Grey silty clay Medium plastic	-15	CL	100%	Moist	0 ppm	Sample Collected BHGLSWMU5308-04 @ 15'
15–16		*Clayey Sand with Pebbles* 10YR6/1 Grey clayey sand with 30% pebbles	-15 5	SC	100%	Wet	0 ppm	Wet @ 15'
16–18		*Silty Clay* 10YR6/1 Grey silty clay Medium plastic	-16	CL				End of Boring 16'

Drilled By ESN-South/John Braden
Drill Method DPT
Drilling Equipment SP-4

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Hole Size 2"
Total Depth Drilled 16'
Sheet 1 of 1

.672 179

HYDRO GeoLogic INC.

Borehole ID: BHGLSWMU5309

Project No: AFC001-29BBBA
Project: DO26/29 RFI/SI - Round 1
Client: AFCEE
Location: SWMU 53 - Stormwater Ditch
Northing. 6963576 20

Date: 5/17/00
Geologist: Jorie Wilson
Ground Surface Elevation: 573 79
Easting: 2299724 88

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1		*Clayey Silt* 10YR4/1 Dark grey very stiff clayey silt Non plastic	-2	ML	100%	Dry	0 ppm	Sample Collected BHGLSWMU5309-01 @ 1'
2								
3								
4					100%	Dry	0 ppm	Sample Collected BHGLSWMU5309-02 @ 5'
5		*Silt* 10YR5/2 Greyish brown stiff silt Very uniform		ML				
6								
7			-8		100%	Dry	0 ppm	
8								
9		*Silty Clay* 10YR5/3 Brown silty clay Stiff Medium plastic		CL	100%	Dry	0 ppm	Sample Collected BHGLSWMU5309-03 @ 10'
10								
11			-11		100%	Dry	0 ppm	Wet @ 11 5'
12		*Clay* 2 5YR6/1 Grey very stiff clay with 1-inch of 2 5YR6/1 grey fine sand at 14'		CL				
13					100%	Wet	0 ppm	
14			-14					End of Boring 14'
15								

Drilled By ESN-South/John Braden
Drill Method DPT
Drilling Equipment SP-4

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Hole Size 2"
Total Depth Drilled 14'
Sheet 1 of 1

HYDRO GeoLogic INC.

Borehole ID. BHGLSWMU5310

Project No: AFC001-29BBBA
Project: DO26/29 RFI/SI - Round 1
Client: AFCEE
Location. SWMU 53 - Stormwater Ditch
Northing: 6963523 37

Date: 5/18/00
Geologist: Jorie Wilson
Ground Surface Elevation: 573 35
Easting: 2299822 73

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1		*Silt* 10YR3/2 Very dark greyish brown stiff silt	-2	ML	100%	Dry	0 ppm	Sample Collected BHGLSWMU5310-01 @ 1'
2		*Silt* 10YR4/2 Dark greyish brown stiff silt	-3	ML				
3								
4					100%	Dry	0 ppm	Sample Collected BHGLSWMU5310-02 + DUP018 @ 5'
5		*Silt* 10YR7/2 Light grey stiff silt		ML				
6								
7			-7		100%	Dry	0 ppm	
8		*Clayey Silt* 10YR7/2 Light grey stiff clayey silt Slightly plastic	-8	ML				
9		*Silty Clay* 10YR7/3 Very pale brown silty clay Soft Plastic				Dry	0 ppm	Sample Collected BHGLSWMU5310-03 @ 10'
10			-10					Moist @ 10 5'
11		*Silty Clay* 2 5Y7/1 Light grey silty clay Medium stiff Plastic		CL				
12			-12			Dry	0 ppm	
		Sand with Clay 10YR7/2 Light grey fine sand with clay Soft Moist	-12 5	SC				Wet @ 12 5'
13		*Sand with Clay* 10YR7/4 Very pale brown fine to medium sand with clay		SC		Wet	0 ppm	
14			-14					End of Boring 14'
15								

Drilled By ESN-South/John Braden
Drill Method DPT
Drilling Equipment SP-4

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

672 181

HYDRO GeoLogic INC.

Borehole ID: BHGLSWMU5311

Project No: AFC001-29BBBA
Project: DO26/29 RFI/SI - Round 1
Client: AFCEE
Location: SWMU 53 - Stormwater Ditch
Northing: 6964131 85

Date: 5/18/00
Geologist: Jorie Wilson
Ground Surface Elevation: 578 10
Easting: 2299507 18

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1					100%	Dry	0 ppm	Sample Collected BHGLSWMU5311-01 @ 1'
2		*Silt* 10YR4/1 Dark grey stiff silt		ML				
3								
4			-4		100%	Dry	0 ppm	Sample Collected BHGLSWMU531102 + MS/MSD @ 5'
5		*Silt* 10YR5/3 Brown soft silt		ML				
6			-6					Moist @ 6'
7		*Clayey Silt* 10YR5/1 Grey clayey silt	-7 5	ML	100%	Dry	0 ppm	Wet @ 7 5'
8					100%	Wet	0 ppm	
9		*Silty Sand* 10YR7/3 Very pale brown very fine silty sand		SM	50%	Wet	0 ppm	
10								
11			-11					End of Boring 11'
12								
13								

Drilled By ESN-South/John Braden
Drill Method DPT
Drilling Equipment SP-4

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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

HYDRO GeoLogic INC.

Borehole ID: *BHGLSWMU5312*

Project No: AFC001-29BBBA
Project: DO26/29 RFI/SI - Round 1
Client: AFCEE
Location: SWMU 53 - Stormwater Ditch
Northing: 6963949 80

Date: 5/18/00
Geologist: Jorie Wilson
Ground Surface Elevation: 576 46
Easting: 2299543 21

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
		Silt 10YR5/4 Yellowish brown stiff silt	-0 5	ML				Sample Collected BHGLSWMU5312-01 @ 1'
1					100%	Dry	0 ppm	
2		*Silt* 10YR54/2 Dark greyish brown stiff silt	-3	ML				
3		*Silt* 10YR5/2 Greyish brown silt Medium soft	-4	ML				
4		*Gravely Silt* 10YR5/2 Greyish brown silt with angular to subangular gravel @ 20% Medium soft	-5	ML	100%	Dry	0 ppm	Sample Collected BHGLSWMU5312-02 @ 5'
5								
6		*Silt* 10YR8/3 Very pale brown fine silt Soft	-7 5	ML	100%	Dry	0 ppm	
7								
8		*Sandy Silt* 10YR8/3 Very fine sandy silt	-8	ML	100%	Wet	0 ppm	Wet @ 7 5'
9								

Drilled By ESN-South/John Braden
Drill Method DPT
Drilling Equipment SP-4

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

672 183

HYDRO GeoLogic INC.

Borehole ID: BHGLSWMU5313

Project No: AFC001-29BBBA
Project: DO26/29 RFI/SI - Round 1
Client: AFCEE
Location: SWMU 53 - Stormwater Ditch
Northing: 6963481 28

Date: 5/18/00
Geologist: Jorie Wilson
Ground Surface Elevation: 573 49
Easting. 2299819 24

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1, 2		*Silt* 10YR3/2 Very dark greyish brown stiff silt	-3	ML	80%	Dry	0 ppm	Sample Collected BHGLSWMU5313-01 @ 1'
4, 5		*Silt* 10YR5/2 Greyish brown stiff silt Very uniform	-7	ML	100%	Dry	0 ppm	Sample Collected BHGLSWMU5313-02 @ 5'
7, 8		*Clayey Silt* 10YR5/2 Greyish brown stiff clayey silt Slightly plastic	-8	ML	100%	Dry	0 ppm	
9, 10		*Silty Clay* 2 5Y5/2 Greyish brown silty clay	-10 5	CL CL		Dry	0 ppm	Sample Collected BHGLSWMU53-03 @ 10' Wet @ 10 5'
11		*Silty Clay with Sand* 2 5Y5/2 Greyish brown silty clay with sand	-11			Wet	0 ppm	
12, 13, 14		*Silty Sand* 2 5Y5/2 Greyish brown fine silty sand	-14	SM		Wet		

Drilled By ESN-South/John Braden
Drill Method DPT
Drilling Equipment SP-4

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: BHGLSWMU5314

Project No: AFC001-29BBBA
Project: DO26/29 RFI/SI - Round 1
Client: AFCEE
Location: SWMU 53 - Stormwater Ditch
Northing: 6963580 66

Date: 5/18/00
Geologist: Jorie Wilson
Ground Surface Elevation: 574 98
Easting. 2299634 65

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1, 2, 3		*Silt* 10YR4/1 Dark grey stiff silt	-3	ML	100%	Dry	0 ppm	Sample Collected BHGLSWMU5314-01 @ 1'
4, 5		*Silt* 10YR5/2 Greyish brown medium stiff silt	-5	ML	100%	Dry	0 ppm	Sample Collected BHGLSWMU5314-02 @ 5' Slightly Moist @ 5'
6		*Silt with Sand* 10YR7/2 Light grey soft silt with fine sand	-6	ML				
7		*Silty Clay* 10YR7/2 Light grey medium stiff silty clay			100%	Moist	0 ppm	Moist @ 6 5'
8, 9, 10				CL	100%	Moist	0 ppm	Sample Collected BHGLSWMU5314-03 @ 10'
11, 12		12 5-14' Same as above with lenses of clayey silt			100%	Moist	0 ppm	Wet @ 12 5'
13					100%	Wet	0 ppm	
14			-14					End of Boring 14'

Drilled By ESN-South/John Braden
Drill Method DPT
Drilling Equipment SP-4

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

TAB

APPENDIX D

APPENDIX D

DATA QUALITY ASSESSMENT

DATA QUALITY ASSESSMENT
DRAFT RCRA FACILITY INVESTIGATION REPORT
SWMU 53, STORMWATER DRAINAGE SYSTEM
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, BTEX, and/or methane. No ambient blanks were collected in association with SWMU 53 sampling.

1.2 EQUIPMENT BLANKS

An equipment blank is a sample of ASTM Type II reagent grade water poured over the 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 was collected per day for each type of sampling equipment used. Four equipment blanks were collected in association with SWMU 53 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 analytes. Trip blanks are used to assess the potential introduction of contaminants from sample containers or during the transportation and storage procedures. One trip blank accompanied each cooler of samples sent to the laboratory for analysis of VOCs. Three trip blanks were collected in association with SWMU 53 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 co-located 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. Four field duplicates were collected during SWMU 53 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 10 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:

abbbccccdd-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., SWMU53)
- 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, and so forth. These two digits will be dropped once the data is entered into the ERPIMS database.

For example, the first soil sample collected from soil boring 01 located at SWMU 53 was identified as "BHGLSWMU5301-01." The second sample collected from soil boring 01 located at SWMU 53 was identified as "BHGLSWMU5301-02."

Duplicate samples were submitted to the laboratory blind. 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 BHGLSWMU5307 was identified as DUP17. 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, the equipment blank obtained on May 17, 2000, was identified as EB051700. 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

Samples collected as part of this RFI were analyzed for a reduced list of 40 CFR 264, Appendix IX constituents in accordance with the 2000 Basewide QAPP (HydroGeoLogic, 2000b). The reduced list includes analyses for VOCs, SVOCs, and metals.

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 SWMU 53 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 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 soil and water samples were analyzed following the protocols contained in the EPA's *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (SW-846)* (EPA, 1997) 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 2000 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 2000 Basewide QAPP. The original Basewide QAPP was produced in 1998 and was based on versions 1.1 and 2.0 of AFCEE's Model QAPP, with some base-specific modifications. The current document, the 2000 Basewide QAPP, incorporates elements of the AFCEE Model QAPP, version 3.0 (AFCEE, 1998), and updates to the SW-846 methods. The 2000 Basewide QAPP is supplemented by the laboratory's Quality Assurance Plan. Together, these two documents detail the requirements that 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 the QAPP criteria, the affected data were qualified in the data validation process. The Data Validation Reports are presented in Appendix E. 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, matrix spike/matrix spike duplicate 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 2000 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 2000 Basewide QAPP, and in the method-specific subsections of Section 7.0 of the 2000 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

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

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 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.

A total of 9,066 data points were generated by the analyses of project soil samples. Of these, 136 were rejected due to failure to achieve QA/QC program requirements. Total project soil data completeness is calculated to be 98.5 percent, which exceeds the project soil data completeness goal of 90 percent.

3.0 DATA QUALITY EVALUATION

This section describes the analytical methods and quality control program utilized for the RFI of SWMU 53 at NAS Fort Worth JRB. The analytical methods used for the analysis of the field samples are described in Sections 5.0 and 7.0 of the 2000 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 2000 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 reviewing field duplicates, field blanks, field documentation, and shipping criteria.

3.2 METHODOLOGY FOR DATA QUALITY ASSESSMENT

The results for SWMU 53 samples collected were validated by Environmental Data Services, Inc. (EDS), with one exception. The result for the bis(2-ethylhexyl)phthalate confirmation sample collected from BHGLSWMU5315-04 was validated by HydroGeoLogic. The data were evaluated in accordance with the procedures and acceptance criteria contained in the Basewide QAPP. All results from all analytical methods 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 are included in Appendix E.

Subsequent to the data validation process, the required data validation qualifiers were entered into the project database. The accuracy of 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 E

APPENDIX E

DATA VALIDATION REPORTS

Appendix E Units

The units for the concentrations in the Qualification Summary Tables of the Data Validation Reports are as follows:

All water concentrations are expressed in μg/l.

All soil concentrations for metals, sulfide, and cyanide are expressed in mg/kg.

All soil concentrations for organics are expressed in μg/kg.

Appendix IX Semivolatile Organic Compounds
[bis(2-ethylhexyl)phthalate only]
SW-846 Method 8270C
USEPA Level III Review

Site Naval Air Station Fort Worth JRB, Texas — SDG # 9A12G050

Laboratory STL-Chicago — Date 01 30 01

HydroGeoLogic, Inc. Reviewer Ken Rapuano — Project AFC001-29BBBB

Client Sample ID	Laboratory Sample ID	Matrix
EB120500	9A12G050-001	Water
BHGLSWMU5315-04	9A12G050-002	Soil

Sample Delivery and Condition - The samples arrived at the laboratory in acceptable condition and temperature Proper custody (internal and external) was documented No qualification required

Holding Times - All samples were extracted and analyzed within the required holding times for soil samples

GC/MS Tuning - The initial calibration and sample analytical sequences were all performed within 12 hours of an acceptable MS tune No qualification required

Initial Calibration - The initial calibrations had acceptable average RRFs for SPCCs All other compounds had acceptable %RSDs No qualification required. [Note that the laboratory incorrectly provided the data form with di-n-butyl phthalate for one of the initial calibrations The bis(2-ethylhexyl)phthalate data is provided in the instrument data printouts.]

Continuing Calibration - All SPCCs met RRF requirements and all CCCs met the 20% %D requirement All other compounds met the 25% %D requirement No qualification necessary.

Surrogates - All sample surrogate recoveries were within established control limits

Laboratory Control Samples - The aqueous LCS/LCSD %R result for B2EHP was above the outside UCL This QC sample is only associated with the equipment blank and no qualification is necessary All soil LCS %R results met established control limits; no qualification is necessary

MS/MSD - No MS/MSD was performed in this SDG No qualification necessary.

Internal Standard Performance - All internal standards met area and retention time criteria. No qualification necessary.

Method Blanks - The method blank was free from contamination No qualification necessary.

Equipment Blanks - The associated equipment was free from contamination. No qualification necessary

Field Duplicates - No field duplicate is associated with the samples in this SDG No qualification required.

Compound Quantitation - No issues.

Qualification Summary Table

No data required qualification

672 200

received 7-24-00

ENVIRONMENTAL
Data Services, Inc.

APPENDIX IX VOLATILE ORGANIC COMPOUNDS

USEPA SW846 Method 8260B - Level III Review

Site. Naval Air Station Fort Worth - DO29BBA SDG #: 9A05G332

Client: HydroGeoLogic, Inc. Date: July 7, 2000

Laboratory: Severn Trent Laboratories, Chicago, IL Reviewer. Cathy Shelby

Client Sample ID	Laboratory Sample ID	Matrix
BHGLSWMU5305-01	9A05G332-001	Soil
BHGLSWMU5305-02	9A05G332-002	Soil
BHGLSWMU5305-03	9A05G332-003	Soil
BHGLSWMU5305-04	9A05G332-004	Soil
BHGLSWMU5306-01	9A05G332-005	Soil
BHGLSWMU5306-02	9A05G332-006	Soil
BHGLSWMU5306-03	9A05G332-007	Soil
BHGLSWMU5306-04	9A05G332-008	Soil
BHGLSWMU5306-05	9A05G332-009	Soil
BHGLSWMU5307-01	9A05G332-010	Soil
BHGLSWMU5307-02	9A05G332-011	Soil
BHGLSWMU5307-03	9A05G332-012	Soil
DUP017	9A05G332-013	Soil
BHGLSWMU5307-04	9A05G332-014	Soil
BHGLSWMU5308-01	9A05G332-015	Soil
BHGLSWMU5308-02	9A05G332-016	Soil
BHGLSWMU5308-02MS	9A05G332-016MS	Soil
BHGLSWMU5308-02MSD	9A05G332-016MSD	Soil
BHGLSWMU5308-03	9A05G332-017	Soil
BHGLSWMU5308-04	9A05G332-018	Soil
BHGLSWMU5309-01	9A05G332-019	Soil
BHGLSWMU5309-02	9A05G332-020	Soil
BHGLSWMU5309-03	9A05G332-021	Soil
TB051700	9A05G332-022	Water
EB051700	9A05G332-023	Water

Holding Times - All samples were analyzed within 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

7/25/00

4 Bicentennial Square, Suite 3A • Concord, NH 03301 • Telephone: 603-226-0118 • Fax: 603-226-0128 • e-mail envdata@aol.com

Initial Calibration - The initial calibrations analyzed between 01/14/00-05/09/00, 01/12/00-03/27/00, 01/14/00-05/19/00 and 01/12/00-04/30/00 exhibited acceptable %RSD values and/or correlation coefficients and mean RRF values No qualifications were required

Continuing Calibration - The continuing calibrations analyzed on 05/27/00, 05/29/00 and 05/30/00 exhibited acceptable %D and RRF values. No qualifications were required.

The continuing calibration analyzed on 05/28/00 exhibited a high %D value for methyl-tert-butyl ether contamination at 26.39%. Methyl-tert-butyl ether has been rejected (R) in sample EB051700

The continuing calibration analyzed on 05/31/00 exhibited high %D values for dichlorodifluoromethane and bromoform of 157.4% and 36 4%, respectively. Both compounds have been rejected (R) in sample TB051700.

Surrogates - Sample BHGLSWMU5307-03 exhibited high %R values for 1,2-dichloroethane-d4 and dibromofluoromethane of 172% and 166%, respectively, however, all results are non-detect and no qualifications were required

Sample BHGLSWMU5307-04 exhibited a high %R value for dibromofluoromethane of 160%, however, all results are non-detect and no qualifications were required

Samples BHGLSWMU5308-04 and BHGLSWMU5309-01 exhibited low %R values for p-bromofluorobenzene of 59% and 60%, respectively. All results have been qualified (J/UJ) in both samples

Laboratory Control Samples - LCS samples VBLKWII, VBLKJI, VBLKNO, VBLKIM and VBLKHX exhibited acceptable %R values No qualifications were required.

LCS sample VBLKJA exhibited a high %R value for dichlorodifluoromethane of 184%, however, all associated results are non-detect and no qualifications were required.

LCS sample VBLKIW exhibited a low %R value for methyl-tert-butyl ether of 70%, however, MTBE has already been rejected (R) in associated sample EB051700 due to the continuing calibration and no further qualifications were required

LCS sample VBLKIO exhibited a low %R value for 1,1-dichloroethene of 63% 1,1-Dichloroethene has been rejected (R) in sample BHGLSWMU5309-01.

MS/MSD - MS/MSD sample BHGLSWMU5308-02 exhibited high %R and/or RPD values for methyl-tert-butyl ether, 1,1,1,2-trichloroethane, ethylbenzene, p,m-xylene, 1,1,2,2-trichloroethane, 1,2,3-trichloropropane and 1,2,-dibromo-3,-chloropropane, however, all of the above compounds are non-detect in this sample and no qualifications were required.

Internal Standard (IS) Area Performance - Samples BHGLSWMU5307-03 and BHGLSWMU5307-04 exhibited low area counts for all four internal standards All results have been qualified (J/UJ) in both samples.

Sample BHGLSWMU5309-01 exhibited low area counts for internal standards IS3 and IS4, however, all results have already been qualified in this sample due to a low surrogate recovery and no further qualifications were required.

Method Blank - Method blanks VBLKJN (05/27/00), VBLKJI (05/27/00), VBLKNO (05/28/00), VBLKII (05/28/00), VBLKIW (05/28/00), VBLKIM (05/29/00), VBLKHX (05/30/00), VBLKIO (05/30/00) and VBLKJA (05/31/00) were free of contamination. No qualifications were required.

Trip, field, equipment blank - Trip blank TB051700 was free of contamination. No qualifications were required.

Equipment blank EB051700 exhibited acetone and methylene chloride contamination at 6 ug/L, and 3 ug/L, respectively Acetone has been qualified (U) in samples BHGLSWMU5306-05, BHGLSWMU5307-01 and BHGLSWMU5309-01. All other associated results are non-detect and no further qualifications were required If acetone is greater than 5x the amount in the EB, then it is a valid detection

Field Duplicates - Field duplicate results for samples BHGLSWMU5307-03 and DUP017 are non-detect No qualifications were required.

Tentatively Identified Compounds - 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 surrogates, internal standards, equipment blank and TICs sections of this report with the exception of several compounds which were rejected due to the continuing calibration and LCS. 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: 9A05G332					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
BHGLSWMU5306-05	Acetone	10	-	10	U
BHGLSWMU5307-01	Acetone	6	-	6	U
BHGLSWMU5307-03	All compounds	-	U	-	UJ
BHGLSWMU5307-04	All compounds	-	U	-	UJ
BHGLSWMU5308-04	All compounds	-	U	-	UJ
BHGLSWMU5309-01	All compounds except		U		UJ
	1,1-Dichloroethene	2	U	2	R
TB051700	Dichlorodifluoromethane	0 5	U	0 5	R
	Bromoform	0 5	U	0 5	R
EB051700	Methyl-tert-Butyl Ether	0 5	U	0 5	R

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Received 7-24-00

APPENDIX IX SEMIVOLATILE ORGANIC COMPOUNDS

USEPA SW846 Method 8270C - Level III Review

Site: Naval Air Station Fort Worth - DO29BBBA SDG #: 9A05G332

Client: HydroGeoLogic, Inc Date: July 7, 2000

Laboratory Severn Trent Laboratories, Chicago, IL Reviewer: Cathy Shelby

Client Sample ID	Laboratory Sample ID	Matrix
BHGLSWMU5305-01	9A05G332-001	Soil
BHGLSWMU5305-02	9A05G332-002	Soil
BHGLSWMU5305-03	9A05G332-003	Soil
BHGLSWMU5305-04	9A05G332-004	Soil
BHGLSWMU5306-01	9A05G332-005	Soil
BHGLSWMU5306-02	9A05G332-006	Soil
BHGLSWMU5306-03	9A05G332-007	Soil
BHGLSWMU5306-04	9A05G332-008	Soil
BHGLSWMU5306-05	9A05G332-009	Soil
BHGLSWMU5307-01	9A05G332-010	Soil
BHGLSWMU5307-02	9A05G332-011	Soil
BHGLSWMU5307-03	9A05G332-012	Soil
DUP017	9A05G332-013	Soil
BHGLSWMU5307-04	9A05G332-014	Soil
BHGLSWMU5308-01	9A05G332-015	Soil
BHGLSWMU5308-02	9A05G332-016	Soil
BHGSLWMU5308-02MS	9A05G332-016MS	Soil
BHGLSWMU5308-02MSD	9A05G332-016MSD	Soil
BHGLSWMU5308-03	9A05G332-017	Soil
BHGLSWMU5308-04	9A05G332-018	Soil
BHGLSWMU5309-01	9A05G332-019	Soil
BHGLSWMU5309-02	9A05G333-020	Soil
BHGLSWMU5309-03	9A05G332-021	Soil
EB051700	9A05G332-023	Water

Holding Times - All samples were extracted within 7 days for water samples and 14 days for soil samples and analyzed within 40 days 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 DFTPP tunes in the initial and continuing calibrations met the percent relative abundance criteria. No qualifications were required

7/25/00

Initial Calibration - The initial calibration analyzed on 12/16/99 exhibited a high %RSD value for hexachlorophene of 37.2%. Hexachlorophene has been rejected (R) in all samples except EB051700 and BHGLSWMU5309-03.

The initial calibration analyzed on 03/02/00 exhibited high %RSD values for 1,4-naphthoquinone, 4-nitroquinoline-1-oxide and hexachlorophene of 56.3%, 46.7% and 39.3%, respectively These three compounds have all been rejected (R) in samples EB051700 and BHGLSWMU5309-03.

The initial calibrations analyzed on 05/16/00 and 06/01/00 exhibited acceptable %RSD and/or correlation coefficients and mean RRF values. No qualifications were required.

Continuing Calibration - The continuing calibration analyzed on 05/30/00 exhibited a high %D value for hexachloroethane of 29.03%. Hexachloroethane has been rejected (R) in samples BHGLSWMU5309-03 and EB051700.

The continuing calibrations analyzed on 06/06/00, 06/07/00 and 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 samples SBLKRQ, SBLKSD and SBLKSC exhibited acceptable %R values No qualifications were required.

MS/MSD - MS/MSD sample BHGLSWMU5308-02 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 SBLKSD (05/24/00), SBLKSC (05/24/00) and SBLKRQ (05/22/00) were free of contamination. No qualifications were required.

Field. equipment blank - Equipment blank EB051700 was free of contamination. No qualifications were required.

Field Duplicates - Field duplicate results for samples BHGLSWMU5307-03 and DUP017 are non-detect. No qualifications were required.

Tentatively Identified Compounds (TICs) - TICs were not included in 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 with the exception of several compounds which were rejected due to initial and continuing calibrations. 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 - Semivolatiles
SDG 9A05G332

Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
BHGLSWMU5305-01	Hexachlorophene	5400	U	5400	R
BHGLSWMU5305-02	Hexachlorophene	5600	U	5600	R
BHGLSWMU5305-03	Hexachlorophene	5800	U	5800	R
BHGLSWMU5305-04	Hexachlorophene	6100	U	6100	R
BHGLSWMU5306-01	Phenanthrene	130	J	130	F
	Fluoranthene	190	J	190	F
	Benzo(a)anthracene	69	J	69	F
	Chrysene	84	J	84	F
	Hexachlorophene	5700	U	5700	R
BHGLSWMU5306-02	Hexachlorophene	5500	U	5500	R
BHGLSWMU5306-03	Hexachlorophene	5800	U	5800	R
BHGLSWMU5306-04	Hexachlorophene	5700	U	5700	R
BHGLSWMU5306-05	Hexachlorophene	5800	U	5800	R
BHGLSWMU5307-01	Hexachlorophene	5700	U	5700	R
BHGLSWMU5307-02	Hexachlorophene	5800	U	5800	R
BHGLSWMU5307-03	Hexachlorophene	5800	U	5800	R
DUP017	Hexachlorophene	5700	U	5700	R
BHGLSWMU5307-04	Hexachlorophene	6000	U	6000	R
BHGLSWMU5308-01	Hexachlorophene	5800	U	5800	R
BHGLSWMU5308-02	Hexachlorophene	6400	U	6400	R
BHGLSWMU5308-03	Hexachlorophene	6000	U	6000	R

Qualification Summary Table - Semivolatiles SDG 9A05G332					
Sample No.	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
BHGLSWMU5308-04	Hexachlorophene	6200	U	6200	R
BHGLSWMU5309-01	Hexachlorophene	6000	U	6000	R
BHGLSWMU5309-02	Hexachlorophene	6000	U	6000	R
BHGLSWMU5309-03	Hexachloroethane	430	U	430	R
	1,4-Naphoquinone	2100	U	2100	R
	4-Nitroquinonline-1-Oxide	2100	U	2100	R
Hexachlorophene	~~Hexachloroethane~~	6400	U	6400	R
EB051700	Hexachloroethane	10	U	10	R
	1,4-Naphoquinone	48	U	48	R
	4-Nitroquinonline-1-Oxide	48	U	48	R
Hexachlorophene	~~Hexachloroethane~~	140	U	140	R

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METALS

USEPA SW846 Methods 6010B/7000A - Level III Review

Site Naval Air Station Fort Worth - DO29BBBA SDG #: 9A05G332

Client HydroGeoLogic, Inc. Date July 10, 2000

Laboratory: Severn Trent Laboratories, Chicago, IL Reviewer: Tara Lambert

Client Sample ID	Laboratory Sample ID	Matrix
BHGLSWMU5305-01	9A05G332-001	Soil
BHGLSWMU5305-02	9A05G332-002	Soil
BHGLSWMU5305-03	9A05G332-003	Soil
BHGLSWMU5305-04	9A05G332-004	Soil
BHGLSWMU5306-01	9A05G332-005	Soil
BHGLSWMU5306-02	9A05G332-006	Soil
BHGLSWMU5306-03	9A05G332-007	Soil
BHGLSWMU5306-04	9A05G332-008	Soil
BHGLSWMU5306-05	9A05G332-009	Soil
BHGLSWMU5307-01	9A05G332-010	Soil
BHGLSWMU5307-02	9A05G332-011	Soil
BHGLSWMU5307-03	9A05G332-012	Soil
DUP017	9A05G332-013	Soil
BHGLSWMU5307-04	9A05G332-014	Soil
BHGLSWMU5308-01	9A05G332-015	Soil
BHGLSWMU5308-02	9A05G332-016	Soil
BHGSLWMU5308-02MS	9A05G332-016MS	Soil
BHGLSWMU5308-02MSD	9A05G332-016MSD	Soil
BHGLSWMU5308-03	9A05G332-017	Soil
BHGLSWMU5308-04	9A05G332-018	Soil
BHGLSWMU5309-01	9A05G332-019	Soil
BHGLSWMU5309-02	9A05G333-020	Soil
BHGLSWMU5309-03	9A05G332-021	Soil
EB051700	9A05G332-023	Water

Holding Times - All samples were extracted and analyzed within 180 days for silver 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, initial and continuing calibration blanks exhibited blank contamination for arsenic, cadmium and vanadium at 4.2 ug/L, 0.5 ug/L and 2.2 ug/L, respectively However, all associated results are non-detect and no qualifications were required.

The water preparation blank, initial and continuing calibration blanks exhibited negative blank contamination for beryllium, copper, lead, nickel and tin at -0 9 ug/L, -7.0 ug/L, -2.01 ug/L, -4.4 ug/L and -5.0 ug/L, respectively. Beryllium and copper have been rejected (R) in sample EB051700 Lead, nickel and tin have been qualified (UJ) in sample EB051700

The soil preparation blank, initial and continuing calibration blanks exhibited blank contamination for antimony, barium, beryllium, chromium, copper, tin, vanadium and zinc at 2 8 ug/L, 0.8 mg/kg, 0.60 ug/L, 0.15 ug/L, 0 48 mg/kg, 1.15 mg/kg, 1.6 ug/L and 24.8 ug/L, respectively. Tin has been qualified (U) in all soil samples. All other associated results are non-detect or greater than 5X the blank concentration and no further qualifications were required

The soil preparation blank, initial and continuing calibration blanks exhibited negative blank contamination for antimony, arsenic, beryllium, cadmium, cobalt, lead, nickel, silver and tin at -2 8 ug/L, -0 92 mg/kg, -0.10 mg/kg, -0.12 mg/kg, -0 21 mg/kg, -1.9 ug/L, -0.45 mg/kg, -0 9 mg/kg and -6.6 ug/L, respectively Antimony has been qualified (UJ) in all soil samples Arsenic has been qualified (UJ) in samples BHGLSWMU5307-03, BHGLSWMU5308-03 and BHGLSWMU5309-03. Beryllium has been qualified (J) in sample BHGLSWMU5308-02. Cadmium has been qualified (UJ) in samples BHGLSWMU5305-03, BHGLSWMU5305-04, BHGLSWMU5306-03, BHGLSWMU5307-01, BHGLSWMU5307-03, DUP017, BHGLSWMU5307-04, BHGLSWMU5308-03, BHGLSWMU5308-04 and BHGLSWMU5309-03. Silver has been rejected (R) in all soil samples. Tin has been qualified (UJ) in all soil samples.

Field and equipment blank - Equipment blank EB051700 was free of contamination. No qualifications were required.

ICP Interference Check Sample - 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 Dilution - ICP serial dilution sample BHGLSWMU5308-02 exhibited a high %D value for chromium of 10.5%. Chromium has been qualified (J) in all soil samples.

Matrix Spike/Duplicate - Matrix spike/duplicate sample BHGLSWMU5308-02 exhibited low %R values for antimony, lead and thallium of 0%, -50.6% and 51 3%, respectively, and high RPD values for antimony and lead of 200 and 54, respectively. Antimony has been rejected (R) in this sample Thallium has been qualified (UJ) in this sample Lead has already been qualified (F) and no further qualifications were required.

Field Duplicates - Field duplicate results are summarized in the table below. No qualifications were required

Compound	BHGLSWMU5307-03 mg/kg	DUP017 mg/kg	RPD or Difference
Antimony	0.29U	0 34	0 05
Arsenic	0 18U	0 35	0 17

Graphite Furnace Atomic Absorption (GFAA) Analysis - Several samples exhibited a postdigestion spike for antimony, lead, selenium, silver and/or thallium 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 and further qualified (J/UJ) by the reviewer unless already qualified due to other deficiencies.

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 method blank, ICP serial dilution, MS/MSD, 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 9A05G332					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
BHGLSWMU5305-01	Antimony	0 27	UWN	0 27	UJ
	Cadmium	0 26	B	0 26	F
	Chromium	11 5	E	11 5	J
	Selenium	0 20	UW	0 20	UJ
	Silver	0 01	U	0 01	R
	Thallium	0 20	UWN	0 20	UJ

Qualification Summary Table - Metals SDG 9A05G332					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
	Tin	1 4	B	1 4	UJ
BHGLSWMU5305-02	Antimony	0 28	UWN	0 28	UJ
	Arsenic	3 2	B	3 2	F
	Cadmium	0 05	B	0 05	F
	Chromium	15 7	E	15 7	J
	Lead	8 1	BN	8 1	F
	Selenium	0 20	UW	0 20	UJ
	Silver	0 01	UW	0 01	R
	Thallium	0 20	UWN	0 20	UJ
	Tin	2 1	B	2 1	UJ
	Vanadium	31 0	B	31 0	F
BHGLSWMU5305-03	Antimony	0 29	UWN	0 29	UJ
	Arsenic	0 55	B	0 55	F
	Cadmium	0 04	U	0 04	UJ
	Chromium	11 2	E	11 2	J
	Cobalt	2 3	B	2 3	F
	Copper	6 7	B	6 7	F
	Lead	7 3	BWN	7 3	F
	Nickel	7 3	B	7 3	F
	Selenium	0.21	UW	0 21	UJ
	Silver	0 01	UW	0 01	R
	Tin	0 94	B	0 94	UJ
	Vanadium	22 4	B	22 4	F
	Zinc	21 6	B	21 6	F
BHGLSWMU5305-04	Antimony	0 32	UWN	0.32	UJ
	Arsenic	0 62	B	0 62	F
	Cadmium	0 04	U	0 04	UJ
	Chromium	13 7	E	13.7	J
	Cobalt	2 7	B	2 7	F
	Lead	5 7	BN	5.7	F
	Nickel	7 8	B	7 8	F
	Selenium	0 23	UW	0 23	UJ
	Silver	0 01	UW	0 01	R
	Thallium	0 23	UWN	0 23	UJ
	Tin	1 6	B	1 6	UJ
	Vanadium	22 9	B	22 9	F
	Zinc	26 7	B	26 7	F
BHGLSWMU5306-01	Antimony	0 31	UWN	0 31	UJ
	Arsenic	3 4	B	3 4	F
	Chromium	36 6	E	36 6	J
	Cobalt	4 0	B	4 0	F
	Nickel	9 2	B	9 2	F
	Silver	0.01	UW	0 01	R
	Tin	1 9	B	1 9	UJ
	Vanadium	26 4	B	26.4	F
BHGLSWMU5306-02	Antimony	0 28	UWN	0 28	UJ
	Arsenic	1 1	B	1 1	F
	Cadmium	0 15	B	0 15	F

Qualification Summary Table - Metals SDG 9A05G332					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
	Chromium	10 6	E	10 6	J
	Cobalt	2 3	B	2 3	F
	Copper	4 7	B	4 7	F
	Lead	4 8	BN	4 8	F
	Nickel	5 9	B	5 9	F
	Selenium	0 20	UW	0 20	UJ
	Silver	0 01	U	0 01	R
	Thallium	0 20	UWN	0 20	UJ
	Tin	1 3	B	1 3	UJ
	Vanadium	16 1	B	16 1	F
	Zinc	21 2	B	21 2	F
BHGLSWMU5306-03	Antimony	0 29	UWN	0 29	UJ
	Arsenic	0 74	B	0 74	F
	Barium	38 9	B	38 9	F
	Cadmium	0 04	U	0 04	UJ
	Chromium	12 4	E	12 4	J
	Cobalt	4 1	B	4 1	F
	Copper	5 0	B	5 0	F
	Lead	4 5	BN	4 5	F
	Nickel	7 5	B	7 5	F
	Selenium	0 20	UW	0 20	UJ
	Silver	0 01	UW	0 01	R
	Thallium	0 20	UWN	0 20	UJ
	Tin	1 1	B	1 1	UJ
	Vanadium	27 7	B	27 7	F
	Zinc	19 1	B	19 1	F
BHGLSWMU5306-04	Antimony	0 28	UWN	0 28	UJ
	Cadmium	0 03	B	0 03	F
	Chromium	10 3	E	10 3	J
	Lead	3.6	BN	3 6	F
	Selenium	0 20	UW	0 20	UJ
	Silver	0 01	U	0.01	R
	Thallium	0 20	UWN	0 20	UJ
	Tin	1 3	B	1 3	UJ
	Zinc	19 4	B	19 4	F
BHGLSWMU5306-05	Antimony	0 28	UWN	0.28	UJ
	Cadmium	0 04	B	0 04	F
	Chromium	12 7	E	12 7	J
	Copper	6 5	B	6 5	F
	Lead	3 8	BWN	3 8	F
	Selenium	0 20	UW	0 20	UJ
	Silver	0 01	U	0.01	R
	Thallium	0 20	UWN	0 20	UJ
	Tin	1 6	B	1 6	UJ
	Zinc	19 0	B	19 0	F
BHGLSWMU5307-01	Antimony	0 30	UWN	0 30	UJ
	Cadmium	0 02	U	0 02	UJ
	Chromium	15 4	E	15 4	J
	Silver	0 01	UW	0 01	R

Qualification Summary Table - Metals SDG· 9A05G332					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
	Tin	1 2	B	1 2	UJ
BHGLSWMU5307-02	Antimony	0.31	UWN	0.31	UJ
	Arsenic	2 6	B	2 6	F
	Cadmium	0.11	B	0.11	F
	Chromium	14.7	E	14.7	J
	Cobalt	5 1	B	5 1	F
	Lead	4 8	BWN	4.8	F
	Selenium	0 22	UW	0 22	UJ
	Silver	0 01	U	0 01	R
	Thallium	0 22	UWN	0 22	UJ
	Tin	1 6	B	1 6	UJ
	Vanadium	26 6	B	26 6	F
BHGLSWMU5307-03	Antimony	0 29	UWN	0 29	UJ
	Arsenic	0 18	U	0 18	UJ
	Cadmium	0 03	U	0 03	UJ
	Chromium	12 1	E	12 1	J
	Cobalt	2 3	B	2 3	F
	Copper	6 7	B	6 7	F
	Lead	4 2	BN	4 2	F
	Selenium	0 20	UW	0 20	UJ
	Silver	0 01	UW	0 01	R
	Thallium	0 20	UWN	0.20	UJ
	Tin	0 96	B	0 96	UJ
	Vanadium	19 9	B	19 9	F
DUP017	Antimony	0 34	BWN	0 34	UJ
	Arsenic	0 35	B	0 35	F
	Cadmium	0 03	U	0 03	UJ
	Chromium	13 3	E	13 3	J
	Cobalt	2 6	B	2 6	F
	Copper	6 4	B	6 4	F
	Lead	5 2	BN	5 2	F
	Selenium	0 21	UW	0 21	UJ
	Silver	0 01	UW	0 01	R
	Thallium	0 21	UWN	0 21	UJ
	Tin	1 4	B	1 4	UJ
	Vanadium	19 6	B	19 6	F
BHGLSWMU5307-04	Antimony	0 31	UWN	0 31	UJ
	Arsenic	0 33	B	0 33	F
	Cadmium	0 03	U	0 03	UJ
	Chromium	11 6	E	11 6	J
	Cobalt	1.8	B	1 8	F
	Lead	4 0	BN	4 0	F
	Selenium	0 22	UW	0.22	UJ
	Silver	0 01	U	0 01	R
	Thallium	0 22	UWN	0 22	UJ
	Tin	0 87	B	0 87	UJ
	Vanadium	13 5	B	13 5	F
BHGLSWMU5308-01	Antimony	0 30	UWN	0 30	UJ

Qualification Summary Table - Metals SDG 9A05G332					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
	Arsenic	2 8	B	2 8	F
	Cadmium	0 26	B	0 26	F
	Chromium	11 6	E	11 6	J
	Cobalt	3 8	B	3 8	F
	Lead	10 9	BN	10 9	F
	Selenium	0 21	UW	0 21	UJ
	Silver	0 01	UW	0 01	R
	Thallium	0 21	UWN	0 21	UJ
	Tin	1 0	B	1 0	UJ
BHGLSWMU5308-02	Antimony	0 35	UWN	0 35	R
	Arsenic	0 86	B	0 86	F
	Beryllium	0 36	-	0 36	UJ
	Cadmium	0.16	B	0.16	F
	Chromium	8 9	BE	8 9	F
	Cobalt	1.9	B	1 9	F
	Copper	5 7	B	5 7	F
	Lead	4 7	BN	4 7	F
	Nickel	6 1	B	6 1	F
	Selenium	0 25	UW	0 25	UJ
	Silver	0 01	U	0 01	R
	Thallium	0 25	UWN	0 25	UJ
	Tin	0 88	B	0 88	UJ
	Vanadium	14.4	B	14 4	F
	Zinc	18 9	B	18 9	F
BHGLSWMU5308-03	Antimony	0 30	UN	0 30	UJ
	Arsenic	0.27	U	0 27	UJ
	Cadmium	0 04	U	0 04	UJ
	Chromium	16 8	E	16 8	J
	Cobalt	2 6	B	2 6	F
	Lead	5 8	BN	5.8	F
	Nickel	8 7	B	8 7	F
	Selenium	0 21	UW	0 21	UJ
	Silver	0 01	UW	0 01	R
	Thallium	0 21	UWN	0 21	UJ
	Tin	1 5	B	1 5	UJ
	Vanadium	23 0	B	23 0	F
	Zinc	30 7	B	30 7	F
BHGLSWMU5308-04	Antimony	0 32	UN	0 32	UJ
	Arsenic	0 62	B	0 62	F
	Cadmium	0 04	U	0 04	UJ
	Chromium	15 7	E	15 7	J
	Cobalt	2 5	B	2 5	F
	Lead	5 8	BWN	5 8	F
	Nickel	8 1	B	8 1	F
	Selenium	0 23	UW	0 23	UJ
	Silver	0 01	UW	0 01	R
	Thallium	0 23	UWN	0 23	UJ
	Tin	1 5	B	1 5	UJ
	Vanadium	21 2	B	21 2	F

Qualification Summary Table - Metals SDG 9A05G332					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
	Zinc	25 9	B	25 9	F
BHGLSWMU5309-01	Antimony	0 28	UN	0 28	UJ
	Arsenic	2 6	B	2.6	F
	Cadmium	0 16	B	0 16	F
	Chromium	14 7	E	14 7	J
	Lead	8.6	BN	8 6	F
	Selenium	0 20	BW	0 20	F
	Silver	0 01	UW	0 01	R
	Thallium	0 20	UWN	0 20	UJ
	Tin	1 6	B	1 6	UJ
	Vanadium	19 6	B	19 6	F
BHGLSWMU5309-02	Antimony	0 31	UN	0 31	UJ
	Arsenic	0 59	B	0 59	F
	Cadmium	0 11	B	0 11	F
	Chromium	11 0	E	11 0	J
	Cobalt	1.9	B	1 9	F
	Lead	3.7	BN	3 7	F
	Nickel	6 0	B	6 0	F
	Selenium	0 22	UW	0 22	UJ
	Silver	0 01	U	0 01	R
	Thallium	0 22	UWN	0 22	UJ
	Tin	1.7	B	1 7	UJ
	Vanadium	20 7	B	20 7	F
	Zinc	17 7	B	17 7	F
BHGLSWMU5309-03	Antimony	0 32	UN	0 32	UJ
	Arsenic	0 27	U	0 27	UJ
	Chromium	16 1	E	16 1	J
	Cobalt	2 1	B	2 1	F
	Copper	8 1	B	8 1	F
	Lead	4 6	BN	4 6	F
	Nickel	6 7	B	6 7	F
	Selenium	0 23	UW	0 23	UJ
	Silver	0 01	U	0 01	R
	Thallium	0 23	UWN	0 23	UJ
	Tin	1 4	B	1 4	UJ
	Vanadium	20 5	B	20 5	F
	Zinc	24 8	B	24 8	F
EB051700	Beryllium	0 60	U	0 60	R
	Copper	1.2	U	1.2	R
	Lead	1 5	U	1 5	UJ
	Nickel	1 6	U	1.6	UJ
	Tin	3 4	U	3 4	UJ

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METALS

USEPA SW846 Methods 6010B/7000A - Level III Review

Site: Naval Air Station Fort Worth - DO26CC/DO29BBBA SDG #: 9A05G294

Client HydroGeoLogic, Inc Date: July 9, 2000

Laboratory: Severn Trent Laboratories, Chicago, IL Reviewer: Tara Lambert

Client Sample ID	Laboratory Sample ID	Matrix
BHGLSWMU5301-01	9A05G294-001	Soil
BHGLSWMU5301-02	9A05G294-002	Soil
BHGLSWMU5301-03	9A05G294-003	Soil
DUP015	9A05G294-004	Soil
BHGLSWMU5302-01	9A05G294-005	Soil
BHGLSWMU5302-02	9A05G294-006	Soil
BHGLSWMU5303-01	9A05G294-007	Soil
BHGLSWMU5303-02	9A05G294-008	Soil
BHGLSWMU5303-02MS	9A05G294-008MS	Soil
BHGLSWMU5303-02MSD	9A05G294-008MSD	Soil
BHGLSWMU5304-01	9A05G294-009	Soil
DUP016	9A05G294-010	Soil
BHGLSWMU5304-02	9A05G294-011	Soil
BHGLSWMU5304-03	9A05G294-012	Soil
BHGLSWMU5304-04	9A05G294-013	Soil
*BHGLAOC1804-01	9A05G294-014	Soil
*BHGLAOC1804-02	9A05G294-015	Soil
*BHGLAOC1804-02MS	9A05G294-015MS	Soil
*BHGLAOC1804-02MSD	9A05G294-015MSD	Soil
*BHGLAOC1804-03	9A05G294-016	Soil
*BHGLAOC1805-01	9A05G294-017	Soil
*BHGLAOC1805-02	9A05G294-018	Soil
*BHGLAOC1805-03	9A05G294-019	Soil
EB051600	9A05G294-020	Water

* - DO26CC samples

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 continuing calibration blanks exhibited contamination for arsenic, cadmium and vanadium at 4 2 ug/L, 0 5 ug/L and 2 2 ug/L, respectively, however, all associated results are non-detect and no qualifications were required.

The water preparation blank PBW, initial and continuing calibration blanks exhibited negative blank contamination for beryllium, copper, lead, nickel and tin at -0.9 ug/L, -7.0 ug/L, -2.0 ug/L, -4 4 ug/L and -5 0 ug/L, respectively. Lead and nickel have been qualified (UJ) in sample EB051600. Beryllium, copper and tin have been rejected (R) in sample EB051600.

The soil preparation blank, initial and continuing calibration blanks exhibited contamination for antimony, arsenic, chromium, copper, nickel, tin and vanadium at 3.6 ug/L, 4 4 ug/L, 9.8 ug/L, 5.2 ug/L, 5 2 ug/L, 0.64 mg/kg and 2.3 ug/L, respectively. Antimony has been qualified (U) in samples BHGLSWMU5301-02 and BHGLSWMU5303-01 Arsenic has been qualified (U) in samples BHGLSWMU5301-01, BHGLSWMU5301-02, BHGLSWMU5302-01, DUP016, BHGLSWMU5304-03 and BHGLAOC1804-03 Chromium has been qualified (U) in samples BHGLSWMU5301-02 and BHGLAOC1804-03 Tin has been qualified (U) in all soil samples. All other associated results are non-detect or greater than 5X the blank concentration and no further qualifications were required.

The soil preparation blank, initial and continuing calibration blanks exhibited negative blank contamination for beryllium, cadmium, cobalt, lead, nickel, silver and tin at -0 21 mg/kg, -0 10 mg/kg, -0.24 mg/kg, -1.6 ug/L, -0 66 mg/kg, -0 9 ug/L and -3.5 ug/L, respectively. Beryllium has been qualified (J/UJ) in all samples except BHGLSWMU5301-03, BHGLSWMU5304-04, BHGLAOC1804-02 and BHGLAOC1805-02. Cadmium has been qualified (UJ) in sample BHGLAOC1804-03. Silver has been rejected (R) in all soil samples except BHGLAOC1805-01. Tin has been qualified (UJ) in all soil samples. All other associated results are non-detect, less than the PQL or greater than 5X the blank concentration and no further qualifications were required

Field and equipment blank - Equipment blank EB051600 was free of contamination No qualifications were required.

ICP Interference Check Sample - 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 Dilution - ICP serial dilution sample BHGLSWMU5303-02 exhibited high %D values for chromium, copper and nickel of 10 5%, 19.3% and 10 4%, respectively All three compounds have been qualified (J/UJ) in all soil samples unless already qualified (F).

Matrix Spike/Duplicate - Matrix spike/duplicate sample BHGLSWMU5303-02 exhibited a low %R value for antimony of 8.2% and high %R values for lead and silver of 131.9% and 123 6%, respectively Antimony has been rejected (R) in this sample. Lead and silver have been qualified (J) in this sample.

Matrix spike/duplicate sample BHGLAOC1804-02 exhibited low %R values for antimony, arsenic and selenium of 6.3%, 73.4% and 62.9%, respectively, and a high %R value for silver of 124 4% Antimony has been rejected (R) in this sample. Selenium has been qualified (UJ) in this sample. Arsenic has already been qualified (F) and silver has already been rejected (R) due to other deficiencies and no further qualifications were required.

Field Duplicates - Field duplicate results are summarized in the tables below. No qualifications were required.

Compound	BHGLSWMU5301-03 mg/kg	DUP015 mg/kg	RPD or Difference
Lead	25 1	7 0	18 1

Compound	BHGLSWMU5304-02 mg/kg	DUP016 mg/kg	RPD or Difference
Chromium	14 0	8 5	5 5
Vanadium	24 3	12 6	11 7
Zinc	26.8	18 3	8 5

Graphite Furnace Atomic Absorption (GFAA) Analysis - Several samples exhibited a postdigestion spike for antimony, lead, selenium, silver and/or thallium 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 and further qualified (J/UJ) by the reviewer unless already qualified due to other deficiencies.

Compound Quantitation - All results between the MDL and PQL have been qualified (F).

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APPENDIX IX SEMIVOLATILE ORGANIC COMPOUNDS

USEPA SW846 Method 8270C - Level III Review

Site Naval Air Station Fort Worth - DO26CC/DO29BBBA SDG #. 9A05G294

Client: HydroGeoLogic, Inc Date July 17, 2000

Laboratory Severn Trent Laboratories, Chicago, IL Reviewer: Cathy Shelby

Client Sample ID	Laboratory Sample ID	Matrix
BHGLSWMU5301-01	9A05G294-001	Soil
BHGLSWMU5301-02	9A05G294-002	Soil
BHGLSWMU5301-03	9A05G294-003	Soil
DUP015	9A05G294-004	Soil
BHGLSWMU5302-01	9A05G294-005	Soil
BHGLSWMU5302-02	9A05G294-006	Soil
BHGLSWMU5303-01	9A05G294-007	Soil
BHGLSWMU5303-02	9A05G294-008	Soil
BHGLSWMU5303-02MS	9A05G294-008MS	Soil
BHGLSWMU5303-02MSD	9A05G294-008MSD	Soil
BHGLSWMU5304-01	9A05G294-009	Soil
DUP016	9A05G294-010	Soil
BHGLSWMU5304-02	9A05G294-011	Soil
BHGLSWMU5304-03	9A05G294-012	Soil
BHGLSWMU5304-04	9A05G294-013	Soil
*BHGLAOC1804-01	9A05G294-014	Soil
*BHGLAOC1804-02	9A05G294-015	Soil
*BHGLAOC1804-02MS	9A05G294-015MS	Soil
*BHGLAOC1804-02MSD	9A05G294-015MSD	Soil
*BHGLAOC1804-03	9A05G294-016	Soil
*BHGLAOC1805-01	9A05G294-017	Soil
*BHGLAOC1805-02	9A05G294-018	Soil
*BHGLAOC1805-03	9A05G294-019	Soil
EB051600	9A05G294-020	Water

* - DO26CC samples

Holding Times - All samples were extracted within 7days for water samples and 14 days for soil samples and analyzed within 40 days for all 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 DFTPP tunes in the initial and continuing calibrations met the percent relative abundance criteria No qualifications were required.

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7/28/00

Initial Calibration - The initial calibration analyzed on 12/16/99 exhibited a high %RSD value for hexachlorophene of 37.2%. This compound has been rejected (R) in all soil samples

The initial calibration analyzed on 03/02/00 exhibited high %RSD values for 1,4-naphthoquinone, 4-nitroquinoline-1-oxide and hexachlorophene of 56.3%, 46.7% and 39.3%, respectively. These compounds have been rejected (R) in sample EB051600.

The initial calibrations analyzed on 05/16/00 and 06/01/00 exhibited acceptable %RSD values. No qualifications were required.

Continuing Calibration - The continuing calibrations analyzed on 05/30/00, 06/05/00 and 06/06/00 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 SBLKRL and SBLKSE exhibited acceptable %R values No qualifications were required.

MS/MSD - MS/MSD samples BHGLSWMU5303-02 and BHGLAOC1804-02 exhibited %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 blank SBLKRL (05/18/00) and SBLKSE (05/23/00) were free of contamination. No qualifications were required.

Field, equipment blank - Equipment blank EB051600 was free of contamination. No qualifications were required.

Field Duplicates - Field duplicate results for samples DUP015/BHGLSWMU5301-03 and DUP016/BHGLSWMU5304-02 are non-detect or less than the PQL. No qualifications were required

Tentatively Identified Compounds (TICs) - TICs were not reported with the samples 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 compound quantitation section of this report with the exception of one compound in all soil samples and three compounds in the equipment blank sample which were rejected due to the initial calibration 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 - Semivolatiles SDG 9A05G294					
Sample No	Compound(s)	Reported		Validated	
		Conc.	Qualifier	Conc	Qualifier
BHGLSWMU5301-01	Hexachlorophene	5600	U	5600	R
BHGLSWMU5301-02	Hexachlorophene	5700	U	5700	R
BHGLSWMU5301-03	Fluoranthene	140	J	140	F
	Benzo(a)anthracene	69	J	69	F
	Chrysene	75	J	75	F
	Benzo(a)pyrene	72	J	72	F
	Hexachlorophene	5500	U	5500	R
DUP015	Hexachlorophene	5500	U	5500	R
BHGLSWMU5302-01	Hexachlorophene	5300	U	5300	R
BHGLSWMU5302-02	Hexachlorophene	5700	U	5700	R
BHGLSWMU5303-01	Hexachlorophene	5500	U	5500	R
BHGLSWMU5303-02	Hexachlorophene	6000	U	6000	R
BHGLSWMU5304-01	Hexachlorophene	5400	U	5400	R
DUP016	Hexachlorophene	5600	U	5600	R
BHGLSWMU5304-02	Hexachlorophene	5600	U	5600	R
BHGLSWMU5304-03	Hexachlorophene	5800	U	5800	R
BHGLSWMU5304-04	Hexachlorophene	5900	U	5900	R
BHGLAOC1804-01	Hexachlorophene	5600	U	5600	R
BHGLAOC1804-02	Hexachlorophene	5300	U	5300	R
BHGLAOC1804-03	Hexachlorophene	5300	U	5300	R
BHGLAOC1805-01	Hexachlorophene	5500	U	5500	R
BHGLAOC1805-02	Hexachlorophene	5500	U	5500	R
BHGLAOC1805-03	Hexachlorophene	5100	U	5100	R
EB051600	1,4-Naphthoquinone	48	U	48	R
	4-Nitroquinoline-1-oxide	48	U	48	R
	Hexachlorophene	140	U	140	R

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APPENDIX IX VOLATILE ORGANIC COMPOUNDS

USEPA SW846 Method 8260B - Level III Review

Site: Naval Air Station Fort Worth - DO26CC/DO29BBA SDG #: 9A05G294

Client HydroGeoLogic, Inc Date: July 17, 2000

Laboratory: Severn Trent Laboratories, Chicago, IL Reviewer Cathy Shelby

Client Sample ID	Laboratory Sample ID	Matrix
BHGLSWMU5301-01	9A05G294-001	Soil
BHGLSWMU5301-02	9A05G294-002	Soil
BHGLSWMU5301-03	9A05G294-003	Soil
DUP015	9A05G294-004	Soil
BHGLSWMU5302-01	9A05G294-005	Soil
BHGLSWMU5302-02	9A05G294-006	Soil
BHGLSWMU5303-01	9A05G294-007	Soil
BHGLSWMU5303-02	9A05G294-008	Soil
BHGLSWMU5303-02MS	9A05G294-008MS	Soil
BHGLSWMU5303-02MSD	9A05G294-008MSD	Soil
BHGLSWMU5304-01	9A05G294-009	Soil
DUP016	9A05G294-010	Soil
BHGLSWMU5304-02	9A05G294-011	Soil
BHGLSWMU5304-03	9A05G294-012	Soil
BHGLSWMU5304-04	9A05G294-013	Soil
*BHGLAOC1804-01	9A05G294-014	Soil
*BHGLAOC1804-02	9A05G294-015	Soil
*BHGLAOC1804-02MS	9A05G294-015MS	Soil
*BHGLAOC1804-02MSD	9A05G294-015MSD	Soil
*BHGLAOC1804-03	9A05G294-016	Soil
*BHGLAOC1805-01	9A05G294-017	Soil
*BHGLAOC1805-02	9A05G294-018	Soil
*BHGLAOC1805-03	9A05G294-019	Soil
EB051600	9A05G294-020	Water
TB051600	9A05G294-021	Water

* - DO26CC samples

Holding Times - All samples were extracted within 48 hours for encore samples 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 calibrations analyzed between 01/12/00-03/27/00 and 01/14/00-05/19/00 exhibited acceptable %RSD values and/or correlation coefficients and mean RRF values. No qualifications were required.

Continuing Calibration - The continuing calibrations analyzed on 05/22/00, 05/25/00, 05/26/00, and 05/27/00 exhibited acceptable %D and RRF values. No qualifications were required

The continuing calibration analyzed on 05/24/00 exhibited a high %D value for dichlorodifluoromethane of 29 9%. Dichlorodifluoromethane has been rejected (R) in samples BHGLSWMU5301-03 and DUP015.

The continuing calibration analyzed on 05/28/00 exhibited a high %D value for methyl-tert-butyl ether of 26 4%. Methyl-tert-butyl ether has been rejected (R) in samples TB051600 and EB0151600

Surrogates - Sample BHGLAOC1805-01 exhibited a low %R value for dibromofluoromethane of 37% All results have been qualified (UJ) in this sample.

Laboratory Control Samples - LCS samples VBLKSR, VBLKSF, VBLKHO, VBLKHS, VBLKMK and VBLKJI exhibited acceptable %R values. No qualifications were required.

LCS sample VBLKIW exhibited a low %R value for methyl-tert-butyl ether of 70%, however, this compound has already been rejected in associated samples TB051600 and EB051600 and no further qualifications were required.

MS/MSD - MS/MSD samples BHGLSWMU5303-02 and BHGLAOC1804-02 exhibited high %R values for 1,1,1,2-tetrachloroethane of 122%/116% and 111%/ok, respectively, however, this compound is non-detect in both samples and no qualifications were required.

Internal Standard (IS) Area Performance - Samples BHGLSWMU5301-03 and BHGLAOC1805-01 exhibited low area counts for internal standard IS4-1,4-dichlorobenzene-d4. All IS4 associated compounds have been qualified (UJ) in sample BHGLSWMU5301-03. All results in sample BHGLAOC1805-01 have already been qualified due to a low surrogate recovery and no further qualifications were required.

Method Blank - Method blanks VBLKHO (05/22/00), VBLKHS (05/24/00), VBLKMK (05/25/00), VBLKSR (05/26/00), VBLKSF (05/26/00), VBLKJI (05/27/00) and VBLKIW (05/28/00) were free of contamination No qualifications were required.

Trip, field, equipment blank - Trip blank TB051600 was free of contamination. No qualifications were required

Equipment blank EB051600 exhibited acetone and methylene chloride contamination at 5 ug/L and 3 ug/L, respectively, however, all associated results are non-detect or greater than 5X the blank concentration and no qualifications were required.

Field Duplicates - Field duplicate results are summarized below 2-Butanone has been qualified (J/UJ) in samples BHGLSWMU5301-03 and DUP015.

Analyte	BHGLSWMU5301-03 ug/kg	DUP015 ug/kg	%RPD
Acetone	37	30	21%
2-Butanone	7	5U	NC

Analyte	BHGLSWMU5304-02	DUP016	%RPD
None	ND	ND	--

Tentatively Identified Compounds - 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 surrogates, internal standards, field duplicates, TICs and compound quantitation sections of this report with the exception of two compounds which were rejected due to continuing calibrations 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 9A05G294					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
~~BHGLAOC5301-03~~ BHGLSOMU5301-03	Dichlorodifluoromethane	5	U	5	R
	Carbon disulfide	1	J	1	F
	2-Butanone	5	U	5	UJ
	1,1,2,2-Tetrachloroethane	2	U	2	UJ
	1,2,3-Trichloropropane	5	U	5	UJ
	Pentachloroethane	5	U	5	UJ
	1,2-Dibromo-3-Chloropropane	5	U	5	UJ
DUP015	Dichlorodifluoromethane	5	U	5	R
	2-Butanone	7	-	7	J
BHGLAOC1805-01	All compounds	--	U	--	UJ
EB051600	Methyl-tert-Butyl Ether	0 5	U	0 5	R
TB051600	Methyl-tert-Butyl Ether	0 5	U	0.5	R

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METALS

USEPA SW846 Methods 6010B/70000 - Level III Review

Site: Naval Air Station Fort Worth - DO26CC/DO29BBBA SDG # 9A05G366

Client HydroGeoLogic, Inc Date. July 7, 2000

Laboratory: Severn Trent Laboratories, Chicago, IL Reviewer Tara Lambert

Client Sample ID	Laboratory Sample ID	Matrix
BHGLSWMU5310-01	9A05G366-001	Soil
BHGLSWMU5310-02	9A05G366-002	Soil
BHGLSWMU5310-03	9A05G366-003	Soil
DUP018	9A05G366-004	Soil
BHGLSWMU5311-01	9A05G366-005	Soil
BHGLSWMU5311-02	9A05G366-006	Soil
BHGLSWMU5311-02MS	9A05G366-006MS	Soil
BHGLSWMU5311-02MSD	9A05G366-006MSD	Soil
BHGLSWMU5312-01	9A05G366-007	Soil
BHGLSWMU5312-02	9A05G366-008	Soil
BHGLSWMU5313-01	9A05G366-009	Soil
BHGLSWMU5313-02	9A05G366-010	Soil
BHGLSWMU5313-03	9A05G366-011	Soil
BHGSLWMU5314-01	9A05G366-012	Soil
BHGSLWMU5314-02	9A05G366-013	Soil
DUP020	9A05G366-014	Soil
BHGLSWMU5314-03	9A05G366-015	Soil
BHGLAOC1701-01*	9A05G366-016	Soil
BHGLAOC1701-02*	9A05G366-017	Soil
DUP01*	9A05G366-018	Soil
EB051800*	9A05G366-022	Water

* - DO26CC samples

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.

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Method Blanks - The water preparation blank PBW, initial and continuing calibration blanks exhibited contamination for arsenic, cadmium and vanadium at 4.2 ug/L, 0 5 ug/L and 2.2 ug/L, respectively, however, all associated results are non-detect and no qualifications were required.

The water preparation blank PBW, initial and continuing calibration blanks exhibited negative blank contamination for cadmium, copper, lead, nickel and tin at -0.4 ug/L, -7.0 ug/L, -2 01 ug/L, -3.0 ug/L and -6.4 ug/L, respectively. Cadmium, copper, nickel and tin have been qualified (UJ) in sample EB051800 Lead has been rejected (R) in sample EB051800.

The soil preparation blank PBS, initial and continuing calibration blanks exhibited contamination for beryllium, copper, tin, vanadium and zinc at 1 1 ug/L, 5 7 ug/L, 0.52 mg/kg, 1.6 ug/L and 25 6 ug/L, respectively Beryllium has been qualified (U) in samples BHGLSWMU5311-02, BHGLSWMU5313-03, DUP02, and BHGLAOC1701-01. Copper has been qualified (U) in sample BHGLSWMU5313-02. Tin has been qualified (U) in all soil samples except BHGLSWMU5313-01 Zinc has been qualified (U) in sample BHGLSWMU5312-02. All other associated results are greater than 5X the blank concentration or less than the PQL and no further qualifications were required.

The soil preparation blank PBS, initial and continuing calibration blanks exhibited negative blank contamination for arsenic, beryllium, cadmium, cobalt, lead, nickel, silver and tin at -0.75 mg/kg, -0.06 mg/kg, -0.09 mg/kg, -0 15 mg/kg, -2 0 ug/L, -0.58 mg/kg, -0 8 ug/L and -6.6 ug/L, respectively. Arsenic has been qualified (UJ) in samples BHGLSWMU5310-03 and BHGLSWMU5313-03. Beryllium has been qualified (UJ) in samples BHGLSWMU5312-02, BHGLSWMU5314-02 and DUP02 Cadmium has been qualified (UJ) in samples BHGLSWMU5310-03, BHGLSWMU5311-01, BHGLSWMU5312-02, BHGLSWMU5313-03 and BHGLAOC1701-01 Silver has been qualified (UJ) in all soil samples. Tin has been qualified (UJ) in all soil samples except BHGLSWMU5313-01 All other associated results are non-detect or greater than 5X the blank concentration and no further qualifications were required.

Field and equipment blank - Equipment blank EB051800 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 samples exhibited acceptable %R values. No qualifications were required.

ICP Serial Dilutions - ICP serial dilution sample BHGLSWMU5310-02 exhibited high %D values for chromium and copper of 11 3% and 18.3%, respectively. Both compounds have been qualified (J/UJ) in all soil samples.

Matrix Spike/Duplicate - Matrix spike/duplicate sample BHGLSWMU5311-02 exhibited low %R values for antimony and selenium of 8.5% and 36.9%, respectively. Antimony has been rejected (R) in this sample Selenium has been qualified (UJ) in this sample

Field Duplicates - Field duplicate results are summarized in the tables below. No qualifications were required

Analyte	BHGLSWMU5310-02 mg/kg	DUP018 mg/kg	RPD or Difference
Arsenic	1 7	5 6	3.9
Copper	8 5	13.8	5 3
Vanadium	35 2	63 6	28 4

Analyte	BHGLSWMU5314-02 mg/kg	DUP020 mg/kg	RPD or Difference
Beryllium	0 04	0 06	0 02

Analyte	BHGLAOC1701-02 mg/kg	DUP01 mg/kg	RPD or Difference
Arsenic	7 9	7 2	9%
Beryllium	0 90	0 60	0 30
Chromium	12 8	10 1	24%
Cobalt	7 0	6 4	9%
Nickel	15 7	11.2	33%
Vanadium	36 2	28 4	24%

Graphite Furnace Atomic Absorption (GFAA) Analysis - Several samples exhibited a postdigestion spike for the antimony, lead, selenium, silver and/or thallium 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 (J/UJ) unless already qualified (F) due to compound quantitation

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, ICP serial dilution, MS/MSD, GFAA and compound quantitation sections of this report with the exception of several results which were rejected due to the method blank and MS/MSD sections. 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 9A05G366					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
BHGLSWMU5310-01	Antimony	0 30	UWN	0 30	UJ
	Arsenic	2 1	B	2 1	F
	Cadmium	0 13	B	0 13	F
	Chromium	13 8	E	13 8	J
	Cobalt	3.9	B	3 9	F
	Copper	13 9	E	13 9	J
	Lead	10 6	B	10 6	F
	Selenium	1 1	BWN	1.1	F
	Silver	0 01	UW	0 01	UJ
	Thallium	0 21	UW	0 21	UJ
	Tin	1 3	B	1.3	UJ
	Vanadium	20 6	B	20 6	F
BHGLSWMU5310-02	Antimony	0 29	UWN	0 29	UJ
	Arsenic	1 7	B	1 7	F
	Cadmium	0 08	B	0 08	F
	Chromium	16 3	E	16 3	J
	Cobalt	3 4	B	3 4	F
	Copper	8 5	BE	8 5	F
	Lead	6 5	B	6 5	F
	Nickel	7 2	B	7 2	F
	Selenium	0 21	UWN	0.21	UJ
	Silver	0 01	UW	0 01	UJ
	Thallium	0 25	B	0 25	F
	Tin	1 5	B	1 5	UJ
	Zinc	24 5	B	24 5	F
BHGLSWMU5310-03	Antimony	0 32	UWN	0 32	UJ
	Arsenic	0 26	U	0 26	UJ
	Cadmium	0 04	U	0 04	UJ
	Chromium	18 0	E	18 0	J
	Cobalt	4.0	B	4 0	F
	Copper	19 0	E	19 0	J
	Lead	11 4	B	11 4	F
	Selenium	0 23	UWN	0 23	UJ
	Silver	0.01	UW	0 01	UJ
	Tin	1 5	B	1 5	UJ
	Vanadium	20 4	B	20 4	F
DUP018	Antimony	0 31	UWN	0 31	UJ
	Cadmium	0 07	B	0 07	F
	Chromium	13 9	E	13 9	J
	Cobalt	3 3	B	3 3	F
	Copper	13 8	E	13 8	J
	Lead	6 1	B	6 1	F
	Nickel	8 2	B	8 2	F
	Selenium	0 22	UWN	0 22	UJ

Qualification Summary Table - Metals SDG 9A05G366					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc.	Qualifier
	Silver	0 01	U	0 01	UJ
	Thallium	0 22	UW	0.22	UJ
	Tin	1 3	B	1 3	UJ
	Zinc	21 9	B	21 9	F
BHGLSWMU5311-01	Antimony	0 37	BN	0 37	F
	Arsenic	3 4	B	3 4	F
	Cadmium	0.04	U	0 04	UJ
	Chromium	14 5	E	14.5	J
	Cobalt	5 4	B	5 4	F
	Copper	12 0	E	12 0	J
	Selenium	0.19	UWN	0 19	UJ
	Silver	0 01	UW	0 01	UJ
	Thallium	0 23	BW	0 23	F
	Tin	1 1	B	1 1	UJ
	Vanadium	27 6	B	27.6	F
BHGLSWMU5311-02	Antimony	0 27	UN	0 27	R
	Arsenic	1 4	B	1 4	F
	Beryllium	0 25	-	0 25	U
	Cadmium	0 14	B	0 14	F
	Chromium	8 9	E	8 9	J
	Cobalt	1 9	B	1 9	F
	Copper	5 1	BE	5 1	F
	Lead	5 0	B	5 0	F
	Nickel	5 7	B	5.7	F
	Selenium	0 19	UWN	0.19	UJ
	Silver	0 01	U	0.01	UJ
	Thallium	0 19	UW	0.19	UJ
	Tin	1 0	B	1.0	UJ
	Zinc	19.4	B	19 4	F
BHGLSWMU5312-01	Antimony	0 25	UWN	0.25	UJ
	Arsenic	3 1	B	3 1	F
	Cadmium	0 33	B	0.33	F
	Chromium	14 8	E	14 8	J
	Cobalt	4 4	B	4 4	F
	Copper	13 0	E	13 0	J
	Lead	6 4	BW	6.4	F
	Nickel	10 2	B	10 2	F
	Silver	0 01	UW	0 01	UJ
	Thallium	0 18	UW	0 18	UJ
	Tin	1 7	B	1 7	UJ
	Vanadium	24 2	B	24 2	F
BHGLSWMU5312-02	Arsenic	0 53	B	0.53	F
	Beryllium	0.05	U	0 05	UJ
	Cadmium	0 03	U	0.03	UJ
	Chromium	5 2	BE	5 2	F
	Cobalt	0 44	B	0.44	F
	Copper	1.8	BE	1.8	UJ
	Lead	1 3	B	1 3	F
	Nickel	1 8	B	1 8	F

Qualification Summary Table - Metals SDG 9A05G366					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
	Selenium	0 21	UWN	0 21	UJ
	Silver	0 01	U	0 01	UJ
	Thallium	0 21	UW	0 21	UJ
	Tin	0 73	B	0 73	UJ
	Vanadium	5 4	B	5 4	F
	Zinc	7 7	B	7 7	U
BHGLSWMU5313-01	Arsenic	2 3	B	2 3	F
	Cadmium	0 29	B	0 29	F
	Chromium	18 0	E	18 0	J
	Copper	13 7	E	13 7	J
	Lead	3 8	BW	3 8	F
	Selenium	0 20	UWN	0 20	UJ
	Silver	0 01	UW	0 01	UJ
	Thallium	0 25	BW	0 25	F
	Tin	1.9	B	1 9	F
BHGLSWMU5313-02	Arsenic	1.2	B	1 2	F
	Cadmium	0 13	B	0 13	F
	Chromium	12 9	E	12 9	J
	Cobalt	2 3	B	2 3	F
	Copper	6 0	BE	6 0	F
	Lead	4 9	BW	4 9	F
	Nickel	6 3	B	6 3	F
	Selenium	0 22	UWN	0 22	UJ
	Silver	0 01	UW	0 01	UJ
	Thallium	0 23	BW	0 23	F
	Tin	1.1	B	1 1	UJ
	Zinc	21 9	B	21 9	F
BHGLSWMU5313-03	Antimony	0 27	UWN	0 27	UJ
	Arsenic	0 23	U	0 23	UJ
	Beryllium	0 37	-	0 37	U
	Cadmium	0 04	U	0 04	UJ
	Chromium	7 5	BE	7 5	F
	Cobalt	3.2	B	3 2	F
	Copper	6.4	BE	6 4	F
	Lead	5 0	B	5 0	F
	Nickel	6 7	B	6.7	F
	Selenium	0.20	UWN	0 20	UJ
	Silver	0 01	UW	0 01	UJ
	Thallium	0 20	UW	0 20	UJ
	Tin	0 72	B	0 72	UJ
	Vanadium	12 1	B	12 1	F
	Zinc	21.0	B	21 0	F
BHGSLWMU5314-01	Antimony	0 29	UWN	0 29	UJ
	Arsenic	3 7	B	3 7	F
	Cadmium	0 22	B	0 22	F
	Chromium	16 7	E	16 7	J
	Cobalt	4 6	B	4 6	F
	Copper	11 0	E	11 0	J
	Lead	5 4	BW	5 4	F

Qualification Summary Table - Metals SDG. 9A05G366					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
	Selenium	0 26	BWN	0.26	F
	Silver	0 01	UW	0 01	UJ
	Tin	1 5	B	1.5	UJ
BHGSLWMU5314-02	Arsenic	0 33	B	0 33	F
	Beryllium	0 04	U	0 04	UJ
	Cadmium	0 12	B	0 12	F
	Chromium	4.9	BE	4 9	F
	Cobalt	1 2	B	1 2	F
	Copper	2 7	BE	2 7	F
	Lead	2.5	B	2 5	F
	Nickel	3 3	B	3 3	F
	Selenium	0 21	UWN	0 21	UJ
	Silver	0.01	UW	0 01	UJ
	Thallium	1 0	UW	1 0	UJ
	Tin	0.67	B	0 67	UJ
	Vanadium	8 7	B	8 7	F
	Zinc	9 9	B	9 9	F
DUP020	Antimony	0 31	UWN	0 31	UJ
	Arsenic	0 24	B	0 24	F
	Beryllium	0 06	B	0.06	UJ
	Cadmium	0 09	B	0 09	F
	Chromium	6 3	BE	6 3	F
	Cobalt	1 0	B	1 0	F
	Copper	2 7	BE	2 7	F
	Lead	2.0	B	2 0	F
	Nickel	3.3	B	3 3	F
	Selenium	1 1	UWN	1 1	UJ
	Silver	0 01	UW	0 01	UJ
	Thallium	0 22	UW	0 22	UJ
	Tin	0 94	B	0 94	UJ
	Vanadium	10	B	10	F
	Zinc	12 4	B	12 4	F
BHGLSWMU5314-03	Arsenic	1 3	B	1 3	F
	Cadmium	0 09	B	0 09	F
	Chromium	20 4	E	20 4	J
	Cobalt	2 9	B	2 9	F
	Copper	7 3	BE	7 3	F
	Lead	2.6	BW	2 6	F
	Nickel	7.8	B	7.8	F
	Selenium	0 22	UWN	0 22	UJ
	Silver	0 01	UW	0 01	UJ
	Thallium	0 22	UW	0 22	UJ
	Tin	1 8	B	1.8	UJ
	Vanadium	28 6	B	28.6	F
	Zinc	28.8	B	28 8	F
BHGLAOC1701-01	Antimony	0 32	BN	0.32	F
	Arsenic	2 1	B	2 1	F
	Beryllium	0 33	-	0 33	U
	Cadmium	0 03	U	0 03	UJ

Qualification Summary Table - Metals SDG 9A05G366					
Sample No	Compound(s)	Reported		Validated	
		Conc.	Qualifier	Conc	Qualifier
	Chromium	7 2	E	7.2	J
	Cobalt	2.7	B	2.7	F
	Copper	3 6	BE	3 6	F
	Lead	2 7	BW	2.7	F
	Nickel	4.9	B	4 9	F
	Selenium	0 19	UWN	0 19	UJ
	Silver	0.01	UW	0 01	UJ
	Tin	0 66	B	0 66	UJ
	Vanadium	15.3	B	15 3	F
	Zinc	10 6	B	10 6	F
BHGLAOC1701-02	Antimony	0 27	UWN	0 27	UJ
	Barium	24.8	B	24 8	F
	Cadmium	0 07	B	0 07	F
	Chromium	12 8	E	12 8	J
	Copper	9 4	BE	9 4	F
	Lead	6 2	BW	6 2	F
	Selenium	0.19	UWN	0.19	UJ
	Silver	0 01	UW	0 01	UJ
	Thallium	0 19	UW	0 19	UJ
	Tin	1 4	B	1 4	UJ
	Zinc	24 7	B	24 7	F
DUP01	Antimony	0 27	UWN	0 27	UJ
	Barium	27 0	B	27 0	F
	Cadmium	0 20	B	0.20	F
	Chromium	10.1	E	10 1	J
	Copper	7 5	BE	7 5	F
	Lead	3 1	BW	3 1	F
	Selenium	0 19	UWN	0 19	UJ
	Silver	0 01	UW	0.01	UJ
	Thallium	0 19	UW	0 19	UJ
	Tin	1 1	B	1 1	UJ
	Zinc	19 2	B	19 2	F
EB051800	Cadmium	0 40	U	0 40	UJ
	Copper	1 2	U	1 2	UJ
	Lead	1.5	U	1.5	R
	Nickel	1.6	U	1.6	UJ
	Tin	3 4	U	3 4	UJ

APPENDIX IX VOLATILE ORGANIC COMPOUNDS

USEPA SW846 Method 8260B - Level III Review

Site: Naval Air Station Fort Worth - DO26CC/DO29BBBA SDG # 9A05G366

Client. HydroGeoLogic. Inc Date: July 20, 2000

Laboratory: Severn Trent Laboratories. Chicago, IL Reviewer. Cathy Shelby

Client Sample ID	Laboratory Sample ID	Matrix
BHGLSWMU5310-01	9A05G366-001	Soil
BHGLSWMU5310-02	9A05G366-002	Soil
BHGLSWMU5310-03	9A05G366-003	Soil
DUP018	9A05G366-004	Soil
BHGLSWMU5311-01	9A05G366-005	Soil
BHGLSWMU5311-02	9A05G366-006	Soil
BHGLSWMU5311-02MS*	9A05G366-006MS	Soil
BHGLSWMU5311-02MSD	9A05G366-006MSD	Soil
BHGLSWMU5312-01	9A05G366-007	Soil
BHGLSWMU5312-02	9A05G366-008	Soil
BHGLSWMU5313-01	9A05G366-009	Soil
BHGLSWMU5313-02	9A05G366-010	Soil
BHGLSWMU5313-03	9A05G366-011	Soil
BHGSLWMU5314-01	9A05G366-012	Soil
BHGSLWMU5314-02	9A05G366-013	Soil
DUP020	9A05G366-014	Soil
BHGLSWMU5314-03	9A05G366-015	Soil
BHGLAOC1701-01*	9A05G366-016	Soil
BHGLAOC1701-02*	9A05G366-017	Soil
DUP01*	9A05G366-018	Soil
EB051800*	9A05G366-022	Water
TB051800*	9A05G366-023	Water

* - DO26CC samples

Holding Times - All samples were analyzed within 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 calibrations analyzed between 01/12/00-03/27/00 and 01/14/00-05/19/00 exhibited acceptable %RSD values and/or correlation coefficients and mean RRF values No qualifications were required.

Continuing Calibration - The continuing calibrations analyzed on 05/29/00, 05/30/00, 05/31/00 and 06/01/00 exhibited acceptable %D and RRF values. No qualifications were required.

The continuing calibration analyzed on 05/31/00 (1126) exhibited high %D values for dichlorodifluoromethane and bromoform of 157 4% and 36.4%, respectively. Both compounds have been rejected (R) in samples EB051800 and TB051800.

Surrogates - Samples BHGLAOC1701-01 and EB051800 exhibited low %R values for dibromofluoromethane of 56% and 74%, respectively All results have been qualified (J/UJ) in these samples unless already rejected (R)

Laboratory Control Samples - LCS sample VBLKIM exhibited acceptable %R values. No qualifications were required

LCS sample VBLKIO exhibited a low %R value for 1,1-dichloroethene of 63% 1,1-Dichloroethene has been rejected (R) in associated sample BHGLSWMU5310-03.

LCS sample VBLKJA exhibited a high %R value for dichlorodifluoromethane of 180%, however, both associated results are non-detect and no qualifications were required.

LCS samples VBLKRH and VBLKRF exhibited high %R value for 1,1,1,2-tetrachloroethane of 113% and 118%, respectively, however, all associated results are non-detect and no qualifications were required

MS/MSD - MS/MSD sample BHGLSWMU5311-02 exhibited high %R values for 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane and 1,2,3-trichloropropane of 124%/127%, 142%/151% and ok/143%, respectively, and a low MSD %R value for vinyl acetate of 27%. However, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane and 1,2,3-trichloropropane are non-detect in this sample and vinyl acetate is exempt since it is an App. IX compound. No qualifications were required.

Internal Standard (IS) Area Performance - Samples BHGLSWMU5310-01, BHGLSWMU5311-01, BHGLSWMU5312-02, BHGLSWMU5313-01, DUP020, BHGLSWMU5313-03 and BHGLSWMU5314-01 exhibited low area counts for internal standard IS4-1,4-dichlorobenzene-d4 All IS4 associated compounds have been qualified (J/UJ) in these samples

Method Blank - Method blanks VBLKIM (05/29/00), VBLKIO (05/30/00), VBLKRH (05/31/00), VBLKJA (05/31/00) and VBLKRF (06/01/00) were free of contamination No qualifications were required.

Trip, field, equipment blank - Trip blank TB051800 was free of contamination No qualifications were required.

Equipment blank EB051800 exhibited methylene chloride contamination at 3 ug/L, however, all associated results are non-detect and no qualifications were required.

Field Duplicates - Field duplicate results are summarized in the tables below. 4-Methyl-2-pentanone has been qualified (J/UJ) in samples BHGLSWMU5310-02 and DUP018 Acetone, 2-butanone, benzene and toluene have been qualified (J/UJ) in samples BHGLSWMU5314-02 and DUP020.

Analyte	BHGLSWMU5310-02 ug/kg	DUP018 ug/kg	RPD or Difference
4-Methyl-2-pentanone	6U	5	NC

Analyte	BHGLSWMU5314-02 ug/kg	DUP020 ug/kg	RPD or Difference
Acetone	10U	62	NC
2-Butanone	10U	19	NC
Benzene	4U	15	NC
Toluene	10U	15	NC

Analyte	BHGLAOC1701-02 mg/kg	DUP01 mg/kg	RPD or Difference
None	ND	ND	--

Tentatively Identified Compounds - All TICs have been 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 surrogates, internal standards, field duplicates, TICs and compound quantitation sections of this report with the exception of several compounds which were rejected due to continuing calibration and LCS 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 9A05G366					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
BHGLSWMU5310-01	1,1,2,2-Tetrachloroethane	2	U	2	UJ
	1,2,3-Trichloropropane	6	U	6	UJ
	Pentachloroethane	6	U	6	UJ
	1 2-Dibromo-3-chloropropane	6	U	6	UJ
BHGLSWMU5310-02	4-Methyl-2-pentanone	6	U	6	UJ
BHGLSWMU5310-03	1,1-Dichloroethene	6	U	6	R
DUP018	4-Methyl-2-pentanone	5	-	5	J
BHGLSWMU5311-01	1,1,2,2-Tetrachloroethane	2	U	2	UJ
	1,2,3-Trichloropropane	6	U	6	UJ
	Pentachloroethane	6	U	6	UJ
	1,2-Dibromo-3-chloropropane	6	U	6	UJ
BHGLSWMU5312-02	1,1,2,2-Tetrachloroethane	2	U	2	UJ
	1,2,3-Trichloropropane	5	U	5	UJ
	Pentachloroethane	5	U	5	UJ
	1,2-Dibromo-3-chloropropane	5	U	5	UJ
BHGLSWMU5313-01	1,1 2,2-Tetrachloroethane	2	U	2	UJ
	1,2,3-Trichloropropane	6	U	6	UJ
	Pentachloroethane	6	U	6	UJ
	1,2-Dibromo-3-chloropropane	6	U	6	UJ
BHGLSWMU5313-03	1,1,2,2-Tetrachloroethane	2	U	2	UJ
	1,2,3-Trichloropropane	5	U	5	UJ
	Pentachloroethane	5	U	5	UJ
	1,2-Dibromo-3-chloropropane	5	U	5	UJ
BHGSLWMU5314-01	1,1,2,2-Tetrachloroethane	2	U	2	UJ
	1,2,3-Trichloropropane	5	U	5	UJ
	Pentachloroethane	5	U	5	UJ
	1,2-Dibromo-3-chloropropane	5	U	5	UJ
BHGSLWMU5314-02	Acetone	10	U	10	UJ
	2-Butanone	10	U	10	UJ
	Benzene	4	U	4	UJ
	Toluene	10	U	10	UJ
DUP020	Acetone	62	-	62	J
	2-Butanone	19	-	19	J
	Benzene	15	-	15	J
	Toluene	14	-	14	J
	Ethylbenzene	2	J	2	F
	p,m-Xylene	4	J	4	F
	o-Xylene	2	J	2	F
	1,1,2,2-Tetrachloroethane	2	U	2	UJ
	1,2,3-Trichloropropane	6	U	6	UJ
	Pentachloroethane	6	U	6	UJ
	1,2-Dibromo-3-chloropropane	6	U	6	UJ
BHGLAOC1701-01	All Results	-	-/U	-	J/UJ

EB051800	Dichlorodifluoromethane	0 5	U	0 5	R
	Bromoform	0 5	U	0 5	R
	All Other Results	-	-/U	-	J/UJ
TB051800	Dichlorodifluoromethane	0.5	U	0 5	R
	Bromoform	0 5	U	0 5	R

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PENDIX IX SEMIVOLATILE ORGANIC COMPOUNDS

USEPA SW846 Method 8270C - Level III Review

Site: Naval Air Station Fort Worth - DO26CC/DO29BBBA SDG #: 9A05G366

Client: HydroGeoLogic, Inc Date: July 19, 2000

Laboratory: Severn Trent Laboratories, Chicago, IL Reviewer Cathy Shelby

Client Sample ID	Laboratory Sample ID	Matrix
BHGLSWMU5310-01	9A05G366-001	Soil
BHGLSWMU5310-02	9A05G366-002	Soil
BHGLSWMU5310-03	9A05G366-003	Soil
DUP018	9A05G366-004	Soil
BHGLSWMU5311-01	9A05G366-005	Soil
BHGLSWMU5311-02	9A05G366-006	Soil
BHGLSWMU5311-02MS	9A05G366-006MS	Soil
BHGLSWMU5311-02MSD	9A05G366-006MSD	Soil
BHGLSWMU5312-01	9A05G366-007	Soil
BHGLSWMU5312-02	9A05G366-008	Soil
BHGLSWMU5313-01	9A05G366-009	Soil
BHGLSWMU5313-02	9A05G366-010	Soil
BHGLSWMU5313-03	9A05G366-011	Soil
BHGSLWMU5314-01	9A05G366-012	Soil
BHGSLWMU5314-02	9A05G366-013	Soil
DUP020	9A05G366-014	Soil
BHGLSWMU5314-03	9A05G366-015	Soil
BHGLAOC1701-01*	9A05G366-016	Soil
BHGLAOC1701-02*	9A05G366-017	Soil
DUP01*	9A05G366-018	Soil
EB051800*	9A05G366-022	Water

* - DO26CC samples

Holding Times - All samples were extracted within 7 days for water samples and 14 days for soil samples and analyzed within 40 days for all 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 DFTPP tunes in the initial and continuing calibrations met the percent relative abundance criteria. No qualifications were required ✓

Initial Calibration - The initial calibrations analyzed on 03/02/00 and 01/07/00 exhibited high %RSD values for 1,4-naphthoquinone, 4-nitroquinoline-1-oxide and hexachlorophene of

56 3%/34.4%, 46 7%/40 0% and 39.3%/48 4%, respectively. These compounds have been rejected (R) in all soil samples.

The initial calibration analyzed on 06/06/00 exhibited a high %RSD value for benzoic acid of 37.5%. Benzoic acid has been rejected (R) in all soil samples.

The initial calibration analyzed on 06/01/00 exhibited a high %RSD value for pyridine of 53.7%. Pyridine has been rejected (R) in sample EB051800.

Continuing Calibration - The continuing calibration analyzed on 06/08/00 exhibited a high %D value for benzoic acid of 37 38%, however, all associated results have already been rejected due to the initial calibration and no qualifications were required

The continuing calibrations analyzed on 06/07/00 and 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 SBLKRV exhibited acceptable %R values. No qualifications were required.

LCS sample SBLKSB exhibited a high %R value for benzoic acid of 217%, however, all associated results are non-detect and no qualifications were required.

MS/MSD - MS/MSD sample BHGLSWMU5311-02 exhibited high MS/MSD %R values for pyrene and di-n-octylphthalate of 147%/ok and ok/139%, however, both compounds are non-detect in this sample 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 SBLKRV (05/23/00) and SBLKSB (05/24/00) were free of contamination No qualifications were required.

Field. equipment blank - Equipment blank EB051800 exhibited di-n-butylphthalate contamination at 6 ug/L, however, all associated results are non-detect and no qualifications were required ✓

Field Duplicates - Field duplicate results for samples DUP018/BHGLSWMU5310-02, DUP020/BHGLSWMU5314-02 and DUP01/BHGLAOC1701-02 are non-detect No qualifications were required. ✓

Tentatively Identified Compounds (TICs) - TICs were not reported with the samples 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 compound quantitation section of this report with the exception of several compounds which were rejected due to the initial calibrations. 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 - Semivolatiles SDG 9A05G366					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
BHGLSWMU5310-01 *	Benzoic Acid	1900	U	1900	R ✓
	1,4-Naphthoquinone	1900	U	1900	R ✓
	4-Nitroquinoline-1-oxide	1900	U	1900	R ✓
	Hexachlorophene	5700	U	5700	R ✓
BHGLSWMU5310-02 *	Benzoic Acid	1900	U	1900	R ✓
	1,4-Naphthoquinone	1900	U	1900	R ✓
	4-Nitroquinoline-1-oxide	1900	U	1900	R ✓
	Hexachlorophene	5800	U	5800	R ✓
BHGLSWMU5310-03 *	Benzoic Acid	2200	U	2200	R ✓
	1,4-Naphthoquinone	2200	U	2200	R ✓
	4-Nitroquinoline-1-oxide	2200	U	2200	R ✓
	Hexachlorophene	6600	U	6600	R ✓
DUP018 *	Benzoic Acid	1900	U	1900	R ✓
	1,4-Naphthoquinone	1900	U	1900	R ✓
	4-Nitroquinoline-1-oxide	1900	U	1900	R ✓
	Hexachlorophene	5800	U	5800	R ✓

BHGLSWMU5311-01	Benzoic Acid	1800	U	1800	R
	1,4-Naphthoquinone	1800	U	1800	R
	4-Nitroquinoline-1-oxide	1800	U	1800	R
	Hexachlorophene	5500	U	5500	R
BHGLSWMU5311-02	Benzoic Acid	1900	U	1900	R
	1,4-Naphthoquinone	1900	U	1900	R
	4-Nitroquinoline-1-oxide	1900	U	1900	R
	Hexachlorophene	5600	U	5600	R
BHGLSWMU5312-01	Fluoranthene	220	J	220	F
	Benzo(a)anthracene	100	J	100	F
	Chrysene	130	J	130	F
	Benzo(b)fluoranthene	160	J	160	F
	Benzo(k)fluoranthene	130	J	130	F
	Benzo(a)pyrene	130	J	130	F
	Benzoic Acid	1800	U	1800	R
	1,4-Naphthoquinone	1800	U	1800	R
	4-Nitroquinoline-1-oxide	1800	U	1800	R
	Hexachlorophene	5600	U	5600	R
BHGLSWMU5312-02	Benzoic Acid	2000	U	2000	R
	1,4-Naphthoquinone	2000	U	2000	R
	4-Nitroquinoline-1-oxide	2000	U	2000	R
	Hexachlorophene	6100	U	6100	R
BHGLSWMU5313-01	Benzoic Acid	1900	U	1900	R
	1,4-Naphthoquinone	1900	U	1900	R
	4-Nitroquinoline-1-oxide	1900	U	1900	R
	Hexachlorophene	5600	U	5600	R
BHGLSWMU5313-02	Benzoic Acid	1900	U	1900	R
	1,4-Naphthoquinone	1900	U	1900	R
	4-Nitroquinoline-1-oxide	1900	U	1900	R
	Hexachlorophene	5800	U	5800	R
BHGLSWMU5313-03	Benzoic Acid	2000	U	2000	R
	1,4-Naphthoquinone	2000	U	2000	R
	4-Nitroquinoline-1-oxide	2000	U	2000	R
	Hexachlorophene	5900	U	5900	R
BHGSLWMU5314-01	Benzoic Acid	1900	U	1900	R
	1,4-Naphthoquinone	1900	U	1900	R
	4-Nitroquinoline-1-oxide	1900	U	1900	R
	Hexachlorophene	5600	U	5600	R
BHGSLWMU5314-02	Benzoic Acid	2000	U	2000	R
	1,4-Naphthoquinone	2000	U	2000	R
	4-Nitroquinoline-1-oxide	2000	U	2000	R
	Hexachlorophene	6100	U	6100	R
DUP020	Benzoic Acid	2100	U	2100	R
	1,4-Naphthoquinone	2100	U	2100	R
	4-Nitroquinoline-1-oxide	2100	U	2100	R
	Hexachlorophene	6200	U	6200	R
BHGLSWMU5314-03	Benzoic Acid	2100	U	2100	R
	1,4-Naphthoquinone	2100	U	2100	R
	4-Nitroquinoline-1-oxide	2100	U	2100	R
	Hexachlorophene	6400	U	6400	R

BHGLAOC1701-01	Benzoic Acid	1800	U	1800	R
	1,4-Naphthoquinone	1800	U	1800	R
	4-Nitroquinoline-1-oxide	1800	U	1800	R
	Hexachlorophene	5400	U	5400	R
BHGLAOC1701-02	Benzoic Acid	1900	U	1900	R
	1,4-Naphthoquinone	1900	U	1900	R
	4-Nitroquinoline-1-oxide	1900	U	1900	R
	Hexachlorophene	5600	U	5600	R
DUP01	Benzoic Acid	1800	U	1800	R
	1,4-Naphthoquinone	1800	U	1800	R
	4-Nitroquinoline-1-oxide	1800	U	1800	R
	Hexachlorophene	5500	U	5500	R
EB051800	Di-n-butylphthalate	6	J	6	F
	Pyridine	20	U	20	R
	1,4-Naphthoquinone	49	U	49	R
	4-Nitroquinoline-1-oxide	49	U	49	R
	Hexachlorophene	150	U	150	R

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PESTICIDES/PCBs

USEPA SW846 Methods 8080A/8082 - USEPA Level III Review

Site: Naval Air Station Fort Worth - DO26CC SDG #: 9A05G366

Client: HydroGeoLogic, Inc. Date: July 19, 2000

Laboratory: Severn Trent Laboratories, Chicago, IL Reviewer: Cathy Shelby

Client Sample ID	Laboratory Sample ID	Matrix
BHGLAOC1701-01	9A05G366-016	Soil
BHGLAOC1701-01RE	9A05G366-016RE	Soil
BHGLAOC1701-02	9A05G366-017	Soil
DUP01	9A05G366-018	Soil
EB051800	9A05G366-022	Water

Holding Times - All samples were extracted within 7 days for water samples and 14 days for soil samples and analyzed within 40 days for all samples as specified in the NAS Fort Worth JRB 2000 Basewide Quality Assurance Project Plan (QAPP), March 2000 No qualifications were required.

Initial Calibration - The initial calibrations analyzed on 05/30/00 exhibited acceptable %RSD values and/or correlation coefficients greater than 0 995. No qualifications were required.

Continuing Calibration Verification - The continuing calibrations analyzed on 05/31/00, 06/01/00 and 06/08/00 exhibited acceptable %D values No qualifications were required

Method Blank - Method blanks PBLKAT (05/23/00) and PBLKBJ (05/26/00) were free of contamination. No qualifications were required

Field, equipment blank - Equipment blank EB051800 was free of contamination. No qualifications were required.

Surrogates - Sample EB051800 exhibited a low %R value for surrogate compound DCB of 25% All results have been qualified (UJ) in this sample.

672 245

Laboratory Control Samples - LCS samples PBLKATGP0433-MB1 and PBLKBJGP0448-MB1 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 BHGLAOC1701-02 and DUP01 are non-detect No qualifications were required.

Compound Identification - The retention times met the QC acceptance criteria and no qualifications were required

Compound Quantitation - All results between the MDL and PQL have been qualified (F).

Sample BHGLAOC1701-01 exhibited chlordane which exceeded the linear range of the instrument and was flagged (NA) by the laboratory The sample was diluted and reanalyzed and the original chlordane result was replaced on the Form I with the dilution result All results on the original analysis Form I should be used for reporting purposes.

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 - Pesticides/PCBs SDG 9A05G366					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
BHGLAOC1701-01	4,4'-DDE	1 4	J	1 4	F
	alpha-Chlordane	0 72	J	0 72	F
	gamma-Chlordane	0 89	J	0.89	F
EB051800	All Results	-	U	-	UJ

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SULFIDE

USEPA SW846 Method 9030 - Level III Review

Site: Naval Air Station Fort Worth - DO26CC SDG #: 9A05G366

Client. HydroGeoLogic, Inc. Date: July 19, 2000

Laboratory: Severn Trent Laboratories, Chicago, IL Reviewer. Cathy Shelby

Client Sample ID	Laboratory Sample ID	Matrix
BHGLAOC1701-01	9A05G366-016	Soil
BHGLAOC1701-02	9A05G366-017	Soil
DUP01	9A05G366-018	Soil

Holding Times - All samples were analyzed within 7 days as specified in the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), March 2000 No qualifications were required. ✓

Method Blanks - The method blank was free of contamination No qualifications were required. ✓

Field and Equipment Blanks - Field QC samples were not analyzed with this data package. ✓

LCS - The LCS sample exhibited an acceptable %R value No qualifications were required ✓

Matrix Spike/Duplicate - A MS/MSD sample was not analyzed with this data package. ✓

Field Duplicates - Field duplicate results for samples BHGLAOC1701-02 and DUP01 are non-detect. 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 2000 Basewide Quality Assurance Project Plan, March 2000, data validation criteria were used in evaluating the data in this summary report. ✓

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Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report.

Qualification Summary Table - Sulfide SDG. 9A05G366					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
None Qualified	--	--	--	--	--

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ORGANOPHOPHORUS PESTICIDES

USEPA SW846 Method 8141A - Level III Review

Site: Naval Air Station Fort Worth - DO26CC SDG #: 9A05G366

Client. HydroGeoLogic, Inc Date. July 19, 2000

Laboratory: Severn Trent Laboratories, Chicago, IL Reviewer: Cathy Shelby

Client Sample ID	Laboratory Sample ID	Matrix
BHGLAOC1701-01	9A05G366-016	Soil
BHGLAOC1701-02	9A05G366-017	Soil
DUP01	9A05G366-018	Soil
EB051800	9A05G366-022	Water

Holding Times - All samples were extracted within 7 days for water samples and 14 days for soil samples and analyzed within 40 days for all samples as specified in the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), March 2000. No qualifications were required

Initial Calibration - The initial calibrations analyzed on 05/30/00 exhibited acceptable %RSD values and/or correlation coefficients No qualifications were required.

Continuing Calibration Verification - The continuing calibration verifications analyzed on 05/30/00 and 05/31/00 exhibited acceptable %D values No qualifications were required

The 2nd source calibration verifications analyzed on 05/30/00 exhibited acceptable %D values. No qualifications were required.

Method Blank - Method blanks PBLKAV (05/24/00) and PBLKAX (05/25/00) were free of contamination. No qualifications were required.

Field. equipment blank - Equipment blank EB051800 was free of contamination. No qualifications were required.

Surrogates - All samples exhibited acceptable surrogate %R values. No qualifications were required.

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Laboratory Control Samples - LCS samples PBLKAVGP0436-MB1 and PBLKAXGP0440-MB1 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 BHGLAOC1701-02 and DUP01 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 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 - OP Pesticides. SDG 9A05G366					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
None Qualified	--	--	--	--	--

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HERBICIDES

USEPA SW846 Method 8150B - Level III Review

Site: Naval Air Station Fort Worth - DO26CC SDG #. 9A05G366

Client: HydroGeoLogic, Inc Date: July 19, 2000

Laboratory: Severn Trent Laboratories, Chicago, IL Reviewer. Cathy Shelby

Client Sample ID	Laboratory Sample ID	Matrix
BHGLAOC1701-01	9A05G366-016	Soil
BHGLAOC1701-02	9A05G366-017	Soil
DUP01	9A05G366-018	Soil
EB051800	9A05G366-022	Water
EB051800RE	9A05G366-022RE	Water

Holding Times - All samples were extracted within 7 days for water samples and 14 days for soil samples and analyzed within 40 days for all samples as specified in the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), March 2000 with the exception of reanalyzed sample EB051800RE. However, all results for this sample have already been rejected due to the LCS and no further qualifications were required ✓

Initial Calibration - The initial calibrations analyzed on 05/25/00, 06/08/00 and 06/13/00 exhibited acceptable %RSD values and/or correlation coefficients No qualifications were required. ✓

Continuing Calibration Verification - The continuing calibration verifications analyzed on 05/26/00, 06/09/00, 06/13/00 and 06/14/00 exhibited acceptable %D values No qualifications were required ✓

The 2nd source calibration verifications analyzed on 05/26/00 and 06/09/00 exhibited acceptable %D values. No qualifications were required. ✓

Method Blank - Method blanks PBLKAP (05/22/00), PBLKCG (05/31/00) and PBLKCU (05/31/00) were free of contamination. No qualifications were required. ✓

Field. equipment blank - Equipment blank EB051800 was free of contamination No qualifications were required ✓

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Surrogates - All samples exhibited acceptable surrogate %R values No qualifications were required.

Laboratory Control Samples - LCS sample PBLKCUGP0456-MB1 exhibited acceptable %R values. No qualifications were required.

LCS sample PBLKAPGP0429-MB1 exhibited low %R values for 2,4-D, 2,4,5-TP and 2,4,5-T of 54%, 67% and 49%, respectively. All three compounds have been rejected (R) in sample EB051800.

LCS sample PBLKCUGP0453-MB1 exhibited low %R values for 2,4-D, 2,4,5-TP and 2,4,5-T of 44%, 52% and 45%, respectively All three compounds have been rejected (R) in sample EB051800RE. The original analysis results should be used for reporting purposes.

MS/MSD - A MS/MSD sample was not analyzed with this data package

Field Duplicates - Field duplicate results for samples BHGLAOC1701-02 and DUP01 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 with the exception of all results in the equipment blank which were rejected due to the low LCS recoveries. 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 - Herbicides SDG 9A05G366					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
EB051800	2,4-D	1.3	U	1 3	R
	2,4,5-TP	0 13	U	0 13	R
	2,4,5-T	0 13	U	0 13	R
EB051800RE	2,4-D	1 0	U	1 0	R
	2,4,5-TP	0 10	U	0 10	R
	2,4,5-T	0 10	U	0 10	R

FINAL PAGE

ADMINISTRATIVE RECORD

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