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FINAL RCRA FACILITY INVESTIGATION FOR SOLID WASTE MANAGEMENT UNIT 26 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
SOLID WASTE MANAGEMENT UNIT 26
NAS FORT WORTH JRB, TEXAS

Prepared for

U.S. Air Force Center for Environmental Excellence
Brooks AFB, Texas
Contract Number F41624-95-D-8005

November 2001

HydroGeoLogic, Inc.
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DEPARTMENT OF THE AIR FORCE
HEADQUARTERS AIR FORCE CENTER FOR ENVIRONMENTAL EXCELLENCE
BROOKS AIR FORCE BASE TEXAS

12 November 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 26, NAS Fort Worth JRB, Texas

Dear Mr. Risner,

Two copies (one original and one copy) of the Final RCRA Facility Investigation Report requesting closure of Solid Waste Management Unit 26 are enclosed for your review per the TNRCC RCRA permit No. HW-50289 for NAS Fort Worth JRB, Texas. Additional copies of the Final Report are also being sent to the TNRCC Region 4 Office and to EPA Region 6.

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

Sincerely,

Michael R Dodyk

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

Printed on Recycled Paper

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TNRCC Region IV
Tim Sewell (letter only)

TECHNICAL REVIEW COMMENT RESPONSES

Document: **Draft RCRA Facility Investigation Report**
Solid Waste Management Unit 26
NAS Fort Worth JRB, Texas

Contractor: **HydroGeoLogic, Inc.**

Contract No: **F41624-95-D-8005**

Delivery Order No: **0033**

Introduction:

A technical review was conducted for the subject document submitted by HydroGeoLogic, Inc. under Contract F41624-95-D-8005, Delivery Order 0033. 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:

Item	Page	Section	Comment	Response
1	Cover Page	N/A	Please replace "Units" with "Unit".	The title has been changed to read "Unit"
2	3-3	3.2 Interpretation of Historical Aerial Photographs	2nd Bullet: It is recommended that an outline of the debris piles be shown in the aerial photo (Figure 3.2). In addition, please explain the significance of these piles.	The location of the debris piles is now indicated on the figure Text discussing the significance of the waste piles has been added at the end of this bulleted paragraph.
3	3-3	Figure 3.4	Please show SWMU 26 on aerial photo.	The location of SWMU 26 is now indicated on the figure.
4	3-6	3.5 Conclusions	Please state that the area investigated in 1988 was inaccurate based on aerial photos.	Text stating that the area investigated in 1988 was inaccurately determined based on the examination of aerial photographs has been added at the end of this section. The heading of Section 3.5 was changed to "Findings".

Item	Page	Section	Comment	Response
5	4-6	4.4.4 Monitoring Well Development	1st Sentence: Please include reference material in section 7.0.	The reference has been corrected to read "(HydroGeoLogic, 1998b)". The document listed in Section 7.0 now indicates that the FSP is part of the referenced document.
6	4-7	4.4.5 Groundwater Sampling	1st Sentence: Please include the reference material in section 7.0.	The reference "HydroGeoLogic, 1998b)" has been added.
7	4-7	4.4.7 Record Keeping	Last Sentence: It is recommended that "Appendix F" be replaced with "Appendix E".	The text has been corrected to read "Appendix E".
8	4-10	4.6.2 Quality Assurance/Quality Control Program	4th Sentence: Please include reference material in section 7.0.	The reference "(AFCEE, 1998)" has been added to the text; this document has also been added to the references listed in Section 7.0.
9	5-1	5.0 Investigation Results	1st Sentence: It is recommended that "(Figure 1.2)" be inserted at the end of the sentence.	The requested figure reference has been added to the text.
10	5-5	5.1.4 Compounds Analyzed by Multiple Methods	2nd Paragraph, 3rd Sentence: It is recommended that "Appendix J" be replaced with "Appendix I".	The text has been corrected to read "Appendix I".
11	5-10	5.2.5.1 Inorganic Analytical Results	2nd Paragraph, last sentence: Please include reference material in section 7.0.	The title of the referenced document has been changed to "TNRCC Interoffice Memorandum" here and throughout the rest of the report.

FINAL
RCRA FACILITY INVESTIGATION REPORT
SOLID WASTE MANAGEMENT UNIT 26
NAS FORT WORTH JRB, TEXAS

Prepared for

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

Contract Number F41624-95-D-8005

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November 2001

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13 ABSTRACT (Maximum 200 words)

This document presents the environmental data collected in support of the Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) performed at Solid Waste Management Unit (SWMU) 26, located at NAS Fort Worth JRB, Texas. The SWMU designation was assigned by the Texas Natural Resource Conservation Commission (TNRCC) as part of the RCRA Permit (HW-50289) issued to the base in February 1991 The U S Air Force assigned site designations to the subject SWMUs under the Air Force Installation Restoration Program (IRP), which includes Landfill 3 (SWMU 26)

The primary objective of this RFI was to determine the appropriate closure standard for soil media at SWMU 26, under the TNRCC Risk Reduction Rules, Chapter 335 - Industrial Solid Waste and Municipal Waste, Subchapter S - Risk Reduction Standards, (§335 551 - 335 569). Environmental data collected as part of this RFI indicates that closure under Risk Reduction Standard 2 is appropriate for soil media at SWMU 26

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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) 26 at Naval Air Station Fort Worth Joint Reserve Base (NAS Fort Worth JRB) in Fort Worth, Texas.

HydroGeoLogic, Inc. (HydroGeoLogic) prepared this report under contract to the U.S. Air Force Center for Environmental Excellence (AFCEE), Contract No. F41624-95-D-8005, Delivery Order No. 0033, in support of the Air Force Installation Restoration Program (IRP). The objective of the U.S. Air Force IRP is to assess past hazardous waste disposal and spill sites at U.S. Air Force installations and to develop remedial actions consistent with the National Contingency Plan for sites that pose a threat to human health and welfare or the environment.

Responsible key HydroGeoLogic personnel are as follows:

James P. Costello, P.G.	Program Manager
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This contract is administered by the Defense Contract Management Command, 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), located at Headquarters AFCEE (AFCEE/ERB), 3207 North Road, Brooks Air Force Base (AFB), Texas 78235-5363.

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Appendix G DATA VALIDATION REPORTS
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Appendix I SUMMARY OF RFI ANALYTICAL DATA

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LIST OF ACRONYMS AND ABBREVIATIONS

ACC	Air Combat Command
AFB	Air Force Base
AFBCA	Air Force Base Conversion Agency
AFCEE	U.S. Air Force Center for Environmental Excellence
AFP 4	Air Force Plant 4
AOCs	areas of concern
B2EHP	bis(2-ethylhexyl)phthalate
BBS	Basewide Background Study
bgs	below ground surface
BLRA	Baseline Risk Assessment
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulation
cm/sec	centimeters per second
DCA	dichloroethane
DNAPL	dense non-aqueous phase liquid
DPT	direct push technology
DQE	data quality evaluation
DQOs	data quality objectives
DRMO	Defense Reutilization and Marketing Office
E&E	Ecology and Environment, Inc.
EDD	electronic data deliverable
EM	electromagnetic
EPA	U.S. Environmental Protection Agency
°F	degrees Fahrenheit
FS	feasibility study
FSP	Field Sampling Plan
ft/d	feet per day
GC/MS	gas chromatography/mass spectroscopy
GFAA	graphite furnace atomic absorption
gpd/ft^2	gallons per day per square foot
GW	groundwater
GWP-Ind	Groundwater Protection-Industrial
HSA	hollow stem auger
HydroGeoLogic	HydroGeoLogic, Inc.
ICP	inductively coupled plasma
IDW	investigative derived waste

LIST OF ACRONYMS AND ABBREVIATIONS (continued)

IRA	Interim Remedial Action
IRP	Installation Restoration Program
JP-4	Jet Propulsion Grade 4
μg/L	micrograms per liter
MDL	method detection limit
MEK	methyl ethyl ketone
mg/kg	milligram per kilogram
MQL	method quantitation limit
MS	matrix spike
MSC	medium-specific concentration
MSD	matrix spike duplicate
msl	mean sea level
nT	nanoteslas
NAS Fort Worth JRB	Naval Air Station Fort Worth Joint Reserve Base
NCDC	National Climatic Data Center
NGVD	National Geodetic Vertical Datum
NPL	National Priority List
NTU	nephelometric turbidity units
OC	organochlorine
OWS	oil/water separator
P1	Paluxy 1
PAH	polynuclear aromatic hydrocarbon
PCB	polychlorinated biphenyl
PID	photoionization detector
PQL	practical quantitation limit
QA	quality assurance
QAPP	quality assurance project plan
QC	quality control
RCRA	Resource Conservation and Recovery Act
RFI	RCRA facility investigation
RI	remedial investigation
RRS	Risk Reduction Standard
SAC	Strategic Air Command
SAI-Ind	Inhalation, Ingestion, and Dermal Contact-Industrial
SDG	sample delivery group
SIM	selective ion monitoring
SPLP	synthetic precipitation leaching procedure
SQL	sample quantitation limit

LIST OF ACRONYMS AND ABBREVIATIONS (continued)

SVOC	semivolatile organic compound
SWMU	solid waste management unit
TCA	trichloroethane
TCE	trichloroethene
TCLP	toxicity characteristic leaching procedure
TNRCC	Texas Natural Resource Conservation Commission
TPH	total petroleum hydrocarbons
USACE	U.S. Army Corps of Engineers
USAF	U.S. Air Force
UST	underground storage tank
VOC	volatile organic compound

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TAB

SECTION 1.0

FINAL
RCRA FACILITY INVESTIGATION REPORT
SOLID WASTE MANAGEMENT UNIT 26
NAS FORT WORTH JRB, TEXAS

1.0 INTRODUCTION

The Texas Natural Resource Conservation Commission (TNRCC) issued a Resource Conservation and Recovery Act (RCRA) hazardous waste permit (HW-50289) to the former Carswell Air Force Base (AFB), Fort Worth, Texas, in February 1991. The former Carswell AFB is currently known as Naval Air Station Fort Worth Joint Reserve Base (NAS Fort Worth JRB). Requirements of the permit state that a RCRA Facility Investigation (RFI) must be conducted at all solid waste management units (SWMUs) and Areas of Concern (AOCs) listed or subsequently added to the HW-50289 permit. SWMU 26 is regulated by the HW-50289 permit and is the subject of this RFI report.

This report summarizes relevant historical and current site investigation data, including soil and groundwater sampling results in support of the RFI conducted at SWMU 26. The primary objective of the RFI was to determine the appropriate closure standard for soil media at SMWU 26 under the TNRCC Risk Reduction Rules, Chapter 335 - Industrial Solid Waste and Municipal Solid Waste, Subchapter S - Risk Reduction Standards (RRSs), Sections 335.551-335.569. Environmental data collected as part of this RFI and presented in this report indicate that closure under RRS 2 is appropriate for soil media at SWMU 26. Under RRS 2 closure, the soil media that remains in place does not pose a significant risk to human health or the environment.

1.1 INSTALLATION DESCRIPTION

NAS Fort Worth JRB is located on 2,555 acres of land in Tarrant County, Texas, 8 miles west of downtown Fort Worth (Figure 1.1). The base is bordered by Lake Worth to the north, the West Fork Trinity River, River Oaks subdivision, and the town of Westworth Village to the east, other urban areas of Fort Worth to the northeast and southeast, the city of White Settlement to the west and southwest, and Air Force Plant 4 (AFP 4) to the west. The area surrounding NAS Fort Worth JRB is mostly suburban. Land use in the immediate vicinity of the base is industrial, commercial, residential, and recreational (A.T. Kearney, 1989).

1.1.1 Installation History and Present Mission

Prior to initial base construction in 1941, the area that is now occupied by NAS Fort Worth JRB consisted of woods and pasture in an area called White Settlement. NAS Fort Worth JRB started as a modest dirt runway built to service the aircraft manufacturing plant located where AFP 4 is now. AFP 4 is a 760-acre site located on the western boundary of NAS Fort Worth

JRB. Figure 1.2 depicts the base boundaries of NAS Fort Worth JRB and AFP 4, and the locations of SWMUs and AOCs at NAS Fort Worth JRB.

In August 1942, the base was opened as Tarrant Field Airdrome and used to train pilots to fly the B-24 under the jurisdiction of the Gulf Coast Army Air Field Training Command. In May 1943, the field was re-designated as Fort Worth Army Air Field with continued use as a training facility for pilots. The Strategic Air Command (SAC) assumed control of the installation in 1946 and the base served as the headquarters for the 8th Air Force.

It was renamed Carswell AFB in 1948, and the 7th Bomber Wing became the base host unit. The Headquarters 19th Air Division was located at Carswell AFB in 1951 where it remained until September 1988 (A.T. Kearney, 1989). The SAC mission remained at Carswell AFB until 1992 when the Air Combat Command (ACC) assumed control of the base upon disestablishment of SAC. In October 1994, the U.S. Navy assumed responsibility for much of the facility, and its name was changed from Carswell AFB to NAS Fort Worth JRB. The NAS Dallas and elements of Glenview and Memphis NASs were combined into the NAS Fort Worth JRB to streamline naval operations into one central area. The principal activities on the base have been maintaining and servicing bombers, fuel tankers, and fighter jet aircraft (A.T. Kearney, 1989).

1.1.2 Site Operational History

A summary of past and current industrial activities and waste disposal operations conducted at NAS Fort Worth JRB is presented in the following sections.

1.1.2.1 Industrial Activities

Major industrial operations at NAS Fort Worth JRB include maintenance of jet engines, aerospace ground equipment, fuel systems, weapons system, and pneudraulic systems; and maintenance of general and special purpose vehicles, aircraft corrosion control, and non-destructive inspection activities. Most of the liquid wastes that have been generated by industrial operations can be characterized as waste oils, recoverable fuels, spent solvents, and spent cleaners (CH2M HILL, 1996a).

Waste oils generally refer to lubricating fluids/oils and to a lesser extent, hydraulic fluids. Recoverable fuels refer to fuels drained from aircraft tanks and other base vehicles, such as Jet Propulsion grade 4 (JP-4) and leaded and unleaded gasoline. Spent solvents and cleaners refer to stripping liquids used for degreasing and cleaning of aircraft, aircraft systems and parts, electronic components, and vehicles. Included in this category are PD-680 (petroleum naphtha) and various chlorinated organic compounds. Specific types of degreasing solvents used by the U.S. Air Force have changed over the years. In the 1950s, carbon tetrachloride was commonly used until it was replaced by trichloroethene (TCE) in about 1960. Since then, TCE and 1,1,1-trichloroethane (1,1,1-TCA) have been used although TCE usage has decreased in favor of 1,1,1-TCA. Today, PD-680 Type II, 1,1,1-TCA, and to a limited extent, TCE are used. Waste paint solvents and strippers are also generated on-site from corrosion control

activities. Typical paint solvents include compounds like isobutyl acetate, toluene, methyl ethyl ketone (MEK), isopropanol, naphtha, and xylene. Paint strippers generally contain such compounds as methylene chloride, toluene, ammonium hydroxide, and phenolics. Servicing and maintenance of the engines and equipment of the B-52 and KC-135 aircraft generated the majority of waste liquids at NAS Fort Worth JRB (CH2M HILL, 1996a).

1.1.2.2 Waste Disposal Operations

Wastes have been generated and disposed of at NAS Fort Worth JRB since the beginning of industrial operations in 1942. Historical waste management practices at NAS Fort Worth JRB were presented in the Phase I Initial Assessment Report (CH2M HILL, 1984), the Phase I Remedial Investigation (RI) Report (Radian, 1989), and the Site Characterization Summary Informal Technical Information Report (CH2M HILL, 1996a), and are summarized in the following paragraphs:

1942-1970: The majority of waste oils, recovered fuels, spent solvents, and cleaners were burned at the fire department training areas during practice exercises. Some waste oils and spent solvents were disposed of through contractor removal, while some waste paints (contaminated with thinners and solvents), waste oils, and PD-680 are suspected of having been disposed of in the base landfills. Some waste oils, recovered fuels, spent solvents, and cleaners were also discharged to sanitary and storm sewers. These discharges occurred primarily at the washracks. In 1955, an oil/water separator (OWS) (Facility 1190) was installed to recover waste materials discharged from the washracks. Non-aqueous materials from OWSs were pumped out and disposed of through contractor removal. Aqueous discharge from OWSs was, and still is, pumped into the sanitary sewer.

1971-1975: During this period, most waste oils, spent solvents, and cleaners were disposed of by contractor removal. A private contractor would pump the materials from OWSs, 55-gallon drums, and bowsers. Recovered JP-4 was stored at the fire training area and ignited for practice exercises. Recovered JP-4 was also reused in aerospace ground equipment operations. Some waste paints (contaminated with thinners and solvents), waste oils, and PD-680 are suspected of having been disposed of in the base landfills. In addition, some waste oils, solvents, and cleaners were discharged into sanitary sewer drains, primarily at the washracks that discharge to the Facility 1190 OWS. This OWS was routinely emptied by a private contractor, and the recovered materials were removed from the base by the contractor.

1976-1982: The majority of waste oils, spent solvents, and cleaners were disposed of by service contract either directly or through the Defense Reutilization and Marketing Office (DRMO). Recovered JP-4 was stored at fire department training areas and ignited for practice exercises. Recovered JP-4 was also used in aerospace ground equipment operations. PD-680 used at the

washracks was discharged to the Facility 1190 OWS, which discharged to the sanitary sewer.

1983-Present: Waste oils, solvents, and cleaners are collected in 55-gallon drums and temporarily (less than 90 days) stored at 12 hazardous waste accumulation points located throughout the flightline area of the base. They are subsequently disposed of by contractor removal through DRMO. Recovered JP-4 and other fuels (Mogas - unleaded gasoline) are stored at the fire department training area for subsequent burning in practice exercises or reuse in aerospace ground equipment operations. Waste paint solvents or thinners and strippers such as toluene, isobutyl acetate, MEK, isopropanol, naphtha, and xylene are also temporarily stored prior to removal. Removal of waste oils and PD-680 (Type II) from OWSs is also handled by off-base contractor through DRMO.

1.2 REGULATORY REQUIREMENTS

On February 7, 1991 the former Carswell AFB was issued a RCRA hazardous waste permit (HW-50289) by the TNRCC. This permit requires a RFI of all SWMUs and AOCs listed in Permit Provision VIII (as well as those SWMUs subsequently added to the list) to determine whether hazardous constituents listed in Title 40, Code of Federal Regulations (40 CFR) Part 264, Appendix IX, have been released into the environment. SWMU 26 was added to the HW-50289 permit by the TNRCC in a letter dated April 22, 1994 to the Air Force Base Conversion Agency (AFBCA). The primary regulatory programs that govern the investigation and potential closure of NAS Fort Worth JRB sites are RCRA and the TNRCC RRS Program. The TNRCC is the lead regulatory agency for activities to be conducted at the subject sites. Specifically, the TNRCC Corrective Action Section, Remediation Division, is responsible for overseeing the RFI at SWMU 26. The U.S. Environmental Protection Agency (EPA), Region VI, provides secondary oversight of the RFI at SWMU 26.

In Subchapter S of the Risk Reduction Rules, the TNRCC has developed a series of three standards by which closure of RCRA sites may be obtained. General procedures for determining these standards have been based on scientific principals so that specific numeric cleanup levels can be generated. The cleanup levels are specified for different types of contaminated media such as air, surface water, groundwater, and soil, and for cross-media contamination pathways such as soil to groundwater and soil to air. Compliance with the three RRSs are designed to assure adequate protection of human health and the environment from potential exposure to contaminants associated with releases from SWMUs and other AOCs.

A general overview of closure requirements under each of the three standards is provided below.

Standard 1: Closure/Remediation to Background - A Standard 1 closure may be requested when it is established that the subject site is unaffected by past or present waste disposal practices. Attainment of a Standard 1 closure is demonstrated

by sufficient sample collection and analysis to indicate that media contaminant concentrations are below the applicable RRS 1 value. In accordance with TNRCC Risk Reduction Rules, RRS 1 is set at background for inorganic compounds or the method quantification limit (MQL) for organic compounds.

Standard 2: Closure/Remediation to Health-Based Standards and Criteria - A Standard 2 closure may be requested when it is established that the subject site does not contain contaminant concentrations greater than RRS 2 Medium-Specific Concentrations (MSCs) or screening values in any contaminated media of concern. In addition, contamination must be delineated to Standard 1 concentrations. Attainment of a Standard 2 closure is demonstrated by sufficient sample collection and analysis from the contaminated media of concern using the procedures outlined in Subchapter S of the TNRCC Risk Reduction Rules and the TNRCC Interoffice Memorandum. A document stating the responsible persons intention to fulfill deed certification requirements outlined in subsection 335.560 of the Risk Reduction Rules, Subchapter S must also be prepared and approved.

Standard 3: Closure/Remediation with Controls - If contaminant concentrations at a site exceed the RRS 2 values (MSCs), a Standard 3 closure may be granted when the responsible party recommends a remedy to control contaminated media of concern which best achieves the requirements outlined in Subchapter S of the Risk Reduction Rules and the TNRCC Interoffice Memorandum. This remedy must be approved by the TNRCC executive director, and following approval the responsible party must subsequently complete the remedy, submit the final report, initiate post closure care, and complete the deed recordation requirements outlined in Subchapter S of the Risk Reduction Rules.

The primary emphasis of this investigation is to meet the requirements of Permit Provision VIII of the NAS Fort Worth HW-50289 permit. The NAS Fort Worth JRB is not a listed National Priority List (NPL) site. However, as the IRP, TNRCC RRS, and RCRA rely heavily on guidance documents prepared under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), this RFI has been performed and the report prepared using guidance documents from all four programs.

1.3 REPORT ORGANIZATION

The remainder of the report is organized as follows:

Section 2.0 provides a description of the environmental setting at the base and the area of SWMU 26.

Section 3.0 provides a site description and an overview of previous environmental investigations at SWMU 26.

Section 4.0 includes a discussion of sampling strategies, data quality objectives (DQOs), field activities, field quality assurance/quality control (QA/QC), laboratory analysis, data evaluation, and a site conceptual model.

Section 5.0 presents the analytical results and results of other field activities identified in Section 4.0.

Section 6.0 presents conclusions and recommendations based on the findings presented in Section 5.0.

Section 7.0 presents the references used in the preparation of this RFI Report.

Appendix A contains soil boring logs recorded from soil borings, and monitoring wells advanced/installed by HydroGeoLogic under this investigation.

Appendix B contains Field Sampling Report Forms generated for samples collected under this investigation.

Appendix C contains details of monitoring well construction for monitoring wells installed by HydroGeoLogic for this investigation.

Appendix D contains Monitoring Well Development Forms which present details about well development.

Appendix E contains the chain-of-custody forms for samples collected under this investigation.

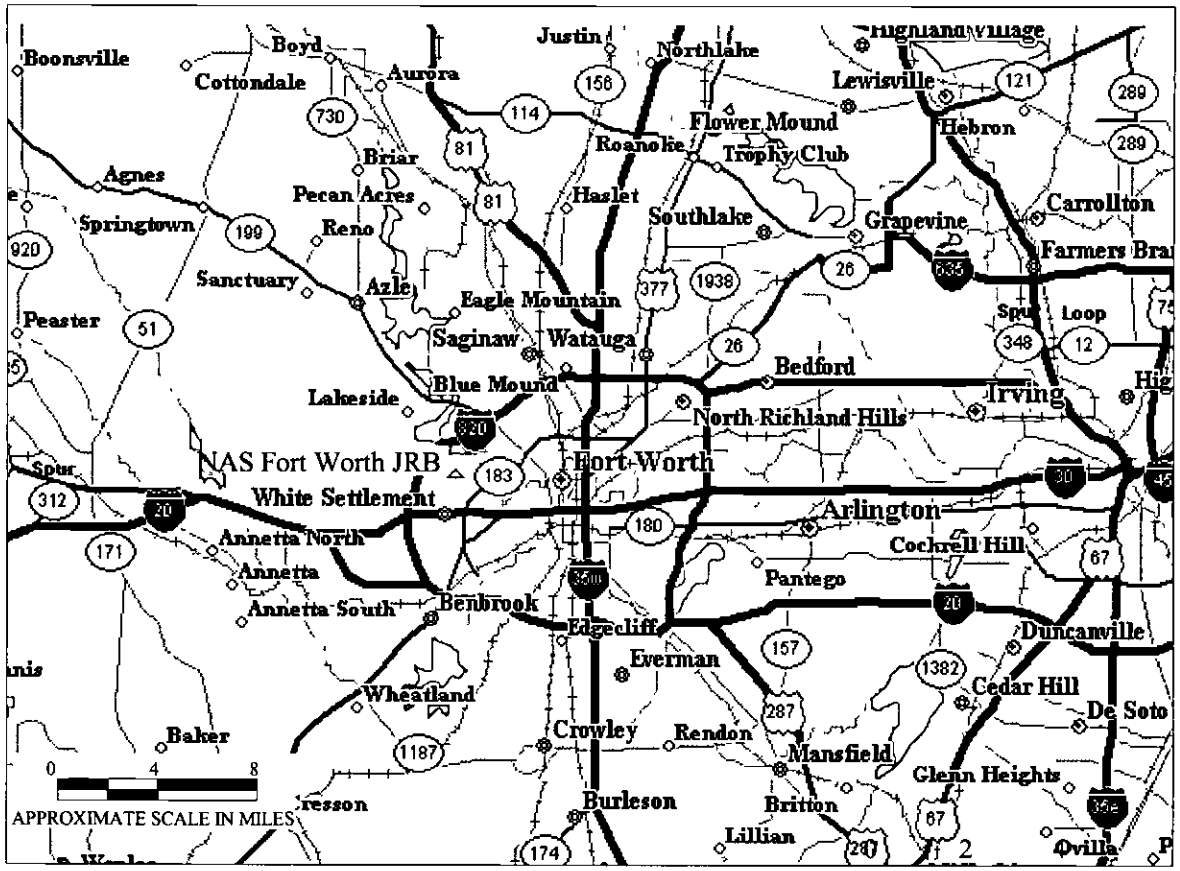
Appendix F presents exceptions to the Quality Assurance Project Plan (QAPP).

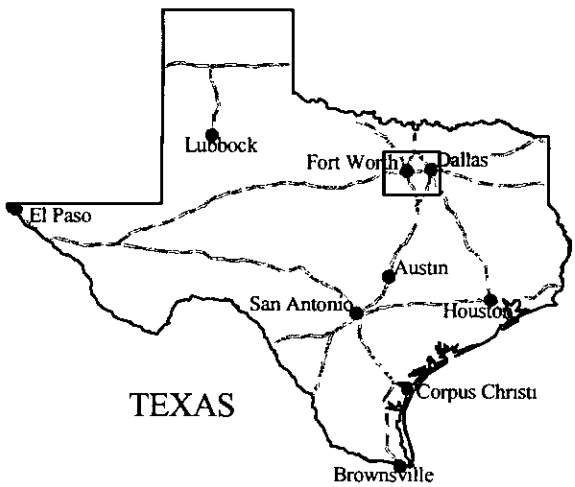
Appendix G contains data validation reports and data completeness calculation results.

Appendix H contains the report prepared on the laboratory audit performed by HydroGeoLogic personnel.

Appendix I contains all analytical data generated under this investigation.

FIGURES





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Project AFC001-33CCB
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Revised 06/20/01 asp
Map Source ProCD

HYDRO GeoLogic

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Figure 1.1

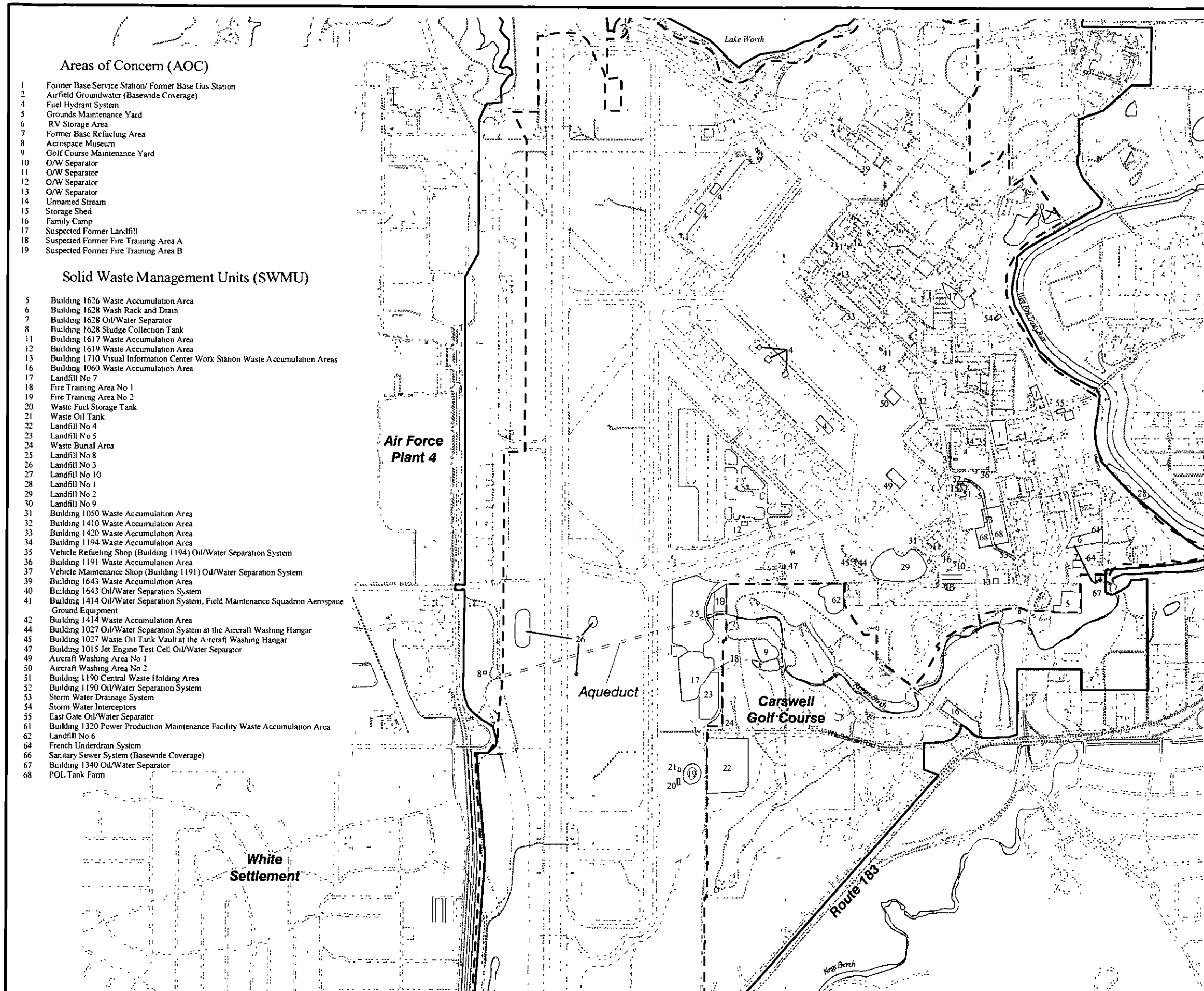
Site Location Map
NAS Fort Worth JRB, Texas

Areas of Concern (AOC)

1 Former Base Service Station/ Former Base Gas Station
2 Airfield Groundwater (Basewide Coverage)
4 Fuel Hydrant System
5 Grounds Maintenance Yard
6 RV Storage Area
7 Former Base Refueling Area
8 Aerospace Museum
9 Golf Course Maintenance Yard
10 O/W Separator
11 O/W Separator
12 O/W Separator
13 O/W Separator
14 Unnamed Stream
15 Storage Shed
16 Family Camp
17 Suspected Former Landfill
18 Suspected Former Fire Training Area A
19 Suspected Former Fire Training Area B

Solid Waste Management Units (SWMU)

5 Building 1626 Waste Accumulation Area
6 Building 1628 Wash Rack and Drain
7 Building 1628 Oil/Water Separator
8 Building 1628 Sludge Collection Tank
11 Building 1617 Waste Accumulation Area
12 Building 1619 Waste Accumulation Area
13 Building 1710 Visual Information Center Work Station Waste Accumulation Areas
16 Building 1060 Waste Accumulation Area
17 Landfill No 7
18 Fire Training Area No 1
19 Fire Training Area No 2
20 Waste Fuel Storage Tank
21 Waste Oil Tank
22 Landfill No 4
23 Landfill No 5
24 Waste Burial Area
25 Landfill No 8
26 Landfill No 3
27 Landfill No 10
28 Landfill No 1
29 Landfill No 2
30 Landfill No 9
31 Building 1050 Waste Accumulation Area
32 Building 1410 Waste Accumulation Area
33 Building 1420 Waste Accumulation Area
34 Building 1194 Waste Accumulation Area
35 Vehicle Refueling Shop (Building 1194) Oil/Water Separation System
36 Building 1191 Waste Accumulation Area
37 Vehicle Maintenance Shop (Building 1191) Oil/Water Separation System
39 Building 1643 Waste Accumulation Area
40 Building 1643 Oil/Water Separation System
41 Building 1414 Oil/Water Separation System, Field Maintenance Squadron Aerospace Ground Equipment
42 Building 1414 Waste Accumulation Area
44 Building 1027 Oil/Water Separation System at the Aircraft Washing Hangar
45 Building 1027 Waste Oil Tank Vault at the Aircraft Washing Hangar
47 Building 1015 Jet Engine Test Cell Oil/Water Separator
49 Aircraft Washing Area No 1
50 Aircraft Washing Area No 2
51 Building 1190 Central Waste Holding Area
52 Building 1190 Oil/Water Separation System
53 Storm Water Drainage System
54 Storm Water Interceptors
55 East Gate Oil/Water Separator
61 Building 1320 Power Production Maintenance Facility Waste Accumulation Area
62 Landfill No 6
64 French Underdrain System
66 Sanitary Sewer System (Basewide Coverage)
67 Building 1340 Oil/Water Separator
68 POL Tank Farm



HydroGeoLogic, Inc —RFI SWMU 26
NAS Fort Worth JRB, Texas

Figure 1.2

SWMU and AOC Location Map
NAS Fort Worth JRB

U.S. Air Force Center for Environmental Excellence

Legend

- - - - NAS Fort Worth JRB (Carswell Field)
——— Former Carswell Air Force Base
Solid Waste Management Unit (SWMU)
SWMU Discussed in this Report
Area of Concern (AOC)

File: 17A-84-Y
D.E.

N

500 0 500 1000 1500
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Project AFC001-33CCB
Revised 09/24/01 jb
Map Source Jacobs, 1996

HYDRO GeoLogic INC

TAB

SECTION 2.0

2.0 INSTALLATION ENVIRONMENTAL SETTING

The climate, physiography, geology, hydrology, biology, and demographics of the NAS Fort Worth JRB area are described in the following sections. This information has been primarily derived from the *Summary of Remediation Projects at AFP 4 and Carswell AFB* (ESE, 1994); the *IRP Remedial Investigation/Feasibility Study (RI/FS), Stage 2 Draft Final Technical Report, Carswell AFB* (Radian, 1989); and the *IRP RI, Stage 2 Final Report, Carswell AFB* (Radian, 1991).

2.1 PHYSIOGRAPHIC PROVINCE

The NAS Fort Worth JRB area 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, 1989). 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 area.

2.2 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. The areal limits of surface exposure of these geologic units at NAS Fort Worth JRB are shown in Figure 2.2. A generalized cross section of the geology beneath NAS Fort Worth JRB is presented in Figures 2.3 and 2.4 (adapted from Radian, 1989). Cross section locations and individual cross sections at NAS Fort Worth JRB are presented in Figures 2.5 through 2.8 (CH2M HILL, 1996a). 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.

2.3 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 Formation, (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. Table 2.1 presents additional information on the stratigraphic units found beneath NAS Fort Worth JRB. 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 2.9 (Radian, 1989).

2.3.1 Alluvial Terrace Deposits

The uppermost groundwater in the area occurs within the pore space of the grains of coarse sand and gravels deposited by the Trinity River. In some parts of Tarrant County, primarily in those areas adjacent to the Trinity River, groundwater from the terrace deposits is used for irrigation and residential use. However, groundwater from the terrace deposits is not often used as a source of potable water due to its limited distribution, poor yield, and susceptibility to surface/storm-water pollution (USGS, 1996). TCE concentrations exist up to 2500 micrograms per liter (μg/L) within the Terrace Alluvium at Carswell. No potable water supply wells are completed in the Terrace Alluvium within 0.5 miles of NAS Fort Worth JRB. No potable water supply wells are completed in the terrace alluvium within 0.5 miles of NAS Fort Worth JRB.

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. This leakage was calculated to be in excess of approximately 115.5 million gallons in 1991 for NAS Fort Worth JRB and AFP 4 (General Dynamics, 1992). This inflow of water to the shallow water-bearing unit effects local groundwater flow patterns and contamination transport, along with increasing the hydraulic head, which acts as the force to potentially drive water into lower aquifer systems. The estimated hydraulic conductivity of the alluvial terrace deposits is 4.57 gallons per day per square foot (gpd/ft^2) (Radian, 1989).

The primary water flow in the alluvial terrace deposits is generally eastward toward the West Fork Trinity River, although localized variations exist across the entire site. An NAS Fort Worth JRB potentiometric surface map of alluvial terrace groundwater in July 1998 (during the Initial RFI sampling phase) is presented in Figure 2.10 (HydroGeoLogic, 1998a). Groundwater elevation data show a general easterly trend in groundwater flow beneath the NAS Fort Worth JRB area toward the West Fork Trinity River. The hydraulic gradient across the base is variable, reflecting variations in the flow direction and localized recharge. Groundwater discharge from the aquifer occurs into surface water on-site, specifically Farmers Branch Creek. It should be noted that actual groundwater flow pattern in the SWMU 26 area is more complicated than indicated on Figure 2.10. A discussion of groundwater flow in the vicinity of SWMU 26 is presented in Section 5.2.4 of this report.

2.3.2 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 1.2×10^{-9} centimeters per second (cm/sec) to 7.3×10^{-11} cm/sec for the NAS Fort Worth JRB and AFP 4 area. This corresponds to a vertical flow rate that ranges between 1.16×10^{-3} feet per day (ft/d) to 5.22×10^{-3} 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. Over 300 borings and monitoring wells have been advanced at NAS Fort Worth JRB to the Goodland/Walnut aquitard. With the exception of areas located within the incised river valley of the West Fork Trinity River, there is no evidence to date that a similar window exists on the base property. Five of the eight monitoring wells that fully penetrate the Paluxy aquifer on NAS Fort Worth JRB property are represented in cross sections (Figures 2.5 through 2.8). These wells are USGS01P, USGS05P, USGS06P, USGS07P, and Paluxy 1 (P1). The other three Paluxy monitoring wells, WHGLPU001, WHGLPU003, and WHGLPU004, are located in the Flightline and Golf Course areas. These wells were installed and screened in the paluxy upper sands in support of a Risk Assessment/Focused Feasibility Study (HydroGeoLogic, 2000).

When drilling the wells, the Walnut Formation, was observed to be fractured and appeared to have higher hydraulic conductivities than the Upper Paluxy. An additional monitoring well (WHGLWN002) was installed in the Walnut Limestone formation in order to characterize the unit.

2.3.3 Paluxy Aquifer

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

1989, Radian estimated the hydraulic conductivity and transmissivity to be 130 to 140 gpd/ft^2 and 1,263 to 13,808 gpd/ft^2, respectively. TCE concentrations in WHGLPU001 ranged from non-detect to 5 μg/L over the three sampling events. No other deep wells at Carswell have contained VOCs.

2.3.4 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.

2.3.5 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).

2.3.6 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 1997. Figure 2.11 illustrates the locations of 97 wells that were identified from Texas Water Commission records. All of these wells were installed and completed in the Paluxy aquifer or the Twin Mountains aquifer. No active water supply 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.

2.4 SURFACE WATER

Topographically, 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. Figure 2.1 is a section of the Lake Worth, Texas, U.S. Geological Survey topographic map showing the relief of NAS Fort Worth JRB and the surrounding area.

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 stormwater 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.

The West Fork Trinity River, a major river in north central Texas, defines the eastern boundary of the base. The Trinity River flows southeast towards the Gulf of Mexico. Because the river has been dammed, the 100- and 500-year flood plains downstream of the dam do not extend more than 400 feet from the center of the river or any of its tributaries. Storm water, which enters the NAS Fort Worth storm water drainage system, is discharged directly into Lake Worth. The outfall is permitted under the National Pollutant Discharge Elimination System, and monitoring results document compliance with permit discharge limitations (IT Corporation, 1997).

Surface drainage on the base 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 stormwater discharge points that are subject to National Pollution Discharge Elimination System 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 EPA 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, 1989).

2.5 CLIMATE

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 (TNRCC, 1996b). In the Dallas-Fort Worth area, daily mean temperatures range from 43.4 degrees Fahrenheit (°F) in January to 85.3 °F in July. The highest recorded

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temperature is 113 °F, and the lowest temperature is 2 °F. Freezing temperatures occur on average of 25 days in the year (National Climatic Data Center (NCDC), 2000).

Average relative humidity (after noon) ranges from 51 percent (September and October) to 62 percent (January) (NCDC, 2000). Mean annual precipitation recorded at the base is approximately 32 inches. The wettest months are April and May, with a secondary maximum in September. The period from November to March is generally dry, with a secondary minimum in August. Snowfall accounts for a small percentage of the total precipitation between November and March. Thunderstorm activity occurs at the base an average of 45 days per year, with the majority of the activity between April and June. Hail may fall 2 to 3 days per year. The maximum precipitation ever recorded in a 24-hour period is 5.9 inches. On the average, measurable snowfall occurs 2 days per year (TNRCC, 1996b).

During 2000, the average annual temperature in the area was 65.6 °F, and monthly mean temperatures varied from 43.4 °F in January to 85.3 °F in July. The average daily minimum temperature in January was 32.7 °F, and the lowest recorded temperature was 32 °F. The average daily maximum temperature and highest temperature recorded at the base during 2000 were both in July was 96.5 °F, and the highest temperature ever recorded at the base was 98 °F in the month of July. Freezing temperatures occur at NAS Fort Worth JRB an average of 30 days per year. (National Weather Service, 2001).

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

2.6 BIOLOGY

Approximately 374 acres, or 14 percent, of NAS Fort Worth JRB is considered unimproved, indicating the presence of semi-natural 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, 1989).

Typical wildlife on the base includes black-tailed jackrabbits in grassy areas along the runway. In addition, cotton-tail rabbits, gray squirrels, and opossums exist 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 popular form of recreation (Radian, 1989).

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, 1989).

2.7 DEMOGRAPHICS

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

2.7.1 Regional Demographics

Approximately 1,446,219 people reside within Tarrant County, Texas. Of this population, 462,172 reside within the city limits of Fort Worth (U.S. Census Bureau, 2000). 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 the NAS Fort Worth JRB. The following populations that reside in the cities and villages are based on 2000 census data: White Settlement (city) 15,763; Lake Worth (city) 4,727; Westworth Village (town) 2,260; River Oaks (city) 6,722; and Sansom Park (city) 4,002 (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 composed of a combination of residential, commercial, and light industrial properties that employ the majority of local residents (RUST, 1995).

2.7.2 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, 1997).

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, AGE, and specialized ground equipment (HydroGeoLogic, 1998b).

2.8 SITE-SPECIFIC ENVIRONMENTAL SETTING

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

2.8.1 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. Each of these soil associations is summarized in Table 2.2. The areal limits of each of these soil associations and their occurrence on-site are shown in Figure 2.12.

2.8.2 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 base. 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, 1989).

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, 1996a).

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, 1996a). 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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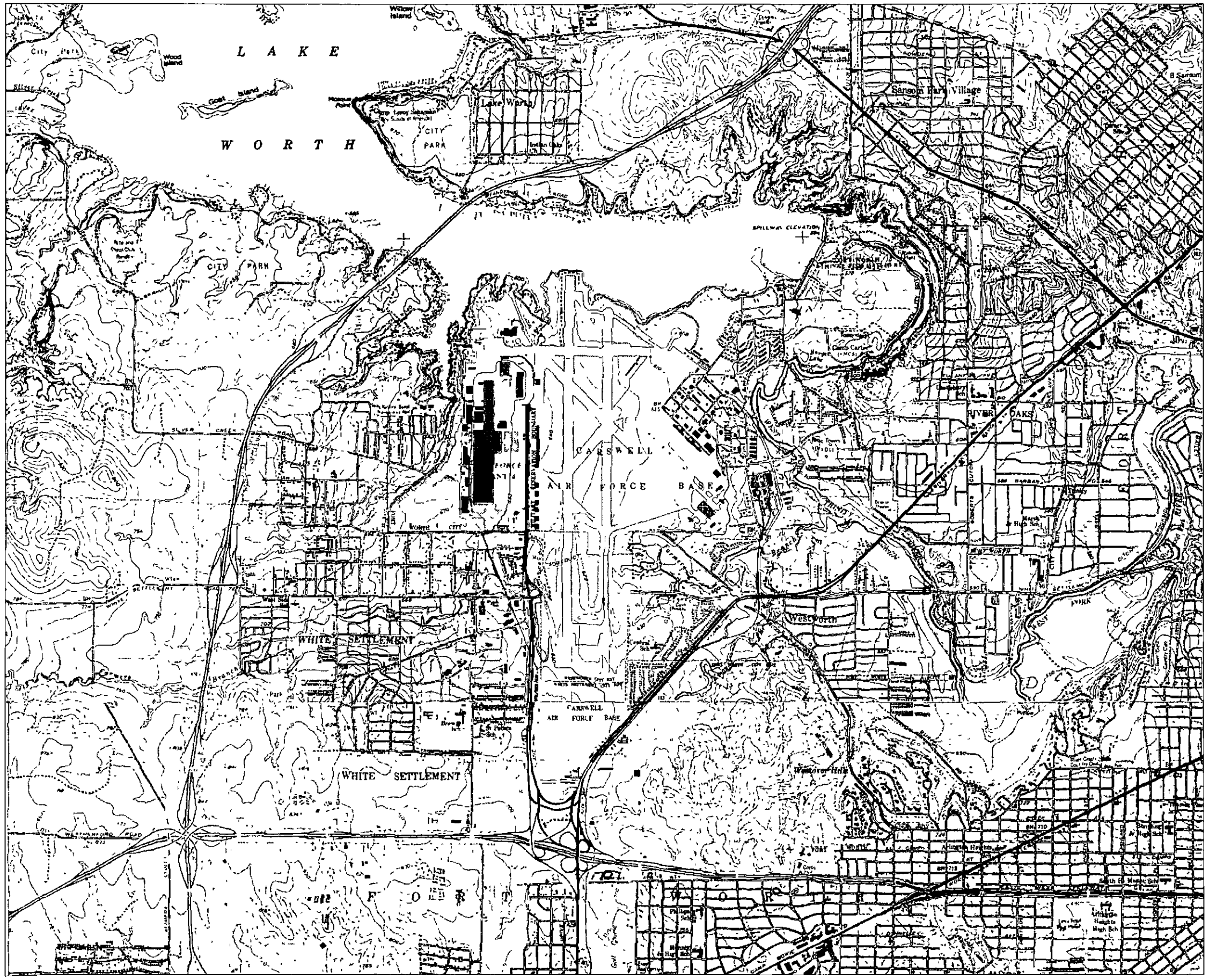
FIGURES



HydroGeoLogic, Inc —RFI SWMU 26
NAS Fort Worth JRB, Texas

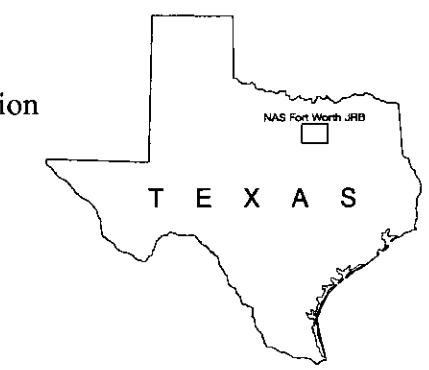
Figure 2.1

NAS Fort Worth JRB
Regional Topographic Map

U.S. Air Force Center for Environmental Excellence

Legend

Site Location



N

0 5 1
SCALE IN MILES

Scale 1 24,000

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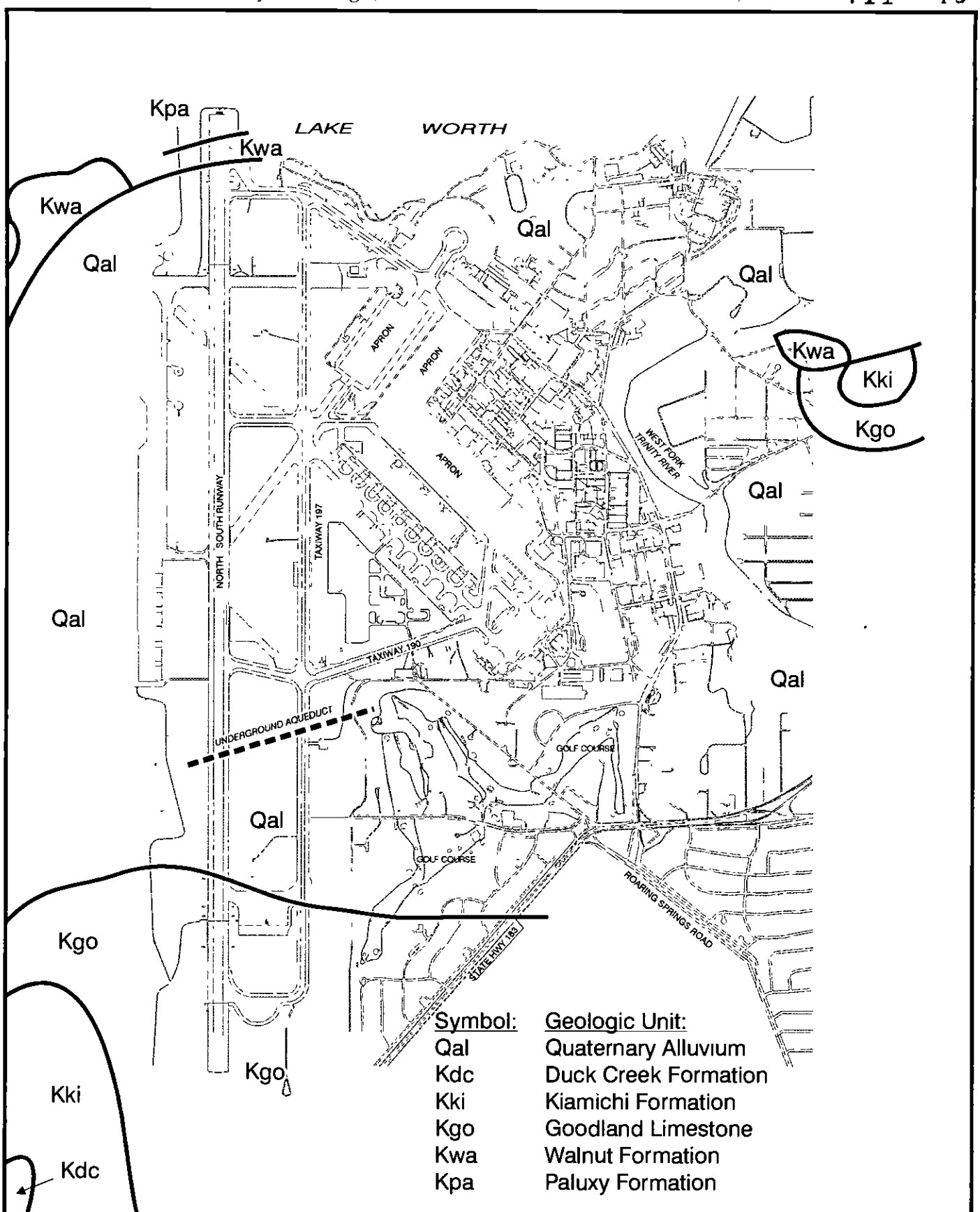
Revised 05/24/00 ap
Map Source USGS
Maps Lake Worth and Benbrook, TX
Dates Photorevised 1981, 1982

HYDRO GeoLogic INC



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Created by mlawlor 06/12/97
Revised 06/29/01 jb
Source Radian, 1989

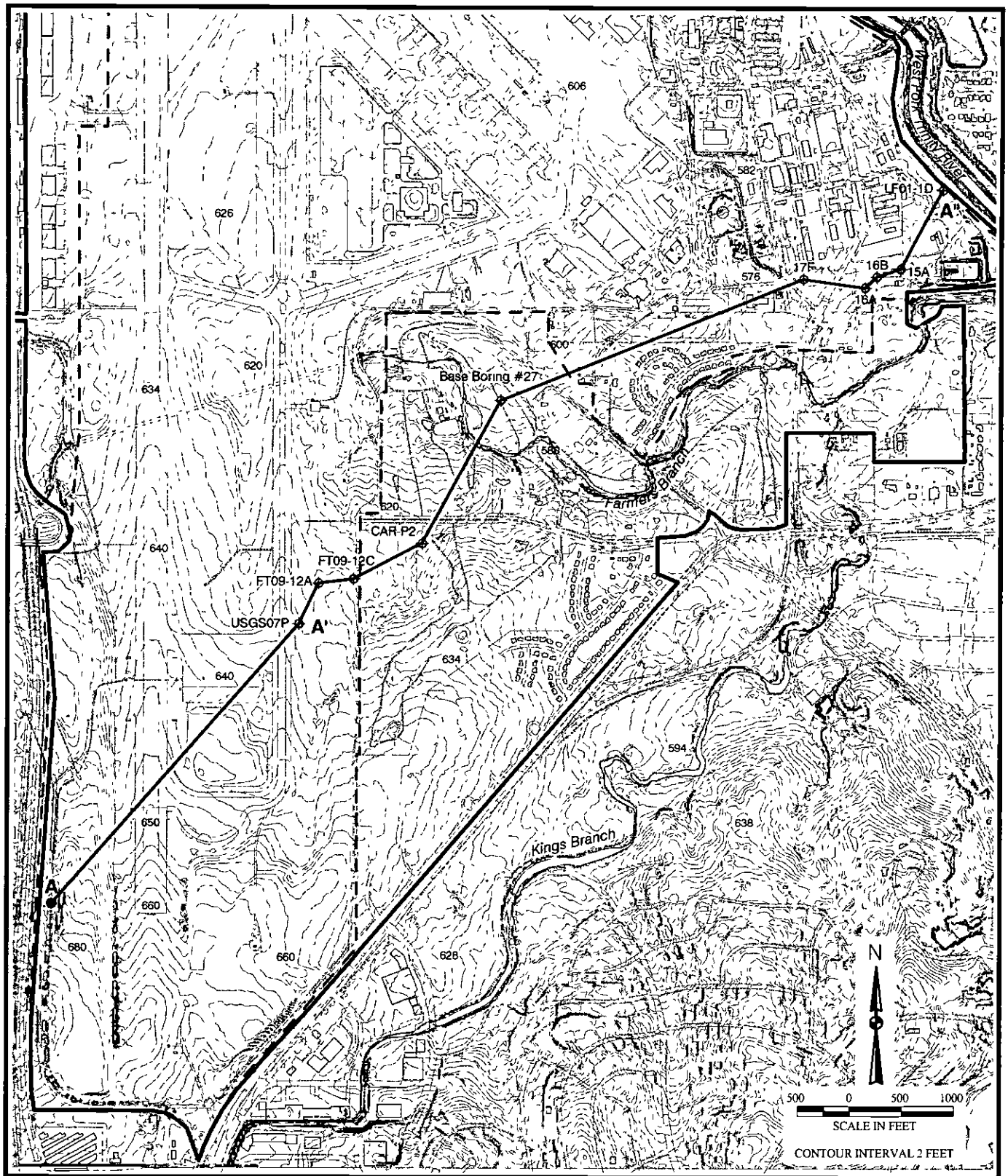
HYDRO GeoLogic

Legend

0 1000 2000
SCALE IN FEET

N

Figure 2.2
Areal Distribution of Geologic Units



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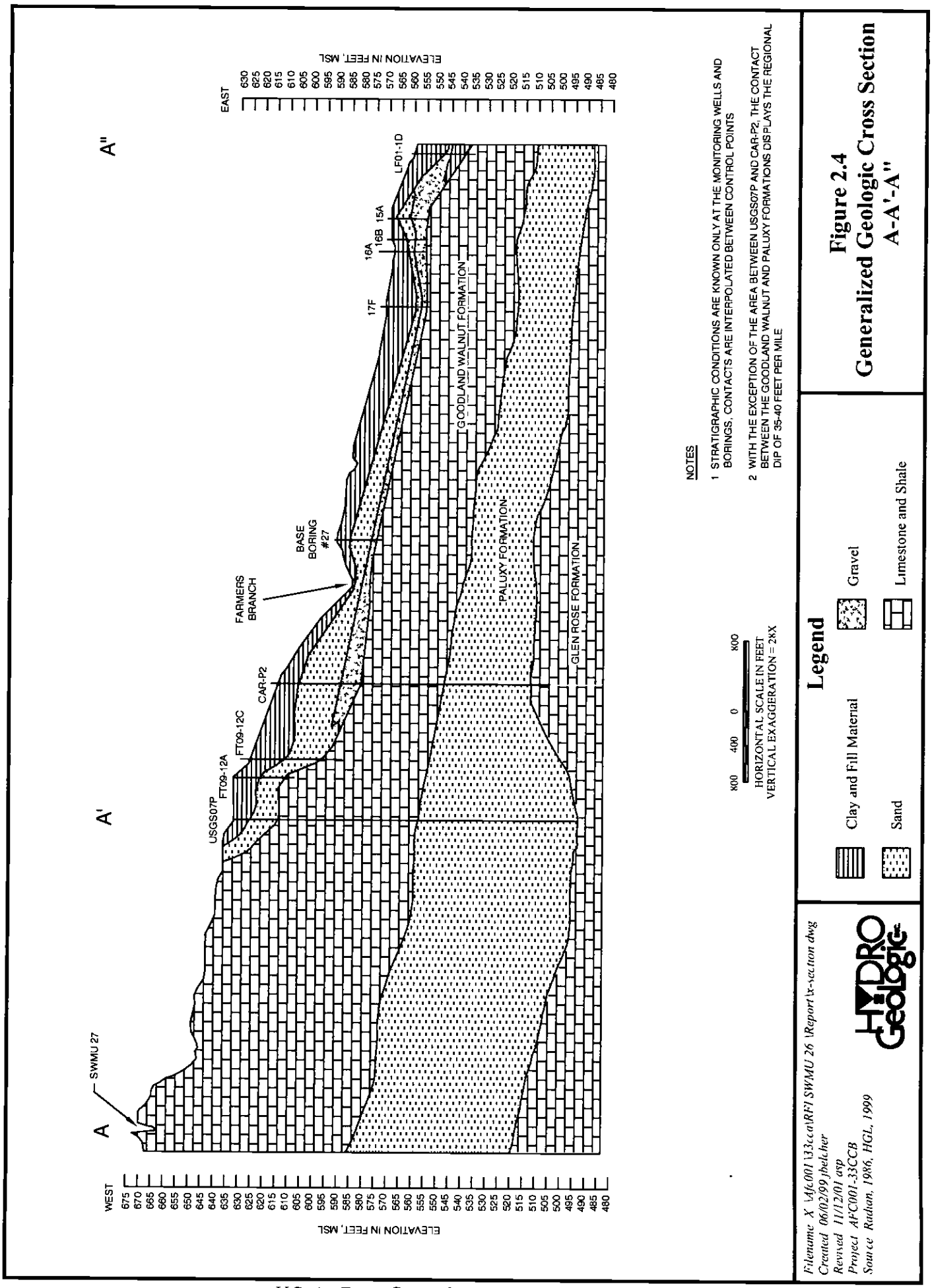
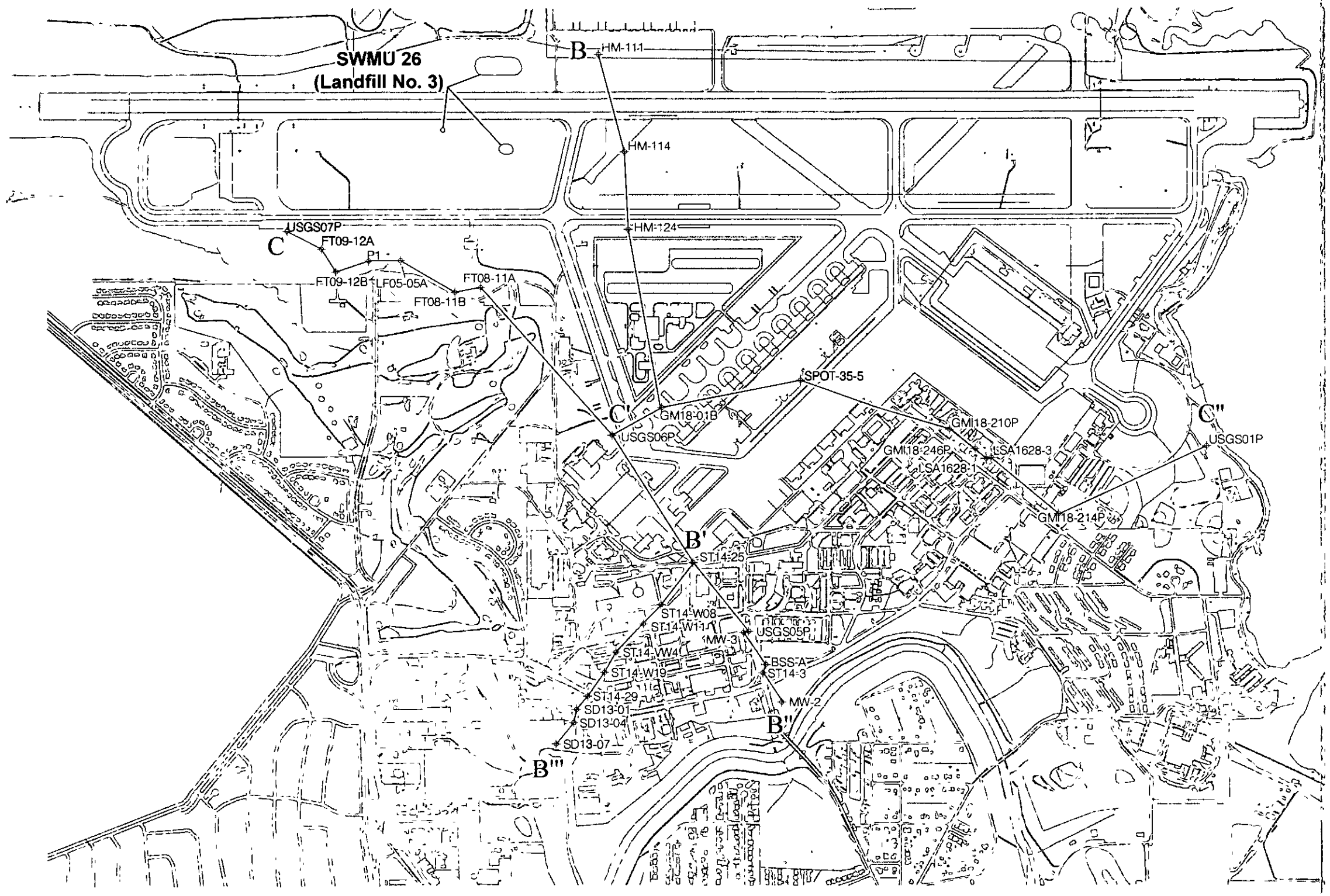
Project AFC001- 33CCB
Created 03/11/99 jbelcher
Revised 09/25/01 jb
Source HydroGeoLogic, Inc—GIS Database

Legend

- NAS Fort Worth JRB Boundary
- Former Carswell AFB Boundary
- 660 Topographic Contour

Figure 2.3
Generalized Cross Section Location A-A'-A"


A
A'
A"
SWMU 27
WEST
EAST
ELEVATION IN FEET, MSL
USGS07P
FT09-12A
FT09-12C
CAR-P2
FARMERS BRANCH
BASE BORING #27
17F
16A
16B
15A
LF01-1D
GOODLAND WALNUT FORMATION
PALUXY FORMATION
GLEN ROSE FORMATION
HORIZONTAL SCALE IN FEET
VERTICAL EXAGGERATION = 2X
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
Legend
Clay and Fill Material
Gravel
Sand
Limestone and Shale
Figure 2.4
Generalized Geologic Cross Section
A-A'-A"
Filename X:\Afc001\33ccal\RFI SWMU 26\Report\x-section.dwg
Created 06/02/99 jbelcher
Revised 11/12/01 avp
Project AFC001-33CCB
Source Radian, 1986, HGL, 1999
HYDRO GeoLogic



HydroGeoLogic, Inc —RFI SWMU 26
NAS Fort Worth JRB, Texas

Figure 2.5

Cross Section Location Map

U.S. Air Force Center for Environmental Excellence

Legend

USGS01P — Boring Location

B — B' — Cross Section Line

Solid Waste Management Unit (SWMU)

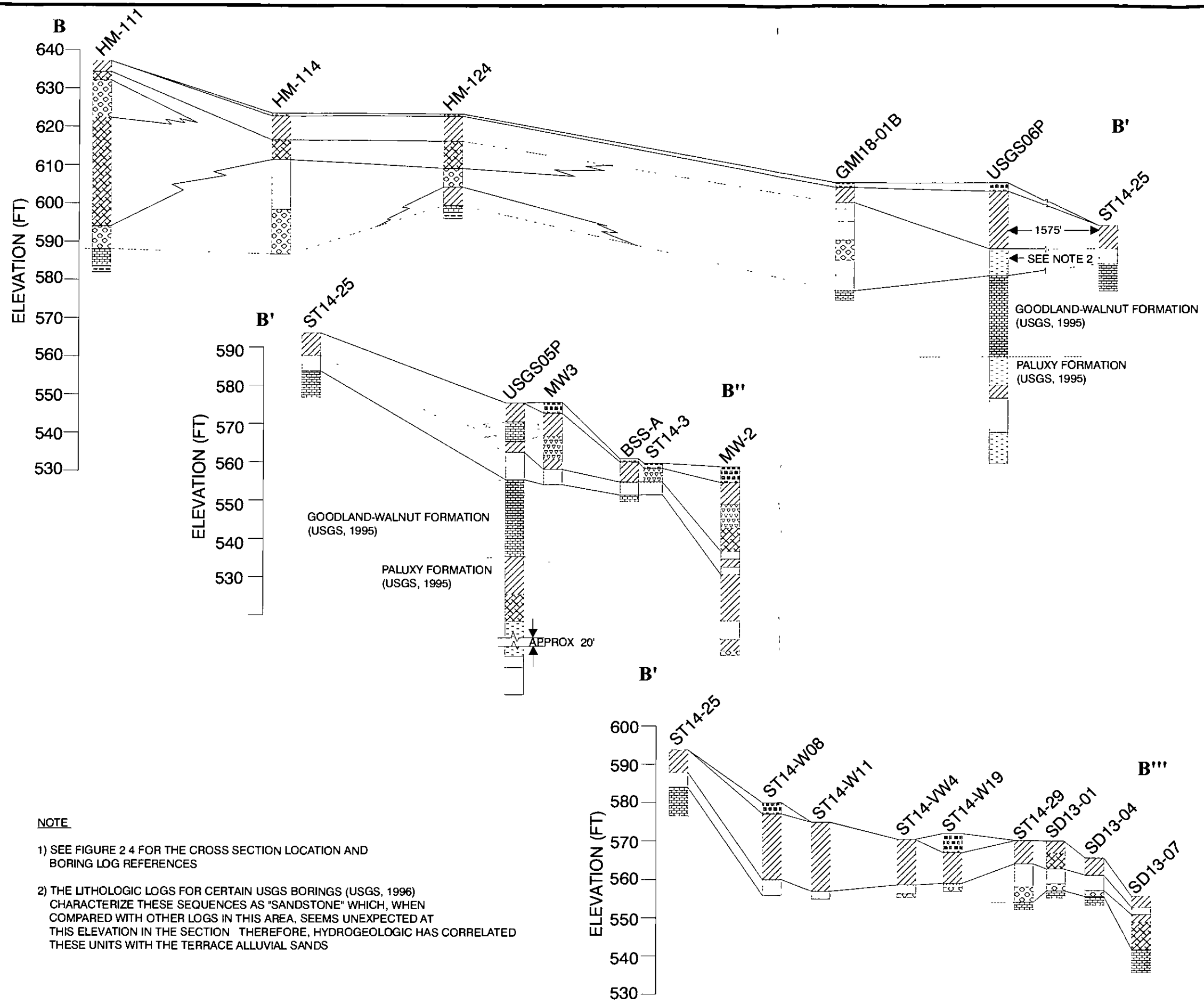
N

0 500 1000 2000

SCALE IN FEET

Filename X \AFC001\33cca\RFI SWMU 26\Report
λ-sect_Loc dwg
Project AFC001-33CCB
Created 06/12/97 M Lawlor
Revised 08/28/00 ap
Source Jacobs, 1996

HYDRO GeoLogic INC



NOTE

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

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

HydroGeoLogic, Inc —RFI SWMU 26
NAS Fort Worth JRB, Texas

Figure 2.6

Cross Sections B-B', B'-B'', and B'-B'''

U.S. Air Force Center for Environmental Excellence

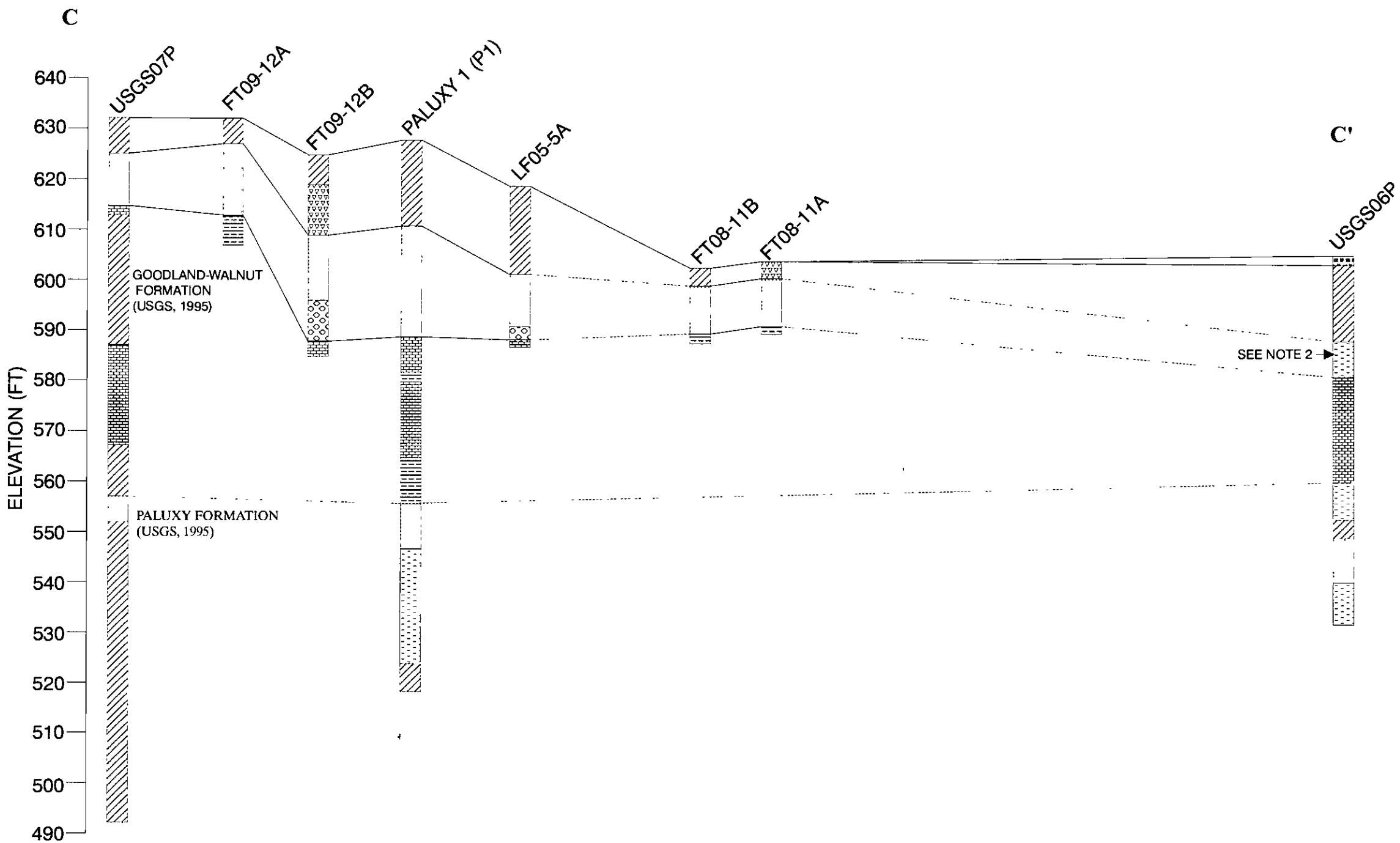
Legend

- 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\33cca\RFI SWMU 26\Report\ X-sects_A_Borings cdr
Project AFC001-33CCB
Created mlawlor 06/12/97
Revised 11/08/01 cf
Source CH2M HILL, 1996 b

HYDRO GeoLogic INC



NOTE

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

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

HydroGeoLogic, Inc —RFI SWMU 26
NAS Fort Worth JRB, Texas

Figure 2.7

Cross Section C-C'

U.S. Air Force Center for Environmental Excellence

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

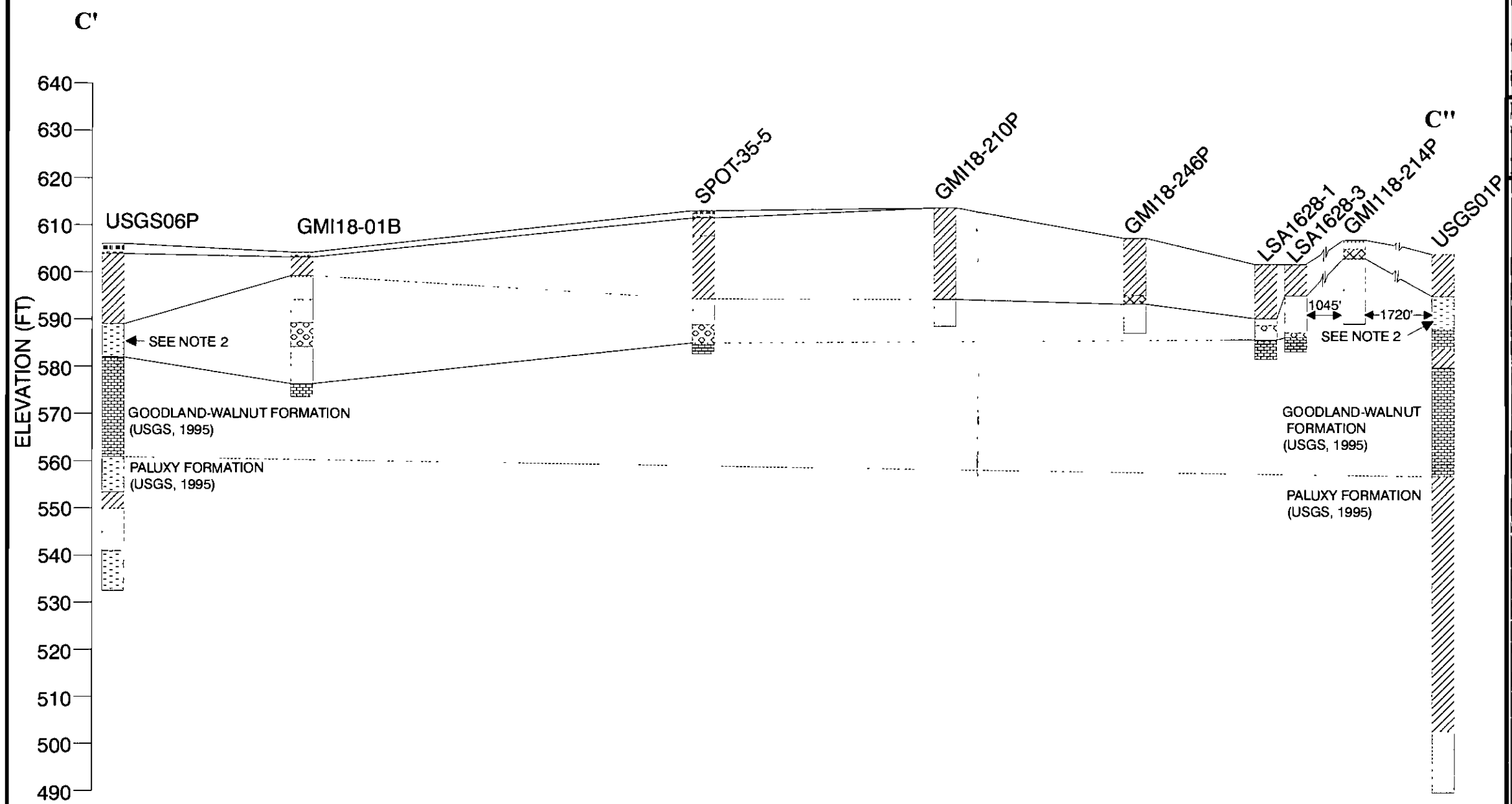
Filename X AFC001\33cca\RFI SWMU 26\Report\ X-sect_C cdr
Project AFC001-33CCB
Created mlawlor 06/12/97
Revised 11/09/01 asp
Source CH2M HILL, 1996 b

HYDRO GeoLogic INC.

Figure 2.8

Cross Section C'-C"

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

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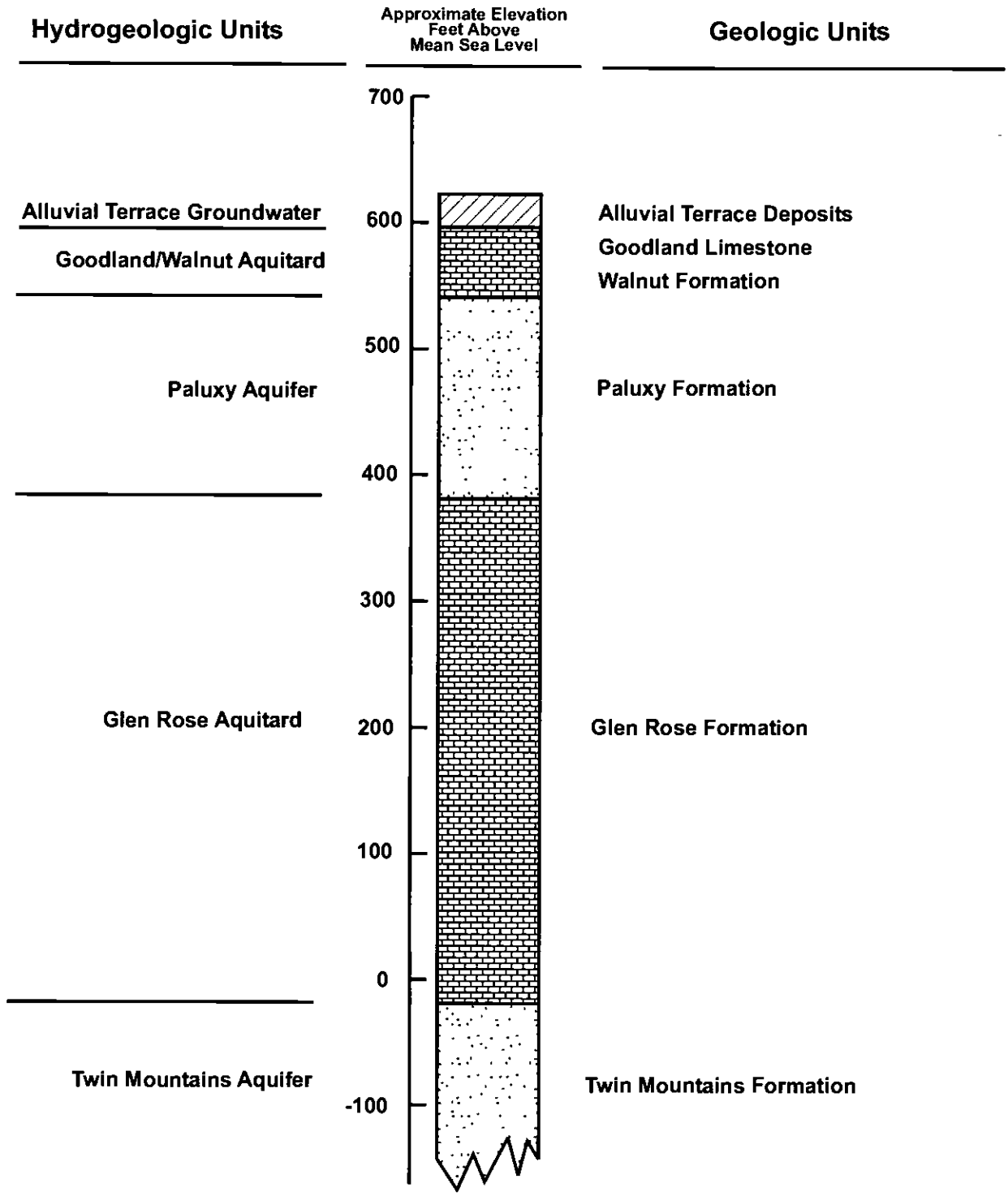
Revised 11/08/00 cf
Source. CH2M HILL, 1996 b

HYDRO GeoLogic INC



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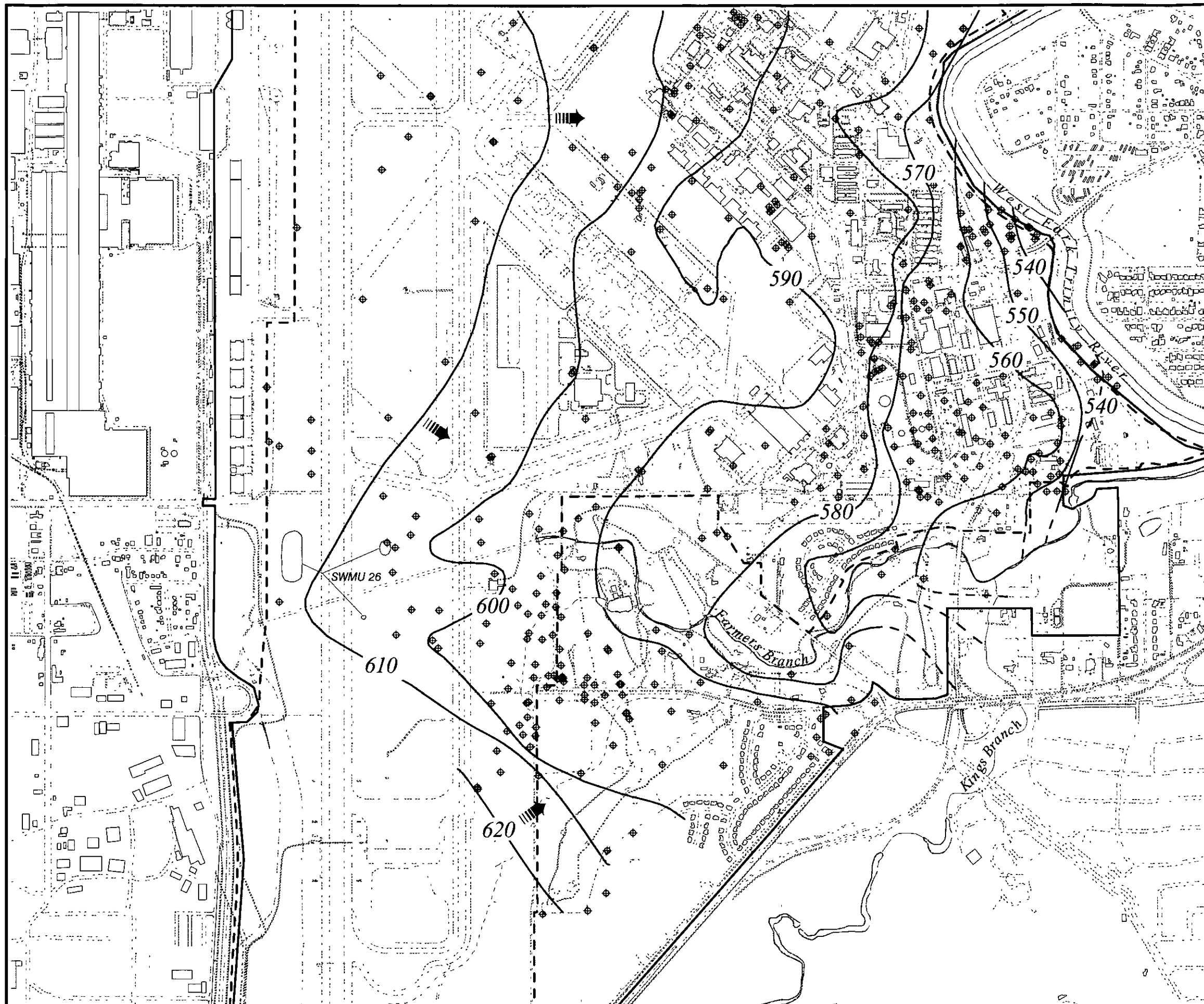
Revised 11/09/01 ASP
Source Radian, 1989

Legend

- Alluvium
- Limestone
- Sandstone

Figure 2.9
Stratigraphic Column Correlating Hydrogeologic Units and Geologic Units



HydroGeoLogic, Inc —RFI SWMU 26
NAS Fort Worth JRB, Texas

Figure 2.10

Groundwater Elevation and Flow Direction July 1998

U.S. Air Force Center for Environmental Excellence

Legend

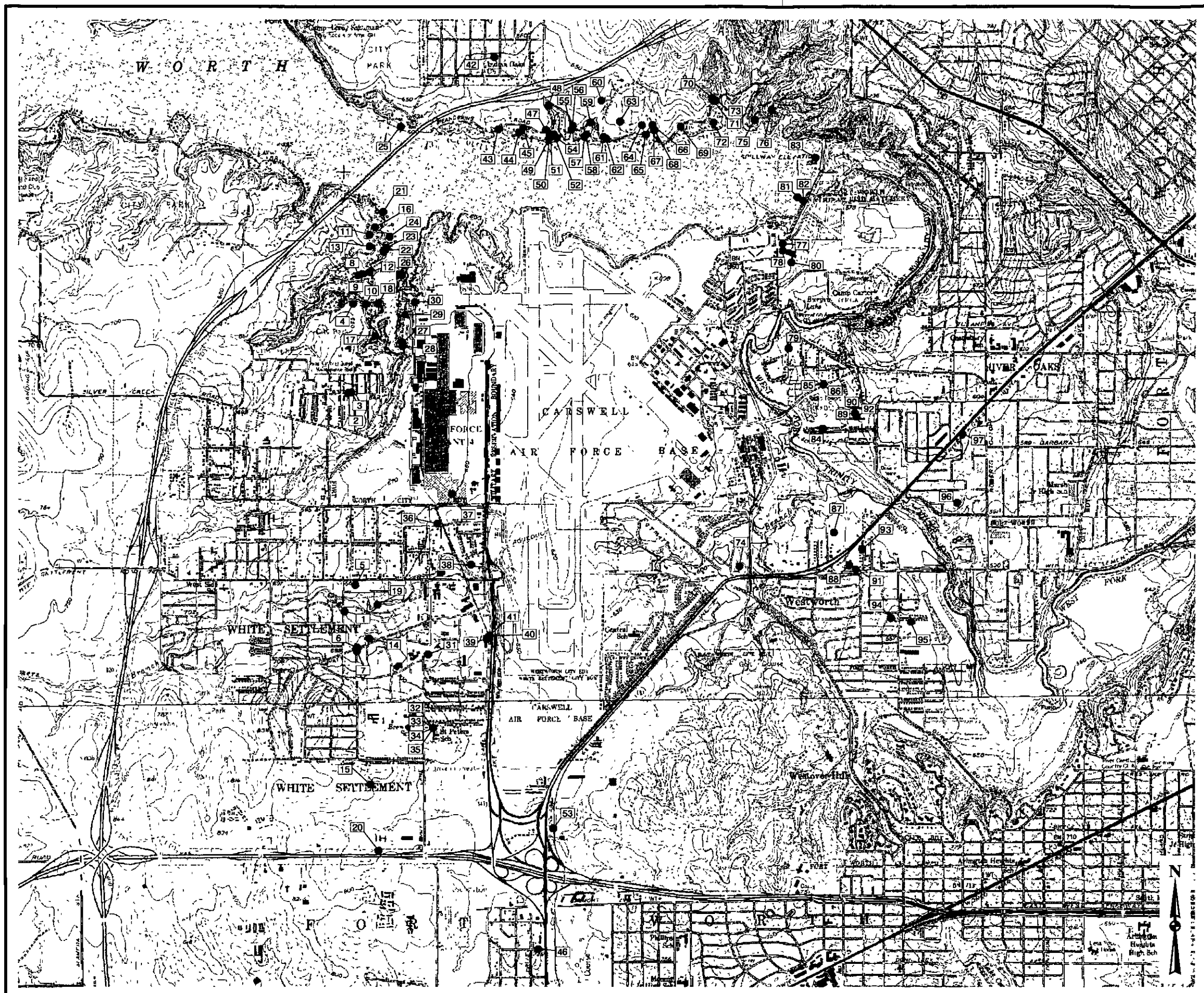
- NAS Fort Worth JRB (Carswell Field)
- Former Carswell Air Force Base
- Existing Monitoring Wells
- Solid Waste Management Unit (SWMU)
- Generalized Groundwater Flow
- −600− Groundwater Elevation Contour (Feet Above Mean Sea Level)

N

500 0 500 1000 1500
SCALE IN FEET

Filename: X \Afc001\33cca\RFI SWMU 26\Report\swmu_gwflow apr
Project AFC001-33CCB
Created 04/27/00 jbelcher
Revised 09/25/01 jb
Source HydroGeoLogic, Inc—GIS Database

HYDRO GeoLogic INC



HydroGeoLogic, Inc.—RFI SWMU 26
NAS Fort Worth JRB, Texas

Figure 2.11

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

U.S. Air Force Center for Environmental Excellence

Legend

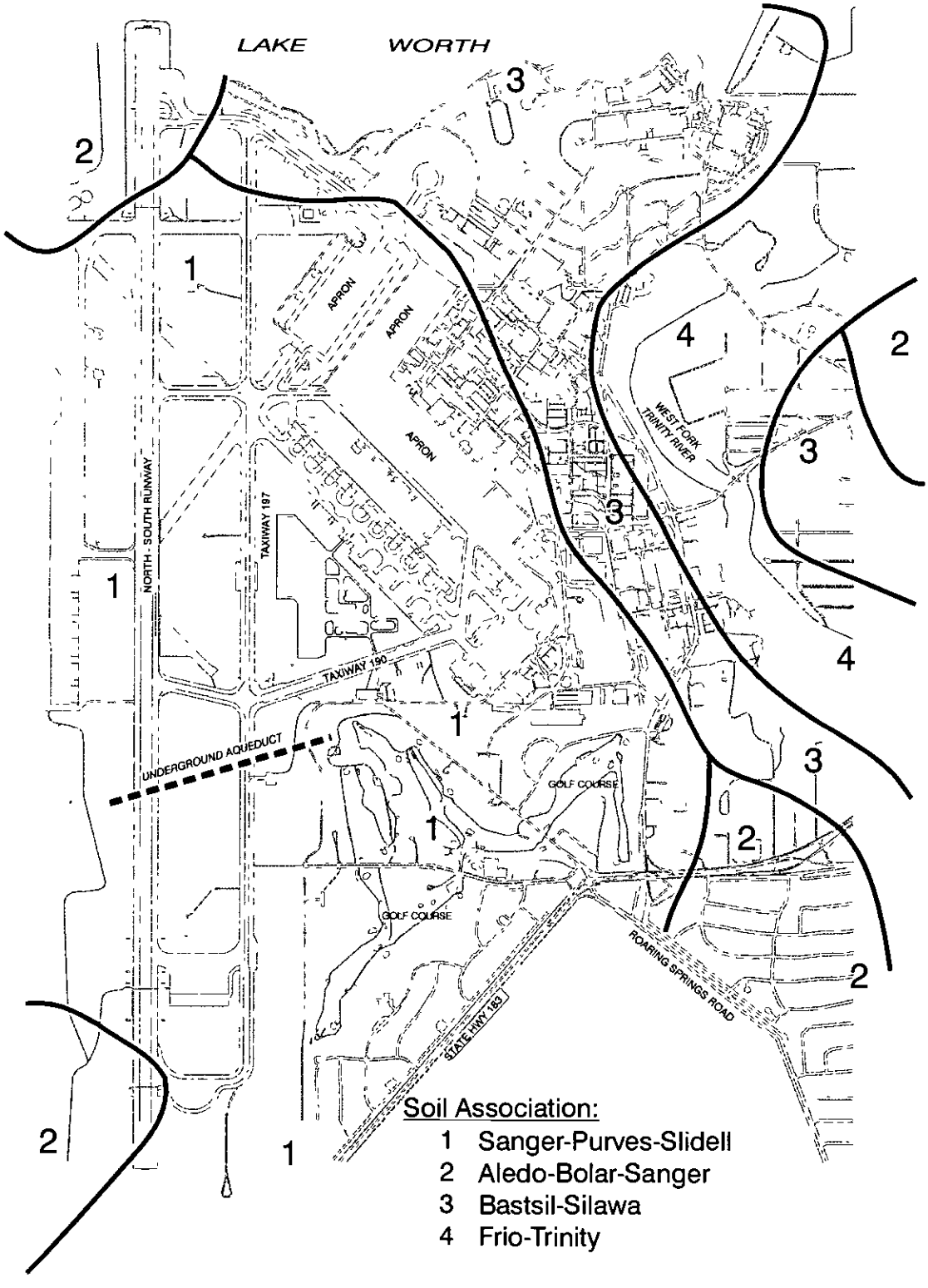
● Water Well Location

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

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

Filename X \AFC001\33cca\RFI SWMU 26\Report
Well Receptor Survey apr
Project AFC001-33CCB
Created by cfarmer 01/17/01
Revised 11/09/01 asp
Maps Lake Worth and Benbrook TX
Dates Photorevised 1981, 1982

HYDRO GeoLogic INC.



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Created 6/12/97 mlawlor
Revised 06/29/01 jb
Source Radian, 1989

HYDRO GeoLogic

Legend

0 1000 2000
SCALE IN FEET

N

Figure 2.12
Soil Association Map

TABLES

Table 2.1
Stratigraphic Units at NAS Fort Worth JRB, Texas[1]

Era	System	Series/Group	Stratigraphic Unit	Thickness (Feet)[2]	Lithologic Characteristics[3]	Water-Yielding Characteristics
Cenozoic	Quaternary (1.8 mya to present)	Holocene	Fill material	0	Construction debris	Permeability varies, gravels and sands permeable
			Recent alluvial deposits	0-50	Gravel, sand, silt, clay	Permeability varies; gravels and sands permeable
		Pleistocene	Terrace alluvial deposits	0-60	Gravel, sand, silt, clay	Permeability varies; gravels and sands permeable
Mesozoic	Cretaceous (65 to 140 mya)	Comanchean/ Fredericksburg	Goodland Limestone	0-40	White fossiliferous limestone, coarsely nodular, resistant, and dense; contains some marl	Impermeable where not weathered; considered confining unit
			Walnut Formation	0.5-30	Medium to dark grey clay and limestone with shell conglomerates, fossiliferous, Gryphaea beds	Very low permeability; considered confining unit
		Comanchean/ Trinity	Paluxy Formation	130-175	Light grey to greenish-grey sandstone and mudstone, fine-grained to coarse-grained sandstone	Considered an aquifer; yields small to moderate quantities of water
			Glen Rose Formation	150, range unknown at AFP 4	Brownish-yellow and gray alternating limestone, marl, shale, and sand	Low permeability; considered confining unit in area of AFP 4
			Twin Mountains Formation[4]	200, range unknown at AFP 4	Fine- to coarse-grained sandstone shale and claystone, basal gravel conglomerate	Coarse sandstones and parts of formation considered aquifer; yields moderate to large quantities of water

Notes:
1 Table adapted from USGS, 1996.
2 Thickness determined from site logs, except for Glen Rose Limestone and Twin Mountains Formation (Baker et al , 1990, Figure 4, as cited in USGS 1996)
3 Lithologic characteristics determined from field observations and from Winton and Adkins, 1919, University of Texas, Bureau of Economic Geology, 1972, U.S Army Corps of Engineers, 1986, Baker et al , 1990, Environmental Science and Engineering, Inc , 1994, all as cited in USGS 1996.
4 This stratigraphic name does not conform to the usage of the USGS

mya = million years ago

711 58

Table 2.2
Soil Associations at NAS Fort Worth JRB, Texas

Association	Description	Thickness (inches)	Percent Clay <2mm (percent)	pH	Permeability (cm/sec)	Available Water Capacity (in water/in soil)
Sanger-Purves-Slidell: Clayey soils of nearly level to gently sloping uplands.	Clay loam Clay over bedrock Silty clay	8 - 80	35 - 60	7.4-8.4	$<4.2\times10^{-5}$ to 3×10^{-4}	0.12 - 0.20
Aledo-Bolar-Sanger: Loamy and clayey soils of gently sloping to moderately steep uplands.	Clay loam over bedrock Clay loam	8 - 70	20 - 60	7.9-8.4	$<4.2\times10^{-5}$ to 9×10^{-4}	0 05 -0.18
Frio-Trinity: Clayey soil on nearly level flood plains.	Silty clay or loam Clay	25 - 75	35 - 80	7.4-8 4	$<4.2\times10^{-5}$ to 3×10^{-4}	0.11 - 0.20
Bastsil-Silawa: Loamy soils on nearly level to sloping stream terraces.	Sandy clay loam	40 - 80	7 - 35	4.5-7.8	9×10^{-4} to 3×10^{-3}	0.08 - 0.17

Sources: Summary of Hydrologic and Chemical Characterization Studies (ESE, July 1994).
Soil Survey of Tarrant County, Texas, pp. 202-203 (USDA, 1981)

TAB

SECTION 3.0

3.0 SITE DESCRIPTIONS AND PAST INVESTIGATIONS

The Air Force IRP site investigated as part of this RFI includes the former landfill identified as SWMU 26 (Landfill 3 or LF-03). The location of this SWMU in relation to the base is presented on Figure 1.2.

SWMU 26 was approximately 9 acres in size and operated from 1950 to 1952. It was located directly underneath and on both sides of the current north-south Primary Instrument Runway, east of Taxiway 197 and north of the former on-base section of White Settlement Road. During the period of operation, the main runway ended in a shallow sloping ravine north of Farmers Branch Creek. SWMU 26 was located adjacent to and south of Farmers Branch Creek. This unit reportedly received a variety of wastes, but primarily, construction debris. It is also reported to have received small quantities of hazardous waste (CH2M Hill, 1984). During runway extension activities, an aqueduct was constructed to contain and reroute Farmers Branch Creek beneath the main runway effectively bisecting the area of the landfill activity. The area of the SWMU 26 can thus be divided into four sections or "quadrants" based on the construction of the runway extension and the aqueduct bisecting suspected the former landfill. As part of these construction activities, the contents of the landfill were redistributed to an unknown location(s).

3.1 INVESTIGATION HISTORY

SWMU 26 is considered part of what is referred to in previous reports as the "Flightline Area". The Flightline Area has been the subject of several past investigations and reports. In past reports, the "Flightline Area" was defined as the area containing Landfills 3, 4, 5, 7, 8, Waste Burial Area 7, and Fire Department Training Areas 1 and 2. The investigation and characterization of a basewide TCE plume, emanating from AFP 4, was a primary focus of past flightline investigations conducted between 1984 and 1993. The current investigation is only concerned with the Landfill 3 (SWMU 26) portions of past flightline investigations.

Intrusive sampling performed specifically to characterize contaminants of potential concern at SWMU 26 were initiated in April 1998 based on the Draft Final RFI work plan (HydroGeoLogic, 1998b). The following historical investigations have been conducted on SWMU 26 prior to RFI activities:

- Phase I - Initial Assessment/Record Search for Carswell AFB, (CH2M Hill, 1984)
- Phase II, Stage I - Problem Confirmation/Quantification Report (SI),(Radian, 1986).
- RCRA Facility Assessment, (A.T. Kearney, 1989)
- Phase II RI/FS (Phase II, Stage II), February and April 1988 (Radian, 1989).

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Other historical investigations that have been conducted in the vicinity of SWMU 26 prior to and/or concurrent with RFI activities include:

- IRP Stage 2 - Site Characterization Report, Flightline Area (Radian, 1990).
- IRP RI, Stage 2 Final Report (Radian, 1991).
- Phase I and II Report, Field Sampling, Analysis, and Testing, Carswell AFB, Landfills 4 and 5 (IT Corporation, 1993).
- Phase III Report, Field Sampling, Analysis, and Testing, Carswell AFB, Landfills 4 and 5 (IT Corporation, 1994).
- AFP 4, IRP, Basewide Groundwater Monitoring Quarterly Letter, NAS Fort Worth JRB, (Jacobs, 1995).
- IRP, Basewide Quarterly Groundwater Monitoring, First Semi-Annual Report, NAS Fort Worth JRB, (Law Environmental, 1996a).
- IRP, Basewide Quarterly Groundwater Monitoring, Second Semi-Annual Report, NAS Fort Worth JRB, (Law Environmental, 1996b).
- Final RFI of SWMUs 22, 23, 24, and 25 Carswell AFB, Texas, (HydroGeoLogic, Inc, 2001).

Early investigations of SWMU 26 centered upon sampling a specific site assumed to be the actual location of the landfill. The initial location was identified in the Phase I Records Search Report and recommended for Phase II monitoring, was approximated due to incomplete base records. Phase I geophysical surveys also suggested that soil or groundwater contamination may be present in the upper zone exclusive of the basewide TCE plume (Radian, 1991). Early Phase II monitoring consisted of geophysical surveys only. At that time, no monitoring wells or soil borings were installed (A.T. Kearney, 1989). The geophysical investigation conducted during the Phase II, Stage 1 study was inconclusive, neither confirming nor refuting evidence of disposal activities at the location believed to be the former landfill (Radian 1986, Radian 1989).

3.2 INTERPRETATION OF HISTORICAL AERIAL PHOTOGRAPHS

As stated above, the location of the landfill and the sampling points during the 1988 Remedial Investigation (RI) was approximated due to the uncertainty of base records (Radian, 1989). Consequently, an analysis of historical aerial photographs of SWMU 26 was conducted as part of this RFI to determine the actual location of SWMU 26 (HydroGeoLogic, 1997). More than 40 aerial photographs covering six decades were reviewed to determine where wastes may have been disposed in relation to the extension of the north-south Primary Instrument Runway.

As a result of this review of historical aerial photographs, it was confirmed that the area investigated in 1988 was inaccurate.

Seven aerial photographs covering 12 years (1946 through 1958) have been scanned as Figures 3.1 through 3.7 and are described.

- Figure 3.1 (September 5, 1946) shows an overview of runway 35L and taxiway 35R before expansion to the south and before construction of the aqueduct. No evidence of SWMU 26 appears on this photograph.

- Figure 3.2 (December 31, 1950) shows five dark, trench-like areas approximately 600 feet south of runway 35L. Each "trench" occupies an area approximately 400 feet long by 50 feet wide. Trenches like these were often used by the military for the burial of facility refuse ranging from construction debris to industrial wastes. Three of these trenches were oriented east-west while the fourth and fifth were oriented north-south. Combined, they occupied an area of about 640,000 ft^2 or 14.69 acres, which extends about 300 feet west and possibly 200 feet east of the current runway. The linear feature extending 200 feet east of the current runway appears to be a dirt road leading to the landfill area; however, it may have also been an extension of one of the east-west trenches. At the time this photograph was taken, it does not appear that SWMU 26 occupied any area east of the future extension of runway 35L. Numerous mounds of material can be observed in an excavated area to the southeast of the five suspected trenches. The mounds may be soil or overburden removed from other nearby excavations.

- Figure 3.3 (April 10, 1952) suggests that the suspected trenches have been covered or filled. The area that appears to have been covered or filled has been extended approximately 320 to 400 feet west of the future extension of runway 35L. Compared to the 1950 photograph (Figure 3.2), there appears to be fewer mounds of material to the southeast of SWMU 26. Those mounds that remain are partially vegetated.

- Figure 3.4 (January 4, 1953) shows that construction has begun for the extension of runway 35L. Initial excavation for the western portion of the aqueduct has also begun. It appears that the area excavated for the western portion of the aqueduct, which redirects Farmers Branch Creek roughly bisects the area where the suspected trenches were located. It is not evident in this figure whether the excavated materials for the aqueduct (i.e., the materials that were placed in the suspected trenched areas) were re-excavated or compacted along with additional fill. The mounds of material to the southeast of SWMU 26 appear to have changed little since the date of the previous photograph (Figure 3.3).

- Figure 3.5 (February 3, 1954) shows that final grading and preparation for pouring concrete is underway for runway 35L. Initial construction has begun on the parallel taxiway 35R, east of runway 35L. Construction of the aqueduct appears to have been

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completed, and that portion of Farmers Branch Creek now flows east, beneath runway 35L and the parallel taxiway 35R. The mounds of material that were observed in previous figures are no longer visible.

- Figure 3.6 (December 3, 1958) shows that both runway 35L and taxiway 35R have been completed.

A closeup of the December 31, 1950 aerial photograph on Figure 3.7 depicts a more definitive outline of SWMU 26. The active landfill trench area is outlined with a solid red line. In addition, an area of excavation and fill is outlined with a dashed red line. The future runway extensions (35L and 35R) as well as the aqueduct, storm drain system are projected over SWMU 26. Note that the aqueduct bisects the southern portion of the landfill, not the northern as was indicated in previous RFI report (Radian, 1989).

The locations of monitoring well LF03-3D and soil borings LF03-3A, -3B, -3C, and -3E installed by Radian Corporation in 1988 are also projected onto the December 31, 1950 aerial photograph (Figure 3.7). A comparison of soil boring and monitoring well locations described above indicates that the location of SWMU 26 is approximately 400 feet north of the original suspected location. Based on these comparisons, the four soil borings and one monitoring well that were installed as part of the 1988 remedial investigation were not located in an area that would have yielded the desired results. Monitoring well LF03-3D is located approximately 150 feet west of the boundary of SWMU 26. In addition, the four soil borings that were installed to delineate the suspected location of the SWMU are actually south and southeast of the actual location of SWMU 26.

3.3 SOIL RESULTS

In 1988, split-spoon samples were collected and visually examined for evidence of contamination during drilling at SWMU 26 for the Phase II RI/FS (Radian, 1989). Five soil borings (3A-3E) were advanced and boring 3D was completed as a monitoring well. Soil samples were analyzed for metals by SW6010-standard (arsenic, mercury, and selenium were analyzed by the SW7000 series), volatile organic compounds (VOCs) by SW8240, semi-volatile organic compounds (SVOCs) by SW8270, and oil and grease by EPA413.2 (Table 3.1).

Metals were detected at moderate concentrations in soil samples collected from boreholes 3A-3E except for antimony, which was consistently detected at concentrations ranging from 40 mg/kg to 90 mg/kg, above both the background and RRS 2 level of 0.712 mg/kg. These detections of antimony are most likely caused by matrix interference inherent with the SW6010-standard method (See Section 5.1.2). It should be noted that antimony was detected above background in only 2 of 24 samples collected between 1998 and 2001 as part of this RFI. Furthermore, both of these detections were subsequently not confirmed. Arsenic was detected at location 3A with a concentration of 6.6 mg/kg above the background/RRS 2 value of 6.58 mg/kg. This detection is considered to be a natural variation of background.

Oil and grease were detected in soil samples collected from boreholes 3A and 3B. At 3A, an oil and grease concentration of 48 mg/kg was detected at 14-18 feet. At 3B, 32 mg/kg of oil and grease were measured at 19-19.5 feet. Oil and grease were not detected in the soil samples from locations 3C-3E.

Toluene was detected in the soil sample collected from 3D at a concentration of 0.0076 mg/kg. It was the only purgeable aromatic VOC detected at SWMU 26. SVOCs in the form of two phthalate compounds were detected in the soil samples, along with the VOCs acetone and methylene chloride. It was noted that these compounds were also detected in the associated reagent blank and the background subtraction was not performed (Radian, 1989). These compounds are common laboratory contaminants and are present in these samples at levels commonly associated with analytical artifacts.

3.4 GROUNDWATER RESULTS

Two rounds of groundwater samples were collected from monitoring well LF03-3D in 1988 and a third round was collected in 1995. These samples were analyzed for water quality indicators including metals by EPA200.7 (arsenic, mercury, and selenium were analyzed by the SW7000 series), oil and grease by EPA413.2, petroleum hydrocarbons by EPA418.1, phenols by EPA604, purgeable aromatics by SW8020, organochlorine pesticides by EPA608, chlorinated phenoxy acid herbicides by Sample Method 609b, and extractable priority pollutants by EPA625 (Table 3.2). The following is a summary of the groundwater sample results obtained from LF03-3D.

Metals detected in groundwater above background values/RRS 2 values include antimony, arsenic, beryllium, chromium, lead, and selenium. Only arsenic, chromium, and lead were detected in multiple rounds. Metals detected above background at Standard 2 concentrations include aluminum, calcium, cobalt, copper, iron, manganese, nickel, and vanadium. All of these detections are believed to be caused by matrix interference inherent with method EPA200.7. Note in Section 5, that none of these metals were detected using more sensitive methods in three rounds of groundwater sampling at LF03-3D between 1998 and 2000.

Oil and grease were not detected in the groundwater at LF03-3D. Petroleum hydrocarbons were detected in the first round of groundwater sampling at 0.30 mg/L. In round 2, however, no petroleum hydrocarbons were detected.

Phenol (0.58 μg/L) and 2-chlorophenol (0.25 μg/L) were detected (below TNRCC RRS 2) in the second round sample from LF03-3D. Both of these concentrations were confirmed by second column analysis. Note in Section 5, that neither these compounds were not detected using the more sensitive SW8270 method in three rounds of groundwater sampling at LF03-3D between 1998 and 2000.

Trichloroethene (TCE) was detected at low levels (0.70 μg/L) in two rounds of groundwater sampling at LF03-3D. This level is below the TNRCC RRS 2. It was the only detection of purgeable halocarbon in water or soil at SWMU 26.

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Toluene was detected during both groundwater sampling rounds at LF03-3D, at low concentrations ranging from 0.60 μg/L to 1.5 μg/L.

Neither pesticides nor herbicides were detected in groundwater samples collected from LF03-3D.

Bis(2-ethylhexyl)phthalate (B2EHP), butyl benzyl phthalate, di-n-butyl phthalate, and di-n-octyl phthalate were detected in groundwater samples from LF03-3D. With the exception of B2EHP, the concentrations were below 5 μg/L and were also usually detected in the reagent blank. B2EHP detections ranged between 110-190 μg/L, which is above both the non-detect background level and TNRCC RRS 2 (6.08 μg/L). It was noted that B2EHP was also detected in the reagent blank during the first sampling (Radian, 1989). These phthalate detections are most likely laboratory artifacts.

3.5 FINDINGS

Based on the combination of historical record reviews, drilling operations, and chemical analyses at the RI/FS sampling points, the site initially identified as Landfill 3, did not appear to be a source of contaminants in the subsurface (Radian, 1989). This finding was supported by several lines of evidence: The lack of waste materials in borehole samples; the absence of groundwater at all locations, except in monitoring well LF03-3D; the moderate concentrations of metals detected and sparse, low level occurrences of volatile or halogenated organic compounds in soil; and the absence of organic contaminants (with a few minor exceptions, probably attributable to laboratory contaminants) in groundwater. In addition, results of the IRP Phase II, Stage 1 geophysical survey at the unit did not provide conclusive evidence of the types of waste material in the subsurface (A.T. Kearney, 1989).

Based on an examination of aerial photographs performed in 1997, it was determined that the area investigated in 1988 was inaccurately placed and the results of the 1988 investigation are not sufficient to determine whether SWMU 26 could be closed under the TNRCC Risk Reduction Rules (HydroGeoLogic, 1997). Consequently, an RFI was required to characterize SWMU 26. The results of HydroGeoLogic's RFI activities at SWMU 26 are the subject of the following sections of this report.

FIGURES

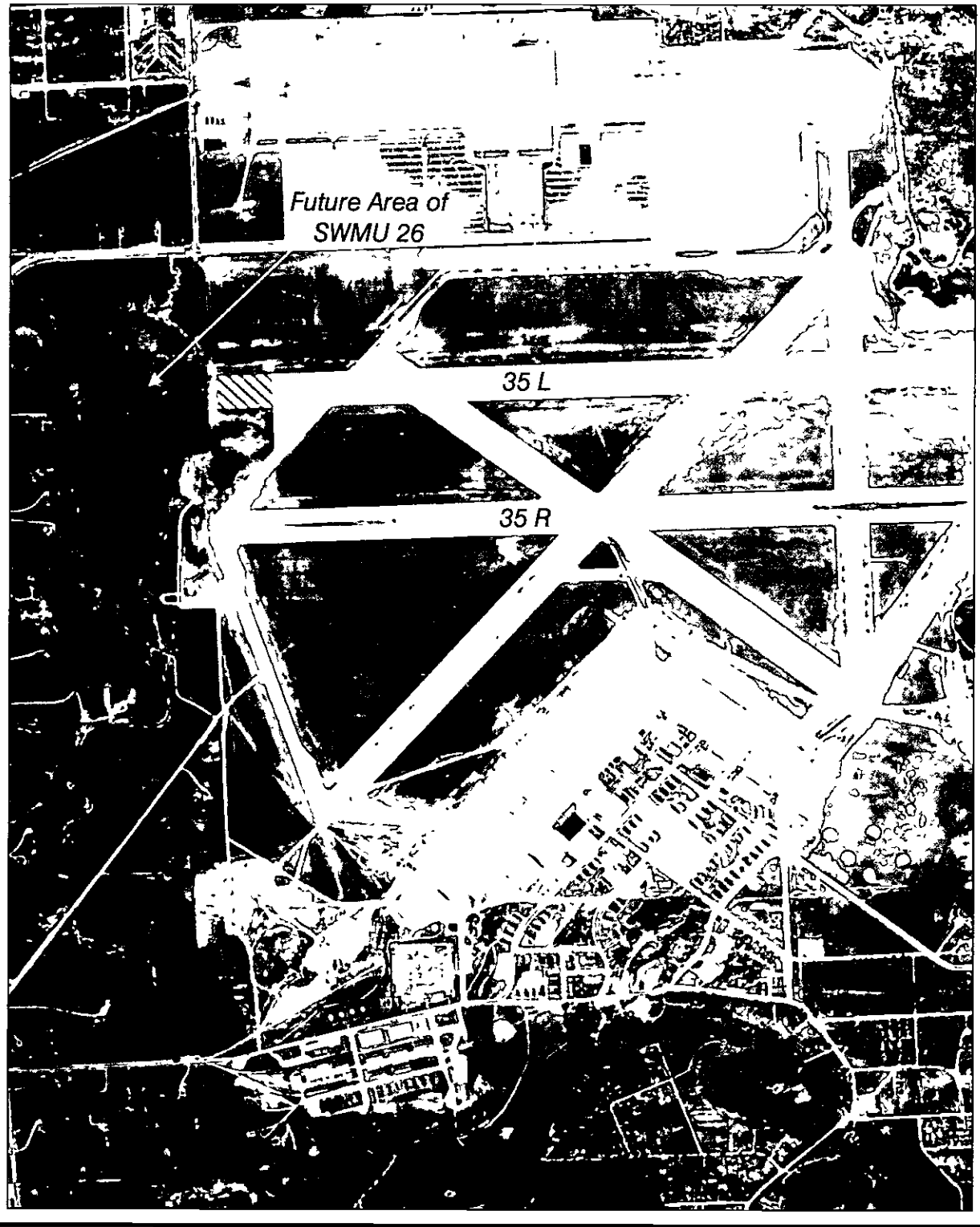

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Figure 3.1
Aerial Photograph
September 5, 1946

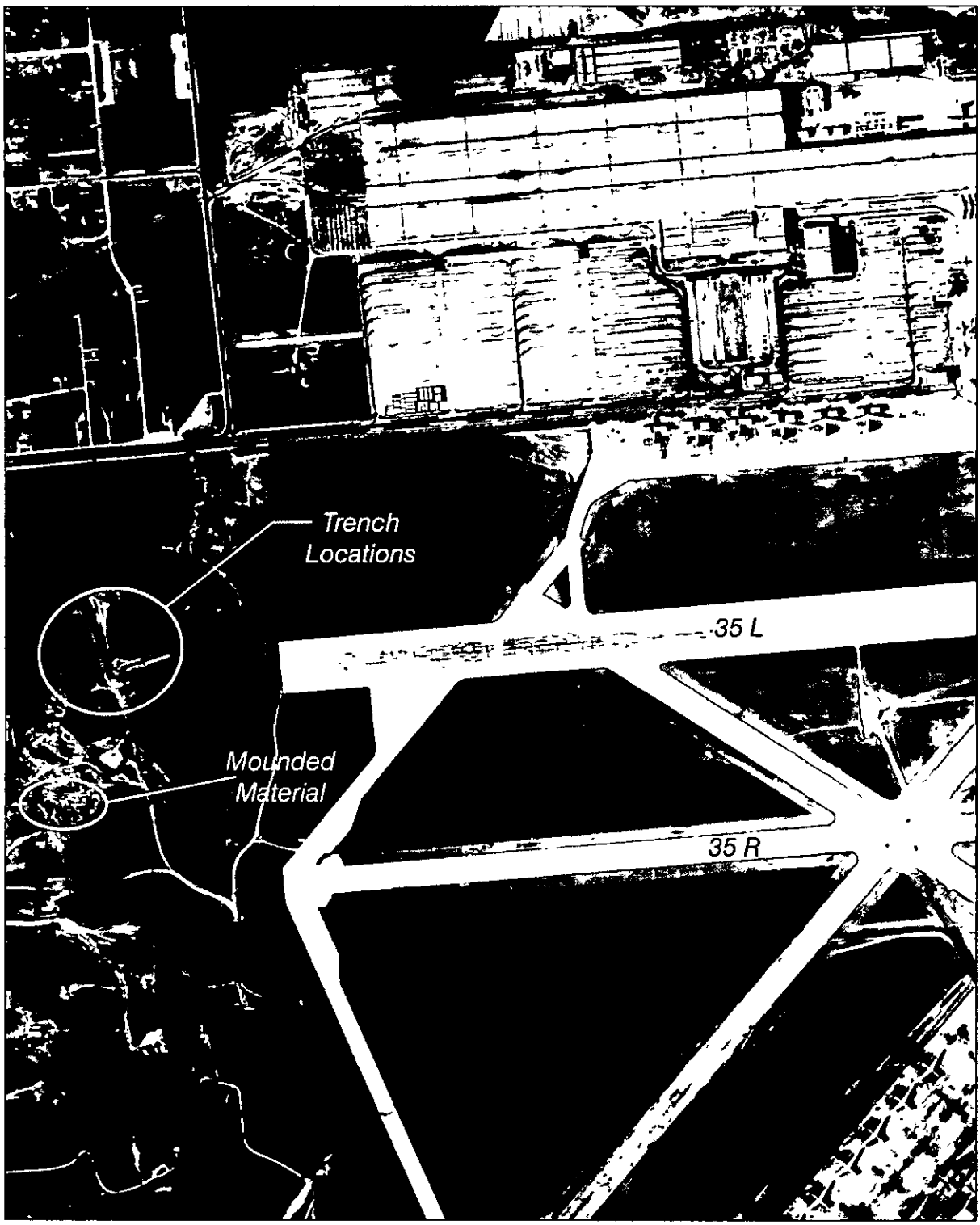

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Figure 3.2
Aerial Photograph
December 31, 1950

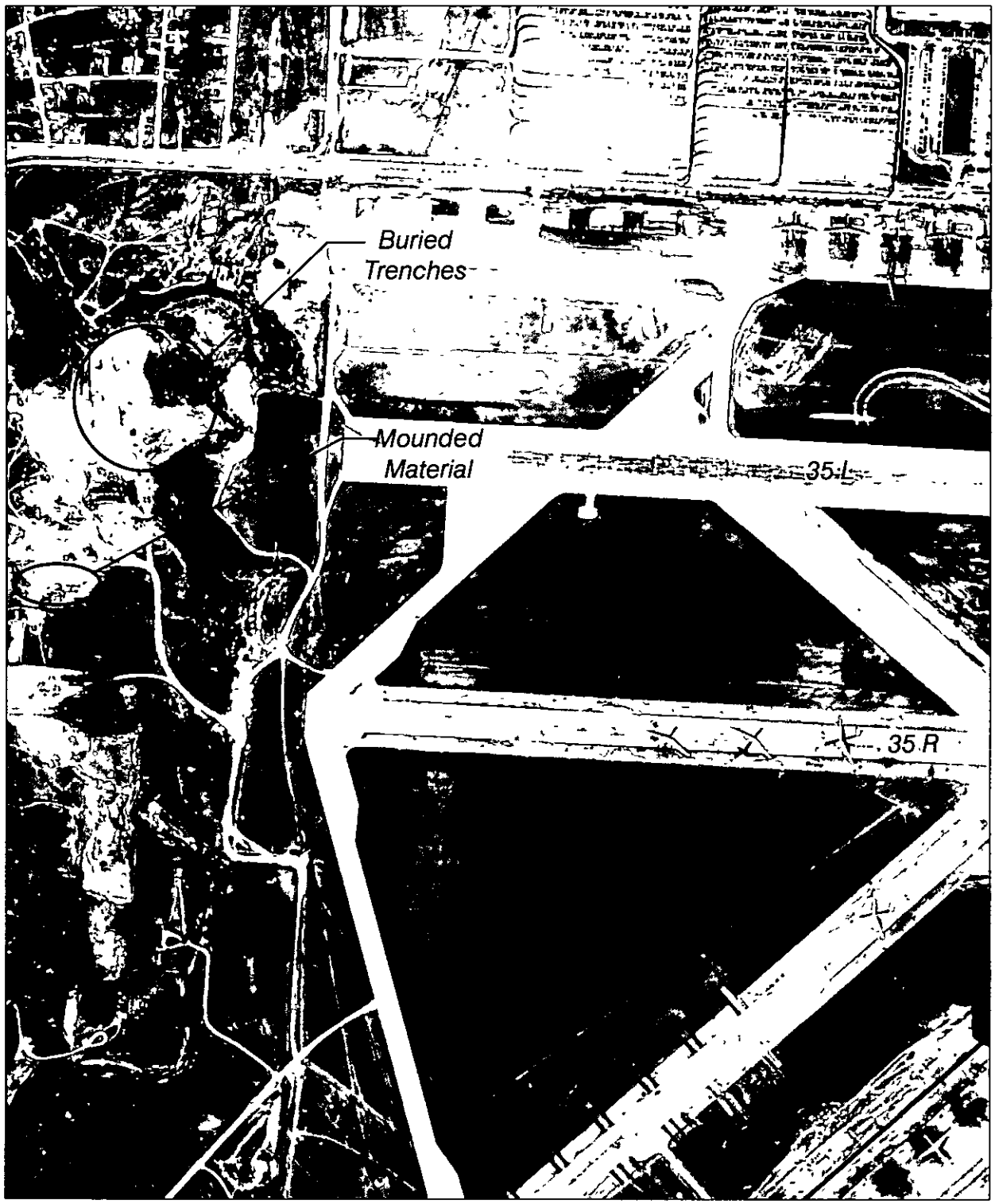

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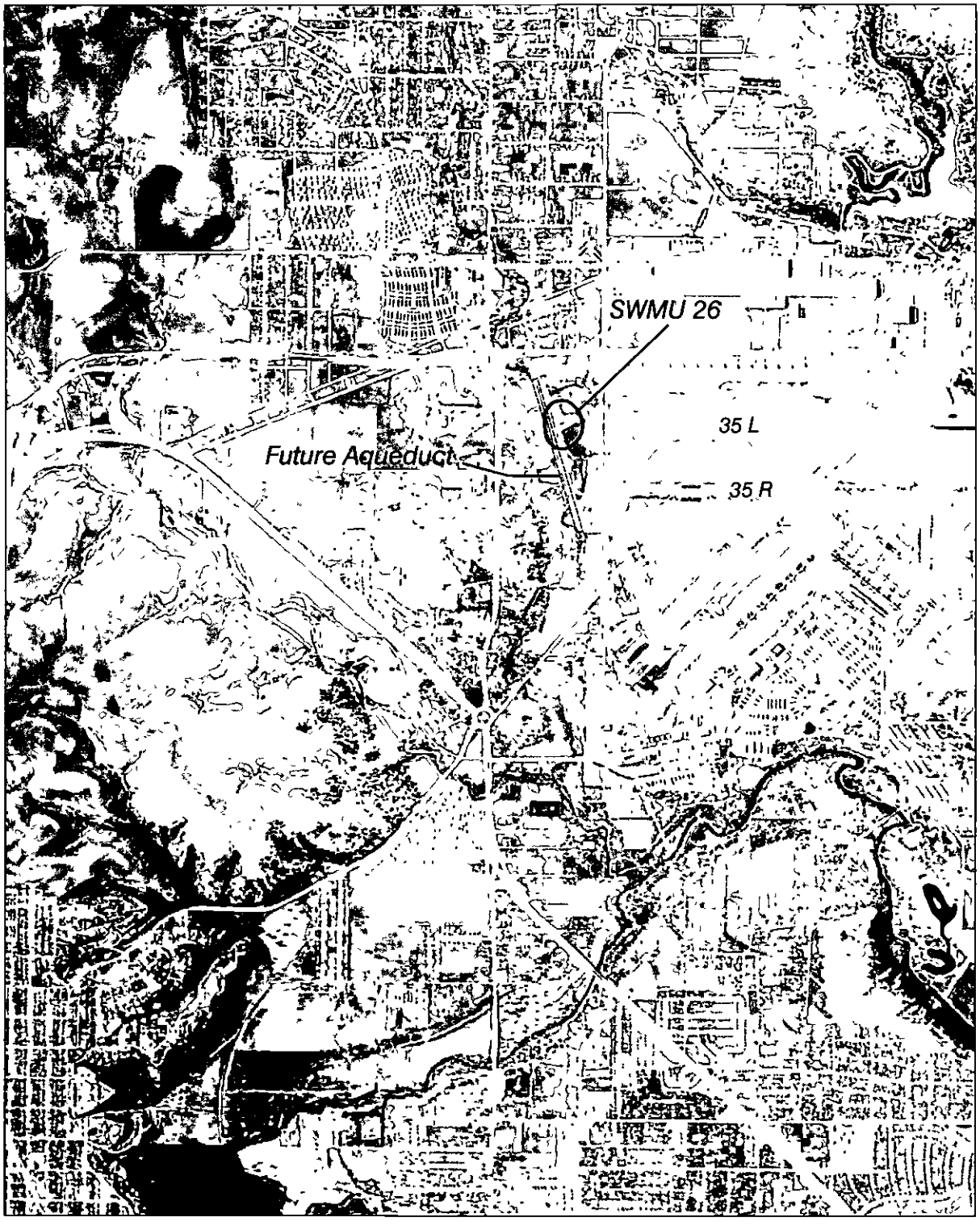
Figure 3.3
Aerial Photograph
April 10, 1952



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Revised 11/09/01 asp
Source

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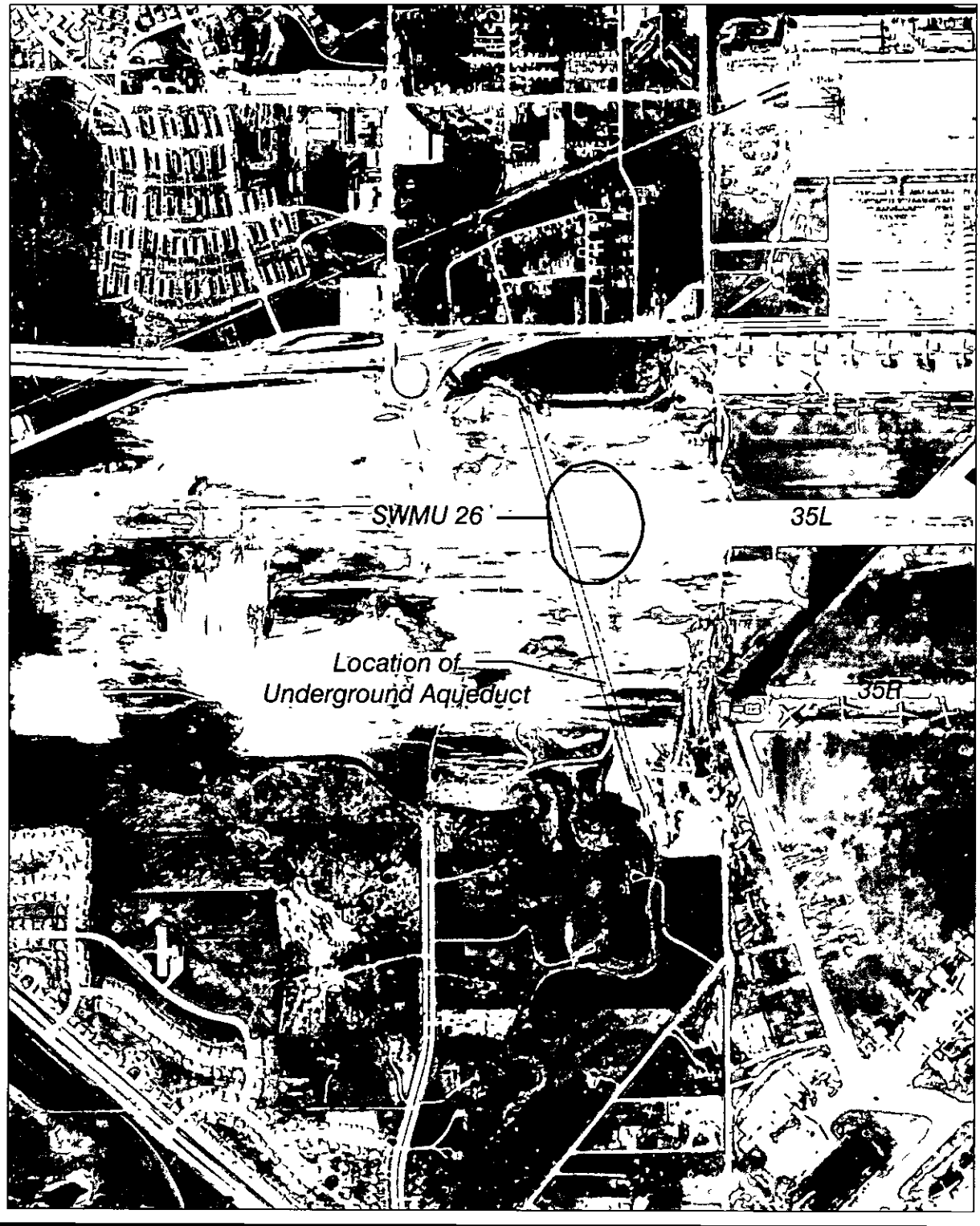
Figure 3.4
Aerial Photograph
January 4, 1953



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Revised 11/09/01 asp
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Figure 3.5
Aerial Photograph
February 3, 1954

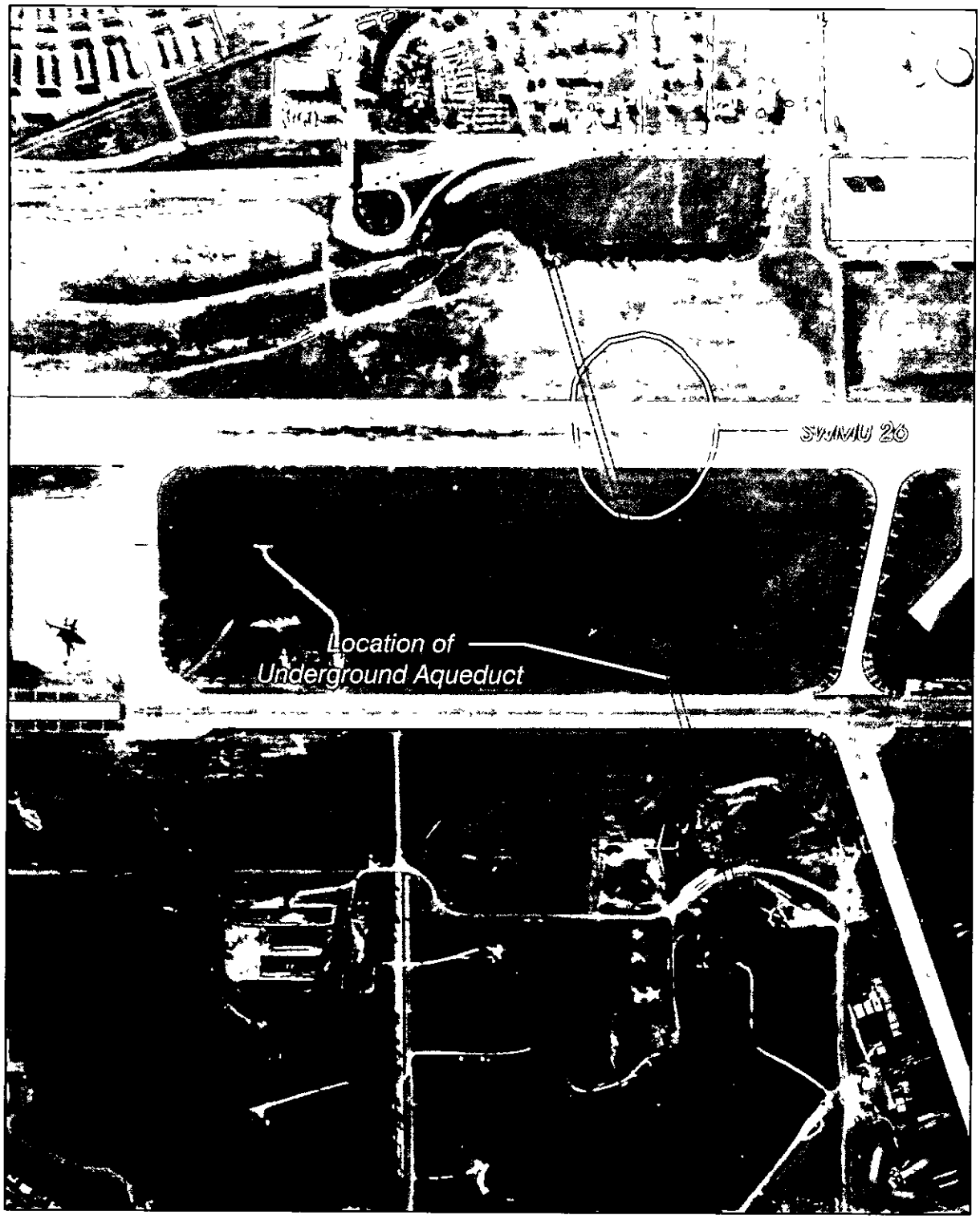

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Figure 3.6
Aerial Photograph
December 3, 1958

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Revised 09/26/01 asp
Photo Source NARA, RG145

HYDRO GeoLogic INC

Legend

- Trench Area
- Storm Drain
- Roads
- Current Runway
- Excavation and Fill Area
- Monitoring Well
- Soil Boring

N

200 0 200 400
SCALE IN FEET

Figure 3.7
SWMU 26 Photo-Identified Landfill Area
December 31, 1950

File: 17A-84-4
D.E.

TABLES

Table 3.1
Soil Analytical Results Exceeding Proposed Background and/or TNRCC RRS 2 Levels[1]
Inorganic & Organic Parameters

Parameter (mg/kg)	Background Level[2]	TNRCC RRS 2[3]	LF03-3A 14 - 18 ft 1/26/88	LF03-3B 19 - 19.5 ft 1/26/88	LF03-3C 9 - 12 ft 1/27/88	LF03-3D 9 - 15 ft 1/27/88	LF03-3E 14 - 16 ft 1/27/88
Antimony	0.712	0.712	40.0 R	**40**	**90**	**50**	**70**
Arsenic	6.58	6.58	**6.6**	11.0 R	5.2	6.5	4.8
Beryllium	1.13	1.13	0.1	0.5 E	0.2	0.1	0.1
Chromium	16.31	16.31	10	15.0 E	12	9.2	9.6
Lead	12 66	12.66	ND	10	5	ND	ND
Magnesium	2,420	NA	2,100.0 R	2,400	2,300	**2,500**	2,400
Nickel	19 76	19.76	6	11.0 E	4	4	3
Potassium	1,717	NA	700.0 R	**2,200**	800	400	500
Acetone	ND	1,020	**0.020B**	**0.034 B**	**0.027 B**	ND	**0.016**
bis(2-ethylhexyl)phthalate	ND	2.04	**0.25**	**0.19 J**	**0.087 J**	**0.17 J**	**0.10 J**
di-n-octyl phthalate	ND	204	ND	**0.29**	ND	**0.5**	**0.23**
Methylene Chloride	ND	0.5	**0.026 B**	**0.0065 B**	**0.0029 B**	**0.0061 B**	**0.0044 B**
Oil & Grease	ND	NA	**48**	**32**	ND	ND	ND
Toluene	ND	100	ND	ND	ND	**0.0076**	ND

1 Source: Phase II, Stage I Final Report (Radian, 1986); RI/FS Stage 2 Final Report (Radian, 1989)
First and Second Semi-Annual Base Wide Sampling Reports (LAW, 1996). Qualifiers include:
J = Estimated quantitation based upon QC data.
B = Detected in reagent blank, background subtraction not performed.
R = Rejected - Matrix spike recovery and % difference (MS and MS dup) outside control limits.
E = The reported value is estimated due to the presence of an interferant.

2 Source: Jacobs Engineering Group, 1997, NAS Fort Worth JRB, Texas Base Wide Background Study, Volume 1.
(NA = Not Available, ND = Non detect or below detectable limits).

3 Risk Reduction Standard #2 Maximum Concentration for Groundwater Protection Standard for residential exposure conditions.
Medium-Specific Concentrations, Standards and Criteria for Health Based Closure/Remediation (Chapter 335.568 Appendix II).
Texas Administrative Code. Environmental Quality Part 1. Texas Natural Resource Conservation Commission.

Shaded blocks indicate sample concentrations greater than TNRCC RRS 2, Bold blocks indicate values greater than background.

Table 3.2
Groundwater Analytical Results Exceeding Proposed Background and/or TNRCC RRS 2 Levels[1]
Inorganic & Organic Parameters

Parameter (mg/L)	Background Level[2]	TNRCC RRS 2[3]	LF03-3D 2/24/88	LF03-3D 4/5/88	LF03-3D 11/95
Aluminum	1.332	100	**66**	**77**	**27**
Antimony	ND at 0.002	0.006	**0.18**	ND	NT
Arsenic	ND at 0.0049	0.05	**0.06**	**0.046**	**0.094 J**
Beryllium	0.0003	0.004	**0.003**	**0.009**	**0.0023 J**
Calcium	266.3	NA	**1,100**	**1,300**	**810**
Chromium	0.006	0.1	**0.13**	**0.13**	**0.031 J**
Cobalt	ND at 0.0089	6.1	ND	ND	**0.021 J**
Copper	0.0028	1.3	**0.02**	**0.01**	NT
Iron	0.2239	NA	**56**	**67**	**31**
Lead	ND at 0.0016	0.015	**0.021**	**0.042**	**0.022 J**
Manganese	0.175	14	**1.1**	**1.6**	**1.6**
Nickel	0.0204	2	**0.06**	**0.05**	**0.049 J**
Selenium	0.0077	0.05	ND	ND	**0.07 J**
Vanadium	0.0123	0.72	**0.21**	**0.19**	**0.076 J**
bis(2-ethylhexyl)phthalate	ND	0.01	**110.0 B**	**190**	NT
butylbenzylphthalate	ND	NA	ND	**2.9**	NT
2-chlorophenol	ND	0.51	ND	**0.25 C**	NT
di-n-butyl phthalate	ND	10	**1.6 BJ**	ND	NT
di-n-octyl phthalate	ND	2	**1.5 BJ**	ND	NT
Petroleum Hydrocarbons	ND	NA	**300**	ND	NT
Phenol	ND	61	ND	**0.58 C**	NT
Toluene	ND	1	**0.6**	**1.5**	NT
Trichloroethene	ND	0.005	**0.7**	**0.7**	NT

1 Source: RI/FS Stage 2 Final Report (Radian, 1989)
IRP Comprehensive Sampling Letter Report (Jacobs, 1996). Qualifiers include:
J = Estimated quantitation based upon QC data.
B = Detected in reagent blank, background subtraction not performed.
C = Second column confirmed

2 Source. Jacobs Engineering Group, 1997, NAS Fort Worth JRB, Texas Base Wide Background Study, Volume 1
(ND = Non detect or below detectable limits, NT = Not Tested).

3 Risk Reduction Standard #2. Maximum Concentration for Groundwater Protection Standard for residential exposure conditions.
Medium-Specific Concentrations(NA=Not Available), Standards and Criteria for Health Based Closure/Remediation (Chapter 335 568 Appendix II) Texas Administrative Code. Environmental Quality Part 1. Texas Natural Resource Conservation Commission.

Shaded cells indicate sample concentrations greater than TNRCC RRS 2.
Bold cells indicate values greater than background.

TAB

SECTION 4.0

4.0 SUMMARY OF PROJECT OBJECTIVES, ACTIVITIES, AND METHODOLOGY

4.1 PROJECT OBJECTIVES

This RFI was performed for the purpose of determining the nature and extent of soil contamination at SWMU 26 in accordance with the requirements outlined in the RCRA hazardous waste permit (HW-50289) and the TNRCC RRS Program. Specifically, the RFI was conducted to characterize the nature of the landfill, define landfill boundaries, and to determine if a release to the environment of the constituents listed in 40 CFR Part 264, Appendix IX occurred at the landfill.

Field activities performed to characterize landfill soils included: (1) geophysical surveys to assess the nature and limits of the landfill; (2) continuous core direct push technology (DPT) soil borings used to investigate further the nature of landfill debris, to determine the lithology of native soils, and to support soil sample collection for laboratory analyses; and (3) the installation of monitoring wells using hollow stem auger (HSA) drilling to support groundwater sample collection for laboratory analyses.

4.2 INVESTIGATION STRATEGY

Prior to initiating any intrusive activities, both magnetometric and electromagnetic (EM) geophysical methods were used to determine the areal extent of SWMU 26, to identify possible sources of contamination, and to locate buried metallic waste and landfill waste limits for intrusive investigation. As noted in Section 3.0, geophysical studies had been previously performed at SWMU 26; however, the location of these surveys did not provide adequate coverage. Based on a review of geophysical data for SWMU 26, soil borings were installed to achieve the following objectives:

- Characterize the nature and extent of buried waste at the landfill. Soil borings were installed in areas where the strongest geophysical anomalies were encountered to determine the nature and frequency of occurrence of waste types present at each landfill. Continuous DPT soil cores were collected from the ground surface to the top of the water table to assist in determining the vertical and areal extent of landfill waste, as well as providing lithology and depth to groundwater information.

- Define the nature of potential chemical contamination at the landfill using broad screening methods. DPT soil borings were placed near geophysical anomalies within the landfill and advanced to the top of the water table. At each DPT location, soil samples were collected every 5 feet from the surface to the top of the water table and submitted to a fixed-based laboratory for analysis for the full suite of Appendix IX compounds. At sampling intervals where waste materials were recovered, samples were not collected for chemical analysis.

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- Determine whether potential chemical release(s) from the landfill have impacted groundwater. HSA drilling was used to complete borings and install monitoring wells. All HSA borings were completed outside the landfill boundaries where data gaps existed from previously installed monitoring wells. Upgradient monitoring wells were used to define the nature of groundwater entering landfills, and downgradient wells were used to define the nature of groundwater exiting landfill areas. Each of the HSA borings installed during this RFI were drilled to bedrock. Monitoring wells were then installed and screened from just above the water table to bedrock. Although the HW-50289 permit requires well screens to span the uppermost 20 feet of the uppermost aquifer, EPA Region VI has previously expressed concerns about this interval being too large. Since bedrock was generally less than 30 feet below ground surface (bgs), and the saturated thickness of the alluvial terrace groundwater was generally less than 12 feet, the majority of these wells were screened from bedrock to approximately 3 feet above the water table.

- Delineate the extent of potential soil contamination at each landfill. DPT borings were used to collect soil samples at specific intervals to delineate previously identified compounds to background/RRS 1 levels. Analysis of these soil samples was performed using the most definitive analytical methods available for the target compounds.

- Utilize the Synthetic Precipitation Leaching Procedure (SPLP) to obtain a site-specific MSC. SPLP was utilized when the concentration of landfill soil contaminants was detected at Standard 3 concentrations. DPT soil borings were positioned directly adjacent to previous borings where compounds had been detected at Standard 3 concentrations to collect samples at targeted intervals. Definitive analytical methods were selected to compare with original soil concentration totals. If soil analyte concentrations were above RRS 2 groundwater protection standards for industrial soil, the SPLP method was performed, the liquid extract analyzed, and the result compared to the TNRCC RRS 2 groundwater standard.

4.3 PROJECT ACTIVITIES

A Technical Memorandum to Support a Limited Site Investigation of SWMU 26 was prepared by HydroGeoLogic in December 1997; this Technical Memorandum was approved by AFCEE in February 1998 and field activities commenced immediately (HydroGeoLogic, 1997). Initial field activities at SWMU 26 were conducted between February 1998 and May 1998. These activities included geophysical surveys on eastern and western portions of the runway near the aqueduct; soil sampling from four soil borings; and the installation of two monitoring wells. The initial soil borings were used to collect four surface and 13 subsurface soil samples at four locations (Figure 4.1). Groundwater samples were initially collected at two monitoring well locations, WHGLTA302 (W302) and W303. Each soil sample and the first round of groundwater samples were analyzed for the broad spectrum suite of Appendix IX compounds and *cis*-1,2-dichloroethene. An existing well (LF03-3D) was added to the sampling program in the second round of sampling. Two rounds of groundwater samples were collected from well LF03-3D and two additional rounds were collected from W302. These groundwater samples were analyzed for Appendix IX metals, VOCs, and PAHs. Monitoring well W303 was not

sampled in the second and third rounds due to insufficient groundwater available to collect samples using the low-flow sampling technique.

A Technical Memorandum summarizing proposed additional sampling was submitted to AFCEE in December 1998 (HydroGeoLogic, 1998d). This Technical Memorandum was approved in January 1999 and field activities commenced in late January 1999. Field activities conducted in 1999 included the installation of five DPT soil borings and the sampling of three monitoring wells. Soil borings were used to collect one subsurface confirmation/SPLP sample and four subsurface delineation soil samples. The confirmation soil sample was analyzed for the broad spectrum suite of Appendix IX compounds and *cis*-1,2- dichloroethene. Delineation soil samples were analyzed for Appendix IX metals, VOCs, and SVOCs.

In 2000, three soil borings were completed at SWMUs 26 to delineate Standard 3 detections of lead encountered at BHGLTA304 (B304) located near the main runway. Groundwater samples were collected from the downgradient monitoring well, HM-127. These groundwater samples were analyzed for Appendix IX metals, VOCs, and PAHs.

In January 2001, two additional soil borings were advanced to provide additional characterization coverage in the geophysical anomaly found in the northwest quadrant. Two surface samples and four subsurface samples were collected and analyzed for Appendix IX list metals, VOCs, SVOCs, and pesticides. In addition, a second round of groundwater samples were collected from monitoring well HM-127. These groundwater samples were analyzed for Appendix IX metals, VOCs, and PAHs.

In June 2001, three soil borings were advanced to delineate Standard 2 concentrations of chrysene and pyrene detected at B333. A total of three subsurface soil samples were collected. The RFI sampling effort presented in this document was performed in accordance with the approved project Work Plans (HydroGeoLogic, 1998b). Data presented in this RFI Report includes an all intrusive activities and analytical results generated during the soil and groundwater sampling programs.

4.4 FIELD SAMPLING METHODOLOGY

The field tasks described in the following sections were conducted to achieve the project objectives. As previously noted, SWMU 26 received various types and amounts of construction debris throughout its operation. Although suspected to exist, documentation confirming unauthorized dumping of hazardous wastes and hazardous constituents has not been obtained. The field tasks described in the following sections were chosen by evaluating the type and purpose of data required to characterize SWMU 26. Geophysical surveys, installation of DPT soil borings, test pit installation, and installation of monitoring wells served as a cost-effective means for gathering samples for visual observation, field screening, and laboratory analyses.

The following sections describe the methods employed for geophysical surveys, soil sampling, installation of DPT soil borings and monitoring wells, and groundwater sampling.

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4.4.1 Geophysical Surveys

Two geophysical surveys were conducted at SWMU 26 by HydroGeoLogic; an EM survey and a magnetic survey were performed. The EM survey was used to identify and map areas with apparent conductivity contrasts. The magnetic survey was used to locate buried ferrous objects such as tanks, pipelines, and metallic debris. The purpose of the geophysical surveys was to determine the lateral extent of the landfill and to provide information for the selection of optimal intrusive sampling locations.

A systematic grid was established at SWMU 26 using a tape measure for distance and a transit for trueness. Survey lines were spaced every 20 feet and stations along the lines were marked at spacings of 50 feet.

The EM survey was conducted using a Geonics EM31 with a DL720 digital data recorder. The apparent conductivity of the ground is linearly related to the quadrature component and is measured in millisiemens per meter. The in phase component, measured in parts per thousand, is sensitive to large metallic objects. The EM survey procedure consisted of carrying the instrument along the survey lines. The quadrature and in phase readings were digitally recorded every 5 feet except where prevented by surface obstructions.

The magnetic survey was performed with a Gem Systems GSM-19 magnetometer/gradiometer, which is capable of measuring the total magnetic field intensity and the vertical magnetic gradient. The vertical magnetic gradient measures the difference in the total field intensity of the earth's magnetic field between two sensors positioned at different fixed heights above the ground. The total magnetic field intensity, measured in nanoteslas (nT), and the vertical magnetic field gradient, measured in nT per meter, were digitally recorded approximately every 5 feet along survey lines except where prevented by surface obstructions. A GSM-19 magnetic base station was also established at SWMU 26 to correct for diurnal variations in the Earth's magnetic field.

The geophysical data was downloaded and evaluated in the field for data quality and to make preliminary interpretations. Corrections for diurnal variations in the Earth's magnetic field were applied to the magnetic data before evaluation. The EM and magnetic results were placed on a grid and contoured with Surfer© for Windows and displayed as contour maps and 3-dimensional mesh diagrams. Figures presenting the results of these geophysical surveys are presented in Section 5.0.

Previous geophysical surveys at SWMU 26 were performed by Radian Corporation in 1985. Results of these surveys, which utilized a combination of EM, earth resistivity vertical electrical soundings, and magnetometer techniques, are detailed in the IRP Phase II, Stage I, Volume I - Final Report (Radian, 1986). A figure from the Radian Final Report depicting the EM data for SWMU 26 is presented in Section 5.0 of this report.

4.4.2 Soil Sampling

Surface soil samples were collected adjacent to DPT borings using a stainless steel trowel and bowl. Subsurface Appendix IX characterization soil samples were collected at 5-foot intervals until the water table, bedrock, or refusal was encountered using a DPT sampling rig to minimize investigative derived waste (IDW).

In 1998, a vibra-core DPT system was used to advance triple-cased sampling barrels into the subsurface. This triple-cased sampling system consisted of a 3-foot long by 2.75-inch outer diameter drive casing, a 2-inch inner diameter core barrel, and six 6-inch inner stainless steel sample sleeves that were simultaneously pushed, driven, or vibrated into the ground. After being advanced 3 feet, the inner barrel was retrieved, while the drive casing was left in place to prevent the borehole from collapsing. This drive casing ensured that subsequent soil samples were collected from the targeted interval and eliminated slough from higher up in the borehole.

In the investigations conducted from 1999 through 2001, a Strataprobe™ DPT system was used to advance dual-cased sampling barrels into the subsurface. This double-cased sampling system consisted of a 2-foot long by 2-inch outer diameter split spoon soil piston sampler and four 6-inch inner stainless steel sample sleeves that were simultaneously pushed and driven into the ground. The piston prevents the sampler from filling as it is advanced to depth. After being advanced 2 feet, the inner drive string is retrieved to the surface.

Continuous soil samples were collected in stainless steel liners inside the sample barrel. The 1998 DPT subsurface sampling intervals were centered on 5 foot intervals in the following manner: 3.5 to 6.5 feet; 8.5 to 11.5 feet; 13.5 to 16.5 feet; and 18.5 to 21.5 feet. The 1999 and 2000 DPT subsurface sampling intervals were centered on 5-foot intervals in the following manner: 4 to 6 feet; 9 to 11 feet; 14 to 16 feet; and 19 to 21 feet. A stainless steel sleeve with 100 percent recovery was selected for VOC analysis from each sampling interval. This sleeve was then immediately sealed with a Teflon™-lined plastic cap to avoid loss of volatiles. Soil samples collected for other analyses were containerized in glass jars with Teflon™-lined caps. All samples were immediately preserved in a cooler and shipped to the laboratory for analysis. Cuttings from all soil borings were containerized in Department of Transportation approved 55-gallon drums and labeled. Each boring was backfilled with a slurry grout mixture in accordance with the RFI Work Plans (HydroGeoLogic, 1998b).

Soil samples collected from boreholes B301, B302, B303, B304, and B324 between the dates of April 1998 to January 1999, were analyzed for the full suite of Appendix IX compounds (Table 4.1). Soil samples collected during delineation and confirmation phases in 1999 used definitive analyses for selected analytes. Boreholes that were sampled at this time were B325, B326, B327, and B328. Specific analytes sampled for were for the full suite of Appendix IX VOCs, SVOCs, and lead over four sampling periods in 1999. Soil borings B329, B330, and B331 were sampled for lead in April 2000. In January 2001, the full Appendix IX suite of analytes including metals, organochlorine pesticides, polychlorinated biphenyls (PCBs), VOCs, and SVOCs were sampled and analyzed for at B333 and B334. Soil boring logs are presented in Appendix A. Soil Field Sampling Report Forms are presented in Appendix B.

4.4.3 Monitoring Well Construction

Two monitoring wells were installed downgradient of SWMU 26 (W302 and W303) as part of this RFI. Two additional existing wells (LF03-3D and HM-127) were monitored to provide adequate downgradient coverage and to fill in groundwater data gaps. Monitoring well W303 was only sampled once due to a lack of sufficient groundwater to collect samples. Potential monitoring wells W301/B323 and W304/B322 were not completed as wells because groundwater was not present at these locations. Monitoring well completion details are presented in Table 4.2.

All monitoring wells were screened from the bedrock surface to above the water table, because the saturated intervals were less than 20 feet. The monitoring wells were constructed using flush-threaded 2-inch diameter Schedule 40 PVC casing and screen. The bottom of the screen was capped using a flush threaded PVC cap. All casing was new and unused. The filter pack consisted of silica sand and extended from the bottom of the hole to at least 2 feet above the top of the well screen. The bentonite seal consisted of at least 2 feet of bentonite between the filter pack and the casing grout. The bentonite was hydrated before placement, and only 100 percent sodium bentonite was used. The casing grout extended from the top of the bentonite seal to ground surface.

For flush-mounted completions, the casing was cut about 3 inches below the land surface and fitted with a water-tight casing cap to prevent surface water from entering the well. A freely draining valve box with a locking cover was also placed over the casing. When an above-ground surface completion was used, the well casing was extended 2 or 3 feet above land surface. A casing cap was provided for each well, and the extended casing was shielded with a steel sleeve that was placed over the casing and cap, and seated in a 3-foot by 3-foot by 4-inch concrete surface pad. Monitoring Well Construction Forms were completed for each well and they are presented in Appendix C.

4.4.4 Monitoring Well Development

Monitoring wells were developed following procedures outlined in HydroGeoLogic's RFI Field Sampling Plan (FSP) (HydroGeoLogic, 1998b). These procedures included: (1) development of installed monitoring wells no sooner than 24 hours after installation to allow for grout curing; (2) the removal of all drilling fluids used during well construction; (3) the use of pumps to develop wells; (4) development until stabilization criteria had been reached; and the turbidity of the well is less than 10 nephelometric turbidity units (NTU) remaining within a 5 NTU range for at least 30 minutes; (5) documentation of discharge water color and volume; (6) removal of all potential sediment in the bottom of the well; (7) no detergents, soaps, acids, bleaches, or other additives used to develop the well remain; and (8) all equipment be decontaminated prior to initiating development activities. Data collected during monitoring well development was documented on well development forms that are presented in Appendix D.

4.4.5 Groundwater Sampling

Groundwater purging and sampling was performed in accordance with protocols established in HydroGeoLogic's 1998 FSP (HydroGeoLogic, 1998b). These protocols closely follow the recommendations outlined in EPA research paper entitled Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures (April 1996). Sampling data and purging parameters for each well and each sampling event were recorded on Field Sampling Report Forms. Completed groundwater Field Sampling Report Forms can be found in Appendix E, and a summary of the groundwater sampling can be found in Table 4.3.

4.4.6 Site Surveying

All locations of field activities were surveyed by a state of Texas certified land surveyor. The surveys were third order (Urquhart, 1962), and an XY-coordinate system was used to identify locations. The X-coordinate was the east-west axis; the Y-coordinate was the north-south axis. The reference location was the origin. All surveyed locations were reported using the State Plane Coordinate System. Table 4.4 presents the X and Y coordinates in state plane coordinate values, the ground elevation, and the measuring point elevation if the location is a groundwater monitoring well. The elevations of all newly installed wells were surveyed at the water level measuring point (notch or colored mark) on the riser pipe. The elevation of the ground surface at each water level measuring point was also included in the survey.

The XY-coordinates for each sample location was determined to within 0.1 feet and referenced to the State Plane Coordinate System. Vertical control was to the NGVD and was within 0.01 feet for all sampling locations.

4.4.7 Record Keeping

Records of field and laboratory activities were documented on standard forms (Section 8.0 of the FSP). Project data such as geophysical surveys, groundwater level measurements, boring logs, survey data, well construction forms, chain-of-custody forms, and equipment calibration logs were reviewed for accuracy and completeness. These documents were reviewed by the Project Manager daily during field sampling events and retained in the project files. The chain-of-custody forms can be found in Appendix E.

4.4.8 Chronology of Field Work

The chronology of project field tasks and dates are presented Table 4.5.

4.5 FIELD QUALITY ASSURANCE/QUALITY CONTROL

The project QAPP and FSP require that field QC samples be collected in order to assess the impact of site conditions, sample collection activities, and site matrix on the analytical results. The field QC samples known collectively as field blanks are used to assess if sampling activities introduce contamination into environmental samples. Other field QC samples are

used to assess the impact of site matrix and sample collection on analytical accuracy and precision.

Field blanks include:

- Ambient blanks. These blanks are collected for VOCs, only when there is a potential ambient contamination source (e.g., active runways, engine test cells, gasoline motors in operation) that could introduce contamination into the samples during sample collection. Ambient blanks are prepared on site, at the time of collection of the associated samples, downwind of the potential contamination source, using ASTM Type II reagent grade water. Ambient blanks are used to assess whether VOC contamination that is not representative of site conditions is being introduced into environmental samples due to ambient conditions. No ambient blanks were collected during the RFI of SWMU 26.

- Equipment blanks. These blanks are collected daily and are analyzed for all analytes that are being analyzed in the associated field samples. Equipment blanks are collected by pouring or pumping ASTM Type II reagent grade water over or through sampling equipment immediately following decontamination. Equipment blanks are used to assess whether site decontamination procedures adequately prevent cross-contamination between samples.

- Trip blanks. Trip blanks consist of VOC sample vials filled in 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 VOC samples are collected and are analyzed only for VOC analytes. Trip blanks are used to assess the potential introduction of contaminants from sample containers or during the transportation and storage process.

Other field QC samples collected during RFI activities include:

- Field duplicate samples. A field duplicate sample is a second sample collected at the same location as the original sample (the 'parent' sample). Duplicate samples are collected simultaneously, or in immediate succession, using identical recovery techniques, and treated in an identical manner during storage, transportation, and analysis. Field duplicate sample results are used to assess precision of the sample collection process. One duplicate sample was collected for every ten groundwater and soil samples collected. The sample containers were assigned an identification number in the field so that they could not be identified as duplicate samples by laboratory personnel performing the analysis (blind duplicate). Specific locations were designated for collection of field duplicate samples prior to the beginning of sample collection.

- Matrix spike (MS)/matrix spike duplicate (MSD) samples. An MS/MSD sample pair consists of duplicate aliquots of an environmental sample spiked with known concentrations of all analytes being analyzed for in the sample. MS/MSD samples are

used to assess any potential bias introduced by the sample matrix on analytical accuracy or precision. One MS/MSD pair was collected for every 20 groundwater and soil samples collected. Specific locations were designated for collection of MS/MSD pairs prior to the beginning of sample collection.

4.6 LABORATORY ANALYSIS

Samples collected in 1998 as part of this RFI were analyzed for the full suite of 40 CFR Appendix IX constituents plus *cis*-1,2-dichloroethene. In accordance with the Basewide QAPP (HydroGeoLogic, 1998c), the following EPA SW-846 Methods were used to cover the full Appendix IX list:

- SW8260A - Volatile Organics
- SW8270B - Semivolatile Organics
- SW8080A - Organochlorine Pesticides and PCBs
- SW8140 - Organophosphorus Pesticides
- SW8151 - Chlorinated Herbicides
- SW8290 - Dioxins and Furans
- SW9010A/SW9012 - Cyanide
- SW9030 - Sulfide
- SW6010A-standard - Trace Elements (Metals)
- SW7470A/7471A - Mercury

The following EPA Methods were used during the delineation phase of sampling:

- SW8260B - Volatile Organics
- SW8270C - Semivolatile Organics
- SW6010B-trace - Trace Elements (Metals)
- SW7000-series - Trace Elements (Metals)
- SW8080A - Organochlorine Pesticides and PCBs
- SW8310 - Polynuclear Aromatic Hydrocarbons (PAHs)

4.6.1 Analytical Program

The data generated by this project were of sufficient quality and quantity to meet the overall project objective, which is closure of SWMU 26 under the TNRCC RRSs. See subsection 4.6.3 for a detailed discussion of data quality and completeness.

Data from the following categories were required for this study:

- Site Characterization - Data were used to evaluate physical and chemical properties of buried waste, soil, groundwater, and surface water. 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 work party and other site related personnel. These data were gathered by the use of organic vapor analyzers.

- 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 EPA SW-846 protocols and the associated data are considered definitive. The definitions of screening data and definitive data, as established by the EPA (EPA, 1993), are described below:

Screening Data with Definitive Confirmation - Screening data are 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 provide 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 are generated using rigorous analytical methods, such as approved EPA 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 RRSs. The 2000 Basewide QAPP (HydroGeoLogic, 2000) describes each method that was performed as part of the investigation and outlines the QA 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.

4.6.2 Quality Assurance/Quality Control Program

The current primary project QA/QC document is the 2000 Basewide QAPP (HydroGeoLogic, 2000). This document is based on versions 1.1, 2.0, and 3.0 of AFCEE's Model QAPP (AFCEE, 1998), with some base-specific modifications. The original project QAPP was produced by CH2M HILL (CH2M HILL, 1996b). This QAPP, incorporated by reference in HydroGeoLogic's RFI/CMS QAPP (HydroGeoLogic, 1997a), was the principal QC document for all data produced before March 1998. All analytical data associated with field activities conducted from March 1998 through March 2000 were produced under the QC requirements of the HydroGeoLogic Basewide QAPP (HydroGeoLogic, 1998c). This QAPP was superceded by the 2000 Basewide QAPP (HydroGeoLogic, 2000) in March, 2000. The requirements of the Basewide QAPPs are supplemented by each project laboratory's Quality Assurance Plan. Together, these two documents detail the requirements which must be followed in order to generate data of the level of quality required to support the project

decision-making process. Among the requirements contained in these documents is the requirement for review of the data at several levels at the laboratory. Each benchtop chemist is responsible for a 100 percent review of all data generated, as is each laboratory section manager (or designee). Subsequent to analyst review, 10 percent of data are reviewed by the laboratory QA department prior to assembly of each data report. Each final data report is reviewed by the laboratory project manager prior to release from the laboratory. Laboratory-specific exceptions to the QAPP are presented in Appendix F.

4.6.2.1 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 applicable version of the method-specific requirements of Section 7.0 and the general requirements of Section 8.0 of the Basewide QAPP (HydroGeoLogic, 1998c; HydroGeoLogic 2000).

The QC events that commonly caused re-analysis for organic methods to be necessary were surrogates not meeting percent recovery criteria, internal standards not meeting peak area criteria, and analyte detections above the calibrated range of the instrument. Metals analyses by graphite furnace atomic absorption (GFAA) spectroscopy were often re-analyzed due to poor recovery test performance.

A total of 1,829 data points were generated by the analyses of project groundwater samples. Of these, 127 were rejected due to failure to achieve QA/QC program requirements. Total project groundwater data completeness is calculated to be 93.1 percent, which does not meet the project groundwater data completeness goal of 95 percent. It should be noted that a majority of the analyte results rejected in groundwater samples were for compounds that are not COPCs for NASFW (see Appendix G). A total of 7,245 data points were generated by the analyses of project soil samples. Of these, 198 were rejected due to failure to achieve QA/QC program requirements. Total project soil data completeness is calculated to be 97.3 percent, which meets the project soil data completeness goal of 90 percent.

Completeness was also calculated on the basis of each analyte and matrix combination. The results of these calculations are presented in Appendix G.

4.6.2.2 QA Activities

On March 25-26, 1998, the HydroGeoLogic project chemist, assisted by a Law Engineering project chemist, performed a QA audit of the facilities and practices of the Recra laboratory (currently Severn Trent Laboratories) in University Park, Illinois. The auditors reviewed the laboratory's Quality Assurance Plan, evaluated the laboratory's recent state certification performance evaluation sample results, reviewed the laboratory's standard operating procedures, and conducted an on-site inspection of the laboratory's facility. The laboratory

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was found to have sufficient expertise, resources, and procedures to generate definitive and legally defensible data. The laboratory QA audit report is provided as Appendix H.

4.6.3 Data Evaluation

This section describes the analytical methods and QC program utilized for the RFI of SWMU 26 at NAS Fort Worth JRB. The analytical methods used for the analysis of the field samples are described in the 2000 Basewide QAPP (HydroGeoLogic, 2000).

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 laboratory QC data and field QC data review, 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 (HydroGeoLogic, 2000).

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 calibration and continuing calibration checks

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

4.6.4 Methodology for Data Quality Assessment

The analytical results for samples collected in 1998 were validated by Law Engineering. The analytical results for samples collected in 1999, 2000, and 2001 were validated by Environmental Data Services and HydroGeoLogic. The analytical results for samples collected in 2000 were validated by IT Corporation and HydroGeoLogic. The data were evaluated in accordance with the procedures and acceptance criteria contained in the Basewide QAPP that was current at the time of data generation. All results from all analytical methods (with the exception of sulfide results) were evaluated with respect to the requirements of definitive data at the equivalent of an EPA level III review. The data review identified those data which were unusable due to serious QC deficiencies, as well as other data which 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. These qualifiers are defined in subsection 4.6.7. The validation reports for each sample delivery group (SDG) are presented in Appendix G.

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 electronic data deliverable (EDD) for each data package was verified by comparing the contents of each EDD to the hardcopy of that data package (or SDG) 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.

4.6.5 Selection of Analytical Methods

Analytical methods selected for the characterization phase of this investigation were based on their ability to screen the entire Appendix IX analyte list of compounds. Analytical methods capable of detecting a broad range of compounds while achieving the lowest Method MQLs and Method Detection Limits (MDLs) were selected for Appendix IX screening.

MDLs for these methods either met or exceeded background concentrations for the majority of constituents analyzed. There were some chemicals, however, for which the MQLs were above background levels for inorganics or the MSC for organics. Examples of these chemicals include antimony, arsenic, cadmium, chromium, lead, selenium, silver, thallium, vanadium, benzo[*a*]anthracene, benzo[*a*]pyrene, benzo[*b*]fluoranthene, bis(2-ethylhexyl)phthalate, chrysene, dieldrin, and indeno[1,2,3-*cd*]pyrene.

Chemicals detected during characterization soil sampling with MQLs above TNRCC RRS 2 MSCs were analyzed during delineation soil sampling using more sensitive analytical methods. EPA SW-846 Methods capable of achieving MDLs/MQLs that met or were lower than a contaminant's MSC, or background concentration, were used for delineation. This tiered approach eliminated the need to perform 12 separate analytical methods for metals and 2 separate analytical methods for SVOCs during the initial screening, while minimizing the chance of encountering false negatives.

4.6.6 Definition of Data Qualifiers

Data from this investigation were analyzed according to procedures outlined in the September, 1998 TNRCC Interoffice Memorandum (TNRCC, 1998a). Analytical results were validated and assigned appropriate qualifiers as outlined below:

- "F" Qualifier - Detection between a compound's Sample Quantitation Limit (SQL) and Practical Quantitation Limit (PQL). Indicates that the compound is present, but the concentration is estimated.
- "J" Qualifier - Estimated detection. The contaminant was positively identified and the associated value is an estimated concentration.
- "S" Qualifier - Analytical result obtained using a screening method. May be used in conjunction with any other qualifier on this list.

- "U" Qualifier - The contaminant was analyzed for, but was not detected above the SQL. The associated value is the compound PQL. The U qualifier is also used to qualify detections where contamination was present in associated QA/QC blanks.

- "UJ" Qualifier - The contaminant was analyzed for, but was not detected. The associated PQL value is an estimate and may be inaccurate or imprecise.

- "R" Qualifier - Results deemed unusable or rejected. The contaminant may or may not be present.

- No Qualifier - The analyte was detected at the reported concentration.

For validation, the hierarchy of qualifiers is: "R" > "UJ" > "U" > "F" > "J" > "no qualifier".

4.6.7 Data Screening Criteria

Tables presented in Section 5.0 of this document were generated by screening the analytical database (approximately 8,000 'valid' records of field samples) for all analyte detections over MQLs for organics and base background values for inorganics. The following information was also used to screen data presented in these tables:

- Final Jacobs Basewide Background Study (BBS) (Jacobs, 1998) - used for inorganic background values

- MQL - the method quantitation limit for an undiluted sample (i.e., the lowest non-zero standard in the laboratory's calibration curve). The MQL is analogous to the minimum PQL (i.e., PQL not adjusted for sample-specific conditions such as subsample size or percent moisture)

- TNRCC Risk Reduction Standard 2 (RRS 2)
  - Groundwater Protection-Industrial (GWP-Ind)
  - Inhalation, Ingestion, and Dermal Contact-Industrial (SAI-Ind)
  - Groundwater (GW)

Soil analytical results were screened and tables generated using the following procedure: The analytical database was first screened for compounds detected above their MDL. Each concentration value was placed in the results column. The RRS 1 columns were generated using the highest value from either the BBS or the MQL. The RRS 2 columns were generated using the BBS for inorganics, the RRS 2 GWP-Ind values, the RRS 2 SAI-Ind values, and the MQL in this manner:

For inorganics - The default RRS 2 value is the MSC value as described in the TNRCC RRS Interoffice Memorandum (TNRCC, 1998a); however, if the BBS result was greater than or equal to the MSC value, then the BBS value was selected in accordance with subsection VI.3 of the RRS Interoffice Memorandum.

For organics - The default value is the lowest of the RRS 2 GWP-Ind or the RRS 2 SAI-Ind. However, if the MQL value was greater than the RRS 2 value, then the MQL value was selected.

Tables generated for groundwater analytical results were screened in a similar manner as those for soil, with the exception that RRS 2 GW-Ind values were used in place of the RRS 2 GWP-Ind RRS 2 and SAI-Ind values.

The data presented on the figures in Section 5.0 includes inorganic chemicals detected above their respective BBS background concentration and organic chemicals detected above their MQL. The MQL was selected for presentation purposes because it is the lowest point at which an analytical instrument can accurately quantify a compound. As noted above, the MQL is analogous to RRS 1; however, when the most definitive analytical method is employed and the MQL is greater than the RRS, the MQL is analogous to RRS 2 Inorganics are presented above their MDL because many of the background concentrations for metals are lower than their MQLs.

Most of the metals that were detected during the characterization soil investigations in 1998 were detected between their SQL and PQL. These estimated (F-qualified) concentrations are occasionally above the background values generated in the Final BBS (Jacobs, 1998). The relative amount of F-qualified data decreased in the 1999 and 2000 delineation, confirmation, and SPLP sampling phase since samples were analyzed using the most sensitive analytical methods available.

In the discussions of analytical data presented in presented Section 5.0, references are made to the terms RRS 1, RRS 2, Standard 1, Standard 2, and Standard 3. It should be noted that RRS 1 and RRS 2 refer to the concentration points at which the contaminant concentration transitions from Standard 1 to Standard 2 or from Standard 2 to Standard 3, respectively. Any concentration greater than RRS 1 is Standard 2; any concentration greater than RRS 2 is Standard 3. The exact relationship of these terms is displayed below:

Standard 1 $\leq$ RRS 1 $<$ Standard 2 $\leq$ RRS 2 $<$ Standard 3

4.6.8 Appendix IX Broad Spectrum Analytical Methods

All of the inorganic analytes in soil detected during the initial soil investigation (except mercury and cyanide) were analyzed using EPA Method SW6010A by inductively coupled plasma atomic emission spectroscopy, using non-trace instrumentation (ICP-standard). In the Final BBS (Jacobs, 1998), inorganic elements were analyzed using a combination of SW6010A (ICP-standard), SW6010A (ICP-trace), and GFAA methods. Table 4.6 displays the MQLs and

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MDLs for the various inorganic analyses from the Final Basewide QAPP used for the initial soil investigation activities (HydroGeoLogic, 1998c) and the Final BBS (Jacobs, 1998).

In Table 4.6, if elements analyzed by SW6010A-standard ICP have MQLs greater than the background values for surface and subsurface soil, the analyte name is presented in bold font. Most of these elements have an MDL at or near the background values. The only exceptions are antimony and selenium, both of which have MDLs slightly above background.

4.6.9 Delineation by Definitive Analytical Methods

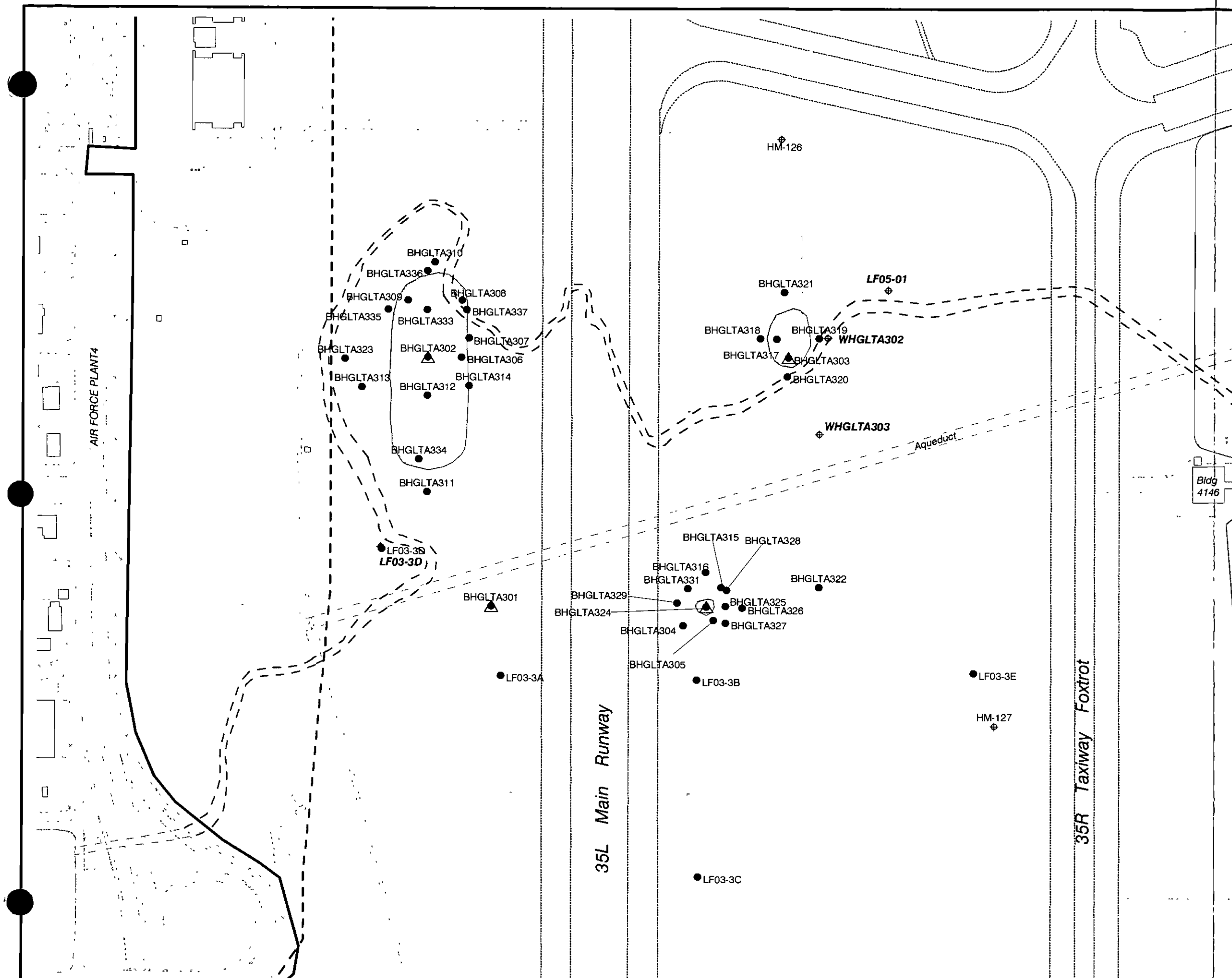
In general, delineation phase sampling locations were selected where detected concentrations were greater than twice the RRS 1 values. Soil samples collected from these locations were analyzed using methods capable of achieving the lowest MQLs and MDLs. Specifically, the delineation/confirmation/SPLP phase analytical methods included: VOCs by SW8260B; SVOCs by SW8270C; metals by SW6010B (ICP-trace); metals by the SW7000A GFAA series; mercury by SW7471A; pesticides and PCBs by SW8080A; and PAHs by SW8310.

4.6.10 Use of Synthetic Precipitation Leaching Procedure

The SPLP extraction is used where the leaching potential due to normal rainfall is to be determined. Analytical results from SPLP extracts indicate the maximum leaching potential of a target analyte under laboratory conditions that simulate the effects of time and weather on the sample. SPLP is useful in those situations where a determination must be made whether or not a potentially contaminated material, if left in situ, will leach toxic substances when exposed to normal weathering. Instead of simulating landfill leachate using dilute acetic acid, as is used in the Toxicity Characteristic Leaching Procedure (TCLP), SPLP uses dilute nitric and sulfuric acids in an effort to simulate acidic rain mixtures.

During confirmation/SPLP sampling, soil sampling intervals with significant detections above background and RRS 2 values were re-sampled directly adjacent to the previous boring. These soil samples were analyzed for specific target analytes to generate verification totals. If the sample result was verified to be above RRS 2 values for soil, a water extract was prepared using EPA Method SW1312, SPLP. The water extract was then analyzed to determine if a site-specific RRS 2 value would be appropriate. The analyses are summarized in Table 4.7.

FIGURES



HydroGeoLogic, Inc —RFI SWMU 26
NAS Fort Worth JRB, Texas

Figure 4.1

SWMU 26 / Landfill 3
Soil Boring and Monitoring
Well Locations

U.S. Air Force Center for Environmental Excellence

Legend

- NAS Fort Worth JRB (Carswell Field)
- Former Carswell Air Force Base
- Former Outline of Farmers Branch Creek (1950)
- Landfill Boundaries
- WHGLTA201 Sampling Location
- WHGLTA302 Monitoring Well Location
- BHGLTA211 HydroGeoLogic Borehole Location (1998-2000)
- LF03-3A Radian Borehole Location (1988)
- Piezometer Location

N

125 0 125 250
SCALE IN FEET

Filename X \AFC001\33cca\RFI_SWMU_26 \report\SB_and_MW_locations apr
Project AFC001-33CCB
Created 09/25/00 jbelcher
Revised 11/09/01 asp
Map Source HydroGeoLogic, Inc
ArcView GIS Database 2001

HYDRO GeoLogic INC

TABLES

Table 4.1
Soil Sampling Summary, 1998 - 2001
SWMU 26 / Landfill 3
NAS Fort Worth JRB, Texas

Sample Location	Date	Sampling Intervals	EPA Solid Waste Method	Analyses
BHGLTA301	09-Apr-98	0-0.5', 3.5-6.5', 8.5-11.5', 13.5-16.5'	SW6010B, SW7471, SW8080A, SW8141A, SW8151A, SW8260B, SW8270C, SW8280A, SW9010, SW9030B	Trace Metals by ICP, Mercury by cold vapor - AA, Organochlorine Pesticides/PCBs, Organophosphorus Pesticides, Chlorinated herbicides, VOCs, SVOCs, Dioxins/Furans, Cyanide, Sulfide
BHGLTA302	09-Apr-98	0-0:5', 3.5-6.5', 8.5-11.5'		
BHGLTA303	14-Apr-98	0-0.5', 3.5-6.5', 8.5-11.5', 13.5-16.5', 18 5-21.5'		
BHGLTA304	14-Apr-98	0-0.5', 3.5-6.5', 8.5-11.5', 13.5-16.5'		
BHGLTA324	26-Jan-99	3 5-6.5',13.5-16.5'	SW6010B, SW7471, SW7740, SW7761, SW7841, SW8080A, SW8141A, SW8150B, SW8260B, SW8270, SW8280A, SW9010, SW9030B	Trace Metals by ICP, Antimony, Lead, Mercury, Selenium, Silver, and Thallium by GFAA; Organochlorine Pesticides/PCBs, VOCs (incl. cis-1,2,-Dichloroethene, MTBE), SVOCs, Dioxins/Furans, Cyanide, Sulfide
BHGLTA325	26-Jan-99	0-0.5', 13.5-16.5'	SW8270C, SW8260B, SW7421	SVOCs, VOCs (incl. cis-1,2-Dichloroethene),Lead
BHGLTA326	27-Jan-99	3.5-6.5', 13.5-16.5'		
BHGLTA327	27-Jan-99	8.5-11.5', 13.5-16 5'		
BHGLTA328	28-Jan-99	0-0.5', 13.5-16.5'		
BHGLTA329	05-Apr-00	14-16'	SW7421, SW9041, SW9081	Lead, pH, Cation Exchange Capacity
BHGLTA330	05-Apr-00	14-16'		
BHGLTA331	05-Apr-00	14-16'		
BHGLTA333	24-Jan-01	0-0.5', 4-6'	SW6010B, SW7471, SW7041, SW7421, SW7740, SW7761, SW7841, SW8080A, SW8260B, SW8270C	Trace Metals by ICP, Mercury by cold vapor-AA; Antimony, Lead, Selenium, Silver, and Thallium by GFAA; Organochlorine Pesticides/PCBs, VOCs (incl cis-1,2,-Dichloroethene, MTBE), SVOCs
BHGLTA333 -Dup	24-Jan-01	4-6'	SW6010B, SW7041, SW7421, SW7761	Trace Metals by ICP, (Antimony, Lead, Silver, by GFAA)
BHGLTA334	24-Jan-01	0-0.5', 4-6', 9-11'	SW6010B, SW7471, SW7041, SW7421, SW7740, SW7761, SW7841, SW8080A, SW8260B, SW8270C	Trace Metals by ICP, Mercury by cold vapor-AA; Antimony, Lead, Selenium, Silver, and Thallium by GFAA; Organochlorine Pesticides/PCBs, VOCs (incl. cis-1,2,-Dichloroethene, MTBE), SVOCs
BHGLTA335	25-Jun-01	4-6'	SW8310C	Chrysene and Pyrene only
BHGLTA336	25-Jun-01	4-6'	SW8310C	Chrysene and Pyrene only
BHGLTA337	25-Jun-01	4-6'	SW8310C	Chrysene and Pyrene only

Note: All soil analyses done for TNRCC Appendix IX list of analytes
AA = Atomic Absorption
ICP = Inductively Coupled Plasma Atomic Emission Spectroscopy
GFAA = Graphite Furnace Atomic Absorption
MTBE = tert-butyl methyl ether

Table 4.2
Monitoring Well Completion Details
SWMU 26 / Landfill 3
NAS Fort Worth JRB, Texas

Location Identification	Installation Date	Seal Beginning Depth (ft bgs)	Seal Ending Depth (ft bgs)	Filter Pack Length (feet)	Top of Casing Elevation (ft msl)	Ground Elevation (ft msl)	Bedrock Depth (ft bgs)	Bedrock Elevation (ft msl)	Total Casing Depth (ft bgs)	Screen Beginning Depth (ft bgs)	Screen Length (feet)
LF03-3D	27-Jan-88	3.50	5.50	10.00	625.25	612 64	15.50	597.14	15.40	7.50	6.90
HM-127	18-Feb-89	4.00	15.00	23.50	623.78	624.10	38.50	585.60	18.00	18 00	20.00
LF05-01	22-Mar-90	9.80	11.80	13.40	621.96	619.30	25.00	594.30	11.80	11 80	9.75
WHGLTA302	1-May-98	6.00	8.00	12 00	621.70	618.81	15.00	603.81	10.00	10.00	10.00
WHGLTA303	29-Apr-98	7.00	9 00	11.00	622 77	619.82	20 00	599.82	12.50	12.50	7.50

Note. All monitoring wells constructed with 2" PVC, 0.1 inch slot size, and 100% Open Screen

Table 4.3
Groundwater Sampling Summary, 1998-2001
SWMU 26 / Landfill 3
NAS Fort Worth JRB, Texas

Site	Sample Location	Analyses May 1998	Analyses Sept. 1998	Analyses Dec. 1998	Analyses April 2000	Analyses Feb. 2001
SWMU 26	HM-127	NS	NS	NS	SW6010B[2] (SW7041,SW7191, SW7421, SW7470A, SW7740), SW8260B, SW8310	SW6010B[1](SW7191, SW7421, SW7470A, SW7740), SW8260B,SW8310
SWMU 26	HM-127 FD	NS	NS	NS	SW6010B[2] (SW7041, SW7191, SW7421, SW7470A, SW7740), SW8260B[1], SW8270C	NS
SWMU 26	WHGLTA302	Appx. IX	SW6010B/ SW7470A[2], SW8260B, SW8270C	SW6010B/ SW7470A[2], SW8260B, SW8270C	NS	NS
SWMU 26	WHGLTA302 FD	NS	NS	SW6010B/ SW7470A[2], SW8260B, SW8270C	NS	NS
SWMU 26	WHGLTA303	Appx. IX	NS	NS	NS	NS

[1] Appendix IX (trace metals - SW6010B and Mercury- SW7470A, organochlorine pesticides - SW8080A, organophosphorus pesticides - SW8141A, herbicides - SW8150B, VOCs - SW8260B, SVOCs - SW8270C, dioxins/furans - SW8280A, cyanide - SW9010, sulfide - SW9030B

[2] Section 7 AFCEE list of analytes 2000 Basewide Quality Assurance Project Plan, NAS Fort Worth JRB, Texas. Section 7, HydroGeoLogic, Inc., 3/1/00

Other Analytical Methods:
SW7041 - antimony
SW7191 - chromium
SW7421 - lead
SW7470A - Mercury
SW7740 - selenium
SW8310 - PAHs
NS - Not Sampled

FD = Field Duplicate
PAH = Polynuclear Aromatic Hydrocarbons
SVOC = Semivolatile Organic Compounds
VOC = Volatile Organic Compounds

Table 4.4
Soil Boring and Monitoring Well Coordinates
SWMU 26 / Landfill 3
NAS Fort Worth JRB, Texas

Location Identification	Northing	Easting	Ground Elevation	Measuring Point Elevation
BHGLTA301	6961901.760	2293555.050	631.97	--
BHGLTA302	6962550.840	2293388.830	623.43	--
BHGLTA303	6962550.980	2294319.740	621.65	--
BHGLTA304	6961900.210	2294109.360	632.41	--
BHGLTA305	6961865.040	2294128.320	632.07	--
BHGLTA306	6962550.940	2293476.330	627.25	--
BHGLTA307	6962601.040	2293495.900	628.13	--
BHGLTA308	6962700.310	2293477 320	626 9	--
BHGLTA309	6962700.740	2293336.930	622.56	--
BHGLTA310	6962800.060	2293405.500	624.81	--
BHGLTA311	6962199.590	2293387.560	621.7	--
BHGLTA312	6962450.550	2293388.260	623.72	--
BHGLTA313	6962473.500	2293218.900	621.62	--
BHGLTA314	6962476.550	2293495.840	628.51	--
BHGLTA315	6961950.840	2294147.940	631.4	--
BHGLTA316	6961991.120	2294108.100	632.33	--
BHGLTA317	6962599.270	2294289.030	623.04	--
BHGLTA318	6962600 390	2294247.530	624 95	--
BHGLTA319	6962601.320	2294399.720	619 03	--
BHGLTA320	6962501.500	2294317 000	622.12	--
BHGLTA321	6962722.610	2294308 280	622.31	--
BHGLTA322	6961952.320	2294400.240	628.25	--
BHGLTA323	6962547 030	2293175.080	621 53	--
BHGLTA324	6961900.270	2294109.850	632.53	--
BHGLTA325	6961902.410	2294159.830	631.36	--
BHGLTA326	6961897.510	2294202.690	630 59	--
BHGLTA327	6961858.280	2294159 400	631 46	--
BHGLTA328	6961944.110	2294162 170	631.09	--
BHGLTA329	6961910.568	2294035.158	633.99	--
BHGLTA330	6961851 121	2294050.954	633 76	--
BHGLTA331	6961948.364	2294062 892	633.30	--
BHGLTA332	Not Installed	Not Installed	Not Installed	Not Installed
BHGLTA333	6962675.74	2293386.91	623.49	--
BHGLTA334	6962285.11	2293366.59	621 34	--
BHGLTA335	6962675.83	2293285.82	621.48	--
BHGLTA336	6962776.94	2293387.46	624.30	--
BHGLTA337	6962675.66	2293489.13	627.72	--
LF03-3D	6962056.65	2293269.12	621.60	625.25
HM-127	6961588.50	2294853.30	624.10	623.82
LF05-01	6962728.30	2294577.80	619.30	621.96
WHGLTA302	6962602.64	2294422.27	618.81	621.70
WHGLTA303	6962351.21	2294400.77	619.82	622 77

Table 4.5
Chronology of Project Field Tasks
SWMU 26 / Landfill 3

Task	Dates
Geophysics Surveys	February 1998
DPT Soil Borings for Characterization (Appendix IX)	April 1998
Monitoring Well Installation and Development	May 1998
Monitoring Well Sampling - Round No.1	May 1998
Monitoring Well Sampling - Round No.2	September 1998
Monitoring Well Sampling - Round No.3	December 1998
DPT Soil Borings for Delineation/SPLP (SE Quadrant)	January 1999
Monitoring Well Sampling - Round No.1 (HM-127)	April 2000
DPT Soil Borings for Delineation/SPLP (SE Quadrant)	April 2000
DPT Soil Borings for Characterization (NW Quadrant)	January 2001
Monitoring Well Sampling - Round No.2 (HM-127)	February 2001
DPT Soil Borings for Delineation (NW Quadrant)	June 2001

Table 4.6
Comparison of Background Values with MQLs and MDLs of Various Analytical Methods

Analyte	SW6010A ICP (mg/kg)		SW6010A ICP Trace (mg/kg)		SW7000 (GFAA or CV) (mg/kg)		Jacobs Background (mg/kg)	
	MQL	MDL	MQL	MDL	MQL	MDL	Surface	Subsurface
Aluminum	50.0*	1.01*					22035	20260
Antimony	40	3 2			0.5*	0.25*	0 56	0.712
Arsenic	60	2.7	0.5*	0.46*	0.5	0.25	5.85	6.58
Barium	2.0*	0.04*					233	128.1
Beryllium	0.3*	0.01*					1.02	1.13
Cadmium	4	0.37	0.1*	0 1*	0.1	0.05	0.556	0.59
Calcium	10.0*	2.25*					167788	272000
Chromium	7.0*	0.55*			0.5	0 25	25.86	16.31
Cobalt	7.0*	0.84*					11.05	6.19
Copper	6.0*	0.14*					17.37	13.72
Iron	7.0*	0.58*					17717	17469
Lead	50	1.8	0.5*	0 14*	0 5	0.25	30 97	12.66
Magnesium	30.0*	5.53*					3003	2420
Manganese	2.0*	0.12*					849	351.7
Molybdenum	8.0*	0.61*					1.46	1.93
Nickel	15	0.47			1*	0.2*	14.6	19.76
Potassium	500*	52.2*					2895	1717
Selenium	80	3.1			0.5*	0 11*	0.907	0.313
Silver	7	0.28			0.1*	0.02*	0 213	0.128
Sodium	30.0*	2.0*					37300	53200
Thallium	40	5.6	40.0*	1.0*	0.1	0 05	2 43	1 5
Vanadium	8.0*	0 39*			0 4	0.2	46.3	37.4
Zinc	2.0*	0.17*					38.8	31.3

Note: Bold analyte names indicate analytes with RFI MQLs greater than Final Background values
* Analytical methods used in Final Jacobs Basewide Background Study (Jacobs, 1998).

Table 4.7
SPLP Sampling Analysis Summary Table
SPLP / Delineation Phase
NAS Fort Worth JRB, Texas

Sample Location	Sampling Intervals	Soil Method	Analyte
BHGLTA333	05 ft	SW7041	Antimony
BHGLTA333	05 ft	SW6010B	Arsenic
BHGLTA333	05 ft	SW6010B	Cadmium
BHGLTA333	05 ft	SW6010B	Chromium, total
BHGLTA333	05 ft	SW6010B	Copper
BHGLTA333	05 ft	SW7421	Lead
BHGLTA333	05 ft	SW6010B	Nickel
BHGLTA333	05 ft	SW7761	Silver
BHGLTA333	05 ft	SW6010B	Zinc
BHGLTA329	15 ft	SW7421	Lead

TAB

SECTION 5.0

5.0 INVESTIGATION RESULTS

Section 5.1 discusses general trends of soil results common to the RFIs conducted at 11 base landfills (SWMUs 17, 22, 23, 24, 25, 26, 27, 28, 29, 30, and 62) (Figure 1.2). Results from the concurrent investigation of the 11 landfills are significant because evidence of matrix interference inherent with EPA Method SW6010-standard for metals (used in 1998) was developed at most of these landfills. Specifically, the detections of chromium and thallium at SWMU 26 are shown to be insignificant based on results at these other landfills. Section 5.2 presents site-specific results from the investigation SWMU 26. All analytical data collected as part of this RFI is presented as Appendix I.

5.1 GENERAL OBSERVATIONS OF SOIL ANALYTICAL RESULTS

Analytical results from Appendix IX soil characterization sampling conducted for RFI efforts at other base landfills generally revealed low to moderate concentrations of metals, VOCs, SVOCs, pesticides, and sulfide. There were no detections of chlorinated herbicides, dioxins, or furans in any soil samples collected and analyzed from any of the 11 base landfills. There were also no detections of cyanide above RRS 1 at any of the landfills; however, cyanide was detected below RRS 1 at SWMUs 25 and 26. With the exception of SWMU 24, nearly all detections of VOCs in soil consisted of Standard 2 concentrations of BTEX and the common laboratory/field artifacts acetone, methylene chloride, and methyl ethyl ketone (MEK or 2-butanone).

Analytical results from Appendix IX groundwater characterization sampling at base landfills generally revealed low concentrations of metals and SVOCs as well as moderate to high concentrations of VOCs. The primary VOCs detected in groundwater collected at 8 of the 11 base landfills were chlorinated solvents associated the regional TCE plume. Groundwater was not encountered at SWMU 27. VOCs were not detected in groundwater at SWMUs 28 and 30. The primary VOCs detected in SWMU 26 groundwater include Standard 2 and Standard 3 concentrations of PCE, TCE, and TCE degradation products. Chlorinated solvents were not detected in soil samples collected at SWMU 26.

A comparison of the site-specific analytical results obtained during characterization soil sampling to TNRCC RRS 1, which is either the basewide background value (Jacobs, 1998) for inorganics or the MQL for organics, revealed that additional sampling was required at SWMU 26. This sampling was necessary to delineate potentially impacted soils to Standard 1. In addition, confirmation samples were needed to determine site-specific MSCs through the use of the SPLP method. Finally, the areal extent of confirmed Standard 3 contaminant concentrations were defined to support potential excavations and disposal of Standard 3 soils.

The following subsections discuss global issues and observations common to each SWMU that also pertain to SWMU 26. Statistical comparisons of background study results to RFI results are also discussed. Specific results from soil investigation activities and SPLP/delineation results are discussed subsequent to these global issues. The presentation of specific analytical

results is divided into two subsections, including inorganic analytical results and organic analytical results in soil. Analytical tables and figures included throughout Section 5 present all analytical detections above background/RRS 1.

5.1.1 Statistical Significance of Thallium

In the Draft BBS (Jacobs, 1997b), thallium background concentrations in surface soil and subsurface soil were determined using Method SW6010 ICP-standard and were reported at 63.9 milligram per kilogram (mg/kg), and 64.5 mg/kg, respectively. In the Final BBS (Jacobs, 1998), background concentrations of thallium in surface and subsurface soil were reported at 2.43 mg/kg and 1.5 mg/kg, respectively using Method SW6010 ICP-trace. The initial thallium concentrations in initial soil characterized samples (ICP-standard) are consistently higher than the Final BBS thallium concentrations (ICP-trace). Because the Draft BBS and the RFI soil samples collected from SWMUs 17, 26, 27, 29, 30, and 62 were both analyzed by the SW6010 ICP-standard method, a statistical analysis was performed to compare thallium soil concentrations in these two data sets. This direct comparison serves to minimize variation of results due to differing analytical methods.

The method used to conduct the statistical analysis of the two data sets was the non-parametric Wilcoxon Rank Sum Test, also referred to as the two-sample Mann-Whitney U-test, described in EPA's guidance manuals for statistical analysis of groundwater monitoring data at RCRA Facilities (EPA, 1992 and 1989). The above test method was used because both data sets were determined not to be normally distributed. All non-detects in both data sets were replaced with minimum detection limit as recommended in the EPA's guidance manuals (EPA, 1992 and 1989). Results of the statistical analysis are summarized in the Table 5.1.

Table 5.1 illustrates that the mean thallium concentration in background soils is significantly greater than the mean determined for soils at SWMUs 17, 26, 27, 29, 30, and 62 in 1998. The difference in the means is confirmed by the result of the z-static test based on the assumption or null hypothesis that there is no difference between the means at the 0.01 confidence level. The approximate z-scores (-6.01-surface, -7.49-subsurface, and -9.8-combined) represent a normal approximation of the distribution of the Mann-Whitney Static value (Table 5.1).

To accept or reject the above assumption, the upper z-score is compared against the tabulated critical z-value of the upper 0.01 percentile (i.e. 99 percent level of confidence) of the normal distribution. The critical z-value is -2.326. Since all calculated z-scores are less than the critical z-value of -2.326, the null hypothesis that the means are the same is rejected. In fact, the mean value of the compliance data is less than the mean value of the background data with a 99 percent level of confidence. Therefore, it is concluded that the two means are statistically different and the thallium compliance concentration values in the RFI data set for SWMU 26 are observable lower than those of the Draft BBS. It can be inferred from this analysis, that, if the RFI samples collected at these SWMUs were re-analyzed using the ICP-trace method, as were the Final BBS, the results of these analyses would not likely exceed the generated background concentrations.

5.1.2 Matrix Interference

Discrepancies between detected concentrations of soil contaminants in characterization versus confirmation samples appears to occur with some metals and OC pesticides. For metals, it has been concluded that the use of a less definitive method, EPA Method SW6010 ICP-standard, in characterization sampling caused analytical results to be falsely skewed higher than actual metal concentrations in soil. The use of more definitive methods in later sampling rounds (EPA Method SW6010 ICP-trace for multiple metals and SW7740 GFAA for selenium), are believed to be more representative of actual metal concentrations in site soils. According to the laboratory metal section manager, matrix interference often occurs with Method SW6010 ICP-standard, which generates false-positive detections at low concentrations. This matrix interference is primarily due to the presence of salts. For this reason, confirmation/delineation samples do not always verify the estimated concentrations detected in characterization samples. However, the confirmation/delineation methods are considered the more definitive methods and provide a more accurate representation of the chemical characteristics of site media. Specific examples of matrix interference are listed below.

Selenium: During the Appendix IX broad-spectrum characterization of SWMU 25, and the characterization of SWMUs 29 and 62 (former landfills located approximately 1/4 mile east of SWMU 25 along the base perimeter road) conducted in March and April 1998 under a separate project, selenium was detected above background in 29 of 29 samples (HydroGeoLogic, 2001). Analysis of these samples using Method SW6010 ICP-standard yielded selenium results ranging from 2.9 F mg/kg to 23 F mg/kg. Background results for surface and subsurface selenium were calculated and reported as 0.907 mg/kg and 0.313 mg/kg, respectively. During the RFI delineation phases of SWMUs 29 and 62 conducted by HydroGeoLogic in 1999, 11 of the 28 sampling intervals were re-sampled and analyzed using the more definitive SW7740 GFAA method. Selenium was not detected at any of these 11 sampling intervals. Selenium was also not detected in any of the 34 delineation sampling intervals near the perimeters of SWMUs 29 and 62. In addition, the Standard 3 detections of selenium at the SWMU 25 sampling location, B816-10', and the SWMU 28 sampling location, LF01-1B/B118, were not confirmed above background using the more definitive EPA Methods SW6010A ICP-trace and SW7740 respectively. Based on the above observations, initial detections of selenium using SW6010 ICP-standard at SWMUs 17, 22, 23, 24, 25, 26, 28, 29, 30, and 62 are believed to be false positives and not a constituent released as a result of past site operations. Therefore, further investigation of selenium is not warranted.

Chromium: Unlike the selenium false positives generated using SW6010 ICP-standard, concentrations of chromium using SW6010 ICP-standard are artificially increased due to matrix interference. Table 5.2 summarizes the initial SW6010 ICP-standard chromium results verses the SW6010 ICP-trace confirmation results at SWMUs 17, 23, 25, 29, and 62. Eleven of twelve detections decreased by approximately 50 percent using the more accurate SW6010 ICP-trace method compared to detections using the SW6010 ICP-standard method. The exception is the B829 surface sample, which increased from an estimated concentration of 41.5 J mg/kg to 111 mg/kg in the confirmation sample. It should be noted that after SPLP analysis was performed on the confirmation sample, the concentration of the extract was below the

corresponding industrial groundwater MSC. However, 9 of 9 samples originally detected at concentrations below 40 mg/kg were all found to be below background in confirmation sampling. Based on these observations, it appears that detections of chromium in low concentrations using SW6010 ICP-standard (i.e., less than 40 mg/kg), are inaccurately reported at approximately twice the actual concentration detected using SW6010 ICP-trace. As such, these detections above background are interpreted as being at or below background, and not a constituent released as a result of past site operations.

5.1.3 Laboratory / Field Artifacts

As described in Section III.2 of the TNRCC Interoffice Memorandum (TNRCC, 1998a) regarding laboratory/field artifacts, the VOCs - acetone, methylene chloride, MEK, and toluene are common laboratory/field artifacts. The SVOCs - dimethyl phthalate, diethyl phthalate, di-n-butyl phthalate, butyl benzyl phthalate, B2EHP, and di-n-octyl phthalate are also common laboratory/field artifacts.

Acetone and MEK were sporadically detected at low concentrations with small standard deviations in RFI soil samples collected at SWMU 26. The low concentrations in combination with small standard deviations are indicators of artificially introduced field/laboratory contamination. In contrast, high standard deviations in concentration would indicate a possible release related detection. In addition, the sporadic pattern of detection is not indicative of a release. Therefore, it is concluded that these detections are laboratory/field artifacts not related to site activities. Although these compounds are presumed not to be representative of site contamination, they have not been censored from report tables and figures showing positive results.

In addition, as depicted the graph shown in Figure 5.1, these compounds are highly soluble and volatile when compared to other VOCs. It can be inferred that since acetone, MEK, and methylene chloride were only sporadically detected in groundwater (if detected at all), that these compounds are not actually present in subsurface soil. It can also be inferred that if these compounds were present in surface soil, they would have immediately volatilized under weather conditions prevailing in the Fort Worth area. Based on the above considerations, no further delineation of these VOCs is warranted.

5.1.4 Compounds Analyzed by Multiple Methods

General statistics comparing the number of total analyses per analyte with the number of detections per analyte are discussed throughout Section 5.0. Variances in the total number of analytical results per analyte arise for several reasons: (1) some compounds are listed by several analytical methods, and individual samples may have been analyzed using multiple analytical methods with overlapping reporting of these analytes. For example, naphthalene is present on the analyte lists for SW8260 (VOCs), SW8270 (SVOCs), and SW8310 (PAHs). (2) Metals are often analyzed in groups using EPA Method SW6010, with some individual metals analyzed using the SW7000 GFAA series of methods. For example, lead can be analyzed by SW6010 and SW7421. (3) Some of the broad spectrum analytical methods used in the

Appendix IX characterization sampling are often not the most sensitive analytical method for individual analytes. During delineation sampling, the most sensitive analytical methods were used for individual analytes. For example, in 1999/2000, naphthalene was analyzed by SW8270 for confirmation/characterization samples and by SW8310 for delineation samples. (4) Method numbers have changed over the course of this investigation in response to updated EPA guidance. For example, OC pesticides/PCBs can be reported both by method SW8080 and by SW8081.

It should be noted that Section 5.0 data tables for surface and subsurface detections show only those compounds that were detected above their corresponding RRS 1 value. If a compound was not detected by an individual method, then that method will not be listed in the surface and subsurface detection tables. Appendix I presents all analytical results including rejected and U-qualified (non-detected) data. The total number of analyses per analyte are represented in this Appendix. For reference, Table 5.3 lists all the compounds analyzed by multiple analytical methods.

5.2 SWMU 26

RFI activities conducted at SWMU 26 between 1998 and 2001 included 35 DPT soil borings and 2 monitoring wells. Three soil borings and one monitoring well were installed by Radian Corporation between 1985 and 1992 as part of the investigation of SWMU 26 and the basewide TCE plume. Soil boring and monitoring well locations are presented in Figure 5.2. Soil boring activities at SWMU 26 revealed sporadic construction debris that consisted of glass, bottle caps, asphalt, wood, floor tiles, and scrap metal.

5.2.1 Interpretation of Aerial Photographs

As previously described in Section 3.2, aerial photographs for the SWMU 26 area covering six decades were reviewed to identify areas of activity. Prior to September 1946, SWMU 26 did not exist. Several trenches excavated in the approximate vicinity of SWMU 26 were initially observed in a December 1950 aerial photograph (Figure 5.2). The majority of the trenches appeared to be oriented east-west, with one or two trenches oriented north-south. In addition, an area of soil piles and pits were observed in the southwest quadrant. By April 1952, landfill activity appeared to have stopped as the trenches appear to have been filled and graded over. The aqueduct that redirects Farmers Branch Creek below the extended runway was built in January 1953 just to the south of SWMU 26. Construction for the extension of the main runway was ongoing in February 1954 and the entire SWMU appeared to have been graded over by the amount of ground scarring present. In December 1958, the main runway was extended directly over the top of the SWMU 26 area. The site appeared inactive after 1958. The final disposition of landfill materials could not be discerned from aerial photographs.

5.2.2 Geophysical Results

In February 1988, HydroGeoLogic conducted a geophysical survey of SWMU 26 using EM induction and magnetic methods to determine the location of potential landfill materials. A

400 feet east-west by 900 feet north-south grid was established on the east and west sides of the runway at the suspected location of SWMU 26 (Figures 5.3 and 5.4 respectively). Most of the SWMU 26 survey area was free from geophysical anomalies. The identified anomalies do not exhibit strong characteristics and are not believed to represent landfill material. However, the following locations were recommended for further investigation. A weak magnetic zone, centered at approximately (340, 800), was identified by the geophysical investigation at SWMU 26, east of the primary runway. Based on the strength of the magnetic anomaly and the lack of correlation between the electromagnetic and magnetic results, ferromagnetic material may be present deep in the subsurface (Figure 5.3). In addition, a weak conductivity anomaly, centered at approximately (125, 175) was noted. Another anomalous area was identified by the geophysical investigation at SWMU 26, west of the primary runway (Figure 5.4). This weak electromagnetic and magnetic anomaly begins at approximately (100, 550) and extends north off the survey grid. Based on the correlation between geophysical results, this anomalous area may be the results of ferromagnetic material in the subsurface. In April 1998, HydroGeoLogic conducted a field investigation to delineate the boundaries of the SWMU area by installing DPT borings. Soil borings BHGLTA306, (B306), B307, B308, B309, B310, B311, B312, B313, B314, and B323 were installed to delineate the anomaly west of the runway centered at (100, 550). Soil borings B317, B318, B319, B320, and B321 were installed to delineate the anomaly east of the runway centered at (340, 800). Soil borings B305, B315, and B316 were installed to delineate the anomaly east of the runway centered at (125, 175).

5.2.3 Soil Boring Locations

As discussed in Section 3.2, part of the initial field activities performed by HydroGeoLogic in 1998, four DPT locations, B301 through B304, were installed with soil samples collected in 5-foot intervals from the ground surface to the water table. These samples were analyzed for the full suite of Appendix IX compounds [232 compounds and 1,2-dichloroethane (1,2-DCA)]. Seventeen additional continuous core soil borings (B305 through B321), were advanced to lithologically delineate and characterize the landfill and surrounding soils. In 1999, boring B324 was installed to confirm the presence of stained soils and a Standard 3 detection of lead in the 15-foot interval of B304. The sample collected from B324 was analyzed for the full suite of Appendix IX compounds with the exception of dioxins and furans to determine if the observed soil staining was a remnant of a petro-chemical product. Borings B325-B328 were also installed to delineate lead to the north, south, and east of B304. In 2000, borings B329-B331 were installed to delineate lead to the west of B304 near the main runway and the runway lighting system. In January 2001, two additional Appendix IX borings (B333 and B334) were installed to further characterize the geophysical anomaly located in the northwest quadrant and three additional borings were installed in June 2001 to delineate specific compounds detected in samples collected from B333. Analytical results above the detection limit for surface and subsurface soil are presented in Table 5.4 and 5.5, respectively. All analytical data generated during the RFI of SWMU 26 is presented in Appendix I.

5.2.4 Lithologic Findings and Conceptual Site Model

Figures 5.5 and 5.6 should be used as a reference for the following discussion of the lithologic cross-sections at SWMU 26. Note that on each cross-section, a green line connecting the bottom of each boring used in the cross-section indicates the limit of observed lithology. The lithology and elevation of bedrock between each boring is inferred. The green line intercepts bedrock where bedrock was either directly observed or refusal was encountered. The blue line on cross-sections B and C represents the elevation of groundwater as interpreted by the computer model Quicksurf® for the April 2001 sampling event depicted in Figure 5.7. This simple model relies on measured groundwater elevations collected from every well at NAS Fort Worth JRB. It should be noted that areas where soil borings did not encounter groundwater in the alluvial terrace deposits were not used to set boundary conditions in the general interpretation of NAS Fort Worth JRB basewide groundwater flow. Consequently, as illustrated in the cross-sections and discussed below, localized areas of elevated bedrock may act as "underground islands" diverting groundwater flow into channels and preferred pathways where they occur.

As depicted in Figure 5.5, lithology along a north-south transect (A-A'), in the western portion of the SWMU 26, through borings B310, B333, B302, B312, B334, and B311 indicates that the near-surface soils are composed of silty clay and gravel that is almost continuous throughout the length of the transect. This silty clay and gravel layer is approximately 9 feet thick in the north, and pinches out at B311 in the south. The subsurface soils are composed of clayey gravel that is continuous through out the transect. The unit ranges in thickness from around 8 feet in the northern section, 1 foot in the center, to around 12 feet at the southern end of the transect. Along most of the transect the clayey gravel unit is overlain by a long body of landfill material that reaches a maximum thickness of four feet at boring/piezometer B302. No landfill material was encountered at B310 to the north and at B334 and B311 to the south. The base of the clayey gravel unit forms a distinct contact between this unconsolidated layer and the Goodland/Walnut bedrock formation. The highest surface elevation along the transect, is at boring B310 at approximately 625 feet above msl. The lowest surface elevation is at B334, approximately 621 feet above msl. The bedrock elevation along A-A' is approximately 608 feet above msl through out the entire section, except at B333 where it rises to 612.5 feet above msl. The dashed blue line represents estimated groundwater elevation based on moisture content noted in boring logs along the transect. The saturated thickness of alluvial terrace groundwater was either less than 1 foot or non-existent at each of the borings along this transect.

As depicted in Figure 5.6, lithology along a west-east transect (B-B'), in the northern portion of the SWMU, through borings B323, B313, B302, B307, B318, B317, B303, B319, W302, LF05-01, CPT-26, CPT-20, CPT-27, CPT-28, CPT-21, CPT-10, CPT-11, and CPT-9 indicates that the near-surface soils are composed of silty clay and gravel to the west. The layer is approximately one foot thick in the west, around 20 feet thick in the middle portion, and about 10 feet thick in the central portion of the section. The near-surface soil to the east is composed of sandy silty clay averaging around 20 feet in thickness to the east and around 5 feet in the center portion underlying the silty clay with gravel. The subsurface soils are

composed of a clayey gravel that is almost continuous through out the transect. The unit averages about 10 feet across the transect, except at B302, B319, and CPT-10 where it is approximately 1 foot in thickness or not present at all. The clayey gravel unit in the western portion of the transect is overlain by landfill material with a thickness of about four feet at B302 and at B317, with a thickness of about 2 feet. All other borings did not encounter any landfill material. The base of the clayey gravel unit forms a distinct contact between this unconsolidated layer and the Goodland/Walnut bedrock formation. The bedrock elevation along B-B' is approximately 610 feet above msl in the west, to around 590 feet msl to the east. The bedrock generally slopes to the east, except at B319 and W302 where bedrock is encountered around 603 feet above msl forming a high spot in the bedrock, possibly along the bank of the former channel of Farmers Branch Creek (Figure 5.2). The highest surface elevation along the transect, is along the main runway at approximately 632 feet above msl. The lowest surface elevation is at CPT-11, approximately 617 feet above msl. Groundwater along this transect is less than 1 foot in thickness to the west at B323 and B302. Groundwater was not encountered at all in B307 indicating the presence of a possible bedrock high under the main runway between B307 and B317 where there is no hard lithologic data for approximately 750 feet. Groundwater is again encountered at B303 and W302. Note that the paleo-channel extends from W302 to the area under Taxiway Foxtrot between CPT-21 and CPT-10 where the clayey sandy gravel unit pinches out. It should be noted that the dashed red line between boring B307, piezometers B303, and boring B319 represents groundwater elevations reported in 1998. These elevations more closely parallel bedrock elevations.

As depicted in Figure 5.6, lithology along a west-east transect (C-C'), in the southern portion of the SWMU, through borings LF03-3D, B301, B329, B324, B325, B326, B322, LF03-3E, HM-127, W701, and W709 indicates that much of the near-surface soils are composed of silty clay with gravel that is continuous throughout the entire length of the transect. The layer ranges in thickness from approximately 20 feet at its thickest point in the west, and averaging around 5 - 10 feet throughout the rest of the transect. Underlying this unit is a sandy silty clay layer that is first seen at B329 averaging about 8 feet in thickness except at B326 were it is only about 2 feet thick. The unit averages about 10 feet thick in the middle of the section and is around 20 feet thick towards the east, where it pinches out at W709. The base of the silty clay unit forms a distinct contact between this unconsolidated layer and the Goodland/Walnut bedrock formation in the west from LF03-3D to the central portion of the transect at LF03-3E. At the east section the silty clay is underlain by a clayey sandy gravel layer that stretches from HM-127 to W709 averaging a thickness of around 8 feet. The base of this layer also forms a distinct contact between this unconsolidated layer and the Goodland/Walnut bedrock formation. The highest surface elevation along the transect, measured at the time of the RFI field investigation, is at boring B329 at approximately 634 feet above msl. The lowest surface elevation is at B322, approximately 628.5 feet above msl. The bedrock elevation along C-C' is approximately 607 feet above msl in the west at LF03-3D, rising to around 615 feet msl at boring B326, then falling in series of two terraces; the first between B322 and LF03-3E at approximately 605 feet, and the second falling between HM-127 and W709 at approximately 596 feet. The latter terrace is overlain by sand and gravel is part of the paleo-channel. Groundwater along C-C' is present in the west at LF03-3D; however, groundwater was not encountered along C-C' at B301, B329, B324, B325, B326, and LF03-3D. Groundwater

appears again in the paleo-channel at HM-127, W701, and W703. Groundwater at LF03-3D most likely flows to the west along bedrock to Farmers Branch Creek. Leakage from the AFP 4 storm sewer, located adjacent to LF03-3D is the most likely source of groundwater at LF03-3D (Figure 5.8). Cross-section C-C' illustrates the dry drainage divide under SWMU 26 in the southeast and southwest quadrants of SWMU 26. This drainage divide continues and decreases in elevation to the northwest along B-B' between B323-B307 within a remnant of the former incised meander loop of Farmers Branch Creek (Figure 5.2).

5.2.5 Soil Analytical Results

Initial surface and subsurface soil samples were collected from four soil borings at SWMU 26 in 1998. The Appendix IX borings are identified as B301 through B304. Additional Appendix IX soil borings (B333 and B334) were also advanced in 2001 (Figure 5.9). Soil borings used for delineation sampling included B325 through B331 and B335 through B337. Analytical results of surface and subsurface soil sampling initially indicated the presence of some metals and SVOCs at Standard 2 and 3 concentrations. All VOCs detected were at or below Standard 2 concentrations.

The discussion of analytical results in soil has been separated into two sections based on chemicals groups: inorganic and organic. Note that separate background values exist for inorganics. A discussion of each analyte detected above RRS 1 is presented in a separate subsection below. This discussion includes general statistics, interpretation, delineation, and confirmation/SPLP results. Several tables and figures have been prepared to facilitate the reader's review of each section. Analytical results above RRS 1 in soil are presented in Figure 5.9; analytical results above detection limit in surface soil are presented in Table 5.4; analytical results above detection limit in subsurface soil are presented in Table 5.5; confirmation/SPLP results are presented in Table 5.6; and site-specific MSCs are presented in Figure 5.9.

It should be noted that a suite of metals were detected at Standard 2 and 3 concentrations in the 5-foot interval of B333. A confirmation analysis and SPLP extraction for metals was performed simultaneously because the sample holding time was about to expire. As a result, the original detections of metals were not confirmed and metals were not detected above GW-Ind MSC in the SPLP extract. Therefore, it is concluded that the Standard 1 detections in the duplicate sample are more representative of site conditions than the parent sample.

5.2.5.1 Inorganic Analytical Results

Various Appendix IX metals were detected above background concentrations in surface and subsurface soil samples collected at SWMU 26. In surface soils, metals detected above background include thallium and zinc (Table 5.4). Metals detected above background in subsurface soils include antimony, arsenic, cadmium, chromium, copper, lead, nickel, silver, thallium, tin, and zinc (Table 5.5). Figure 5.9 displays the locations and chemical data that exceeded background concentrations in SWMU 26 soils.

These detections of zinc in surface soils are considered variations of basewide background levels and not indicative of a site-related release. In subsurface soil, include arsenic, cadmium, copper, nickel, and tin. The percentage of detection for these compounds was calculated only for detections above background values (RRS 1). In addition, the percentage of detections greater than RRS 1 compared to total analyses in combined surface and subsurface soil for each of the above compounds is less than five percent of total analyses. Since these compounds do not exhibit a pattern of detection indicative of a release and the frequency of detection for these compounds is below the five percent threshold described in Section 3.1 of the TNRCC Interoffice Memorandum (TNRCC, 1998a), further delineation of arsenic, cadmium, copper, nickel, and tin in SWMU 26 soil is not warranted.

A closer examination of each of these compounds is presented below:

- **Arsenic** was detected in 5 of 7 surface soil samples analyzed for metals. None of the 5 detections exceeded the RRS 1 concentration of 5.85 mg/kg. Arsenic was also detected in 13 of 18 subsurface soil samples analyzed for metals. Only 1 of the 13 detections exceeded the subsurface RRS 1/RRS 2 concentration of 6.58 mg/kg. This isolated detection of arsenic at the 5-foot interval of B333 (6.8 mg/kg) was not confirmed in the duplicate sample. This result was further analyzed using SPLP and subsequently was not detected in the extract at a concentration above the GW-Ind value. In addition, the percentage of detections greater than RRS 1 compared to total analyses in combined surface and subsurface soil for arsenic is 4.0 percent (1 of 25 analyses).

- **Cadmium** was detected in 3 of 7 surface soil samples analyzed for metals. None of the 7 surface samples exceeded the RRS 1 concentration of 0.556 mg/kg. Cadmium was detected in 4 of 18 subsurface soil samples analyzed for metals. Of the 18 samples analyzed, only one detection exceeded the RRS 1/RRS 2 concentration of 0.59 mg/kg. This isolated detection of cadmium at the 5-foot interval of B333 (8.40 mg/kg) was not confirmed in the duplicate sample. This result was further analyzed using SPLP and subsequently was not detected in the extract at a concentration above the GW-Ind value. The percentage of detections greater than RRS 1 compared to total analyses in combined surface and subsurface soil for cadmium is 4.0 percent (1 of 25 analyses).

- **Copper** was detected in 4 of 7 surface soil samples analyzed for metals. None of the 7 samples analyzed exceeded the RRS 1 concentration of 17.37 mg/kg. Copper was detected in 16 of 18 subsurface soil samples. Of the 18 samples analyzed, only one detection exceeded the RRS 2 concentration of 130 mg/kg. This isolated detection of copper at the 5-foot interval of B333 (368 mg/kg) was not confirmed in the duplicate sample. This result was further analyzed using SPLP and subsequently was not detected in the extract at a concentration above the GW-Ind value. The percentage of copper detections greater than RRS 2 compared to total analyses of combined surface and subsurface soil is 4.0 percent (1 of 25 analyses).

- **Nickel** was detected in 4 of 7 surface soil samples analyzed for metals; however none of the detections exceeded the RRS 1 concentration of 14.6 mg/kg. Nickel was also detected in 16 of 18 subsurface samples. Only one of the detections exceeded the RRS 1 concentration of 19.76 mg/kg. The detection of nickel at the 5-foot interval of B333 (33.80 mg/kg) was not confirmed in the duplicate sample. This result was further analyzed using SPLP and subsequently was not detected in the extract at a concentration above the GW-Ind value. This is well below the RRS 2 concentration of 200 mg/kg. The percentage of nickel detections greater than RRS 1 compared to total analyses of combined surface and subsurface soil is 4.0 percent (1 of 25 analyses).

- **Tin** was not detected in any of the 7 surface soil samples. Tin was detected in 1 of 17 subsurface soil samples. The detection at the 5-foot interval of B333 (42.30 mg/kg) was above the RRS 1 concentration of 10 mg/kg, but well below the RRS 2 concentration of 6,100 mg/kg. The detection of tin was not confirmed in the duplicate sample. In addition, the percentage of detections greater than RRS 1 compared to total analyses in combined surface and subsurface soil for tin is 4.2 percent (1 of 24 analyses).

A second set of compounds were detected with a frequencies between 5 and 10 percent; however, the original detections were subsequently not confirmed. Antimony and silver fall into this category. In addition, the sporadic pattern of detection for these compounds are not indicative of a release.

- **Antimony** was detected in 1 of 7 surface soil samples analyzed for metals. None of the samples exceeded the RRS 1 concentration of 0.56 mg/kg. In subsurface soil, antimony was detected in 2 of 18 samples analyzed for metals. Both of the detections exceeded the RRS 1/RRS 2 concentration of 0.712 mg/kg. The detection of 0.89 J mg/kg at the 5-foot interval at B333 was not confirmed in the duplicate sample. At B301, antimony was detected in the 5-foot interval with a concentration of 3.4 F mg/kg, but was not confirmed in the duplicate sample. The percentage of detections greater than RRS 1 compared to total analyses in combined surface and subsurface soil for antimony is 8.0 percent (2 of 25 analyses).

- **Silver** was detected in 1 of 7 surface soil samples; however the detection did not exceed the RRS 1 concentration of 0.213 mg/kg. Silver was detected in 2 of 18 subsurface soil samples analyzed for metals. Both of the samples exceeded the RRS 1 concentration of 0.128 mg/kg; however, each of these detections were well below the RRS 2 concentration of 51 mg/kg. The detection in the 5-foot interval of B333 (1.3 mg/kg) was not confirmed in the duplicate sample. The detection of silver (0.14 mg/kg) in the 15-foot interval at B324 was also not confirmed. The percentage of detections greater than RRS 1 compared to total analyses in combined surface and subsurface soil for silver is 8.0 percent (2 of 25 analyses).

As previously noted in Section 5.1.1, statistical analysis indicated that detected thallium concentrations are actually lower than developed background concentrations. Specific detections and concentration ranges are presented below:

- **Thallium** was detected in 4 of 7 surface soil samples analyzed for metals. Each of the 4 detections exceeded the RRS 1/RRS 2 concentration of 2.43 mg/kg. Thallium was also detected in 13 of 17 subsurface soil samples analyzed for metals. All 13 of the detections exceeded the RRS 1/RRS 2 concentration of 1.5 mg/kg. Detections above RRS 1 ranged from 5.9 F mg/kg to 34.4 F mg/kg, with an average concentration of 9.68 mg/kg.

A subset of two metals was inaccurately detected above background due to matrix interference. As noted in Section 5.1.2, detections of selenium and chromium above background resulted from matrix interference inherent with the SW6010-standard analytical method for metals. The matrix interference induces false positive detections of selenium, and artificially elevates concentrations of detected chromium. Detections of chromium below 40 mg/kg using SW6010-standard are interpreted as detections below background. Specific detections and concentration ranges are presented below:

- **Chromium** was detected in 4 of 7 surface soil samples; however, none of the detections exceeded the RRS 1 concentration of 25.86 mg/kg. Chromium was also detected in 15 of 18 subsurface soil samples analyzed for metals. Of the 15 detections 2 detections exceeded the RRS 1/RRS 2 concentration of 16.31 mg/kg. Detections above RRS 1 ranged from 17.5 mg/kg to 19.70 mg/kg, with an average concentration of 18.6 mg/kg and a standard deviation of 1.56 mg/kg. Specifically, chromium was detected at the 5-foot interval of B301 (19.7 mg/kg) and its duplicate sample (17.5 mg/kg). Although not incorporated by project ARARs, each detection is below the State of Texas background value of 30 mg/kg. (For reference, the State of Texas background values are presented in Table 5.7). Since it is believed that interference inherent with the SW6010 ICP-standard analytical method for metals artificially elevated detected concentrations of chromium, and as all chromium detections at SWMU 26 are below 30 mg/kg, they are interpreted as being reflective of base background conditions and do not warrant further investigation. In addition, the percentage of detections greater than RRS 1 compared to total analyses in combined surface and subsurface soil for chromium is 8.0 percent (2 of 25 analyses).

Other inorganic detections observed in SWMU 26 soil included lead and zinc at Standard 3 and 2 concentrations respectively. These inorganics are discussed below.

- **Lead** was detected in all of eight surface soil samples analyzed for metals; however none of the detections exceeded the surface RRS 1/RRS 2 concentration of 30.97 mg/kg. Lead was also detected in all 24 subsurface soil samples analyzed for metals. However, only 4 of the 32 samples exceeded the subsurface RRS 1/RRS 2 concentration of 12.66 mg/kg. Detections above RRS 1 ranged from 15.0 mg/kg to

247.0 mg/kg with an average concentration of 133.25 mg/kg. Specifically, lead was detected in subsurface soil at various intervals: B333-5' (166 mg/kg) and B329-15' (15 mg/kg), as well as B304-15' (247 mg/kg), and the B304-15' confirmation sample, B324-15' (105 J mg/kg).

The lead detection at B333 was not confirmed in the duplicate sample. The detection at B329 passed SPLP and provides the site-specific MSC of 15 mg/kg. The concentration of lead in the SPLP extract (0.016 mg/L) associated with the detection of lead at the 15-foot interval of B324 (105 J mg/kg) was greater then the industrial groundwater RRS 2 threshold value of 0.015 mg/L. Therefore, a site-specific MSC could not be established at B304/B324. The detections of lead at B304/B324 are delineated by perimeter borings B325, B326, B327, B328, B330, and B331. It should be noted that landfill wastes were not encountered in any southeast quadrant boring. More importantly, groundwater was not encountered in piezometer B304/324 nor was groundwater encountered at any boring in the southeast quadrant. Therefore, it is concluded that a migration pathway to groundwater does not exist for the isolated Standard 3 detections of lead in the 15-foot interval of B304/B324.

- **Zinc** was detected in all seven surface soil samples analyzed for metals. Of the seven samples analyzed, only two detections exceeded the RRS 1 concentration of 38.8 mg/kg. The detections of zinc at B303 (49.9 mg/kg) and B304 (45.9 mg/kg) are both well below the RRS 2 concentration of 3100 mg/kg and are considered natural variations of background. Zinc was also detected in all 18 subsurface soil samples analyzed for metals. Only one of the subsurface detections exceeded the RRS 1 concentration of 31.3 mg/kg. This Standard 2 detection of zinc at the 5-foot interval of B333 (611 mg/kg) was not confirmed in the duplicate sample. The percentage of zinc detections greater than RRS 1 compared to total analyses of combined surface and subsurface soil is 12.0 percent (3 of 25 analyses).

5.2.5.2 Organic Analytical Results

Initial analytical results at SWMU 26 indicated the presence of Standard 2 concentrations of VOCs and SVOCs. A discussion of general statistics and interpreted results is presented for each Appendix IX analyte. Where analytes fall into specific categories or associated suites, an interpretive discussion is presented above that group of analytes.

5.2.5.2.1 Volatile Organic Compounds

Two VOCs (chloromethane and ethylbenzene) exhibited a combination of low concentrations and low frequency of occurrence. Since the detected concentrations of chloromethane and ethylbenzene are just above RRS 1 and they are isolated, they do not exhibit a pattern of release. In addition, since the frequency of detection for chloromethane is below the five percent threshold described in Section 3.1 of the TNRCC Interoffice Memorandum (TNRCC, 1998a), further delineation of chloromethane is not warranted.

A brief set of general statistics is presented below for each of the Appendix IX compounds detected above RRS 1:

- **Chloromethane** was detected in 1 of 28 soil samples (3.57 percent) analyzed for VOCs. This detection exceeded the RRS 1 concentration of 0.005 mg/kg; however, the detection at the 10-foot interval of B334-10' (0.01 mg/kg) was well below the RRS 2 concentration of 3.8 mg/kg.

- **Ethylbenzene** was detected in 2 of 28 soil samples (7.14 percent) analyzed for VOCs. Only one (3.57 percent) of the detections exceeded the RRS 1 concentration of 0.003 mg/kg; however, the detection of ethylbenzene at the 15-foot interval of B303 (0.004 mg/kg) was well below the RRS 2 concentration of 70 mg/kg. Since the concentration of ethylbenzene is essentially at the reporting limit and the detection is isolated, further delineation of ethylbenzene is not warranted.

The remaining group of VOCs are considered to be laboratory/field artifacts, consistent with guidelines provided in the TNRCC Interoffice Memorandum, Section III (see Section 5.1.6). This group exhibited sporadic detections at low concentrations with low standard deviations. The low concentrations and standard deviations are indicators that the detections are not related to a release. In contrast, a high standard deviation would indicate hot spots or potential releases near these hot spots. As noted in Section 5.1.3 and Figure 5.1, these compounds exhibit high solubility and volatility. Therefore, they would be expected to either rapidly volatilize under local climate conditions or move into groundwater with precipitation. Since there is no pattern of release and these compounds were not detected in groundwater, they are not believed to be real investigative detections.

- **Acetone**, a common laboratory/field contaminant, was detected in 4 of 28 (14.29 percent) soil samples analyzed for VOCs. All four of the detections exceeded the RRS 1 concentration of 0.005 mg/kg; however, all of the detections were well below the RRS 2 concentration of 1000 mg/kg. The minimum and maximum detections above RRS 1 were 0.01 mg/kg and 0.07 mg/kg, respectively, with an average concentration of 0.04 mg/kg and a standard deviation of 0.02 mg/kg.

- **Methyl Ethyl Ketone (MEK)**, a common laboratory/field contaminant, was detected in 5 of 28 soil samples (17.86 percent) analyzed for VOCs. All five of the detections exceeded the RRS 1 concentration of 0.005 mg/kg; however, all of the detections were well below the RRS 2 concentration of 6100 mg/kg. The minimum and maximum detections above RRS 1 were 0.008 mg/kg and 0.088 mg/kg, respectively, with an average concentration of 0.032 mg/kg and a standard deviation of 0.034 mg/kg.

5.2.5.2.2 Semivolatile Organic Compounds

No SVOCs were detected over RRS 1 in surface soil samples and SVOCs were only sporadically in subsurface soils collected within SWMU 26. Variances in the total number of

analyses for individual compounds is due to the use of both SW8270 and SW8310, as well as reduced analyte lists for confirmation/delineation samples. The analyte list for EPA Method SW8310 (PAHs), which was used for delineation sampling because of lower detection limits, is a subset of the analyte list for SW8270.

Results of initial analyses for SVOCs reveal Standard 2 concentrations of chrysene, pyrene, and diethy phthalate. A brief description of general statistics for each of these compounds is discussed below.

- **Chrysene** was detected in 3 of 31 soil samples (9.77 percent) analyzed for SVOCs and PAHs. Only one of the detections (3.22 percent) exceeded the SW8270 RRS 1 concentration of 0.33 mg/kg. The detection at B333 (0.36 F mg/kg) in the 5-foot interval was delineated in the west by B336, in the north by B335, in the east by B337, and in the south by B302.

- **Pyrene** was detected in 5 of 31 soil samples (16.12 percent) analyzed for SVOCs and PAHs. Only one of the detections (3.22 percent) exceeded the SW8270 RRS 1 concentration of 0.33 mg/kg. The detection at B333 (0.57 mg/kg) in the 5-foot interval was delineated in the west by B336, in the north by B335, in the east by B337, and in the south by B302.

Other SVOCs detected in SWMU 22 soils included a common laboratory/field artifact, diethyl phthalate. In addition, the frequency of detection for diethy phthalate is below the five percent threshold described in Section 3.1 of the TNRCC Interoffice Memorandum (TNRCC, 1998a); therefore, further delineation of this compound is not warranted.

- **Diethyl Phthalate** was detected in 1 of 28 soil samples (3.57 percent) analyzed for SVOCs. The only detection of diethyl phthalate was in the 10-foot interval of B334 at a concentration of 0.52 mg/kg, which exceeded the RRS 1 of 0.33 mg/kg, however, the detection is well below the RRS 2 of 8,200 mg/kg.

5.2.6 Basewide Groundwater Analytical Results

Most analytes detected in groundwater near SWMU 26 are associated with the basewide TCE plume affecting NAS Fort Worth JRB (Figure 5.10). Concentrations of chlorinated solvents detected at SWMU 26 between 1990 and 2000 were nearly identical in both the upgradient and downgradient wells. These relationships have continued through several rounds of groundwater sampling between 1998 and 2001. Groundwater elevations and general flow directions in April 2001 are presented in Figure 5.7. Localized groundwater flow directions and areas of little or no Terrace Alluvial groundwater are presented in Figure 5.8. Analytical results in groundwater are presented in Figure 5.11 and Table 5.8.

In addition to TCE, other VOCs likely associated with the basewide TCE plume exist in groundwater in the vicinity, in monitoring wells upgradient, downgradient, and cross-gradient

of SWMU 26. These VOCs include: 1,1-dichloroethane, 1,1-dichloroethene, chloroform, *cis*-1,2-dichloroethene, *trans*-1,2-dichloroethene, tetrachloroethene, and vinyl chloride. These VOCs are being addressed with the basewide TCE plume under a separate and ongoing environmental restoration project.

It should be noted that quarterly groundwater monitoring is conducted on wells in the vicinity of SWMU 26 in support of monitoring the basewide TCE plume. Groundwater data generated as part of the quarterly sampling, primarily VOC data, has been provided for monitoring wells HM-126 and LF03-3D because these wells are in the vicinity of SWMU 26.

5.2.7 SWMU 26 Groundwater Sampling Results

Groundwater analytical samples collected as part of this RFI were obtained between May 1998 and February 2001 from a total of four monitoring wells (LF03-3D, HM-127, W302, and W303), in the vicinity of SWMU 26 (Figure 5.11). As noted in Section 5.2.4, most of SWMU 26 is located on a bedrock high that extends from the south and acts as a groundwater divide within a former meander bend of Farmers Branch Creek (Figures 5.2 and 5.11). Little or no Alluvial Terrace groundwater is present in the northwest, southwest, or southeast quadrants of SWMU 26 (Figure 5.8). Alluvial Terrace groundwater is present only in the northeastern quadrant of SWMU 26 with monitoring well HM-126 located upgradient of cross-gradient monitoring wells W302, W303, and LF05-01. Monitoring well LF03-3D is most likely a downgradient well for the geophysical anomaly located in the northwestern quadrant. Monitoring well HM-127 is located downgradient of monitoring wells W302 and W303. HM-127 is also located in a position to catch potential precipitation runoff along bedrock in the southeast quadrant.

Iron, manganese, and mercury were the only detections of metals above RRS 1 at SWMU 26. The Standard 3 detections of iron and the Standard 2 detections of manganese at LF03-3D occurred in the second and third rounds of sampling when groundwater was analyzed for the AFCEE Section 7 list of metals. Note that both iron and manganese are not Appendix IX compounds. Since groundwater flow in the northeast quadrant of SWMU 26 is from the northwest, monitoring well W302 is essentially cross gradient to potential remnants of SWMU 26 in the northwest quadrant. Moreover, lithologic and analytical results of the geophysical anomaly in the northeast quadrant did not indicate a significant presence of landfill materials (bottle cap and wood). As such, further monitoring for iron and manganese is not recommended. It is possible that the detections of iron and manganese at W302 result from anaerobic biological activity associated with the Regional TCE plume. Mercury was detected at a concentration of 0.00048 F in the second round of sampling at LF03-3D. Since the detection of mercury at a concentration just above the MQL (0.0001 mg/kg) was sporadic and mercury was not detected in SWMU 26 soil, further groundwater sampling for mercury at LF03-3D is not warranted. As discussed in Section 5.2.4, groundwater at LF03-3D may be related to leakage from the storm water utility from AFP 4 located adjacent and to the east of LF03-3D.

A total of eight VOCs were detected above RRS 1 in groundwater samples collected from monitoring wells at SWMU 26. Seven of these VOCs are attributable to the basewide TCE plume. The remaining VOC, tert-butyl methyl ether (MTBE) was detected at LF03-3D only in one of four rounds collected as part of the quarterly monitoring of VOCs at NAS Fort Worth JRB. It should be noted that MTBE is not an Appendix IX compound. MTBE has been used as an oxygenating gasoline additive since the early 1980's. Since the operational period of SWMU 26 was 1950 to 1952 (30 years before the introduction of MTBE), the sporadic detection of MTBE cannot be related to SWMU 26 landfill activities. It is most likely related to leakage from the AFP 4 storm sewer located adjacent to LF03-3D.

Only one SVOC was detected above RRS 1 in groundwater near SWMU 26. The detection of B2EHP (a known laboratory contaminant) occurred in the only round of groundwater sampling at W303. Groundwater was not sampled in the second and third rounds at W303 because an insufficient groundwater column was available to operate the low-flow pump. The only other detections at W303 were chlorinated solvents associated with the regional TCE plume. Since B2EHP was not detected in SWMU 26 soil and there is no pattern of release, this detection of B2EHP is considered to be a laboratory contaminant. Moreover, W303 is located cross gradient to the potential remnants of SWMU 26 in the northwest quadrant. Further monitoring for B2EHP is not recommended.

711 122

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FIGURES

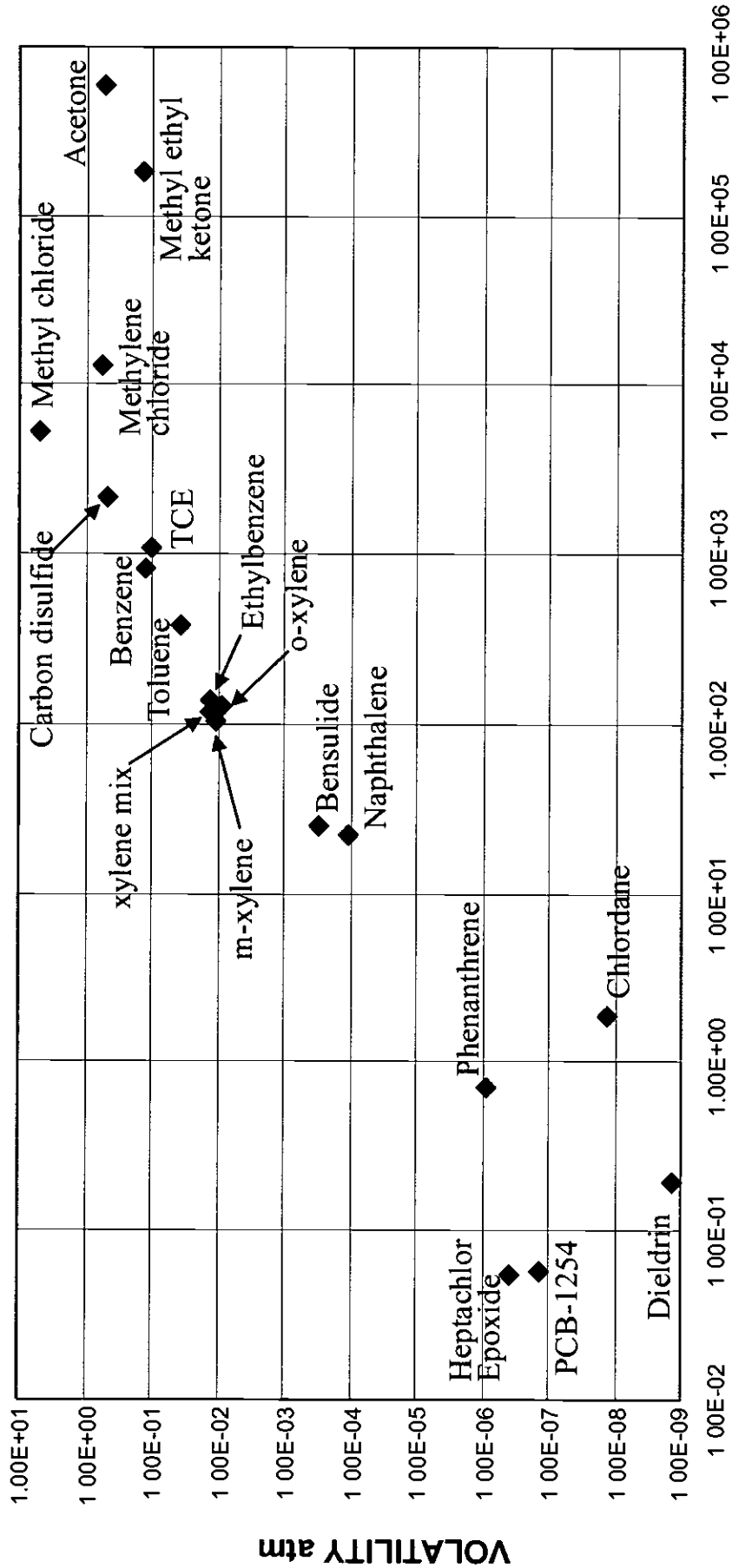

Figure 5.1
Solubility vs. Volatility for Selected Compounds

HYDRO GeoLogic INC

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Project AFC001-33CCB
Created by cfarmer 08/31/00
Revised 11/09/01 ASP
Source

HydroGeoLogic, Inc —RFI SWMU 26
NAS Fort Worth JRB, Texas

Figure 5.2
Aerial Photograph of SWMU 26 Soil Boring, Monitoring Well, and Geophysical Grid Locations

U.S. Air Force Center for Environmental Excellence

Legend

- NAS Fort Worth JRB (Carswell Field)
- SWMU 26/Landfill 3 Geophysical Anomalies
- Photo-identified Landfill Trench Area
- Photo-identified Excavation and Fill Area
- Aqueduct
- BHGLTA211 — Borehole Location
- BHGLTA211 — Appendix IX Borehole Location
- GMI-22-07M — Monitoring Well Location
- 100' X 100' index grid (actual geophysical grid was 20' X 20')

Note:
Aerial photograph represented on this figure is dated December 31, 1950

File: 17A-84-4
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N

180 90 0 180
SCALE IN FEET

Filename X \Afc001\33cca\RFI SWMU 26\Report\ swmu26_lf3 aerial apr
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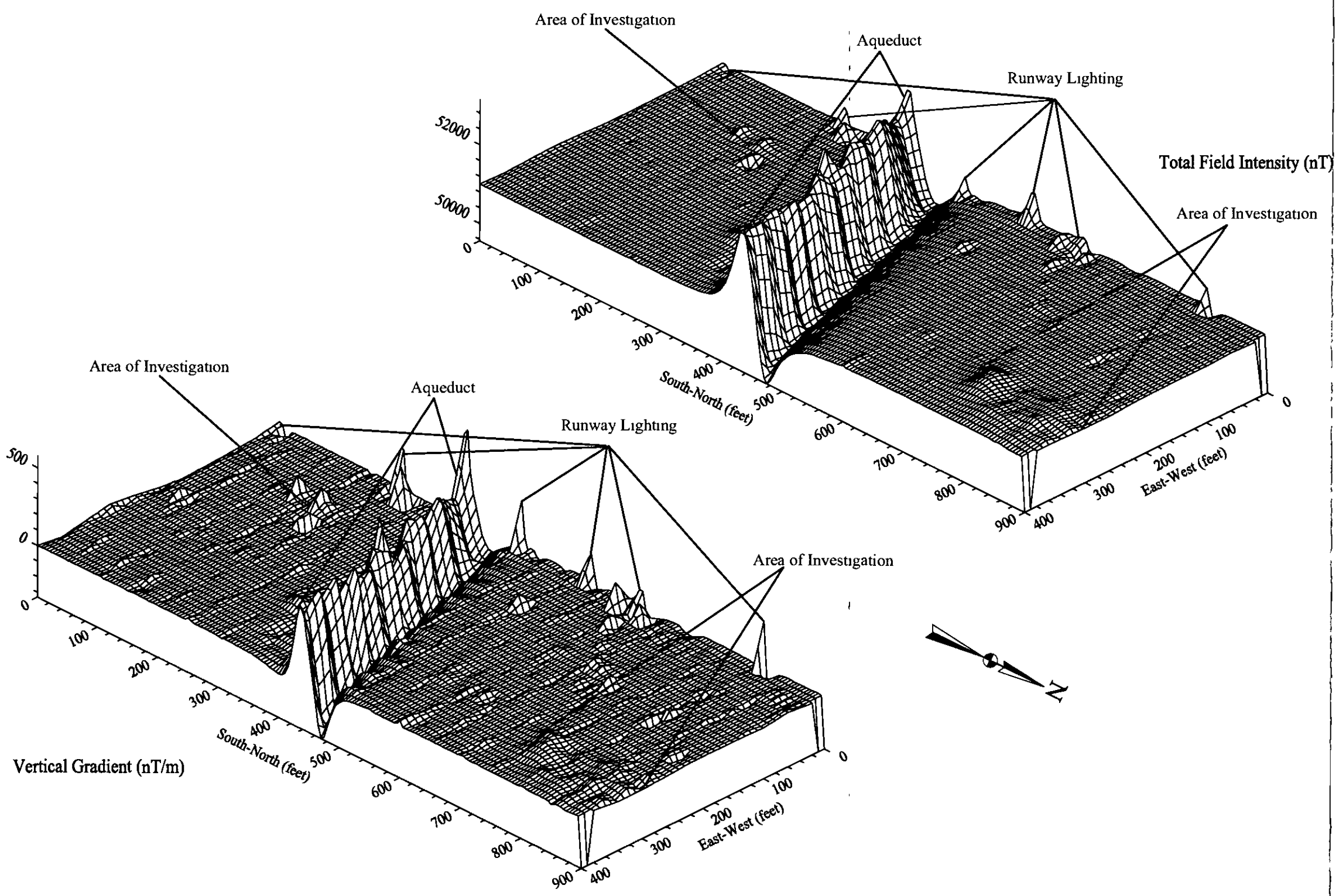
Created 08/15/00 jbelcher
Revised 10/04/01 cf
Map Source HydroGeoLogic, Inc GIS Database

HYDRO GeoLogic INC



HydroGeoLogic, Inc —RFI SWMU 26
NAS Fort Worth JRB, Texas

Figure 5.3
SWMU 26 / Landfill 3
Magnetic Survey
East of Main Runway

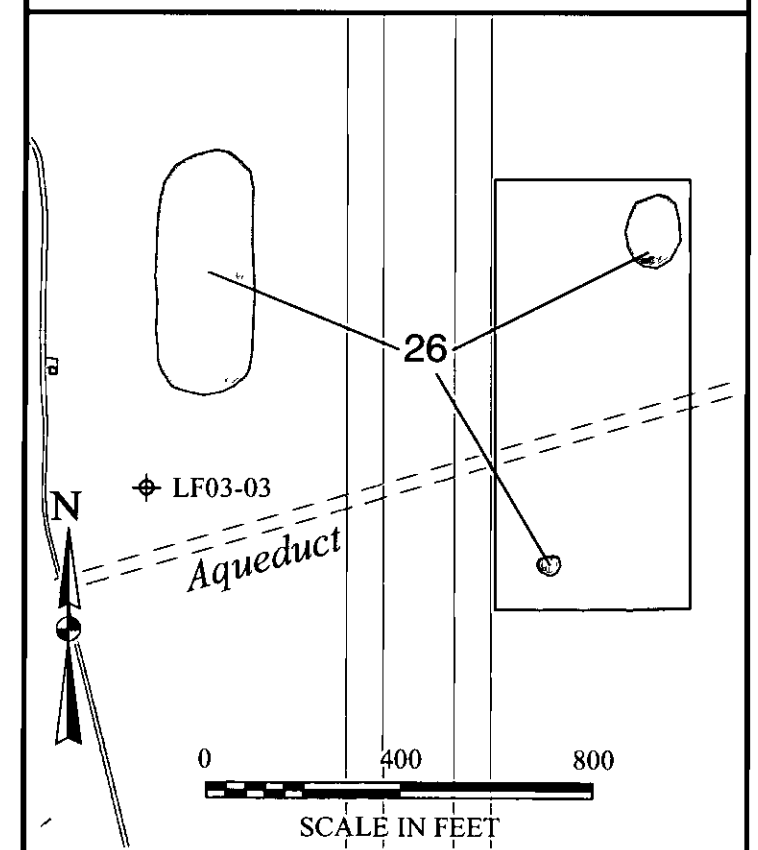
U.S. Air Force Center for Environmental Excellence

Legend

SWMU

Monitoring Well

Geophysical Survey Grid



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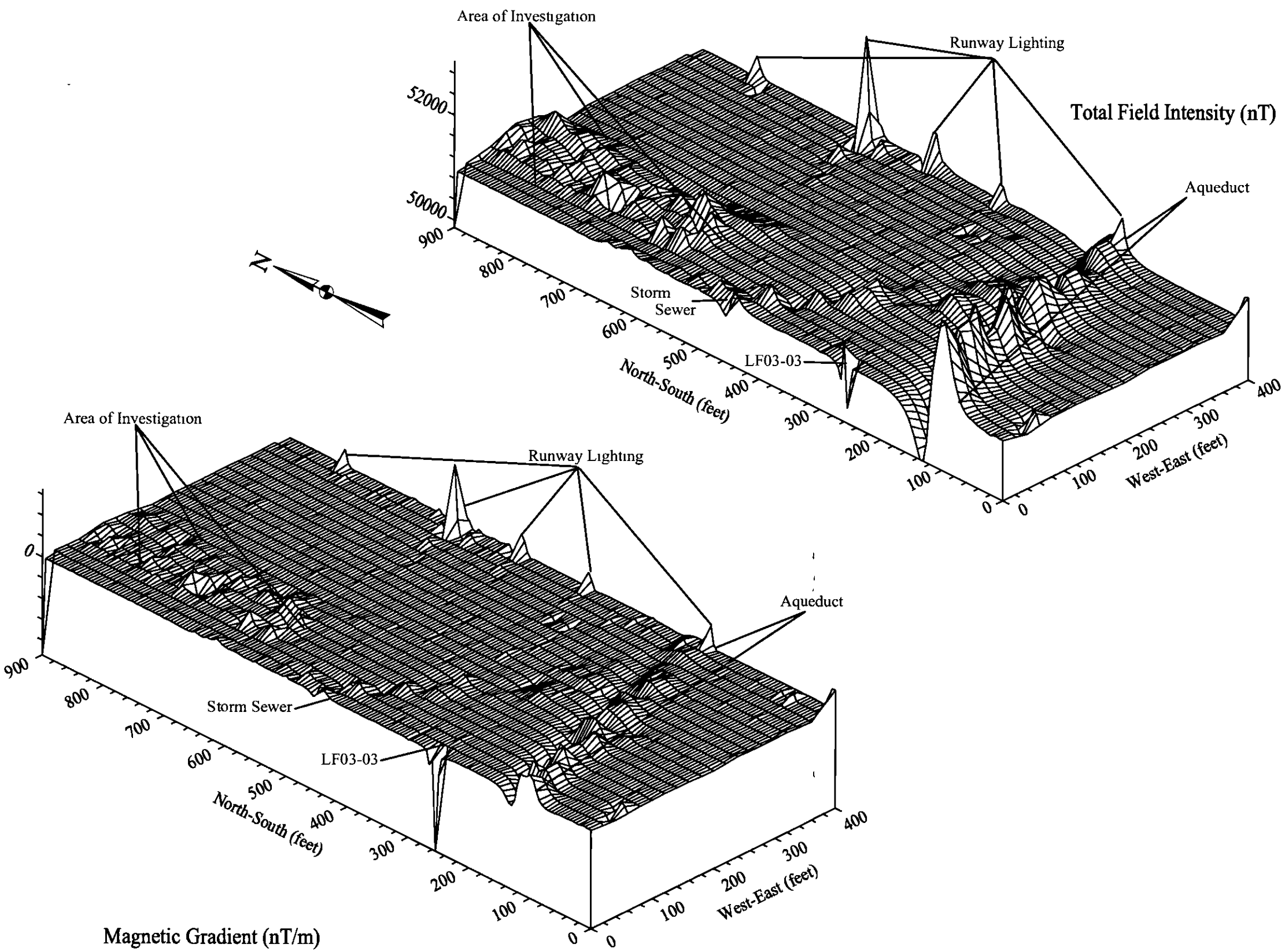
HYDRO GeoLogic INC



HydroGeoLogic, Inc —RFI SWMU 26
NAS Fort Worth JRB, Texas

Figure 5.4
SWMU 26 / Landfill 3
Magnetic Survey
West of Main Runway

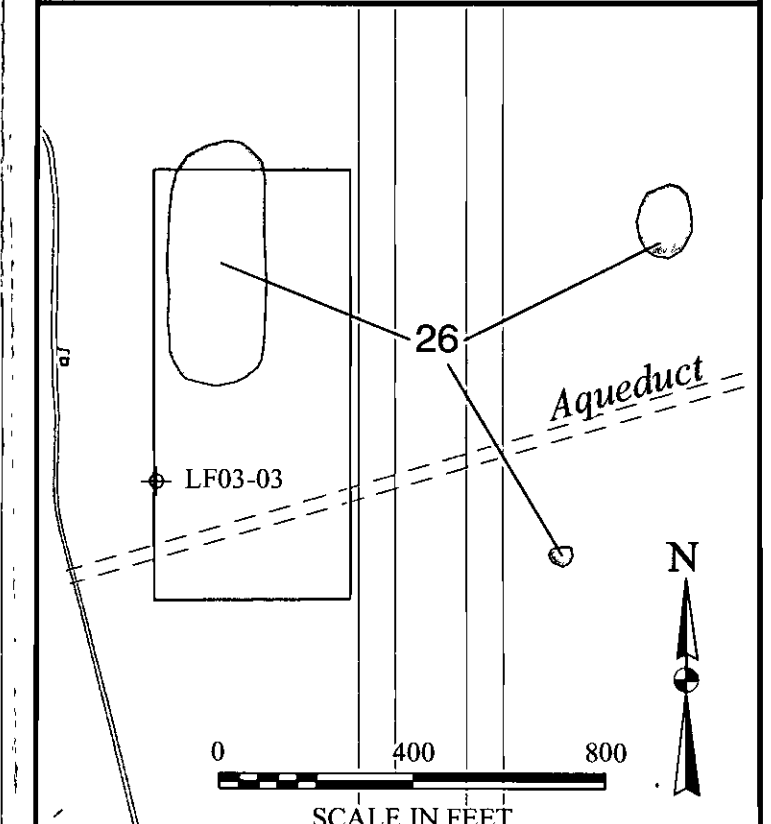
U.S. Air Force Center for Environmental Excellence

Legend

SWMU

Monitoring Well

Geophysical Survey Grid



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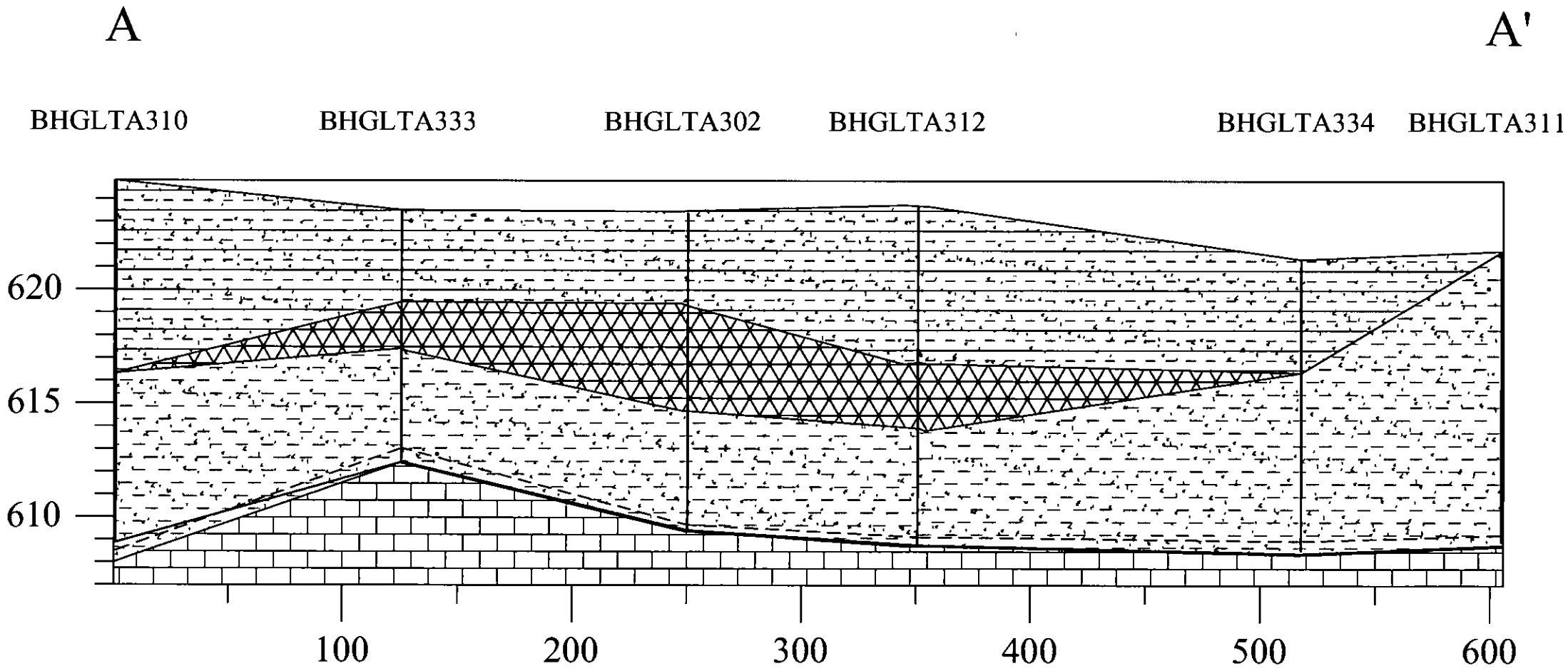


HydroGeoLogic, Inc —RFI SWMU 26
NAS Fort Worth JRB, Texas

Figure 5.5

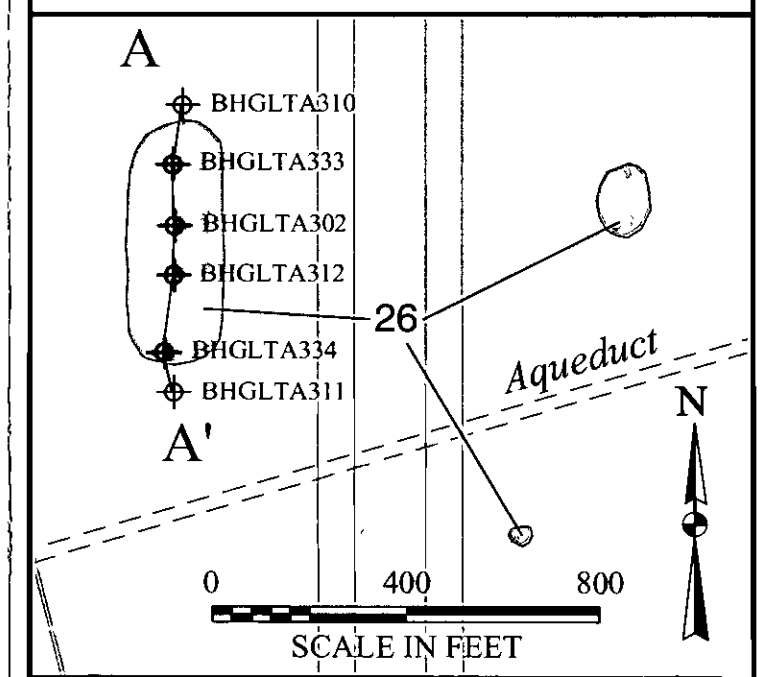
SWMU 26 / Landfill 3
Lithologic Cross Section
A - A'

U.S. Air Force Center for Environmental Excellence

Legend

- Silty Clay with Gravel
- Clayey Sandy Gravel
- Landfill
- Bedrock
- Boring Location
- SWMU
- Elevation of Bottom of Borings
- Estimated Ground Water Depth

Vertical Exaggeration = 10x



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Project AFC001-33CCB
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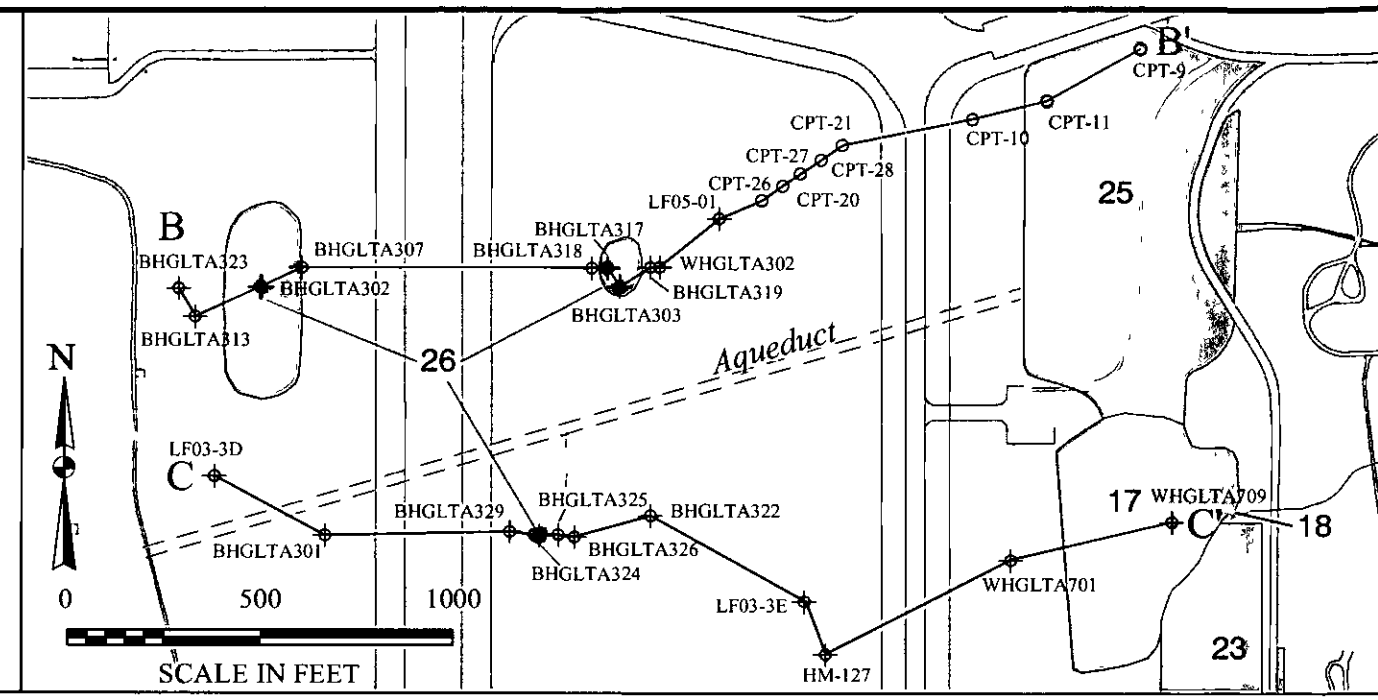
Revised 11-12-01 asp
Map Source

HYDRO GeoLogic INC

Legend

- Silty Clay With Gravel
- Landfill
- Sandy Silty Clay
- Elevation of Bottom of Borings
- Groundwater Elevation July 2000
- Groundwater Elevation April 1998
- Clayey Sandy Gravel
- Bedrock
- SWMU
- Boring Location
- Monitoring Well
- CPT Boring Location

Vertical Exaggeration = 10x



HydroGeoLogic, Inc —RFI SWMU 26—NAS Fort Worth JRB, Texas

Figure 5.6

SWMU 26 / Landfill 3
Lithologic Cross Section
B - B' & C - C'

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Filename X \AFC001\33cca\report\RFI_SWMU_26 \report\LF3_B_&C_revised_final dwg
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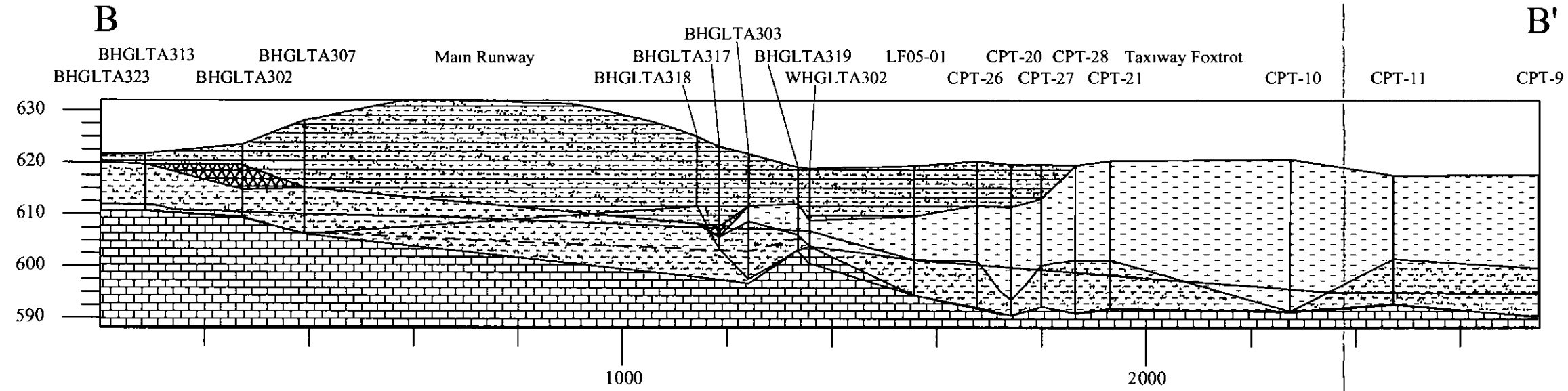
HYDRO GeoLogic INC



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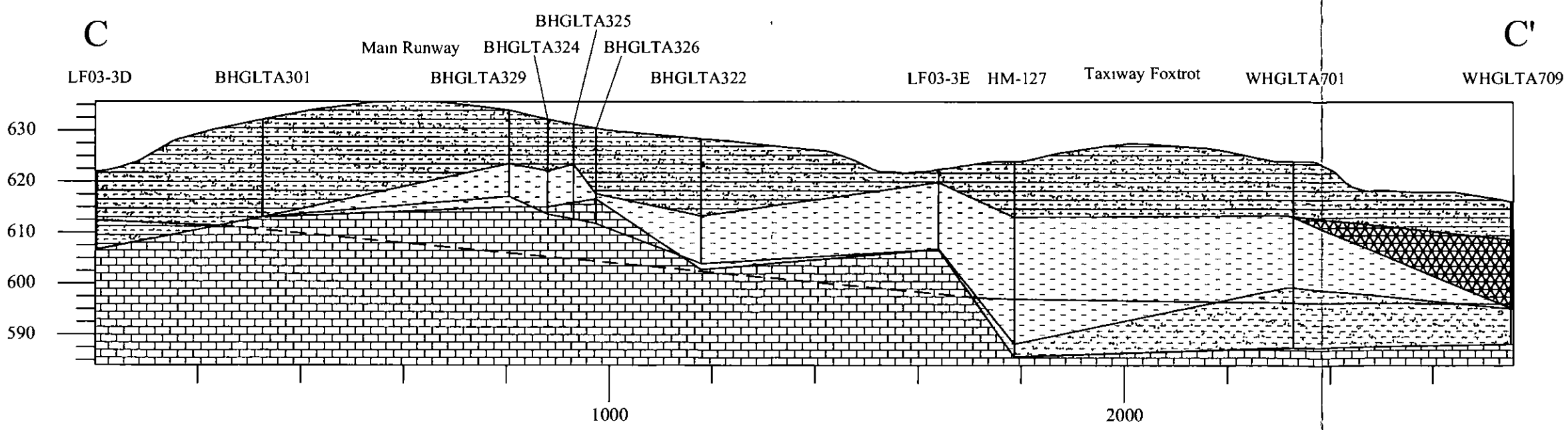

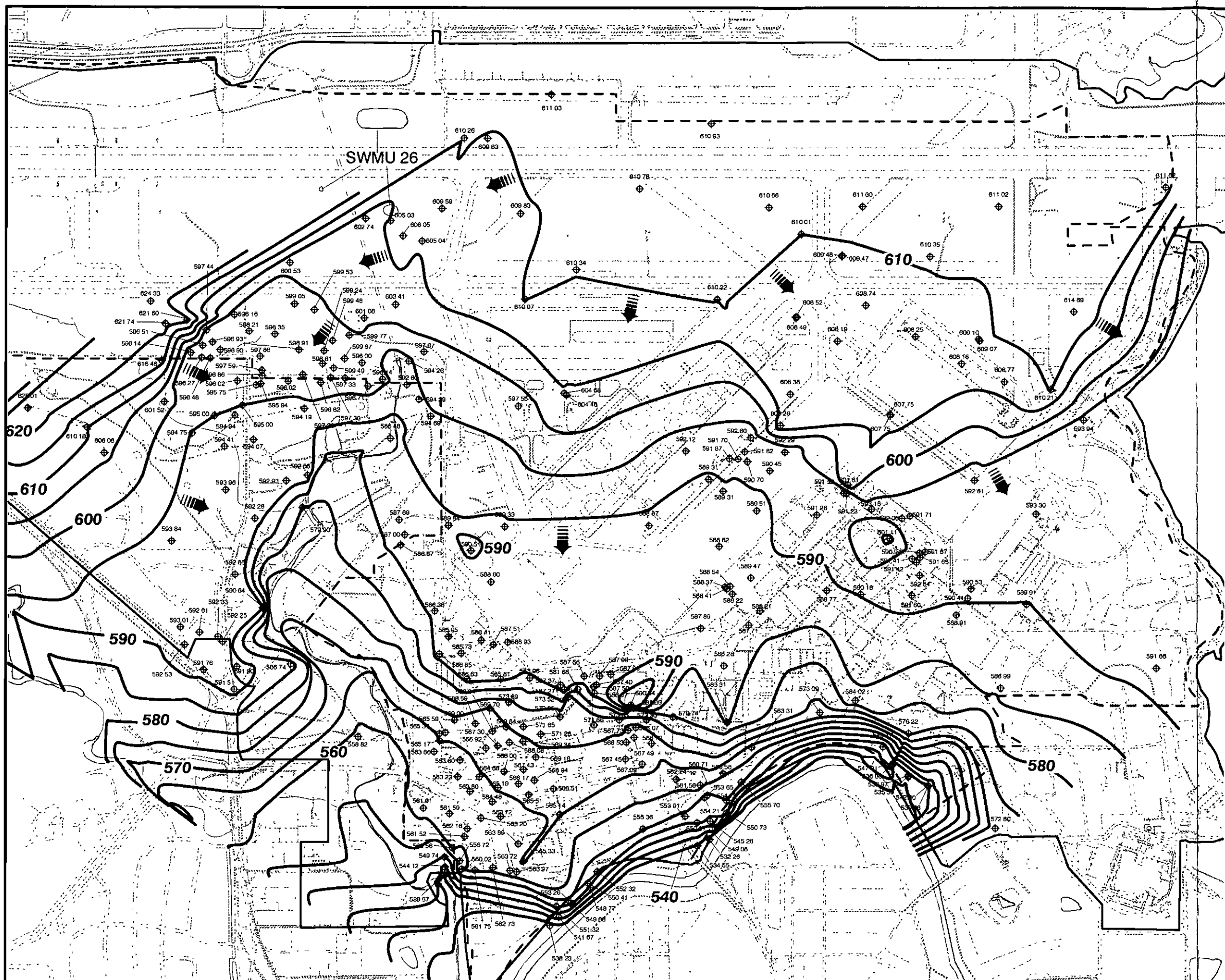

HydroGeoLogic, Inc —RFI SWMU 26
NAS Fort Worth JRB, Texas

Figure 5.7
Groundwater Elevations and General Flow Directions
Terrace Alluvium
April 2001
NAS Fort Worth JRB

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

533 76 Groundwater Elevation (ft msl)

General Groundwater Flow Direction

SWMU 26

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0 500 1000 2000

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MapSource HydroGeoLogic, Inc ArcView GIS Database, 2001

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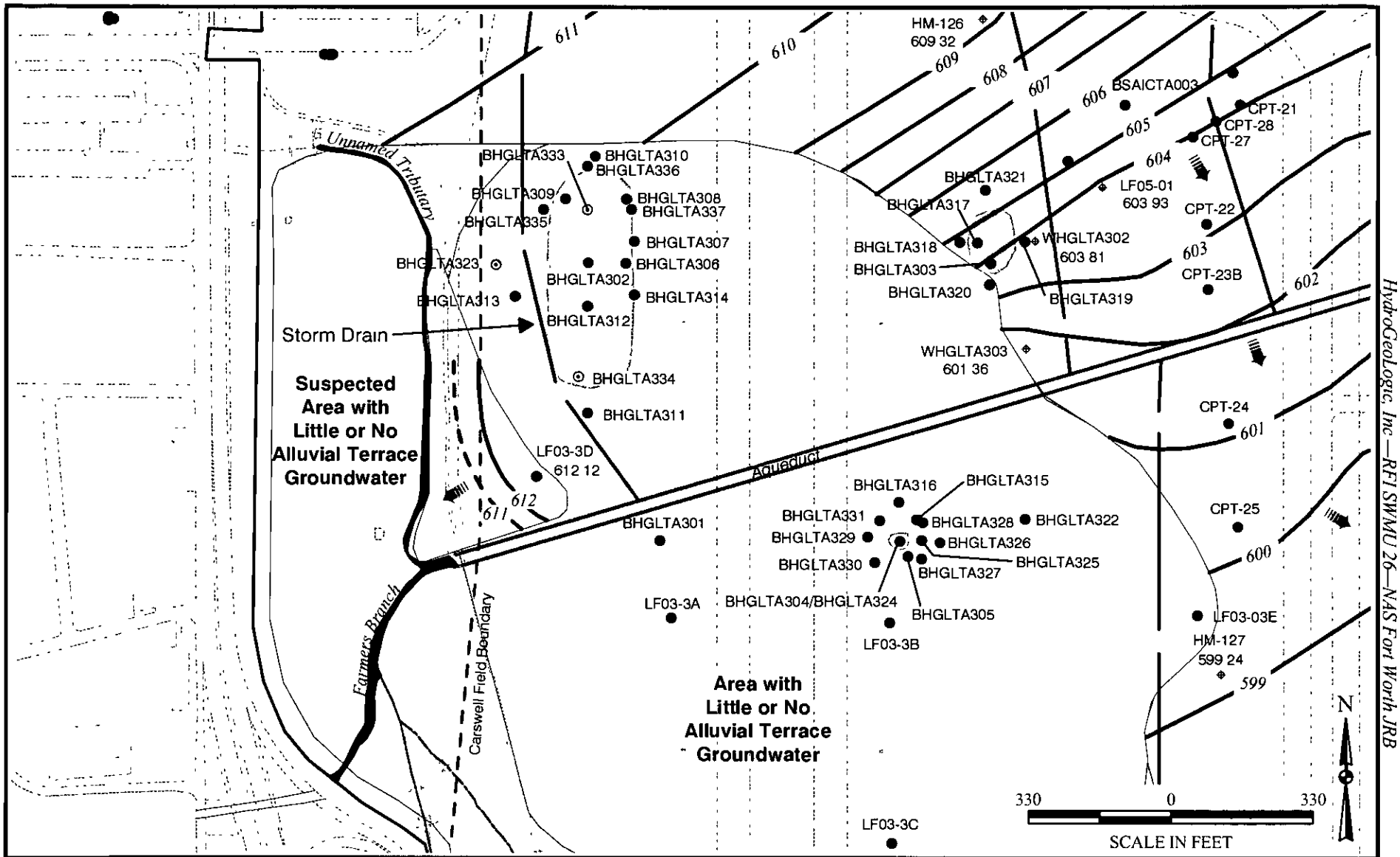

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Created 09/20/01 apassarelli
Revised. 10/04/01 asp
Source.

HYDRO GeoLogic Inc

Legend

- Borings to Bedrock - Dry
- Shallow Borings
- Borings to Bedrock < 1-ft Groundwater
- Borings with Groundwater
- —603— Groundwater Elevation - July 1998
- Storm Sewer

Figure 5.8
SWMU 26/Landfill 3
Localized Groundwater Flow Pattern
Terrace Alluvium
July 1998

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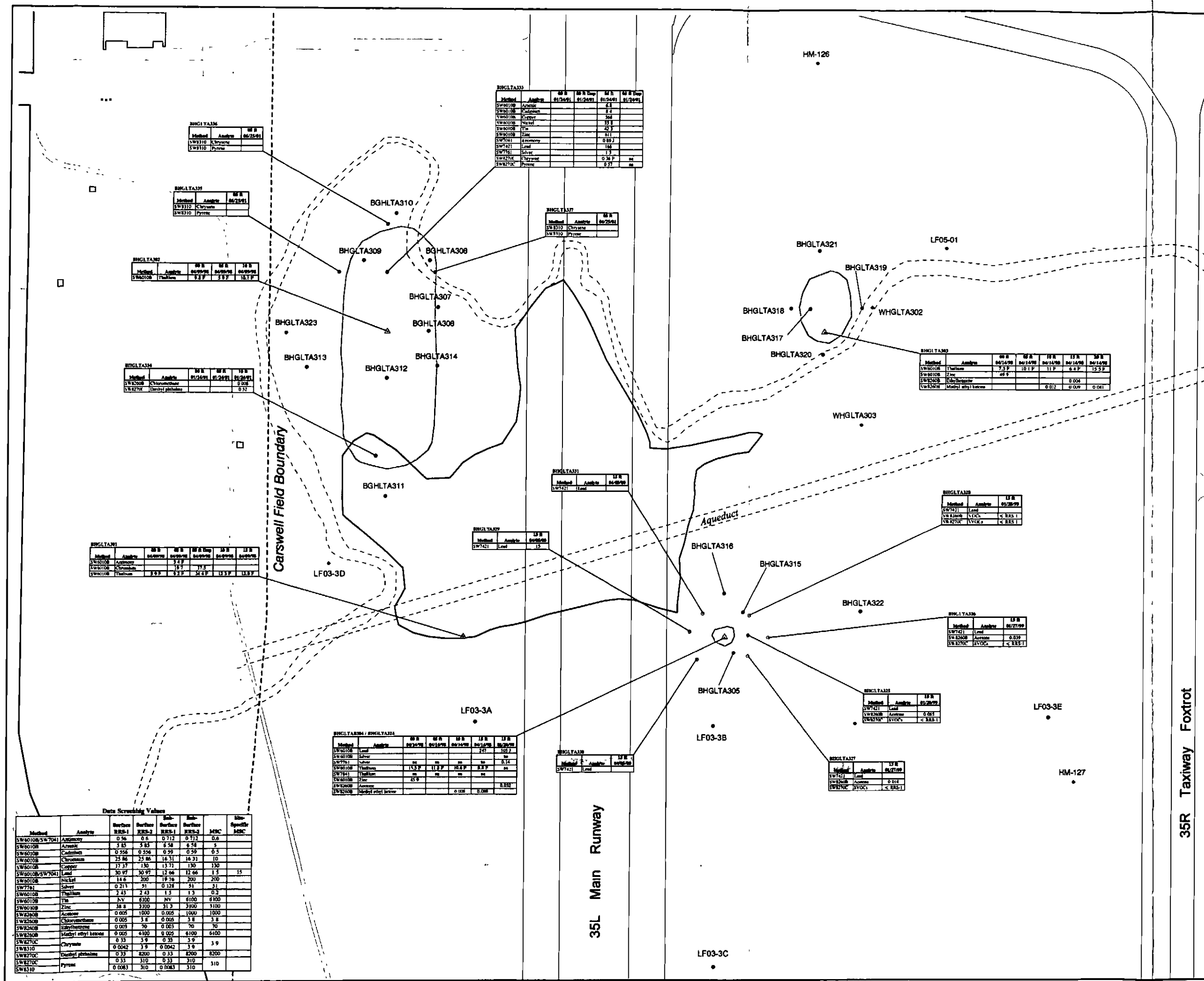

Method	Analyte	60 ft 01/24/91	60 ft Dup 01/24/91	64 ft 01/24/91	64 ft Dup 01/24/91
SW6010B	Arsenic			4.8	
SW6010B	Cadmium			0.4	
SW6010B	Copper			366	
SW6010B	Nickel			35 B	
SW6010B	Tin			42 J	
SW6010B	Zinc			811	
SW7041	Antimony			0.69 J	
SW7421	Lead			146	
SW7761	Silver			1.3	
SW8270C	Chrysene			0.36 P	na
SW8270C	Pyrene			0.57	na

Method	Analyte	60 ft 06/25/91
SW8310	Chrysene	
SW8310	Pyrene	

Method	Analyte	60 ft 06/25/91
SW8310	Chrysene	
SW8310	Pyrene	

Method	Analyte	60 ft 06/25/91
SW8310	Chrysene	
SW8310	Pyrene	

Method	Analyte	60 ft 06/09/98	60 ft 06/09/98	14 ft 06/09/98
SW6010B	Thallium	9.8 P	5.9 P	18.1 P

Method	Analyte	60 ft 01/24/91	60 ft 01/24/91	14 ft 01/24/91
SW8260B	Chloromethane			0.008
SW8270C	Diethyl phthalate			0.57

Method	Analyte	60 ft 06/14/98	60 ft 06/14/98	19 ft 06/14/98	15 ft 06/14/98	30 ft 06/14/98
SW6010B	Thallium	7.3 P	10.1 P	11 P	6.4 P	15.5 P
SW6010B	Zinc	49.9				
SW8260B	Chloroform				0.004	
SW8260B	Methyl ethyl ketone			0.012	0.009	0.041

Method	Analyte	60 ft 06/09/98	60 ft 06/09/98	60 ft Dup 06/09/98	16 ft 06/09/98	15 ft 06/09/98
SW6010B	Antimony		3.4 P			
SW6010B	Chromium		16.7	37.5		
SW6010B	Thallium	9.9 P	9.2 P	34.4 P	13.3 P	13.8 P

Method	Analyte	15 ft 01/28/99
SW7421	Lead	
SW8260B	VOCs	< RRS 1
SW8270C	SVOCs	< RRS 1

Method	Analyte	15 ft 06/27/99
SW7421	Lead	
SW8260B	Acetone	0.039
SW8270C	SVOCs	< RRS-1

Method	Analyte	15 ft 01/28/99
SW7421	Lead	
SW8260B	Acetone	0.051
SW8270C	SVOCs	< RRS-1

Method	Analyte	15 ft 06/27/99
SW7421	Lead	
SW8260B	Acetone	0.014
SW8270C	SVOCs	< RRS-1

Method	Analyte	15 ft 04/08/99
SW7421	Lead	

Method	Analyte	15 ft 04/08/99
SW7421	Lead	15

Method	Analyte	15 ft 04/08/99
SW7421	Lead	

Method	Analyte	60 ft 06/24/98	60 ft 06/16/98	60 ft 06/14/98	15 ft 06/16/98	15 ft 06/24/98
SW6010B	Lead				247	105.2
SW6010B	Silver					na
SW7761	Silver	na	na	na	na	0.14
SW6010B	Thallium	15.3 P	11.3 P	10.6 P	8.3 P	na
SW7841	Thallium	na	na	na	na	
SW6010B	Zinc	65.9				
SW8260B	Acetone					0.032
SW8260B	Methyl ethyl ketone			0.038	0.088	

Data Screening Values

Method	Analyte	Surface RRS-1	Surface RRS-2	Sub-Surface RRS-1	Sub-Surface RRS-2	MSC	Site-Specific MSC
SW6010B/SW7041	Antimony	0.56	0.6	0.712	0.712	0.6	
SW6010B	Arsenic	5.85	5.85	6.58	6.58	5	
SW6010B	Cadmium	0.556	0.556	0.59	0.59	0.5	
SW6010B	Chromium	25.86	25.86	16.31	16.31	10	
SW6010B	Copper	27.37	130	13.71	130	130	
SW6010B/SW7041	Lead	30.97	30.97	12.66	12.66	15	15
SW6010B	Nickel	14.6	200	19.76	200	200	
SW7761	Silver	0.213	51	0.128	51	51	
SW6010B	Thallium	2.43	2.43	1.5	1.5	0.2	
SW6010B	Tin	NV	6100	NV	6100	6100	
SW6010B	Zinc	38.8	3100	31.3	3100	3100	
SW8260B	Acetone	0.005	1000	0.005	1000	1000	
SW8260B	Chloromethane	0.005	3.8	0.005	3.8	3.8	
SW8260B	Ethylbenzene	0.005	70	0.005	70	70	
SW8260B	Methyl ethyl ketone	0.005	6100	0.005	6100	6100	
SW8270C	Chrysene	0.33	3.9	0.33	3.9	3.9	
SW8310		0.0042	3.9	0.0042	3.9		
SW8270C	Diethyl phthalate	0.33	8200	0.33	8200	8200	
SW8270C	Pyrene	0.33	310	0.33	310	310	
SW8310		0.0083	310	0.0083	310		

HydroGeologic, Inc — RFI SWMU 26
NAS Fort Worth JRB, Texas

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Figure 5.9

SWMU 26 / Landfill 3 Soil Analytical Results

U.S. Air Force Center for Environmental Excellence

Legend

- NAS Fort Worth JRB Boundary
- Landfill Boundaries
- Photo-identified Landfill Trench Area (Based on December 31, 1950 Aerial Photograph)
- Former Outline of Farmers Branch Creek (1950)
- Borehole Location (Lithology)
- Borehole Location (Chemical Analysis)
- Borehole Location (Radian, 1989)
- Borehole/Piezometer Location (Chemical Analysis)
- Monitoring Well Location

All results in mg/kg

Gold	Headers indicate Appendix IX Characterization Borings
Gray	Headers indicate Delineation Borings

Yellow Header indicates Data Screening Values
Appx IX Appendix IX Analytical Suite
MSC - Medium Specific Concentration (Lower of GWP Ind or SAI Ind)
GWP-Ind - TNRCC Groundwater Protection Industrial Standard
SAI-Ind - TNRCC Inhalation, Ingestion, and Dermal Contact Industrial Standard
NV No Value
na - Not Analyzed
RRS-1 - Risk Reduction Standard 1
RRS-2 - Risk Reduction Standard 2

Color Codes

	Analyte detected at Standard 3 concentration
	Analyte detected at Standard 3 concentration, but below site-specific MSC
	Analyte detected at Standard 3 concentration, but statistically eliminated as a COPC
	Initial analyte detection at Standard 2 or 3 but not confirmed during subsequent sampling
	Analyte not detected or detected at Standard 1 concentration
< RRS-1	Analytical Suite not detected or detected at Standard 1 concentration

Notes
Only results for compounds detected above RRS-1 are reported on soil characterization tables
Results for all compounds analyzed are reported on soil delineation tables

N

100 0 100 200
SCALE IN FEET

Filename X:\Afc001\33cca\RFI SWMU 26\Report\landfill 3.apr
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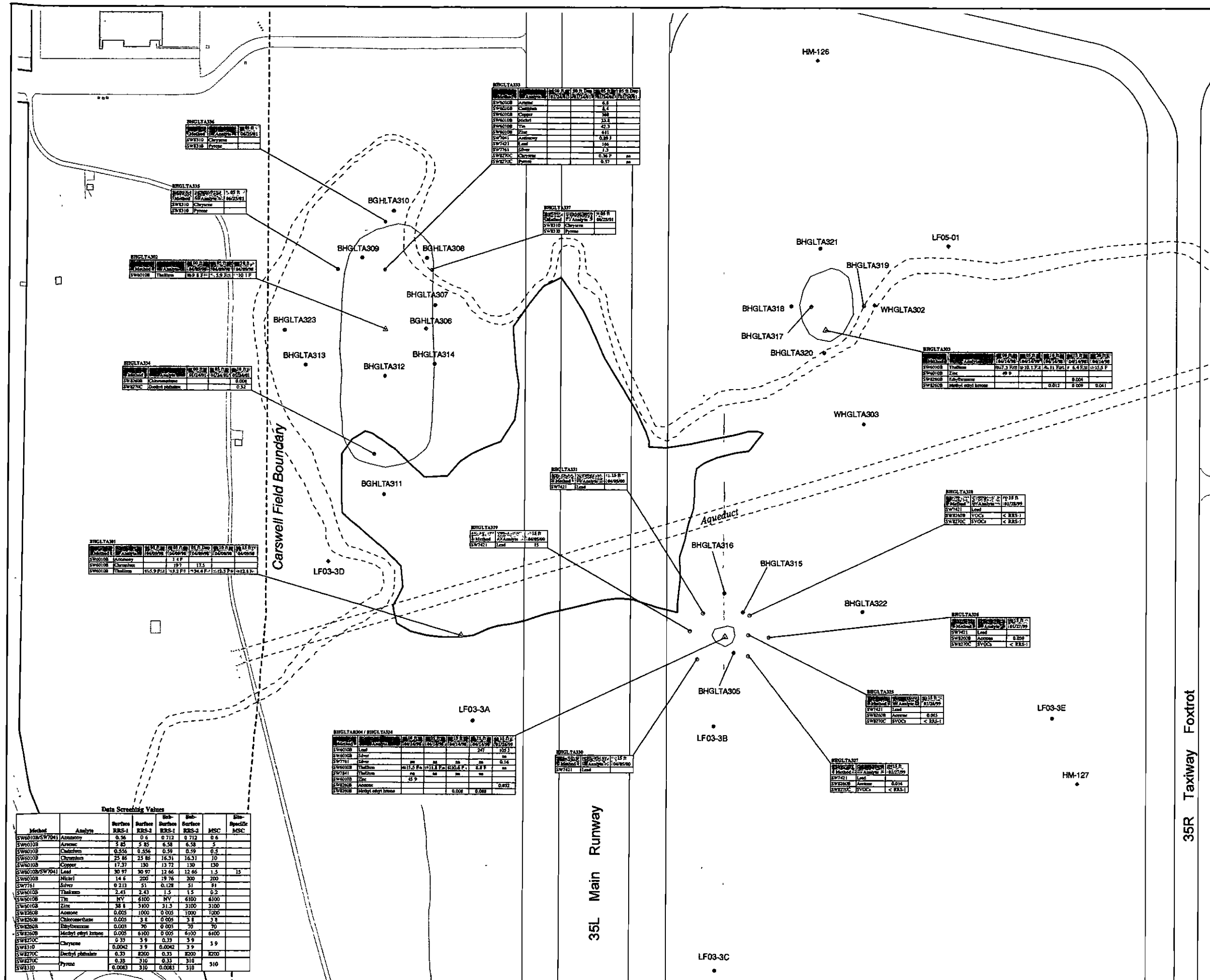
Created 09/22/00 jbelcher
Revised 11/14/01 asp
Source HydroGeologic, Inc – GIS Database

HYDRO GEOLOGIC INC.



Data Screening Values

Method	Analyte	Surface RRS-1	Surface RRS-2	Sub-Surface RRS-1	Sub-Surface RRS-2	MSC	Site-Specific MSC
SW6010B/SW7041	Antimony	0.56	0 6	0 712	0 712	0 6	
SW6010B	Arsenic	5 85	5 85	6.58	6.58	5	
SW6010B	Cadmium	0.556	0.556	0.59	0.59	0.5	
SW6010B	Chromium	25 86	25 86	16.31	16.31	10	
SW6010B	Copper	17.37	130	13 72	130	130	
SW6010B/SW7041	Lead	30 97	30 97	12 66	12 66	1.5	15
SW6010B	Nickel	14 6	200	19 76	200	200	
SW7761	Silver	0 213	51	0.128	51	51	
SW6010B	Thallium	2.43	2.43	1.5	1.5	0.2	
SW6010B	Tin	NV	6100	NV	6100	6100	
SW6010B	Zinc	38 8	3100	31.3	3100	3100	
SW8260B	Acetone	0.005	1000	0 005	1000	1000	
SW8260B	Chloromethane	0.005	3 8	0 005	3 8	3 8	
SW8260B	Ethylbenzene	0.005	70	0 005	70	70	
SW8260B	Methyl ethyl ketone	0.005	6100	0 005	6100	6100	
SW8270C	Chrysene	0 33	3 9	0.33	3 9	3 9	
SW8310		0.0042	3 9	0.0042	3 9		
SW8270C	Dioctyl phthalate	0.33	8200	0.33	8200	8200	
SW8270C	Pyrene	0.33	310	0.33	310	310	
SW8310		0.0083	310	0.0083	310		

HydroGeoLogic,Inc.—RFI SWMU 26
NAS Fort Worth JRB, Texas

File: D.E. 17A-P-Y

Figure 5.9

SWMU 26 / Landfill 3 Soil Analytical Results

U.S. Air Force Center for Environmental Excellence

Legend

- NAS Fort Worth JRB Boundary
- Landfill Boundaries
- Photo-identified Landfill Trench Area (Based on December 31, 1950 Aerial Photograph)
- Former Outline of Farmers Branch Creek (1950)
- Borehole Location (Lithology)
- Borehole Location (Chemical Analysis)
- Borehole Location (Radian, 1989)
- Borehole/Piezometer Location (Chemical Analysis)
- Monitoring Well Location

All results in mg/kg

Gold: Headers indicate Appendix IX Characterization Borings
Grey: Headers indicate Delineation Borings
Yellow Header indicates Data Screening Values
Appx. IX - Appendix IX Analytical State
MSC - Medium-Specific Concentration (Lower of GWP-Ind or SAI-Ind)
GWP-Ind - TNRCC Groundwater Protection Industrial Standard
SAI-Ind - TNRCC Inhalation, Ingestion, and Dermal Contact Industrial Standard
NV - No Value
na - Not Analyzed
RRS-1 - Risk Reduction Standard 1
RRS-2 - Risk Reduction Standard 2

Color Codes

- Analyte detected at Standard 3 concentration.
- Analyte detected at Standard 3 concentration, but below site-specific MSC
- Analyte detected at Standard 3 concentration, but statistically eliminated as 4 COPC.
- Initial analyte detection at Standard 2 or 3, but not confirmed during subsequent sampling.
- Analyte not detected or detected at Standard 1 concentration
- < RRS-1 Analytical State not detected or detected at Standard 1 concentration.

Notes
Only results for compounds detected above RRS-1 are reported on soil characterization tables
Results for all compounds analyzed are reported on soil delineation tables

N

100 0 100 200
SCALE IN FEET

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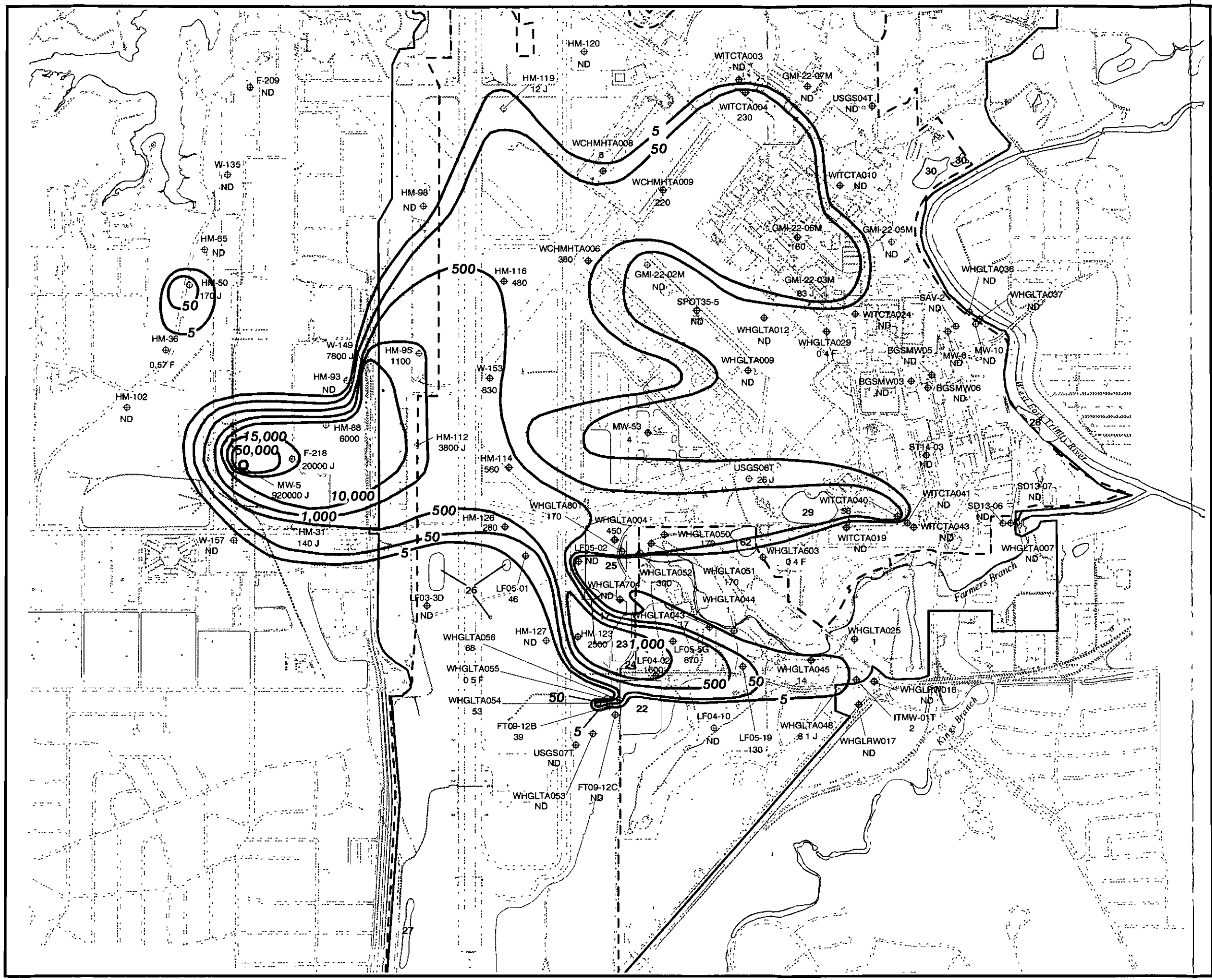
Project AFC001-33CCB
Created 09/22/00 jbelcher
Revised 11/14/01 asp
Source HydroGeoLogic, Inc—GIS Database

HYDRO GeoLogic INC.



HydroGeoLogic, Inc —RFI SWMU 26
NAS Fort Worth JRB, Texas

Figure 5.10
SWMU Locations and Regional TCE Plume Terrace Alluvium Groundwater April 2001

U.S. Air Force Center for Environmental Excellence

Legend

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

——— Former Carswell Air Force Base

Landfill Boundaries

SWMU 26 Geophysical Anomalies

— 500 — TCE Concentration Contour (µg/L)

MW-53 ⊕ NAS Fort Worth JRB Basewide Sampling Well

50 TCE Concentration (µg/L)

WHGLTA036 ⊕ Monitoring well data collected as part of other investigations during April 2001

ND TCE Concentration (µg/L)

HM-119 ⊕ AFP 4 Semi-Annual Monitoring Well

17 TCE Concentration (µg/L)

SD13-07 ⊕ Monitoring well data collected as part of other investigations during July 2001

ND TCE Concentration (µg/L)

ND = Not Detected at Laboratory Method Detection Limit of 0.5µg/L

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

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

650 0 650 1300
SCALE IN FEET

N

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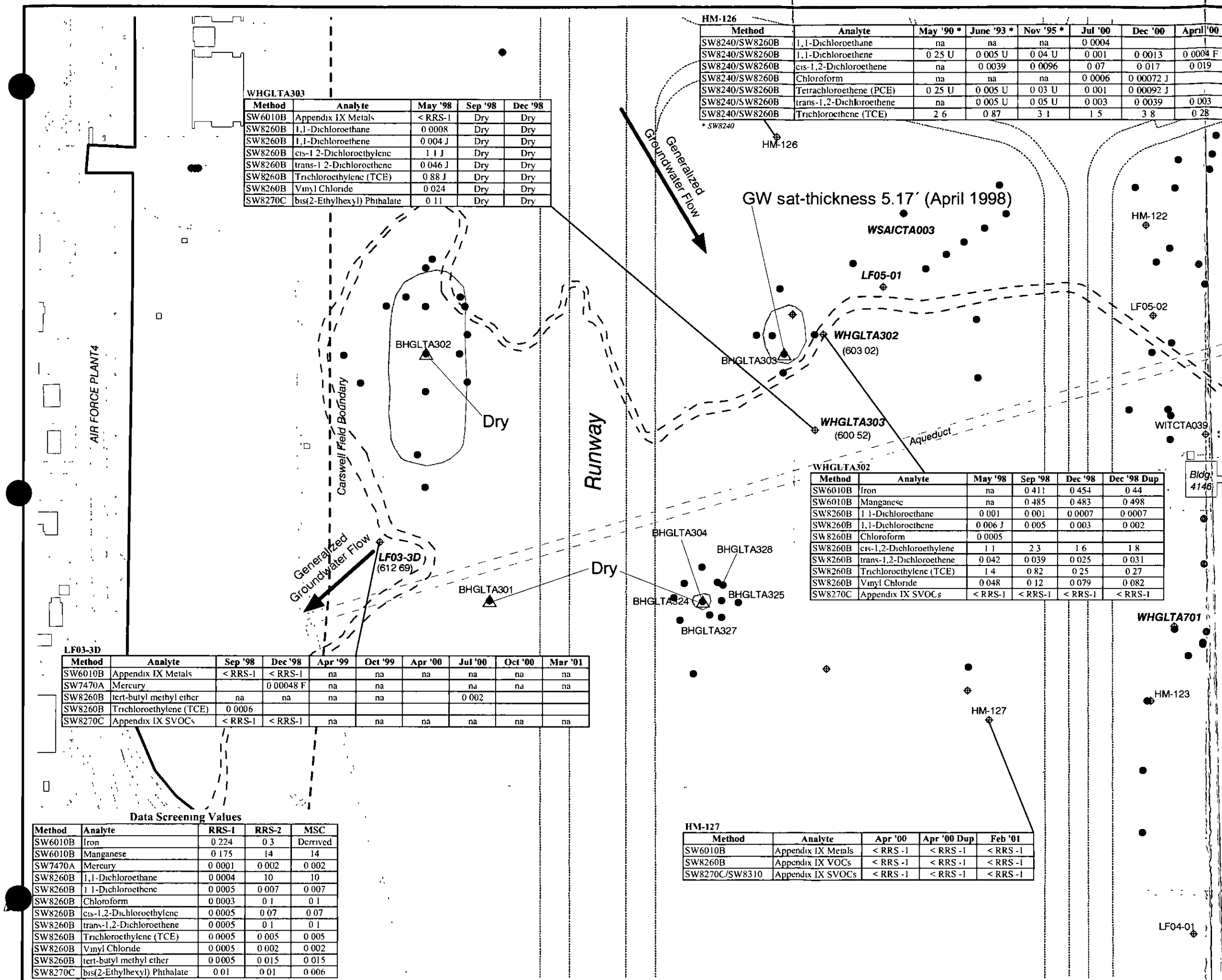
Created 09/20/99 jbelcher
Revised 11/09/01 asp
Project AFC001-33CCB
Map Source HydroGeoLogic, Inc GIS Database, Jacobs Engineering

File: 17A-84-4
D.E.

HYDRO GeoLogic INC



WHGLTA303

Method	Analyte	May '98	Sep '98	Dec '98
SW6010B	Appendix IX Metals	< RRS-1	Dry	Dry
SW8260B	1,1-Dichloroethane	0 0008	Dry	Dry
SW8260B	1,1-Dichloroethene	0 004 J	Dry	Dry
SW8260B	cis-1 2-Dichloroethylene	1 1 J	Dry	Dry
SW8260B	trans-1 2-Dichloroethene	0 046 J	Dry	Dry
SW8260B	Trichloroethylene (TCE)	0 88 J	Dry	Dry
SW8260B	Vinyl Chloride	0 024	Dry	Dry
SW8270C	bis(2-Ethylhexyl) Phthalate	0 11	Dry	Dry

HM-126

Method	Analyte	May '90 *	June '93 *	Nov '95 *	Jul '00	Dec '00	April '00
SW8240/SW8260B	1,1-Dichloroethane	na	na	na	0 0004		
SW8240/SW8260B	1,1-Dichloroethene	0 25 U	0 005 U	0 04 U	0 001	0 0013	0 0004 F
SW8240/SW8260B	cis-1,2-Dichloroethene	na	0 0039	0 0096	0 07	0 017	0 019
SW8240/SW8260B	Chloroform	na	na	na	0 0006	0 00072 J	
SW8240/SW8260B	Tetrachloroethene (PCE)	0 25 U	0 005 U	0 03 U	0 001	0 00092 J	
SW8240/SW8260B	trans-1,2-Dichloroethene	na	0 005 U	0 05 U	0 003	0 0039	0 003
SW8240/SW8260B	Trichloroethene (TCE)	2 6	0 87	3 1	1 5	3 8	0 28

* SW8240

WHGLTA302

Method	Analyte	May '98	Sep '98	Dec '98	Dec '98 Dup
SW6010B	Iron	na	0 411	0 454	0 44
SW6010B	Manganese	na	0 485	0 483	0 498
SW8260B	1 1-Dichloroethane	0 001	0 001	0 0007	0 0007
SW8260B	1,1-Dichloroethene	0 006 J	0 005	0 003	0 002
SW8260B	Chloroform	0 0005			
SW8260B	cis-1,2-Dichloroethylene	1 1	2 3	1 6	1 8
SW8260B	trans-1,2-Dichloroethene	0 042	0 039	0 025	0 031
SW8260B	Trichloroethylene (TCE)	1 4	0 82	0 25	0 27
SW8260B	Vinyl Chloride	0 048	0 12	0 079	0 082
SW8270C	Appendix IX SVOCs	< RRS-1	< RRS-1	< RRS-1	< RRS-1

LF03-3D

Method	Analyte	Sep '98	Dec '98	Apr '99	Oct '99	Apr '00	Jul '00	Oct '00	Mar '01
SW6010B	Appendix IX Metals	< RRS-1	< RRS-1	na	na	na	na	na	na
SW7470A	Mercury		0 00048 F	na	na		na	na	na
SW8260B	tert-butyl methyl ether	na	na	na	na		0 002		
SW8260B	Trichloroethylene (TCE)	0 0006							
SW8270C	Appendix IX SVOCs	< RRS-1	< RRS-1	na	na	na	na	na	na

Data Screening Values

Method	Analyte	RRS-1	RRS-2	MSC
SW6010B	Iron	0 224	0 3	Derrived
SW6010B	Manganese	0 175	14	14
SW7470A	Mercury	0 0001	0 002	0 002
SW8260B	1,1-Dichloroethane	0 0004	10	10
SW8260B	1 1-Dichloroethene	0 0005	0 007	0 007
SW8260B	Chloroform	0 0003	0 1	0 1
SW8260B	cis-1,2-Dichloroethylene	0 0005	0 07	0 07
SW8260B	trans-1,2-Dichloroethene	0 0005	0 1	0 1
SW8260B	Trichloroethylene (TCE)	0 0005	0 005	0 005
SW8260B	Vinyl Chloride	0 0005	0 002	0 002
SW8260B	tert-butyl methyl ether	0 0005	0 015	0 015
SW8270C	bis(2-Ethylhexyl) Phthalate	0 01	0 01	0 006

HM-127

Method	Analyte	Apr '00	Apr '00 Dup	Feb '01
SW6010B	Appendix IX Metals	< RRS -1	< RRS -1	< RRS -1
SW8260B	Appendix IX VOCs	< RRS -1	< RRS -1	< RRS -1
SW8270C/SW8310	Appendix IX SVOCs	< RRS -1	< RRS -1	< RRS -1

HydroGeoLogic, Inc —RFI SWMU 26
NAS Fort Worth JRB, Texas

Figure 5.11

SWMU 26 / Landfill 3
Analytical Results in Groundwater
May 1998 - February 2001

U.S. Air Force Center for Environmental Excellence

Legend

- NAS Fort Worth JRB (Carswell Field)
- Former Carswell Air Force Base
- Former Outline of Farmers Branch Creek (1950)
- Landfill Boundaries
- WHGLTA201 (587 57) — Sampling Location (Groundwater Elevation) May 1998
- GMI-22-07M — Existing Monitoring Well Location
- BHGLTA211 — Existing Borehole Location
- △ — Former Piezometer Location

NOTES:
Concentrations reported in mg/L.
RRS-1—Risk Reduction Standard 1.
RRS-2—Risk Reduction Standard 2.
Elevations reported in feet above mean sea level.
na—Not Analyzed.

Analyte detected above RRS-2
Analyte not detected, or detected below the RRS-1

File: 17A-84-4
D.E.

N

125 0 125 250
SCALE IN FEET

Filename X \AFC001\33cca\RFI_SWMU_26 \report\landfill3_groundwater apr
Project AFC001-33CCB
Created 09/25/00 jbelcher
Revised 11/09/01 asp
Map Source. HydroGeoLogic, Inc ArcView GIS Database 2001

HYDRO GeoLogic INC

TABLES

Table 5.1
Thallium Statistical Data
Wilcoxon Rank-Sum Test
Surface, Subsurface, and Cumulative Soil Data

Data Source	Sample Count	Mean	Standard Deviation	Ranked Sum	Z-Score
Background Surface Soil 1997	24	47.2	15.545	898	-6.01
SWMU 26 Surface Soil 1998 RFI data	25	5.94	1.868	325	
Background Subsurface Soil 1997	27	43.35	10.99	2079	-7.49
SWMU 26 Subsurface Soil 1998 RFI data	63	6.7	0.55	2016	
Background Cumulative Soil 1997	51	45.16	13.34	5814	-9.80
SWMU 26 Cumulative Soil 1998 RFI data	88	6.49	1.14	3916	

Table 5.2
Comparison of Chromium Results
SW6010-Standard vs SW6010-Trace
NAS Fort Worth JRB, Texas

Location	Boring	Depth	GWP-Ind (mg/kg)	Background	Initial Result SW6010-Standard (mg/kg)	Confirmation Result SW6010-trace (mg/kg)	SPLP Result (mg/L)	GW-Ind (mg/L)
SWMU 25	BHGLTA815-01	Surface	10	25.86	[94.4]	9.6	0.0082	0.1
SWMU 25	BHGLTA829-01	Surface	10	25 86	[42.5J]	[111]	0.1F	0.1
SWMU 25	BHGLTA830-01	Surface	10	25.86	[63.5]	[31.7]	0.0236U	0.1
SWMU 17	BHGLTA718-02	Subsurface	10	16.31	[26.4]	13.4 J	None	0.1
SWMU 23	BHGLTA506-02	Subsurface	10	16.31	[25 J]	12.4	0.0323	0.1
SWMU 23	BHGLTA509-02	Subsurface	10	16.31	9.9	3.7 F	None	0 1
SWMU 23	BHGLTA509-02	Subsurface	10	16.31	[35.6]	9 2	0 0018 F	0.1
SWMU 29	BHGLTA230-02	Subsurface	10	16.31	[16.5]	8.5 J	None	0.1
SWMU 29	BHGLTA230-03	Subsurface	10	16.31	[16.8]	11 J	None	0.1
SWMU 62	BHGLTA624-02	Subsurface	10	16.31	[21 3]	5.8 F	None	0.1
SWMU 62	BHGLTA624-03	Subsurface	10	16.31	[21.5]	12.8 J	None	0 1
SWMU 62	BHGLTA624-04	Subsurface	10	16.31	[18.4]	14.2 J	None	0.1

Note: Standard 3 detections are indicated by brackets.

Table 5.3
Compounds Analyzed by Multiple Analytical Methods in SWMU 26 Soil
NAS Fort Worth JRB, Texas

Analyte	First Possible Method	Detected with First Method	Second Possible Method	Detected with Second Method
Antimony	SW6010B	Yes	SW7041	Yes
Arsenic	SW6010B	Yes	SW7060A	Yes
Chromium, total	SW6010B	Yes	SW7191	Yes
Lead	SW6010B	Yes	SW7421	Yes
Silver	SW6010B	No	SW7761	Yes
Thallium	SW6010B	Yes	SW7841	No
Chrysene	SW8270C	Yes	SW8310	No
Pyrene	SW8270C	Yes	SW8310	No

Note: The second method is more sensitive than the first method for these compounds.

Table 5.4
Surface Soil Detections
SWMU 6 / Landfill 3

Method	Analyte	RRS-1	RRS-2	BHGLTA301 00 ft 1998-04-09	BHGLTA302 00 ft 1998-04-09	BHGLTA303 00 ft 1998-04-14	BHGLTA304 00 ft 1998-04-14
SW6010B	Arsenic	5 85	5.85	2 5 F	--	4.1 F	--
SW6010B	Barium	233	233	55.5	41 6	96	78.7
SW6010B	Beryllium	1.02	1 02	0.64	0.67	0.94	0.79
SW6010B	Cadmium	0.556	0.556	--	--	--	--
SW6010B	Chromium, total	25.86	25.86	12.4	10.9	17.5	14.7
SW6010B	Cobalt	11.05	610	2 8 F	3 F	5.1 F	3 5 F
SW6010B	Copper	17.37	130	11.1	8.1	11.6	11.9
SW6010B	Lead	30.97	30.97	17 8 F	16 5 F	25.9 F	18 3 F
SW6010B	Nickel	14.6	200	7.5 F	7 6 F	11.2 F	8.8 F
SW6010B	Thallium	2.43	2.43	[(5.9 F)]	[(9.8 F)]	[(7 5 F)]	[(15.5 F)]
SW6010B	Vanadium	46.3	72	23.4	18.3	31.9	26.8
SW6010B	Zinc	38 8	3100	30.5	31.2	(49.9)	(45.9)
SW7041	Antimony	0.56	0.6	na	na	na	na
SW7421	Lead	30.97	30.97	na	na	na	na
SW7761	Silver	0.213	51	na	na	na	na
SW8260B	Methylene chloride	0.002	0 5	0.002	0 002	--	--
SW8270C	Benzo[*a*]pyrene	0.33	0.33	0.054 F	--	--	--
SW8270C	Benzo[*b*]fluoranthene	0.33	0.33	0.061 F	0.042 F	--	--
SW8270C	Benzo[*k*]fluoranthene	0.33	0.39	0.044 F	--	--	--
SW9010	Cyanide	0.5	20	--	--	0.18 F	0.14 F

Notes:
RRS-1 = Risk Reduction Standard 1
RRS-2 = Risk Reduction Standard 2
na = Not analyzed
N/A = Not applicable, no value
-- = Not detected
F = Estimated value below reporting limit and above the MDL
J = Estimated value above reporting limit
R = rejected
Values above RRS-1 are bold and are enclosed in (parentheses).
Values above RRS-2 are bold and are enclosed in [(parentheses and brackets)].
All concentrations are in mg/kg.

Table 5.4 (continued)
Surface Soil Detections
SWMU 6 / Landfill 3

Method	Analyte	RRS-1	RRS-2	BHGLTA328 00 ft 1999-01-28	BHGLTA333 00 ft 2001-01-24	BHGLTA333 Dup 00 ft 2001-01-24	BHGLTA334 00 ft 2001-01-24
SW6010B	Arsenic	5.85	5.85	na	3.2 F	3.6 F	3 2 F
SW6010B	Barium	233	233	na	38.1	36.5 F	46.5
SW6010B	Beryllium	1.02	1.02	na	0.48	0.49	0.49
SW6010B	Cadmium	0.556	0.556	na	0.07 F	0.06 F	0.15 F
SW6010B	Chromium, total	25.86	25.86	na	--	--	--
SW6010B	Cobalt	11.05	610	na	2 8 F	2.5 F	2.7 F
SW6010B	Copper	17.37	130	na	--	--	--
SW6010B	Lead	30 97	30.97	na	na	na	na
SW6010B	Nickel	14.6	200	na	--	--	--
SW6010B	Thallium	2.43	2.43	na	na	na	na
SW6010B	Vanadium	46.3	72	na	17.7 F	18 F	18.8 F
SW6010B	Zinc	38.8	3100	na	25.9 F	25.7 F	31
SW7041	Antimony	0.56	0 6	na	--	0 29 F	--
SW7421	Lead	30.97	30.97	3.1 F	7.7	14	15.4
SW7761	Silver	0.213	51	na	--	--	0.11 F
SW8260B	Methylene chloride	0 002	0 5	na	--	--	--
SW8270C	Benzo[*a*]pyrene	0.33	0.33	na	--	--	--
SW8270C	Benzo[*b*]fluoranthene	0.33	0 33	na	--	--	--
SW8270C	Benzo[*k*]fluoranthene	0.33	0.39	na	--	--	--
SW9010	Cyanide	0 5	20	na	na	na	na

Notes.
RRS-1 = Risk Reduction Standard 1
RRS-2 = Risk Reduction Standard 2
na = Not analyzed
N/A = Not applicable, no value
-- = Not detected
F = Estimated value below reporting limit and above the MDL
J = Estimated value above reporting limit
R = rejected
Values above RRS-1 are bold and are enclosed in (parentheses).
Values above RRS-2 are bold and are enclosed in [(parentheses and brackets)].
All concentrations are in mg/kg.

711 142

Table 5.5
Subsurface Soil Detections
SWMU 26 / Landfill 3

Method	Analyte	RRS-1	RRS-2	BHGLTA301 05 ft 1998-04-09	BHGLTA301 Dup 05 ft 1998-04-09	BHGLTA301 10 ft 1998-04-09
SW6010	Arsenic	6.58	6.58	na	na	na
SW6010	Chromium, total	16.31	16.31	na	na	na
SW6010	Copper	13.72	130	na	na	na
SW6010	Nickel	19 76	200	na	na	na
SW6010	Zinc	31.3	3100	na	na	na
SW6010B	Antimony	0.712	0.712	[(3.4 F)]	--	--
SW6010B	Arsenic	6.58	6.58	--	--	3 F
SW6010B	Barium	128.1	200	105	94.1	35.6
SW6010B	Beryllium	1.13	1.13	1	0.96	0.67
SW6010B	Cadmium	0.59	0.59	--	--	--
SW6010B	Chromium, total	16.31	16 31	[(19.7)]	[(17.5)]	10 5
SW6010B	Cobalt	6.19	610	4 F	4.2 F	3.6 F
SW6010B	Copper	13 72	130	7.6	7.1	5.9
SW6010B	Lead	12.66	12.66	10.1 F	9.7 F	10.9 F
SW6010B	Nickel	19.76	200	11.7 F	11.2 F	10.1 F
SW6010B	Thallium	1.5	1.5	[(9.2 F)]	[(34.4 F)]	[(12.3 F)]
SW6010B	Tin	10	6100	--	--	--
SW6010B	Vanadium	37.4	72	37	36 9	17.5
SW6010B	Zinc	31.3	3100	30	26.4 J	18.3
SW7041	Antimony	0.712	0.712	na	na	na
SW7060A	Arsenic	6.58	6 58	na	na	na
SW7421	Lead	12.66	12.66	na	na	na
SW7761	Silver	0.128	51	na	na	na
SW8260B	Acetone	0.005	1000	--	--	--
SW8260B	Chloromethane	0.005	3.8	--	--	--
SW8260B	Ethylbenzene	0 003	70	--	--	--
SW8260B	Methyl ethyl ketone	0.005	6100	--	--	--
SW8260B	m,p-Xylene	0.005	1000	--	--	--
SW8260B	Toluene	0.005	100	--	--	--
SW8270C	Acenaphthylene	0.33	610	--	--	--
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[*g,h,i*]perylene	0.33	310	--	--	--
SW8270C	Benzo[*k*]fluoranthene	0.33	0 39	--	--	--
SW8270C	bis(2-Ethylhexyl)phthalate	0 33	0.6	--	--	--
SW8270C	Chrysene	0.33	3.9	--	--	--
SW8270C	Diethyl phthalate	0.33	8200	--	--	--

Table 5.5 (continued)
Subsurface Soil Detections
SWMU 26 / Landfill 3

Method	Analyte	RRS-1	RRS-2	BHGLTA301 05 ft 1998-04-09	BHGLTA301 Dup 05 ft 1998-04-09	BHGLTA301 10 ft 1998-04-09
SW8270C	Fluoranthene	0.33	410	--	--	--
SW8270C	Phenanthrene	0.33	310	--	--	--
SW8270C	Pyrene	0.33	310	--	--	--

Notes:
RRS-1 = Risk Reduction Standard 1
RRS-2 = Risk Reduction Standard 2
na = Not analyzed
N/A = Not applicable, no value
-- = Not detected
F = Estimated value below reporting limit and above the MDL
J = Estimated value above reporting limit
R = rejected
Values above RRS-1 are **bold** and are enclosed in (parentheses)
Values above RRS-2 are **bold** and are enclosed in [(parentheses and brackets)]
All concentrations are in mg/kg

711 144

Table 5.5 (continued)
Subsurface Soil Detections
SWMU 26 / Landfill 3

Method	Analyte	RRS-1	RRS-2	BHGLTA301 15 ft 1998-04-09	BHGLTA302 05 ft 1998-04-09	BHGLTA302 10 ft 1998-04-09
SW6010	Arsenic	6.58	6.58	na	na	na
SW6010	Chromium, total	16.31	16.31	na	na	na
SW6010	Copper	13.72	130	na	na	na
SW6010	Nickel	19.76	200	na	na	na
SW6010	Zinc	31.3	3100	na	na	na
SW6010B	Antimony	0.712	0.712	--	--	--
SW6010B	Arsenic	6.58	6.58	3 3 F	2.7 F	5.6 F
SW6010B	Barium	128.1	200	89.5	33.8	95.6
SW6010B	Beryllium	1.13	1.13	0.78	0.53	0.33
SW6010B	Cadmium	0.59	0.59	--	--	--
SW6010B	Chromium, total	16.31	16.31	15.6	10.1	6.5
SW6010B	Cobalt	6.19	610	3.5 F	2.4 F	4 7 F
SW6010B	Copper	13.72	130	5 F	2.6 F	2.6 F
SW6010B	Lead	12.66	12.66	7.1 F	4.1 F	5.8 F
SW6010B	Nickel	19.76	200	8.5 F	5.2 F	5.9 F
SW6010B	Thallium	1.5	1.5	**[(12.8 F)]**	**[(5.9 F)]**	**[(10.1 F)]**
SW6010B	Tin	10	6100	--	--	--
SW6010B	Vanadium	37.4	72	31	15 8	31
SW6010B	Zinc	31.3	3100	18.3 J	11.2	5.7
SW7041	Antimony	0.712	0.712	na	na	na
SW7060A	Arsenic	6.58	6 58	na	na	na
SW7421	Lead	12.66	12.66	na	na	na
SW7761	Silver	0.128	51	na	na	na
SW8260B	Acetone	0.005	1000	--	--	--
SW8260B	Chloromethane	0.005	3.8	--	--	--
SW8260B	Ethylbenzene	0.003	70	--	--	--
SW8260B	Methyl ethyl ketone	0 005	6100	--	--	--
SW8260B	m,p-Xylene	0.005	1000	--	--	--
SW8260B	Toluene	0.005	100	--	--	--
SW8270C	Acenaphthylene	0.33	610	--	--	--
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[*g,h,i*]perylene	0.33	310	--	--	--
SW8270C	Benzo[*k*]fluoranthene	0.33	0 39	--	--	--
SW8270C	bis(2-Ethylhexyl)phthalate	0.33	0 6	--	--	--
SW8270C	Chrysene	0.33	3.9	--	--	--
SW8270C	Diethyl phthalate	0 33	8200	--	--	--
SW8270C	Fluoranthene	0.33	410	--	--	--

Table 5.5 (continued)
Subsurface Soil Detections
SWMU 26 / Landfill 3

Method	Analyte	RRS-1	RRS-2	BHGLTA301 15 ft 1998-04-09	BHGLTA302 05 ft 1998-04-09	BHGLTA302 10 ft 1998-04-09
SW8270C	Phenanthrene	0.33	310	--	--	--
SW8270C	Pyrene	0.33	310	--	--	--

Notes:
RRS-1 = Risk Reduction Standard 1
RRS-2 = Risk Reduction Standard 2
na = Not analyzed
N/A = Not applicable, no value
-- = Not detected
F = Estimated value below reporting limit and above the MDL
J = Estimated value above reporting limit
R = rejected
Values above RRS-1 are **bold** and are enclosed in (parentheses)
Values above RRS-2 are **bold** and are enclosed in [(parentheses and brackets)].
All concentrations are in mg/kg.

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Table 5.5 (continued)
Subsurface Soil Detections
SWMU 26 / Landfill 3

Method	Analyte	RRS-1	RRS-2	BHGLTA303 05 ft 1998-04-14	BHGLTA303 10 ft 1998-04-14	BHGLTA303 15 ft 1998-04-14
SW6010	Arsenic	6.58	6.58	na	na	na
SW6010	Chromium, total	16.31	16.31	na	na	na
SW6010	Copper	13.72	130	na	na	na
SW6010	Nickel	19.76	200	na	na	na
SW6010	Zinc	31.3	3100	na	na	na
SW6010B	Antimony	0.712	0.712	--	--	--
SW6010B	Arsenic	6.58	6.58	--	2.9 F	--
SW6010B	Barium	128.1	200	67.1	69.5	25.9
SW6010B	Beryllium	1.13	1 13	0.71	1.1	0 41
SW6010B	Cadmium	0 59	0.59	--	--	--
SW6010B	Chromium, total	16.31	16 31	14.5	15.1	10
SW6010B	Cobalt	6.19	610	3.4 F	4.2 F	1.7 F
SW6010B	Copper	13.72	130	4 6 F	6.1	2.3 F
SW6010B	Lead	12 66	12.66	5.7 F	10.7 F	8.4 F
SW6010B	Nickel	19.76	200	7.7 F	9 2 F	4.7 F
SW6010B	Thallium	1.5	1.5	**[(10.1 F)]**	**[(11 F)]**	**[(6.4 F)]**
SW6010B	Tin	10	6100	--	--	--
SW6010B	Vanadium	37.4	72	30	29	26.9
SW6010B	Zinc	31.3	3100	19.3	25.1	9 5
SW7041	Antimony	0.712	0.712	na	na	na
SW7060A	Arsenic	6.58	6.58	na	na	na
SW7421	Lead	12 66	12.66	na	na	na
SW7761	Silver	0.128	51	na	na	na
SW8260B	Acetone	0.005	1000	--	--	--
SW8260B	Chloromethane	0.005	3 8	--	--	--
SW8260B	Ethylbenzene	0.003	70	--	--	**(0.004)**
SW8260B	Methyl ethyl ketone	0.005	6100	--	**(0.012)**	**(0.009)**
SW8260B	m,p-Xylene	0 005	1000	--	--	--
SW8260B	Toluene	0.005	100	--	--	--
SW8270C	Acenaphthylene	0.33	610	--	--	--
SW8270C	Benzo[*a*]anthracene	0.33	0.33	--	--	0.067 F
SW8270C	Benzo[*a*]pyrene	0.33	0.33	--	--	0.084 F
SW8270C	Benzo[*b*]fluoranthene	0 33	0.33	--	--	0.12 F
SW8270C	Benzo[*g,h,i*]perylene	0.33	310	--	--	--
SW8270C	Benzo[*k*]fluoranthene	0.33	0.39	--	--	0.049 F
SW8270C	bis(2-Ethylhexyl)phthalate	0.33	0.6	--	--	--
SW8270C	Chrysene	0.33	3.9	--	--	0.096 F
SW8270C	Diethyl phthalate	0.33	8200	--	--	--
SW8270C	Fluoranthene	0.33	410	--	--	0.12 F

Table 5.5 (continued)
Subsurface Soil Detections
SWMU 26 / Landfill 3

Method	Analyte	RRS-1	RRS-2	BHGLTA303 05 ft 1998-04-14	BHGLTA303 10 ft 1998-04-14	BHGLTA303 15 ft 1998-04-14
SW8270C	Phenanthrene	0.33	310	--	--	0 11 F
SW8270C	Pyrene	0 33	310	--	--	0 17 F

Notes.

RRS-1 = Risk Reduction Standard 1
RRS-2 = Risk Reduction Standard 2
na = Not analyzed
N/A = Not applicable, no value
-- = Not detected
F = Estimated value below reporting limit and above the MDL
J = Estimated value above reporting limit
R = rejected
Values above RRS-1 are **bold** and are enclosed in (parentheses)
Values above RRS-2 are **bold** and are enclosed in [(parentheses and brackets)]
All concentrations are in mg/kg

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Table 5.5 (continued)
Subsurface Soil Detections
SWMU 26 / Landfill 3

Method	Analyte	RRS-1	RRS-2	BHGLTA303 20 ft 1998-04-14	BHGLTA304 05 ft 1998-04-14	BHGLTA304 10 ft 1998-04-14
SW6010	Arsenic	6 58	6.58	na	na	na
SW6010	Chromium, total	16.31	16.31	na	na	na
SW6010	Copper	13.72	130	na	na	na
SW6010	Nickel	19.76	200	na	na	na
SW6010	Zinc	31.3	3100	na	na	na
SW6010B	Antimony	0.712	0.712	--	--	--
SW6010B	Arsenic	6 58	6 58	5.1 F	--	3.2 F
SW6010B	Barium	128.1	200	122	50.1	28
SW6010B	Beryllium	1.13	1.13	0.63	0.59	0 43
SW6010B	Cadmium	0.59	0.59	--	--	--
SW6010B	Chromium, total	16.31	16 31	13.5	12.4	9.6
SW6010B	Cobalt	6.19	610	4 5 F	2.2 F	2.5 F
SW6010B	Copper	13.72	130	5.1 F	3 8 F	2.9 F
SW6010B	Lead	12.66	12.66	7.1 F	4.3 F	7.1 F
SW6010B	Nickel	19.76	200	9.8 F	6.5 F	6.1 F
SW6010B	Thallium	1.5	1.5	**[(15.5 F)]**	**[(11.8 F)]**	**[(10.6 F)]**
SW6010B	Tin	10	6100	--	--	--
SW6010B	Vanadium	37.4	72	31.5	21.9	21.1
SW6010B	Zinc	31.3	3100	19.6	16	11.9
SW7041	Antimony	0.712	0.712	na	na	na
SW7060A	Arsenic	6.58	6.58	na	na	na
SW7421	Lead	12 66	12.66	na	na	na
SW7761	Silver	0.128	51	na	na	na
SW8260B	Acetone	0.005	1000	--	--	--
SW8260B	Chloromethane	0.005	3 8	--	--	--
SW8260B	Ethylbenzene	0.003	70	0.001 F	--	--
SW8260B	Methyl ethyl ketone	0 005	6100	**(0.041)**	--	**(0.008)**
SW8260B	m,p-Xylene	0.005	1000	0.005 F	--	0.006 R
SW8260B	Toluene	0.005	100	0.002 F	--	--
SW8270C	Acenaphthylene	0.33	610	--	--	--
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[*g,h,i*]perylene	0.33	310	--	--	--
SW8270C	Benzo[*k*]fluoranthene	0.33	0.39	--	--	--
SW8270C	bis(2-Ethylhexyl)phthalate	0 33	0.6	--	--	--
SW8270C	Chrysene	0.33	3.9	--	--	--
SW8270C	Diethyl phthalate	0.33	8200	--	--	--
SW8270C	Fluoranthene	0.33	410	--	--	--

Table 5.5 (continued)
Subsurface Soil Detections
SWMU 26 / Landfill 3

Method	Analyte	RRS-1	RRS-2	BHGLTA303 20 ft 1998-04-14	BHGLTA304 05 ft 1998-04-14	BHGLTA304 10 ft 1998-04-14
SW8270C	Phenanthrene	0.33	310	--	--	--
SW8270C	Pyrene	0 33	310	--	--	--

Notes:

RRS-1 = Risk Reduction Standard 1
RRS-2 = Risk Reduction Standard 2
na = Not analyzed
N/A = Not applicable, no value
-- = Not detected
F = Estimated value below reporting limit and above the MDL
J = Estimated value above reporting limit
R = rejected
Values above RRS-1 are **bold** and are enclosed in (parentheses)
Values above RRS-2 are **bold** and are enclosed in [(parentheses and brackets)]
All concentrations are in mg/kg

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Table 5.5 (continued)
Subsurface Soil Detections
SWMU 26 / Landfill 3

Method	Analyte	RRS-1	RRS-2	BHGLTA304 15 ft 1998-04-14	BHGLTA324 15 ft 1999-01-26	BHGLTA325 15 ft 1999-01-26
SW6010	Arsenic	6.58	6.58	na	na	na
SW6010	Chromium, total	16.31	16.31	na	na	na
SW6010	Copper	13.72	130	na	na	na
SW6010	Nickel	19.76	200	na	na	na
SW6010	Zinc	31.3	3100	na	na	na
SW6010B	Antimony	0.712	0.712	--	--	na
SW6010B	Arsenic	6.58	6.58	3.6 F	na	na
SW6010B	Barium	128 1	200	41	24.6 F	na
SW6010B	Beryllium	1.13	1 13	0.56	0 2 F	na
SW6010B	Cadmium	0.59	0.59	0.45 F	0.36 F	na
SW6010B	Chromium, total	16.31	16.31	11.1	5.4 F	na
SW6010B	Cobalt	6.19	610	2.1 F	1.3 F	na
SW6010B	Copper	13.72	130	6.8	4.4 F	na
SW6010B	Lead	12 66	12.66	**[(247)]**	**[(105 J)]**	na
SW6010B	Nickel	19.76	200	6 5 F	4.4 F	na
SW6010B	Thallium	1.5	1.5	**[(8.8 F)]**	na	na
SW6010B	Tin	10	6100	--	--	na
SW6010B	Vanadium	37.4	72	24.5	15.8 F	na
SW6010B	Zinc	31 3	3100	15.7	9.6 F	na
SW7041	Antimony	0.712	0 712	na	na	na
SW7060A	Arsenic	6.58	6.58	na	3 F	na
SW7421	Lead	12.66	12 66	na	na	na
SW7761	Silver	0.128	51	na	**(0.14)**	na
SW8260B	Acetone	0.005	1000	--	**(0.032)**	na
SW8260B	Chloromethane	0.005	3.8	--	--	na
SW8260B	Ethylbenzene	0 003	70	--	--	na
SW8260B	Methyl ethyl ketone	0.005	6100	**(0.088)**	--	na
SW8260B	m,p-Xylene	0.005	1000	0.001 F	na	na
SW8260B	Toluene	0.005	100	--	--	na
SW8270C	Acenaphthylene	0.33	610	--	0.056 F	--
SW8270C	Benzo[*a*]anthracene	0.33	0.33	--	0.042 F	--
SW8270C	Benzo[*a*]pyrene	0 33	0.33	--	--	--
SW8270C	Benzo[*b*]fluoranthene	0.33	0.33	--	--	--
SW8270C	Benzo[*g,h,i*]perylene	0.33	310	--	0 039 F	--
SW8270C	Benzo[*k*]fluoranthene	0.33	0.39	--	--	--
SW8270C	bis(2-Ethylhexyl)phthalate	0 33	0.6	--	--	--
SW8270C	Chrysene	0.33	3.9	--	0.038 F	--
SW8270C	Diethyl phthalate	0.33	8200	--	--	--
SW8270C	Fluoranthene	0.33	410	0 037 F	0 085 F	0 052 F

Table 5.5 (continued)
Subsurface Soil Detections
SWMU 26 / Landfill 3

Method	Analyte	RRS-1	RRS-2	BHGLTA304 15 ft 1998-04-14	BHGLTA324 15 ft 1999-01-26	BHGLTA325 15 ft 1999-01-26
SW8270C	Phenanthrene	0.33	310	0.046 F	0 13 F	--
SW8270C	Pyrene	0.33	310	0.25 F	0.17 F	0.061 F

Notes·
RRS-1 = Risk Reduction Standard 1
RRS-2 = Risk Reduction Standard 2
na = Not analyzed
N/A = Not applicable, no value
-- = Not detected
F = Estimated value below reporting limit and above the MDL
J = Estimated value above reporting limit
R = rejected
Values above RRS-1 are **bold** and are enclosed in (parentheses)
Values above RRS-2 are **bold** and are enclosed in [(parentheses and brackets)]
All concentrations are in mg/kg

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Table 5.5 (continued)
Subsurface Soil Detections
SWMU 26 / Landfill 3

Method	Analyte	RRS-1	RRS-2	BHGLTA325 15 ft 1999-01-27	BHGLTA326 05 ft 1999-01-27	BHGLTA326 15 ft 1999-01-27
SW6010	Arsenic	6.58	6.58	na	na	na
SW6010	Chromium, total	16.31	16.31	na	na	na
SW6010	Copper	13.72	130	na	na	na
SW6010	Nickel	19.76	200	na	na	na
SW6010	Zinc	31.3	3100	na	na	na
SW6010B	Antimony	0.712	0.712	na	na	na
SW6010B	Arsenic	6.58	6.58	na	na	na
SW6010B	Barium	128.1	200	na	na	na
SW6010B	Beryllium	1.13	1.13	na	na	na
SW6010B	Cadmium	0.59	0.59	na	na	na
SW6010B	Chromium, total	16.31	16.31	na	na	na
SW6010B	Cobalt	6.19	610	na	na	na
SW6010B	Copper	13.72	130	na	na	na
SW6010B	Lead	12.66	12.66	na	na	na
SW6010B	Nickel	19.76	200	na	na	na
SW6010B	Thallium	1.5	1.5	na	na	na
SW6010B	Tin	10	6100	na	na	na
SW6010B	Vanadium	37.4	72	na	na	na
SW6010B	Zinc	31.3	3100	na	na	na
SW7041	Antimony	0 712	0.712	na	na	na
SW7060A	Arsenic	6.58	6.58	na	na	na
SW7421	Lead	12.66	12.66	9 9 J	2.5 F	na
SW7761	Silver	0.128	51	na	na	na
SW8260B	Acetone	0.005	1000	**(0.065)**	na	**(0.039)**
SW8260B	Chloromethane	0.005	3.8	--	na	--
SW8260B	Ethylbenzene	0.003	70	--	na	--
SW8260B	Methyl ethyl ketone	0 005	6100	--	na	--
SW8260B	m,p-Xylene	0.005	1000	na	na	na
SW8260B	Toluene	0.005	100	--	na	--
SW8270C	Acenaphthylene	0 33	610	na	na	--
SW8270C	Benzo[*a*]anthracene	0.33	0 33	na	na	--
SW8270C	Benzo[*a*]pyrene	0 33	0.33	na	na	--
SW8270C	Benzo[*b*]fluoranthene	0.33	0.33	na	na	--
SW8270C	Benzo[*g,h,i*]perylene	0.33	310	na	na	--
SW8270C	Benzo[*k*]fluoranthene	0.33	0.39	na	na	--
SW8270C	bis(2-Ethylhexyl)phthalate	0.33	0.6	na	na	--
SW8270C	Chrysene	0.33	3.9	na	na	--
SW8270C	Diethyl phthalate	0 33	8200	na	na	--
SW8270C	Fluoranthene	0.33	410	na	na	--

Table 5.5 (continued)
Subsurface Soil Detections
SWMU 26 / Landfill 3

Method	Analyte	RRS-1	RRS-2	BHGLTA325 15 ft 1999-01-27	BHGLTA326 05 ft 1999-01-27	BHGLTA326 15 ft 1999-01-27
SW8270C	Phenanthrene	0 33	310	na	na	--
SW8270C	Pyrene	0.33	310	na	na	--

Notes.
RRS-1 = Risk Reduction Standard 1
RRS-2 = Risk Reduction Standard 2
na = Not analyzed
N/A = Not applicable, no value
-- = Not detected
F = Estimated value below reporting limit and above the MDL
J = Estimated value above reporting limit
R = rejected
Values above RRS-1 are **bold** and are enclosed in (parentheses)
Values above RRS-2 are **bold** and are enclosed in [(parentheses and brackets)]
All concentrations are in mg/kg

Table 5.5 (continued)
Subsurface Soil Detections
SWMU 26 / Landfill 3

Method	Analyte	RRS-1	RRS-2	BHGLTA327 10 ft 1999-01-27	BHGLTA327 15 ft 1999-01-27	BHGLTA328 15 ft 1999-01-28
SW6010	Arsenic	6.58	6.58	na	na	na
SW6010	Chromium, total	16.31	16.31	na	na	na
SW6010	Copper	13.72	130	na	na	na
SW6010	Nickel	19.76	200	na	na	na
SW6010	Zinc	31 3	3100	na	na	na
SW6010B	Antimony	0.712	0.712	na	na	na
SW6010B	Arsenic	6 58	6 58	na	na	na
SW6010B	Barium	128.1	200	na	na	na
SW6010B	Beryllium	1.13	1.13	na	na	na
SW6010B	Cadmium	0.59	0.59	na	na	na
SW6010B	Chromium, total	16.31	16.31	na	na	na
SW6010B	Cobalt	6 19	610	na	na	na
SW6010B	Copper	13.72	130	na	na	na
SW6010B	Lead	12.66	12.66	na	na	na
SW6010B	Nickel	19.76	200	na	na	na
SW6010B	Thallium	1.5	1.5	na	na	na
SW6010B	Tin	10	6100	na	na	na
SW6010B	Vanadium	37.4	72	na	na	na
SW6010B	Zinc	31.3	3100	na	na	na
SW7041	Antimony	0.712	0.712	na	na	na
SW7060A	Arsenic	6.58	6.58	na	na	na
SW7421	Lead	12 66	12 66	8 1 F	na	na
SW7761	Silver	0.128	51	na	na	na
SW8260B	Acetone	0.005	1000	na	**(0.014)**	--
SW8260B	Chloromethane	0.005	3.8	na	--	--
SW8260B	Ethylbenzene	0.003	70	na	--	--
SW8260B	Methyl ethyl ketone	0.005	6100	na	--	--
SW8260B	m,p-Xylene	0 005	1000	na	na	na
SW8260B	Toluene	0 005	100	na	--	--
SW8270C	Acenaphthylene	0.33	610	na	--	--
SW8270C	Benzo[*a*]anthracene	0.33	0.33	na	--	--
SW8270C	Benzo[*a*]pyrene	0.33	0.33	na	--	--
SW8270C	Benzo[*b*]fluoranthene	0.33	0 33	na	--	--
SW8270C	Benzo[*g,h,i*]perylene	0.33	310	na	--	--
SW8270C	Benzo[*k*]fluoranthene	0.33	0.39	na	--	--
SW8270C	bis(2-Ethylhexyl)phthalate	0.33	0.6	na	--	0 21 F
SW8270C	Chrysene	0.33	3.9	na	--	--
SW8270C	Diethyl phthalate	0.33	8200	na	--	--
SW8270C	Fluoranthene	0.33	410	na	--	--

Table 5.5 (continued)
Subsurface Soil Detections
SWMU 26 / Landfill 3

Method	Analyte	RRS-1	RRS-2	BHGLTA327 10 ft 1999-01-27	BHGLTA327 15 ft 1999-01-27	BHGLTA328 15 ft 1999-01-28
SW8270C	Phenanthrene	0.33	310	na	--	--
SW8270C	Pyrene	0.33	310	na	--	--

Notes.
RRS-1 = Risk Reduction Standard 1
RRS-2 = Risk Reduction Standard 2
na = Not analyzed
N/A = Not applicable, no value
-- = Not detected
F = Estimated value below reporting limit and above the MDL
J = Estimated value above reporting limit
R = rejected
Values above RRS-1 are **bold** and are enclosed in (parentheses)
Values above RRS-2 are **bold** and are enclosed in [(parentheses and brackets)].
All concentrations are in mg/kg

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Table 5.5 (continued)
Subsurface Soil Detections
SWMU 26 / Landfill 3

Method	Analyte	RRS-1	RRS-2	BHGLTA329 15 ft 2000-04-05	BHGLTA330 15 ft 2000-04-05	BHGLTA331 15 ft 2000-04-05
SW6010	Arsenic	6.58	6.58	na	na	na
SW6010	Chromium, total	16.31	16.31	na	na	na
SW6010	Copper	13.72	130	na	na	na
SW6010	Nickel	19.76	200	na	na	na
SW6010	Zinc	31.3	3100	na	na	na
SW6010B	Antimony	0.712	0.712	na	na	na
SW6010B	Arsenic	6.58	6.58	na	na	na
SW6010B	Barium	128.1	200	na	na	na
SW6010B	Beryllium	1.13	1.13	na	na	na
SW6010B	Cadmium	0.59	0.59	na	na	na
SW6010B	Chromium, total	16.31	16.31	na	na	na
SW6010B	Cobalt	6.19	610	na	na	na
SW6010B	Copper	13.72	130	na	na	na
SW6010B	Lead	12.66	12.66	na	na	na
SW6010B	Nickel	19 76	200	na	na	na
SW6010B	Thallium	1.5	1.5	na	na	na
SW6010B	Tin	10	6100	na	na	na
SW6010B	Vanadium	37.4	72	na	na	na
SW6010B	Zinc	31.3	3100	na	na	na
SW7041	Antimony	0.712	0.712	na	na	na
SW7060A	Arsenic	6.58	6.58	na	na	na
SW7421	Lead	12.66	12 66	[(15)]	3.6 F	9.1
SW7761	Silver	0.128	51	na	na	na
SW8260B	Acetone	0.005	1000	na	na	na
SW8260B	Chloromethane	0.005	3.8	na	na	na
SW8260B	Ethylbenzene	0.003	70	na	na	na
SW8260B	Methyl ethyl ketone	0.005	6100	na	na	na
SW8260B	m,p-Xylene	0 005	1000	na	na	na
SW8260B	Toluene	0.005	100	na	na	na
SW8270C	Acenaphthylene	0.33	610	na	na	na
SW8270C	Benzo[*a*]anthracene	0.33	0.33	na	na	na
SW8270C	Benzo[*a*]pyrene	0.33	0.33	na	na	na
SW8270C	Benzo[*b*]fluoranthene	0.33	0.33	na	na	na
SW8270C	Benzo[*g,h,i*]perylene	0 33	310	na	na	na
SW8270C	Benzo[*k*]fluoranthene	0.33	0.39	na	na	na
SW8270C	bis(2-Ethylhexyl)phthalate	0.33	0.6	na	na	na
SW8270C	Chrysene	0.33	3.9	na	na	na
SW8270C	Diethyl phthalate	0.33	8200	na	na	na
SW8270C	Fluoranthene	0.33	410	na	na	na

Table 5.5 (continued)
Subsurface Soil Detections
SWMU 26 / Landfill 3

Method	Analyte	RRS-1	RRS-2	BHGLTA329 15 ft 2000-04-05	BHGLTA330 15 ft 2000-04-05	BHGLTA331 15 ft 2000-04-05
SW8270C	Phenanthrene	0.33	310	na	na	na
SW8270C	Pyrene	0.33	310	na	na	na

Notes.
RRS-1 = Risk Reduction Standard 1
RRS-2 = Risk Reduction Standard 2
na = Not analyzed
N/A = Not applicable, no value
-- = Not detected
F = Estimated value below reporting limit and above the MDL
J = Estimated value above reporting limit
R = rejected
Values above RRS-1 are **bold** and are enclosed in (parentheses)
Values above RRS-2 are **bold** and are enclosed in [(parentheses and brackets)]
All concentrations are in mg/kg.

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Table 5.5 (continued)
Subsurface Soil Detections
SWMU 26 / Landfill 3

Method	Analyte	RRS-1	RRS-2	BHGLTA333 05 ft 2001-01-24	BHGLTA333 Dup 05 ft 2001-01-25	BHGLTA334 05 ft 2001-01-24
SW6010	Arsenic	6.58	6.58	1.7 F	na	na
SW6010	Chromium, total	16 31	16.31	8 7 F	na	na
SW6010	Copper	13.72	130	2.3 F	na	na
SW6010	Nickel	19 76	200	5 F	na	na
SW6010	Zinc	31.3	3100	13.1 F	na	na
SW6010B	Antimony	0 712	0.712	na	na	na
SW6010B	Arsenic	6.58	6.58	**[(6.8)]**	1.7 F	3 F
SW6010B	Barium	128.1	200	128	na	63 3
SW6010B	Beryllium	1 13	1.13	0 52	na	0.59
SW6010B	Cadmium	0.59	0.59	**[(8.4)]**	--	0.06 F
SW6010B	Chromium, total	16.31	16.31	--	8.7 F	--
SW6010B	Cobalt	6.19	610	4.2 F	na	2 1 F
SW6010B	Copper	13.72	130	**[(368)]**	2.3 F	--
SW6010B	Lead	12.66	12.66	na	na	na
SW6010B	Nickel	19.76	200	**(33.8)**	5 F	--
SW6010B	Thallium	1.5	1.5	na	na	na
SW6010B	Tin	10	6100	**(42.3)**	na	--
SW6010B	Vanadium	37.4	72	29 5	na	25.8
SW6010B	Zinc	31.3	3100	**(611)**	13.1 F	16.7 F
SW7041	Antimony	0.712	0 712	**[(0.89 J)]**	--	--
SW7060A	Arsenic	6.58	6.58	na	na	na
SW7421	Lead	12.66	12.66	**[(166)]**	10.3 J	7.1
SW7761	Silver	0.128	51	--	--	--
SW8260B	Acetone	0.005	1000	--	na	--
SW8260B	Chloromethane	0.005	3.8	--	na	--
SW8260B	Ethylbenzene	0.003	70	--	na	--
SW8260B	Methyl ethyl ketone	0.005	6100	--	na	--
SW8260B	m,p-Xylene	0.005	1000	na	na	na
SW8260B	Toluene	0.005	100	--	na	--
SW8270C	Acenaphthylene	0.33	610	--	na	--
SW8270C	Benzo[*a*]anthracene	0.33	0 33	0.33 F	na	--
SW8270C	Benzo[*a*]pyrene	0.33	0.33	0.25 F	na	--
SW8270C	Benzo[*b*]fluoranthene	0.33	0.33	0.13 F	na	--
SW8270C	Benzo[*g,h,i*]perylene	0.33	310	--	na	--
SW8270C	Benzo[*k*]fluoranthene	0.33	0.39	0.23 F	na	--
SW8270C	bis(2-Ethylhexyl)phthalate	0 33	0.6	--	na	--
SW8270C	Chrysene	0.33	3.9	**(0.36 F)**	na	--
SW8270C	Diethyl phthalate	0.33	8200	--	na	--
SW8270C	Fluoranthene	0.33	410	0 22 F	na	--

Table 5.5 (continued)
Subsurface Soil Detections
SWMU 26 / Landfill 3

Method	Analyte	RRS-1	RRS-2	BHGLTA333 05 ft 2001-01-24	BHGLTA333 Dup 05 ft 2001-01-25	BHGLTA334 05 ft 2001-01-24
SW8270C	Phenanthrene	0.33	310	--	na	--
SW8270C	Pyrene	0.33	310	**(0.57)**	na	--

Notes:

RRS-1 = Risk Reduction Standard 1
RRS-2 = Risk Reduction Standard 2
na = Not analyzed
N/A = Not applicable, no value
-- = Not detected
F = Estimated value below reporting limit and above the MDL
J = Estimated value above reporting limit
R = rejected
Values above RRS-1 are **bold** and are enclosed in (parentheses)
Values above RRS-2 are **bold** and are enclosed in [(parentheses and brackets)]
All concentrations are in mg/kg

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Table 5.5 (continued)
Subsurface Soil Detections
SWMU 26 / Landfill 3

Method	Analyte	RRS-1	RRS-2	BHGLTA334 10 ft 2001-01-24
SW6010	Arsenic	6.58	6.58	na
SW6010	Chromium, total	16.31	16.31	na
SW6010	Copper	13.72	130	na
SW6010	Nickel	19.76	200	na
SW6010	Zinc	31.3	3100	na
SW6010B	Antimony	0.712	0.712	na
SW6010B	Arsenic	6.58	6 58	5 7
SW6010B	Barium	128 1	200	42
SW6010B	Beryllium	1 13	1.13	0.7
SW6010B	Cadmium	0.59	0.59	--
SW6010B	Chromium, total	16.31	16.31	--
SW6010B	Cobalt	6.19	610	4.5 F
SW6010B	Copper	13.72	130	--
SW6010B	Lead	12.66	12.66	na
SW6010B	Nickel	19.76	200	--
SW6010B	Thallium	1.5	1.5	na
SW6010B	Tin	10	6100	--
SW6010B	Vanadium	37.4	72	25.7 F
SW6010B	Zinc	31.3	3100	20 F
SW7041	Antimony	0 712	0.712	--
SW7060A	Arsenic	6.58	6.58	na
SW7421	Lead	12 66	12.66	7.4 J
SW7761	Silver	0.128	51	--
SW8260B	Acetone	0.005	1000	--
SW8260B	Chloromethane	0.005	3.8	**(0.008)**
SW8260B	Ethylbenzene	0.003	70	--
SW8260B	Methyl ethyl ketone	0.005	6100	--
SW8260B	m,p-Xylene	0.005	1000	na
SW8260B	Toluene	0 005	100	0 003 F
SW8270C	Acenaphthylene	0.33	610	--
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[*g,h,i*]perylene	0.33	310	--
SW8270C	Benzo[*k*]fluoranthene	0.33	0.39	--
SW8270C	bis(2-Ethylhexyl)phthalate	0.33	0.6	--
SW8270C	Chrysene	0.33	3.9	--
SW8270C	Diethyl phthalate	0 33	8200	**(0.52)**
SW8270C	Fluoranthene	0 33	410	--

Table 5.5 (continued)
Subsurface Soil Detections
SWMU 26 / Landfill 3

Method	Analyte	RRS-1	RRS-2	BHGLTA334 10 ft 2001-01-24
SW8270C	Phenanthrene	0.33	310	--
SW8270C	Pyrene	0.33	310	--

Notes:

RRS-1 = Risk Reduction Standard 1
RRS-2 = Risk Reduction Standard 2
na = Not analyzed
N/A = Not applicable, no value
-- = Not detected
F = Estimated value below reporting limit and above the MDL
J = Estimated value above reporting limit
R = rejected
Values above RRS-1 are **bold** and are enclosed in (parentheses)
Values above RRS-2 are **bold** and are enclosed in [(parentheses and brackets)]
All concentrations are in mg/kg.

Table 5.6
Confirmation / SPLP Results
SWMU 26 / Landfill 3
NAS Fort Worth JRB, Texas

Sample	Interval	Soil Method	SPLP Method	Analyte	RRS 1 (mg/kg)	RRS 2 (mg/kg)	Initial Result (mg/kg)	Confirmation Result (mg/kg)	GW-Ind (mg/L)	SPLP Result (mg/L)
BHGLTA333	05 ft	SW7041	SW6010B	Antimony	0.712	0.712	0.89 J	0.2 U	0.006	0.0066 U
BHGLTA333	05 ft	SW6010B	SW7060A	Arsenic	6.58	6.58	6.8	1.7 F	0.05	0.0035 F
BHGLTA333	05 ft	SW6010B	SW6010B	Cadmium	0 59	0.59	8.4	0.089 U	0.005	0.0004 U
BHGLTA333	05 ft	SW6010B	SW7191	Chromium, total	16.31	16.31	8.7 F	21.1 U	0.1	0.0238
BHGLTA333	05 ft	SW6010B	SW6010B	Copper	13.72	130	368	2.3 F	1.3	0.0035 F
BHGLTA333	05 ft	SW7421	SW7421	Lead	12.66	12.66	166	10.3	0.015	0.0056 F
BHGLTA333	05 ft	SW6010B	SW6010B	Nickel	19.76	200	33.8	5 F	2	0.0071 F
BHGLTA333	05 ft	SW7761	SW6010B	Silver	0.128	51	1.3	0.069 U	0.51	0.0025 U
BHGLTA333	05 ft	SW6010B	SW6010B	Zinc	31.3	3100	611	13.1 F	31	0.0616 F
BHGLTA329	15 ft	SW7421	SW7421	Lead	12.66	12 66	15	na	0.015	0.015 UJ

Note: na = Not analyzed

Table 5.7
State of Texas Background Values

Texas-Specific Background Concentration	
Metal	**Median Background Concentration mg/kg**
Aluminum	30000.0
Antimony	1.0
Arsenic	5.9
Barium	300.0
Beryllium	1.5
Boron	30.0
Total Chromium	30 0
Cobalt	7 0
Fluorine	190.0
Iron	15000.0
Lead	15 0
Manganese	300.0
Mercury	0.0
Nickel	10.0
Selenium	0 3
Strontium	100.0
Tin	0.9
Titanium	2000.0
Thallium	9.3
Vanadium	50.0
Zinc	30.0

Note: Table derived from TAC 350.51

Table 5.8
Terrace Alluvial Groundwater Detections
(1998 to 2001)
NAS Fort Worth JRB, Texas

Method	Analyte	RRS 1	RRS 2	AppIX	HM-126 2000-07-20	HM-126 2001-04-03	HM-127 2000-04-10	HM-127 Duplicate 2000-04-10	HM-127 2001-02-20	LF03-3D 1998-09-29	LF03-3D 1998-12-17	LF03-3D 1999-04-21
SW6010B	Barium	0.587	2	Yes	na	na	0.0819 F	0.0801 F	0.0656 F	0 0393	0.0406 F	na
SW6010B	Calcium	266.3	N/A	No	na	na	132	130	na	218	209	na
SW6010B	Cobalt	0 0089	6 1	Yes	na	na	--	--	--	--	--	na
SW6010B	Iron	0.224	N/A	No	na	na	0.196 J	--	na	--	--	na
SW6010B	Magnesium	37 8	N/A	No	na	na	7 33	7.26	na	12.3	11 6	na
SW6010B	Manganese	0.175	14	No	na	na	--	--	na	0 0204	--	na
SW6010B	Molybdenum	0.0144	0.51	No	na	na	--	--	na	--	--	na
SW6010B	Potassium	15 03	N/A	No	na	na	0 818 F	0.625 F	na	2 91 F	2.12 F	na
SW6010B	Sodium	167	N/A	No	na	na	35	34 8	na	28	27 5	na
SW7470A	Mercury	0.0001	0 002	Yes	na	na	--	--	--	--	**(0.00048 F)**	na
SW7740	Selenium	0.0077	0 05	Yes	na	na	--	0.0018 F	--	na	na	na
SW8260B	1,1-Dichloroethane	0 0004	10	Yes	0.0004	--	--	--	--	--	--	--
SW8260B	1,1-Dichloroethene	0 0005	0 007	Yes	**(0.001)**	0 0004 F	--	--	--	--	--	--
SW8260B	Chloroform	0 0003	0 1	Yes	**(0.0006)**	--	--	--	--	--	--	--
SW8260B	*cis*-1,2-Dichloroethene	0 0005	0 07	Yes	**(0.07)**	**(0.019)**	--	--	--	--	--	--
SW8260B	tert-Butyl Methyl Ether	0 0005	1	No	--	--	0 0005 R	0 0005 R	0 0005 R	na	na	na
SW8260B	Tetrachloroethene (PCE)	0 0005	0 005	Yes	**(0.001)**	--	--	--	--	--	--	--
SW8260B	*trans*-1,2-Dichloroethene	0 0005	0.1	Yes	**(0.003)**	**(0.003)**	--	--	--	--	--	--
SW8260B	Trichloroethene (TCE)	0.0005	0.005	Yes	**[(1.5)]**	**[(0.28)]**	0 0003 F	0 0003 F	--	**(0.0006)**	--	--
SW8260B	Vinyl Chloride	0 0005	0 002	Yes	--	--	--	--	--	--	--	--
SW8270C	bis(2-Ethylhexyl)phthalate	0 01	0.01	Yes	na	na	--	--	na	--	--	na
SW9056	Chloride (as Cl)				na	na	na	na	na	na	na	9 6 J
SW9056	Nitrogen, Nitrate (as N)		10	No	na	na	na	na	na	na	na	1 9
SW9056	Sulfate (as SO_4)				na	na	na	na	na	na	na	370 J
E310 1	Alkalinity, Total (as $CaCO_3$)				na	na	na	na	na	na	na	359
E415.1	Total Organic Carbon				Na	na	na	na	na	na	na	1 3

Notes
RRS 1 = Risk Reduction Standard 1
RRS 2 = Risk Reduction Standard 2
na = Not analyzed
N/A = Not applicable, no value
-- = Not detected
F = Estimated value below reporting limit and above the MDL
J = Estimated value above reporting limit
Values above RRS 1 are bold and are enclosed in (parentheses).
Values above RRS 2 are bold and are enclosed in [(parentheses and brackets)]
All concentrations are in mg/L

Table 5.8 (continued)
Terrace Alluvial Groundwater Detections
(1998 to 2001)
NAS Fort Worth JRB, Texas

Method	Analyte	RRS 1	RRS 2	AppIX	LF03-3D 1999-10-13	LF03-3D 2000-04-06	LF03-3D 2000-07-12	LF03-3D 2000-10-26	LF03-3D 2001-03-27	WHGLTA302 1998-05-07	WHGLTA302 1998-09-29
SW6010B	Barium	0 587	2	Yes	na	na	na	na	na	--	0.168
SW6010B	Calcium	266 3	N/A	No	na	na	na	na	na	na	135
SW6010B	Cobalt	0 0089	6 1	Yes	na	na	na	na	na	--	--
SW6010B	Iron	0 224	N/A	No	na	na	na	na	na	na	**(0.411)**
SW6010B	Magnesium	37.8	N/A	No	na	na	na	na	na	na	7.37
SW6010B	Manganese	0 175	14	No	na	na	na	na	na	na	**(0.485)**
SW6010B	Molybdenum	0 0144	0 51	No	na	na	na	na	na	na	--
SW6010B	Potassium	15.03	N/A	No	na	na	na	na	na	na	1.94 F
SW6010B	Sodium	167	N/A	No	na	na	na	na	na	na	24 1
SW7470A	Mercury	0 0001	0.002	Yes	na	--	na	na	na	--	--
SW7740	Selenium	0 0077	0 05	Yes	na	na	na	na	na	na	na
SW8260B	1,1-Dichloroethane	0 0004	10	Yes	--	--	--	--	--	**(0.001)**	**(0.001)**
SW8260B	1,1-Dichloroethene	0 0005	0 007	Yes	--	--	--	--	--	**(0.006 J)**	**(0.005)**
SW8260B	Chloroform	0 0003	0 1	Yes	--	--	--	--	--	**(0.0005)**	--
SW8260B	*cis*-1,2-Dichloroethene	0 0005	0.07	Yes	--	--	--	--	--	**[(1.1)]**	**[(2.3)]**
SW8260B	tert-Butyl Methyl Ether	0 0005	1	No	na	--	**(0.002)**	--	--	na	na
SW8260B	Tetrachloroethene (PCE)	0 0005	0 005	Yes	--	--	--	--	--	--	--
SW8260B	*trans*-1,2-Dichloroethene	0 0005	0 1	Yes	--	--	--	--	--	**(0.042)**	**(0.039)**
SW8260B	Trichloroethene (TCE)	0 0005	0.005	Yes	--	--	--	--	--	**[(1.4)]**	**[(0.82)]**
SW8260B	Vinyl Chloride	0 0005	0 002	Yes	--	--	--	--	--	**[(0.048)]**	**[(0.12)]**
SW8270C	bis(2-Ethylhexyl)phthalate	0 01	0 01	Yes	na	na	na	na	na	--	--
SW9056	Chloride (as Cl)				11.6	na	na	na	na	na	na
SW9056	Nitrogen, Nitrate (as N)		10	No	0 65	na	na	na	na	na	na
SW9056	Sulfate (as SO_4)				182	na	na	na	na	na	na
E310 1	Alkalinity, Total (as $CaCO_3$)				370	na	na	na	na	na	na
E415.1	Total Organic Carbon				1 5	na	na	na	na	na	na

Notes
RRS 1 = Risk Reduction Standard 1
RRS 2 = Risk Reduction Standard 2
na = Not analyzed
N/A = Not applicable, no value
-- = Not detected
F = Estimated value below reporting limit and above the MDL
J = Estimated value above reporting limit
Values above RRS 1 are bold and are enclosed in (parentheses)
Values above RRS 2 are bold and are enclosed in [(parentheses and brackets)]
All concentrations are in mg/L

Table 5.8 (continued)
Terrace Alluvial Groundwater Detections
(1998 to 2001)
NAS Fort Worth JRB, Texas

Method	Analyte	RRS 1	RRS 2	AppIX	WHGLTA302 1998-12-16	WHGLTA302 Duplicate 1998-12-16	WHGLTA303 1998-05-08
SW6010B	Barium	0 587	2	Yes	0.163 F	0.168 F	0 0945
SW6010B	Calcium	266 3	N/A	No	134	138	na
SW6010B	Cobalt	0 0089	6.1	Yes	0 00058 F	0 00063 F	--
SW6010B	Iron	0.224	N/A	No	**(0.454)**	**(0.44)**	na
SW6010B	Magnesium	37 8	N/A	No	7 09	7.31	na
SW6010B	Manganese	0 175	14	No	**(0.483)**	**(0.498)**	na
SW6010B	Molybdenum	0 0144	0 51	No	0 0022 F	0.0016 F	na
SW6010B	Potassium	15 03	N/A	No	1.64 F	1.75 F	na
SW6010B	Sodium	167	N/A	No	24.1	25	na
SW7470A	Mercury	0.0001	0 002	Yes	--	--	--
SW7740	Selenium	0.0077	0 05	Yes	na	na	na
SW8260B	1,1-Dichloroethane	0 0004	10	Yes	**(0.0007)**	**(0.0007)**	**(0.0008)**
SW8260B	1,1-Dichloroethene	0 0005	0.007	Yes	**(0.003)**	**(0.002)**	**(0.004 J)**
SW8260B	Chloroform	0 0003	0 1	Yes	--	--	--
SW8260B	*cis*-1,2-Dichloroethene	0 0005	0.07	Yes	**[(1.6)]**	**[(1.8)]**	**[(1.1 J)]**
SW8260B	tert-Butyl Methyl Ether	0.0005	1	No	na	na	na
SW8260B	Tetrachloroethene (PCE)	0.0005	0.005	Yes	--	--	--
SW8260B	*trans*-1,2-Dichloroethene	0.0005	0.1	Yes	**(0.025)**	**(0.031)**	**(0.046 J)**
SW8260B	Trichloroethene (TCE)	0.0005	0 005	Yes	**[(0.25)]**	**[(0.27)]**	**[(0.88 J)]**
SW8260B	Vinyl Chloride	0 0005	0.002	Yes	**[(0.079)]**	**[(0.082)]**	**[(0.024)]**
SW8270C	bis(2-Ethylhexyl)phthalate	0 01	0 01	Yes	--	--	**[(0.11)]**
SW9056	Chloride (as Cl)				na	na	na
SW9056	Nitrogen, Nitrate (as N)		10	No	na	na	na
SW9056	Sulfate (as SO_4)				na	na	na
E310 1	Alkalinity, Total (as $CaCO_3$)				na	na	na
E415 1	Total Organic Carbon				na	na	na

Notes:
RRS 1 = Risk Reduction Standard 1
RRS 2 = Risk Reduction Standard 2
na = Not analyzed
N/A = Not applicable, no value
-- = Not detected
F = Estimated value below reporting limit and above the MDL
J = Estimated value above reporting limit
Values above RRS 1 are bold and are enclosed in (parentheses)
Values above RRS 2 are bold and are enclosed in [(parentheses and brackets)].
All concentrations are in mg/L

TAB

SECTION 6.0

6.0 CONCLUSIONS AND RECOMMENDATIONS

SWMU26 has been investigated in accordance with Chapter 335, Subchapter S of the TNRCC RRSs and the NAS Fort Worth JRB Hazardous Waste Permit, HW-50289. Standard 2 and 3 contaminants have been delineated and it has been demonstrated that no pathways for Standard 3 lead contaminated soil to groundwater or air are present at SWMU 26. All remaining COPCs at each of these units are Standard 2; therefore, closure of soil under Standard 2 of the TNRCC RRS program is recommended for SWMU 26. It is important to note that groundwater contamination in the landfill area of NAS Fort Worth JRB, which includes SWMUs 26 is being addressed and remediated under a separate environmental restoration project. A more detailed discussion of conclusions for SWMU 26 is presented below.

SWMU 26 was used as a landfill by the USAF during the early history of Carswell AFB. The period of official operation of this SWMU was 1950 to 1952 based on aerial photographs. The contents of SWMU 26 were removed to an unknown location during runway extension construction activities in 1953. Geophysical surveys were performed in the vicinity of SWMU 26 in an effort to locate the contents of the landfill.

As a result, one large geophysical anomaly was detected in the northwestern quadrant and two much smaller anomalies were detected in the east of the runway in the northeast and southeast quadrants. It is important to note that no geophysical anomalies were detected in the southwest quadrant where several large trenches were observed in the December 31, 1950 aerial photograph of SWMU 26 (Figure 5.2). The anomaly in the northwestern quadrant was located within a former meander loop, which was a low lying area at the time of the runway extension and aqueduct construction project. Soil borings advanced in the large anomaly revealed the presence of floor tile fragments, wood fragments, asphalt, and glass. It is likely that some if not all of the contents of SWMU 26 were used to fill this low lying area. Landfill materials were not encountered in the anomaly detected in the southeast quadrant where a pit was observed in the December 31, 1950 aerial photograph. However, a confirmed Standard 3 concentration of lead was detected in weathered bedrock in the center of the southeastern anomaly. A bottle cap and a piece of wood were the only debris encountered in the northeast quadrant anomaly.

In accordance with the NAS Fort Worth JRB hazardous waste permit, soil samples were collected within detected geophysical anomalies in 5-foot intervals from the ground surface to the water table and analyzed for the full suite of Appendix IX compounds. Results from these soil samples indicated no detections of chlorinated herbicides, OP pesticides, dioxins, furans, or sulfides at SWMU 26. However, Standard 2 and 3 concentrations of metals, VOCs, and SVOCs were detected during the initial broad spectrum analytical phase of the RFI. Consistent with the RRSs and the guidance provided in the TNRCC Interoffice Memorandum (TNRCC, 1998a), these detections were divided in several categories:

- Detections that were subsequently not confirmed
- Detections that were statistically eliminated

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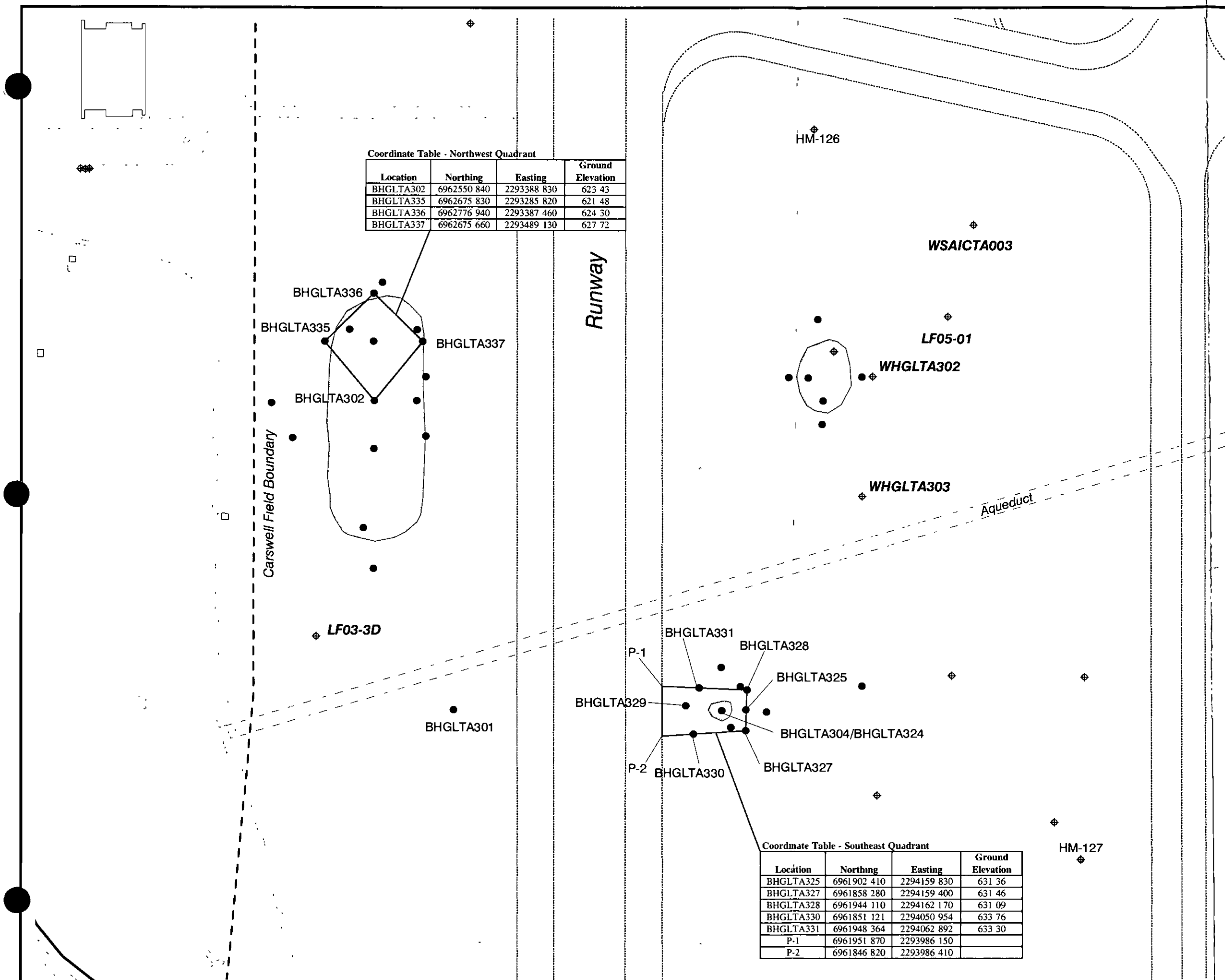
- Detections found to be anthropogenic or natural variations of background
- Detections shown to be laboratory artifacts
- Detections shown to be false positives due to matrix interference
- Detections determined to be insignificant based on low frequency of detection
- Detections confirmed as Standard 2 and delineated
- Detections confirmed as Standard 3 and delineated.

The detection of lead at B304/B324 was the only confirmed Standard 3 compound at SWMU 26 where analysis of the SPLP extract yielded a concentration higher than the TNRCC groundwater MSC. This detection of lead was encountered within the weathered limestone and shale of the Goodland Walnut aquitard at the 15-foot interval of B304/B324. Soil samples collected in the 15-foot interval of borings B325, B326, B327, B328, B329, B330, and B331 delineate the original detections at B304/B324. These borings demonstrate that there is no pattern of detection that would indicate lead was released from SWMU 26. It should be noted that groundwater was not encountered in any boring near B304/B324 nor was groundwater encountered in the B304 piezometer. Therefore, no migration pathway to groundwater is available at this boring and sample location. As no concentrations of lead at SWMU 26 have been detected in groundwater, it is believed that lead does not present a potential risk to human health or the environment at SWMU 26.

Pursuant with Chapter 335, Subchapter S, and Sections 335.555 through 335.560 of the TNRCC RRS, this RFI demonstrates that attainment of RRS 2 (Closure/Remediation to health-based standards and criteria) has been achieved and closure of SWMU 26 is recommended. Upon approval of this report, a metes and bounds survey for SWMU 26 (Figure 6.1), a letter stating that closure and remediation of SWMU 26 was carried out in accordance with Section 335.555, signed by the AFCEE representative, will be provided.

In conclusion, geophysical and soil boring evidence demonstrate that landfill materials do not exist in the original location of SWMU 26. It is believed that some if not all of the original contents of SWMU 26 were removed and used to fill a low lying area within the former meander loop of Farmers Branch Creek. The presence of a large geophysical anomaly in the northeast quadrant as well as landfill materials encountered in soil borings within the anomaly support this hypotheses. It is also possible that some of the original contents may have been transported another active base landfill such as SWMU 28 (Landfill 1). In either case, it is concluded that the remnants of SWMU 26 found in the northwest do not present a threat to human health or the environment as all compounds detected are below MSCs and are delineated. In addition, it is been demonstrated that a transport pathway does not exist for Standard 3 detection of lead in the 15-foot interval of boring B304/B324 based on the absence of alluvial terrace groundwater in the southeast quadrant. A total of 10 delineation borings have established that this detection of lead is isolated to the 15-foot interval of B304/B324 within the dry weathered bedrock of the Goodland Walnut aquitard. Therefore, this detection of lead does not pose a threat to human health or the environment and closure under Standard 2 of the TNRCC Risk Reduction Rules is recommended for SWMU 26.

FIGURES



Coordinate Table - Northwest Quadrant

Location	Northing	Easting	Ground Elevation
BHGLTA302	6962550 840	2293388 830	623 43
BHGLTA335	6962675 830	2293285 820	621 48
BHGLTA336	6962776 940	2293387 460	624 30
BHGLTA337	6962675 660	2293489 130	627 72

Coordinate Table - Southeast Quadrant

Location	Northing	Easting	Ground Elevation
BHGLTA325	6961902 410	2294159 830	631 36
BHGLTA327	6961858 280	2294159 400	631 46
BHGLTA328	6961944 110	2294162 170	631 09
BHGLTA330	6961851 121	2294050 954	633 76
BHGLTA331	6961948 364	2294062 892	633 30
P-1	6961951 870	2293986 150	
P-2	6961846 820	2293986 410	

HydroGeoLogic, Inc —RFI SWMU 26
NAS Fort Worth JRB, Texas

Figure 6.1

SWMU 26 / Landfill 3
Proposed Metes and Bounds

U.S. Air Force Center for Environmental Excellence

Legend

- NAS Fort Worth JRB (Carswell Field)
- Former Carswell Air Force Base
- Geophysical Anomalies
- Proposed Metes and Bounds
- WHGLTA201 Sampling Location
- GMI-22-07M Monitoring Well Location
- BHGLTA211 Borehole Location

N

200 100 0 200

SCALE IN FEET

Filename X \AFC001\33cca\RFI_SWMU_26\ report\landfill3_proposed_metes-bounds apr
Project AFC001-33CCB
Created 09/25/00 jbelcher
Revised 11/09/01 asp
Map Source HydroGeoLogic, Inc ArcView GIS Database 2001

HYDRO GeoLogic INC

TAB

SECTION 7.0

7.0 REFERENCES

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TAB

APPENDIX A: BORING LOGS

APPENDIX A

BORING LOGS

HYDRO GeoLogic INC.

Project No: AFC001-05FAA
Project: NAS FTW Landfill RFI
Client: AFCEE
Location: LF-3

Borehole ID: BHGLTA301

Date: 04/09/98
Geologist: M Gerber

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1 2 3 4		*Clayey Sand* 5YR 5/4 reddish brown fine grained clayey sand w/ minor pebbles Mottled clay bottom 3" w/ silty organic material present throughout VOC sample collected from 3 5-4'	627 97	s(CL)	50%	Damp	0 0	Appendix IX sampling BHGLTA301-01 (0-5") 1145
5 6 7		*Sand and LS* Top 6" 5YR 3/1 v dk gray mottled clay 3" layer of 7 5YR 5/8 strong brown fine grained sand 6" mottled clay w/ weathered limestone 6" fine clayey sand w/ weathered limestone	624 97	s(CL)	80%	Dry	0 0	BHGLTA301-02 (3 5-6 5') 1005 N1 and Field Dup.
8 9 10		*Silty Clay* Very stiff silty clay Difficult to extrude from sleeves Vocs collected from 10-10 5'	621 97	CL	40%	Dry	0.0	BHGLTA301-03 (8 5-11 5') 1030
11 12 13		*Clay* 5YR 2 5/1 black stiff clay, dry Very difficult to extrude from sleeves	618 97	CL	10%	Dry	0 0	
14 15 16		*Silty Clay* Very stiff mottled silty clay w/ gravel at the bottom 6" Vocs collected from 13 5-14'	615 97	CL	80%	Dry	0 0	BHGLTA301-04 (13 5-16 5') 1045

Drilled By: Precision
Drill Method DPT
Drilling Equipment XD2

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size. 2 5"
Total Depth Drilled 20'
Sheet: 1 of 2

HYDRO GeoLogic INC.

Project No: AFC001-05FAA
Project: NAS FTW Landfill RFI
Client: AFCEE
Location: LF-3

Borehole ID: BHGLTA301

Date: 04/09/98
Geologist: M Gerber

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
17 18		*Silty Clay w/Sand* Wet at 16 5-17', then dry 10YR 6/6 brownish yellow sandy (coarse) silt, mottled 17-18 5' 10YR 7/2 lt gray silty clay w/ med-coarse sand and weathered ls 18 5' v stiff hard sitly clay, dry	612 97	(CL)s	UNK	Wet	0 0	
19 20		*Shale* 4" recovered Weathered shale, dry Refusal at 20' - hit shale bedrock	611 5114	CL	Poor	Dry	0.0	Refusal at 20' Hit shale bedrock
21 22 23 24 25 26 27 28 29 30 31 32								

Drilled By. Precision
Drill Method DPT
Drilling Equipment XD2

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size 2 5"
Total Depth Drilled 20'
Sheet. 2 of 2

HYDRO GeoLogic INC.

Project No: AFC001-05CDE
Project: NAS FTW Landfill RFI
Client: AFCEE
Location: LF-3

Borehole ID: BHGLTA302

Date: 04/09/98
Geologist: M Gerber

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1 2 3 4		*Silty Clay w/ LS* 7 5YR 4/4 brown silty clay w/ weathered ls fragments Mottled w/ Fe staining VOCs collected from 3 5-4'	619 43	CL	80%	Dry	0 0	Appendix IX sampling. BGHLTA302-01 (0-5") 1545
5 6 7		*Landfill* Same as above for top 12" then dk silty clay w/gravel, glass and wood fragments, floortile fragments Landfill at 5', no odor	616 43	CL	70%	Dry	0 0	BHGLTA302-02 (3 5-6 5') 1420 N1 and MS/MSD
8 9 10		*Landfill* Dark silty clay w/ gravel and glass and wood fragments Top 6"silty clay w/ fine grained sand and limestone pieces Dry, poorly sorted Landfill to 8 5', no odor	613 43	CL	70%	Dry	0 0	BHGLTA302-03 (8 5-11.5') 1445
11 12		*Landfill* Same as above VOCs collected from 10-10 5'	610 43	CL	80%	Dry Wet	0 0	
13 14		*Silty Clay w/ Gravel* 13-14' 2" silty clay, 3" v coarse gravel, wet, 2" silty clay, 5" weathered shale fragments, dry Refusal at 14' - bedrock (shale) encountered	609 43	CL	20%	Dry	0 0	Refusal at 14', shale bedrock
15 16								

Drilled By Precision
Drill Method DPT
Drilling Equipment XD2

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size 2 5"
Total Depth Drilled 14'
Sheet 1 of 1

HYDRO GeoLogic INC.

Project No: AFC001-05FAA
Project: NAS FTW Landfill RFI
Client: AFCEE
Location: LF-3

Borehole ID: BHGLTA303

Date: 04/14/98
Geologist: C Williams

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1 2 3 4		*Sand Clay w/ Gravel* Top 1' 2 5YR 7/4 pale yellow sandy clay w/ gravel (<1/2" diameter) 6" of silty clay w/ ls fragments Remaining 1 5' 2 5YR 4/2 dk grayish brown silty clay w/ coarse sand grains and 10% gravel	617 65	s(CL)g	80%	Dry	0.0	Appendix IX sampling BHGLTA303-01 (0-5") 1245
5 6 7		*Silty Clay w/ Sand and Gravel* 10YR 4/6 dk yellowish brown silty clay w/ coarse sand size gravel Bottom 1.5' silty clay w/ med sand and gravel (up to 3/4" diameter)	614 65	s(CL)g	60%	Dry	0 0	BHGLTA303-02 (3 5-6 5') 1115
8 9 10		*Silty Clay w/ Sand and Gravel* Top 6" 10YR 4/6 silty clay w/ med sand Remainder is sandy clay w/ gravel (<1" diameter). Collected sample 303-03; VOCs from 8 5-9'.	611 65	s(CL)g	80%	Dry	0 0	BHGLTA303-03 (8 5-11 5') 1135
11 12 13		*Clayey Sand* 10YR 7/3 v pale brown fine-med clayey sand, poorly sorted, damp, 80% recovery	608 65	s(CL)	80%	Damp	0 0	
14 15 16		*Clay Sand w/ Gravel* 10YR 7/1 and 8/1 lt gray and white clayey sand w/ large ls gravel (>1" diam) and coarse sand. Collected sample 303-04, VOCs from 16-16 5	605 65	s(CL)g	60%	Dry	0 0	BHGLTA303-04 (13 5-16 5') 1150

Drilled By: Precision
Drill Method DPT
Drilling Equipment XD2

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size 2 5"
Total Depth Drilled· 25'
Sheet 1 of 2

HYDRO GeoLogic INC.

Project No: AFC001-05FAA
Project: NAS FTW Landfill RFI
Client: AFCEE
Location: LF-3

Borehole ID: BHGLTA303

Date: 04/14/98
Geologist: C Williams

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
17–19		*Silty Clay w/Sand and Gravel* 10YR 5/1 and 6/1 silty clay w/ gravel and coarse sand, damp, 20% recovery Wood in bottom 6" (creosote stained)	602 65	s(CL)g	20%	Damp	0 0	
19–22		*Silty Clay w/ Sand and Gravel* Silty clay w/ gravel and med sand (35%), damp, 10% recovery	599 65	s(CL)g	10%	Damp	0 0	BHGLTA303-05 (18 5-21 5') 1330
22–25		*Sandy Clay w/ Gravel* 10YR 8/4 and 7/1 v pale brown and lt gray mottled fine-med sandy clay w/ gravel (35%), poorly sorted, damp-wet Bottom 6" 10YR 5/6 yellowish brown fine-med sand, soft, well sorted, wet	596 65	SW	80%	Wet	0 0	Hit water at 23'
25–32								

Drilled By Precision
Drill Method DPT
Drilling Equipment XD2

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size 2 5"
Total Depth Drilled 25'
Sheet 2 of 2

HYDRO GeoLogic INC.

Project No: AFC001-05FAA
Project: NAS FTW Landfill RFI
Client: AFCEE
Location: LF-3

Borehole ID: BHGLTA304

Date: 04/14/98
Geologist: C Williams

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1 2 3 4		*Silty Clay* 10YR 7/4 v pale brown silty clay w/ fine-med sand and gravel (<1/2" diam), dry, 70% recovery Last 6" black silty clay w/ organics Stiff in last 1' VOCs collected from 3 5-4'	628 41	s(CL)g	70%	Dry	0 0	Appendix IX sampling BHGLTA304-01 (0-5") 1610
5 6 7		*Silty Clay w/ Sand and Gravel* Top 6" silty clay w/ coarse sand and small gravel (20%) Next 6" silty clay w/ coarse sand and organics Bottom silty clay w/ weathered ls and coarse sand, stiff Dry, stiff, 100% recovery	625 41	s(CL)	100%	Dry	0 0	BHGLTA304-02 (3 5-6 5') 1525
8 9 10		*Silty Clay w/ Gravel* Silty clay w/ weathered ls and shale, some gravel up tp 1" diameter Mottled 10YR 8/1, 8/3, 7/2 (white, v pale brown, lt gray) Dry, stiff VOCs collected from 8 5-9'	622 41	(CL)g	100%	Dry	0 0	BHGLTA304-03 (8 5-11 5') 1540
11 12 13		*Silty Clay w/ LS* Silty clay w/ weathered ls, mottled 10YR 8/1, 8/3, and 7/2 (white, v pale brown, lt gray) Bottom 6" 10YR 5/2 grayish brown Dry, stiff	619 41	CL	100%	Dry	0 0	
14 15 16		*Silty Clay w/ LS and Sand* Silty clay w/ weathered ls gravel and sand Dry, 50% recovery VOCs collected from 15 5-16'.	616 41	(CL)g	50%	Dry	0 0	BHGLTA304-04 (13.5-16 5') 1550

Drilled By Precision
Drill Method DPT
Drilling Equipment XD2

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size: 2 5"
Total Depth Drilled: 19'
Sheet 1 of 2

HYDRO GeoLogic INC.

Project No: AFC001-05FAA
Project: NAS FTW Landfill RFI
Client: AFCEE
Location: LF-3

Borehole ID: BHGLTA304

Date: 04/14/98
Geologist: C Williams

SUBSURFACE PROFILE					SAMPLE			Remarks
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	
17 18 19		*Silty Clay w/LS* Silty clay w/ weathered ls pieces, dry Possible hydrolic oil at 16-16 5' At 18-19' very hard and dense limestone	613 41	CL	50%	Dry	0 0	
20 21 22 23 24 25 26 27 28 29 30 31 32								

Drilled By· Precision
Drill Method· DPT
Drilling Equipment XD2

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size. 2 5"
Total Depth Drilled· 19'
Sheet 2 of 2

HYDRO GeoLogic INC.

Project No: AFC001-05FAA
Project: NAS FTW Landfill RFI
Client: AFCEE
Location: LF-3

Borehole ID: BHGLTA305

Date: 04/16/98
Geologist: C Williams

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1–4		***Sand-Clay-Gravel Mix*** top- black silty clay w organics/gravel poorly sorted sand - yellowsilty clay w med sand, gravel	628 07	GC	80%	Dry	0 0	No sampling Lithology only
5–7		***Silty Clay*** black silty clay w organics/ coarse sand - yellow silty clay w fine-med sand, gravel-larger at bottom	625 07	CL	50%	Dry	0 0	
8–10		***Silty Clay w/ Sand and Gravel*** black silty clay w med-coarse sand - white silty clay w weathered LS, gravel	622 07	CL	80%	Dry	0.0	
11–13		***Silty Clay w/ Sand and Gravel*** white silty clay w weathered LS - LS gravel med-coarse sand	619 07	CL	40%	Dry	0 0	
14–16		***Silty Clay w/ Sand and Gravel*** brown (black) silty clay w weathered LS gravel - soft silty clay w gravel	616 07	CL	60%	Dry	0 0	

Drilled By Precision
Drill Method· DPT
Drilling Equipment. XD2

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size. 2 5"
Total Depth Drilled: 19'
Sheet 1 of 2

HYDRO GeoLogic INC.

Project No: AFC001-05FAA
Project: NAS FTW Landfill RFI
Client: AFCEE
Location: LF-3

Borehole ID: BHGLTA305

Date: 04/16/98
Geologist: C Williams

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
17		*Silty Clay w/ Gravel* It yellow brown silty clay w 80% weathered LS/shale	613 07	CL	60%	Dry	0 0	Refusal at 19'- bedrock.
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								

Drilled By Precision
Drill Method DPT
Drilling Equipment XD2

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size 2 5"
Total Depth Drilled. 19'
Sheet 2 of 2

HYDRO GeoLogic INC.

Project No: AFC001-05FAA
Project: NAS FTW Landfill RFI
Client: AFCEE
Location: LF-3

Borehole ID: BHGLTA306

Date: 04/09/98
Geologist: M Gerber

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1 2 3 4		*Silt-Clay-Sand Mixture* 5YR 5/6 yellowish red silty fine grained sand top 6", then stiff silty clay w gravel Bottom 2" 7 5YR 7/6 reddish yellow fine sand - med sorting w silt	623 25	ML	100%	Dry	0 0	No sampling Lithology only
5 6 7		*Silt-Clay-Sand Mixture* Reddish yellow fine grained sand w silt - silty clay w pebbles/coarse sand -7 5YR 3/1 dk grey stiff silty clay - fine sand w silt	620 25	ML	100%	Dry	0 0	
8 9 10		*Silty Sand w/ Gravel* 10YR 6/4 lt yellowish brown silty sand w/ angular gravel, mottled LS gravel increases in % near bottom	617 25	ML	60%	Damp	0 0	
11 12 13		*Landfill* lt yellow/brown silty clay w gravel 4" shale layer (or large piece of) 10YR 2/1 black stiff clay w/ asphalt/wood frags	614 25	CL	100%	Dry	0 0	Landfill from 12 to 13 5'
14 15 16		*Silty Sandy Clay* 13-14' silty clay w LS gravel. 14-16' 5Y 3/1 v dk grey sandy clay.	611 25	GC	100%	Dry	0 0	

Drilled By: Precision
Drill Method. DPT
Drilling Equipment. XD2

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size: 2 5"
Total Depth Drilled 19'
Sheet 1 of 2

HYDRO GeoLogic INC.

Project No: AFC001-05FAA
Project: NAS FTW Landfill RFI
Client: AFCEE
Location: LF-3

Borehole ID: BHGLTA306

Date: 04/09/98
Geologist: M Gerber

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
17				GC	100%	Dry	0 0	
18		*Sandy Clay* Dk grey sandy clay, 5Y 3/1						
19			608 25					
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								

Drilled By: Precision
Drill Method DPT
Drilling Equipment XD2

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size 2 5"
Total Depth Drilled 19'
Sheet. 2 of 2

711 190

HYDRO GeoLogic INC.

Project No: AFC001-05FAA
Project: NAS FTW Landfill RFI
Client: AFCEE
Location: LF-3

Borehole ID: BHGLTA307

Date: 04/10/98
Geologist: M Gerber

SUBSURFACE PROFILE					SAMPLE			Remarks
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	
1 2 3 4		*Silty Sandy Clay* Clayey silt w LS pebbles, fin-med grained sand -lt brown/grey sand fine grained - Dk grey silty clay w gravel - yellow clayey sand	602 13	GC	100%	Dry	0.0	No sampling Lithology only
5 6 7		*Silty Sandy Clay* Yellow fine grained clayey sand - silty clay w weatherd LS gravel - black stiff silty clay	599 13	CL	100%	Dry	0 0	
8 9 10		*Silty Sandy Clay* black/dk grey stiff silty clay - brown sandy clay moist	596 13	CL	60%	Moist	0 0	
11 12 13		*Silty Sandy Clay* brown mottled sandy clay - dk grey stiff silty clay - yellow red fine grained sandy clay - yellow red silty clay w LS gravel	593 13	CL	80%	Moist Dry	0 0	
14 15 16		*Silty Clay w/ Gravel* black stiff silty clay w gravel organic/wood frags (13-15'), silty clay w weathered LS gravel (15-16')	590 13	GC	100%	Dry	0 0	

Drilled By Precision
Drill Method. DPT
Drilling Equipment. XD2

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size: 2 5"
Total Depth Drilled 22'
Sheet 1 of 2

HYDRO GeoLogic INC.

Project No: AFC001-05FAA
Project: NAS FTW Landfill RFI
Client: AFCEE
Location: LF-3

Borehole ID: BHGLTA307

Date: 04/10/98
Geologist: M Gerber

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
17		*Silty Clay w/ Gravel* Black silty clay w weathered LS gravel - stiff black silty clay w gravel/twigs, mottled 2 large LS frags	587 13	GC	80%	Dry	0 0	
18								
19								
20		*Silty Clay w/ Gravel* Black silty clay w weathered LS large frags	584 13	GC	50%	Dry	0 0	Refusal at 22'
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								

Drilled By: Precision
Drill Method: DPT
Drilling Equipment: XD2

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size: 2 5"
Total Depth Drilled: 22'
Sheet 2 of 2

HYDRO GeoLogic INC.

Project No: AFC001-05FAA
Project: NAS FTW Landfill RFI
Client: AFCEE
Location: LF-3

Borehole ID: BHGLTA308

Date: 04/10/98
Geologist: CWilliams/MGerber

SUBSURFACE PROFILE					SAMPLE			Remarks
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	
1–4		*Silty Clay w/ Sand and Gravel* Top 12" 10YR 3/1 v dk gray silty clay w gravel, mottled, stiff, poor sorting 2" clayey sand 6" 10YR 5/8 yellow brown sandy clay Bottom 6" 10YR 6/1 grey silty clay w LS.	622 9	GC	100%	Dry	0 0	No sampling Lithology only
5–7		*Silty Clay* Same as previous, color change at 6"- mottled 10YR 5/4 yellowish brown fine grained sandy clay, moist	619 9	CL	75%	Dry Moist	0 0	
8–10		*Silty Clay w/ Sand and Gravel* Yellow/brown soft fine grained sandy clay, mottled, moist Wet at bottom w/ increasing gravel/LS Very mottled	616 9	CL	50%	Wet	0 0	
11–13		*Landfill* Top 12" sandy clay. 12" shale/silt Bottom 10" black stiff silty clay w/ asphalt in bottom 2" Petro-like odor	613 9	CL	90%	Dry	0 0	
14–16		*Silty Clay w/ Gravel* Top 12" Black stiff silty clay w asphalt/LS gravel grading into gray silty clay w LS Remainder silty clay w/ LS, mottled. 10YR 6/1 gray	610 9	CL	90%	Dry	0 0	

Drilled By Precision
Drill Method DPT
Drilling Equipment XD2

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size 2 5"
Total Depth Drilled 16'
Sheet 1 of 1

HYDRO GeoLogic INC.

Project No: AFC001-05FAA
Project: NAS FTW Landfill RFI
Client: AFCEE
Location: LF-3

Borehole ID: BHGLTA309

Date: 04/10/98
Geologist: MGerber

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1 2 3 4		*Silty Clay w/ Sand and Gravel* 10YR 4/3 brown fine grained sandy clay grading into 10YR 7/2 lt gray silty clay w/ weathered LS	605.56	GC	50%	Dry	0 0	No sampling Lithology only
5 6 7		*Landfill* Wood top 2", glass, asphalt throughout - silty clay w gravel	602 56	CL	50%	Dry	0 0	Landfill from 4 to 8'
8 9 10		*Landfill* Brown silty clay w asphalt - silty clay w fine-med sand	599 56	CL	70%	Dry	0 0	
11 12 13		*Weathered LS* 10YR 7/2 lt grey very hard silty weathered limestone	596 56	CL	20%	Dry	0 0	Refusal at 13'
14 15 16								

Drilled By Precision
Drill Method· DPT
Drilling Equipment XD2

HydroGeoLogic, Inc.
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Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size 2 5"
Total Depth Drilled. 13'
Sheet 1 of 1

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HYDRO GeoLogic INC.

Project No: AFC001-05FAA
Project: NAS FTW Landfill RFI
Client: AFCEE
Location: LF-3

Borehole ID: BHGLTA310

Date: 04/10/98
Geologist: CWilliams

SUBSURFACE PROFILE					SAMPLE			Remarks
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	
1–4		***Sandy Clay w/ Gravel*** 7 5YR 5/8 brown fine sandy clay w/ small LS gravel, med stiff, moist in bottom 6"	620 81	GC	80%	Dry	0.0	No sampling Lithology only
5–7		***Silty Clay w/ LS*** Silty clay w/ weathered LS frags up to 1"diameter, stiff friable	617 81	CL	10%	Dry	0 0	
8–10		***No recovery*** 0% recovered	614 81	NSNR	None	NA	NA	
11–13		***Silty Clay w/ Sand and Gravel*** Black silty clay w coarse sand, small gravel, dark organic layers throughout.	611 81	CL	80%	Moist	0 0	
14–16		***Silty Clay w/ Sand and Gravel*** Black silty clay w fine-med sand gravel, LS gravel, med-soft stiffness	608 81	GC	100%	Moist	0 0	End of boring at 16'. No landfill material

Drilled By Precision
Drill Method. DPT
Drilling Equipment XD2

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size: 2 5"
Total Depth Drilled 16'
Sheet 1 of 1

HYDRO GeoLogic INC.

Project No: AFC001-05FAA
Project: NAS FTW Landfill RFI
Client: AFCEE
Location: LF-3

Borehole ID: BHGLTA311

Date: 04/10/98
Geologist: C Williams

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1–4		*Silty Clay w/ Sand and Gravel* Top 12" 10YR 6/3 pale brown silty clay w weathered LS frags (1/2") Black silty clay w med-coarse sand gravel/small LS frags, stiff.	617 7	GC	80%	Dry	0.0	No sampling Lithology only
4–7		*Silty Clay w/ Sand and Gravel* 10YR 5/1 grey silty clay w/ fine-med sand grains, LS gravel, stiff	614 7	CL	90%	Dry	0 0	
7–10		*Silty Clay w/ Sand and Gravel* Same as above. Wet at bottom 2".	611 7	CL	90%	Moist	0 0	
10–13		*Silty Clay/Limestone* Grey silty clay w/ 70% LS gravel and fine sand in top 12". 10YR 4/1 Dk grey shale/LS	608 7	CL	90%	Dry	0 0	No landfill Boring terminated at 13'
13–16								

Drilled By: Precision
Drill Method DPT
Drilling Equipment XD2

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size: 2 5"
Total Depth Drilled. 13'
Sheet: 1 of 1

HYDRO GeoLogic INC.

Project No: AFC001-05FAA
Project: NAS FTW Landfill RFI
Client: AFCEE
Location: LF-3

Borehole ID: BHGLTA312

Date: 04/13/98
Geologist: M Johnston

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1 2 3 4		*Silty Clay w/ Sand and Gravel* Top 6" 10YR 6/4 lt yellow/brown silty clay w LS sand 6" 10YR 3/2 black silty clay 10YR 6/6 brownish yellow med-fine sandy clay w small gravel pieces	604 72	GC	90%	Damp	0 0	No sampling Lithology only
5 6 7		*Silty Clay w/ Sand and Gravel* Chart 1 Gley 4/ (dk grey) mottled silty clay w/ coarse sand size gravel and LS Also contains fragments of shale	601 72	GC	60%	Dry	0 0	
8 9 10		*Landfill* Top 1 5' 10YR 4/4 silty clay w/ small gravel and coarse sand Bottom 1 5' 10YR 3/1 v dk grey - glass, asphalt throughout, no odor	598 72	GC	90%	Dry	0 0	Landfill from 7 to 10'
11 12 13		*Silty Clay w/ Sand and Gravel* 10YR 4/1 dk grey silty clay w small gravel, coarse sand, soft, no lf debris	595 72	GC	90%	Dry	0 0	
14 15		*Silty Clay w/ Sand and Gravel* Silty clay w/ LS gravel, coarse sand	593.72	GC	10%	Damp	0 0	Difficult to remove plastic tube Refusal at 15'
16								

Drilled By· Precision
Drill Method DPT
Drilling Equipment XD2

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size· 2 5"
Total Depth Drilled· 15'
Sheet: 1 of 1

HYDRO GeoLogic INC.

Project No: AFC001-05FAA
Project: NAS FTW Landfill RFI
Client: AFCEE
Location: LF-3

Borehole ID: BHGLTA313

Date: 04/13/98
Geologist: C Williams

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1–4		*Silty Clay w/ Sand and Gravel* 5YR 4/3 reddish brown silty clay w fine sand grading to a 3/2 dk reddish brown silty clay w coarse sand and gravel clasts 10YR 4/3 brown silty clay w/ weathered LS	606 62	CL	80%	Dry	0 0	No sampling Lithology only
5–7		*Silty Clay w/ Sand and Gravel* 10YR 4/2 dk grayish brown silty clay w med sand grains grading to a 10YR 8/2-8/3 v pale brown silty clay w/ gravel (up to 1" diam)	603 62	GC	15%	Dry	0 0	
8–9		*Sand w/ Gravel* 10 YR 8/3 v pale brown med sand w/ gravel (up to 1" diameter)	600 62	SP	15%	Dry	0 0	
10–11		*Sand w/Gravel* Same as above, bottom inch moist 10YR 8/3 v pale brown	599 62	SP	10%	Dry Moist	0 0	Refusal at 11'
12–16								

Drilled By Precision

Drill Method· DPT

Drilling Equipment XD2

HydroGeoLogic, Inc.
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Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size 2 5"

Total Depth Drilled. 11'

Sheet: 1 of 1

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HYDRO GeoLogic INC.

Project No: AFC001-05FAA
Project: NAS FTW Landfill RFI
Client: AFCEE
Location: LF-3

Borehole ID: BHGLTA314

Date: 04/13/98
Geologist: C Williams

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1 2 3 4		*Sandy Clay* 10YR 5/6 yellowish brown sandy clay, loose Last 6" silty clay w gravel (30%, up to 1/2" diam), no odor	612 51	GC	Good	Moist	0 0	No sampling Lithology only
5 6 7		*Sand w/ Clay and Gravel* Top 6" 10YR 6/6 brownish yellow fine sand w/ clay Remainder fine sand gravel, poor sorting, same color as top 6" No odor	609 51	SP	Good	Moist	0 0	
8 9 10		*Silty Clay w/ Weathered LS* Top 12" 10YR 3/2 v dk grayish brown silty clay, stiff 10YR 8/2, 7/2, 6/2 (pale brown, lt grey, lt brownish grey) clay w/ weathered LS, soft, breaks apart easily No odor	606 51	CL	80%	Dry	0 0	
11 12		*Sandy Clay w/LS Gravel* Top 2' 5YR 4/6 yellowish red fine sandy clay, soft, pliable, moist Bottom 6" 10YR 4/1 dk gray silty clay w/ LS gravel (20%), dry	604 51	GC	75%	Moist Dry	0 0	Refusal at 12' Out of landfill
13 14 15 16								

Drilled By. Precision
Drill Method DPT
Drilling Equipment: XD2

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size 2 5"
Total Depth Drilled 12'
Sheet 1 of 1

HYDRO GeoLogic INC.

Project No: AFC001-05FAA
Project: NAS FTW Landfill RFI
Client: AFCEE
Location: LF-3

Borehole ID: BHGLTA315

Date: 04/16/98
Geologist: C Williams

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1–4		*Silty Clay w/ Gravel* 10YR 6/8 brown/yellow silty clay w/ LS gravel (45%) Last 2" med sand, poorly sorted (same color)	611 9	GC	20%	Dry	0 0	No sampling Lithology only
4–7		*Silty Clay w/ LS Gravel and Sand* Black silty clay w/ gravel and LS frags, med sand up to 1 5", very stiff	608 9	GC	40%	Dry	0 0	
7–10		*Silty Clay w/ Weathered LS* 10YR 8/1 white silty clay w/ weathered LS gravel up to 3/4" diameter	605 9	GC	90%	Moist	0 0	
10–13		*Sandy Clay w/LS Gravel* 10YR 8/3 pale brown med sandy clay, poorly sorted Bottom 1' LS gravel w/ poorly sorted sand	602 9	SP	90%	Dry	0 0	
13–16		*Sand w/ LS Gravel* Same as above. Refusal at 15 5' bgs	600 4	SP	60%	Dry	0 0	Refusal at 15 5'.

Drilled By· Precision
Drill Method DPT
Drilling Equipment XD2

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size. 2 5"
Total Depth Drilled· 15 5'
Sheet. 1 of 1

711 200

HYDRO GeoLogic INC.

Project No: AFC001-05FAA
Project: NAS FTW Landfill RFI
Client: AFCEE
Location: LF-3

Borehole ID: BHGLTA316

Date: 04/16/98
Geologist: C Williams

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1 2 3 4		*Silty Clay w/ Gravel and Sand* 10YR 6/6 brown/yellow silty clay w/ LS gravel and med-coarse sand, dry	628 33	GC	40%	Dry	0 0	No sampling Lithology only
5 6 7		*Silty Clay w/ LS Gravel and Sand* Black silty clay w/ coarse-med sand and 25% LS gravel (up to 1/2"), moist, stiff	625 33	GC	50%	Moist	0 0	
8 9 10		*Silty Clay w/ Sand* Black silty clay w/ coarse-med sand, dry, stiff, no gravel	622 33	GC	60%	Dry	0 0	
11 12 13		*Silty Clay w/LS Gravel and Sand* 2 5Y 3/3 dk brown silty clay w/ med sand and LS gravel (10%) up to 1/4", dry, stiff	619 33	GC	80%	Dry	0 0	
14 15 16		*Silty Clay w/ LS Gravel and Sand* Same as above but w/ 50% LS gravel Refusal at 15.5' bgs	616 83	GC	70%	Dry	0.0	Refusal at 15 5'

Drilled By. Precision
Drill Method DPT
Drilling Equipment XD2

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size: 2 5"
Total Depth Drilled: 15 5'
Sheet 1 of 1

HYDRO GeoLogic INC.

Project No: AFC001-05FAA
Project: NAS FTW Landfill RFI
Client: AFCEE
Location: LF-3

Borehole ID: BHGLTA317

Date: 04/16/98
Geologist: C Williams

SUBSURFACE PROFILE					SAMPLE			Remarks
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	
1 2 3 4		*Silty Clay w/ Sand and LS Gravel* 7 5YR strong brown silty clay w/ med sand and LS gravel (30%) up to 1/2" Medium stiffness	619 04	GC	40%	Damp	0 0	No sampling. Lithology only
5 6 7		*Silty Clay w/ Sand and LS Gravel* 7 5YR 5/6 strong brown silty clay w/ med sand and LS gravel (50%)	616 04	GC	80%	Damp	0 0	
8 9 10		*Silty Sandy Clay w/ LS Gravel* Same as above Bottom 1 5' 7.5YR 6/6 reddish yellow med sandy clay w/ LS gravel (20%) up to 1/2"	613 04	GC	90%	Damp	0.0	
11 12 13		*Silty Clay w/ Sand and LS* 7 5YR 7/4 pink silty clay w/ weathered LS and med sand	610 04	CL	15%	Moist	0 0	
14 15 16		*Landfill* Black silty clay w/ med-coarse sand 15-16' 7 5YR 8/3 pink silty clay w/ LS pieces and gravel Aluminum bottle cap at 15 5'	607.04	CL	80%	Damp	0 0	Landfill from 15 5 to 17 5'

Drilled By Precision
Drill Method DPT
Drilling Equipment XD2

HydroGeoLogic, Inc.
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Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size 2 5"
Total Depth Drilled 19'
Sheet 1 of 2

711 202

HYDRO GeoLogic INC.

Project No: AFC001-05FAA
Project: NAS FTW Landfill RFI
Client: AFCEE
Location: LF-3

Borehole ID: BHGLTA317

Date: 04/16/98
Geologist: C Williams

SUBSURFACE PROFILE					SAMPLE			Remarks
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	
17 18 19		*Landfill/Silty Clay* 7.5 YR 2 5/1 silty clay w/ med-fine sand and LS gravel up to 1". Wood chips in top 1 5'	604 04	CL	90%	Damp	0 0	Terminate boring at 19'.
20 21 22 23 24 25 26 27 28 29 30 31 32								

Drilled By Precision
Drill Method DPT
Drilling Equipment. XD2

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size 2 5"
Total Depth Drilled 19'
Sheet. 2 of 2

HYDRO GeoLogic INC.

Project No: AFC001-05FAA
Project: NAS FTW Landfill RFI
Client: AFCEE
Location: LF-3

Borehole ID: BHGLTA318

Date: 04/16/98
Geologist: C Williams

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1–4		***Silty Clay w/ Gravel*** 7.5YR 6/6 yellow brown silty clay w/ gravel (40%) up to 1/2" diameter	620 95	GC	5%	Dry	0 0	No sampling Lithology only.
4–7		***Silty Clay w/ Sand and Gravel*** Top 1 5' 7 5YR 6/6 yellow brown sandy clay w/ gravel (30%) Bottom 1 5' black silty clay w/ med sand grains (40%)	617 95	GC	80%	Moist	0 0	
7–10		***Silty Clay w/ Sand and Gravel*** 7 5YR 8/1 white silty clay w/ weathered LS and med sand (60% sand/gravel)	614 95	GC	Mod	Moist	0 0	
10–13		***Silty Clay w/ Sand and Gravel*** Same as above but becoming very dense and rock-like at 13'	611.95	CL	Mod	Moist	0 0	No landfill Boring terminated at 13'
13–16								

Drilled By. Precision
Drill Method DPT
Drilling Equipment· XD2

HydroGeoLogic, Inc.
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Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size 2 5"
Total Depth Drilled· 13'
Sheet 1 of 1

711 204

HYDRO GeoLogic INC.

Project No: AFC001-05FAA
Project: NAS FTW Landfill RFI
Client: AFCEE
Location: LF-3

Borehole ID: BHGLTA319

Date: 04/17/98
Geologist: C Williams

SUBSURFACE PROFILE					SAMPLE			Remarks
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	
1–4		*Silty Clay w/ LS Gravel* 10YR 7/2 lt grey silty clay w/ gravel and weathered LS, low plasticity, dry, no odor	599 03	GC	100%	Dry	0 0	No sampling Lithology only
5–7		*Silty Clay w/ Sand and Gravel* 7 5YR 5/4 brown silty clay w/ sand and gravel (<1"diam), med plasticity, no odor	596 03	GC	10%	Dry	0 0	
8–10		*Sandy Clay* Top 2' 7 5YR 6/6 reddish yellow sandy clay, soft, damp, 5% gravel (1/2" diam). Bottom 6-8" fine sand, moist	593 03	SC	90%	Moist	0 0	
11–13		*Sandy Clay/Weathered LS* 10YR 7/4 and 7/6 pale brown/yellow fine sandy clay, low plasticity Bottom is weathered LS w/ 10YR 8/2 v pale brown hard clay	590 03	SC	80%	Damp	0 0	
14–16		*Sandy Clay and Limestone* 10YR 8/1 white fine sandy clay w/ weathered LS and LS gravel Refusal at 16' bgs	587 03	GC	50%	Wet	0 0	Refusal at 16' No landfill

Drilled By. Precision
Drill Method: DPT
Drilling Equipment XD2

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size 2 5"
Total Depth Drilled 16'
Sheet 1 of 1

HYDRO GeoLogic INC.

Project No: AFC001-05FAA
Project: NAS FTW Landfill RFI
Client: AFCEE
Location: LF-3

Borehole ID: BHGLTA320

Date: 04/17/98
Geologist: C Williams

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1 2 3 4		*Silty Clay w/ LS and Sand* 10YR 7/2 lt grey silty clay w/ weathered LS and med-fine sand, low plasticity, dry.	602 12	CL	80%	Dry	0 0	No sampling Lithology only
5 6 7		*Silty Clay w/ Sand and Gravel* Same as above but w/ small gravel (15-20%) and a change in color,10YR 3/3 dk brown Stiff on bottom, damp	599 12	GC	75%	Damp	0 0	
8 9 10		*Silty Clay w/Sand* Top 6" 10YR 8/2 v pale brown fine sandy clay w some small gravel Mid 6" 10YR 3/2 v dk grayish brown silty clay w/ gravel (10%) Bottom 1' 10YR 4/3 brown silty clay w/ sand and gravel (15%)	596 12	SC	80%	Moist	0 0	
11 12 13		*Silty Sandy Clay* Top 6" 10YR 4/3 brown silty clay w/ 20% gravel and sand 10YR 7/4 v pale brown fine-med sandy clay, soft, friable, damp	593.12	SC	70%	Damp	0 0	
14 15 16		*Sandy Clay and Limestone* Top 1' 10YR 6/3 pale brown sandy clay Remainder sandy clay w/ weathered LS. Soft at bottom, ended in rock Refusal at 16' bgs	590 12	GC	70%	Damp	0 0	Refusal at 16'. No landfill

Drilled By Precision
Drill Method: DPT
Drilling Equipment: XD2

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size 2 5"
Total Depth Drilled 16'
Sheet. 1 of 1

711 206

HYDRO GeoLogic INC.

Project No: AFC001-05FAA
Project: NAS FTW Landfill RFI
Client: AFCEE
Location: LF-3

Borehole ID: BHGLTA321

Date: 04/17/98
Geologist: C Williams

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1–4		*Silty Clay w/LS Gravel and Sand* 7 5YR 4/6 strong brown silty clay w/ LS gravel and med-coarse sand	618 31	GC	10%	Dry	0 0	
4–7		*Silty Clay w/ Sand and Gravel* 7 5YR 4/6 strong brown silty clay w/ gravel (50%) and med-coarse sand, damp	615 31	GC	Mod	Damp	0 0	
7–10		*Silty Clay w/ Sand/Landfill* Black silty clay w/ fine-med sand Wood debris at 10'	612 31	CL	Mod	Damp	0 0	Boring terminated @10' Wood pieces at 10' Landfill?
10–16								

Drilled By Precision
Drill Method DPT
Drilling Equipment XD2

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

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

HYDRO GeoLogic INC

Project No: AFC001-05FAA
Project: NAS FTW Landfill RFI
Client: AFCEE
Location: LF-3

Borehole ID: BHGLTA322

Date: 04/29/98
Geologist: M Rodtang

SUBSURFACE PROFILE					SAMPLE			Remarks
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	
1 2 3 4 5		*Clay and Weathered LS* 0-1' 10YR 2/2 dusky yellowish brown clay, moist, high plastic 1-1 5' weathered LS, dry 1 5-4' 10YR 8/6 pale yellowish orange clay, dry, low plastic 4-4 5' same as 0-1' 4 5-5' same as 1 5-4'	623 25	CL	100%	Dry Moist	0 0	No sampling
6 7 8 9 10		*Clay and Weathered LS* 5-9' 10YR 2/2 dusky yellow clay, moist, w/ a 6" interbedding of friable LS 8 5-9' weathered LS 9-10' 10YR 2/2 clay, moist, high plasticity	618 25	CL	100%	Moist	0 0	
11 12 13 14 15		*Clay w/ Gravel and Weathered LS* 10-12' pale yellow clay w/ gravel (subrounded LS cobbles), dry 12-13' 10YR 2/2 clay, slightly moist, high plasticity 13-15' v pale orange clay, friable LS, no plasticity, dry "Weathered LS".	613 25	s(CL)	100%	Dry	0 0	
16								

Drilled By Environmental Drillers
Drill Method HSA
Drilling Equipment CME 75

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
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(703) 478-5186 FAX (703) 471-4180

Hole Size 8 25"
Total Depth Drilled: 19'
Sheet 1 of 2

711 208

HYDRO GeoLogic INC.

Project No: AFC001-05FAA
Project: NAS FTW Landfill RFI
Client: AFCEE
Location: LF-3

Borehole ID: BHGLTA322

Date: 04/29/98
Geologist: M Rodtang

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
17 18 19 20		*Clay and Weathered LS* 15-16' same as bottom 2' above 16-16 5' moderate yellowish brown clay, high plasticity, slightly moist 16 5-20' v pale orange grading to a v pale yellowish brown clayey LS, dry	608 25	CL	70%	Moist Dry	0 0	
21 22 23 24 25		*Clayey LS* 20-21' v pale yellowish brown clayey LS grading to a dk yellowish brown clay, moist, high plasticity 21-23' v pale orange clayey LS, dry	603 25		70%	Dry	0 0	End boring at 25' Did not encounter competent bedrock Backfilled w/ 18 bags of bentonite chips to grade No well installed
26 27 28 29 30 31 32								

Drilled By Environmental Drillers
Drill Method HSA
Drilling Equipment. CME 75

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Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size· 8 25"
Total Depth Drilled 19'
Sheet 2 of 2

HYDRO GeoLogic INC.

Project No: AFC001-05FAA
Project: NAS FTW Landfill RFI
Client: AFCEE
Location: LF-3

Borehole ID: BHGLTA323

Date: 05/01/98
Geologist: M Rodtang

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1–3		*Clay and Weathered LS* Top 1 5' mod yellow brown grading into a dk yellowish orange clay w/ gravel-size subangular LS Dry 1 5-3 5' v pale orange weathered LS, dry	607 03	CL	100%	Dry	0 0	Moved boring over 20' E due to bedrock at 3' bgs
4–5		*Clay and Weathered LS* 3 5' - 4' Yellowish brown clay, dry 4-4 5' grayish orange weathered LS, dry 4 5-5' 5Y 6/4 dusky yellow clay, dry, v stiff	605 53					
6–8		*Clay* 6' Black clay (weathered shale), low plasticity 6 5-6 75' 10YR 5/4 dk yellowish orange clay, high plasticty 6 75-8' 10YR 2/2 dusky yellowish brown clay	602 53	CL	80%	Dry	0 0	
9–10		*Weathered LS and Gravel* V pale orange weathered LS, dry, w/ subrounded cobble size qtz grains	600 53	GC				
10–11		*Clayey Gravel/Bedrock.* Clayey/limey qtz gravel, wet Immediately above very competent LS Refusal at 11' bgs	599 53	GC	20%	Wet	0 0	Refusal at 11' due to LS bedock
12–16								

Drilled By: Environmental Drillers
Drill Method. HSA
Drilling Equipment CME 75

HydroGeoLogic, Inc.
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Hole Size· 8 25"
Total Depth Drilled 11'
Sheet 1 of 1

711 210

HYDRO GeoLogic INC.

Project No: AFC001-05CDE
Project: RCRA Landfills Investigation
Client: AFCEE
Location: NAS Fort Worth JRB

Borehole ID: BHGLTA324

Date: 1/26/99
Geologist: Robert Wallace

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1, 2		*Gravel* 10 YR 7/4 v pale brown poorly sorted silty, clayey, fine sandy gravel Limestone gravel is angular to subrounded (5-30mm)	630 03	GP	50%	Moist	0 ppm	
3, 4, 5		*Silty Clay* 10 YR 2/1 black medium stiff silty clay with 2% calcium nodules (1mm) and rounded quartzite gravel (10mm) mixed with 10 YR 6/3 fine sand	627 03	CL	90%	Damp	0 ppm	
6, 7, 8		*Silt* 2 5 Y 7/1 lt grey silt with 10% fine angular limestone gravel and subrounded quartz gravel (5-15mm) One piece of limestone is 50 mm at 8 feet	624 03	ML	90%	Dry	0 4 ppm	
9, 10		*Clayey Silt* 5 Y 6/2 lt olive grey clayey silt with angular limestone gravel (10-20mm) and subrounded quartz gravel (2-5mm). Some 5 Y 2 5/1 clay layers at 10 feet	622 03	ML	90%	Dry	1 8 ppm	
11, 12, 13		*Silty Clay* 5Y 7/3 pale yellow silty clay with some limestone angular gravel	618 53	CL		Dry	0 7 ppm	
14, 15		*Silty Gravel* 5Y 3/2 dk olive grey poorly sorted clayey silty gravel Gravel consists of rounded quartzite and angular shale	617 53	GC		Damp	0 ppm	
16		*Silty Clay* 5 Y 6/3 pale olive silty medium stiff clay	616 53	CL		Moist	4 9 ppm	

Drilled By: Precision
Drill Method DPT
Drilling Equipment XD-2

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
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(703) 478-5186 FAX (703) 471-4180

Hole Size: 2 75"
Total Depth Drilled· 19'
Sheet: 1 of 2

HYDRO GeoLogic INC.

Project No: AFC001-05CDE
Project: RCRA Landfills Investigation
Client: AFCEE
Location: NAS Fort Worth JRB

Borehole ID: BHGLTA324

Date: 1/26/99
Geologist: Robert Wallace

SUBSURFACE PROFILE					SAMPLE			Remarks
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	
17		*Silty Clay* 5Y 3/2 dk olive grey soft silty clay	615 03	CL		Moist	4 9 ppm	Hydraulic fluid odor - diesel odor at 17 feet
18		*Shale* 2.5 Y 5/6 lt olive brown shale, saprolite	613 53	CM		Dry	0 0 ppm	
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								

Drilled By Precision
Drill Method DPT
Drilling Equipment XD-2

HydroGeoLogic, Inc.
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(703) 478-5186 FAX (703) 471-4180

Hole Size 2 75"
Total Depth Drilled 19'
Sheet 2 of 2

HYDRO GeoLogic INC.

Project No: AFC001-05CDE
Project: RCRA Landfills Investigation
Client: AFCEE
Location: NAS Fort Worth JRB

Borehole ID: BHGLTA325

Date: 1/26/99
Geologist: Robert Wallace

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1–3		*Gravelly Sand* 10 YR 7/4 v pale brown gravelly - subangular to subrounded (5-20mm) - fine sand	628 36	SC	40%	Wet	0 ppm	
3–5		*Silty Clay* 10 YR 3/3 dk brown silty medium stiff clay mottled with 10 YR 2/1 black clay, grass roots, and rounded chert pieces (2 mm)	625 86	CL	40%	Damp	0 ppm	
5–6		*Fine Sand* 10 YR 7/4 v pale brown fine to medium sand	625 36	SW	40%	Moist	0 ppm	
6–8		*Clayey Silt* 2 5 Y 7/2 lt grey clayey silt with some angular limestone and shale gravel	623 36	ML		Dry	2 1 ppm	
8–9		*Clay* 10 YR 3/2 v dk greyish brown clay	621 86	CL		Dry	1 2 ppm	
9–10		*Clayey Silt* 5YR 4/6 yellowish red clayey silt with 10 % angular limestone gravel (5-10mm)	621 36	ML		Dry	0 7 ppm	
10–13		*Silty Clay* 5Y 7/2 lt grey silty clay with some angular limestone and shale gravel (saprolite)	618 36	CL	100%	Dry	0 7 ppm	
13–14		*Silty Clay* 5 YR 2 5/1 black very stiff silty clay with calcium nodules (1mm)	617 36	CL		Dry	1.2 ppm	
14–15		*Silt* 2 5 Y 7/1 lt grey silt (shale saprolite)	615 86	ML		Dry	25 ppm	Slight diesel odor.
15–16		*Shale* 10 YR 6/8 brownish yellow shale saprolite						

Drilled By: Precision
Drill Method DPT
Drilling Equipment XD-2

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Hole Size 2 75"
Total Depth Drilled 19'
Sheet 1 of 2

HYDRO GeoLogic INC.

Project No: AFC001-05CDE
Project: RCRA Landfills Investigation
Client: AFCEE
Location: NAS Fort Worth JRB

Borehole ID: BHGLTA325
Date: 1/26/99
Geologist: Robert Wallace

SUBSURFACE PROFILE					SAMPLE			Remarks
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	
17		***Shale*** 10 YR 6/8 brownish yellow shale saprolite		CM		Dry	0 ppm	
18								
19			612 36					
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								

Drilled By. Precision
Drill Method DPT
Drilling Equipment XD-2

HydroGeoLogic, Inc.
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(703) 478-5186 FAX (703) 471-4180

Hole Size 2 75"
Total Depth Drilled. 19'
Sheet. 2 of 2

711 214

HYDRO GeoLogic INC.

Project No: AFC001-05CDE
Project: RCRA Landfills Investigation
Client: AFCEE
Location: NAS Fort Worth JRB

Borehole ID: BHGLTA326
Date: 1/27/99
Geologist: Robert Wallace

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1 2 3 4 5 6 7		***Blind Probe***	623 59	NA				
8 9		***Clayey Silt*** 2 5 Y 7/1 lt grey - 4/1 dk grey mottled clayey silt with 10% angular pieces of limestone (10-20mm)	621 09	ML	80%	Dry	0 ppm	
10		***Silty Clay*** 7 5YR very dark brown silty clay with 2% fine gravel consisting of red and black chert	620 59	CL	80%	Dry	0 ppm	
11 12		***Clayey Silt*** 2 5 Y 7/1 lt grey - 4/1 dk grey mottled clayey silt with some pieces of broken limestone (2 75")	617 59	CL	80%	Dry	0 ppm	Calcareous
13 14		***Silty Clay*** 7 5YR very dark brown silty clay	616 59	CL	80%	Damp	0 ppm	
15 16		***Silty Clay*** 7 5 YR 7/1 lt grey, 10 YR 6/8 brownish yellow, and 2 5Y 6/3 lt yellowish brown mottled saprolite (limestone) silty stiff clay Some structure (horizontal flaking) still present			50%			

Drilled By: Precision
Drill Method DPT
Drilling Equipment: XD-2

HydroGeoLogic, Inc.
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Hole Size: 2 75"
Total Depth Drilled: 18'
Sheet 1 of 2

HYDRO GeoLogic INC.

Project No: AFC001-05CDE
Project: RCRA Landfills Investigation
Client: AFCEE
Location: NAS Fort Worth JRB

Borehole ID: BHGLTA326

Date: 1/27/99
Geologist: Robert Wallace

SUBSURFACE PROFILE					SAMPLE			Remarks
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	
17				CL	50%	Damp	0 ppm	Reacts to HCl
18			612 59					
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								

Drilled By. Precision
Drill Method· DPT
Drilling Equipment. XD-2

HydroGeoLogic, Inc.
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Hole Size. 2.75"
Total Depth Drilled 18'
Sheet. 2 of 2

711 216

HYDRO GeoLogic INC.

Project No: AFC001-05CDE
Project: RCRA Landfills Investigation
Client: AFCEE
Location: NAS Fort Worth JRB

Borehole ID: BHGLTA327

Date: 1/27/99
Geologist: Robert Wallace

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1		*Silty Clay* 10 YR 7/4 v pale brown silty soft clay with calcium nodules	629 96	CL	60%	Damp	3 3 ppm	
2, 3, 4		*Silty Clay* 10 YR 2/1 black silty medium stiff clay with angular limestone pieces (10-20mm) Limestone nodules, grass roots, and bugs from 2 5 - 4ft	627 46	CL	60%	Damp	0 ppm	
4		*Fine Sand* 10 YR 8/4 v pale brown fine to medium sand	626 96	SW	80%	Dry	0 ppm	
5		*Silty Clay* 10 YR 3/3 dk brown stiff silty clay	625 96	CL	80%	Dry	0 ppm	
6, 7, 8, 9, 10		*Clayey Silt* 2 5Y 7/3 pale yellow clayey silt mottled with 2 5Y grayish brown calcarious clay with limestone pieces (2 75")	621 46	ML-CL	80%	Dry	0 ppm	
11, 12, 13		*Clayey Silt* 2 5Y 7/3 pale brown - 2 5Y 3/2 v dk greyish brown mottled calcarious clayey silt with limestone fragments (2 75")	618 46	ML	60%	Dry	0 ppm	
13		*Silty Clay* 7 5YR very dark brown silty clay	617 96	CL	60%	Dry	0 ppm	
14, 15, 16		*Silty Clay* 7 5YR 7/1 lt grey, 10YR 6/8 brownish yellow, and 2.5Y 6/3 lt yellowish brown mottled silty stiff calarious clay consisting of limestone, saprolite, and shale Some structure (exfoliation?) present	615 46	CL	60%	Dry	0 ppm	Structure reacts with HCL Refusal at 16 feet.

Drilled By· Presicion
Drill Method DPT
Drilling Equipment XD-2

HydroGeoLogic, Inc.
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Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size. 2 75"
Total Depth Drilled· 16
Sheet 1 of 1

HYDRO GeoLogic INC.

Project No: AFC001-05CDE
Project: RCRA Landfills Investigation
Client: AFCEE
Location: NAS Fort Worth JRB

Borehole ID: BHGLTA328
Date: 1/28/99
Geologist: Robert Wallace

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1		***Silty Clay*** 2 5Y 7/4 pale yellow soft silty clay with coarse sand and grass roots	630 09	CL	60%	Wet	0 ppm	
2		***Sandy Clay*** 2 5Y 3/2 v dk greyish brown clay mottled with 2 5Y 5/4 lt olive brown sandy soft clay	629 09	CL	60%	Wet	0 ppm	
3		***Silty Clay*** 2.5Y 7/4 pale yellow soft silty clay with 5% fine subangular to subrounded gravel (5mm) and a large piece of angular limestone (60mm)	627 59	CL	60%	Damp	0 ppm	
4–5		***Clay*** 10YR 3/4 dk yellowish brown soft clay	626 09	CL	100%	Damp	0 ppm	
6–7		***Silty Clay*** Mottled 10 YR 2/1 black silty clay with calcium nodules with 10% angular limestone and shale gravel Bands of 10 YR 7/4 v p brown f clayey sand, poorly sorted with rounded to subrounded qtz gravel	624 09	CL	100%	Damp	0 ppm	
8–9–10		***Clayey Silt*** Mottled 5Y 7/2 lt grey - 5Y 2 5/2 black clayey silt with calcium nodules (1mm) an subangular to rounded fine red/black chert Some limestone gravel at 10 feet	621 09	ML-CL	80%	Dry	0 ppm	
11–12		***Clayey Silt*** 5Y 5/2 olive grey clayey silt with bands of 3" 5Y 4/1 dk grey silty clay with occassional limestone pieces and calcium nodules	618 59	ML-CL	60%	Dry	0 ppm	
13–14		***Clayey Silt*** Mottled 5Y 7/1 lt grey and 5Y 3/1 v dk grey clayey silt with calcium nodules and a piece of limestone (2 75")	616 59	ML-CL	60%	Dry	0 ppm	
15–16		***Clay*** 5Y 7/1 lt grey clay consisting of limestone/saprolite, silt, and fine sand, with angular limestone gravel and oyster shells	615 09	CL	25%	Dry	0 ppm	

Drilled By. Precision
Drill Method· DPT
Drilling Equipment XD-2

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
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Hole Size 2 75"
Total Depth Drilled: 17'
Sheet 1 of 2

HYDRO GeoLogic INC.

Project No: AFC001-05CDE
Project: RCRA Landfills Investigation
Client: AFCEE
Location: NAS Fort Worth JRB

Borehole ID: BHGLTA328

Date: 1/28/99
Geologist: Robert Wallace

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
17		*Fine Sand* 2 5Y 6/4 lt yellowish brown fine sand composed of shale, saprolite	614 09	ML	25%	Dry	0 ppm	Refusal in shale at 17 feet
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								

Drilled By. Precision
Drill Method· DPT
Drilling Equipment XD-2

HydroGeoLogic, Inc.
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Hole Size: 2 75"
Total Depth Drilled: 17'
Sheet 2 of 2

HYDRO GeoLogic INC.

Project No: AFC001-33CBB
Project: NAS FTW Landfill RFI
Client: AFCEE
Location: LF-3

Borehole ID: BHGLTA329

Date: 4/05/00
Geologist: William Maloid

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1		***Silty Clay*** 10YR 3/2 Very dark greyish brown Silty Clay with organic material (roots)	632 988	CL	80%	Moist	0	
2		***Clay w/ Sand*** 7 5YR 5/4 Brown clay with coarse Sand, lower 3" fossiliferous with limestone, some roots	631 988	SC				
3		***Clay*** 10YR 2/2 Very dark brown stiff Clay	631 238	CL	100%	Damp	0	
4		***Clay w/ Sand*** 7 5YR 5/4 Brown clay with coarse Sand and pebbles up to 1/4"	630 238	SC				
5		***Clay*** 10YR 2/2 Very dark brown stiff Clay becoming 7 5YR 5/4 Brown stiff Clay with subrounded pebbles 1/4" diameter, limestone angular gravel 1" diameter from 4 6-4 78'	629 3765	CL	100%	Wet	0	Water at 5 3'
7		***Clay w/ Gravel*** 7 5YR 2/2 Very dark brown stiff clay, fosilliferous, gravel	625 988	CL	100%	Dry	0	
9		***Sandy Clay*** 7 5R 2/2 Very dark brown stiff Sandy Clay	624 988	CL	80%	Wet	0	Wet 8 5-9'
10		***Clay*** 7 5R 2/2 Very dark brown stiff Clay	623 7969	CL				
11		***Limestone*** Limestone subangular gravel 0 5-1" diameter, 60% lens		GM	100%	Wet	0	Wet 10 2-10 5'
12		***Clay*** 7 5YR 2/2 Very dark brown stiff clay		CL				
13			620 488		100%	Dry	0	
14		***Clay*** 10YR 7/2 Light grey calcareous stiff clay						
15				CL	100%	Dry	0	
16			617 988					End of boring

Drilled By: ESN-South

Drill Method DPT

Drilling Equipment SP4

HydroGeoLogic, Inc.
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Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size. 2"

Total Depth Drilled 16'

Sheet: 1 of 1

711 220

HYDRO GeoLogic INC.

Project No: AFC001-33CBB
Project: NAS FTW Landfill RFI
Client: AFCEE
Location: LF-3

Borehole ID: BHGLTA330

Date: 04/05/00
Geologist: William Maloid

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1		*Clay w/ Gravel* 7 5YR 3/4 Dark brown Clay with 1/4" diameter rounded pebbles 20%	632 511	GC	60%	Moist	0	
		Sand Fine to medium Sand, 3" lens	632 2514	SW				
2		*Clay w/ Gravel* 7 5YR 3/4 Dark brown Clay with 1/4" diameter rounded pebbles 20%	631 761	GC				
3		*Clay w/ Gravel* 7 5R 5/3 Strong brown stiff Clay with angular gravel 1/4" diameter 2-3 5'	629 761	GC	100%	Dry	0	
4		*Clay* 7 5YR 5/3 Strong brown Clay	628 761	CL	100%	Dry	0	Water at 4', dry after 1"
5		*Clayey Silt* 7 5YR 5/5 Strong brown Clayey Silt	627 761	ML				
6		*Silty Clay* 7 5YR 5/3 Strong brown Silty Clay with weathered limestone 20%	625 761	CL	100%	Dry	0	
7		*Sand w/ Silt* 10YR 7/2 Light grey Sand with Silt	624 761	SM	80%	Dry	0	
8		*Clayey Silt* 7 5YR 5/3 Strong brown Clayey Silt with weathered limestone and well rounded pebbles (50%)	623 761	ML				
9		*Silty Sand* 10YR 7/3 Pale brown calcitic Silty Sand (marl) with subangular pebbles 3/4" diameter (50%)	622 261	SM	80%	Dry	0	
10		*Clayey Silt* 7 5YR 6/5 Strong brown Clayey Silt	621 761	ML				
11								
12								

Drilled By: ESN-South
Drill Method DPT
Drilling Equipment SP4

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

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

HYDRO GeoLogic INC.

Project No: AFC001-33CBB
Project: NAS FTW Landfill RFI
Client: AFCEE
Location: LF-3

Borehole ID: BHGLTA330

Date: 04/05/00
Geologist: William Maloid

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
13		*Silty Sand* 10YR 7/3 Pale brown Silty calcitic Sand (marl) with subangular pebbles 3/4" diameter (50%)	620 161	SM	100%	Dry	0	
14		*Clayey Silt w/ Sand* 7 5YR 5/6 Strong brown Clayey Silt with fine Sand	619 761	ML				
15		*Silty Sand* 10YR 7/3 Pale brown Silty calcitic Sand (marl) with subangular pebbles 3/4" diameter (50%)	618 761	SM	100%	Dry	0	Sample BHGLTA330-04 collected
16		*Clayey Silt* 7 5YR 5/6 Strong brown Clayey Silt with fine Sand	617 761	ML				
17								
18								
19								
20								
21								
22								
23								
24								

Drilled By ESN-South
Drill Method DPT
Drilling Equipment SP4

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

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

HYDRO GeoLogic INC.

Project No: AFC001-33CB
Project: NAS FTW Landfill RFI
Client: AFCEE
Location: LF-3

Borehole ID: BHGLTA331

Date: 4/05/00
Geologist: William Maloid

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1		*Silty Clay* 5YR 3/2 Dark reddish brown Silty Clay with well rounded pebbles 1/8" diameter (20%)	631 795	CL	100%	Damp	0	
2		*Clayey Silt* 7 5YR 5/4 Brown Clayey Silt with subrounded pebbles 1/2" diameter	630 795	ML				
3		*Sand* 7 5YR 7/3 Pink medium grained Sand	629.795	SW	100%	Wet	0	Wet 2 6-2 8'
4		*Silty Clay* 7 5YR 3/3 Dark brown Silty Clay	628 295	CL	100%	Damp	0	Top 3" Damp
5		*Silty Clay* 5YR 3/2 Dark reddish brown Silty Clay	627 295	CL				
6		*Silty Clay* 7 5YR 2 5/2 Very dark brown Silty Clay	626 795	CL				
7		*Clay w/ Sand* 7 5YR 5/4 Brown Clay with coarse Sand and rounded pebbles	626 295 / 625 295	CL / CL	100%	Wet		Wet at 7'
8		*Silty Clay* 7 5YR 2 5/2 Very dark brown Silty Clay	624 295	CL				
9		*Silty Clay* 10YR 5/3 Brown Silty Clay with subangular pebbles 1/4" diameter	623 295	CL	100%	Dry	0	
10		*Silty Clay* 10YR 2/2 Very dark brown Silty Clay						
11		*Silty Clay w/ Gravel* 10YR 2/2 Very dark brown Silty Clay with calcitic pebbles and subangular to subrounded gravel (40%)			100%	Dry	0	
12								Wet at 12 2'
13				CL	100%	Wet	0	
14								
15					100%	Dry	0	Collect sample BHGLTA331-04
16			617 295					End of bonng

Drilled By: ESN-South
Drill Method. DPT
Drilling Equipment SP4

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

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

HYDRO GeoLogic INC.

Project No: AFC001-33CBB
Project: RFI Landfills
Client: AFCEE
Location: NAS Fort Worth JRB

Borehole ID: BHGLTA333

Date: 1/24/01
Geologist: Robert Wallace

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
		Silt 10YR 3/2 very dark grayish brown silt with grass roots	622 988					Collect BHGLTA333-01 and DUP02 at 1600 from 0 - 6"
1		*Gravelly Clayey Sand* 10YR 7/6 yellow poorly sorted gravelly clayey fine sand, damp, gravel is limestone, angular to subrounded, 5-20mm, 5%	621 488		100%	Damp		
2		*Silty Clay* 10YR 3/4 dark brown medium stiff silty clay, damp	620 488		100%	Damp		
3		*Sandy Clay with Gravel* 10YR 6/6 brownish yellow fine sandy clay with limestone gravel, 2-30mm, 5%, bottom 2" limestone cobbles	619 488					Collect BHGLTA333-02 at 1515 from 4 - 6' (VOCs from 4 5 - 5')
4								
5		*Sandy Silty Landfill* Poorly sorted sandy silty fill with wood and glass pieces	617 488					
6								
7		*Gravelly Silty Clay* 10YR 2/1 black mottled with 10YR 5/6 yellowish brown poorly sorted gravelly silty clay, clay is soft and plastic, gravel is 2-10mm limestones, 10% some wood, bottom foot is same as above but mostly 10YR 2/1 black	614 488		80%	Damp		
8								
9		*Clayey Sand* 10YR 4/1 dark gray clayey fine sand, moist, with limestone gravel (10%, subangular to subround)	613 488			Moist		
10		*Sandy Clay (Weathered Bedrock)* At 10 feet hit water, becomes fine sand clay (weathered bedrock)	612 488			Wet		Hit water at 10', so do not collect sample
11								Refusal at 11' bgs
12								Limestone bedrock

Drilled By: ESN
Drill Method: DPT
Drilling Equipment. Strataprobe

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size 2"
Total Depth Drilled: 11'
Sheet. 1 of 1

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HYDRO GeoLogic INC.

Project No: AFC001-33CBB
Project: RFI Landfills
Client: AFCEE
Location: NAS Fort Worth JRB

Borehole ID: BHGLTA334

Date: 1/24/01
Geologist: Robert Wallace

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1		***Silty Clay with Sand*** 10YR 4/4 dark yellowish brown silty clay with fine sand, damp, soft to medium plasticity, with 5% gravel (subrounded >5mm), color change at 1' to 7 5YR 4/6 strong brown, 1" chert layer at 1 5'	619 838		100%	Damp	0 ppm	Collect BHGLTA334-01 at 1440 from 0 - 6"
2		***Silty Clay*** 10YR 2/2 very dark brown silty clay with 5% rounded gravel <1mm	619 338					
3		***Silty Clay*** 2 5 Y 5/3 light olive brown silty clay with 5% gravel (rounded <1mm), medium stiff and plastic	618 338		100%	Damp	0 ppm	
4		***Sitly Clay*** 2.5Y 4/2 dark grayish brown, 1" chert layer at 3 5'	616 338			Damp	0 0 ppm	Collect BHGLTA334-02 at 1350 from 4 - 6' (VOCs at 4 5 - 5')
5								
6		***Clayey Gravelly Silt*** Mottled 2 5Y 8/6 yellow with 2 5Y 7/1 light gray poorly sorted clayey gravelly silt with 10% subangular to subrounded limestone (5-10mm)						
7					100%	Damp	0 0 ppm	
8			613 338					
9		***Gravelly Clay*** Mottled 2 5Y 4/1 dark gray with 2 5 6/8 olive yellow gravelly (25%) clay, gravel is quartz and limestone, subrounded to subangular, medium stiff clay, 2-20mm gravel Hit water from 11 - 12' (wet)						Wet on the outside of ss sleeves but soil only moist (9-11')
10						Moist		Collect BHGLTA334-03 at 1410 from 9 - 11'
11						Wet		(VOCs from 10 - 10 5')
12			609 338					
13		***Weathered Limestone and Shale*** Interbedded weathered limestone and shale, shale is 2 5Y 4/1 dark gray and limestone is 2 5Y 6/1 gray	608 338					Refusal at 13' Limestone bedrock
14								

Drilled By. ESN
Drill Method· DPT
Drilling Equipment: Strataprobe

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
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Hole Size 2"
Total Depth Drilled· 13'
Sheet: 1 of 1

HYDRO GeoLogic INC.

Borehole ID: BHGLTA335

Project No: AFC001-33CBB
Project: Landfills RFI
Client: AFCEE
Location: NAS FW JRB
Northing: 6962675.830

Date: 6/25/2001
Geologist: K Duran
Ground Surface Elevation: 623.43
Easting: 2293285 820

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1 2		Blind probe to 3' bgs	-3					Had to redrill and resample this boring due to receipt of cooler at laboratory at elevated temperatures on 6/20/01
3 4 5		*Calcium Carbonate and Clay* 10YR 3/1 clay, moist, large calcium material cobbles, no odor, plastic 6" Calcium carbonate layer at 4', friable, white Clay, same as above Calcium carbonate layer at 5.75', friable, white	-6	LS/CL	90%	Moist	0.0	Collect BHGLTA335-02 at 920 from 4.75 - 5.25'
6 7 8 9 10								

Drilled By: J Braden
Drill Method: DPT
Drilling Equipment: Strataprobe

HydroGeoLogic, Inc.
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Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size: 2"
Total Depth Drilled. 6'
Sheet: 1 of 1

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HYDRO GeoLogic INC.

Borehole ID: BHGLTA336

Project No: AFC001-33CBB
Project: Landfills RFI
Client: AFCEE
Location: NAS FW JRB
Northing: 6962776.940

Date: 6/25/01
Geologist: K Duran
Ground Surface Elevation: 624.30
Easting: 2293387.46

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
		Blind probe to 3'	621					Had to redrill and resample this boring due to receipt of cooler with elevated temperatures at lab on 6/20/01
3		*Calcium Carbonate and Clay* 10YR 6/2 light brown gray calcium carbonate material, dry, friable, large (>1cm diameter) pebbles, no odor Bottom 6" gray clay, dry, friable	618	LS/CL	80%	Dry	0 0	Collected BHGLTA336-02 at 900 from 4.75 - 5.25'
6								
7								
8								
9								
10								

Drilled By: J Braden
Drill Method. DPT
Drilling Equipment· Stratprobe

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
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(703) 478-5186 FAX (703) 471-4180

Hole Size: 2"
Total Depth Drilled: 6'
Sheet. 1 of 1

HYDRO GeoLogic INC.

Borehole ID: BHGLTA337

Project No: AFC001-33CBB
Project: Landfills RFI
Client: AFCEE
Location: NAS FW JRB
Northing: 6962675 660

Date: 6/25/2001
Geologist: K Duran
Ground Surface Elevation: 627.72
Easting: 2293489.130

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
		Blind probe to 3' bgs	625					Had to redrill and resample this boring due to receipt of cooler at laboratory at elevated temperatures on 6/20/01
3		*Calcium Carbonate and Sandy Clay* 10YR 6/6 calcium carbonate material (<10%) and fine sandy clay, large cobbles (>1 cm diameter), no odor, moist. Large cobbles (1" diameter) at 6'	622	LS/CL	90%	Moist	0 0	Collect BHGLTA337-02 at 835 from 4.75 - 5.25'
6								
7								
8								
9								
10								

Drilled By: J Braden
Drill Method: DPT
Drilling Equipment: Strataprobe

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(703) 478-5186 FAX (703) 471-4180

Hole Size: 2"
Total Depth Drilled: 6'
Sheet: 1 of 1

HYDRO GeoLogic INC.

Project No: AFC001-05FAA
Project: NAS FTW Landfill RFI
Client: AFCEE
Location: LF-3

Borehole ID: WHGLTA302A

Date: 04/30/98
Geologist: M Rodtang

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1 2 3 4 5		*Clay and Weathered LS* 0-1' 5YR 3/2 grayish brown clay, dry 1-3 5' 10YR 7/4 grayish orange clayey weathered LS 3 5-4' 10YR 2/2 dusky yellow brown clay, slightly moist 4-5' 10YR 7/4 grayish orange clayey LS, dry	-5	CL	90%	Dry	0 0	
6 7 8		*Clay/Sand* 5-8' moderate yellowish brown clay, moist w/ a 6" interbedded weathered LS layer, dry 8-8 2' moderate yellowish brown fine sand, dry	-8 2	CL	60%	Dry	0 0	Refusal w/HSA Will try to get a SS sample to confirm LS bedrock Rock qtz conglomerate Will pull rig up 50'E
9 10 11 12 13 14 15 16								

Drilled By Environmental Drillers
Drill Method: HSA
Drilling Equipment: CME 75

HydroGeoLogic, Inc.
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(703) 478-5186 FAX (703) 471-4180

Hole Size 8 25"
Total Depth Drilled. 8 2'
Sheet 1 of 1

HYDRO GeoLogic INC.

Project No: AFC001-05FAA
Project: NAS FTW Landfill RFI
Client: AFCEE
Location: LF-3

Borehole ID: WHGLTA302

Date: 05/01/98
Geologist: M Rodtang

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1 2 3 4 5		*Clay and Weathered LS* 0-1' 5 YR 3/2 grayish brown clay, dry, high plasticity 1-3 5' 10YR 7/4 grayish orange clayey weathered LS, dry 3 5-4' 10YR 2/2 clay, slightly moist, high plast , v stiff. 4-5' 10YR7/4 clayey LS	613 81	CL	90%	Dry	0.0	No sampling Well installation. 0-2" grass and roots
6 7 8 9 10		*Clay w/ LS Gravel and Sand* 5-6' moderate yellowish brown clay w/some LS gravel fragments, subangular, dry 6-6 5' v pale orange weathered LS, dry 6 5-7' dk yellow/orange v fine sandy clay, low plast , soft	608 81	CL	40%	Dry	0 0	
11 12 13 14 15		*Clay w/ Sand and LS* 3' recovery Moderate yellowish brown clayey v fine sand, wet from 10-12' 12-13 v pale orange slightly weathered LS, dry Perched at 10'	603 81	s(CL)	60%	Wet	0 0	
16								

Drilled By Environmental Drillers

Drill Method. HSA

Drilling Equipment CME 75

HydroGeoLogic, Inc.
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Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size 8 25"

Total Depth Drilled· 19'

Sheet. 1 of 2

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HYDRO GeoLogic INC.

Project No: AFC001-05FAA
Project: NAS FTW Landfill RFI
Client: AFCEE
Location: LF-3

Borehole ID: WHGLTA302

Date: 05/01/98
Geologist: M Rodtang

SUBSURFACE PROFILE					SAMPLE			Remarks
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	
17 18 19		*Weathered LS/Shale* 15-16' same as above, v pale orange slightly weathered LS, dry 16-18' v pale orange weathered LS, very wet 18-19' dark gray weathered shale, moist, medium plasticity Hit water at 16'	599 81	CL	90%	Dry Wet	0 0	
20 21 22 23 24 25 26 27 28 29 30 31 32								

Drilled By: Environmental Drillers
Drill Method HSA
Drilling Equipment CME 75

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size 8 25"
Total Depth Drilled. 19'
Sheet: 2 of 2

HYDRO GeoLogic INC.

Project No: AFC001-05FAA
Project: NAS FTW Landfill RFI
Client: AFCEE
Location: LF-3

Borehole ID: WHGLTA303

Date: 04/30/98
Geologist: M Rodtang

SUBSURFACE PROFILE					SAMPLE			Remarks
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	
1–2		*Clay and Weathered LS* 9" recovery 10YR 2/2 dusky yellow brown clay w/ weathered LS, moist	617 82	CL	40%	Dry	0 0	No sampling Well installation
3–4		*Clay and Weathered LS* 18" recovery 10YR 8/6 pale yellowish brown clayey LS, weathered, moist	615 82	CL	80%	Dry	0 0	
5–6		*Clay and Weathered LS* 10" recovery Same as above	613 82	CL	45%	Dry	0 0	
7–8		*Clay and Weathered LS* 12" recovery Same as above	611 82	CL	50%	Dry	0 0	
9–10		*Clay* 15" recovery Dusty yellowish brown clay, moist, high plasticity	609 82	CL	55%	Dry	0 0	
11–12		*Clay and Weathered LS* 12" recovery Pale yellow brown clay w/ clayey LS, weathered, dry	607 82	CL	50%	Dry	0 0	
13–14		*Clayey Limestone* 18" recovery Very pale orange clayey LS dry	605 82	CL	80%	Dry	0 0	
15–16		*Clayey Limestone* 12" recovery Same as above	603 82	CL	50%	Dry	0 0	

Drilled By Environmental Drillers
Drill Method HSA
Drilling Equipment CME 75

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size 8 25"
Total Depth Drilled 20'
Sheet 1 of 2

HYDRO GeoLogic INC.

Project No: AFC001-05FAA
Project: NAS FTW Landfill RFI
Client: AFCEE
Location: LF-3

Borehole ID: WHGLTA303

Date: 04/30/98
Geologist: M Rodtang

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
17		*Clayey Limestone* 12" recovery Same as above Wet Hit water at 16'	601 82	CL	50%	Wet	0 0	
18								
19		*Clayey Limestone* Same as above Terminate boring at 20'	599 82	CL	50%	Wet	0 0	Terminate boring @20'
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								

Drilled By Environmental Drillers
Drill Method HSA
Drilling Equipment CME 75

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size 8 25"
Total Depth Drilled 20'
Sheet 2 of 2

TAB

APPENDIX B

APPENDIX B

FIELD SAMPLING FORMS

HYDRO GeoLogic INC

FIELD SAMPLING REPORT

LOCATION: NAS Fort Worth JRB, Texas PROJECT: AFC001-05CDE

SITE: LF-3

SAMPLE INFORMATION

SAMPLE ID: BHGLTA324-04 DATE: 1-26-99 TIME: 1500

MATRIX TYPE: soil

SAMPLING METHOD: DP

LOT CONTROL #: 0 1 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #:

BEGINNING DEPTH: 15.5' ~~N/A~~

END DEPTH: 17' ~~N/A~~

GRAB (✓) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR BLANKS/QC SAMPLES ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS): —

MATRIX SPIKE DUP (SD) —

FIELD DUP (FD): —

AMBIENT BLANK (AB). —

EQUIPMENT BLANK (EB) EB012699

TRIP BLANK (TB) TB012699

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS	Depth
8oz Glass Jar	2	Cool to 4°C	8270B, 8081A	SVOCs, Pesticides / PCBs	15.5'-16.5'
			8140, 8151	OP Pesticides, Chlorinated Pesticides	
8oz Glass Jar	2	Cool to 4°C	6010A-tr, 7470A, 9030	Metals, Mercury, Sulfide	16'-17'
			7740, 9010A/9012	Selenium, Cyanide	
4oz Glass Jar	1	Cool to 4°C	8290	Dioxins / Furans	16.5'-17'
6oz SS Sleve	1	Cool to 4°C	8260A	Volatiles / Organics	16.5'-17'

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st	COLOR	
2nd	ODOR	
	OTHER.	

pH _____ Temperature _____ Dissolved Oxygen _____ Specific Conductivity _____

GENERAL INFORMATION

WEATHER. SUN/CLEAR ✓ OVERCAST/RAIN _____ WIND DIRECTION _____ AMBIENT TEMPERATURE 70°

SHIPMENT VIA: FED-X ✓ HAND DELIVER _____ COURIER _____ OTHER _____

SHIPPED TO RECRA LabNet / Chicago

COMMENTS.

SAMPLER B. Wallace OBSERVER: C. Williams

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BR=BRASS RING	HA=HAND AUGER
[illegible]=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	CS=COMPOSITE SAMPLE	H=HOLLOW STEM AUGER
[illegible]=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	C=CONTINUOUS FLIGHT AUGER	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAP/WIPE	DT=DRIVEN TUBE	SS=SPLIT SPOON
		W=SWAB/WIPE	BP=BLADDER PUMP

HYDRO GeoLogic INC

711 236 **FIELD SAMPLING REPORT**

LOCATION: NAS Fort Worth JRB, Texas PROJECT: AFC001-05CDE

SITE: LF-3

SAMPLE INFORMATION

SAMPLE ID: BHGLTA325-04 DATE: 1-27-99 TIME: 1045

MATRIX TYPE: soil

SAMPLING METHOD: DP

LOT CONTROL #: 0 1 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: _____

BEGINNING DEPTH: ~~N/A~~

END DEPTH: ~~N/A~~

GRAB (✓) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR BLANKS/QC SAMPLES ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS) —

MATRIX SPIKE DUP (SD). —

FIELD DUP (FD): —

AMBIENT BLANK (AB): —

EQUIPMENT BLANK (EB) EB012799

TRIP BLANK (TB) TB012799

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
4oz Glass Jar	1	Cool to 4°C	SW 8290	Dioxins / Furans
6oz SS Sleve	1	Cool to 4°C	SW 8260A	VOCs
8oz Glass Jar	1	Cool to 4°C	8270B, 8081A	SVOCs, Pesticides/PCBs
			8140, 8151	OP Pesticides, Chlorinated Pestic
8oz Glass Jar	1	Cool to 4°C	6010A-tr, 7470A, 9030	Metals, Mercury, Sulfide
			9010A/9012, 7740	Cyanide, Selenium

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st	COLOR	
2nd	ODOR	
	OTHER	

pH _____ Temperature _____ Dissolved Oxygen _____ Specific Conductivity _____

GENERAL INFORMATION

WEATHER: SUN/CLEAR ✓ Cloudy OVERCAST/RAIN _____ WIND DIRECTION _____ AMBIENT TEMPERATURE 70°

SHIPMENT VIA FED-X ✓ HAND DELIVER _____ COURIER _____ OTHER _____

SHIPPED TO RECRA LabNet / Chicago

COMMENTS: _____

SAMPLER: B. Wallace OBSERVER: C. Williams

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BR=BRASS RING	HA=HAND AUGER
=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	CS=COMPOSITE SAMPLE	H=HOLLOW STEM AUGER
=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	C=CONTINUOUS FLIGHT AUGER	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAP/WIPE	DT=DRIVEN TUBE	SS=SPLIT SPOON
		W=SWAB/WIPE	BP=BLADDER PUMP

HYDRO GeoLogic INC

FIELD SAMPLING REPORT

LOCATION NAS Fort Worth JRB, Texas PROJECT: AFC001-05CDE

SITE: LF-3

SAMPLE INFORMATION

SAMPLE ID: BHGLTA 325-04 DATE: 1-26-99 TIME: 1215

MATRIX TYPE: soil

SAMPLING METHOD: DP

LOT CONTROL #: 0 1 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #:

BEGINNING DEPTH: 13.5' ~~N/A~~

END DEPTH: 16' ~~N/A~~

GRAB (✓) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR BLANKS/QC SAMPLES ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS) —

MATRIX SPIKE DUP (SD). —

FIELD DUP (FD). —

AMBIENT BLANK (AB) —

EQUIPMENT BLANK (EB) EB012699

TRIP BLANK (TB): TB012699

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
8oz Glass Jar	1	Cool to 4°C	SW 8270B, SW 8081A	SVOCs, Pesticides /PCBs
			SW 8140, SW 8151	OP Pesticides, Chlorinated Pesticides
8 oz Glass Jar	1	Cool to 4°C	SW 6010A-tr, SW 7470A	Metals, Mercury
			SW 7740, SW 9010A/9012	Selenium, Cyanide
			SW 9030	Sulfide

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st	COLOR	
2nd	ODOR	
	OTHER.	

pH _____ Temperature _____ Dissolved Oxygen _____ Specific Conductivity _____

GENERAL INFORMATION

WEATHER SUN/CLEAR ✓ OVERCAST/RAIN _____ WIND DIRECTION _____ AMBIENT TEMPERATURE 70°

SHIPMENT VIA FED-X ✓ HAND DELIVER _____ COURIER _____ OTHER _____

SHIPPED TO RECRA LabNet / Chicago

COMMENTS:

SAMPLER: B. Wallace OBSERVER C. Williams

MATRIX TYPE CODES

DC=DRILL CUTTINGS
WG=GROUND WATER
[illegible]=HAZARDOUS LIQUID WASTE
[illegible]HAZRDOUS SOLID WASTE
SE=SEDIMENT
SL=SLUDGE
SO=SOIL
GS=SOIL GAS
WS=SURFACE WATER
SW=SWAP/WIPE

SAMPLING METHOD CODES

B=BAILER
BR=BRASS RING
CS=COMPOSITE SAMPLE
C=CONTINUOUS FLIGHT AUGER
DT=DRIVEN TUBE
W=SWAB/WIPE
G=GRAB
HA=HAND AUGER
H=HOLLOW STEM AUGER
HP=HYDRO PUNCH
SS=SPLIT SPOON
BP=BLADDER PUMP

HYDRO GeoLogic INC 711 238 **FIELD SAMPLING REPORT**

OCATION: NAS Fort Worth JRB, Texas PROJECT: AFC001-05CDE

SITE: LF-3

SAMPLE INFORMATION

SAMPLE ID: BHGLTA326-04 DATE: 1-27-99 TIME: 1445

MATRIX TYPE: soil

SAMPLING METHOD: DP

LOT CONTROL #: 0 1 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: _____

BEGINNING DEPTH: _____ N/A _____

END DEPTH: _____ N/A _____

GRAB (✓) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR BLANKS/QC SAMPLES ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS): —

MATRIX SPIKE DUP (SD) —

FIELD DUP (FD) —

AMBIENT BLANK (AB) —

EQUIPMENT BLANK (EB). EB012799

TRIP BLANK (TB) TB012799

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
4oz Glass Jar	1	Cool to 4°C	SW 8290	Dioxins / Furans
6oz SS Sleve	1	Cool to 4°C	SW 8260A	VOCs
8oz Glass Jar		Cool to 4°C	8270B, 8081A	SVOCs, Pesticides/PCBs,
			8140, 8151	OP Pesticides, Chlorinated Pestic
8oz Glass Jar		Cool to 4°C	6010A-tr, 7470A, 9030	Metals, Mercury, Sulfide
			9010A/9012, 7740	Cyanide, Selenium

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st	COLOR	
2nd	ODOR	
	OTHER	

pH _____ Temperature _____ Dissolved Oxygen _____ Specific Conductivity _____

GENERAL INFORMATION

WEATHER SUN/CLEAR Cloudy ✓ OVERCAST/RAIN _____ WIND DIRECTION _____ AMBIENT TEMPERATURE 70°

SHIPMENT VIA FED-X ✓ HAND DELIVER _____ COURIER _____ OTHER _____

SHIPPED TO RECRA LabNet / Chicago

COMMENTS _____

SAMPLER B. Wallace OBSERVER: C Williams

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BR=BRASS RING	HA=HAND AUGER
H=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	CS=COMPOSITE SAMPLE	H=HOLLOW STEM AUGER
=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	C=CONTINUOUS FLIGHT AUGER	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAP/WIPE	DT=DRIVEN TUBE	SS=SPLIT SPOON
		W=SWAB/WIPE	BP=BLADDER PUMP

HYDRO GeoLogic INC

FIELD SAMPLING REPORT

711 239

LOCATION: NAS Fort Worth JRB, Texas

PROJECT: AFC001-05CDE

SITE: LF-3

SAMPLE INFORMATION

SAMPLE ID: BHGLTA327-04

DATE: 1-27-99 TIME: 1600

MATRIX TYPE: soil

SAMPLING METHOD: DP

LOT CONTROL #: 0 1 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #:

BEGINNING DEPTH: 13.5' ~~N/A~~

END DEPTH: 16.5' ~~N/A~~

GRAB (✓) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR BLANKS/QC SAMPLES ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS): —

MATRIX SPIKE DUP (SD): —

FIELD DUP (FD): —

AMBIENT BLANK (AB): —

EQUIPMENT BLANK (EB): EB012799

TRIP BLANK (TB): TB012799

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
4oz Glass Jar	1	Cool to 4°C	8290	Dioxins / Furans
6oz SS Sleeve	1	Cool to 4°C	8260A	VOCs
8oz Glass Jar		Cool to 4°C	8270B, 8081A	SVOCs, Pesticides/PCBs,
			8140, 8151	OP Pesticides, Chlorinated Pesticides
8oz Glass Jar		Cool to 4°C	6010A-tr, 7470A, 9030	Metals, Mercury, Sulfide
			9010A/9012, 7740	Cyanide, Selenium

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st	COLOR	
2nd	ODOR	
	OTHER	

pH _____ Temperature _____ Dissolved Oxygen _____ Specific Conductivity _____

GENERAL INFORMATION

WEATHER SUN/CLEAR ✓ (Cloudy) OVERCAST/RAIN _____ WIND DIRECTION _____ AMBIENT TEMPERATURE 70°

SHIPMENT VIA FED-X ✓ HAND DELIVER _____ COURIER _____ OTHER _____

SHIPPED TO RECRA LabNet/Chicago

COMMENTS.

SAMPLER: B. Wallace OBSERVER C. Williams

MATRIX TYPE CODES

DC=DRILL CUTTINGS
WG=GROUND WATER
HW=HAZARDOUS LIQUID WASTE
HS=HAZRDOUS SOLID WASTE
SE=SEDIMENT
SL=SLUDGE
SO=SOIL
GS=SOIL GAS
WS=SURFACE WATER
SW=SWAP/WIPE

SAMPLING METHOD CODES

B=BAILER
BR=BRASS RING
CS=COMPOSITE SAMPLE
C=CONTINUOUS FLIGHT AUGER
DT=DRIVEN TUBE
W=SWAB/WIPE
G=GRAB
HA=HAND AUGER
H=HOLLOW STEM AUGER
HP=HYDRO PUNCH
SS=SPLIT SPOON
BP=BLADDER PUMP

HYDRO GeoLogic INC 711 240 **FIELD SAMPLING REPORT**

)CATION: NAS Fort Worth JRB, Texas PROJECT. AFC001-05CDE

SITE: LF-3

SAMPLE INFORMATION

SAMPLE ID: BHGLTA328-04 DATE: 1-28-99 TIME: 1015

MATRIX TYPE: soil

SAMPLING METHOD: DP

LOT CONTROL #: 0 1 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #:

BEGINNING DEPTH: 13.5' ~~N/A~~

END DEPTH: 16.0' ~~N/A~~

GRAB (✓) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR BLANKS/QC SAMPLES ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS): —

MATRIX SPIKE DUP (SD): —

FIELD DUP (FD): —

AMBIENT BLANK (AB). —

EQUIPMENT BLANK (EB) EB012899

TRIP BLANK (TB) TB012899

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
4oz Glass Jar	1	Cool to 4°C	SW 8290	Dioxins/Furans
60z S.S. Sleeve	1	Cool to 4°C	SW 8260A	VOCs
8oz Glass Jar	2	Cool to 4°C	8270, 8081A,	SVOCs, Pesticides/PCBs, Herbicide
			8140, 8151	OP Pesticides, Chlorinated Pest
8oz Glass Jar	2	Cool to 4°C	6010A-tr, 7470A 9030	Metals, Mercury, Sulfide
			9010A/9012, 7740	Cyanide, Selenium

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st	COLOR	
2nd	ODOR	
	OTHER	

pH _____ Temperature _____ Dissolved Oxygen _____ Specific Conductivity _____

GENERAL INFORMATION

WEATHER. SUN/CLEAR ____ OVERCAST/RAIN ✓ WIND DIRECTION ____ AMBIENT TEMPERATURE 65°

SHIPMENT VIA: FED-X ✓ HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO: RECRA LabNet/Chicago

COMMENTS

SAMPLER B. Wallace OBSERVER: C. Williams

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BR=BRASS RING	HA=HAND AUGER
L=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	CS=COMPOSITE SAMPLE	H=HOLLOW STEM AUGER
=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	C=CONTINUOUS FLIGHT AUGER	HP=HYDRO PUNCH.
SE=SEDIMENT	SW=SWAP/WIPE	DT=DRIVEN TUBE	SS=SPLIT SPOON
		W=SWAB/WIPE	BP=BLADDER PUMP

HYDRO GeoLogic INC

FIELD SAMPLING REPORT

711 241

LOCATION. NAS Ft Worth JRB, TX — PROJECT NAME Phase III Landfills RFI

SITE BHGLTA329 — PROJECT NAME AFC001-33CBB

SAMPLE INFORMATION

SAMPLE ID BHGLTA329-04 — DATE 4/05/00 TIME 1600

MATRIX TYPE SO

SAMPLING METHOD DPT / Grab

LOT CONTROL # 0 1 0 a

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #

SAMPLE BEG DEPTH (FT) 14'

SAMPLE END DEPTH (FT) 16'

GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE.

MATRIX SPIKE (MS) —

MATRIX SPIKE DUP (SD) —

FIELD DUP (FD) —

AMBIENT BLANK (AB) —

EQUIPMENT BLANK (EB) EBC40500

TRIP BLANK (TB) NA

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
4 oz jar	1	Cool to 4C		Geotechnical*
8 oz jar	1	Cool to 4C	ASTM D422	Grain Size (#200 sieve)
4 oz jar	1	Cool to 4C	SW6010B	Lead

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st 0 ppm	COLOR	
2nd	ODOR	
	OTHER	

pH _____ Temperature _____(C) Dissolved Oxygen _____(mg/L) Specific Conductivity _____(umhos/cm)

Iron _____(mg/L) Oxidation/Reduction Potential _____(mv) Turbidity _____ (NTU)

GENERAL INFORMATION

WEATHER SUN/CLEAR _____ OVERCAST/RAIN _____ WIND DIRECTION _____ AMBIENT TEMPERATURE _____

SHIPMENT VIA FEDEX x HAND DELIVER _____ COURIER _____ OTHER _____

SHIPPED TO STL - Chicago

COMMENTS

SAMPLER William C Mulford OBSERVER Jorie Wilson

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZARDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

HYDRO GeoLogic INC 711 242 **FIELD SAMPLING REPORT**

LOCATION: NAS Ft Worth JRB, TX — PROJECT NAME: Phase III Landfills RFI

SITE: BHGLTA 330 — PROJECT NAME: AFC001-33CBB

SAMPLE INFORMATION

SAMPLE ID: BHGLTA330-04 — DATE: 04/05/00 TIME: 1418

MATRIX TYPE: SO

SAMPLING METHOD: DPT/Grab

LOT CONTROL #: Ø 1 Ø a

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY # _____

SAMPLE BEG DEPTH (FT) 14'

SAMPLE END DEPTH (FT) 16'

GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS) —

MATRIX SPIKE DUP (SD) —

FIELD DUP (FD) —

AMBIENT BLANK (AB) —

EQUIPMENT BLANK (EB) EBC40500

TRIP BLANK (TB) NA

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
4 oz jar	1	Cool to 4C		Geotechnical*
8 oz jar	1	Cool to 4C	ASTM D422	Grain Size (#200 sieve)
4 oz jar	1	Cool to 4C	SW6010B	Lead

NOTABLE OBSERVATIONS

PID READINGS		SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st	Ø ppm	COLOR	
2nd		ODOR	
		OTHER	

pH _____ Temperature _____(C) Dissolved Oxygen _____(mg/L) Specific Conductivity _____(umhos/cm)

Iron _____(mg/L) Oxidation/Reduction Potential _____(mv) Turbidity _____(NTU)

GENERAL INFORMATION

WEATHER SUN/CLEAR _____ OVERCAST/RAIN _____ WIND DIRECTION _____ AMBIENT TEMPERATURE _____

SHIPMENT VIA FEDEX x HAND DELIVER _____ COURIER _____ OTHER _____

SHIPPED TO STL - Chicago

COMMENTS

SAMPLER William C Malard OBSERVER Jorie Wilson

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZARDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

HYDRO GeoLogic INC

FIELD SAMPLING REPORT

LOCATION: NAS Ft Worth JRB, TX
PROJECT NAME Phase III Landfills RFI
SITE: BHGLTA331
PROJECT NAME AFC001-33CBB

SAMPLE INFORMATION

SAMPLE ID BHGLTA331-04
DATE: 4/05/00 TIME: 1510
MATRIX TYPE SO
SAMPLING METHOD DPT/Grab
LOT CONTROL #: Ø 1 Ø a
(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)
CHAIN-OF-CUSTODY #: _____

SAMPLE BEG DEPTH (FT) 14'
SAMPLE END DEPTH (FT) 16'
GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE
MATRIX SPIKE (MS) —
MATRIX SPIKE DUP (SD) —
FIELD DUP (FD) —
AMBIENT BLANK (AB) —
EQUIPMENT BLANK (EB) EB040500
TRIP BLANK (TB) NA

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
4 oz jar	1	Cool to 4C		Geotechnical*
8 oz jar	1	Cool to 4C	ASTM D422	Grain Size (#200 sieve)
4 oz jar	1	Cool to 4C	SW6010B	Lead

NOTABLE OBSERVATIONS

PID READINGS		SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st	Ø ppm	COLOR	
2nd		ODOR	
		OTHER	

pH _____ Temperature _____(C) Dissolved Oxygen _____(mg/L) Specific Conductivity _____(umhos/cm)
Iron _____(mg/L) Oxidation/Reduction Potential _____(mv) Turbidity _____ (NTU)

GENERAL INFORMATION

WEATHER SUN/CLEAR _____ OVERCAST/RAIN _____ WIND DIRECTION _____ AMBIENT TEMPERATURE _____
SHIPMENT VIA FEDEX x HAND DELIVER _____ COURIER _____ OTHER _____
SHIPPED TO STL - Chicago
COMMENTS
SAMPLER William C Malvid OBSERVER Jorie Wilson

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZARDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

HYDRO GeoLogic INC

711 244

FIELD SAMPLING REPORT

LOCATION	NAS FW JRB	PROJECT NAME:	Phase III RFI
SITE:	Landfill 3	PROJECT NO:	AFC001-33CBB

SAMPLE INFORMATION

SAMPLE ID BHGLTA333-01 DATE 1/24/2001 TIME: 1600

MATRIX TYPE Soil

SAMPLING METHOD: CS

LOT CONTROL #: __ __ __ __

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: _____

SAMPLE BEG DPETH (FT) 0

SAMPLE END DPETH (FT) 6"

GRAB ( ) COMPOSITE (X)

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS). _____

MATRIX SPIKE DUP (SD)· _____

FIELD DUP (FD) DUP02

AMBIENT BLANK (AB) _____

EQUIPMENT BLANK (EB) EB012401

TRIP BLANK (TB) TB012401

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
8oz jar	1	Cool to 4C	6010B/7471A	TAL Metals/Mercury
8oz jar	1	Cool to 4C	SW8080A	Pesticides/PCBs (App IX)
~~SS Sleeve 8oz~~	1	Cool to 4C	SW8260B	VOCs (full App XI Suite)
8oz jar	1	Cool to 4C	SW8270C	SVOCs

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st	COLOR	
2nd	ODOR	
	OTHER	

pH _____ Temperature _____(C) Dissolved Oxygen _____(mg/L) Specific Conductivity _____(umhos/cm)

Iron _____(mg/L) Oxidation/Reduction Potential _____(mv) Turbidity_____ (NTU)

GENERAL INFORMATION

WEATHER· SUN/CLEAR X OVERCAST/RAIN _____ WIND DIRECTION _____ AMBIENT TEMPERATURE 60°F

SHIPMENT VIA FEDEX x HAND DELIVER _____ COURIER _____ OTHER _____

SHIPPED TO STL - Chicago

COMMENTS _____

SAMPLER. R Wallace OBSERVER: M Johnston

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

HYDRO GeoLogic INC

FIELD SAMPLING REPORT

711 245

LOCATION: NAS FW JRB
SITE: Landfill 3

PROJECT NAME: Phase III RFI
PROJECT NO: AFC001-33CBB

SAMPLE INFORMATION

SAMPLE ID DUP02

DATE: 01/24/01 TIME: 1210

MATRIX TYPE. Soil

SAMPLING METHOD: CS

LOT CONTROL #: 0 1 1 A
(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: _____

SAMPLE BEG DPETH (FT) 0
SAMPLE END DPETH (FT) 6"
GRAB ( ) COMPOSITE (X)

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS). _____
MATRIX SPIKE DUP (SD). _____
FIELD DUP (FD) BH6LJA333-01
AMBIENT BLANK (AB): _____
EQUIPMENT BLANK (EB) EB012401
TRIP BLANK (TB): TB012401

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
8oz jar	1	Cool to 4C	6010B/7471A	TAL Metals/Mercury
8oz jar	1	Cool to 4C	SW8080A	Pesticides/PCBs (App IX)
8~~5~~ Sleeve	1	Cool to 4C	SW8260B	VOCs (full App XI Suite)
8oz jar	1	Cool to 4C	SW8270C	SVOCs

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st 0.0ppm	COLOR	
2nd	ODOR	
	OTHER	

pH _____ Temperature _____(C) Dissolved Oxygen _____(mg/L) Specific Conductivity _____(umhos/cm)
Iron _____(mg/L) Oxidation/Reduction Potential _____(mv) Turbidity_____ (NTU)

GENERAL INFORMATION

WEATHER SUN/CLEAR X OVERCAST/RAIN _____ WIND DIRECTION _____ AMBIENT TEMPERATURE 60°F

SHIPMENT VIA FEDEX x HAND DELIVER _____ COURIER _____ OTHER _____

SHIPPED TO. STL - Chicago

COMMENTS: _____

SAMPLER R Wallace OBSERVER: M Johnston

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

HYDRO GeoLogic INC 711 246

FIELD SAMPLING REPORT

LOCATION:	NAS FW JRB	PROJECT NAME:	Phase III RFI
SITE:	Landfill 3	PROJECT NO:	AFC001-33CBB

SAMPLE INFORMATION

SAMPLE ID BHGLTA333-02

DATE: 01/24/01 TIME: 1515

MATRIX TYPE: Soil

SAMPLING METHOD. DPT

LOT CONTROL #: ___ ___ ___ ___

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: _____

SAMPLE BEG DPETH (FT) 4

SAMPLE END DPETH (FT) 6

GRAB ( ) COMPOSITE (X)

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS) _____

MATRIX SPIKE DUP (SD) _____

FIELD DUP (FD) _____

AMBIENT BLANK (AB) _____

EQUIPMENT BLANK (EB) FB012401

TRIP BLANK (TB) TB012401

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
4 oz jar	1	Cool to 4C	6010B/7471A	TAL Metals/Mercury
4 oz jar	1	Cool to 4C	SW8080A	Pesticides/PCBs (App IX)
SS Sleeve	1	Cool to 4C	SW8260B	VOCs (full App XI Suite)
4 oz jar	1	Cool to 4C	SW8310	PAHs (full suite)

NOTABLE OBSERVATIONS

PID READINGS		SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st	0.0 ppm	COLOR	
2nd		ODOR	
		OTHER	

pH _____ Temperature _____(C) Dissolved Oxygen _____(mg/L) Specific Conductivity _____(umhos/cm)

Iron _____(mg/L) Oxidation/Reduction Potential _____(mv) Turbidity_____ (NTU)

GENERAL INFORMATION

WEATHER SUN/CLEAR X OVERCAST/RAIN _____ WIND DIRECTION _____ AMBIENT TEMPERATURE 60°F

SHIPMENT VIA FEDEX x HAND DELIVER _____ COURIER _____ OTHER _____

SHIPPED TO STL - Chicago

COMMENTS _____

SAMPLER R Wallace OBSERVER M Johnston

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

HYDRO GeoLogic INC

FIELD SAMPLING REPORT

711 247

LOCATION:	NAS FW JRB	PROJECT NAME:	Phase III RFI
SITE:	Landfill 3	PROJECT NO:	AFC001-33CBB

SAMPLE INFORMATION

SAMPLE ID BHGLTA334-01 DATE: 1/24/2001 TIME: 1440

MATRIX TYPE: Soil

SAMPLING METHOD: CS

LOT CONTROL #: 0 1 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: _____

SAMPLE BEG DPETH (FT) 0

SAMPLE END DPETH (FT) 6"

GRAB ( ) COMPOSITE (X)

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS) _____

MATRIX SPIKE DUP (SD) _____

FIELD DUP (FD) _____

AMBIENT BLANK (AB) _____

EQUIPMENT BLANK (EB) EB012401

TRIP BLANK (TB) TB012401

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
8 oz jar	1	Cool to 4C	6010B/7471A	TAL Metals/Mercury
8 oz jar	1	Cool to 4C	SW8080A	Pesticides/PCBs (App IX)
~~SS Sleeve~~ 8 oz jar	1	Cool to 4C	SW8260B	VOCs (full App XI Suite)
~~4 oz jar~~ 8 oz jar	1	Cool to 4C	SW8270C	SVOCs

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st 0.0 ppm	COLOR	
2nd	ODOR	
	OTHER	

pH _____ Temperature _____(C) Dissolved Oxygen _____(mg/L) Specific Conductivity _____(umhos/cm)

Iron _____(mg/L) Oxidation/Reduction Potential _____(mv) Turbidity _____ (NTU)

GENERAL INFORMATION

WEATHER. SUN/CLEAR X OVERCAST/RAIN _____ WIND DIRECTION _____ AMBIENT TEMPERATURE 60°F

SHIPMENT VIA. FEDEX x HAND DELIVER _____ COURIER _____ OTHER _____

SHIPPED TO. STL - Chicago

COMMENTS. _____

SAMPLER: R Wallace OBSERVER: M Johnston

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

HYDRO GeoLogic INC

FIELD SAMPLING REPORT

711 248

LOCATION:	NAS FW JRB	PROJECT NAME:	Phase III RFI
SITE:	Landfill 3	PROJECT NO·	AFC001-33CBB

SAMPLE INFORMATION

SAMPLE ID BHGLTA334-02

DATE: 1/24/2001 TIME: 1350

MATRIX TYPE: Soil

SAMPLING METHOD: DPT

LOT CONTROL #: __ __ __ __

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: _____

SAMPLE BEG DPETH (FT) 4

SAMPLE END DPETH (FT) 6

GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS)· _____

MATRIX SPIKE DUP (SD): _____

FIELD DUP (FD): _____

AMBIENT BLANK (AB): _____

EQUIPMENT BLANK (EB) EB012401

TRIP BLANK (TB). TB012401

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
8 oz jar	1	Cool to 4C	6010B/7471A	TAL Metals/Mercury
8 oz jar	1	Cool to 4C	SW8080A	Pesticides/PCBs (App IX)
SS Sleeve	1	Cool to 4C	SW8260B	VOCs (full App XI Suite)
8 oz jar	1	Cool to 4C	SW8270C	SVOCs

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st	COLOR.	
2nd	ODOR	
	OTHER	

pH _____ Temperature _____(C) Dissolved Oxygen _____(mg/L) Specific Conductivity _____(umhos/cm)

Iron _____(mg/L) Oxidation/Reduction Potential _____(mv) Turbidity_____ (NTU)

GENERAL INFORMATION

WEATHER. SUN/CLEAR X OVERCAST/RAIN _____ WIND DIRECTION _____ AMBIENT TEMPERATURE 60F

SHIPMENT VIA. FEDEX x HAND DELIVER _____ COURIER _____ OTHER _____

SHIPPED TO STL - Chicago

COMMENTS. VOCs from 4.5-5'

SAMPLER· R Wallace OBSERVER. M Johnston

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

HYDRO GeoLogic INC

FIELD SAMPLING REPORT

711 249

LOCATION: NAS FW JRB
SITE: Landfill 3
PROJECT NAME: Phase III RFI
PROJECT NO: AFC001-33CBB

SAMPLE INFORMATION

SAMPLE ID BHGLTA~~333-04~~ 334-03
DATE: 1/24/01 TIME: 1410
MATRIX TYPE. Soil
SAMPLING METHOD: DPT
LOT CONTROL #: 0 1 1 A
(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)
CHAIN-OF-CUSTODY #. _____
SAMPLE BEG DPETH (FT) 9
SAMPLE END DPETH (FT) 11
GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:
MATRIX SPIKE (MS). _____
MATRIX SPIKE DUP (SD). _____
FIELD DUP (FD) _____
AMBIENT BLANK (AB): _____
EQUIPMENT BLANK (EB) EB01240 1
TRIP BLANK (TB) TB01240 1

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
4 oz jar	1	Cool to 4C	6010B/7471A	TAL Metals/Mercury
4 oz jar	1	Cool to 4C	SW8080A	Pesticides/PCBs (App IX)
SS Sleeve	1	Cool to 4C	SW8260B	VOCs (full App XI Suite)
4 oz jar	1	Cool to 4C	SW8270C	SVOCs

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st	COLOR	
2nd	ODOR	
	OTHER	

pH _____ Temperature _____(C) Dissolved Oxygen _____(mg/L) Specific Conductivity _____(umhos/cm)
Iron _____(mg/L) Oxidation/Reduction Potential _____(mv) Turbidity_____ (NTU)

GENERAL INFORMATION

WEATHER: SUN/CLEAR X OVERCAST/RAIN _____ WIND DIRECTION _____ AMBIENT TEMPERATURE 60 F
SHIPMENT VIA FEDEX x HAND DELIVER _____ COURIER _____ OTHER _____
SHIPPED TO STL - Chicago
COMMENTS: VOCs from 10-10.5'
SAMPLER R Wallace OBSERVER M Johnston

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

HYDRO GeoLogic INC 711 250

FIELD SAMPLING REPORT

LOCATION:	NAS Fort Worth JRB, TX	PROJECT NAME:	RFI Landfills Investegation
SITE:	SWMU 26	PROJECT NO:	AFC001-33CBB

SAMPLE INFORMATION 6-25-01 920

SAMPLE ID BHGLTA335-02

DATE: ~~6-20-01~~ TIME: ~~1145~~

MATRIX TYPE: SO

SAMPLING METHOD: G

LOT CONTROL #: [illegible]

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: _____

SAMPLE BEG DPETH (FT) 4.75

SAMPLE END DPETH (FT) 5.25

GRAB ( ) COMPOSITE (X)

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS): _____

MATRIX SPIKE DUP (SD). _____

FIELD DUP (FD): _____

AMBIENT BLANK (AB) N/A

EQUIPMENT BLANK (EB): [illegible]

TRIP BLANK (TB): N/A

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
~~4 oz jar~~	~~1~~	~~Cool to 4C~~	~~SW6010, SW7000~~	~~Ag, As, Cd, Cu, Ni, Pb, Sb, Zn~~
4 oz jar	1	Cool to 4C	SW8310	Chrysene, Pyrene

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st	COLOR.	
2nd	ODOR.	
	OTHER	

pH _____ Temperature _____(C) Dissolved Oxygen _____(mg/L) Specific Conductivity _____(umhos/cm)

Iron _____(mg/L) Oxidation/Reduction Potential _____(mv) Turbidity _____ (NTU)

GENERAL INFORMATION

WEATHER: SUN/CLEAR X OVERCAST/RAIN _____ WIND DIRECTION [illegible] AMBIENT TEMPERATURE 94°F

SHIPMENT VIA: FEDEX x HAND DELIVER _____ COURIER _____ OTHER _____

SHIPPED TO: STL - Chicago

COMMENTS. _____

SAMPLER [illegible] OBSERVER. M Johnston

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

HYDRO GeoLogic INC

FIELD SAMPLING REPORT

711 251

LOCATION:	NAS Fort Worth JRB, TX	PROJECT NAME:	RFI Landfills Investegation
SITE:	SWMU 26	PROJECT NO:	AFC001-33CBB

SAMPLE INFORMATION 6-25-01

SAMPLE ID BHGLTA33~~6~~-02

DATE: ~~6-20-01~~ TIME: ~~1500~~ 900

MATRIX TYPE: SO

SAMPLING METHOD: G

LOT CONTROL #: 0 1 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: _____

SAMPLE BEG DPETH (FT) 4.75

SAMPLE END DPETH (FT) 5.25

GRAB ( ) COMPOSITE (X)

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS): _____

MATRIX SPIKE DUP (SD) _____

FIELD DUP (FD): _____

AMBIENT BLANK (AB): N/A

EQUIPMENT BLANK (EB): EB06 ~~EB06200~~13

TRIP BLANK (TB) N/A

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
4 oz jar	1	Cool to 4C	SW8310	Chrysene, Pyrene
~~4 oz jar~~	~~1~~	~~Cool to 4C~~	~~SW6010, SW7000~~	~~Ag, As, Cd, Cu, Ni, Pb, Sb, Zn~~

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st	COLOR	
2nd	ODOR	
	OTHER	

pH _____ Temperature _____(C) Dissolved Oxygen _____(mg/L) Specific Conductivity _____(umhos/cm)

Iron _____(mg/L) Oxidation/Reduction Potential _____(mv) Turbidity_____ (NTU)

GENERAL INFORMATION

WEATHER: SUN/CLEAR X OVERCAST/RAIN _____ WIND DIRECTION S/SE AMBIENT TEMPERATURE 94°F

SHIPMENT VIA: FEDEX x HAND DELIVER _____ COURIER _____ OTHER _____

SHIPPED TO: STL - Chicago

COMMENTS _____

SAMPLER: K Duran OBSERVER: M Johnston

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

HYDRO GeoLogic INC 711 252

FIELD SAMPLING REPORT

LOCATION:	NAS Fort Worth JRB, TX	PROJECT NAME:	RFI Landfills Investegation
SITE:	SWMU 26	PROJECT NO:	AFC001-33CBB

SAMPLE INFORMATION 6-25-01

SAMPLE ID BHGLTA337-02

DATE: ~~6-20-01~~ mg TIME: ~~15~~ mg 835

MATRIX TYPE: SO

SAMPLING METHOD: G

LOT CONTROL #: 0 1 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: _____

SAMPLE BEG DPETH (FT) 4.75

SAMPLE END DPETH (FT) 5.25

GRAB ( ) COMPOSITE (X)

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS): _____

MATRIX SPIKE DUP (SD) _____

FIELD DUP (FD). _____

AMBIENT BLANK (AB): N/A

EQUIPMENT BLANK (EB) ~~EB06200~~ / mg EB062501

TRIP BLANK (TB) N/A

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
4 oz jar	1	Cool to 4C	SW8310	Chrysene, Pyrene
~~4 oz jar~~	~~1~~	~~Cool to 4C~~	~~SW6010, SW7000~~	~~Ag, As, Cd, Cu, Ni, Pb, Sb, Zn~~ mg

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st	COLOR	
2nd	ODOR	
	OTHER.	

pH _____ Temperature _____(C) Dissolved Oxygen _____(mg/L) Specific Conductivity _____(umhos/cm)

Iron _____(mg/L) Oxidation/Reduction Potential _____(mv) Turbidity _____ (NTU)

GENERAL INFORMATION

WEATHER: SUN/CLEAR X OVERCAST/RAIN _____ WIND DIRECTION S/SE AMBIENT TEMPERATURE 94°F

SHIPMENT VIA: FEDEX __x__ HAND DELIVER _____ COURIER _____ OTHER _____

SHIPPED TO. STL - Chicago

COMMENTS _____

SAMPLER. K Duran OBSERVER: M Johnston

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

GROUNDWATER FIELD SAMPLING DATA SHEET

711 253

Well No.: WHGLTA 302	Site: NAS Fort Worth JRB
Sampler(s): M Johnston / C. Willard	Project No.: APC001-~~02GAA~~-05 FAA
Well Depth:	Date: 5/7/98 Time: 1450
DTW (ft): 17.20 DTP:	Courier Air Bill No.: _____ FedEx _____ UPS _____ Other _____ Hand
Screen Interval (ft): 20M	
Well Diameter (in):	Sampling Method (G=grab, B=bailer, SP=submersible pump):
Placement of Pump (ft): 20'	Weather (sun/clear, overcast/rain, wind direction, ambient temperature): Sunny, breezy, low 90's
Type of Pump: Grundfos 2" submersible	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (gpm)	Total Volume (gal)	pH	Temp. (C)	Cond. (umhos/cm)	ORP	D.O. (mg/L)	Turb. (N.T.U.)	Description
1455	17.2	0.2	Start	pump	in					
1500		0.2	1	7.27	25.26	881.00	-89.4	0.54	1720	
1505		0.2	2	7.24	24.63	872.00	-88.4	0.47	789	
1510		0.2	3	7.23	24.24	860.00	-86.8	0.47	163	
1515		0.2	4	7.24	23.82	850.00	-86.0	0.50	96	
1520		0.2	5	7.24	23.76	847.00	-85.2	0.37	62	
1525		0.2	6	7.23	24.20	853.00	-85.6	0.40	40	
1530		0.2	7	7.23	24.08	851.00	-85.4	0.37	34	
1535		0.2	8	7.23	23.99	849.00	-85.0	0.35	24	
1540		0.2	9	7.25	23.23	835.00	-86.2	0.33	22	
1545		0.2	10	7.24	22.52	820.00	-86.0	0.23	22	
1550		0.2	11	7.24	22.30	818.00	-85.0	0.29	25	
1555		0.2	12	7.25	22.30	816.00	-84.3	0.21	20	
1600		0.2	13	7.25	22.20	813.00	-83.4	0.27	17	
1605		0.2	14	7.24	22.16	813.00	-82.7	0.20	16	
1610		0.2	15	7.24	22.04	810.00	-82.3	0.14	13	
1615		0.2	16	7.24	22.13	812.00	-81.9	0.16	10	
1620		0.2	17	7.25	22.21	813.00	-82.3	0.13	10	
1625		0.2	18	7.25	22.20	812.00	-81.8	0.19		

Observations

Color: (Clear) Other (describe):

Odor: (None) Low Medium High Very strong H2S Fuel-like

Sample Parameters: Appendix IX

Notes:

Signed/Sampler(s):

711 254

HYDRO GeoLogic INC.

FIELD SAMPLING REPORT

LOCATION WH6LTA302 PROJECT AFC001-05FAA

SITE: LF-3

SAMPLE INFORMATION

MATRIX Water SAMPLE ID: WH6LTA302MS

SAMPLING METHOD SP DUP./REP. OF :

~~BEGINNING~~ Pump DEPTH 20' MATRIX SPIKE/MATRIX SPIKE DUPLICATE YES (X) NO ( )

~~END DEPTH~~

GRAB ( ) COMPOSITE ( ) DATE: 5/7/98 TIME: 1630

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	EXTRACTION METHOD	ANALYTICAL METHOD	ANALYSIS
40ml	3	HCl		8260A	VOCs
1L amber	2	Ø		8080A	Pest/PCBs
1L amber	1	Ø		8151	Herbicides
1L amber	2	Ø		8140	Organo Phos - PEST
1L amber	2	Ø		8270B	SVOCs
1L amber	1	Ø		8280	D/F

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st	COLOR Clear	
2nd	ODOR none	
	OTHER	

GENERAL INFORMATION

WEATHER: SUN/CLEAR X OVERCAST/RAIN ____ WIND DRIECTION ____ AMBIENT TEMP ____

SHIPMENT VIA FED-X X HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO: Chuck Maw - RECRA

COMMENTS: Ran out of zinc acetate - all samples BUT sulfide sent 5/7/98

SAMPLER: Margaret Johnston OBSERVER: Catherine Williams

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BR=BRASS RING	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	CS=COMPOSITE SAMPLE	H=HOLLOW STEM AUGER
SH=HAZARDOUS SOLID WASTE	WS=SURFACE WATER	C=CONTINUOUS FLIGHT AUGER	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAP\WIPE	DT=DRIVEN TUBE	SS=SPLIT SPOON
		W=SWAB\WIPE	SP=SUBMERSIBLE PUMP

1L poly	HNO3	6010A/7000 / 7470A/7471A	metals / mercury
1L poly	NaOH	9010A/9012	Cyanide
1L poly	Zinc acetate	9030	sulfide

AFCEE FORM SR 0

HYDRO GeoLogic INC

FIELD SAMPLING REPORT

LOCATION NAS FW 3RB PROJECT AFC001-05FAA

SITE: LF-3

SAMPLE INFORMATION

MATRIX Water SAMPLE ID: WH6LTA302MD

Pump depth ~~SAMPLING METHOD~~ 20' DUP/REP. OF :

Sampling method ~~BEGINNING DEPTH~~ SP MATRIX SPIKE/MATRIX SPIKE DUPLICATE YES (X) NO ( )

END DEPTH

GRAB ( ) COMPOSITE ( ) DATE: 5/7/98 TIME: 11:30

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	EXTRACTION METHOD	ANALYTICAL METHOD	ANALYSIS
40ml	3	HCl		8260A	VOCs
1 Lamber	2	∅		8080 A	Pest / PCBs
1 Lamber	2	∅		8151	Herbicides
1 Lamber	2	∅		8140	Organic Phos - Pest
1 Lamber	2	∅		8270B	SVOCs
1 Lamber	1	∅		8250	D/F

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st	COLOR Clear	
2nd	ODOR None	
	OTHER	

GENERAL INFORMATION

WEATHER. SUN/CLEAR X OVERCAST/RAIN ____ WIND DRIECTION ____ AMBIENT TEMP ____

SHIPMENT VIA FED-X X HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO. Chuck Maw - RECRA

COMMENTS Ran out of zinc acetate - all sample BUT sulfide sent 5/7/98

SAMPLER Catherine Williams OBSERVER: Margaret Johnson

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BR=BRASS RING	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	CS=COMPOSITE SAMPLE	H=HOLLOW STEM AUGER
SH=HAZARDOUS SOLID WASTE	WS=SURFACE WATER	C=CONTINUOUS FLIGHT AUGER	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAP\WIPE	DT=DRIVEN TUBE	SS=SPLIT SPOON
		W=SWAB\WIPE	SP=SUBMERSIBLE PUMP

1 L poly	1	HNO3	6010A/7000 2470A/7471A	metals + Mercury
1 L poly	1	NaOH	9010A/9012	Cyanide
1 L poly	1	Zinc acetate	9030	Sulfide

AFCEE FORM SR 0

711 256

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: WHGLTA202	Site: NAS Fort Worth JRB
Sampler(s):	Project No.: APC001-~~07GAA~~ 05 ~~[illegible]~~ FAA
Well Depth: 22.79	Date: 5/7/98 Time: 925 Sampled at 1045
DTW (ft): 15.0 DTP:	Courier Air Bill No.: _____ FedEx _____ UPS _____ Other _____ Hand
Screen Interval (ft):	
Well Diameter (in): 4"	Sampling Method (G=grab, B=bailer, SP=submersible pump): SP
Placement of Pump (ft): 20'	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):
Type of Pump: ~~Grundfos 2" submersible~~ Bladder Pump	Sun, Clear, 85°,

Field Parameters

Time	Depth to Water (ft)	Flow Rate ~~(gpm)~~ L/min	Total Volume ~~(gal)~~ L	pH	Temp. (C)	Cond. (umhos/cm)	ORP	D.O. (mg/L)	Turb. (N.T.U.)	Description
1005		0.2	3	7.22	22.07	821.00	-94.2	0.17	69	
1010		0.2	4	7.24	21.85	817.00	-94.7	0.18	44	
1015		0.2	5	7.24	21.90	815.00	-96.1	0.16	35	
1020		0.2	6	7.25	21.85	814.00	-97.4	0.16	19	
1025		0.2	7	7.25	21.57	809.00	-97.3	0.06	13	
1030		0.2	8	7.25	21.47	808.00	-97.3	0.13	9	
1035		0.2	9	7.25	21.43	805.00	-96.6	0.09	8	
1040		0.2	10	7.25	21.36	804.00	-96.1	0.07	8	
045	Start Sampling									

Observations

Color: Clear Other (describe):

Odor: None Low Medium High Very strong H2S Fuel-like

Sample Parameters: Appendix IX

Notes: Water level not taken due to top of pump.

Fe^{2+} = 1.83 mg/L

Signed/Sampler(s):

HYDRO GeoLogic Inc

FIELD SAMPLING REPORT

LOCATION NAS Fallon JRB PROJECT AFC001-07GDA

SITE: ~~NAS JRB~~ LF-3

SAMPLE INFORMATION

MATRIX WG SAMPLE ID: WHGLTA302

SAMPLING METHOD SP DUP./REP. OF:

~~BEGINNING~~ Pump DEPTH 20' MATRIX SPIKE/MATRIX SPIKE DUPLICATE ~~YES~~ ~~NO~~ NC(✓)

END DEPTH N/A

GRAB ( ) COMPOSITE ( ) DATE: 5-7-98 TIME: 1045

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	EXTRACTION METHOD	ANALYTICAL METHOD	ANALYSIS
40 mL	3	HCl		8260A	VOCs
1L amber	2	NA		8080A	Pest/PCBs
1L amber	2	NA		8151	Herbicides
1L amber	2	NA		8140	Organo Phos-Pest
1L amber	1	NA		8270B	SVOCs
1L amber	1	NA		8280	DF

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st	COLOR Clear	
2nd	ODOR none	
	OTHER	
	Fe 2+ 1.35 mg/L	

GENERAL INFORMATION

WEATHER: SUN/CLEAR X OVERCAST/RAIN ____ WIND DRIECTION ____ AMBIENT TEMP 90

SHIPMENT VIA FED-X ____ HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO Chuck Maw RECRA

COMMENTS Sent 5/7/98

SAMPLER Catherine Williams OBSERVER Margaret Johnston

MATRIX TYPE CODES

DC=DRILL CUTTINGS
WG=GROUND WATER
LH=HAZARDOUS LIQUID WASTE
SH=HAZARDOUS SOLID WASTE
SE=SEDIMENT
SL=SLUDGE
SO=SOIL
GS=SOIL GAS
WS=SURFACE WATER
SW=SWAP\WIPE

SAMPLING METHOD CODES

B=BAILER
BR=BRASS RING
CS=COMPOSITE SAMPLE
C=CONTINUOUS FLIGHT AUGER
DT=DRIVEN TUBE
W=SWAB\WIPE
G=GRAB
HA=HAND AUGER
H=HOLLOW STEM AUGER
HP=HYDRO PUNCH
SS=SPLIT SPOON
SP=SUBMERSIBLE PUMP

1L poly	1	HNO_3	6010A/7000/7470A 7471A	Metals/Mercury
1L poly	1	NaOH	9010A/9012	Cyanide
1L poly	1	ZnO Acetate	9030	Sulfide

AFCEE FORM SR 0

BEST AVAILABLE COPY

711 258

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: WHG-TA 303	Site: NAS Fort Worth JRB
Sampler(s): [illegible]	Project No.: APC001-~~07GAA~~ 05[illegible]
Well Depth: 22.44	Date: 5/8/98 Time: 925
DTW (ft): 20.05 DTP:	Courier Air Bill No.: _____ FedEx _____ UPS _____ Other _____ Hand
Screen Interval (ft):	
Well Diameter (in): 4"	Sampling Method (G=grab, B=bailer, SP=submersible pump): SP
Placement of Pump (ft): 21'	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):
Type of Pump: ~~Grundfos 2" submersible~~ Bladder Pump	Sun. clear. E, 85°

Field Parameters

Time	Depth to Water (ft)	Flow Rate ~~(gpm)~~ L/min	Total Volume ~~(gal)~~ L	pH	Temp. (C)	Cond. (umhos/cm)	ORP	D.O. (mg/L)	Turb. (N.T.U.)	Description
1045	*	0.2	1	7.22	23.32	852.00	19.4	1.60	322	
1050		0.2	2	7.27	22.93	839.00	18.4	0.15	65	
1100		0.2	3	7.26	23.35	841.00	16.1	0.31	24	
1105		0.2	4	7.25	23.49	841.00	16.9	0.33	16	
1110		0.2	5	7.25	23.64	841.00	17.6	0.48	12	
1115		0.2	6	7.25	23.22	840.00	17.8	2.29	9	
1120		0.2	7	7.26	23.37	840.00	17.9	0.22	8	
1125		0.2	8	7.26	23.95	839.00	18.1	0.21	7	
1130	Start	Sampling								

Observations

Color: (Clear) Other (describe):

Odor: (None) Low Medium High Very strong H2S Fuel-like

Sample Parameters: Appendix I

Notes: * Cannot read depth to water; pump extends above water column.

gned/Sampler(s): [signature]

HYDRO GeoLogic INC.

FIELD SAMPLING REPORT

711 259

LOCATION NAS FW JRB PROJECT 4FC001-05FAA

SITE. LF3

SAMPLE INFORMATION

MATRIX WG SAMPLE ID. WH6LTA303

SAMPLING METHOD SP DUP /REP. OF :

~~BEGINNING~~ Pump DEPTH 21'

MATRIX SPIKE/MATRIX SPIKE DUPLICATE YES ( ) NO ( )

~~END DEPTH~~

GRAB ( ) COMPOSITE ( ) DATE: 5/8/98 TIME. 1130

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	EXTRACTION METHOD	ANALYTICAL METHOD	ANALYSIS
40mL	3	HCl		8260A	VOCs
1L amber	2	Ø		8270B	SVOCs
1L amber	2	Ø		8140	OP Pesticides
1L amber	2	Ø		8080A	Pest/PCBs
1L amber	2	Ø		8151	Chlorinated Herbicides
1L amber	2	Ø		8290	Dioxins/Furans

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st	COLOR Clear	
2nd	ODOR None	
	OTHER	
	Fe^{2+} 0.27 mg/L	

GENERAL INFORMATION

WEATHER. SUN/CLEAR X OVERCAST/RAIN ____ WIND DRIECTION NE AMBIENT TEMP high 80s

SHIPMENT VIA: FED-X X HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO Chuck Maw - RECRA lab-Net

COMMENTS.

SAMPLER. Catherine Williams OBSERVER. Margaret Johnston

MATRIX TYPE CODES	
DC=DRILL CUTTINGS	SL=SLUDGE
WG=GROUND WATER	SO=SOIL
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS
SH=HAZARDOUS SOLID WASTE	WS=SURFACE WATER
SE=SEDIMENT	SW=SWAP\WIPE

SAMPLING METHOD CODES	
B=BAILER	G=GRAB
BR=BRASS RING	HA=HAND AUGER
CS=COMPOSITE SAMPLE	H=HOLLOW STEM AUGER
C=CONTINUOUS FLIGHT AUGER	HP=HYDRO PUNCH
DT=DRIVEN TUBE	SS=SPLIT SPOON
W=SWAB\WIPE	SP=SUBMERSIBLE PUMP

1L Poly	1	HNO_3		Metals / Mercury
1L Poly	1	NaOH		Cyanide
1L Poly	1	Zinc Acetate		Sulfides

AECEE FORM SR 0

HYDRO GeoLogic INC 711 260 **FIELD SAMPLING REPORT**

LOCATION NAS Fort Worth JRB, Texas PROJECT: AFC001-05-CDG

SITE Landfill 5

SAMPLE INFORMATION

SAMPLE ID: 6HGLTA302-WG03 DATE: 10-16-98 TIME: 1412

MATRIX TYPE: WG

SAMPLING METHOD: Bladder pump

LOT CONTROL #: 0 1 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: _____

BEGINNING DEPTH: _____ N/A

END DEPTH: _____ N/A

GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR BLANKS/QC SAMPLES ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS) _____

MATRIX SPIKE DUP (SD) _____

FIELD DUP (FD). DUP01

AMBIENT BLANK (AB) _____

EQUIPMENT BLANK (EB): EB121698

TRIP BLANK (TB) TB121698

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
40 ml	3	Cool to 4°C, HCl to pH<2	SW8260A	VOCs + vinyl acetate
1 L Amber	2	Cool to 4°C,	SW 8270B	SVOCs
1 L Poly	1	Cool to 4°C, HNO_3 to pH<2	SW6010A/7470A	Metals + mercury

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st	COLOR	
2nd	ODOR	
	OTHER	

pH 6.75 Temperature 21.38 Dissolved Oxygen 2.60 Specific Conductivity 1444

GENERAL INFORMATION

WEATHER SUN/CLEAR Y OVERCAST/RAIN _____ WIND DIRECTION _____ AMBIENT TEMPERATURE 72°

SHIPMENT VIA FED-X X HAND DELIVER _____ COURIER _____ OTHER _____

SHIPPED TO. RECRA La Porte

COMMENTS _____

SAMPLER J. Dariano OBSERVER M. Kidwell

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BR=BRASS RING	HA=HAND AUGER
H=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	CS=COMPOSITE SAMPLE	H=HOLLOW STEM AUGER
.=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	C=CONTINUOUS FLIGHT AUGER	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAP/WIPE	DT=DRIVEN TUBE	SS=SPLIT SPOON
		W=SWAB/WIPE	BP=BLADDER PUMP

HYDRO GeoLogic INC

FIELD SAMPLING REPORT

711 261

LOCATION: NAS Fort Worth JRB, Texas

PROJECT. AFC001-05-CDG

SITE: Landfill 3

SAMPLE INFORMATION

SAMPLE ID. DUP01

DATE 12-16-98 TIME: 1200 (1.413)

MATRIX TYPE: WG

SAMPLING METHOD: Bladder pump

LOT CONTROL #: 0 1 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: _____

BEGINNING DEPTH: N/A

END DEPTH: N/A

GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR BLANKS/QC SAMPLES ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS) —

MATRIX SPIKE DUP (SD) —

FIELD DUP (FD): LWGLTA302-W0C3

AMBIENT BLANK (AB) —

EQUIPMENT BLANK (EB) EB121698

TRIP BLANK (TB) TB121698

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
40 ml	3	Cool to 4°C, HCl to pH<2	SW8260A	VOCs + vinyl acetate
1 L Amber	2	Cool to 4°C,	SW 8270B	SVOCs
1 L Poly	1	Cool to 4°C, HNO3 to pH<2	SW6010A/7470A	Metals + mercury

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st	COLOR	
2nd	ODOR	
	OTHER	

pH 6.78 Temperature 21.38 Dissolved Oxygen 2.66 Specific Conductivity 1.444

GENERAL INFORMATION

WEATHER: SUN/CLEAR X OVERCAST/RAIN _____ WIND DIRECTION _____ AMBIENT TEMPERATURE 72°

SHIPMENT VIA: FED-X X HAND DELIVER _____ COURIER _____ OTHER _____

SHIPPED TO RFCRA LabNet

COMMENTS _____

SAMPLER: P Dermala OBSERVER M Kendall

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BR=BRASS RING	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	CS=COMPOSITE SAMPLE	H=HOLLOW STEM AUGER
SH=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	C=CONTINUOUS FLIGHT AUGER	HP=HYDRO PUNCH
SD=SEDIMENT	SW=SWAP/WIPE	DT=DRIVEN TUBE	SS=SPLIT SPOON
		W=SWAB/WIPE	BP=BLADDER PUMP

711 262

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: NHGLTA 32	Site: NAS Fort Worth JRB
Sampler(s): [illegible] M Kidwell	Project No.: AFC CC1 05 CDG
Well Depth: 22.80	Date: 12/16/98 Time: 1348
DTW (ft): 18.68 DTP (ft): —	Courier: X FedEx ___UPS ___Hand ___Other
MP Ht. Above/Below Ground Surface:	Sampling Method (G=grab, B=bailer, SP=submersible pump):
Condition of Bottom of Well:	Type of Pump: Goundfos 2" submersible
Screen Interval (ft):	Weather (sun/clear, overcast/rain, wind direction, ambient temperature): Wind 6. NW 72° Approx.
Well Diameter (in): 2"	
Placement of Pump (ft): 17.74	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (gpm)	Total Volume (gal)	pH	Temp. (C)	Cond. (umhos/cm)	ORP	D.O. (mg/L)	Turb. (N.T.U.)	Type, Size, and Amount of Sediment Discharged
1348	18.68	0.2	~~[illegible]~~	6.98	21.06	1.449	57.5	3.20	160.1	
1353	18.68	0.2	2.0	6.84	21.15	1.447	27.2	3.06	61.5	
1358		0.2	3.0	6.82	21.37	1.447	18.6	2.97	31.2	
1403		0.2	4.0	6.79	21.40	1.446	13.4	2.85	14.96	
1408		0.2	5.0	6.78	21.38	1.444	13.4	2.60	8.5	
Sampled @ 1413										

Observations

Color: Clear Other (describe):

Odor: None Low Medium High Very strong H2S Fuel-like

Sample Parameters:

Notes: 5 2 PID headspace

Signed/Sampler(s): [signature]

GROUNDWATER FIELD SAMPLING DATA SHEET

711 263

Well No.: WHG1TA302 W602	Site: NAS Fort Worth JRB
Sampler(s): NH CW	Project No.: AFC 001 05CDG
Well Depth: 22 80	Date: 9-29-98 Time: 0930
DTW (ft): 18 67 DTP (ft):	Courier: X FedEx ___UPS ___Hand ___Other
MP Ht. Above/Below Ground Surface:	Sampling Method (G=grab, B=bailer, SP=submersible pump):
Condition of Bottom of Well:	Type of Pump: Goundfos 2" submersible Bladder
Screen Interval (ft):	Weather (sun/clear, overcast/rain, wind direction, ambient temperature): 88°
Well Diameter (in): 2"	
Placement of Pump (ft): 20 74'	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (gpm)	Total Volume (gal)	pH	Temp. (C)	Cond. (umhos/cm)	ORP	D.O. (mg/L)	Turb. (N.T.U.)	Type, Size, and Amount of Sediment Discharged
0930	*	.12	.12	6 64	25 76	0 825	-45.1	3 36	747	
0935		.12	.72	6 63	25 13	0 815	-46 2	3 32	23 9	
0940		.12	1.32	6 62	24 88	0.808	-46 4	3.40	11 30	
0945		.12	1 92	6 63	25 06	0 810	-47 8	3 29	8.64	
0950		.12	2.52	6.64	24 97	0 808	-49.0	3 26	7.94	
0955		.12	3.12	6 64	25.12	0 810	-49 4	3.22	5.40	
1000		.12	3.72	6 65	25.33	0 815	-49.5	3.21	3 96	
1005	Collect Samples									

Observations

Color: Clear Other (describe): cloudy to clear

Odor: None Low Medium High Very strong H2S Fuel-like

Sample Parameters: SVOCs, VOCs + vinyl acetate Metals + Mercury

Notes: * Well water is below pump and cannot be measured.

Signed/Sampler(s): [signature]

711 264

HYDRO GeoLogic

FIELD SAMPLING REPORT

LOCATION: NAS Ft Worth JRB PROJECT: AFC 001 05CDG

SITE: LF-03

SAMPLE INFORMATION

MATRIX WG SAMPLE ID: WHGLPA302WG02

SAMPLING METHOD Bladder DUP./REP. OF: —

BEGINNING DEPTH 20.74 MATRIX SPIKE/MATRIX SPIKE DUPLICATE YES ( ) NO (X)

END DEPTH 20.73

GRAB (X) COMPOSITE ( ) DATE: 9-29-98 TIME: 1005

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	EXTRACTION METHOD	ANALYTICAL METHOD	ANALYSIS
40ml	3	HCl		8260A	VOC + Vinyl Acetate
1L poly	1	HNO3		7470A	Metals + Mercury
1L amber	2	4°C		8270B	SVOCs

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st 246ppm	COLOR: Clear	
2nd	ODOR: none	
	OTHER:	

pH 6.65 Temperature 25-33 Dissolved oxygen 3.21 Specific Conductivity 0.815

GENERAL INFORMATION

WEATHER: SUN/CLEAR X OVERCAST/RAIN ____ WIND DRIECTION NA AMBIENT TEMP 88°F

SHIPMENT VIA: FED-X X HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO: RECRA

COMMENTS:

SAMPLER: [signature] OBSERVER: KW

MATRIX TYPE CODES

DC=DRILL CUTTINGS
WG=GROUND WATER
LH=HAZARDOUS LIQUID WASTE
SH=HAZARDOUS SOLID WASTE
SE=SEDIMENT
SL=SLUDGE
SO=SOIL
GS=SOIL GAS
WS=SURFACE WATER
SW=SWAP\WIPE

SAMPLING METHOD CODES

B=BAILER
BR=BRASS RING
CS=COMPOSITE SAMPLE
C=CONTINUOUS FLIGHT AUGER
DT=DRIVEN TUBE
W=SWAB\WIPE
G=GRAB
HA=HAND AUGER
H=HOLLOW STEM AUGER
HP=HYDRO PUNCH
SS=SPLIT SPOON
SP=SUBMERSIBLE PUMP

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No. ~~ITMW-01T~~ HM-127	Location NAS Fort Worth JRB
Sampler(s). NHade SStanford	Project Name: April 2000 Quarterly
Well Depth: 37.72'	Project #. AFC001-~~03BBA~~ 33CBC Date: 4.10.00 Time: 1206
DTW (ft): 28.18 DTP (ft): NA	Courier: ✓ FedEx ___ UPS ___ Hand ___ Other
MP Ht. Above/Below Ground Surface: -0.3	Sampling Method : Low flow
Condition of Bottom of Well:	Type of Pump: Bladder pump
Screen Interval (ft):	Weather (sun/clear, overcast/rain, wind direction, ambient temperature): S 58°F
Well Diameter (in): 4"	
Placement of Pump (ft):	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (L/m)	Total Volume (L)	pH	Temp (C)	Cond (umhos/cm)	ORP (mv)	DO (mg/L)	Turb. (NTU)	Type, Size, and Amount of Sediment Discharged
1212	28.21	0.3	0	6.92	19.65	417.0	242.1	3.64	2.62	clear
1215	28.21	0.2	0.9	6.90	19.81	413.0	242.6	4.13	2.60	clear
1218	28.22	0.2	1.5	6.89	19.82	412.0	242.8	4.27	2.46	clear
1221	28.22	0.2	2.1	6.88	19.81	411.0	242.8	4.49	2.54	"
1224	28.22	0.2	2.7	6.87	19.80	410.0	242.7	4.61	2.40	"
1227	collect samples			HM-127WG04						
				DUP01						

Observations

Color: Clear Other (describe):

Odor: None Low Medium High Very Strong H2S Fuel-like

Notes:

DUP01 collected

Signed/Sampler(s) [signature]

711 266

HYDRO GeoLogic INC

FIELD SAMPLING REPORT

LOCATION. NAS Ft Worth JRB, TX — PROJECT NAME Phase III Landfills RFI

SITE: LF03 — PROJECT NAME AFC001-33CBC

SAMPLE INFORMATION

SAMPLE ID HM-127WG04 — DATE: 4.10.00 TIME: 1227

MATRIX TYPE. WG

SAMPLING METHOD. Low flow

LOT CONTROL #. 0 0 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: _____

SAMPLE BEG DEPTH (FT) N/A

SAMPLE END DEPTH (FT) N/A

GRAB (✓) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS) —

MATRIX SPIKE DUP (SD) —

FIELD DUP (FD) DUP01

AMBIENT BLANK (AB) —

EQUIPMENT BLANK (EB) —

TRIP BLANK (TB) TB041000B

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
1 L Poly	1	Cool to 4C/HNO3 pH<2	SW6010B/SW7470A	Metals+Mercury (App IX)
40 mL VOA	3	Cool to 4C/HCl to pH<2	SW8260B	VOCs (App IX)
1 L Amber	2	Cool to 4C	SW8270C	SVOCs (App IX)

NOTABLE OBSERVATIONS

PID READINGS		SAMPLE CHARACTERISTICS		MISCELLANEOUS
1st	28.6ppm	COLOR	clear	
2nd	0ppm	ODOR	none	
		OTHER		

pH 6.87 Temperature 19.80 (C) Dissolved Oxygen 4.61 (mg/L) ~~Specific~~ Conductivity 410.0 (umhos/cm)

Iron — (mg/L) Oxidation/Reduction Potential 242.7 (mv) Turbidity 2.40 (NTU)

GENERAL INFORMATION

WEATHER SUN/CLEAR _____ OVERCAST/RAIN _____ WIND DIRECTION S AMBIENT TEMPERATURE 58°F

SHIPMENT VIA FEDEX x HAND DELIVER _____ COURIER _____ OTHER _____

SHIPPED TO STL - Chicago

COMMENTS Duplicate DUP01 collected

SAMPLER S Stafford OBSERVER N Hade

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZARDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	LP=LABORATORY PREP
SE=SEDIMENT	W=WATER	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

HYDRO GeoLogic INC

FIELD SAMPLING REPORT

LOCATION: NAS Ft Worth JRB, TX — PROJECT NAME: Phase III Landfills RFI

SITE: LF03 — PROJECT NAME: AFC001-33CBC

SAMPLE INFORMATION

SAMPLE ID: DUP01 — DATE: 4.10.00 — TIME: 1200 (1227)

MATRIX TYPE: WG

SAMPLING METHOD: Low flow

LOT CONTROL #: 0 0 1 B

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: _____

SAMPLE BEG DEPTH (FT) N/A

SAMPLE END DEPTH (FT) N/A

GRAB (✓) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS) –

MATRIX SPIKE DUP (SD) –

FIELD DUP (FD) OF HM-127

AMBIENT BLANK (AB) –

EQUIPMENT BLANK (EB) –

TRIP BLANK (TB) TB041000B

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
1 L Poly	1	Cool to 4C/HNO3 pH<2	SW6010B/SW7470A	Metals+Mercury (App IX)
40 mL VOA	3	Cool to 4C/HCl to pH<2	SW8260B	VOCs (App IX)
1 L Amber	2	Cool to 4C	SW8270C	SVOCs (App IX)

NOTABLE OBSERVATIONS

PID READINGS		SAMPLE CHARACTERISTICS		MISCELLANEOUS
1st	28.6 ppm	COLOR	clear	
2nd	0 ppm	ODOR	none	
		OTHER		

pH 6.87 Temperature 19.80 (C) Dissolved Oxygen 4.61 (mg/L) ~~Specific~~ Conductivity 410.0 (umhos/cm)

Iron – (mg/L) Oxidation/Reduction Potential 242.7 (mv) Turbidity 2.40 (NTU)

GENERAL INFORMATION

WEATHER SUN/CLEAR _____ OVERCAST/RAIN _____ WIND DIRECTION S AMBIENT TEMPERATURE 58°F

SHIPMENT VIA FEDEX x HAND DELIVER _____ COURIER _____ OTHER _____

SHIPPED TO STL - Chicago

COMMENTS DUP01 OF HM-127WG04

SAMPLER S. Stanford OBSERVER N Wade

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZARDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	LP=LABORATORY PREP
SE=SEDIMENT	W=WATER	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

HYDRO Geologic

711 268

GROUNDWATER FIELD SAMPLING DATA SHEET

Well Name.: HM 127	Project Name: RFI Landfills	LOCID Landf.113
Sampler(s): R. Wallace, J. Ribs	Project No: AFC001-33CBC	
Well Depth. 40.98	Date 2·19·01	Time: 1015
DTW (ft TOC): 24.61	Screen Interval: 1828 - 38.18 feet	
Well Diameter (in): 4 inches	Placement of Pump (ft TOC): Dedicated Pump - 34.65'	
Type of Pump: Bladder Pump.		

Field Parameters

Time	Depth to Water (ft)	Flow Rate (gpm)	Total Volume (~~gal~~) liters	pH	Temp. (C)	Cond. (umhos/cm)	ORP	D.O. (mg/L)	Turb. (N.T.U.)	Description
1038	24.63	0.05	0	7.57	20.41	299	238	7.72	3.75	clear, No odors
1043	24.63	0.05	0.25	7.41	20.44	292	241	7.68	2.70	" " "
1048	24.56	0.05	0.50	7.30	19.89	284	243	7.70	2.46	" " "
1053	24.56	0.05	0.75	7.22	19.96	274	246	7.76	2.20	" " "
1058	24.56	0.05	1.00	7.17	20.03	268	249	7.71	1.85	" " "
1103	24.43	0.05	1.25	7.14	20.12	266	252	7.71	1.74	" " "
1105	24.56	0.05	1.50	7.15	20.11	266	253	7.72	2.15	" " "
Collect sample										

Observations

Notes.

Signed/Sampler(s): Robert Wallace x

D:\SHARE_ALL\AFCEE_TEMPLATES\FORMS-standard ppt

HYDRO GeoLogic INC

FIELD SAMPLING REPORT

711 269

LOCATION:	NAS FW JRB	PROJECT NAME	Phase III RFI
S[illegible]	Landfill 3	PROJECT NO.	AFC001-33CBB

SAMPLE INFORMATION

SAMPLE ID HM-127

DATE. 2·20·01 TIME: 1115

MATRIX TYPE: Water WG

SAMPLING METHOD: BP

LOT CONTROL #: __ __ __ __

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #. _____

~~SAMPLE BEG~~ Pump DPETH (FT) 39.65'

SAMPLE END DPETH (FT)

GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS): _____

MATRIX SPIKE DUP (SD) _____

FIELD DUP (FD): _____

AMBIENT BLANK (AB) _____

EQUIPMENT BLANK (EB) EB022001

TRIP BLANK (TB) TB022001

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
1 L Poly	1	Cool to 4C/HNO3 pH<2	SW6010A/SW7470A	Total Metals + mercury
40 mL VOA	3	Cool to 4C/HCl to pH<2	SW8260A	VOCs (App IX)
1L Amber	1	Cool to 4C	SW8310	PAHs

NOTABLE OBSERVATIONS

PID READINGS		SAMPLE CHARACTERISTICS		MISCELLANEOUS
1st	Not working	COLOR	No odors	
2nd	"	ODOR	"	
		OTHER		

pH 7.15 Temperature 20.11 (C) Dissolved Oxygen 7.72 (mg/L) Specific Conductivity 266 (umhos/cm)

Iron _____ (mg/L) Oxidation/Reduction Potential 253 (mv) Turbidity 2.15 (NTU)

GENERAL INFORMATION

WEATHER SUN/CLEAR _____ OVERCAST/RAIN _____ WIND DIRECTION SW 15 AMBIENT TEMPERATURE 70°F

SHIPMENT VIA FEDEX x HAND DELIVER _____ COURIER _____ OTHER _____

SHIPPED TO STL - Chicago

COMMENTS _____

SAMPLER R Wallace OBSERVER J Rihs

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
VG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
E=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

711 270

HYDRO GeoLogic INC

FIELD SAMPLING REPORT

LOCATION:	NAS FW JRB	PROJECT NAME:	Phase III RFI
SITE:	Landfill 3 FEO 3	PROJECT NO:	AFC001-33CBB

SAMPLE INFORMATION

SAMPLE ID TB

DATE: 1/24/01 TIME: 0900

MATRIX TYPE: Water

SAMPLING METHOD: G

LOT CONTROL #: 0 1 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: _____

SAMPLE BEG. DPETH (FT) N/A

SAMPLE END DPETH (FT) N/A

GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS) _____

MATRIX SPIKE DUP (SD): _____

FIELD DUP (FD) _____

AMBIENT BLANK (AB): _____

EQUIPMENT BLANK (EB): EB012401

TRIP BLANK (TB) _____

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
40 mL VOA	2	Cool to 4C/HCl to pH<2	SW8260B	VOCs

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st	COLOR	
2nd	ODOR	
	OTHER	

pH _____ Temperature _____(C) Dissolved Oxygen _____(mg/L) Specific Conductivity _____(umhos/cm)

Iron _____(mg/L) Oxidation/Reduction Potential _____(mv) Turbidity_____ (NTU)

GENERAL INFORMATION

WEATHER SUN/CLEAR X OVERCAST/RAIN _____ WIND DIRECTION _____ AMBIENT TEMPERATURE 60's

SHIPMENT VIA: FEDEX x HAND DELIVER _____ COURIER _____ OTHER _____

SHIPPED TO: STL - Chicago

COMMENTS _____

SAMPLER: R Wallace OBSERVER M Johnston

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

HYDRO GeoLogic INC

FIELD SAMPLING REPORT

711 271

LOCATION: NAS FW JRB
SITE: Landfill 3 / landfill 9

PROJECT NAME: Phase III RFI
PROJECT NO: AFC001-33CBB

SAMPLE INFORMATION

SAMPLE ID EBC12401

DATE: 01/24/01 TIME: 1700

MATRIX TYPE: water

SAMPLING METHOD G

LOT CONTROL #: 0 1 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #. _____

SAMPLE BEG DPETH (FT) N/A

SAMPLE END DPETH (FT) N/A

GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS) _____

MATRIX SPIKE DUP (SD) _____

FIELD DUP (FD): _____

AMBIENT BLANK (AB) _____

EQUIPMENT BLANK (EB) _____

TRIP BLANK (TB) TB012401

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
1 L Poly	1	Cool to 4C/HNO3 pH<2	SW6010A/SW7470A	Total Metals + mercury
40 mL VOA	3	Cool to 4C/HCl to pH<2	SW8260B	VOCs
1 L Amber	2	Cool to 4C	SW8270B	SVOCs
1L Amber	1	Cool to 4C	SW8310	PAHs
1L Amber	2	Cool to 4C	SW8000A	pesticides / PCBs

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st	COLOR	
2nd	ODOR	
	OTHER	

pH _____ Temperature _____(C) Dissolved Oxygen _____(mg/L) Specific Conductivity _____(umhos/cm)

Iron _____(mg/L) Oxidation/Reduction Potential _____(mv) Turbidity_____ (NTU)

GENERAL INFORMATION

WEATHER. SUN/CLEAR X OVERCAST/RAIN _____ WIND DIRECTION _____ AMBIENT TEMPERATURE 60°F

SHIPMENT VIA: FEDEX x HAND DELIVER _____ COURIER _____ OTHER _____

SHIPPED TO STL - Chicago

COMMENTS _____

SAMPLER: R Wallace OBSERVER. M Johnston

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

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HYDRO GeoLogic INC

FIELD SAMPLING REPORT

OCATION: NAS Fort Worth JRB, Texas PROJECT. AFC001-05CDE

SITE: LF-3

SAMPLE INFORMATION

SAMPLE ID: EB012799 DATE: 1-27-99 TIME: 1300

MATRIX TYPE: soil

SAMPLING METHOD: DP

LOT CONTROL #: 0 1 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: _____

BEGINNING DEPTH: ____ N/A _____

END DEPTH: ____ N/A _____

GRAB (✓) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR BLANKS/QC SAMPLES ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS) —

MATRIX SPIKE DUP (SD): —

FIELD DUP (FD): —

AMBIENT BLANK (AB) —

EQUIPMENT BLANK (EB): ✓

TRIP BLANK (TB): TB012799

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
40mL VOA*	3	Cool to 4°C, HCl	8260A	VOCs
1L Amber	2	Cool to 4°C	8270	SVOCs
1L Amber	1	Cool to 4°C	8080A	Pesticides / PCBs
1L Amber	2	Cool to 4°C	8150B	Herbacides
1L Amber	1	Cool to 4°C	8140	OP Pesticides
1L Amber	2	Cool to 4°C	8280	Dioxins / Furans

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st	COLOR	
2nd	ODOR	
	OTHER	

pH _____ Temperature _____ Dissolved Oxygen _____ Specific Conductivity _____

GENERAL INFORMATION

WEATHER SUN/CLEAR Cloudy ✓ OVERCAST/RAIN _____ WIND DIRECTION _____ AMBIENT TEMPERATURE 70°

SHIPMENT VIA. FED-X ✓ HAND DELIVER _____ COURIER _____ OTHER _____

SHIPPED TO RECRA LabNet / Chicago

COMMENTS _____

SAMPLER: B Wallace OBSERVER. C. Williams

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BR=BRASS RING	HA=HAND AUGER
I=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	CS=COMPOSITE SAMPLE	H=HOLLOW STEM AUGER
I=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	C=CONTINUOUS FLIGHT AUGER	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAP/WIPE	DT=DRIVEN TUBE	SS=SPLIT SPOON
		W=SWAB/WIPE	BP=BLADDER PUMP

AFCEE FORM SR-11

1L Poly	1	Cool to 4°C, HCl	per QAPP/9470A	Metals/Mercury
1L Poly	1	Cool to 4°C, NaOH	9010A	Cyanide
1L Poly	1	Cool to 4°C, Zn Acetate	9030	Sulfide

HYDRO GeoLogic INC

FIELD SAMPLING REPORT

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LOCATION: NAS Fort Worth JRB, Texas

PROJECT: AFC001-05CDE

SITE: LF-3

SAMPLE INFORMATION

SAMPLE ID: EB012699

DATE: 1-26-99 TIME: 1800

MATRIX TYPE: soil

SAMPLING METHOD: DP

LOT CONTROL #: 0 1 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: _____

BEGINNING DEPTH: N/A

END DEPTH: N/A

GRAB (✓) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR BLANKS/QC SAMPLES ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS) —

MATRIX SPIKE DUP (SD): —

FIELD DUP (FD) —

AMBIENT BLANK (AB): —

EQUIPMENT BLANK (EB) ✓

TRIP BLANK (TB) TB012699

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
40 mL vials	3	Cool to 4°C, HCl	SW 8260A	VOCs
1 L Amber	2	Cool to 4°C,	SW 8270	SVOCs
1 L Amber	1	Cool to 4°C	SW8080A	Pesticides / PCB
1 L Amber	2	Cool to 4°C	SW 8150B	Herbacides
1 L Amber	1	Cool to 4°C	SW 8140	Organophos. Pesticides
1 L Amber	2	Cool to 4°C	SW 8280	Dioxins/Furans

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st	COLOR	
2nd	ODOR	
	OTHER.	

pH _____ Temperature _____ Dissolved Oxygen _____ Specific Conductivity _____

GENERAL INFORMATION

WEATHER: SUN/CLEAR _____ OVERCAST/RAIN _____ WIND DIRECTION _____ AMBIENT TEMPERATURE _____

SHIPMENT VIA FED-X _____ HAND DELIVER _____ COURIER _____ OTHER _____

SHIPPED TO. _____

COMMENTS _____

SAMPLER _____ OBSERVER _____

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BR=BRASS RING	HA=HAND AUGER
H=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	CS=COMPOSITE SAMPLE	H=HOLLOW STEM AUGER
=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	C=CONTINUOUS FLIGHT AUGER	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAP/WIPE	DT=DRIVEN TUBE	SS=SPLIT SPOON
		W=SWAB/WIPE	BP=BLADDER PUMP

~~AFCEE FORM SR 11~~

1 L Poly	1	~~Metals/Mercury~~ to HCl	per QAPP / 9470A	Metals / Mercury
1 L Poly	1	Cool to 4°C, NaOH	SW 9010A	Cyanide
1 L Poly	1	Cool to 4°C, Zn Acetate	SW 9030	Sulfide

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HYDRO GeoLogic INC

FIELD SAMPLING REPORT

OCATION: NAS Fort Worth JRB, Texas

PROJECT: AFC001-05CDE

SITE: LF-3

SAMPLE INFORMATION

SAMPLE ID: TB012799

DATE: 1-27-99 TIME: 1740

MATRIX TYPE: soil

SAMPLING METHOD: DP

LOT CONTROL #: 0 1 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: _____

BEGINNING DEPTH: _____ N/A _____

END DEPTH: _____ N/A _____

GRAB (✓) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR BLANKS/QC SAMPLES ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS) —

MATRIX SPIKE DUP (SD): —

FIELD DUP (FD): —

AMBIENT BLANK (AB): —

EQUIPMENT BLANK (EB): EB012799

TRIP BLANK (TB) ✓

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
40mL VOA	2	Cool to 4°C, HCl	8260A	VOCs

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st	COLOR	
2nd	ODOR	
	OTHER	

pH _____ Temperature _____ Dissolved Oxygen _____ Specific Conductivity _____

GENERAL INFORMATION

WEATHER SUN/CLEAR ✓ OVERCAST/RAIN _____ WIND DIRECTION _____ AMBIENT TEMPERATURE 70°

SHIPMENT VIA FED-X ✓ HAND DELIVER _____ COURIER _____ OTHER _____

SHIPPED TO RECRA LabNet / Chicago

COMMENTS: _____

SAMPLER B. Wallace OBSERVER: C. Williams

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BR=BRASS RING	HA=HAND AUGER
H=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	CS=COMPOSITE SAMPLE	H=HOLLOW STEM AUGER
=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	C=CONTINUOUS FLIGHT AUGER	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAP/WIPE	DT=DRIVEN TUBE	SS=SPLIT SPOON
		W=SWAB/WIPE	BP=BLADDER PUMP

HYDRO GeoLogic INC

FIELD SAMPLING REPORT

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LOCATION: NAS Fort Worth JRB, Texas

PROJECT. AFC001-05CDE

SITE: _____

SAMPLE INFORMATION

SAMPLE ID: TB012899 B

DATE: 1-28-99 TIME: 1730

MATRIX TYPE: soil

SAMPLING METHOD: DP

LOT CONTROL #: 0 1 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: _____

BEGINNING DEPTH: N/A

END DEPTH: N/A

GRAB (✓) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR BLANKS/QC SAMPLES ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS). –

MATRIX SPIKE DUP (SD): –

FIELD DUP (FD) –

AMBIENT BLANK (AB). –

EQUIPMENT BLANK (EB). EB012899

TRIP BLANK (TB) ✓

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
40mL VOA	2	Cool to 4°C, HCl	SW 8260A	VOCs

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st	COLOR:	
2nd	ODOR	
	OTHER	

pH _____ Temperature _____ Dissolved Oxygen _____ Specific Conductivity _____

GENERAL INFORMATION

WEATHER SUN/CLEAR _____ OVERCAST/RAIN ✓ WIND DIRECTION _____ AMBIENT TEMPERATURE 65°

SHIPMENT VIA: FED-X ✓ HAND DELIVER _____ COURIER _____ OTHER _____

SHIPPED TO RECRA LabNet / Chicago

COMMENTS: _____

SAMPLER B. Wallace OBSERVER. C. Williams

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BR=BRASS RING	HA=HAND AUGER
HL=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	CS=COMPOSITE SAMPLE	H=HOLLOW STEM AUGER
HS=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	C=CONTINUOUS FLIGHT AUGER	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAP/WIPE	DT=DRIVEN TUBE	SS=SPLIT SPOON
		W=SWAB/WIPE	BP=BLADDER PUMP

TAB

APPENDIX C

APPENDIX C

MONITORING WELL CONSTRUCTION DETAILS

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WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: [illegible]

DRILLING CONTRACTOR: [illegible]

DRILLING TECHNIQUE: HSA

AUGER SIZE AND TYPE: 4.25 ID

BOREHOLE IDENTIFICATION: [illegible]

BOREHOLE DIAMETER: 7.25

WELL IDENTIFICATION: — —

WELL CONSTRUCTION START DATE: 29 Apr 99

WELL CONSTRUCTION COMPLETE DATE: 30 Apr 99

SCREEN MATERIAL: Schedule 40 PVC

SCREEN DIAMETER: 2"

STRATUM-SCREENED INTERVAL (FT): 7.5

CASING MATERIAL: Schedule 40 PVC

CASING DIAMETER: 2"

TYPE OF FILTER PACK: [illegible] Sand

GRADIATION: [illegible]

AMOUNT OF FILTER PACK USED: 5 bags

TYPE OF BENTONITE: Wyoming

AMOUNT BENTONITE USED: 3 bags

TYPE OF CEMENT: —

AMOUNT CEMENT USED: —

GROUT MATERIALS USED: —

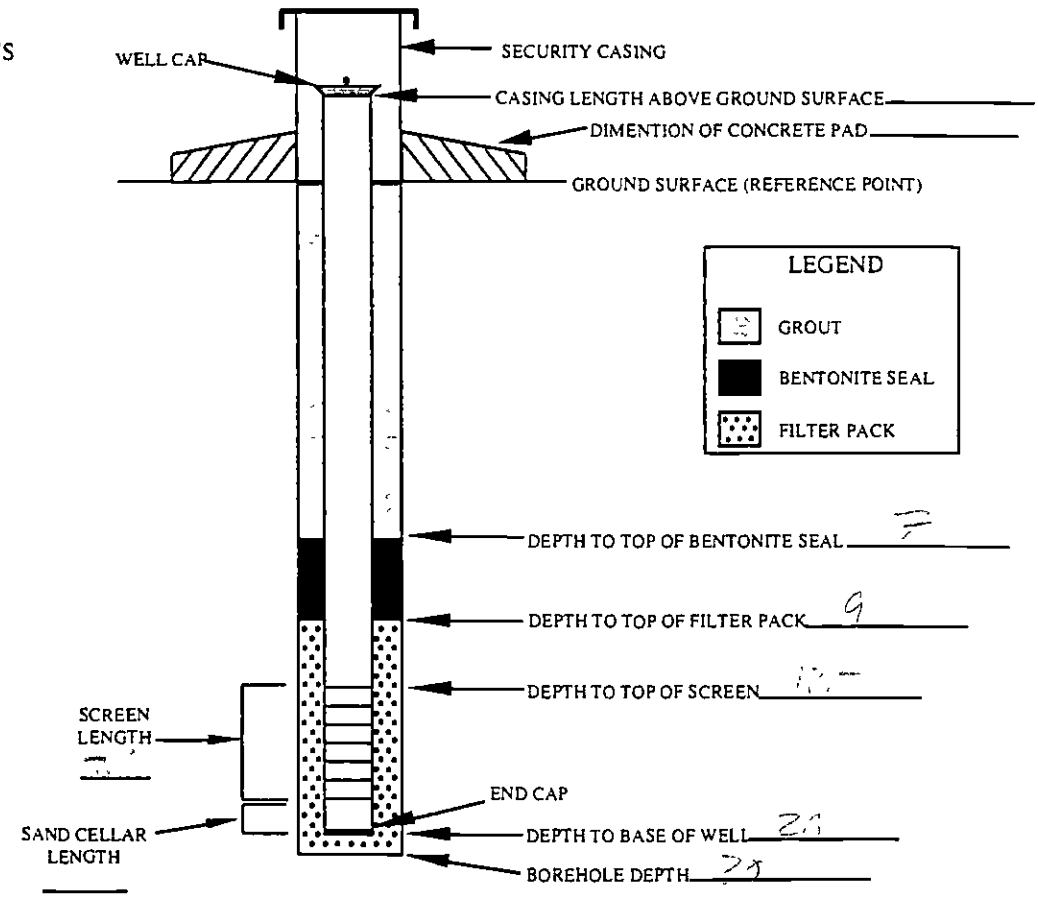
DIMENSIONS OF SECURITY CASING: 3'x3'

TYPE OF WELL CAP: 2" [illegible] plug

TYPE OF END CAP: 2" Schedule 40 PVC Flush thread

COMMENTS

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: [illegible]

INSTALLATION OBSERVED BY: [illegible]

DISCREPANCIES: N/A

AFCEE FORM WAA 0

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HYDRO Geologic INC.

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE RODTANT

DRILLING CONTRACTOR Environmental Drilling

DRILLING TECHNIQUE: HSA

AUGER SIZE AND TYPE 4.25"

BOREHOLE IDENTIFICATION. WHGLTA302

BOREHOLE DIAMETER: 8.25"

WELL IDENTIFICATION: —

WELL CONSTRUCTION START DATE: 20'

WELL CONSTRUCTION COMPLETE DATE. +2.5'

SCREEN MATERIAL: Schedule 40 PVC

SCREEN DIAMETER. 2"

STRATUM-SCREENED INTERVAL (FT): 20-10'

CASING MATERIAL: Schedule 40 PVC

CASING DIAMETER 2"

TYPE OF FILTER PACK Silica Sand

GRADIATION. 20/40

AMOUNT OF FILTER PACK USED 9 Bags

TYPE OF BENTONITE. Wyoming

AMOUNT BENTONITE USED 1 Bags

TYPE OF CEMENT [illegible]

AMOUNT CEMENT USED

GROUT MATERIALS USED —

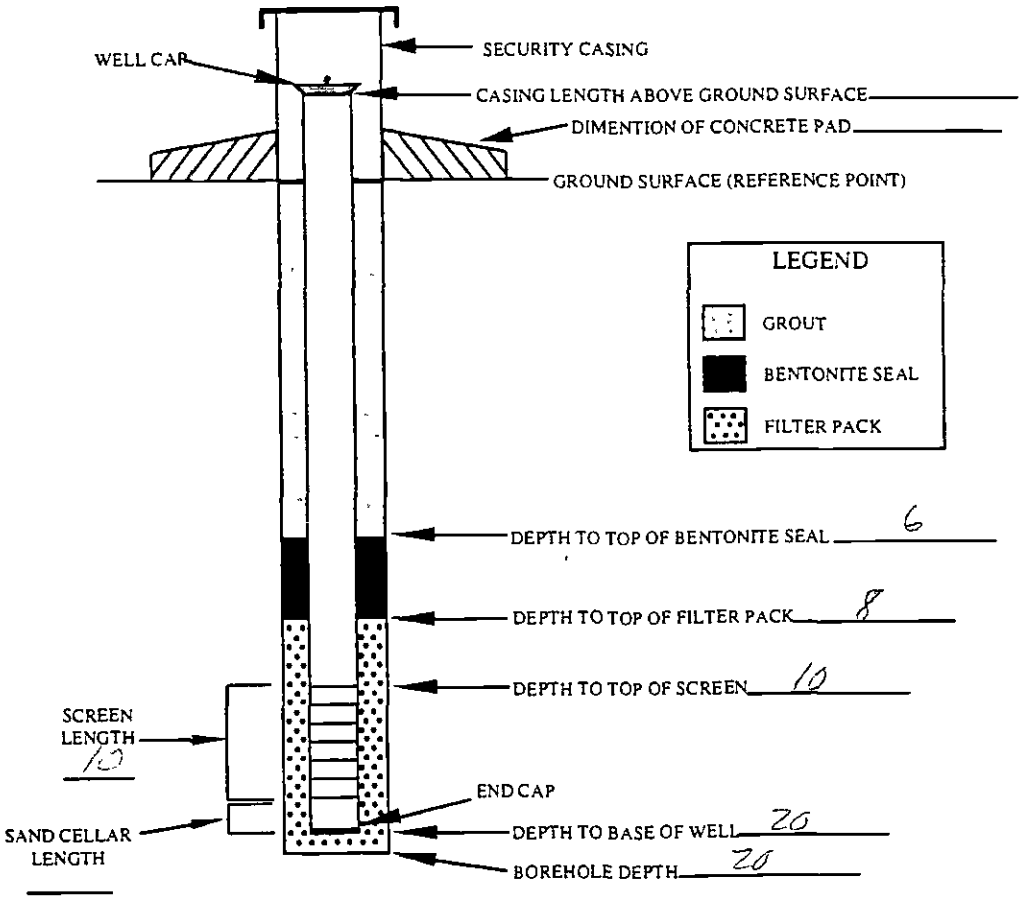
DIMENSIONS OF SECURITY CASING. 3"x3"

TYPE OF WELL CAP 2" Locking [illegible]

TYPE OF END CAP. 2" Schedule 40 PVC Flush thread

COMMENTS.

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY. Billy Copley

INSTALLATION OBSERVED BY Rod Tant

DISCREPANCIES —

AFCEE FORM WAA 0

TAB

APPENDIX D

APPENDIX D

MONITORING WELL DEVELOPMENT FORMS

HYDRO GeoLogic INC.

WE L DEVELOPMENT RECORD

WELL/PIEZOMETER ID WHGLTA303
SHEET 1 of 1

PROJECT NAME NAS Fort Worth JRB PROJECT NO AFCEE01-05CDF DATE 5/5/95

LOCATION Landfill 3 DATE INSTALLED

TOTAL DEPTH (FTOC) 22.22 CASING DIAMETER 2"

METHODS OF DEVELOPMENT

☐ Swabbing ☒ Bailing ☐ Pumping ☐ Describe

Equipment decontaminated prior to development ☐ Yes ☒ NO

Describe Dedicated Teflon bailer

EQUIPMENT NUMBERS.

pH Meter EC Meter Turbidity Meter Thermometer

CASING VOLUME INFORMATION.

Casing ID (inch)	1 0	1 5	2 0	2 2	3 0	4 0	4 3	5 0	6 0	7 0	8 0
Unit Casing Volume (A) (gal/ft)	0 04	0 09	0 16	0 2	0 37	0 65	0 75	1 0	1 5	2 0	2 6

PURGING INFORMATION.

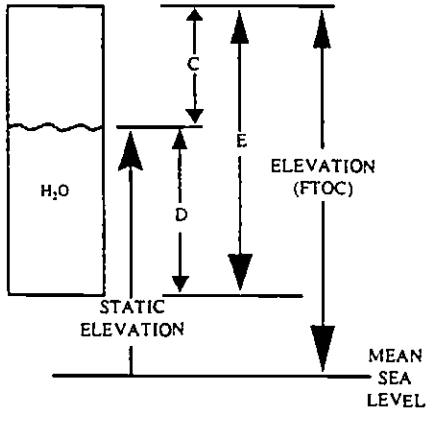
Measured Well Depth (B) 22.22 ft

Measured Water Level Depth (C) 20.84 ft

Length of Static Water Colume (D) 22.22 (B) - 20.84 (C) = 1.38 ft

Casing Water Volume (E) = 0.16 (A) x 1.38 (D) = 0.22 gal

Total Purge Volume = 20 (gal)



Date	Time	Water Level (FTOC)	Volume Removed (gal)	pH	EC	Temperature F or C	Turbidity/ Sand (ppm)	DO	Comments
5/5/95	1515	N/A	10	6.66	785	21.3	—	12.03	Turbidity not working
	1520	—	11	6.64	792	20.8	—	11.91	very little drawdown
	1525	—	15	6.74	799	20.0	—	12.08	bailer is ~ 1/2 full on each pull.
	1530	—	17	6.74	802	19.6	—	12.01	
	1540	—	20	6.76	799	19.7	—	12.26	Stop development

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HYDRO GeoLogic INC.

WELL DEVELOPMENT RECORD

WELL/PIEZOMETER ID WHGLTA302
SHEET 1 of 1

PROJECT NAME NAS Fort Worth JRB PROJECT NO AFC001-05CDF DATE 5/5/98

LOCATION LandFill 3 DATE INSTALLED

TOTAL DEPTH (FTOC) 21.0 CASING DIAMETER 2"

METHODS OF DEVELOPMENT

☐ Swabbing ☐ Bailing ☒ Pumping ☐ Describe

Equipment decontaminated prior to development ☒ Yes ☐ NO

Describe Alcanox, rinse water, DI water rinse.

EQUIPMENT NUMBERS.

pH Meter EC Meter Turbidity Meter Thermometer

CASING VOLUME INFORMATION

Casing ID (inch)	1 0	1 5	2 0	2 2	3 0	4 0	4 3	5 0	6 0	7 0	8 0
Unit Casing Volume (A) (gal/ft)	0 04	0 09	0 16	0 2	0 37	0 65	0 75	1 0	1 5	2 0	2 6

PURGING INFORMATION.

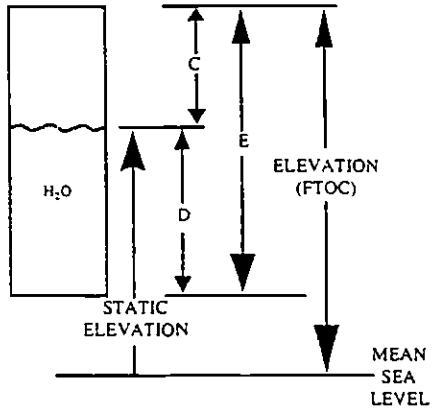
Measured Well Depth (B) 21 0 ft

Measured Water Level Depth (C) 17.42 ft

Length of Static Water Colume (D) 21.0 (B) - 17.42 (C) = 3.58 ft

Casing Water Volume (E) = 0.16 (A) x 3.58 (D) = 0.58 gal

Total Purge Volume = 42 5 (gal)



Date	Time	Water Level (FTOC)	Volume Removed (gal)	pH*	EC	Temperature F or C	Turbidity/ Sand (ppm)	Comments
5/5/98	1630	18.48	17	6.61	788	22.1	715	10.27 *pH did not calibrate (2.2 L/min)
	1635	18.48	20	6.64	802	20.9	381	10.56
	1640	18.52	22	6.67	811	20.3	270	10.48 - raised pump 1ft (20.0)
	1645	18.54	25	6.69	814	20.0	427	10.59
	1650	18.55	30	6.73	812	20.1	68	10.43
	1655	18.55	32.5	6.70	814	20.1	49	10.27
	1700	18.52	35	6.71	816	20.0	25	10.34
	1705	18.50	38.0	6.74	812	20.1	5	10.30
	1710	18.50	40.5	6.70	8.15	20.0	4	10.30
	1715	18.51	42.5	6.75	8.11	20.1	4	10.21 Parameters stable

AFCEE FORM WD 0

TAB

APPENDIX E

APPENDIX E

CHAIN-OF-CUSTODY FORMS

RECRA LabNet Use Only

Custody Transfer Record/Lab Work Request

RECRA LabNet

Client: AFCEE
Est. Final Proj. Sampling Date: 8/1/98
Project #: AF001-05-CDF
Project Contact/Phone #: Robert Wallace
RECRA Project Manager: Chuck Mann
QC: Del: TAT:
Date Rec'd: Date Due:
Account #:

Refrigerator #:
#/Type Container: Liquid / Solid
Volume: Liquid / Solid
Preservatives:

ANALYSES REQUESTED → ORGANIC: VOA, BNA, Pest/PCB, Herb; OPP Pest 8080 Solid; DIF 8015B290; INORG: Metal, CN; Sulfide 9030; MERC 7470

MATRIX CODES: S - Soil; SE - Sediment; SO - Solid; SL - Sludge; W - Water; O - Oil; A - Air; DS - Drum Solids; DL - Drum Liquids; L - EP/TCLP Leachate; WI - Wipe; X - Other; F - Fish

RECRA LabNet Use Only

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	VOA	BNA	Pest/PCB	Herb	OPP Pest 8080 Solid	DIF 8015B290		Metal	CN	Sulfide 9030	MERC 7470				
	BH01TA-301-01			SO	4-9-98	1145	✓	✓	✓	✓	✓	✓		✓	✓	✓					
	BH01TA-301-02			SO	4/9/98	1005	✓	✓	✓	✓	✓	✓		✓	✓	✓					
	BH01TA-301-03			SO	4/9/98	1030	✓	✓	✓	✓	✓	✓		✓	✓	✓					
	BH01TA-301-04			SO	4/9/98	1045	✓	✓	✓	✓	✓	✓		✓	✓	✓					
	BH01TA-301-DUP01			SO	4/9/98		✓	✓	✓	✓	✓	✓		✓	✓	✓					
	BH01TA-302-01 *			SO	4/9/98	1545	✓	✓	✓	✓	✓	✓		✓	✓	✓					
	BH01TA-302-02			SO	4/9/98	1420	✓	✓	✓	✓	✓	✓		✓	✓	✓					
	BH01TA-302-02 MS	✓		SO	4/9/98	1420	✓	✓	✓	✓	✓	✓		✓	✓	✓					
	BH01TA-302-02MD		✓	SO	4/9/98	1420	✓	✓	✓	✓	✓	✓		✓	✓	✓					
	BH01TA-302-03			SO	4/9/98	1445	✓	✓	✓	✓	✓	✓		✓	✓	✓					

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:
Appendix IX Volatiles & Cis 1,2 DCE
Soils are combined for certain analyses
* serial dilution test
Cooler A 0054952
Cooler B 0055361

DATE/REVISIONS
1
2
3
4
5
6

RECRA LabNet Use Only

Samples were 1) Shipped ___ or Hand Delivered ___ Airbill # ___
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was 1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N
COC Record Present Upon Sample Rec't Y or N

Discrepancies Between Samples Lables and COC Record? Y or N
NOTES:

Relinquished by	Received by	Date	Time
[signature]	[signature]	4.9.98	1800

Relinquished by	Received by	Date	Time

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Page 1 of ___

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RECRA LabNet Use Only

Custody Transfer Record/Lab Work Request

RECRA LabNet

711 287

Client: AFCEE
Est. Final Proj. Sampling Date: 8/1/98
Project #: AFC001-05CAE
Project Contact/Phone #: Robert Lundale
RECRA Project Manager: Chuck Maw
QC: Del: TAT:
Date Rec'd: Date Due:
Account #:

Refrigerator #:
#/Type Container: Liquid / Solid
Volume: Liquid / Solid
Preservatives:

ANALYSES REQUESTED: ORGANIC: VOA, BNA, Pest/PCB, Herb; PAHs 8310; VOA 8260; INORG: Metal, CN, Sulfide 9030, Hexavalent Cr 7196

MATRIX CODES: S - Soil; SE - Sediment; SO - Solid; SL - Sludge; W - Water; O - Oil; A - Air; DS - Drum Solids; DL - Drum Liquids; L - EP/TCLP Leachate; Wi - Wipe; X - Other; F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	VOA	BNA	Pest/PCB	Herb	PAHs 8310	VOA 8260		Metal	CN	Sulfide 9030	Hexavalent Cr 7196				
	EDC1099JM 1GLEB30			LW	11/19/97	1645	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓				

RECRA LabNet Use Only

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:
Appendix IX Volatiles Cas 1,2 DCE
Equipment blank is missing bottles for org. Pest + Org. PCBs and only partially full 500ml bottle run out of deionized H_2O

Cooler A 0054952
Cooler B 0055361

DATE/REVISIONS.
1
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3
4
5
6

Relinquished by	Received by	Date	Time
[illegible]	[illegible]	4-7-98	1800

Relinquished by	Received by	Date	Time

Discrepancies Between Samples Lables and COC Record? Y or N
NOTES

RECRA LabNet Use Only

Samples were
1) Shipped ___ or Hand Delivered ___ Airbill # ___
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N
COC Record Present Upon Sample Rec't Y or N

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Page ___ of ___

RECRA LabNet Use Only

Custody Transfer Record/Lab Work Request

RECRA LabNet

Client: AFCEE
Est. Final Proj. Sampling Date: 8/1/98
Project #: AFC001.05FAA
Project Contact/Phone #: Robert Wallace
RECRA Project Manager: Chuck Mail
QC: Del: TAT:
Date Rec'd: Date Due:
Account #:

Refrigerator #:
#/Type Container: Liquid / Solid
Volume: Liquid / Solid
Preservatives:

ANALYSES REQUESTED → ORGANIC: VOA, BNA, Pest/PCB, Herb, PCB 8080, VOC 8260, SVOC 8270; INORG: Metal, CN, Sulfide 9030, Mercury 7470A

MATRIX CODES: S - Soil; SE - Sediment; SO - Solid; SL - Sludge; W - Water; O - Oil; A - Air; DS - Drum Solids; DL - Drum Liquids; L - EP/TCLP Leachate; WI - Wipe; X - Other; F - Fish

RECRA LabNet Use Only

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	VOA	BNA	Pest/PCB	Herb	PCB 8080	VOC 8260	SVOC 8270	Metal	CN	Sulfide 9030	Mercury 7470A							
	BH6LTA303-01			S	11/14/98	1245	✓	✓	✓	✓	✓	✓		✓	✓	✓								N10.6
	BH6LTA303-02			S	11/14/98	1115	✓	✓	✓	✓	✓	✓		✓	✓	✓								N13.5
	BH6LTA303-03			S	11/14/98	1135	✓	✓	✓	✓	✓	✓		✓	✓	✓								N18.5
	BH6LTA303-04			S	"	1150	✓	✓	✓	✓	✓	✓		✓	✓	✓								N13
	BH6LTA303-05			S	"	1330	✓	✓	✓	✓	✓	✓		✓	✓	✓								N18.5
	BH6LTA304-01			S	"	1610	✓	✓	✓	✓	✓	✓		✓	✓	✓								N10.6
	BH6LTA304-02			S	"	1525	✓	✓	✓	✓	✓	✓		✓	✓	✓								N13.5
	BH6LTA304-03			S	"	1540	✓	✓	✓	✓	✓	✓		✓	✓	✓								N18.5
	BH6LTA304-04			S	"	1550	✓	✓	✓	✓	✓	✓		✓	✓	✓								N13.5
	HGLEB302			WQ	"	1730	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓							EB1
				W	"	1840	✓																	TB

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

DATE/REVISIONS

Special Instructions: TB041498

Appendix IX Volatiles and CIS 1,2 DCE
Soils are combined for certain analyses
Cooler A 0055032
Cooler B 0054950

2 ____
3 ____
4 ____
5 ____
6 ____

RECRA LabNet Use Only

Samples were 1) Shipped ___ or Hand Delivered ___ Airbill #: ___
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was 1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N
COC Record Present Upon Sample Rec't Y or N

Discrepancies Between Samples Lables and COC Record? Y or N
NOTES

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time

711 288

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Page ____ of ____

COSA

711 289

EVERN
TRENT
SERVICES

L Chicago
7 Bond Street
versity Park, IL 60466
one 708-534-5200
708-534-5211

Report To:

Contact Kim Evers
Company HydroGeologic, Inc.
Address 1155 Herndon Pkwy STE900
Herndon VA 20170
Phone 703-478-5186
Fax 703-471-4180
E-Mail Kevers@hgl.com

Bill To:

Contact Kim Evers
Company (same)
Address
Phone
Fax
PO# Quote

Shaded Areas For Internal Use Only ____ of ____

Lab Lot#

Package Sealed	Samples Sealed
Yes No	Yes No
Received on Ice	**Samples Intact**
Yes No	Yes No

Temperature °C of Cooler

Within Hold Time	Preserv. Indicated
Yes No	Yes No NA
pH Check OK	**Res Cl_2 Check OK**
Yes No NA	Yes No NA

Sample Labels and COC Agree
Yes No COC not present

mpler Name: Robert Wallace
Signature: [signature]
roject Name: RFI Landfills
Project Number: AFC001-33CBB
roject Location: NAS FW JRB
Date Required
Hard Copy: ___/___/___
Fax: ___/___/___
ab PM: Donna Ingersoll

Refrg #				
# / Cont.	3	1	1	1
Volume	40ml	1L	1L	1L
Preserv	HCL	HNO_3	4°C	HNO_3

aboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	Comp/Grab	SW8260	SW6010/7000 7470	SW8310	SW6010/7000 As only	Additional Analyses / Remarks
		HM127	2.20.01	1115	W	G	X	X	X		Appendix IX List metals & VOCs (Full PAH List)
		WHGLTA701	2.20.01	1550	W	G	X			X	AFCEE List VOCs; Arsenic Only
		EB022001	2.20.01	1800	W	G	X	X	X		Appendix IX List Metals / AFCEE and Appendix IX List VOCs
		TB022001	2.20.01	0730	W	G	X				AFCEE and Appx IX List VOCs
		WHGLTA703	2.21.01	0935	W	G	X			X	AFCEE List VOCs, Arsenic Only
		WHGLTA702	2.21.01	1210	W	G	X				AFCEE List VOCs
		DUP 15	2.21.01	1200	W	G	X			X	AFCEE List VOCs: Arsenic Only

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME
[signature]	HGL	2.21.01	1400				
RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME

Matrix Key
WW = Wastewater
W = Water
S = Soil
SL = Sludge
MS = Miscellaneous
OL = Oil
SE = Sediment
SO = Solid
DS = Drum Solid
= Drum Liquid
= Leachate
WI = Wipe

Container Key
1 Plastic
2 VOA Vial
3 Sterile Plastic
4 Amber Glass
5 Widemouth Glass
6 Other

Preservative Key
1 HCl Cool to 4°
2 H2SO4, Cool to 4°
3 HNO3, Cool to 4°
4 NaOH, Cool to 4°
5 NaOH/Zn, Cool to 4°
6 Cool to 4°

COMMENTS

Date Received / /
Courier: Hand Delivered ☐
Bill of Lading

RECR. abNet Use Only

Custody Transfer Record/Lab Work Request

RECRA LabNet

Client: HydroGeologic, Inc.
Est. Final Proj. Sampling Date: 2/5/99
Project #: AEC 001 05 CDE
Project Contact/Phone #: Bob Wallace [illegible]
RECRA Project Manager: Bosco Ramirez
QC _____ Del _____ TAT _____
Date Rec'd _____ Date Due _____
Account # _____

Refrigerator #																					
#/Type Container	Liquid																				
	Solid																				
Volume	Liquid																				
	Solid																				
Preservatives																					
ANALYSES REQUESTED →		ORGANIC											INORG								
		VOA	BNA	Pest/PCB	Herb	[illegible]	[illegible]	[illegible]	Metal	CN	[illegible]	[illegible]	[illegible]		SPLP						

RECRA LabNet Use Only

MATRIX CODES:
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
WI - Wipe
X - Other
F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	VOA	BNA	Pest/PCB	Herb	[illegible]	[illegible]	[illegible]	Metal	CN	[illegible]	[illegible]	[illegible]		SPLP	
	BHGLTA325-04			S	1-26-99	1215		X	X	X	X	X		X	X	X	X	X			
	BHGLTA324-04			S	1-26-99	1500	X	X	X	X	X	X	X	X	X	X	X	X		X	
	EB012699			W	1-26-99	1800	3	2	X	2	X	X	2	X	X	X		X			
	TB012699			W	1-26-99	1800	2														

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:
Fed Ex #: 5756269890
BHGLTA324 Appendix IX Analyte list & SPLP as per Ken Rapuanos Instructions
BHGLTA 325 Appendix IX analyte list
VOCs & Dioxins/Furans to Follow
Ken Please Review COC

DATE/REVISIONS:
1 _____
2 _____
3 _____
4 _____
5 _____
6 _____

Relinquished by	Received by	Date	Time
[signature]		1/26/99	1830

Relinquished by	Received by	Date	Time

Discrepancies Between Samples Lables and COC Record? Y or N
NOTES

RECRA LabNet Use Only

Samples were
1) Shipped ___ or Hand Delivered ___
Airbill # _____
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N
COC Record Present Upon Sample Rec't Y or N

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RECR. LabNet Use Only

Custody Transfer Record/Lab Work Request

RECRA LabNet

711 291

Client: HydroGeoLogic, Inc.
Est. Final Proj. Sampling Date: 2/5/99
Project #: AFC COL 05 CDE
Project Contact/Phone #: Bob Wallace 703-736-4565
RECRA Project Manager: Bosco Ramirez
QC _____ Del _____ TAT _____
Date Rec'd _____ Date Due _____
Account # _____

Refrigerator #																					
#/Type Container	Liquid																				
	Solid																				
Volume	Liquid																				
	Solid																				
Preservatives																					
ANALYSES REQUESTED →		ORGANIC											INORG								
		VOA	BNA	Pest/PCB	Herb	VF Fractions	Halogenated Pesticides	Dioxins Furans	Metal	CN	Metals	Sulfide	Solids								
		RECRA LabNet Use Only																			

MATRIX CODES:
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
WI - Wipe
X - Other
F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	VOA	BNA	Pest/PCB	Herb	VF Fractions	Halogenated Pesticides	Dioxins Furans	Metal	CN	Metals	Sulfide	Solids			
	BHGLTA325-04			S	1-27-99	1045	X	X	X		X	X	X	X	X	X	X	X			
	BHGLTA326-04			S	1-27-99	1445	X	X	X		X	X	X	X	X	X	X	X			
	TB012799			W	1-27-99	1300	X	X	X	X	X		X	X	X	X	X				
	TB012799			W	1-27-99	1740	X														
	BHGLTA327-04			S	1-27-99	1600	X	X	X		X	X	X	X	X	X	X	X			

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:
Fed Ex #s: 5756269993, 5756270004
(Appendix IX Analyte list - to be decided)
Perform extractions only on BHGLTA 325-04, 326-04, and 327-04. Call Ken R. for Clarification

DATE/REVISIONS
1 _____
2 _____
3 _____
4 _____
5 _____
6 _____

Relinquished by	Received by	Date	Time
[signature]		1/27/99	1830

Relinquished by	Received by	Date	Time

RECRA LabNet Use Only

Samples were
1) Shipped ___ or Hand Delivered ___
Airbill # _____
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N
COC Record Present Upon Sample Rec't Y or N

Discrepancies Between Samples Lables and COC Record? Y or N
NOTES

Page _____

RECRA LabNet Use Only

Custody Transfer Record/Lab Work Request

RECRA LabNet

Client: Hydro Geologic, Inc
Est. Final Proj. Sampling Date: 2/5/99
Project #: AFC 001 05 CDE
Project Contact/Phone #: Bob Wallace 703-736-456
RECRA Project Manager: Bosco Ramirez
QC _____ Del _____ TAT _____
Date Rec'd _____ Date Due _____
Account # _____

Refrigerator #																		
#/Type Container	Liquid																	
	Solid																	
Volume	Liquid																	
	Solid																	
Preservatives																		
ANALYSES REQUESTED →		ORGANIC							INORG									
		VOA	BNA	Pest/PCB	Herb	Dioxins/Furans	OP Pesticides	Chlorinated Pesticides	Metal	CN	Mercury	Sulfide	Selenium		PCB-1254 (Arochlor-1254)	Chlordane P/F-DDE P/F
		RECRA LabNet Use Only																

MATRIX CODES:
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
WI - Wipe
X - Other
F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	VOA	BNA	Pest/PCB	Herb	Dioxins/Furans	OP Pesticides	Chlorinated Pesticides	Metal	CN	Mercury	Sulfide	Selenium		PCB-1254	Chlordane P/F-DDE
	BHGLTA328-04			S	1-28-99	1015	X	X	X	X	X	X	X	X	X	X	X	X			
	BHGLTA717-01			S	1-28-99	1430										X				X	
	BHGLTA717-02			S	1-28-99	1500															X
	BHGLTA717-02-MS+MSD	✓	✓	S	1-28-99	1500															X
	BHGLTA717-03			S	1-28-99	1510															X
	BHGLTA716-01			S	1-28-99	1530										X				X	
	BHGLTA716-02			S	1-28-99	1620															X
	EB012899			W	1-28-99	1700	X	X	X	X	X	X		X	X	X	X				
	TB012899			W	1-28-99	1730	X														
	Dup06			S	1-28-99	1700															X

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:

Fed Ex #s: 5756270015,
BHGLTA328 5756270026
[illegible]

DATE/REVISIONS:
1 _____
2 _____
3 _____
4 _____
5 _____
6 _____

Relinquished by	Received by	Date	Time	Relinquished by	Received by	Date	Time
[illegible]		1/29/99	1845				

Discrepancies Between Samples Lables and COC Record? Y or N
NOTES

RECRA LabNet Use Only

Samples were
1) Shipped ___ or Hand Delivered ___ Airbill # _____
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N
COC Record Present Upon Sample Rec't Y or N

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STL
Committed To *Your* Success

Chicago Laboratory
2417 Bond Street
University Park, IL 60466
Phone 708-534-5200
Fax 708-534-5211

Report To:
Contact
Company
Address
Phone
Fax
E-Mail

Bill To:
Contact
Company
Address
Phone
Fax
PO#
Quote

Shaded Areas For Internal Use Only of

Lab Lot #

Package Sealed Yes No	Samples Sealed Yes No
Received on Ice Yes No	Samples Intact Yes No
Temperature °C of Cooler	

Within Hold Time Yes No	Preserv. indicated Yes No NA
pH Check ok Yes No NA	Res Cl_2 Check ok Yes No NA
Sample Labels and COC Agree Yes No COC not present	

Sampler Name
Signature
Project Name
Project Number
Project Location
Date Required Hard Copy ___/___/___ Fax ___/___/___
Lab PM

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	Comp/Grab	Refrg #	#/ Cont.	Volume	Preserv							Additional Analyses / Remarks

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME
RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME

Matrix Key
WW = Wastewater
W = Water
S = Soil
SL = Sludge
MS = Miscellaneous
OL = Oil
A = Air
SE = Sediment
SO = Solid
DS = Drum Solid
DL = Drum Liquid
L = Leachate
WI = Wipe
O = _____

Container Key
1 Plastic
2 VOA Vial
3 Sterile Plastic
4 Amber Glass
5 Widemouth Glass
6 Other _____

Preservative Key
1 HCl, Cool to 4°
2 H2SO4, Cool to 4°
3 HNO3, Cool to 4°
4 NaOH, Cool to 4°
5 NaOH/Zn Acetate, Cool to 4°
6 Cool to 4°
7 None

COMMENTS

Date Received ___/___/___
Courier
Hand Delivered ☐
Bill of Lading

SEVERN TRENT SERVICES

STL Chicago
2417 Bond Street
University Park, IL 60466
Phone 708-534-5200
Fax 708-534-5211

Report To:
Contact: Kim Evers
Company: HydroGeologic, Inc.
Address: 1155 Herndon Pkwy STE900, Herndon VA 20170
Phone: 703-478-5186
Fax: 703-471-4180
E-Mail: keveres@hgi.com

To:
Contact: Kim Evers
Company: (same)
Address:
Phone:
Fax:
PO#: Quote:

Shaded Areas For Internal U

Page 1 of 2

Lab Lot#

Package Sealed	Samples Sealed
Yes No	Yes No
Received on Ice	**Samples Intact**
Yes No	Yes No

Temperature °C of Cooler

Within Hold Time	Preserv. Indicated
Yes No	Yes No NA
pH Check OK	**Res Cl_2 Check OK**
Yes No NA	Yes No NA

Sample Labels and COC Agree: Yes No COC not present

Sampler Name: M Johnston
Signature:
Project Name: Land Fills RFI
Project Number: AFC001-33CBB
Project Location: NAS FW JRB
Date Required: Hard Copy: __/__/__ Fax: __/__/__
Lab PM: Donna Ingersoll

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	Comp/Grab	Appix Metals/ Mercury SW6010B/7471A	Pesticides/PCBs (Appix) SW8081A	PAHs (Full suite) SW8310	SVOCs (Appix) SW8270C	VOCs (Appix) SW8260B						Additional Analyses / Remarks
Refrg #																	
# / Cont.							1	1	1	1*	1						
Volume							8oz	8oz	8oz		35ml Sulfur/amber						
Preserv							7	7	7	7	7						
		BH6LTA942-01	1/24/01	1105	S	C	X	X	X								
	✓	BH6LTA942-01MS		1105	S	C	X	X	X								
	✓	BH6LTA942-01MD		1105	S	C	X	X	X								
		BH6LTA942-02▲		0925	S	C	X	X	X								▲Extract all three analyses for SPLP and run
		BH6LTA942-03▲		0940	S	C	X	X	X								▲Extract and run all three analyses for SPLP
		BH6LTA942-04		0950	S	C	X	X	X								
		BH6LTA942-05		1010	S	C	X	X	X								
		BH6LTA942-06		1045	S	C	X	X	X								
		BH6LTA333-01		1600	S	C	X	X		X	X						* The SVOCs and Pest/PCBs were combined in the same 8oz jar for LF3 samples
		BH6LTA333-02		1515	S	C	X	X		X	X						* "
		BH6LTA334-01		1440	S	C	X	X		X	X						* "
		BH6LTA334-02		1350	S	C	X	X		X	X						* "

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME
[signature]	HGI	1/24/01	1800				
RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME

Matrix Key
WW = Wastewater
W = Water
S = Soil
SL = Sludge
MS = Miscellaneous
OL = Oil
A = Air
SE = Sediment
SO = Solid
DS = Drum Solid
DL = Drum Liquid
L = Leachate
WI = Wipe
O = _____

Container Key
1 Plastic
2 VOA Vial
3 Sterile Plastic
4 Amber Glass
5 Widemouth Glass
6 Other _____

Preservative Key
1 HCl, Cool to 4°
2 H2SO4 Cool to 4°
3 HNO3, Cool to 4°
4 NaOH Cool to 4°
5 NaOH/Zn, Cool to 4°
6 Cool to 4°
7 None

COMMENTS: Appendix IX list for metals (not TAL), VOCs, SVOCs, + Pest/PCBs

Date Received: / /
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711 294

SEVERN TRENT SERVICES

STL Chicago
2417 Bond Street
University Park, IL 60466
Phone 708-534-5200
Fax 708-534-5211

Report To:
Contact: Kim Evers
Company: HydroGeoLogic, Inc.
Address: 1155 Herndon Pkwy STE 900
Herndon VA 20170
Phone: 703-478-5186
Fax: 703-471-4180
E-Mail: kevers@hgl.com

Bill To:
Contact: Kim Evers
Company: (same)
Address:
Phone:
Fax:
PO#: Quote:

Shaded Areas For Internal Use Only 2 of 2

Lab Lot# 711 295

Package Sealed	Samples Sealed
Yes No	Yes No
Received on Ice	**Samples Intact**
Yes No	Yes No

Temperature °C of Cooler

Within Hold Time	Preserv. Indicated
Yes No	Yes No NA
pH Check OK	**Res Cl_2 Check OK**
Yes No NA	Yes No NA

Sample Labels and COC Agree: Yes No COC not present

Sampler Name: M Johnston
Signature: [signature]
Project Name: Landfills RFI
Project Number: AFC001-33CBB
Project Location: NAS FW JRB
Lab PM: Donna Ingersoll
Date Required: Hard Copy: __/__/__ Fax: __/__/__

Refrg #											
# / Cont.	1	1*	1*	1	1*	1	2	1.5**	1.5**	3/2	
Volume	8oz	8oz	8oz	8oz	8oz	1Lpl	1Lamber			40mL	
Preserv	7	7	7	7	7	3	7			1	
Matrix	Comp/Grab	Appix metals/mercury SW6010B/7471A	Pesticides/PCBs (Appix) SW8080A	SVOCs (Appix) SW8270C	VOCs (Appix) SW8260B	PAHs (full suite) SW8310	Appix metals/mercury SW6010B/7470A	Pesticides/PCBs (Appix) SW8080A	SVOCs (Appix) SW8270C	PAHs (full suite) SW8310	VOCs (Appix) SW8260B
S	C	X	X	X	X						
S	C	X	X			X					
S	C	X	X	X	X						
W	G						X	X	X	X	X
W	G										X

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	Comp/Grab	Additional Analyses / Remarks
		BHGLTA334-03	1/24/01	1410	S	C	* Pest/PCBs and SVOCs or PAHs were combined in the same 8oz jar
		DUP01		1200	S	C	* "
		DUP02		1210	S	C	* "
		EB012401		1700	W	G	~~[illegible]~~ SVOCs and PAHs are combined on a spare 1Lamber.
		TB012401		0900	W	G	

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[signature]	HGL	1/24/01	1801				
RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME

Matrix Key
WW = Wastewater
W = Water
S = Soil
SL = Sludge
MS = Miscellaneous
OL = Oil
A = Air
SE = Sediment
SO = Solid
DS = Drum Solid
DL = Drum Liquid
L = Leachate
WI = Wipe
O = _____

Container Key
1 Plastic
2 VOA Vial
3 Sterile Plastic
4 Amber Glass
5 Widemouth Glass
6 Other _____

Preservative Key
1 HCl, Cool to 4°
2 H2SO4, Cool to 4°
3 HNO3, Cool to 4°
4 NaOH, Cool to 4°
5 NaOH/Zn, Cool to 4°
6 Cool to 4°
7 None

COMMENTS: Appendix IV list for metals (not TAL), VOCs, SVOCs, + Pest/PCBs

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SEVERN TRENT SERVICES

STL Chicago
2417 Bond Street
University Park, IL 60466
Phone 708-534-5200
Fax 708-534-5211

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Report To:
Contact: Kim Evers
Company: HydroGeologic, Inc.
Address: 11525 Herndon Pkwy Ste 9
Herndon VA 20170
Phone: 703-471-5176
Fax: 703-471-4176
E-Mail: Levers@hgi.com

Bill To:
Contact: Kim Evers
Company: (same)
Address:
Phone:
Fax:
PO#: Quote:

Shaded Areas For Internal Use — 1 of 1

Lab L t#

Package Sealed Yes No	Samples Sealed Yes No
Received on Ice Yes No	Samples Intact Yes No
Temperature °C of Cooler	
Within Hold Time Yes No	Preserv. Indicated Yes No NA
pH Check OK Yes No NA	Res Cl_2 Check OK Yes No NA
Sample Labels and COC Agree Yes No	COC not present

Sampler Name: M. Johnston
Signature: M Johnston
Project Name: Landfills RFI
Project Number: AFC001-33CBB
Project Location: NAS Cid IKB
Lab PM: Trina Ingersoll
Date Required — Hard Copy: __/__/__ Fax: __/__/__

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	Comp/Grab	SW8310 Naphthalene, Fluorene	SW7421 Lead	SW8310 PAHs								Additional Analyses / Remarks
Refrg #																	
# / Cont.																	
Volume							4oz	4oz	1oz								
Preserv								6									
		BH6LTA335-02	6/25/01	920	S	C	X										RUSH TAT (5-day)
		BH6LTA336-02		900	S	C	X										RUSH TAT (5-day)
		BH6LTA337-02		835	S	C	X										RUSH TAT (5-day)
		BH6LTA640-02		1055	S	C		X									NORMAL TAT
		BH6LTA645-01		1045	S	C		X									
		BH6LTA646-01		1050	S	C		X									
		BH6LTA647-01		1100	S	C		X									
		BH6LTA773-01		1135	S	C			X								
		BH6LTA773-01MS		1135	S	C			X								
		BH6LTA773-01MD		1135	S	C			X								
		BH6LTA772-01		1600	S	C			X								
		BH6LTA715-01		1550	S	C			X								

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME
[illegible]	HydroGeologic	6-28-01	1715				
RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME

Matrix Key
WW = Wastewater
W = Water
S = Soil
SL = Sludge
MS = Miscellaneous
OL = Oil
A = Air
SE = Sediment
SO = Solid
DS = Drum Solid
DL = Drum Liquid
L = Leachate
WI = Wipe
O = _____

Container Key
1 Plastic
2 VOA Vial
3 Sterile Plastic
4 Amber Glass
5 Widemouth Glass
6 Other _____

Preservative Key
1 HCl, Cool to 4°
2 H2SO4, Cool to 4°
3 HNO3, Cool to 4°
4 NaOH, Cool to 4°
5 NaOH/Zn, Cool to 4°
6 Cool to 4°
7 None

COMMENTS: These samples associated w/ SDG 2001-01 on AFC001-33BBB COC. RUSH TAT (5-day) for B335-02, 336-02 & 337-02 only; the rest are normal TAT. These samples except B776, 773, 715 have replace lost samples from 6-20-01

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TAB

APPENDIX F

APPENDIX F

EXCEPTIONS TO THE QAPP

HYDRO GeoLogic INC

711 299

February 17, 1998

Mr. Joseph Dunkle
HQ AFCEE / ERD
3207 North Road, Bldg. 532
Brooks AFB, TX 78235-5363

Ref: Final NAS Fort Worth JRB Basewide QAPP and Variances

Dear Mr. Dunkle:

Attached are HydroGeoLogic's responses to issues that need resolution in order to finalize the Draft Basewide QAPP for NAS Fort Worth JRB. If the resolution of these issues is acceptable, they will be incorporated into the Final Basewide QAPP.

Also attached are the specific exceptions to the Basewide QAPP requested by Quanterra and Recra LabNet. If the requested variances are granted, they will be incorporated into project-specific QAPPs, but will not be incorporated into the Final Basewide QAPP. Due to the tight field sampling schedule, HydroGeoLogic would appreciate a faxed response to these issues by the close of business on February 18 in order to implement our planned mobilization on February 23.

If you have any questions or comments, please call me at (703) 736-4507.

Sincerely,

James P. Costello
Program Manager

Attachments

cc: R. Belan (BAH)
K. Rapuano (HydroGeoLogic)
L. Penfold (Quanterra)
J. Huber (Recra)
Project File

HydroGeoLogic, Inc.
1155 Herndon Parkway • Suite 900 • Herndon, Virginia 20170 • USA
(703) 478-5186 • Fax (703) 471-4180 • http://www.access.digex.net/~hgl

During the conference call between HydroGeoLogic and AFCEE on February 12, 1998, AFCEE requested further clarification on the following three issues prior to finalizing the Carswell Basewide QAPP.

Negative Metals Blanks

Version 2.0 of the AFCEE QAPP does not include any corrective action or validation criteria for negative results in inorganic analysis blanks. The EPA CLP Functional Guidelines do not require any validator action in the case of negative blanks. They only state that the data should be qualified using validator judgment. HydroGeoLogic proposes to include the following items in the final QAPP to address the issue of negative inorganic blanks.

The Summary of Calibration and QC Procedures tables in Section 7 will include a statement to the effect that if a blank shows a negative value with an absolute value greater than the PQL, then the analysis should be terminated and the effected samples reanalyzed (and be re-prepared if the blank in question is a method blank).

The following clarifications will be made to Table 8.2-3 (inorganic methods flagging criteria):

1) If a blank shows a negative value which has an absolute value less than the PQL, then the following steps are taken: J-flag any associated detects which are less than 5X the absolute value of the negative blank (after converting for matrix, dilution, and % solids), and UJ-flag any associated non-detects. [This is consistent with guidance from EPA Region VI, which uses a 15% criterion instead of the "5X rule." HydroGeoLogic believes that using a 5X criterion (equivalent of 20%) is more consistent with CLP's general approach to qualifying data based on blank contamination.]

[Example: A continuing calibration blank has a result of -0.04 F mg/L for nickel (PQL = 0.15 mg/L). Associated nickel non-detects in water samples would have validated results of (MDL) UJ. An associated nickel detect of 0.17 mg/L in a water sample would have a validated result of 0.17 J mg/L. A water sample nickel detect below the PQL would normally be F-flagged as F flags are more severe than J flags.]

2) If a blank shows a negative value which has an absolute value greater than the PQL, then the analysis should be stopped and the system checked (the same as with a positive blank result >PQL in Section 7) and affected samples re-run. If corrective action is not done or is ineffective, then J-flag associated detects by the rules above, but R-flag associated non-detects for the analyte in question.

[Example: A CCB shows a result of -0.19 mg/L for nickel. The analysis should have been terminated, the instrument recalibrated, and the affected samples reanalyzed. Any associated nickel non-detects reported under these conditions should be R-flagged. Any associated nickel detects reported between 0.15 and 0.95 mg/L should be J-flagged. F-flag detects below the PQL as usual.]

HydroGeoLogic believes that this approach is consistent with current practices and will ensure that data of acceptable quality are produced without requiring excessive reanalyses or rejection of data.

Appendix IX Calibration

The current initial calibration criterion for those compounds listed in Appendix A.4-1 (VOCs) and A.5-1 (SVOCs) is 50% RSD. The original 50% comes from a number suggested by Law's laboratory as what could probably be achieved. It was suggested by Law that reducing the calibration range for these compounds might make a lower %RSD criterion (such as 30%) more achievable. Quanterra has pointed out that reducing the calibration range would not help for many compounds because the problem is not a loss of linearity at one end or another, but erratic results which can occur at any point along the curve and affect the %RSD. Region VI does not perform data validation on Appendix IX compounds, and did not provide any official guidance. Neither of the proposed contract laboratories currently control their calibrations for these compounds, but they have agreed to the 50% RSD criterion.

HydroGeoLogic thinks that the %RSD criterion is Sections A.4 and A.5 should remain at 50% as there is no statistical evidence that either laboratory can meet a lower criterion on a consistent basis for the compounds in question. In general, the main impact of poor linearity is on detects. There is some effect on the precision of the MDL/PQL for non-detects.

TPH Methods

The current TPH method in the Basewide QAPP is EPA Method 418.1. This method is no longer favored by TNRCC due to the use of Freon in the extraction process. It is HydroGeoLogic's understanding that the current method is usable at Carswell for all projects which already have regulator approval, but this method will not receive automatic approval from TNRCC for any project work plans received for review after March 1, 1998. HydroGeoLogic has information on the replacement method, referenced as 1005 by the TNRCC directive. Method 1005 will be added to Sections 5 and 7 of the Final Basewide QAPP.

Quanterra has taken the following exceptions to the Draft Carswell Basewide QAPP. They request that the following variances be granted. These variances were discussed with AFCEE on February 12, 1998, and verbal approval was granted, pending formal application.

1) Quanterra originally requested a variance for the continuing calibration acceptance criterion of 20% for eight SW8270 compounds. The variance was approved and raises the criterion for these eight compounds to 30%. Two compounds, 4-nitroaniline and benzoic acid, were inadvertently left off this list. Quanterra requests that these compounds also have the criterion set at 30%.

Justification: These two compounds are poor performers with characteristics similar to those compounds contained in previously accepted variance 19.

2) Quanterra requests a variance for the initial calibration acceptance criterion of 20% RSD for kepone by SW8080A. The variance raises the criterion for this compound to 30% RSD.

Justification: The criterion of 20% RSD is not routinely achievable for this compound. There is a potential for multiple recalibrations being the rule for this compound. The variance should make it possible to deliver kepone results in a timely fashion. There is a potential effect on project DQOs as kepone accuracy, if detected, will be less than that of other compounds if 20% < RSD < 30%.

3) The following Appendix IX analytes will be determined by Method SW8140: disolfoton, phorate, ethyl parathion, famphur, and methyl parathion. Quanterra proposes to use an ICAL acceptance criterion of 20% RSD for these compounds. The acceptance criterion for all 8140 compound CCVs and second-source verification will be 45%D.

Justification: The criterion of 15% RSD is not routinely achievable for these compounds. There is a potential for multiple recalibrations being the rule for this method. The variance should make it possible to deliver results in a timely fashion. There is a potential effect on project DQOs as the accuracy for these compounds, if detected, will be less than that of other compounds if 15% < %RSD < 20% or 15% < %D < 45%.

4) Quanterra proposes to use an acceptance criterion of 35% D for all 8150 compound second-source verification.

Justification: The criterion of 15%D is not routinely achievable for these compounds. There is a potential for multiple recalibrations being the rule for this method. The variance should make it possible to deliver results in a timely fashion. There is a potential effect on project DQOs as the accuracy for these compounds, if detected, will be less than that of other compounds if 15% < %D < 35%.

Recra LabNet has taken the following exceptions to the Draft Carswell Basewide QAPP. They request that the following variances be granted.

1) Recra requires variance on the water recovery limits for the SW8270 surrogate terphenyl-*d14*. The current QAPP control limits are 42-126%, but Recra's statistical studies show that their recovery range is 10-123%. If this variance is not granted, Recra believes that a significant number of samples will have to be reextracted and reanalyzed.

Justification: If this variance is not granted, Recra believes that a significant number of samples will have to be reextracted and reanalyzed. There is some impact on project DQOs as the proposed acceptance range is less accurate than the range in the QAPP. However, the range requested by Recra is not unusual for SW8270 surrogate compounds.

2) Currently, Recra's MDLs are above the QAPP PQLs for three analytes: 1-naphthylamine, 2-naphthylamine, and sulfide. Recra requests a variance to use the PQLs proposed below for these analytes. In addition, although Recra's MDL for isobutyl alcohol supports lower PQLs for this compound, Recra advises that based on historical performance, accuracy for this compound is not achieved until the requested PQL is reached, and that an F-flag is warranted up to 400 μg/L and 0.4 mg/kg. If denied, Recra can use the QAPP PQLs for isobutyl alcohol.

Analyte	Matrix	QAPP PQL	Requested PQL	Recra MDL	Appendix IX Suggested PQL
Method SW8260					
Isobutyl alcohol	Water	200 μg/L	400 μg/L	22.19 μg/L	50 μg/L[1]
Isobutyl alcohol	Soil	0.2 mg/kg	0.4 mg/kg	Not provided	NA[2]
Method 8270					
1-Naphthylamine	Water	10 μg/L	20 μg/L	11.0 μg/L	10 μg/L
2-Naphthylamine	Water	10 μg/L	25 μg/L	16.6 μg/L	10 μg/L
Method 9030					
Sulfide	Water	0.050 mg/L	1.0 mg/L	NA	10 mg/L

[1]The TNRCC water limit for this compound is 1100 μg/L.
[2]The TNRCC soil limit for this compound is 3070 mg/kg.

Justification: The PQLs originally proposed in the QAPP were from Quanterra, and are not based on AFCEE requirements. Recra's MDL studies do not support Quanterra's PQLs as presented in the Draft Basewide QAPP Appendix A for the naphthylamines and sulfide. There are no TNRCC or EPA regulatory limits applicable to these analytes. The proposed PQLs for

isobutyl alcohol are based on Recra's technical experience with this compound and meet regulatory requirements. Note that the Appendix IX PQLs are generally based on estimates and are not considered by the EPA to be a part of the regulation. Raising these PQLs should have minimal impact on project DQOs.

3) Recra LabNet intends to run some compounds listed in Appendix A of the Draft Basewide QAPP by alternate methods. In all cases where the laboratory proposes an alternate method, it can meet the PQLs and QC limits listed in the QAPP.

Analyte	Proposed Method	Recra PQL (μg/L)		PQL in QAPP (μg/L)	
		Water (μg/L)	Soil (μg/kg)	Water (μg/L)	Soil (μg/kg)
Compounds listed in Method 8270 (Table A.5-1)					
Dimethoate	8141	2	67	20	660
Parathion	8141	2	67	50	1600
Sulfotepp	8141	2	67	50	1600
O,O,O-TEPA	8141	2	67	50	1600
Isodrin	8080	0.05	4	10	330
Pentachloro-ethane	8260	2	TBD (but lab agrees to meet PQL)	50	1600
Other compounds (Table A.4-1)					
1,4-Dioxane (by 8260)	8270	20	330	500	500

Justification: The methods analyte lists in Appendix A of the QAPP are from Quanterra. This variance is the result of differences in method use between Quanterra and Recra. There is no effect on project DQOs as all QAPP PQL and QC criteria will be met and the methods proposed are appropriate for the affected analytes.

Request for Variances from Quality Assurance Project Plan
NAS Forth Worth JRB, Fort Worth, Texas

1. Analyte Practical Quantitation Limits, Water and Soil - Appendix A

Request: Specific analyte PQL variances are presented in the following table.

Recra LabNet performed an annual MDL study on SVOCs in water in January 1998. The results were not finalized until after Recra's variance requests had been submitted. Note that all the SVOCs for which the MDLs exceed QAPP PQLs are compounds listed in Appendix A of the Basewide QAPP. These compounds are not on AFCEE's analyte list for Method 8270B (Model QAPP, version 2.0) and AFCEE has not established PQLs for these compounds. The PQLs in Appendix A of the Basewide QAPP were taken from the PQLs internally derived by only one laboratory for their Appendix IX analyses. Recra has not yet performed their annual soil SVOC MDL study, but Recra is requesting a variance for the soil PQLs for these compounds as well in anticipation that similar elevated MDLs will be calculated based on that study.

Justification: Proposed PQLs are elevated for these analytes to reflect better the laboratory's ability to quantitate them. The proposed laboratory PQLs are able to meet the applicable TNRCC regulatory requirements, except for nitrosamines. In the case of the three nitrosamine compounds, the applicable regulatory requirement is not met by either the laboratory or the QAPP PQL. Although there is no impact relative to regulatory requirements, there is some overall impact on project DQOs as each analyte PQL is considered the action level which, if exceeded, will mandate continued sampling for that analyte. Raising an analyte PQL will raise that analyte's action level.

Analyte	Recra MDL (Water)	Recra Proposed PQL (Water)	Basewide QAPP PQL (Water)	Recra Proposed PQL (Soil)	Basewide QAPP PQL (Water)	TNRCC Limit (Soil)	TNRCC Limit (Water)
SVOCs by SW8270B							
Acetophenone	12.2 μg/l	20 μg/l	10 μg/l	670 μg/kg	330 μg/kg	365,000 μg/kg	3650 μg/l
2,6-Dichlorophenol	13.8 μg/l	20 μg/l	10 μg/l	670 μg/kg	330 μg/kg	Not regulated	Not regulated
Ethyl methanesulfonate	15.4 μg/l	20 μg/l	10 μg/l	670 μg/kg	330 μg/kg	Not regulated	Not regulated
Methyl methanesulfonate	15.5 μg/l	20 μg/l	10 μg/l	670 μg/kg	330 μg/kg	Not regulated	Not regulated
1,4-Naphthoquinone	87.9 μg/l	100 μg/l	50 μg/l	3300 μg/kg	1600 μg/kg	Not regulated	Not regulated
N-Nitrosodiethylamine	12.7 μg/l	20 μg/l	10 μg/l	670 μg/kg	330 μg/kg	0 0568 μg/kg	0 000568 μg/l
N-Nitrosodimethylamine	17.1 μg/l	20 μg/l	10 μg/l	670 μg/kg	330 μg/kg	0.167 μg/kg	0.00167 μg/l
N-Nitrosomorpholine	14.3 μg/l	20 μg/l	10 μg/l	670 μg/kg	330 μg/kg	Not regulated	Not regulated
N-Nitrosopyrrolidine	14.2 μg/l	20 μg/l	10 μg/l	670 μg/kg	330 μg/kg	4.06 μg/kg	0.0406 μg/l
p-Phenylenediamine	135.1 μg/l	150 μg/l	100 μg/l	5000 μg/kg	3300 μg/kg	Not regulated	Not regulated
o-Toluidine	14.7 μg/l	20 μg/l	10 μg/l	670 μg/kg	330 μg/kg	Not regulated	Not regulated

2. Analyte Practical Quantitation Limits, Water and Soil - Section 7 and Appendix A

Request: Specific analyte PQL variances are presented in the following table.

In February 1998, Recra submitted a preliminary variance request to use PQLs of 2 µg/L (5 µg/L for phorate) and 67 µg/kg for organophosphorus pesticides by Method SW8141A. When Recra submitted their final variance request, this request was inadvertently omitted. Recra requests these PQLs (see table below). It should be noted that the the PQLs for OP pesticide compounds in Appendix A (famphur and thionazin) are not on AFCEE's analyte list for Method 8141A (Model QAPP) and AFCEE has not established PQLs for these compounds. The PQLs in Appendix A of the Basewide QAPP were taken from the PQLs internally derived by only one laboratory for their Appendix IX analyses.

Analyte	Recra MDL	Recra Proposed PQL	Basewide QAPP PQL	TNRCC Limit
Organophosphorus pesticides by SW-8141A				
Disulfoton	0.70 µg/l	2 µg/l	0.7 µg/l	1.46 µg/l
Disulfoton	28.3 µg/kg	67 µg/kg	40 µg/kg	146 µg/kg
Famphur	0.99 µg/l	2 µg/l	1 µg/l	Not regulated
Famphur	16.0 µg/kg	67 µg/kg	33 µg/kg	Not regulated
Methyl parathion	0.70 µg/l	2 µg/l	1.2 µg/l	Not regulated
Methyl parathion	14.0 µg/kg	67 µg/kg	60 µg/l	Not regulated
Phorate	2.4 µg/l	5 µg/l	0.4 µg/l	Not regulated
Phorate	18.7 µg/kg	67 µg/kg	20 µg/kg	Not regulated
Thionazin	0.68 µg/l	2 µg/l	0.5 µg/l	Not regulated
Thionazin	21.8 µg/kg	67 µg/kg	8.0 µg/kg	Not regulated

Justification: Proposed PQLs are elevated for these analytes to ensure that the laboratory is able to meet the AFCEE calibration linearity requirements and to reflect better the laboratory's ability to quantitate these analytes. The proposed laboratory PQLs are able

to meet the applicable TNRCC regulatory requirements, with the exception of disulfoton in water (Recra's MDL is below the TNRCC limit). Although there is minimal impact relative to regulatory requirements, there is some overall impact on project DQOs as each analyte PQL is considered the action level which, if exceeded, will mandate continued sampling for that analyte. Raising an analyte PQL will raise that analyte's action level.

3. QC Accuracy Limits - Section 7.2.14-2

Request: Recra wishes to use the aqueous 10-135% control limits for hexachlorocyclopentadiene (by Method 8270) as advisory only (this is Recra's current procedure). When LCS recoveries for this compound fall below 10%, Recra will note the occurrence, but will not reextract and reanalyze the affected analytical batch. The soil control limits will be unchanged.

Justification: The change in the QC approach to hexachlorocyclopentadiene in water is proposed in order to reflect the laboratory's historical data from analyzing this compound. The laboratory can calibrate for this compound, but the water extraction process causes significant breakdown and recoveries are regularly between 0-10%. There is some impact on project DQOs, as the accuracy criteria for this analyte will be less rigorous than specified in the Basewide QAPP.

4. Alternative Surrogate Compounds - Sections 7.2.3 and 7.2.16

Request: Recra requests a variance to use alternative surrogate compounds for gasoline range organics (GRO) and diesel range organics (DRO) by Method 8015M and polynuclear aromatic hydrocarbons (PAHs) by Method 8310. Recra also wishes to use the QC criterion that only one of two surrogates need to have acceptable recoveries for GRO, DRO, or PAH analysis to be in control, with reanalysis required if any one surrogate recovery is below 10%. This is Recra's current procedure for GRO and DRO analyses, and Recra wishes to use it for PAH analyses in the future. [Note that Recra's current methodology still yields usable data. The Basewide QAPP requires only a J/UJ qualifier for detects/non-detects from analyses with a surrogate recovery below control limits.]

Analyte	Recra Water Limits (%)	Recra Soil Limits (%)
GRO by 8015M		
a,a,a-Trifluorotoluene	62-145	35-132
4-Bromofluorobenzene	51-140	18-123
DRO by 8015M		
o-Terphenyl (per QAPP)	57-132	47-142
2-Fluorobiphenyl	48-107	34-108
PAHs by SW-8310		
Benzo(e)pyrene	18-142	34-164
Decafluorobiphenyl	18-125	23-121

Justification: The laboratory has experience and historical control limits for these surrogates. These proposed surrogate compounds are consistent with the requirements of the methods. The control limits are not significantly different than those for the surrogates listed in the QAPP (see Tables 7.2.3-2 and 7.2.16-2). There is no effect on project DQOs. (The laboratory did not make this variance request earlier because they were not originally scheduled to receive any samples for GRO, DRO, or PAH analyses.)

5. Method 8141A (Organophosphorus Pesticides) Surrogate Recoveries - Section 7.2.9

Request: Change Table 7.2.9-2 to indicate that only one of the two surrogates are required to be in control for sample analysis to proceed without re-extraction and reanalysis (the same as the requirement stated on Table 7.2.6-2 for organochlorine pesticides by Method 8080). This is Recra's current practice. It will be stipulated (both in Method 8080 and in Method 8141) that one surrogate recovery below 10% will require re-extraction and reanalysis of the affected sample. [Note that Recra's current methodology still yields usable data. The Basewide QAPP requires only a J/UJ qualifier for detects/non-detects from analyses with a surrogate recovery below control limits.]

Justification: The changes in the QC control limits are proposed in order to reflect the laboratory's historical data from performing these methods. The proposed changes are consistent with method requirements. There is some impact on project DQOs, as the accuracy criteria for these analytes will generally be less rigorous than specified in the Basewide QAPP. However, the laboratory should still be able to detect and quantify low levels of these analytes in environmental samples using the proposed control limits.

TAB

APPENDIX G

APPENDIX G

DATA VALIDATION REPORTS

Completeness Calculation
Groundwater Analytes
RFI SWMU 26
NAS Fort Worth JRB, Texas

Matrix	Parname	Total	Rejected	Percent Complete
WG	ACENAPHTHENE	12	2	83.33%
WG	ACENAPHTHYLENE	12	2	83.33%
WG	ANTHRACENE	12	2	83.33%
WG	BENZYL BUTYL PHTHALATE	10	1	90.00%
WG	BIS(2-CHLOROETHOXY) METHANE	10	1	90.00%
WG	BIS(2-CHLOROETHYL) ETHER	10	4	60.00%
WG	BIS(2-ETHYLHEXYL) PHTHALATE	9	1	88.89%
WG	4-BROMOPHENYL PHENYL ETHER	10	1	90.00%
WG	BENZO(A)ANTHRACENE	12	2	83.33%
WG	BENZOIC ACID	10	3	70.00%
WG	BENZO(A)PYRENE	12	2	83.33%
WG	BENZO(B)FLUORANTHENE	12	2	83.33%
WG	BENZO(G,H,I)PERYLENE	12	2	83.33%
WG	BENZO(K)FLUORANTHENE	6	1	83.33%
WG	BENZYL ALCOHOL	10	1	90.00%
WG	4-CHLORO-3-METHYLPHENOL	10	1	90.00%
WG	CHRYSENE	12	2	83.33%
WG	4-CHLOROANILINE	10	6	40.00%
WG	2-CHLOROPHENOL	10	1	90.00%
WG	2-CHLORONAPHTHALENE	10	1	90.00%
WG	4-CHLOROPHENYL PHENYL ETHER	10	1	90.00%
WG	DIBENZ(A,H)ANTHRACENE	12	7	41.67%
WG	DIBENZOFURAN	10	1	90.00%
WG	3,3'-DICHLOROBENZIDINE	12	3	75.00%
WG	1,2-DICHLOROBENZENE	16	1	93.75%
WG	1,3-DICHLOROBENZENE	16	1	93.75%
WG	1,4-DICHLOROBENZENE	16	1	93.75%
WG	2,4-DICHLOROPHENOL	10	1	90.00%
WG	P,P'-DDD	2	1	50.00%
WG	P,P'-DDT	2	2	0.00%
WG	DIETHYL PHTHALATE	10	3	70.00%
WG	2,4-DIMETHYLPHENOL	10	1	90.00%
WG	DIMETHYL PHTHALATE	10	1	90.00%
WG	4,6-DINITRO-2-METHYLPHENOL	10	1	90.00%
WG	DI-N-BUTYL PHTHALATE	10	1	90.00%
WG	DI-N-OCTYLPHTHALATE	10	1	90.00%
WG	2,4-DINITROPHENOL	10	1	90.00%
WG	2,4-DINITROTOLUENE	10	1	90.00%
WG	2,6-DINITROTOLUENE	10	1	90.00%
WG	TRICHLOROFLUOROMETHANE	11	1	90.91%
WG	DICHLORODIFLUOROMETHANE	11	2	81.82%
WG	FLUORENE	12	2	83.33%
WG	FLUORANTHENE	12	2	83.33%
WG	HEXACHLOROBUTADIENE	16	1	93.75%
WG	HEXACHLOROCYCLOPENTADIENE	11	1	90.91%

711 314

Completeness Calculation
Groundwater Analytes
RFI SWMU 26
NAS Fort Worth JRB, Texas

Matrix	Parname[1]	Total	Rejected	Percent Complete
WG	HEXACHLOROBENZENE	10	1	90.00%
WG	HEXACHLOROETHANE	10	1	90.00%
WG	INDENO(1,2,3-C,D)PYRENE	12	2	83.33%
WG	ISOPHORONE	10	1	90.00%
WG	2-METHYLPHENOL (O-CRESOL)	10	1	90.00%
WG	4-METHYLPHENOL (P-CRESOL)	6	1	83.33%
WG	METHYLENE CHLORIDE	11	1	90.91%
WG	2-METHYLNAPHTHALENE	10	1	90.00%
WG	METHOXYCHLOR	2	2	0.00%
WG	NAPHTHALENE	18	2	88.89%
WG	N-NITROSODIPHENYLAMINE	10	1	90.00%
WG	N-NITROSODI-N-PROPYLAMINE	10	1	90.00%
WG	2-NITROANILINE	10	1	90.00%
WG	3-NITROANILINE	10	8	20.00%
WG	4-NITROANILINE	10	3	70.00%
WG	NITROBENZENE	10	1	90.00%
WG	2-NITROPHENOL	10	1	90.00%
WG	4-NITROPHENOL	10	1	90.00%
WG	2,2'-OXYBIS(1-CHLORO)PROPANE	10	4	60.00%
WG	PENTACHLOROPHENOL	10	1	90.00%
WG	PHENANTHRENE	12	2	83.33%
WG	PHENOL	10	1	90.00%
WG	PYRENE	12	4	66.67%
WG	TERT-BUTYL METHYL ETHER	4	3	25.00%
WG	1,2,4-TRICHLOROBENZENE	16	1	93.75%
WG	2,4,5-TRICHLOROPHENOL	10	1	90.00%
WG	2,4,6-TRICHLOROPHENOL	10	1	90.00%
WG	VINYL ACETATE	13	2	84.62%

Total of analytes with rejections	893	127	85.78%
Total of analytes without rejections	936	0	100.00%
Total of all analytes	1829	127	93.06%

Notes:

[1] Only analytes with rejected data are displayed.

Shaded boxes indicate parameters for which the 95 percent groundwater completeness goal was not met.

Completeness Calculation
Soil Analytes
RFI SWMU 26
NAS Fort Worth JRB, Texas

711 315

Matrix	Parname[1]	Total	Rejected	Percent Complete
SO	4-NITROQUINOLINE-N-OXIDE	38	6	84.21%
SO	ALDRIN	24	6	75.00%
SO	ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	24	6	75.00%
SO	BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	24	6	75.00%
SO	DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	24	6	75.00%
SO	GAMMA BHC (LINDANE)	24	6	75.00%
SO	DIBROMOCHLOROMETHANE	28	6	78.57%
SO	1,2-DIBROMO-3-CHLOROPROPANE	29	6	79.31%
SO	1,1-DICHLOROETHENE	28	1	96.43%
SO	P,P'-DDT	24	6	75.00%
SO	DISULFOTON	22	4	81.82%
SO	4,6-DINITRO-2-METHYLPHENOL	38	4	89.47%
SO	2,4-DINITROPHENOL	38	14	63.16%
SO	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	28	6	78.57%
SO	ENDRIN ALDEHYDE	24	6	75.00%
SO	DICHLORODIFLUOROMETHANE	28	14	50.00%
SO	HEXACHLOROCYCLOPENTADIENE	38	7	81.58%
SO	HEPTACHLOR	24	6	75.00%
SO	HEPTACHLOR EPOXIDE	24	6	75.00%
SO	KEPONE	24	5	79.17%
SO	METHOXYCHLOR	24	13	45.83%
SO	1,4-NAPHTHOQUINONE	38	6	84.21%
SO	3-NITROANILINE	38	12	68.42%
SO	4-NITROANILINE	38	8	78.95%
SO	1,1,2,2-TETRACHLOROETHANE	29	6	79.31%
SO	SILVEX (2,4,5-TP)	18	5	72.22%
SO	BROMOFORM	29	14	51.72%
SO	1,2,3-TRICHLOROPROPANE	29	6	79.31%
SO	M-XYLENE (1,3-DIMETHYLBENZENE)	19	1	94.74%

Total of analytes with rejections	817	198	75.76%
Total of analytes without rejections	6428	0	100.00%
Total of all analytes	7245	198	97.27%

Notes:

[1] Only analytes with rejected data are displayed.

Shaded boxes indicate parameters for which the 90 percent soil completeness goal was not met.

Carswell AFB
Project No: 12001-7-5001 (RFI)
SDG: 9804G194

Sample ID	Sample Date
BHGLTA301-01	4/9/98
BHGLTA301-02	4/9/98
BHGLTA301-03	4/9/98
BHGLTA301-04	4/9/98
BHGLTA301-DUP01	4/9/98
BHGLTA302-01	4/9/98
BHGLTA302-02	4/9/98
BHGLTA302-03	4/9/98
HGLEB301	4/9/98

Method of Analysis: SW8260, SW8270, SW8080, SW8150, SW8140, SW8280, SW6010A, SW7470A, sulfide (SW9030) and cyanide (SW9012).

Hierarchy of flags: "R" > "UJ > "U" > "F" > "J"

Volatile Organics (SW8260) - The dichlorodifluoromethane results in all soil samples in this SDG are deemed unusable and flagged "R" due to a percent difference exceedance in the continuing calibration verification. In addition, the following compounds are rejected and flagged "R" in samples BHGLTA301-01, BHGLTA301-02, BHGLTA301-03, BHGLTA301-04, BHGLTA301-DUP01 and BHGLTA302-01 due to percent differences in the continuing calibration that exceeded quality control limits: dibromochloromethane, 1,2-dibromoethane, bromoform, 1,1,2,2-tetrachloroethane, 1,2,3-trichloropropane and 1,2-dibromo-3-chloropropane.

Appendix IX compounds 2-chloro-1,3-butadiene, 4-methyl-2-pentanone, vinyl acetate and 2-hexanone exceeded the 50% control limit in the continuing calibration. Corrective action and qualification is not applied to Appendix IX calibration outliers.

There was no trip blank shipped with the samples in this SDG; therefore sampling accuracy could not be completely ascertained.

Acetone results in samples BHGLTA301-02, BHGLTA301-03, BHGLTA301-04, BHGLTA302-02 and BHGLTA302-03 are qualified "U" due to contamination in the associated equipment blank HGLEB301.

Semi-Volatile Organics (SW8270B) - The 2,4-dinitrophenol and 4-nitroaniline results in all soil samples in this SDG are deemed unusable and flagged "R" due to a percent difference exceedance in the continuing calibration verification. In addition, the benzoic acid and 2,4-dinitrophenol results in sample HGLEB301 are rejected and flagged "R" due to percent differences in the continuing calibration that exceeded quality control limits.

The following Appendix IX compounds exceeded the 50% control limit in the continuing calibration: N-nitrosomethylethylamine, p-phenethyldiamine, methapyrilene and 3,3'-dimethylbenzidine. Corrective action and qualification is not applied to Appendix IX calibration outliers for continuing calibrations.

The bis(2-ethylhexyl)phthalate results were raised to the SQL and flagged "U" for samples BHGLTA301-01, BHGLTA301-02, BHGLTA301-04, BHGLTA301-DUP01, BHGLTA302-01, BHGLTA302-02, and BHGLTA302-03 due to contamination in the associated equipment blank HGLEB301. The bis(2-ethylhexyl)phthalate results were flagged "U" for sample BHGLTA301-03 due to contamination in the associated equipment blank HGLEB301.

Pesticides/PCBs (SW8080) - The methoxychlor results in all samples in this SDG are deemed unusable and flagged "R" due to a percent difference exceedance in the continuing calibration verification. In addition, 4,4'-DDT (15.4%), beta-BHC, delta-BHC, aldrin and heptachlor epoxide results for samples BHGLTA301-01, BHGLTA301-02, BHGLTA301-03, BHGLTA301-04, BHGLTA301-DUP01 and BHGLTA302-01 are rejected and flagged "R" due to percent differences and/or retention time exceedances in the continuing calibration. ***However, based on professional judgment and review of the data, false positives or negatives resulting from retention time shifts were not observed. Therefore, it is recommended that "R" flags be removed from beta-BHC, delta-BHC, aldrin and heptachlor epoxide results.***

Herbicides (SW8150B) - The herbicide data are usable and do not require qualification.

Organophosphorous Pesticides (SW8140) - Disulfoton results are rejected and flagged "R" in reanalysis samples BHGLTA301-02RE, BHGLTA301-03RE, BHGLTA301-04RE and BHGLTA301-DUP01RE due to percent difference exceedances in the continuing calibration.

Percent recoveries were below the control limit for surrogate compound tributylphosphate in all soil samples in this SDG (including the reanalyses), and for surrogate compound triphenylphosphate in samples BHGLTA301-02, BHGLTA301-03, BHGLTA301-03RE, BHGLTA301-04, BHGLTA301-04RE, BHGLTA301-DUP01, BHGLTA301-DUP01RE and BHGLTA302-01. The results for samples BHGLTA301-02, BHGLTA301-03, BHGLTA301-03RE, BHGLTA301-04, BHGLTA301-04RE, BHGLTA301-DUP01, BHGLTA301-DUP01RE and BHGLTA302-01 are qualified and flagged "UJ" because both surrogates were outside QC limits.

Dioxins/Furans (SW8280) - The dioxin/furan data are usable and do not require qualification.

ICP Metals (SW6010A) - Samples BHGLTA301-01, BHGLTA301-02, BHGLTA301-03, BHGLTA301-04, BHGLTA301-DUP01 and BHGLTA302-01 received a "U" qualifier for tin due to contamination in the preparation blank.

The MS and MSD percent recoveries were below the control limit for antimony in spiked sample BHGLTA302-02. The antimony results for the soil samples in this SDG were qualified as estimated and flagged "UJ". The exception is sample BHGLTA301-02, which is already qualified with an "F" flag.

Zinc results are qualified as estimated and flagged "J" in samples BHGLTA301-04 and BHGLTA301-DUP01 due to poor precision between the field sample and its duplicate.

Mercury (SW7470A) - The mercury data are usable and do not require qualification.

Sulfide (SW9030) - Sulfide was analyzed by EPA screening method SW9030; therefore, all results in this SDG are qualified with "S" flags.

Cyanide (SW9012) - The cyanide data are usable and do not require qualification.

Carswell AFB
Project No: 12001-7-5001 (RFI)
SDG: 9804G254

Sample ID	Sample Date	Sample ID	Sample Date
BHGLTA303-01	4/14/98	BHGLTA910-01	4/15/98
BHGLTA303-02	4/14/98	BHGLTA910-02	4/15/98
BHGLTA303-03	4/14/98	BHGLTA910-03	4/15/98
BHGLTA303-04	4/14/98	BHGLTA910-04	4/15/98
BHGLTA303-05	4/14/98	BHGLTA911-01	4/15/98
BHGLTA304-01	4/14/98	BHGLTA911-02	4/15/98
BHGLTA304-02	4/14/98	BHGLTA911-03	4/15/98
BHGLTA304-03	4/14/98	BHGLTA911-04	4/15/98
BHGLTA304-04	4/14/98	BHGLTA911-05	4/15/98
HGLEB302	4/14/98	BHGLTADUP01	4/15/98
TB041498	4/14/98	EB041598	4/15/98
		TB041598	4/15/98

Method of Analysis: SW8260, SW8270, SW8080, SW8150, SW8140, SW8280, SW6010A, SW7470A, sulfide (SW9030) and cyanide (SW9012).

Hierarchy of flags: "R" > "UJ > "U" > "F" > "J"

Volatile Organics (SW8260) - The following results in the following samples are deemed unusable and flagged "R" due to a percent difference exceedance in the continuing calibration verification.

Bromoform
BHGLTA303-01
BHGLTA303-02
BHGLTA303-03
BHGLTA303-04
BHGLTA303-05
BHGLTA304-01
BHGLTA304-02
BHGLTA304-04
BHGLTA910-01
BHGLTA910-02

Dichloroflurorometh ane
BHGLTA910-03
BHGLTA911-01
BHGLTA911-02
BHGLTA911-03
BHGLTA911-04
BHGLTA911-05

1,1-Dichloroethene
BHGLTA304-03
BHGLTA910-04
BHGLTADUP01

m/p-Xylene
BHGLTA304-03
BHGLTA910-04
BHGLTADUP01

Appendix IX compounds 2-chloro-1,3-butadiene and 2-hexanone exceeded the 50% control limit in the continuing calibration. Corrective action and qualification is not applied to Appendix IX calibration outliers.

The holding time of 14 days was exceeded by seven days for sample BHGLTA304-04DL. The associated acetone result is qualified as estimated and flagged "J".

The internal standard area count was below the control limit for chlorobenzene-d_5 and 1,2-dichlorobenzene-d_4 in sample BHGLTA304-04. The results for chlorobenzene, 1,2-dibromo-3-chloropropane, ethylbenzene, 2-hexanone, styrene, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane, tetrachloroethene and 1,2,3-trichloropropane are qualified and flagged "UJ". The exceptions are m/p-xylene, which was overruled by an "F" flag, and bromoform, which was already rejected due to CCV failures.

The trip blank TB041498 contained methylene chloride at 5 µg/L and chloroform at 1 µg/L and the trip blank TB041598 contained methylene chloride at 1 µg/L. Therefore, the methylene chloride results for samples EB041598 and HGLEB302 and the chloroform result for sample HGLEB302 were flagged "U". The equipment blank samples HGLEB302 and EB041598 contained acetone, methylene chloride and chloroform. The acetone results in samples BHGLTA304-01, BHGLTA304-03, BHGLTA910-03, BHGLTA910-04, BHGLTA911-02, BHGLTA911-03, BHGLTA911-04 and BHGLTA911-05 are flagged "U".

Semi-Volatile Organics (SW8270B) - The following results in the following samples are deemed unusable and flagged "R" due to a percent difference exceedance in the continuing calibration verification.

Benzidine
BHGLTA303-01
BHGLTA303-01RE
BHGLTA303-02
BHGLTA303-02RE
BHGLTA303-03
BHGLTA303-03RE
BHGLTA303-04
BHGLTA303-04RE
BHGLTA303-05
BHGLTA303-05RE
BHGLTA304-01
BHGLTA304-01RE
BHGLTA304-02
BHGLTA304-02RE
BHGLTA304-03
BHGLTA304-03RE
BHGLTA304-04
BHGLTA304-04RE
BHGLTA910-01
BHGLTA910-01RE
BHGLTA910-02
BHGLTA910-02RE
BHGLTA910-03
BHGLTA910-03RE
BHGLTA910-04
BHGLTA910-04RE
BHGLTA911-01
BHGLTA911-01RE
BHGLTA911-02
BHGLTA911-02RE
BHGLTA911-03
BHGLTA911-03RE
BHGLTA911-04
BHGLTA911-04RE
BHGLTA911-05
BHGLTA911-05RE
BHGLTADUP01
BHGLTADUP01RE

Benzoic acid
EB041598RE
HGLEB302

2,4-Dinitrophenol
EB041598
EB041598RE

Hexachlorocyclopentadiene
BHGLTA303-01
BHGLTA911-02
BHGLTA911-03
BHGLTA911-04
BHGLTA911-05

3-Nitroaniline
HGLEB302
BHGLTA303-01
BHGLTA303-02
BHGLTA303-02RE
BHGLTA303-03
BHGLTA303-03RE
BHGLTA303-04
BHGLTA303-05
BHGLTA303-05RE
BHGLTA304-01
BHGLTA304-01RE
BHGLTA304-02
BHGLTA304-02RE
BHGLTA910-03
BHGLTA910-03RE
BHGLTA910-04
BHGLTA910-04RE
BHGLTA911-02
BHGLTA911-03
BHGLTA911-03RE
BHGLTA911-04
BHGLTA911-04RE
BHGLTA911-05
BHGLTA911-05RE

Carbazole
BHGLTA303-01
BHGLTA303-01RE
BHGLTA303-02
BHGLTA303-03
BHGLTA303-04RE
BHGLTA303-05
BHGLTA304-01
BHGLTA304-02
BHGLTA304-03
BHGLTA304-03RE
BHGLTA304-04
BHGLTA304-04RE
BHGLTA910-01
BHGLTA910-01RE
BHGLTA910-02
BHGLTA910-02RE
BHGLTA910-03
BHGLTA910-04
BHGLTA911-01
BHGLTA911-01RE
BHGLTA911-02
BHGLTA911-02RE
BHGLTA911-03
BHGLTA911-04
BHGLTA911-05
BHGLTADUP01
BHGLTADUP01RE

4-Nitroaniline
EB041598
HGLEB302

The following Appendix IX compounds exceeded the 50% control limit in the continuing calibration: N-nitrosomethylethylamine, sym-trinitrobenzene, a,a-dimethylphenethylamine, p-phenethyldiamine, safrole, methapyrilene, 3,3'-dimethylbenzidine, 2-sec-butyl-4,6-dinitrophenol, hexachlorophene, 1,4-naphthoquinone and chlorobenzilate. Corrective action and qualification is not applied to Appendix IX calibration outliers for continuing calibrations.

Each of the samples were re-extracted and reanalyzed due to low surrogate recoveries in the associated method blank. The extraction holding time of 14 days was exceeded by one day for re-extracted samples BHGLTA910-01RE, BHGLTA910-02RE, BHGLTA910-03RE, BHGLTA910-04RE, BHGLTA911-01RE, BHGLTA911-02RE, BHGLTA911-03RE, BHGLTA911-04RE, BHGLTA911-05RE and BHGLTADUP01RE. The holding time was exceeded by two days for re-extracted samples BHGLTA303-01RE, BHGLTA303-02RE, BHGLTA303-03RE, BHGLTA303-04RE, BHGLTA303-05RE, BHGLTA304-01RE, BHGLTA304-02RE, BHGLTA304-03RE and BHGLTA304-04RE. The associated positive results are qualified as estimated and flagged "J", and the non-detects are flagged "UJ". The exceptions are those results rejected above due to continuing calibration problems, or the following results, which were flagged "F" due to results that are reported below the PQL.

<u>BHGLTA304-04RE</u>
phenanthrene
fluoranthene
pyrene

<u>BHGLTA911-01RE</u>
phenanthrene
anthracene
benzo(k)fluoranthene
dibenzo(a,h)anthracene

<u>BHGLTA910-02RE</u>
butylbenzylphthalate

<u>BHGLTA911-02RE</u>
pyrene
benzo(a)anthracene
chrysene
benzo(b)fluoranthene
benzo(a)pyrene

<u>BHGLTADUP01RE</u>
phenanthrene
anthracene
benzo(a)anthracene
chrysene
bis(2-ethylhexyl)phthalate
benzo(k)fluoranthene
benzo(a)pyrene
indeno(1,2,3-cd)pyrene
benzo(g,h,i)perylene

The original analyses are the better of the two results.

The internal standard area count was above the control limit for chrysene-d_{12} and perylene-d_{12} in sample BHGLTA911-02RE. The results for benzidine, benzo(k)fluoranthene, benzo(g,h,i)perylene, di-n-octylphthalate, bis(2-ethylhexyl)phthalate, butylbenzylphthalate, dibenzo(a,h)anthracene, 3,3'-dichlorobenzidine, p-dimethylaminoazobenzene, 7,12-dimethylbenzo(a)anthracene, indeno(1,2,3-cd)pyrene and 3-methylchloanthrene are qualified and flagged "UJ". The rest of the associated compounds were overruled by an "F" flag as indicated above.

The benzo(a)anthracene, bis(2-ethylhexyl)phthalate, butylbenzylphthalate, fluoranthene, fluorene, phenanthrene and pyrene results are qualified as estimated and flagged "J" for positives and "UJ" for non-detects in samples BHGLTA911-01 and BHGLTADUP01 due to poor precision between the field sample and its duplicate. The exceptions are anthracene results in both samples and phenanthrene in sample BHGLTA911-01, which were already flagged "F". The benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, bis(2-ethylhexyl)phthalate, chrysene, indeno(1,2,3-cd)pyrene and pyrene results are qualified as estimated and flagged "J" for positives and "UJ" for non-detects in the reanalyses of samples BHGLTA911-01 and BHGLTADUP01 due to poor precision between the field sample and its duplicate. The exceptions are benzo(k)fluoranthene in both samples and benzo(a)anthracene, benzo(a)pyrene, benzo(g,h,i)perylene, bis(2-ethylhexyl)phthalate, chrysene and indeno(1,2,3-cd)pyrene in sample BHGLTADUP01RE, which were already flagged "F".

Pesticides/PCBs (SW8080) - The following results in the following samples are deemed unusable and flagged "R" due to a percent difference exceedance in the continuing calibration verification.

4,4'-DDD	Kepone	Methoxychlor
BHGLTA911-03	BHGLTA303-01	BHGLTA303-01
BHGLTA911-04	BHGLTA303-04	BHGLTA303-04
BHGLTA911-05	BHGLTA304-01	BHGLTA304-01
BHGLTADUP01	BHGLTA304-03	BHGLTA304-03
	BHGLTA304-04	BHGLTA304-04
	BHGLTA910-01	BHGLTA910-01
	BHGLTA911-01	BHGLTA910-02
	BHGLTA911-02	BHGLTA911-01
		HGLEB302
		EB041598

The chlordane result are for sample BHGLTA911-01 was qualified as estimated and flagged "J", and flagged "UJ" for sample BHGLTADUP01 due to poor precision between the field sample and its duplicate.

Herbicides (SW8150B) - The 2,4,5-TP results for samples BHGLTA303-01, BHGLTA303-02, BHGLTA303-03, BHGLTA303-04 and BHGLTA303-05 are deemed unusable and flagged "R" due to percent difference exceedances in the continuing calibration (15.1% and 15.4%).

Organophosphorous Pesticides (SW8140) - Disulfoton results are rejected and flagged "R" in samples BHGLTA911-04RE and BHGLTADUP01RE due to percent difference exceedances in the continuing calibration. Therefore, the initial analyses are the better of the two results.

Surrogate recoveries were below the control limit for tributylphosphate in samples BHGLTA911-04, BHGLTA911-04RE, BHGLTADUP01 and BHGLTADUP01RE, and for triphenylphosphate in samples BHGLTA304-03, BHGLTA910-02, BHGLTA911-01, BHGLTA911-04, BHGLTA911-04RE, BHGLTADUP01 and BHGLTADUP01RE. The results for samples BHGLTADUP01 and BHGLTADUP01RE are rejected and flagged "R" because both the surrogate recoveries were below 10%. The results for samples BHGLTA911-04 and BHGLTA911-04RE are qualified and flagged "UJ". The exception is disulfoton in sample BHGLTA911-04RE, which is already rejected as indicated above.

The MS and MSD recoveries were below the control limits for dimethoate; however, since this is an Appendix IX compounds, no qualification was necessary.

Dioxins/Furans (SW8280) - The dioxin/furan data are usable and do not require qualification.

ICP Metals (SW6010A) - Samples BHGLTA911-03 and BHGLTA911-04 received a "U" qualifier for beryllium due to contamination in the ICB and CCBs. All soil samples in this SDG received a "U" qualifier for tin due to contamination in the CCBs and/or preparation blank.

Barium, chromium, lead, thallium and vanadium results are qualified as estimated and flagged "J" in samples BHGLTA911-01 and BHGLTADUP01 due to poor precision between the field sample and its duplicate.

The MS and MSD percent recoveries were below the control limit for antimony in spiked sample BHGLTA302-02 (SDG 9804G194). The antimony results for the soil samples BHGLTA303-01, BHGLTA303-02, BHGLTA303-03, BHGLTA303-04, BHGLTA303-05, BHGLTA304-01, BHGLTA304-02, BHGLTA304-03 and BHGLTA304-04 are qualified as estimated and flagged "UJ".

The MS and MSD percent recoveries were below the control limits for antimony and above the control limits for copper, lead and zinc in spiked sample BHGLTA921-02 (SDG 9804G301). Additionally, the RPD was above the control limits for copper and zinc. The antimony results for samples BHGLTA910-01, BHGLTA910-02, BHGLTA910-03, BHGLTA910-04, BHGLTA911-01, BHGLTA911-02, BHGLTA911-03, BHGLTA911-04, BHGLTA911-05 and BHGLTADUP01 are qualified as estimated and flagged "UJ", the copper and lead results for samples BHGLTA910-02, BHGLTA911-01 and BHGLTADUP01 are flagged "J", and the copper result for sample BHGLTA910-04 is flagged "J". The copper and lead results for samples BHGLTA910-01, BHGLTA910-03, BHGLTA910-04, BHGLTA911-02, BHGLTA911-03, BHGLTA911-04 and BHGLTA911-05 and the lead result for sample BHGLTA910-04 retain the "F" qualification. The zinc results are not qualified, since the sample concentration exceeded the spike amount by over four times.

Mercury (SW7470A) - The MS and MSD percent recoveries were above the control limits for mercury in spiked sample BHGLTA921-02 (SDG 9804G301). The mercury result for sample BHGLTA910-02 is qualified as estimated and flagged "J". The results for samples BHGLTA911-01 and BHGLTADUP01 retain the "F" qualification.

Sulfide (SW9030) - Sulfide was analyzed by EPA screening method SW9030; therefore, all results in this SDG are qualified with "S" flags.

Cyanide (SW9012) - The MS/MSD RPD for spiked sample BHGLTA302-02 (SDG 9804G194) was above the control limit for cyanide; however, no flagging was required, since samples BHGLTA303-01 and BHGLTA304-01 retain the "F" qualification.

Carswell AFB
Project No: 12001-7-5001 (DO 5)
SDG: 9809G365

Sample ID	Sample Date	Sample ID	Sample Date
EB092598	9/25/98	WHGLTA701WG02	9/28/98
TB092598	9/25/98	WHGLTA702WG02	9/28/98
WHGLTA601WG02	9/25/98	EB092998	9/29/98
WHGLTA602WG02	9/25/98	TB092998	9/29/98
WHGLTA603WG02	9/25/98	WHGLTA302WG02	9/29/98
EB092898	9/28/98	LF03-3DWG02	9/29/98

Methods of Analysis: SW8260, SW8270, SW6010, and SW7470.

Hierarchy of flags: "R" > "UJ > "U" > "F" > "J"

Volatile Organics (SW8260) - The dilutions of samples WHGLTA601WG02 and WHGLTA602WG02 were analyzed one day outside of the 14 day holding time. The trichloroethene results for both samples were qualified as estimated and flagged "J". The non-detects were qualified as estimated and flagged "UJ".

The dichlorodifluoromethane (25.7%, 34.8%) results for all samples and their associated dilutions in this SDG were deemed unusable and flagged "R" due to a percent difference exceedance in the continuing calibration verification. In addition, the vinyl acetate (30.1%) results for samples TB092998, EB092998, WHGLTA302WG02, LF03-3DWG02, and dilutions performed on WHGLTA302WG02, WHGLTA601WG02, WHGLTA602WG02, WHGLTA701WG02, and WHGLTA702WG02 were deemed unusable and flagged "R" due to a percent difference exceedance in the continuing calibration verification.

The cis-1,2-dichloroethene result for samples WHGLTA701WG02 and WHGLTA702WG02 were qualified as estimated and flagged "J" due to a high MS/MSD RPD (48%) for spike sample WHGLTA704WG02 (located in SDG 9809G345).

The following dilutions were required for results to be within the calibration range:

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Sample	Dilution Factor	Compounds
WHGLTA302WG02	50x	vinyl chloride, trichloroethene
WHGLTA302WG02	100x	cis-1,2-dichloroethene
WHGLTA601WG02	10x	trichloroethene
WHGLTA602WG02	10x	trichloroethene
WHGLTA701WG02	10x	trans-1,2-dichloroethene
WHGLTA701WG02	100x	cis-1,2-dichloroethene
WHGLTA701WG02	1000x	trichloroethene

The diluted concentrations are the definitive results.

Semi-Volatile Organics (SW8270) - The 3-nitroaniline (54.4%, 53.8%) results for all samples in this SDG were deemed unusable and flagged "R" due to a percent difference exceedance in the continuing calibration verification. In addition, the diethylphthalate (25.4%), pyrene (25.7%), and benzoic acid (56.8%) results were rejected and flagged "R" for all samples in this SDG except EB092598 due to percent difference exceedances in the continuing calibration. Also, the 2,2'-oxybis(1-chloropropane) (54.9%), 4-nitroaniline (49.7%), hexachlorobenzene (25.6%), 3,3'-dichlorobenzidine (25.1%), and benzo(g,h,i)perylene (25.5%) results were rejected and flagged "R" for sample EB092598 due to percent difference exceedances in the continuing calibration.

The non-detect hexachlorobenzene, benzo(a)anthracene, 3,3'-dichlorobenzidine, chrysene, benzo(a)pyrene, and dibenz(a,h)anthracene results were qualified as estimated and flagged "UJ" for samples WHGLTA701WG02 and WHGLTA702WG02 due to low MS and MSD percent recoveries for spiked sample WHGLTA704WG02 (located in SDG 9809G345).

The following results retained the "F" qualifier assigned by the laboratory for results below the practical quantitation limit:

Sample	Compounds
EB092898	di-n-butylphthalate
EB092998	di-n-butylphthalate

ICP Metals (SW6010) - Aluminum received a "U" qualifier for samples WHGLTA302WG02 and LF03-3DWG02 due to blank contamination in equipment blank EB092998. The beryllium results for all samples in this SDG received "UJ" qualifiers due to negative blank contamination in the preparation blank. The calcium and sodium results received "U" qualifiers for samples EB092598, EB092898, and EB092998 due to blank contamination in the preparation blank. Iron received a "U" qualifier for sample LF03-3DWG02 due to blank contamination in equipment blank EB092998. Zinc received "U" qualifiers for all samples in this SDG due to contamination in the preparation blank and/or equipment blanks EB092598, EB092898, and EB092998.

The following results retained the "F" qualifier assigned by the laboratory for results below the practical quantitation limit:

Sample	Compounds
LF03-3DWG02	potassium
WHGLTA302WG02	potassium
WHGLTA601WG02	iron, manganese, potassium
WHGLTA602WG02	aluminum, potassium
WHGLTA603WG02	iron, nickel, vanadium
WHGLTA701WG02	aluminum, manganese, potassium
WHGLTA702WG02	cobalt, vanadium
EB092898	iron, magnesium
EB092998	aluminum, iron, magnesium

Mercury (SW7470) - The mercury data were usable and did not require qualification.

Carswell AFB
Project No: 12001-7-5001 (RFI)
SDG: 9805G596

Sample ID	Sample Date	Sample ID	Sample Date
WHGLTA701	5/7/98	WHGLTA303	5/8/98
WHGLTA302	5/7/98	EB050898	5/8/98
EB050798	5/7/98	TB050898	5/8/98
TB050798	5/7/98	WHGLTA704*	5/8/98

* Sample WHGLTA704 was lost by Federal Express, so the analyses were canceled. The sample was recollected on 5/19/98 and the results are presented in SDG 9805G791.

Method of Analysis: SW8260, SW8270, SW8080, SW8150, SW8140, SW8280, SW6010A, SW7470A, sulfide (SW9030) and cyanide (SW9012).

Hierarchy of flags: "R" > "UJ > "U" > "F" > "J"

Volatile Organics (SW8260) - The dichlorodifluoromethane, chloromethane and 1,2-dibromo-3-chloropropane results in sample EB050898 are deemed unusable and flagged "R" due to a percent difference exceedance in the continuing calibration verification.

Appendix IX compounds acetonitrile, propionitrile, isobutanol, 2-chloro-1,3-butadiene, ethylmethacrylate and methacrylonitrile exceeded the 50% control limit and/or the minimum RRF limit in the continuing calibration. Corrective action and qualification is not applied to Appendix IX calibration outliers.

The LCS percent recovery was below the control limit for 1,1-dichloroethene. The results for samples WHGLTA701, WHGLTA302 and WHGLTA303 are qualified as estimated and flagged "J", and the results for samples TB050798, TB050898 and EB050798 are flagged "R".

The MS/MSD percent recoveries were outside of the control limits for spiked sample WHGLTA701 for 1,1-dichloroethene, trans-1,2-dichloroethene, cis-1,2-dichloroethene and trichloroethene, and the RPD was above the control limit for vinyl chloride, trans-1,2-dichloroethene, cis-1,2-dichloroethene and trichloroethene. However, cis- and trans-1,2-dichloroethene and trichloroethene were present in the sample greater than four times the spike amount, so qualification was not applied. Therefore, the 1,1-dichloroethene and vinyl chloride results for sample WHGLTA701 are qualified as estimated and flagged "J".

The MS/MSD percent recoveries were outside of the control limits for spiked sample WHGLTA302 for vinyl chloride, trans-1,2-dichloroethene and cis-1,2-dichloroethene, and the RPD was above the control limit for dichlorodifluoromethane, chloromethane, vinyl chloride, trichlorofluoromethane, 1,1-dichloroethene, trans-1,2-dichloroethene, cis-1,2-dichloroethene and trichloroethene. However, vinyl chloride, cis- and trans-1,2-dichloroethene and trichloroethene were present in the sample greater than four times the spike amount, so qualification was not applied. Therefore, the positive 1,1-dichloroethene results for samples WHGLTA302 and WHGLTA303 are qualified as estimated and flagged "J".

The percent recoveries for surrogate toluene-d_8 in samples WHGLTA701DL and WHGLTA701DL2 were below the control limits. The percent recoveries for surrogate dibromofluoromethane in samples WHGLTA303DL, WHGLTA701DL and WHGLTA701DL2 were below the control limits. The results for these samples are qualified as estimated and flagged "J".

Semi-Volatile Organics (SW8270B) - The 4-chloroaniline, 3-nitroaniline, 4-nitroaniline, 3,3'-dichlorobenzidine and dibenzo(a,h)anthracene results in all samples in this SDG are deemed unusable and flagged "R" due to a percent difference exceedance in the continuing calibration verification.

The Appendix IX compound N-nitrosomethylethylamine exceeded the 50% control limit in the continuing calibration. Corrective action and qualification is not applied to Appendix IX calibration outliers for continuing calibrations.

Equipment blank sample EB050898 was not analyzed for SVOCs due to insufficient sample volume. Therefore, contamination from sampling equipment cannot be assessed for sample WHGLTA303.

The MS/MSD percent recoveries were below the control limits for spiked sample WHGLTA701 for 3,3'-dichlorobenzidine. Therefore, the result for sample WHGLTA701 is qualified as estimated and flagged "UJ".

The MS/MSD percent recoveries were below the control limits for spiked sample WHGLTA302 for 3,3'-dichlorobenzidine. Therefore, the results for samples WHGLTA302 and WHGLTA303 are qualified as estimated and flagged "UJ".

Pesticides/PCBs (SW8080) - The following results in the following samples are deemed unusable and flagged "R" due to a percent difference exceedance in the continuing calibration verification.

Methoxychlor	4,4'-DDT	4,4'-DDD
WHGLTA302	WHGLTA302	WHGLTA302
WHGLTA303	WHGLTA303	
WHGLTA701	EB050898	
EB050898		

The MS/MSD percent recoveries were below the control limits for spiked sample WHGLTA701 for heptachlor epoxide. Therefore, the result for sample WHGLTA701 are qualified as estimated and flagged "UJ".

Equipment blank sample EB050798 was not analyzed for pesticides/PCBs due to insufficient sample volume. Therefore, contamination from sampling equipment cannot be assessed for samples WHGLTA302 and WHGLTA701.

Herbicides (SW8150B) - The herbicide data are usable and do not require qualification.

Organophosphorous Pesticides (SW8140) - The organophosphorous pesticide data are usable and do not require qualification.

Dioxins/Furans (SW8280) - The dioxin/furan data are usable and do not require qualification.

ICP Metals (SW6010A) - All the water samples in this SDG received a "U" qualifier for zinc due to contamination in the preparation blank and/or equipment blanks EB050798 and EB050898.

Mercury (SW7470A) - The mercury data are usable and do not require qualification. No MS/MSD data was generated on sample WHGLTA302. Therefore, matrix effects cannot be assessed on mercury in groundwater collected from Landfill #3.

Sulfide (SW9030) - Sulfide was analyzed by EPA screening method SW9030; therefore, all samples in this SDG are qualified with "S" flags.

Cyanide (SW9012) - The cyanide data are usable and do not require qualification. No MS/MSD data was generated on sample WHGLTA302. Therefore, matrix effects cannot be assessed on cyanide in groundwater collected from Landfill #3.

05CDG

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Carswell AFB
Project No: 12001-7-5001 (DO 5)
SDG: 9812G557

Sample ID	Sample Date	Sample ID	Sample Date
EB121698	12/16/98	WHGLTA703WG03	12/16/98
TB121698	12/16/98	EB121798	12/17/98
WHGLTA302WG03	12/16/98	TB121798	12/17/98
DUP01	12/16/98	LF03-3DWG03	12/17/98

Methods of Analysis: SW8260, SW8270, SW6010, and SW7470.

MATRIX: Groundwater

Hierarchy of flags: "R" > "UJ > "U" > "F" > "J"

Volatile Organics (SW8260) - The trichlorofluoromethane (32.6%) results for samples EB121698 and LF03-3DWG03 were deemed unusable and flagged "R" due to a percent difference exceedance in the continuing calibration verification.

The following dilutions were required for results to be within the calibration range:

Sample	Dilution Factor	Compounds
WHGLTA302WG03	50x	vinyl chloride, cis-1,2-dichloroethene, trichloroethene
DUP01	50x	vinyl chloride, cis-1,2-dichloroethene, trichloroethene
WHGLTA703WG03	10x	trichloroethene

The diluted concentrations are the definitive results.

Semi-Volatile Organics (SW8270) - The re-extraction of LF03-3DWG03 was performed seven days outside of the seven day extraction holding time, and the re-extraction of WHGLTA703WG03 was performed eight days outside of the seven day extraction holding time. The associated results were non-detect and were therefore rejected and flagged "R".

The samples were re-extracted due to surrogate recovery failures. The initial analyses are the definitive results.

The bis(2-chloroethyl)ether (25.5%), 2,2'-oxybis(1-chloropropane) (28.9%), 4-chloroaniline (60.4%), 3-nitroaniline (82.7%), and dibenzo(a,h)anthracene (27.9%) results for samples WHGLTA302WG03, DUP01, WHGLTA703WG03, LF03-3DWG03, EB121698, and EB121798 were deemed unusable and flagged "R" due to a percent difference exceedance in the continuing calibration verification. In addition, the 2,2'-oxybis(1-chloropropane) (30.9%), 4-chloroaniline (31.6%), and 3-nitroaniline (58.4%) results were rejected and flagged "R" for samples WHGLTA703WG03RE and LF03-3DWG03RE due to percent difference exceedances in the continuing calibration. However, the re-extracted results were previously rejected due to holding time violations.

The non-detect benzo(a)anthracene, chrysene, and 3,3'-dichlorobenzidine results were qualified as estimated and flagged "UJ" for samples WHGLTA703WG03 due to low MS and MSD percent recoveries for spiked sample WHGLTA704WG03 (located in SDG 9812G515).

The following results retained the "F" qualifier assigned by the laboratory for results below the practical quantitation limit:

Sample	Compounds
EB121698	diethylphthalate, di-n-butylphthalate
EB121798	diethylphthalate, di-n-butylphthalate

ICP Metals (SW6010) - ICSAB-4 displayed a high recovery for potassium (120.7%). The potassium result for sample LF03-3DWG03 retained the "F" qualifier.

Aluminum and zinc received a "U" qualifier for all samples in this SDG due to blank contamination in the CCBs, preparation blank, and/or equipment blanks EB121698 and EB121798. The beryllium, copper, chromium, nickel, and thallium results for all samples

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WHGLTA703 - WG03 - Cobalt

in this SDG received "UJ" qualifiers due to negative blank contamination in the ICB, CCBs, preparation blank and or equipment blanks EB121698 and EB121798. The cobalt results received "UJ" qualifiers for samples EB121698 and EB121798, and retained the "F" qualifier for results reported below the PQL in samples ~~LF03-3DWG03,~~ WHGLTA302WG03 and DUP01 due to negative blank contamination in the preparation blank. Iron and potassium received a "U" qualifier for samples EB121698 and EB121798 due to blank contamination in the ICB, CCBs and/or preparation blank. Magnesium received a "U" qualifier for sample EB121798 due to blank contamination in the CCBs. Manganese received a "U" qualifier for sample LF03-3DWG03 due to blank contamination in the ICB.

The following results retained the "F" qualifier assigned by the laboratory for results below the practical quantitation limit:

Sample	Compounds
LF03-3DWG03	barium, potassium
WHGLTA302WG03	barium, cobalt, molybdenum, potassium
DUP01	barium, cobalt, molybdenum, potassium
WHGLTA703WG03	arsenic, cobalt, molybdenum, silver
EB121698	calcium
EB121798	barium, calcium

Mercury (SW7470) - The mercury data were usable and did not require qualification.

The following results retained the "F" qualifier assigned by the laboratory for results below the practical quantitation limit:

Sample	Compounds
LF03-3DWG03	mercury

Appendix IX VOCs
SW8260B
USEPA Level III Review

Site: Naval Air Station Fort Worth JRB, Texas — SDG #: 9901G018

Laboratory. STL (Recra) — Date: 03/19/99

HydroGeoLogic, Inc. Reviewer: Ken Rapuano — Appendix IX compound list

Client Sample ID	Laboratory Sample ID	Matrix
BHGLTA324-04	9901G018-002	Soil
BHGLTA325-04	9901G018-006	Soil
BHGLTA326-04	9901G018-007	Soil
BHGLTA327-04	9901G018-010	Soil
BHGLTA328-04	9901G018-011	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 analyzed within the required 14-holding time for soil samples. No qualification required.

GC/MS Tuning - All BFB tunes associated with initial and continuing calibrations were in control. No qualification necessary.

Initial Calibration - The initial calibrations had acceptable %RSD and mean RRF values. No qualification required.

Continuing Calibration - All continuing calibration %Ds and RFs were in control. No qualification necessary. The %Ds for acrolein, acetone, acetonitrile, 2-butanone, 4-methyl-2-pentanone, 2-hexanone, exceeded the recommended 50% criterion in the CCV associated with analysis of sample BHGLTA328-04, but no action is required for these compounds.

Surrogates - All surrogate recoveries were in control. No qualification necessary.

Laboratory Control Samples - The LCSs associated with the field sample results (VBLKBVBS and VBLKIPBS) were in control for all compounds. No qualification necessary.

MS/MSD - No MS/MSD is associated with these sample results. No qualification required.

Internal Standards - All four ISs were in control for all samples. No qualification necessary.

Method Blanks - All associated method blanks were free from contamination and no qualification is necessary.

Field Blanks - Some trip and equipment blanks had detections of methylene chloride. One trip blank had a detection of m/p-xylenes. None of these compounds were detected in any sample. No qualification necessary.

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

Compound Quantitation - No samples were run under dilution. Several samples had double-digit detections of acetone; however, acetone was not detected in any associated blank and the results are accepted at this stage of review.

Comments - All results reported in this fraction can be accepted without qualification.

Appendix IX Organophosphorus Pesticides
USEPA SW846 Method 8141
USEPA Level III Review

Site: Naval Air Station Fort Worth JRB, Texas SDG #: 9901G018

Laboratory: STL (Recra) Date: 03/22/99

HydroGeoLogic, Inc. Reviewer: Ken Rapuano

Client Sample ID	Laboratory Sample ID	Matrix
BHGLTA324-04	9901G018-002	Soil

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

Holding Times - The sample were extracted within the required holding time of 14 days and analyzed within the required holding time of 40 days after extraction. No qualification required.

Initial and Continuing Calibration Verification - The initial and continuing calibration verification standards had acceptable %RSDs for single and multicomponent analytes. Second source calibration verification was acceptable. No qualification required.

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

Equipment Blanks - No contamination was detected in the sample. Equipment blank results were not reviewed. No qualification required.

Laboratory Control Samples - The LCS was in control. No qualification required.

MS/MSD - No MS/MSD was submitted with this sample. No qualification was necessary.

Surrogates - One surrogate had a high recovery A variance to the QAPP validation guidelines allows one surrogate to be out of control so long as no surrogate recovery is below 10%. No qualification necessary.

Field Duplicates - No field duplicate is associated with this sample. No qualification required.

Compound Quantitation - No detections.

Comments - All samples were analyzed with QC elements in control. All results can be accepted as reported without additional qualification.

Appendix IX Pesticides/PCBs
USEPA SW846 Method 8080A
USEPA Level III Review

Site: Naval Air Station Fort Worth JRB, Texas SDG #: 9901G018

Laboratory: STL (Recra) Date: 03/22/99

HydroGeoLogic, Inc. Reviewer: Ken Rapuano

Client Sample ID	Laboratory Sample ID	Matrix
BHGLTA324-04	9901G018-002	Soil

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

Holding Times - The sample were extracted within the required holding time of 14 days and analyzed within the required holding time of 40 days after extraction. No qualification required.

Initial and Continuing Calibration Verification - The initial and continuing calibration verification standards had acceptable %RSDs for single and multicomponent analytes. Second source calibration verification was acceptable. No qualification required.

DDT and Endrin Breakdown - The endrin/DDT standards were in control.

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

Equipment Blanks - No contamination was detected in the sample. Equipment blank results were not reviewed. No qualification required.

Laboratory Control Samples - The LCS was in control. No qualification required.

MS/MSD - The laboratory performed an MS/MSD on sample BHGLTA623-03 in data package 9901G950. All MS/MSD data were in control with the exception of beta-BHC, which had a high %R in the MSD and a high RPD. This compound was not detected in the sample and no qualification was necessary.

Surrogates - All surrogate recoveries were in control. No qualification necessary.

Field Duplicates - No field duplicate is associated with this sample. No qualification required.

Compound Quantitation - The sample was analyzed at a 10X dilution due to the nature of the extract. The MDLs and PQLs were adjusted to account for this.

Comments - All samples were analyzed with QC elements in control. All results can be accepted as reported without additional qualification.

Lead
USEPA SW846 Methods SW7421
USEPA Level III Review

Site: Naval Air Station Fort Worth JRB, Texas SDG #: 9901G018

Laboratory: STL (Recra) Date: 04/26/99

HydroGeoLogic, Inc. Reviewer: Jennifer Wallace

Client Sample ID	Laboratory Sample ID	Matrix
BHGLTA325-04	9901G018-006	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 analyzed within the required holding time of 180 days for lead. No qualification required.

Initial and Continuing Calibration Verification - The initial and continuing calibration verification standards had acceptable recoveries. No qualification required.

Method and Calibration Blanks - The preparation, initial calibration, and continuing calibration blanks were clean of lead. No qualification required.

Equipment Blanks - The equipment blank was free of contamination, therefore no qualification is necessary.

ICP Interference Check Sample - No ICS for this method. No qualification required.

Laboratory Control Samples - All associated LCSs had acceptable recoveries. No qualification required.

MS/MSD - There was no MS/MSD collected for this data package; MS/MSD results are scattered on an individual analyte basis throughout the other SDGs associated with this project.

Analyte	MS Deficiency	Data Package
Lead	MS %R<LCL; MSD %R>UCL; RPD>CL MS/MSD %R>>UCL	9901G950 9901G966

High %Rs and High RPDs: J-flag the lead result in this sample.

Serial Dilution - No serial dilution results are associated with this sample.

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

GFAA Recovery Tests - The lead recovery test was within the required 85-115%. No qualification required.

Compound Quantitation - No discrepancies were identified.

Comments - None

Qualification Summary Table - The following table summarizes all qualifcations for this method.

Sample ID	Analyte	Lab Val (mg/kg)	Lab Qual	HGL Val (mg/kg)	HGL Qual
BHGLTA325-04	Lead	9.9		9 9	J

Appendix IX SVOCs
SW8260B
USEPA Level III Review

Site: Naval Air Station Fort Worth JRB, Texas — SDG #. 9901G018

Laboratory: STL (Recra) — Date: 03/22/99

HydroGeoLogic, Inc. Reviewer: Ken Rapuano — Appendix IX compound list

Client Sample ID	Laboratory Sample ID	Matrix
BHGLTA325-04	9901G018-001	Soil
BHGLTA324-04	9901G018-002	Soil
BHGLTA326-04	9901G018-007	Soil
BHGLTA327-04	9901G018-010	Soil
BHGLTA328-04	9901G018-011	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 analyzed within the required 14-holding time for soil samples. No qualification required.

GC/MS Tuning - All DFTPP tunes associated with initial and continuing calibrations were in control. No qualification necessary.

Initial Calibration - The initial calibrations had acceptable %RSD and mean RRF values, with the following exception: 2,4-dinitrophenol had a %RSD of 37.9 on instrument GCL10 (01.20.99). R-flag this compound in all samples except BHGLTA324-04.

Continuing Calibration - The CCV run on 01.29.99 had a %D out of control for 2,4-dinitrophenol. This CCV is associated with sample BGHLTA324-04. R-qualify this compound in this sample. This CCV also had %Ds greater than the recommended 50% for several of the compounds listed in Appendix A of the Basewide QAPP. No corrective action or qualification is required for these compounds.

The CCV run on 02.02.99 had a %D out of control for 2,4-dinitrophenol and 4,6-dinitro-2-methylphenol. This CCV is associated with samples BGHLTA325-04, BHGLTA326-04, and BHGLTA327-04. R-qualify these compounds in these samples.

The CCV run on 02.10.99 had a %D out of control for 4,6-dinitro-2-methylphenol and benzidine. This CCV is associated with sample BGHLTA328-04. R-qualify 4,6-dinitro-2-methylphenol in this sample (benzidine is not a target compound). This CCV also had a %D greater than the recommended 50% for a,a-dimethylphenethylamine. This is a compound listed in Appendix A of the Basewide QAPP and no corrective action or qualification is required.

Other CCVs were only associated with lab QC samples and were not reviewed.

Surrogates - All surrogate recoveries were in control. No qualification necessary.

Laboratory Control Samples - The LCSs associated with the field sample results were in control for all compounds. No qualification necessary.

MS/MSD - An MS/MSD was performed on sample BHGLTA328-04. All %Rs were in control; RPS were not in control for 1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, hexachloroethane, 4-chloroaniline, 2,4-dinitrophenol, and 3,3'-dichlorobenzidine There are no detects of the affected compounds. No qualification required. Some compounds in Appendix A of the QAPP were included in the spike mix. The results for these compounds were not evaluated.

Internal Standards - All six ISs were in control for all samples, with the exception of BHGLTA324-04. This sample had high recoveries for the first four ISs (DCB, NPT, ANT, and PHN). The sample was reanalyzed with similar results. Apply J to detects and UJ to non-detects for associated compounds in this sample. Use the original results and X flag the reanalyzed results.

Method Blanks - All associated method blanks were free from contamination and no qualification is necessary.

Field Blanks - All three equipment blanks had detections of phthalates. The only qualification necessary is to U-flag the bis(2-ethylhexyl)phthalate results in BHGLTA324-04 and its reanalysis.

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

Compound Quantitation - Compounds reported as detected below the PQL are flagged F.

Comments - None.

Appendix IX Herbicides
USEPA SW846 Method 8150
USEPA Level III Review

Site. Naval Air Station Fort Worth JRB, Texas SDG #: 9901G018

Laboratory: STL (Recra) Date: 03/22/99

HydroGeoLogic, Inc Reviewer: Ken Rapuano

Client Sample ID	Laboratory Sample ID	Matrix
BHGLTA324-04	9901G018-002	Soil

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

Holding Times - The sample were extracted within the required holding time of 14 days and analyzed within the required holding time of 40 days after extraction. No qualification required.

Initial and Continuing Calibration Verification - The initial and continuing calibration verification standards had acceptable %RSDs for single and multicomponent analytes. Second source calibration verification was acceptable. No qualification required.

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

Equipment Blanks - No contamination was detected in the sample. Equipment blank results were not reviewed. No qualification required.

Laboratory Control Samples - The LCS was in control. No qualification required.

MS/MSD - No MS/MSD was submitted with this sample. No qualification was necessary.

Surrogates - The surrogate recovery was in control. No qualification necessary.

Field Duplicates - No field duplicate is associated with this sample. No qualification required.

Compound Quantitation - No detections.

Comments - All samples were analyzed with QC elements in control. All results can be accepted as reported without additional qualification.

Lead (SPLP Extraction)
USEPA SW846 Method SW7421
USEPA Level III Review

Site: Naval Air Station Fort Worth JRB, Texas SDG #: 9901G018

Laboratory: STL (Recra) Date: 03/31/99

HydroGeoLogic, Inc. Reviewer: Ken Rapuano

Client Sample ID	Laboratory Sample ID	Matrix
BHGLTA324-04	9901G018-003	Water (SPLP extract of a soil sample)

Only analyzed for lead by GFAA.

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 - The SPLP extraction was performed within the required 180 days for metals. The extract was analyzed within the required holding times of 180 days for metals. No qualification required

Initial and Continuing Calibration Verification - The initial and continuing calibration verification standards had acceptable recoveries. No qualification required.

Method and Calibration Blanks - The preparation blank was free from lead contamination. The ICB and first CCB had negative values reported for lead, but neither of these bracketed the sample analysis. The bracketing CCBs were free from contamination. No qualification necessary.

Equipment Blanks - There is no equipment blank associated with this result.

ICP Interference Check Sample - NA

Laboratory Control Samples - The associated LCS had acceptable recovery. No qualification required.

MS/MSD - There was no MS/MSD collected for this data package; there are no project MS/MSD results applicable to SPLP extraction. No qualification necessary.

Serial Dilution - NA

Field Duplicates - No field duplicate is associated with this sample. No qualification required.

GFAA Recovery Test - The recovery test %R was within control limits. No qualification necessary.

Compound Quantitation - No discrepancies were identified.

Comments - The sample result can be accepted without qualification.

Metals, Mercury, and Cyanide
USEPA SW846 Methods SW6010A/7000 (ICV, GFAA, and CV) and SW9010A
USEPA Level III Review

Site: Naval Air Station Fort Worth JRB, Texas — SDG #: 9901G018

Laboratory: STL (Recra) — Date: 03/19/99

HydroGeoLogic, Inc. Reviewer: Ken Rapuano — Appendix IX List

Client Sample ID	Laboratory Sample ID	Matrix
BHGLTA324-04	9901G018-002	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 analyzed within the required holding times of 180 days for metals, 28 days for mercury, and 14 days for cyanide. No qualification required.

Initial and Continuing Calibration Verification - The initial and continuing calibration verification standards had acceptable recoveries. No qualification required.

Method and Calibration Blanks - The preparation, initial calibration, and continuing calibration blanks contained some contaminants. Only the ICBs/CCBs which bracket reported analyte results are evaluated. The action level is the highest value, converted to soil units, multiplied by 5.

Analyte	Highest Value	Action Level (mg/kg)	Action
Antimony	0.488 mg/kg	2.44	U-flag hit
Beryllium	0.031 mg/kg	0.155	No effect
Cadmium	-0.049 mg/kg	-0.245	No effect
Cobalt	-0.157mg/kg	-0 785	No effect
Copper	-0.8 ug/l	-0.4	No effect
Lead	0.421 mg/kg	2.105	No effect
Nickel	-0.619 mg/kg	-3.085	No effect
Thallium	-0.180 mg/kg	-0.900	UJ-flag non-detect
Tin	0.671 mg/kg	3.355	U-flag hit
Vanadium	1.3 ug/l	0.65	No effect
Zinc	0.142 mg/kg	0.710	No effect

Equipment Blanks - Equipment blank EB012699 is associated with this sample. Barium was detected in the equipment blank at 0 4 ug/l, which leads to a soil action level of 0.2 mg/kg. Barium was detected at a level >> the action level and no action is necessary.

ICP Interference Check Sample - Initial and final ICSs had acceptable recoveries.

Laboratory Control Samples - All associated LCSs had acceptable recoveries. No qualification required.

MS/MSD - There was no MS/MSD collected for this data package; MS/MSD results are scattered on an individual analyte basis throughout the other SDGs associated with this project.

Analyte	MS Deficiency	Data Package
Arsenic	MS/MSD %R>UCL, RPD>CL	9901G985
Antimony	MS/MSD %R<LCL	9901G927
Barium	MSD %R>UCL; RPD>CL	9901G054
Beryllium	MSD %R<LCL	9901G927
Cadmium	OK	9901G054 & 9901G966
Chromium	MS %R>UCL; RPD>CL MS/MSD %R>>UCL	9901G950 9901G966
Lead	MS %R<LCL; MSD %R>UCL; RPD>CL MS/MSD %R>>UCL	9901G950 9901G966
Mercury	OK	9901G985
Selenium	MS/MSD %R = 0 MS/MSD %R<LCL	9901G985 9901G927

High %Rs and High RPDs: All associated results are already F-flagged, except lead. J-flag the lead result in the sample.

Low %Rs: UJ flag the antimony and selenium non-detects. All other affected results already F flagged.

Serial Dilution - No serial dilution results are associated with this sample.

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

GFAA Recovery Tests - The sample had a %R<LCL for thallium. UJ-flag the thallium result.

Compound Quantitation - No discrepancies were identified.

Comments - None

Qualification Summary Table

Sample ID	Analyte	Lab Val (mg/kg)	Lab Qual	HGL Val (mg/kg)	HGL Qual
BHGLTA324-4	Antimony	0.38	B	PQL	UJ
	Arsenic	3.0	B	3 0	F
	Barium	24.6	B	24.6	F
	Beryllium	0.20	B	0 20	F
	Cadmium	0.36	B	0 36	F
	Chromium	5.4	B	5.4	F
	Cobalt	1.3	B	1 3	F
	Copper	4.4	B	4 4	F
	Lead	105		105	J
	Nickel	4.4	B	4 4	F
	Selenium	0 78	U	PQL	UJ
	Thallium	0.13	U	PQL	UJ
	Tin	0 83	B	PQL	U
	Vanadium	15.8	B	15 8	F
	Zinc	9 6	B	9.6	F

Sulfide
USEPA SW846 9030 Method
USEPA Level III Review

Site: Naval Air Station Fort Worth JRB, Texas SDG #. 9901G018

Laboratory: STL (Recra) Date: 03/19/99

HydroGeoLogic, Inc. Reviewer: Ken Rapuano

Client Sample ID	Laboratory Sample ID	Matrix
BHGLTA324-04	9901G018-002	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 - The sample was analyzed within the required holding time of 7 days for soil samples. No qualification required.

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

Equipment Blanks - No contamination was detected in the field sample. Equipment blank results were not reviewed.

Laboratory Control Samples - The LCS had an acceptable recovery. No qualification required.

MS/MSD - No MS/MSD is associated with this sample. No qualification required.

Field Duplicates - No field duplicate is associated with this sample. No qualification required.

Compound Quantitation - No discrepancies were identified.

Comments - The sample was analyzed with QC elements in control and can be accepted as reported without additional qualification.

711 351

METALS - LEAD
USEPA SW846 Method 7421
USEPA Level III Review

Site: Naval Air Station Fort Worth JRB, Texas SDG #: 9901G018

Laboratory: STL (Recra) Date: 06/14/99

HydroGeoLogic, Inc. Reviewer: Jennifer Wallace

Client Sample ID	Laboratory Sample ID	Matrix
BHGLTA325-04	9901G018-006	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 analyzed within the required holding times of 180 days for. No qualification required.

Initial and Continuing Calibration Verification - The initial and continuing calibration verification standards had acceptable recoveries. No qualification required.

Method and Calibration Blanks - All blanks were non-detects, therefore no qualification required.

Equipment Blanks - No equipment blank is associated with this sample.

ICP Interference Check Sample - Initial and final ICSs had acceptable recoveries.

Laboratory Control Samples - All associated LCSs had acceptable recoveries. No qualification required.

MS/MSD - There was no MS/MSD collected for this data package; MS/MSD results are scattered on an individual analyte basis throughout the other SDGs associated with this project. No lead by GFAA, MS/MSD was performed for this project. No qualification required.

Serial Dilution - No serial dilution results are associated with this sample.

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

GFAA Recovery Tests - The GFAA recovery was in control.

Compound Quantitation - No discrepancies were identified.

Comments - None

METALS, MERCURY, AND CYANIDE
USEPA SW846 Methods SW9010A
USEPA Level III Review

Site: Naval Air Station Fort Worth JRB, Texas SDG #: 9901G018

Laboratory: STL (Recra) Date: 06/16/99

HydroGeoLogic, Inc. Reviewer: Jennifer Wallace

Client Sample ID	Laboratory Sample ID	Matrix
BHGLTA324-04	9901G018-002	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 - This sample was analyzed within the required holding time of 14 days for cyanide. No qualification required.

Initial and Continuing Calibration Verification - The initial and continuing calibration verification standards had acceptable recoveries. No qualification required.

Method and Calibration Blanks - The preparation, initial calibration, and continuing calibration blanks were clean of cyanide. No qualifications required.

Equipment Blanks - Equipment blank EB012699 is associated with this sample. There was no cyanide detected in this sample. No qualifications required.

ICP Interference Check Sample - Initial and final ICSs had acceptable recoveries.

Laboratory Control Samples - All associated LCSs had acceptable recoveries. No qualification required.

MS/MSD - There was no MS/MSD collected for this data package; MS/MSD results are scattered on an individual analyte basis throughout the other SDGs associated with this project. No cyanide %R's out of control, therefore no qualifications were required.

Serial Dilution - No serial dilution results are associated with this sample.

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

Compound Quantitation - No discrepancies were identified.

Comments - All data quality flags were applied as specified in the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), February, 1998.

Qualification Summary Table - No QC procedures were out of control.

APPENDIX IX DIOXIN

USEPA SW846 Method 8280
USEPA Level III Review

711 353

Site: Naval Air Station Fort Worth JRB, Texas

SDG #: 9901G021

Laboratory: STL (Recra)

Date. 4/05/99

HydroGeoLogic, Inc. Reviewer: Jennifer Wallace

Analyzed for· Dioxin

Client Sample ID	Laboratory Sample ID	Matrix
BHGLTA324-04	001	Soil

Sample Delivery and Condition - All samples were relinquished, received, and preserved properly.

Holding Times - All samples were extracted within 30 days of collection and analyzed within the recommended holding time of 45 days as specified in Table 5.1.2 1 of the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), February, 1998. No qualifications were required.

Initial Calibration (Form VI) -The initial calibrations analyzed on 12/29/98, 12/30/98, and 12/31/98 had acceptable %RSD values of less than 15%. All ICAL ion abundance ratios met QC acceptance criteria. No qualification were required.

Continuing Calibration (Form VII) - The continuing calibrations analyzed on 2/03/99 and 2/10/99 had acceptable %D values and ion abundance ratios within QC acceptance criteria. No qualifications were required.

Column Performance Check (Resolution Check) - (Form VDFA) - All resolution checks were below the maximum 25% valley between 1,2,3,4-TCDD and 2,3,7,8-TCDD. No qualifications were required.

Surrogates (Form II) - All surrogate recovery values met QC acceptance criteria and no qualifications were required

Laboratory Control Sample/Duplicate (Form III) - The laboratory control samples were within the required QC limits. No qualifications were required.

MS/MSD (Form III) - The spike recovery was within the required QC limits No qualifications were required.

Method Blank (Summary Form for Results/Form IVB for Association) - The method blank was dosed with the matrix spike solution and was reported as a blank spike duplicate. No detections were identified thus no qualifications were required

Field Duplicates - No field duplicate was requested for this analysis.

Compound Quantitation - No qualifications were needed.

Comments - No detections identified.

Data Validation Summary Table - No qualifications required.

LEAD (Soil)

USEPA SW846 Methods 7421
USEPA Level III Review

:· Naval Air Station Fort Worth JRB, Texas

Laboratory: STL (Recra)

HydroGeoLogic, Inc. Reviewer. Jennifer Wallace

SDG #: 9904G065

Date. 6/04/99

Analyzed for: Lead

Client Sample ID	Laboratory Sample ID	Matrix
BHGLTA326-04	001	Soil
BHGLTA327-04	002	Soil
BHGLTA328-04	003	Soil

Sample Delivery & Condition - The sample was relinquished, received, and preserved properly.

Holding Times - All samples met the required holding times as specified in Table 5.1.2-1 of the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), February, 1998. No qualifications were required.

Calibration (Form IIA) - All ICV and CCV recoveries were in control. No qualifications required.

Preparation and Calibration Blanks (Form III) - The preparation and/or bracketing calibration blanks were free of contamination No qualification required.

'd and Equipment Blank - Equipment blank EB012699 was clean of lead. No qualifications required

ICP Interference Check Sample (Form IV) - All ICS results met the required %R criteria and no qualifications were required.

LCS (Form VII) - All LCS results met required %R criteria and no qualification is required.

ICP Serial Dilutions - No ICP serial dilution was requested for this SDG

MS/MSD (Form VA) - There was no MS/MSD collected for this data package; MS/MSD results are scattered on an individual analyte basis throughout the other SDGs associated with this project

Analyte	MS Deficiency	Data Package
Lead	MS %R<LCL; MSD %R>UCL; RPD>CL MS/MSD %R>>UCL	9901G950 9901G966

High %Rs and High RPDs: J-flag the lead result in the sample

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

GFAA Spike Recoveries (Form XIV) - The spike recoveries for all samples were below the required 85-115%. All detects should be flagged 'J' and non-detects should be flagged 'UJ'. The above samples have already been qualified 'J' due to the MS/MSD effects No further qualifications required.

Compound Quantitation - Information was used from the original data package 9901G018, lab sample Id 007. 010, and 011 Field detections reported above the DL but below the PQL were flagged 'F'

Comments - All data quality flags were applied as specified in the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), February, 1998. The % Solids was referenced off the original data package 9901G018, lab sample id 007, 010, and 011.

Data Validation Summary Table - This table summarizes the qualifications from the above report

Qualification Summary Table - Lead SDG 9904G065					
Sample No.	Compound(s)	Lab Val. mg/Kg	Lab Qual.	HGL Val. mg/Kg	HGL Qual.
BHGLTA326-04	Lead	2 5	BW	2.5	F
BHGLTA327-04	Lead	8.1	BW	8.1	F
BHGLTA328-04	Lead	3.1	B	3.1	F

Environmental Data Services, Inc.

Specializing in Laboratory Data Validation

DISSOLVED METHANE
RSK-175
USEPA Level III Review

Site: Naval Air Station Fort Worth JRB, Texas SDG #: 9904G094

Client: HydroGeoLogic, Inc. Date: June 10, 1999

Laboratory. Severn Trent Laboratories, Pensacola, FL Reviewer. Nancy Weaver

Client Sample ID	Laboratory Sample ID	Matrix
TB042199	904504-01	Water
GMI-22-04MWG08	904504-02	Water
LSA1628-3WG08	904504-03	Water
GMI-22-06MWG08	904504-04	Water
LF03-3DWG08	904504-05	Water
HM-110WG08	904504-06	Water
DUP06WG08	904504-07	Water
LF05-01WG08	904504-08	Water
TB042299	904536-01	Water
WHGLTA203WG08	904536-02	Water
SPOT35-5WG08	904536-03	Water
MW-53WG08	904536-04	Water

Holding Times - All samples were analyzed within the recommended holding time of 14 days for preserved water samples as specified in Table 5.1.2-1 of the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), February, 1998. No qualifications were required.

Initial Calibration - The initial calibrations analyzed on 1/6/99 and 4/7/99 exhibited acceptable correlation coefficients >0.995. No qualifications were required.

Continuing Calibration - The continuing calibration analyzed on 4/27/99 exhibited acceptable %D values. No qualifications were required.

MS/MSD - A MS/MSD sample was not analyzed for dissolved methane.

Laboratory Duplicate - Laboratory duplicate sample results are summarized in the following tables. No qualifications were required.

Compound	GMI-22-04MWG08 ug/L	DUP ug/L	RPD
Methane	6	6	0

Compound	WHGLTA203WG08 ug/L	DUP ug/L	RPD
Methane	95	101	6

LCS - A LCS sample was not analyzed with this data package.

Method Blank - The method blank analyzed on 4/27/99 was free of contamination. No qualifications were required.

Trip. Field and Equipment Blanks - Trip blank TB042199 exhibited methane contamination at 480 ug/L. Methane has been qualified (U) in samples GMI-22-04MWG08, LSA1628-3WG08, LF03-3DWG08, HM-110WG08, and LF05-01WG08.

Trip blank TB042299 was non-detect and no qualifications were required.

Field Duplicates - Field duplicate results are summarized in the table below. The RPD was not calculated due to a non-detect result.

Compound	DUP06WG08	HM-110WG08	RPD
Methane	1U	15 ug/L	NC

Compound Quantitation - No discrepancies were identified.

Comments - The analyses of environmental samples and quality control samples are valid within the constraints identified with the data quality flags as presented in the field blank section of this report . The NAS Fort Worth JRB Basewide Quality Assurance Project Plan, February, 1998, data validation criteria were used in evaluating the data in this summary report.

Environmental Data Services, Inc.

Specializing in Laboratory Data Validation

WET CHEMISTRY
(Alkalinity, Chloride, Nitrate, Sulfate, TOC, TOC Test 2, Sulfide)
USEPA SW846 Methods
USEPA Level III Review

Site: Naval Air Station Fort Worth JRB, Texas SDG #: 9904G094

Client: HydroGeoLogic, Inc. Date: June 5, 1999

Laboratory: Severn Trent Laboratories, Chicago, IL Reviewer: Nancy Weaver

Client Sample ID	Laboratory Sample ID	Matrix
WHGLTA203WG08	9904G094-012	Water
SPOT35-5WG08	9904G094-013	Water
MW-53WG08	9904G094-017	Water
GMI-22-04MWG08	9904G094-002	Water
LSA1628-3WG08	9904G094-003	Water
GMI-22-06MWG08	9904G094-005	Water
GMI-22-06MWG08MS	9904G094-005MS	Water
GMI-22-06MWG08MSD	9904G094-005MSD	Water
LF03-3DWG08	9904G094-007	Water
HM-110WG08	9904G094-008	Water
DUP06WG08	9904G094-009	Water
LF05-01WG08	9904G094-010	Water

Holding Times - All samples were analyzed within the recommended holding times as specified in Table 5.1.2-1 of the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), February, 1998. No qualifications were required.

Method and Calibration Blanks - The method blanks were free of contamination. No qualifications were required.

Field and Equipment Blank - Field QC samples were not associated with the samples in this data package.

LCS - The LCS samples exhibited acceptable %R values. No qualifications were required.

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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 - Volatile Headspace SDG: 9904G094					
Sample No.	Compound(s)	Reported		Validated	
		Conc. ug/L	Qualifier	Conc. ug/L	Qualifier
GMI-22-04MWG08	Methane	6	--	6	U
LSA1628-3WG08	Methane	250	--	250	U
LF03-3DWG08	Methane	1000	--	1000	U
HM-110WG08	Methane	15	--	15	U
LF05-01WG08	Methane	1100	--	1100	U

Matrix Spike/Duplicate - MS/MSD sample GMI-22-06MWG08 exhibited low MS/MSD %R values for chloride and sulfate of 41.1%/51.8% and 70.2%/74.8%, respectively. Chloride and sulfate have been qualified (J) for positive results and (UJ) for non-detects in all samples.

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

Compound	HM-110WG08 mg/L	DUP06WG08 mg/L	RPD
Alkalinity	307	317	3
Chloride	9.1	9.1	0
Nitrate	2.6	2 7	4
Sulfate	33 4	33.6	1
TOC	1.1	1 1	0
TOC Test 2	1.1	1 1	0

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 MS/MSD section of this report. The NAS Fort Worth JRB Basewide Quality Assurance Project Plan, February, 1998, data validation criteria were used in evaluating the data in this summary report.

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

Qualification Summary Table - Wet Chemistry SDG. 9904G094					
Sample No	Compound(s)	Reported		Validated	
		Conc.	Qualifier	Conc.	Qualifier
WHGLTA203WG08	Chloride	13 2	-	13 2	J
	Sulfate	13 2	-	13 2	J
SPOT35-5WG08	Chloride	91 6	-	91 6	J
	Sulfate	1 7	-	1 7	J
MW-53WG08	Chloride	6 7	-	6.7	J
	Sulfate	16 5	-	16 5	J
GMI-22-04MWG08	Chloride	92 1	-	92 1	J
	Sulfate	45 4	-	45 4	J
LSA1628-3WG08	Chloride	90 4	-	90 4	J
	Sulfate	59.7	-	59 7	J
GMI-22-06MWG08	Chloride	107	-	107	J
	Sulfate	77.8	-	77 8	J
LF03-3DWG08	Chloride	9 6	-	9 6	J
	Sulfate	370	-	370	J
HM-110WG08	Chloride	9 1	-	9 1	J
	Sulfate	33.4	-	33.4	J

Qualification Summary Table - Wet Chemistry SDG. 9904G094					
Sample No.	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
DUP06WG08	Chloride	9.1	-	9.1	J
	Sulfate	33.6	-	33 6	J
LF05-01WG08	Chloride	21.8	-	21.8	J
	Sulfate	13.0	-	13.0	J

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TCL VOLATILE ORGANIC COMPOUNDS
USEPA SW846 Method 8260B
USEPA Level III Review

Site: Naval Air Station Fort Worth JRB, Texas SDG #: 9904G094

Client: HydroGeoLogic, Inc. Date: June 5, 1999

Laboratory: Severn Trent Laboratories, Chicago, IL Reviewer: Nancy Weaver

Client Sample ID	Laboratory Sample ID	Matrix
TB042199	9904G094-001	Water
GMI-22-04MWG08	9904G094-002	Water
GMI-22-04MWG08DL	9904G094-002DL	Water
LSA1628-3WG08	9904G094-003	Water
LSA1628-3WG08DL	9904G094-003DL	Water
GMI-22-07MWG08	9904G094-004	Water
GMI-22-06MWG08	9904G094-005	Water
GMI-22-06MWG08MS	9904G094-005MS	Water
GMI-22-06MWG08MSD	9904G094-005MSD	Water
GMI-22-06MWG08DL	9904G094-005DL	Water
WCHMHTA013WG08	9904G094-006	Water
LF03-3DWG08	9904G094-007	Water
HM-110WG08	9904G094-008	Water
HM-110WG08DL	9904G094-008DL	Water
DUP06WG08	9904G094-009	Water
DUP06WG08DL	9904G094-009DL	Water
LF05-01WG08	9904G094-010	Water
LF05-01WG08DL	9904G094-010DL	Water
TB042299	9904G094-011	Water
WHGLTA203WG08	9904G094-012	Water
SPOT35-5WG08	9904G094-013	Water
SPOT35-5WG08RE	9904G094-013RE	Water
ST14-24WG08	9904G094-014	Water
ST14-W11G08	9904G094-015	Water
DUP02WG08	9904G094-016	Water
MW53WG08	9904G094-017	Water
MW53WG08DL	9904G094-017DL	Water

Holding Times - All samples were analyzed within the recommended holding time of 14 days for preserved water samples as specified in Table 5.1.2-1 of the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), February, 1998. No qualifications were required.

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GC/MS Tuning - All of the BFB tunes in the initial and continuing calibrations met the percent relative abundance criteria. No qualifications were required.

Initial Calibration - The initial calibrations analyzed on 1/23/99 and 1/24/99 exhibited acceptable %RSD and mean RRF values. No qualifications were required.

Continuing Calibration - The continuing calibration analyzed on 4/29/99 exhibited a high %D value for dichlorodifluoromethane of 25.8%. Dichlorodifluoromethane has been rejected (R) in samples TB042199, GMI-22-04MWG08, LSA1628-3WG08, GMI-22-07MWG08, GMI-22-06MWG08, WCHMHTA013WG08, LF03-3DWG08, HM-110WG08, DUP06WG08, and LF05-01WG08.

The continuing calibration analyzed on 4/30/99 exhibited high %D values for dichlorodifluoromethane, 2,2-dichloropropane, and 1-chlorohexane of 29.6%, 29.5%, and 25.3%, respectively. All of the above compounds have been rejected (R) in samples SPOT-5WG08RE, MW53-WG08, GMI-22-04MWG08DL, LSA1628-3WG08DL, GMI-22-06MWG08DL, HM-110WG08DL, DUP06WG08DL, LF05-01WG08DL, TB042299, WHGLTA203WG08, SPOT35-5WG08, ST14-24WG08, ST14-W11G08, and DUP02WG08.

The continuing calibration analyzed on 5/2/99 exhibited high %D values for trichlorofluoromethane, tetrachloroethene, 1-chlorohexane, bromoform, hexachlorobutadiene, and naphthalene of 30.5%, 39.5%, 40.9%, 38.5%, 25.8%, and 35.9%, respectively. All of the above compounds have been rejected (R) in sample MW-53WG08DL.

Surrogates - Samples SPOT35-5WG08 and SPOT-5WG08RE exhibited high %R values for surrogate compound S2-toluene-d8 of 133% and 131%, respectively. All positive results have been qualified (J) in both samples. Since the reanalysis sample exhibited similar results, the original sample results should be used for reporting purposes.

Laboratory Control Samples - LCS samples VBLKYY and VBLKYW exhibited acceptable %R values. No qualifications were required.

LCS sample VBLKYU exhibited high %R values for tetrachloroethene, hexachlorobutadiene, and bromochloromethane of 138%, 140%, and 178%, respectively, however, all associated results are non-detect and no qualifications were required.

MS/MSD - MS/MSD sample GMI-22-06MWG08 exhibited a high MS %R value for trichloroethene of 138%, low MS/MSD %R values for trichloroethene and styrene of ok/-6% and 6%/5%, respectively, and a high RPD value for cis-1,2-dichloroethene of 21. Trichloroethene and styrene have been qualified (J) for positive results and (UJ) for non-detects in all samples. Cis-1,2-Dichloroethene has been qualified (J) for positive results in all samples.

Internal Standard (IS) Area Performance - All internal standards met response and retention time (RT) criteria. No qualifications were required.

Method Blank - Method blanks VBLKYY (4/29/99), VBLKYW (4/30/99), and VBLKYU (5/2/99) were free of contamination. No qualifications were required.

Trip, field, equipment blank - Trip blank TB042199 was free of contamination. No qualifications were required.

Trip blank TB042299 was free of contamination. No qualifications were required.

Field Duplicates - Field duplicate results and qualifications are summarized in the following tables.

Compound	HM-110WG08 ug/L	DUP06WG08 ug/L	RPD	Action
Cis-1,2-Dichloroethene	32	31	3	None
Chloroform	0.5	0.5	0	None
Trichloroethene	300	230	26	None

Compound	ST14-W11WG08 ug/L	DUP02WG08 ug/L	RPD	Action
None	ND	ND	--	None

Tentatively Identified Compounds (TICs) - All TICs were qualified (T).

Compound Quantitation - Several samples exhibited several compounds which exceeded the linear range of the instrument and these results were flagged (E) by the laboratory. The samples were diluted and reanalyzed and the original results for these compounds were replaced on the Form I with the dilution results. All results on the original Form Is 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 continuing calibration, surrogate, MS/MSD, and TICs sections of this report The NAS Fort Worth JRB Basewide Quality Assurance Project Plan, February, 1998, data validation criteria were used in evaluating the data in this summary report.

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

Qualification Summary Table - Volatiles
SDG 9904G094

Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc.	Qualifier
TB042199	Dichlorodifluoromethane	0 5	U	0 5	R
	Trichloroethene	0 5	U	0 5	UJ
	Styrene	0 4	U	0 4	UJ
GMI-22-04MWG08	Dichlorodifluoromethane	0.5	U	0 5	R
	Cis-1, 2-Dichloroethene	73	E	90	J
	Trichloroethene	293	E	520	J
	Styrene	0 4	U	0 4	UJ
GMI-22-04MWG08DL	Dichlorodifluoromethane	12	U	12	R
	Cis-1, 2-Dichloroethene	90	D	90	J
	2,2-Dichloropropane	12	U	12	R
	Trichloroethene	520	D	520	J
	1-Chlorohexane	12	U	12	R
	Styrene	10	U	10	UJ
LSA1628-3WG08	Dichlorodifluoromethane	0 5	U	0 5	R
	Cis-1, 2-Dichloroethene	62	E	66	J
	Trichloroethene	270	E	290	J
	Styrene	0.4	U	0 4	UJ
LSA1628-3WG08DL	Dichlorodifluoromethane	5	U	5	R
	Cis-1, 2-Dichloroethene	66	D	66	J
	2,2-Dichloropropane	5	U	5	R
	Trichloroethene	290	D	290	J
	1-Chlorohexane	5	U	5	R
	Styrene	4	U	4	UJ
GMI-22-07MWG08	Dichlorodifluoromethane	0 5	U	0 5	R
	Trichloroethene	0 5	U	0 5	UJ
	Styrene	0 4	U	0 4	UJ
GMI-22-06MWG08	Dichlorodifluoromethane	0 5	U	0 5	R
	Cis-1, 2-Dichloroethene	54	E	57	J
	Trichloroethene	320	E	360	J
	Styrene	0 4	U	0 4	UJ
GMI-22-06MWG08DL	Dichlorodifluoromethane	12	U	12	R
	Cis-1, 2-Dichloroethene	57	D	57	J
	2,2-Dichloropropane	12	U	12	R
	Trichloroethene	360	D	360	J
	1-Chlorohexane	12	U	12	R
	Styrene	10	U	10	UJ

Qualification Summary Table - Volatiles SDG· 9904G094					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
WCHMHTA013WG08	Dichlorodifluoromethane	0 5	U	0.5	R
	Trichloroethene	0.5	U	0 5	UJ
	Styrene	0 4	U	0.4	UJ
LF03-3DWG08	Dichlorodifluoromethane	0.5	U	0 5	R
	Trichloroethene	0.5	U	0.5	UJ
	Styrene	0 4	U	0 4	UJ
HM-110WG08	Dichlorodifluoromethane	0 5	U	0 5	R
	Cis-1,2-Dichloroethene	32	-	32	J
	Trichloroethene	220	E	300	J
	Styrene	0 4	U	0 4	UJ
HM-110WG08DL	Dichlorodifluoromethane	12	U	12	R
	2,2-Dichloropropane	12	U	12	R
	Trichloroethene	300	D	300	J
	1-Chlorohexane	12	U	12	R
	Styrene	10	U	10	UJ
DUP06WG08	Dichlorodifluoromethane	0 5	U	0 5	R
	Cis-1,2-Dichloroethene	31	-	31	J
	Trichloroethene	220	E	230	J
	Styrene	0.4	U	0 4	UJ
DUP06WG08DL	Dichlorodifluoromethane	12	U	12	R
	2,2-Dichloropropane	12	U	12	R
	Trichloroethene	230	D	230	J
	1-Chlorohexane	12	U	12	R
	Styrene	10	U	10	UJ
LF05-01WG08	Dichlorodifluoromethane	0 5	U	0 5	R
	Cis-1,2-Dichloroethene	250	E	440	J
	Trichloroethene	11	-	11	J
	Styrene	0 4	U	0 4	UJ
LF05-01WG08DL	Dichlorodifluoromethane	12	U	12	R
	Cis-1,2-Dichloroethene	440	D	440	J
	2,2-Dichloropropane	12	U	12	R
	Trichloroethene	12	U	12	UJ
	1-Chlorohexane	12	U	12	R
	Styrene	10	U	10	UJ
TB042299	Dichlorodifluoromethane	0.5	U	0 5	R
	2,2-Dichloropropane	0 5	U	0 5	R
	Trichloroethene	0 5	U	0 5	UJ
	1-Chlorohexane	0.5	U	0.5	R
	Styrene	0.4	U	0 4	UJ
WHGLTA203WG08	Dichlorodifluoromethane	0.5	U	0.5	R
	Cis-1,2-Dichloroethene	7	-	7	J
	2.2-Dichloropropane	0 5	U	0 5	R
	Trichloroethene	0 5	U	0.5	UJ
	1-Chlorohexane	0 5	U	0 5	R
	Styrene	0 4	U	0 4	UJ
SPOT35-5WG08	Dichlorodifluoromethane	0 5	U	0.5	R
	2,2-Dichloropropane	0 5	U	0 5	R
	Trichloroethene	0 5	U	0 5	UJ

Qualification Summary Table - Volatiles SDG 9904G094					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
	1-Chlorohexane	0 5	U	0 5	R
	Styrene	0 4	U	0 4	UJ
	Isopropylbenzene	20	-	20	J
	n-Propylbenzene	22	-	22	J
	tert-Butylbenzene	2	-	2	J
	sec-Butylbenzene	7	-	7	J
	Naphthalene	37	-	37	J
SPOT35-5WG08RE	Dichlorodifluoromethane	0 5	U	0 5	R
	2,2-Dichloropropane	0 5	U	0 5	R
	Trichloroethene	0.5	U	0 5	UJ
	1-Chlorohexane	0 5	U	0 5	R
	Styrene	0.4	U	0 4	UJ
	Isopropylbenzene	24	-	24	J
	n-Propylbenzene	27	-	27	J
	tert-Butylbenzene	2	-	2	J
	sec-Butylbenzene	8	-	8	J
	Naphthalene	36	-	36	J
ST14-24WG08	Dichlorodifluoromethane	0 5	U	0 5	R
	2,2-Dichloropropane	0 5	U	0 5	R
	Trichloroethene	0 5	U	0.5	UJ
	1-Chlorohexane	0 5	U	0.5	R
	Styrene	0 4	U	0 4	UJ
ST14-W11G08	Dichlorodifluoromethane	0 5	U	0 5	R
	2.2-Dichloropropane	0 5	U	0 5	R
	Trichloroethene	0 5	U	0 5	UJ
	1-Chlorohexane	0 5	U	0 5	R
	Styrene	0 4	U	0 4	UJ
DUP02WG08	Dichlorodifluoromethane	0 5	U	0 5	R
	2,2-Dichloropropane	0 5	U	0 5	R
	Trichloroethene	0 5	U	0 5	UJ
	1-Chlorohexane	0.5	U	0 5	R
	Styrene	0.4	U	0 4	UJ
MW53WG08	Dichlorodifluoromethane	0 5	U	0 5	R
	Cis-1,2-Dichloroethene	13	-	13	J
	2,2-Dichloropropane	0.5	U	0.5	R
	Trichloroethene	78	E	93	J
	1-Chlorohexane	0 5	U	0 5	R
	Styrene	0.4	U	0 4	UJ
MW53WG08DL	Trichlorofluoromethane	2	U	2	R
	Tetrachloroethene	2	U	2	R
	1-Chlorohexane	2	U	2	R
	Bromoform	2	U	2	R
	Hexachlorobutadiene	2	U	2	R
	Naphthalene	2	U	2	R

ENVIRONMENTAL
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TAL METALS

USEPA SW846 Methods 6010A, 7471 - Level III Review

Site: Naval Air Station Fort Worth - DO26 HBA SDG #: 9910G337

Client: HydroGeoLogic, Inc. Date: December 11, 1999

Laboratory: Severn Trent Laboratories, Chicago, IL Reviewer: Nancy Weaver

Client Sample ID	Laboratory Sample ID	Matrix
ST14-W18WG10	9910G337-003	Water
ST14-W31WG10	9910G337-004	Water
SD13-02WG10	9910G337-005	Water
ST14-24WG10	9910G337-006	Water
ST14-24WG10MS	9910G337-006MS	Water
ST14-24WG10MSD	9910G337-006MSD	Water
ST14-W21WG10	9910G337-008	Water
DUP05WG10	9910G337-009	Water
LF03-3DWG10	9910G337-011	Water

Holding Times - All samples were extracted and analyzed within the recommended holding time of 180 days for all metals except 28 days for mercury as specified in Table 5.1.2-1 of the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), February, 1998. No qualifications were required.

Calibration - All initial and continuing calibration verifications exhibited acceptable %R values. No qualifications were required.

Method Blanks - The water preparation blank PBW, initial and continuing calibration blanks exhibited contamination for several compounds, however, all associated results were non-detect or greater than 5X the blank concentration with the exception of the following. Aluminum and copper have been qualified (U) in all samples. Beryllium, cobalt, nickel and silver have been qualified (J/UJ) in all samples. Molybdenum and vanadium have been qualified (U) for positive results in all samples. Manganese has been qualified (U) in sample ST14-W31WG10. Silver has been qualified (U) in samples ST14-W31WG10 and SD13-02WG10.

Field and equipment blank - Field QC samples were not analyzed with this data package.

ICP Interference Check Sample - All % recovery values met the QC acceptance criteria. No qualifications were required.

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LCS - The LCS analysis met the QC acceptance criteria of as specified in the QAPP. No qualifications were required.

ICP Serial Dilutions - An ICP serial dilution sample was not analyzed with this data package.

Matrix Spike - Matrix spike sample ST14-24WG10 exhibited acceptable %R values. No qualifications were required.

Matrix Spike Duplicate - Matrix duplicate sample ST14-24WG10 exhibited an acceptable RPD value for mercury. No qualifications were required.

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

Compound	ST14-W21WG10 ug/L	DUP05WG10 ug/L	RPD
Arsenic	11 5	11 4	1
Barium	207	195	6
Calcium	108000	102000	6
Cobalt	1 4	1 1	24
Iron	10100	9810	29
Magnesium	6110	5750	6
Manganese	369	342	8
Potassium	1870	1750	7
Sodium	20300	20300	0
Zinc	4 9	3.6U	NC

Graphite Furnace Atomic Absorption (GFAA) Analysis - Samples ST14-24WG10 and SD13-02WG10 exhibited a postdigestion spike for chromium or selenium analyses out of control limits (85-115%) and sample absorbance is less than 50% of spike absorbance. The laboratory flagged these results (W) and the reviewer further qualified these results as estimated (UJ).

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, GFAA and compound quantitation sections of this report. The NAS Fort Worth JRB Basewide Quality Assurance Project Plan, February, 1998, data validation criteria were used in evaluating the data in this summary report.

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

Qualification Summary Table - Metals SDG. 9910G337					
Sample No.	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc.	Qualifier
ST14-W18WG10	Aluminum	72 3	B	72.3	U
	Arsenic	27.7	B	27 7	F
	Barium	77 5	B	77 5	F
	Beryllium	0.30	U	0 30	UJ
	Cobalt	1.0	U	1 0	UJ
	Copper	2 8	B	2.8	U
	Molybdenum	3.7	B	3.7	U
	Nickel	1 7	U	1 7	UJ
	Potassium	790	B	790	F
	Silver	0.50	U	0 50	UJ
ST14-W31WG10	Aluminum	190	B	190	U
	Barium	174	B	174	F
	Beryllium	0.30	U	0 30	UJ
	Cobalt	1.0	U	1 0	UJ
	Copper	3.4	B	3 4	U
	Manganese	6 7	B	6.7	U
	Nickel	1.7	U	1 7	UJ
	Potassium	2300	B	2300	F
	Silver	0 72	B	0.72	~~UJ~~
	Vanadium	1 5	B	1 5	U
SD13-02WG10	Aluminum	39.7	B	39 7	U
	Beryllium	0.30	U	0.30	UJ
	Cobalt	1.0	U	1 0	UJ
	Copper	2.2	B	2.2	U
	Molybdenum	2.5	B	2 5	U
	Nickel	1.7	U	1 7	UJ
	Potassium	1690	B	1690	F
	Selenium	1.7	UW	1 7	UJ
	Silver	0 50	B	0 50	~~UJ~~
	Zinc	4 8	B	4.8	F
ST14-24WG10	Aluminum	35 4	B	35 4	U
	Beryllium	0 30	U	0 30	UJ
	Chromium	1 2	UW	1 2	UJ
	Cobalt	1.0	U	1.0	UJ
	Copper	3 0	B	3 0	U
	Molybdenum	3.6	B	3 6	U
	Nickel	1.7	U	1 7	UJ
	Potassium	3110	B	3110	F
	Silver	0.50	U	0 50	UJ
	Vanadium	1 0	B	1.0	U
	Zinc	3 6	B	3.6	F
ST14-W21WG10	Aluminum	49.7	B	49 7	U
	Arsenic	11 5	B	11 5	F
	Beryllium	0 30	U	0 30	UJ

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Qualification Summary Table - Metals SDG: 9910G337					
Sample No.	Compound(s)	Reported		Validated	
		Conc.	Qualifier	Conc	Qualifier
	Cobalt	1.4	B	1.4	~~J~~ F
	Copper	6 5	B	6.5	U
	Molybdenum	6 6	B	6.6	U
	Nickel	1.7	U	1.7	UJ
	Potassium	1870	B	1870	F
	Silver	0 50	U	0 50	UJ
	Zinc	4.9	B	4 9	F
DUP05WG10	Aluminum	40.6	B	40 6	U
	Arsenic	11.4	B	11 4	F
	Barium	195	B	195	F
	Beryllium	0.30	U	0.30	UJ
	Cobalt	1 1	B	1 1	~~J~~ F
	Copper	1 9	B	1 9	U
	Molybdenum	5 5	B	5 5	U
	Nickel	1 7	U	1 7	UJ
	Potassium	1750	B	1750	F
	Silver	0 50	U	0.50	UJ

ENVIRONMENTAL
Data Services, Inc.

WET CHEMISTRY
(Alkalinity, Chloride, Nitrate, Sulfate, TOC, TOC Test 2)
USEPA SW846 Methods - Level III Review

Site: Naval Air Station Fort Worth - DO26 SDG #: 9910G337

Client: HydroGeoLogic, Inc. Date: December 14, 1999

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

Client Sample ID	Laboratory Sample ID	Matrix
ST14-W16WG10	9910G337-002	Water
ST14-W18WG10	9910G337-003	Water
ST14-W31WG10	9910G337-004	Water
SD13-02WG10	9910G337-005	Water
ST14-04WG10	9910G337-007	Water
ST14-W21WG10	9910G337-008	Water
DUP05WG10	9910G337-009	Water
FT09-12CWG10	9910G337-010	Water
LF03-3DWG10	9910G337-011	Water
HM-110WG10	9910G337-012	Water

Holding Times - All samples were analyzed within the recommended holding times as specified in Table 5.1.2-1 of the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), February, 1998. No qualifications were required.

Initial Calibration - The initial calibrations analyzed on 10/05/99 and 10/21/99 exhibited acceptable %RSD values and/or correlation coefficients. No qualifications were required.

Continuing Calibration - The continuing calibrations analyzed on 10/13/99, 10/14/99, 10/15/99, 10/21/99 and 10/22/99 exhibited acceptable %D values. No qualifications were required.

Method and Calibration Blanks - Method blanks 99GAK137-MB1, 99GD4017-MB1, 99GTC232-MB1, 99GD4018-MB1, 99GD4020-MB1 and 99GTC233-MB1 were free of contamination. No qualifications were required.

Field and Equipment Blank - Field QC samples were not associated with the samples in this data package.

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LCS - LCS samples 99GAK137, 99GD4017, 99GTC232, 99GD4018, 99GD4020 and 99GTC233 exhibited acceptable %R values. No qualifications were required.

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

Sample Duplicate - A sample duplicate was not analyzed with this data package.

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

Compound	ST14-W21WG10 mg/L	DUP05WG10 mg/L	RPD
Alkalinity	323	320	1
Chloride	18 4	17	8
Sulfate	0 44	0 48	9
TOC	2 6	2 5	4
TOC Test 2	2 7	2 9	7

Compound Quantitation - No discrepancies were identified.

Comments - The analyses of environmental samples and quality control samples are valid The NAS Fort Worth JRB Basewide Quality Assurance Project Plan, February, 1998, data validation criteria were used in evaluating the data in this summary report

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

Qualification Summary Table - Wet Chemistry SDG 9910G337					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
None Qualified	--	--	--	--	--

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BTEX COMPOUNDS & MTBE
USEPA SW846 Method 8021 - Level III Review

Site: Naval Air Station Fort Worth - DO26 SDG #: 9910G337

Client. HydroGeoLogic. Inc. Date: December 13, 1999

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

Client Sample ID	Laboratory Sample ID	Matrix
ST14-W16WG10	9910G337-002	Water
ST14-W16WG10CON	9910G337-002CON	Water
ST14-W18WG10	9910G337-003	Water
ST14-W18WG10CON	9910G337-003CON	Water
SD13-02WG10	9910G337-005	Water
SD13-02WG10CON	9910G337-005CON	Water
ST14-04WG10	9910G337-007	Water
ST14-04WG10CON	9910G337-007CON	Water
ST14-W21WG10	9910G337-008	Water
DUP05WG10	9910G337-009	Water

Holding Times - All samples were analyzed within the recommended holding time of 14 days for preserved water samples as specified in Table 5.1.2-1 of the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), February, 1998. No qualifications were required.

Initial Calibration - The initial calibration analyzed on 10/04/99 exhibited acceptable %RSD values and/or correlation coefficients. No qualifications were required.

Continuing Calibration - The continuing calibrations analyzed on 10/13/99, 10/14/99 and 10/15/99 exhibited acceptable %R values. No qualifications were required.

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

Laboratory Control Samples - LCS samples BLKGVD310-MB1, BLKGVD311-MB1, BLKGVD312-MB1 and BLKGVD313-MB1 exhibited acceptable %R values No qualifications were required.

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

Method Blank - Method blanks 99GVD310-MB1 (10/13/99), 99GVD311-MB1 (10/19/99), 99GVD312-MB1 (10/13/99) and 99GVD313-MB1 (10/19/99) were free of contamination. No qualifications were required.

Trip, field, equipment blank - Field QC samples were not associated with the samples in this data package.

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

Compound	ST14-W21WG10 ug/L	DUP05WG10 ug/L	RPD
None	ND	ND	--

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

Several samples exhibited several compounds which exceeded the 25%D criteria between columns and were flagged (J) by the laboratory. The reviewer further qualified these results as estimated (J).

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 Basewide Quality Assurance Project Plan, February, 1998, data validation criteria were used in evaluating the data in this summary report

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

Qualification Summary Table - BTEX/MTBE SDG· 9910G337					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
ST14-W16WG10	Benzene	0 55	J	0 55	F
ST14-W16WG10CON	Benzene	4 4	J	4 4	J
ST14-W18WG10	Ethylbenzene	4.8	J	4.8	J
	Xylene (total)	15	J	15	J
ST14-W18WG10CON	Ethylbenzene	0 87	J	0 87	F
	Xylene (total)	2 6	J	2 6	J

Qualification Summary Table - BTEX/MTBE SDG 9910G337					
Sample No.	Compound(s)	Reported		Validated	
		Conc.	Qualifier	Conc	Qualifier
ST14-04WG10	MTBE	0 87	J	0 87	F
ST14-04WG10CON	MTBE	0 76	J	0 76	F

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TCL VOLATILE ORGANIC COMPOUNDS

USEPA SW846 Method 8260B/8020 - Level III Review

Site: Naval Air Station Fort Worth - DO26 SDG #: 9910G337

Client. HydroGeoLogic, Inc. Date: December 14, 1999

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

Client Sample ID	Laboratory Sample ID	Matrix
TB101299	9910G337-001	Water
ST14-W31WG10	9910G337-004	Water
ST14-24WG10	9910G337-006	Water
ST14-24WG10MS	9910G337-006MS	Water
ST14-24WG10MSD	9910G337-006MSD	Water
FT09-12CWG10	9910G337-010	Water
LF03-3DWG10	9910G337-011	Water
HM-110WG10	9910G337-012	Water
HM-110WG10DL	9910G337-012DL	Water

Holding Times - All samples were analyzed within the recommended holding time of 14 days for preserved water samples as specified in Table 5.1 2-1 of the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), February, 1998 No qualifications were required.

GC/MS Tuning - All of the BFB tunes in the initial and continuing calibrations met the percent relative abundance criteria. No qualifications were required.

Initial Calibration - The initial calibration analyzed on 09/22/99 exhibited acceptable %RSD values and/or correlation coefficients. No qualifications were required.

Continuing Calibration - The continuing calibration analyzed on 10/21/99 exhibited a high %D value for trichlorofluoromethane of 53.8%. Trichlorofluoromethane has been rejected (R) in all original analysis samples.

The continuing calibration analyzed on 10/21/99 exhibited high %D values for trichlorofluoromethane and 2,2-dichloropropane of 31.0% and 28.4%, respectively Both compounds have been rejected (R) in sample HM-110WG10DL.

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

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Laboratory Control Samples - LCS samples VBLKIIBS exhibited high %R values for trichlorofluoromethane and 1-chlorohexane of 140% and 127%, respectively, however, all associated results are non-detect and no qualifications were required

LCS sample VBLKWMBS exhibited a high %R value for trichlorofluoromethane of 140%, however, all associated results are non-detect and no qualifications were required.

MS/MSD - MS/MSD sample ST14-24WG10 exhibited high MS/MSD %R values for trichlorofluoromethane, 1-chlorohexane and 1,3,5-trimethylbenzene of 135%/140%, 127%/131% and 113%/114%, respectively, however, all associated results are non-detect and no qualifications were required.

Internal Standard (IS) Area Performance - All internal standards met response and retention time (RT) criteria. No qualifications were required.

Method Blank - Method blanks VBLKII (10/21/99) and VBLKWM (10/21/99) were free of contamination No qualifications were required.

Trip, field, equipment blank - Trip blank TB101299 was free of contamination. No qualifications were required.

Field Duplicates - Field duplicate samples were not analyzed with this data package.

Tentatively Identified Compounds - All TICs have been qualified (T).

Compound Quantitation - Sample HM-110WG10 exhibited two compounds which exceeded the linear range of the instrument and were flagged (E) by the laboratory The sample was diluted and reanalyzed and the dilution results were added to the original Form Is. The results on the original Form Is 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 TICs section of this report with the exception of two compounds which were rejected due to calibration problems. The NAS Fort Worth JRB Basewide Quality Assurance Project Plan, February, 1998, data validation criteria were used in evaluating the data in this summary report.

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

Qualification Summary Table - Volatiles SDG 9910G337					
Sample No	Compound(s)	Reported		Validated	
		Conc.	Qualifier	Conc.	Qualifier
TB101299	Trichlorofluoromethane	0 5	U	0 5	R
ST14-W31WG10	Trichlorofluoromethane	0 5	U	0 5	R
ST14-24WG10	Trichlorofluoromethane	0.5	U	0.5	R
FT09-12CWG10	Trichlorofluoromethane	0.5	U	0 5	R
LF03-3DWG10	Trichlorofluoromethane	0.5	U	0 5	R
HM-110WG10	Trichlorofluoromethane	0 5	U	0 5	R
HM-110WG10DL	Trichlorofluoromethane	12	U	12	R
	2,2-Dichloropropane	12	U	12	R

Received 1/18/00

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DISSOLVED METHANE

Method RSK-175 - Level III Review

Site: Naval Air Station Fort Worth - DO26 SDG #: 9910G337(B)

Client: HydroGeoLogic, Inc. Date: January 11, 2000

Laboratory: Severn Trent Laboratories, Pensacola, FL Reviewer: Cathy Shelby

Client Sample ID	Laboratory Sample ID	Matrix
ST14-04WG10	910743-001	Water
ST14-04WG10DUP	910743-001DUP	Water
ST14-W21WG10	910743-002	Water
DUP05WG10	910743-003	Water
FT09-12CWG10	910743-004	Water
LFC3-3DWG10	910743-005	Water
HM-110WG10	910743-006	Water

Holding Times - All samples were analyzed within the recommended holding time of 14 days for preserved water samples as specified in Table 5.1.2-1 of the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), February, 1998 No qualifications were required.

Initial Calibration - The initial calibration analyzed on 07/22/99 exhibited acceptable correlation coefficients >0 995. No qualifications were required.

Continuing Calibration - The continuing calibration analyzed on 11/02/99 exhibited acceptable %D values. No qualifications were required.

MS/MSD - A MS/MSD sample was not analyzed for dissolved methane.

Laboratory Duplicate - Laboratory duplicate sample results are summarized in the following table. No qualifications were required.

Compound	ST14-04WG10 ug/L	DUP ug/L	RPD
Methane	2150	2000	6 7
Ethene	0 51	0 50	2 0
Ethane	ND	0 02	NC

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LCS - A LCS sample was not analyzed with this data package.

Method Blank - The method blank analyzed on 11/02/99 was free of contamination. No qualifications were required.

Trip, Field and Equipment Blanks -There were no trip, field and equipment blanks analyzed with this data package.

Field Duplicates - Field duplicate results are summarized below. No qualifications are made based on field duplicate results.

Compound	ST14W21 ug/L	DUP05 ug/L	RPD
Methane	860	960	11
Ethane	2 93	3 25	10
Ethene	0.05F	0 07	NC

Compound Quantitation - All results reported between the PQL and the MDL were flagged (F) by the reviewer.

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 Basewide Quality Assurance Project Plan, February 1998, data validation criteria were used in evaluating the data in this summary report.

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

Qualification Summary Table - Volatile Headspace SDG 9910G337					
Sample No.	Compound(s)	Reported		Validated	
		Conc. ug/L	Qualifier	Conc ug/L	Qualifier
ST14-04WG10	Ethane	0 5100	--	0 5100	F
ST14-W21WG10	Ethene	0 0500	--	0 0500	F
DUP05WG10	Ethene	0 0700	--	0 0700	F
FT09-12CWG10	Ethene	0 3900	--	0.3900	F
LFC3-3DWG10	Methane	0.1700	--	0 1700	F
HM-110WG10	Methane	0.2200	--	0.2200	F
	Ethane	0.0200	--	0.0200	F

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Received 1/18/0

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DISSOLVED METHANE
Method RSK-175 - Level III Review

Site: Naval Air Station Fort Worth - DO26 SDG #: 9910G337 (A)

Client: HydroGeoLogic, Inc. Date: January 11, 2000

Laboratory: Severn Trent Laboratories, Pensacola, FL Reviewer: Cathy Shelby

Client Sample ID	Laboratory Sample ID	Matrix
ST14-W16WG10	910468-001	Water
ST14-W16WG10DUP	910468-001DUP	Water
ST14-W18WG10	910468-002	Water
ST14-W31WG10	910468-003	Water
SD13-02WG10	910468-004	Water
TB101299	910468-005	Water

Holding Times - All samples were analyzed within the recommended holding time of 14 days for preserved water samples as specified in Table 5.1.2-1 of the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), February, 1998. No qualifications were required.

Initial Calibration - The initial calibration analyzed on 07/22/99 exhibited acceptable correlation coefficients >0.995. No qualifications were required.

Continuing Calibration - The continuing calibration analyzed on 10/21/99 exhibited acceptable %D values. No qualifications were required.

MS/MSD - A MS/MSD sample was not analyzed for dissolved methane.

Laboratory Duplicate - Laboratory duplicate sample results are summarized in the following table. No qualifications were required.

Compound	ST14-W16WG10 ug/L	DUP ug/L	RPD
Methane	2500	2300	8.3
Ethene	2.35	2.20	6.6
Ethane	ND	ND	--

LCS - The LCS sample exhibited acceptable %R values. No qualifications were required.

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Method Blank - The method blank analyzed on 10/21/99 was free of contamination. No qualifications were required.

Trip, Field and Equipment Blanks - Trip blank TB101299 exhibited methane contamination at 0.31 ug/L. Methane has been qualified (U) in sample ST14-W31WG10.

Field Duplicates - Field duplicate samples were not analyzed with this data package.

Compound Quantitation - All results reported between the PQL and the MDL were flagged (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 field blank and compound quantitation sections of this report. The NAS Fort Worth JRB Basewide Quality Assurance Project Plan, February, 1998, data validation criteria were used in evaluating the data in this summary report.

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

Qualification Summary Table - Volatile Headspace SDG: 9910G337					
Sample No.	Compound(s)	Reported		Validated	
		Conc. ug/L	Qualifier	Conc ug/L	Qualifier
ST14-W18WG10	Ethene	0.0300	--	0 0300	F
ST14-W31WG10	Methane	0 3800	--	0.3800	U
SD13-02WG10	Ethane	0.4600	--	0 4600	F
TB101299	Methane	0 3100	--	0.3100	F

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METALS (Pb)

USEPA SW846 Method 7421 - Level III Review

Site: Naval Air Station Fort Worth - DO33 SDG #: 9A04G629

Client: HydroGeoLogic, Inc Date: May 10, 2000

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

Client Sample ID	Laboratory Sample ID	Matrix
BHLGTA929-01	9A04G629-002	Soil
BHLGTA929-02	9A04G629-003	Soil
BHGLTA929-03	9A04G629-004	Soil
BHGLTA929-04	9A04G629-005	Soil
DUP901	9A04G629-006	Soil
BHGLTA331-04	9A04G629-008	Soil
BHGLTA330-04	9A04G629-009	Soil
BHGLTA329-04	9A04G629-010	Soil
EB040500	9A04G629-011	Water

Holding Times - All samples were extracted and analyzed within the recommended holding time of 180 days for lead as specified in the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), March 2000. No qualifications were required.

Calibration - All initial and continuing calibration verifications exhibited acceptable %R values. No qualifications were required.

Method Blanks - The soil preparation blank PBS, initial and continuing calibration blanks were free of lead contamination. No qualifications were required.

Field and equipment blank - Equipment blank EB040500 was free of contamination No qualifications were required

ICP Interference Check Sample - ICP interference check sample was not analyzed with this data package.

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LCS - The LCS sample exhibited acceptable %R values. No qualifications were required.

ICP Serial Dilutions - An ICP serial dilution sample was not analyzed with this data package.

Matrix Spike/Duplicate - A matrix spike/duplicate sample was not analyzed with this data package.

Field Duplicates - Field duplicate results are summarized in the table below. Lead has been qualified (J) in both samples.

Compound	BHGLTA929-02 mg/kg	DUP901 mg/kg	RPD or Difference
Lead	154	10 2	143 8

Graphite Furnace Atomic Absorption (GFAA) Analysis - No discrepancies were identified.

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

Comments - The analyses of environmental samples and quality control samples are valid within the constraints identified with the data quality flags as presented in the field duplicate and compound quantitation sections of this report. The NAS Fort Worth JRB 2000 Basewide Quality Assurance Project Plan, March 2000, data validation criteria were used in evaluating the data in this summary report.

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

Qualification Summary Table - Metals SDG. 9A04G629					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
BHGLTA929-02	Lead	154	-	154	J
DUP901	Lead	10 2	-	10 2	J
BHGLTA330-04	Lead	3 6	B	3 6	F

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APPENDIX IX VOLATILE ORGANIC COMPOUNDS

USEPA SW846 Method 8260B - Level III Review

Site Naval Air Station Fort Worth - DO33 SDG #. 9A04G656

Client: HydroGeoLogic, Inc Date. May 14, 2000

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

Client Sample ID	Laboratory Sample ID	Matrix
TB040600	9A04G656-001	Water
LF03-3DWG11	9A04G656-002	Water
ST14-W21WG11	9A04G656-003	Water
LF05-01WG11	9A04G656-004	Water
LF05-01WG11DL	9A04G656-004DL	Water
W-153WG11	9A04G656-005	Water
W-153WG11DL	9A04G656-005DL	Water
HM-116WG11	9A04G656-006	Water
HM-116WG11DL	9A04G656-006DL	Water
WHGLTA025WG11	9A04G656-007	Water
DUP02	9A04G656-008	Water
DUP02DL	9A04G656-008DL	Water
LF05-5GWG11	9A04G656-009	Water
LF05-5GWG11DL	9A04G656-009DL	Water
HM-112WG11	9A04G656-010	Water
HM-112WG11DL	9A04G656-010DL	Water
HM-112WG11DL2	9A04G656-010DL2	Water

Holding Times - All samples were analyzed within the recommended holding time of 14 days for preserved water samples as specified in the NAS Fort Worth JRB 2000 Basewide Quality Assurance Project Plan (QAPP), March 2000. No qualifications were required.

GC/MS Tuning - All of the BFB tunes in the initial and continuing calibrations met the percent relative abundance criteria. No qualifications were required

Initial Calibration - The initial calibration analyzed on 04/12/00 exhibited acceptable %RSD values and/or correlation coefficients. No qualifications were required.

Continuing Calibration - The continuing calibrations analyzed on 04/19/00 and 04/20/00 (08.40) exhibited acceptable % D values No qualifications were required

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The continuing calibration analyzed on 04/20/00 (21:15) exhibited a high %D value for methyl-tert-butyl-ether of 32 6% Methyl-tert-butyl-ether has been rejected (R) in sample HM-112WG11DL2.

Surrogates - Sample LF05-01WG11DL exhibited a low %R value for surrogate compound dibromofluoromethane of 74%. All results have been qualified (J/UJ) in this sample.

Laboratory Control Samples - LCS sample VBLKNM exhibited high %R values for 1,1-dichloropropene. carbon tetrachloride, trichloroethene, tetrachloroethene, 1-chlorohexane, n-propylbenzene, 2-chlorotoluene. 1,3,5-trimethylbenzene, sec-butylbezene and hexachlorobutadiene of 134%. 131%, 133%. 132%, 127%. 127%, 127%. 115%, 128% and 132%, respectively. N-Propylbenzene has been qualified (J) in sample ST14-W21WG11. Trichloroethene has been qualified (J) in sample LF05-01WG11 Tetrachloroethene has been qualified (J) in samples W-153WG11 and HM116WG11 All other associated results are non-detect and no further qualifications were required.

LCS sample VBLKNO exhibited a low %R value for methyl-tert-butyl-ether of 73%. MTBE has been rejected (R) in samples LF05-5GWG11, HM-112WG11, LF05-01WG11DL, W-153WG11DL, HM-116WG11DL. WHGLTA025WG11, LF05-5GWG11DL. HM-112WG11DL. and DUP02DL.

LCS sample VBLKNK exhibited a low %R value for MTBE of 64% and a high %R value for hexachlorobutadiene of 126%. MTBE has already been qualified in this sample due to the continuing calibration and hexachlorobutadiene is non-detect. No qualifications were required.

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

Internal Standard (IS) Area Performance - All internal standards met response and retention time (RT) criteria No qualifications were required.

Method Blank - Method blanks VBLKNM (04/19/00). VBLKNO (04/20/00) and VBLKNK (04/20/00) were free of contamination. No qualifications were required.

Trip. field. equipment blank - Trip blank TB040600 was free of contamination. No qualifications were required.

Field Duplicates - Field duplicate results are summarized in the table below. Dichlorodifluoromethane has been qualified (J/UJ) in both samples.

Compound	LF05-5GWG11 ug/L	DUP02 ug/L	%D
Dichlorodifluoromethane	2	0 5U	200*
Vinyl chloride	15	16	6%
1,1-Dichloroethene	6	6	0%
Trans-1,2-Dichloroethene	27	28	4%
1,1-Dichloroethene	0 4	0 4	0%
Cis-1,2-Dichloroethene	210	220	5%
Benzene	0 4	0 4	0%
Trichloroethene	780	880	12%
1,4-Dichlorobenzene	2	2	0%

Tentatively Identified Compounds - TIC results have been qualified (T).

Compound Quantitation - Several samples exhibited several compounds which exceeded the linear range of the instrument and were flagged (E) by the laboratory. The samples were diluted and reanalyzed and the dilution results were added to the original Form Is. The results on the original Form Is should be used for reporting purposes.

One sample required a second dilution and analysis due to compounds continuing to exceed the linear range in the first dilution The results in the first dilution sample were flagged (E) by the laboratory and further qualified as estimated (J).

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 LCS, surrogate, and field duplicate sections of this report with the exception of several rejections 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. 9A04G656					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
ST14-W21WG11	n-Propylbenzene	0 9	-	0.9	J
LF05-01WG11	Vinyl chloride	330	E	200	J
	cis-1,2,-Dichloroethene	300	E	180	J
	Trichloroethene	4	-	4	J

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LF05-01WG11DL	MTBE All other results	5 -	U D/U	5 -	R J/UJ
W-153WG11	Tetrachloroethene	5	-	5	J
W-153WG11DL	MTBE	25	U	25	R
HM-116WG11	Tetrachloroethene	7	-	7	J
HM-116WG11DL	MTBE	12	U	12	R
WHGLTA025WG11	MTBE	0.5	U	0.5	R
DUP02	Dichlorodifluoromethane	0.5	U	0.5	UJ
DUP02DL	MTBE	25	U	25	R
LF05-5GWG11	Dichlorodifluoromethane MTBE	2 0.5	- U	2 0.5	J R
LF05-5GWG11DL	MTBE	25	U	25	R
HM-112WG11	MTBE	0.5	U	0.5	R
HM-112WG11DL	MTBE	25	U	25	R
HM-112WG11DL2	MTBE	250	U	250	R

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METALS (Cr & Hg)

USEPA SW846 Methods 7191, 7470A - Level III Review

Site: Naval Air Station Fort Worth - DO33 SDG #: 9A04G656

Client. HydroGeoLogic, Inc. Date May 12, 2000

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

Client Sample ID	Laboratory Sample ID	Matrix
LF03-3DWG11	9A04G656-002	Water
HM-116WG11	9A04G656-006	Water

Holding Times - All samples were extracted and analyzed within the recommended holding time of 28 days for mercury and 180 days for all other metals as specified in the NAS Fort Worth JRB 2000 Basewide Quality Assurance Project Plan (QAPP), March 2000. No qualifications were required.

Calibration - All initial and continuing calibration verifications exhibited acceptable %R values No qualifications were required

Method Blanks - The method blanks were free of contamination No qualifications were required

Field and equipment blank - Field QC samples were not analyzed with this data package.

ICP Interference Check Sample - An ICP interference check sample was not analyzed with this data package

LCS - The LCS sample exhibited acceptable %R values. No qualifications were required.

ICP Serial Dilution - An ICP serial dilution sample was not analyzed with this data package

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Matrix Spike/Duplicate - A matrix spike/duplicate sample was not analyzed with this data package

Field Duplicates - Field duplicate samples were not analyzed with this data package.

Graphite Furnace Atomic Absorption (GFAA) Analysis - Sample LF03-3DWG11 exhibited a postdigestion spike for chromium analysis out of control limits (85-115%) and sample absorbance is less than 50% of spike absorbance. The laboratory flagged this result (W) and the reviewer further qualified this result as estimated (UJ).

Compound Quantitation - No discrepancies were identified

Comments - The analyses of environmental samples and quality control samples are valid within the constraints identified with the data quality flags as presented in the GFAA section of this report The NAS Fort Worth JRB 2000 Basewide Quality Assurance Project Plan, March 2000, data validation criteria were used in evaluating the data in this summary report.

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

Qualification Summary Table - Metals SDG 9A04G656					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
LF03-3DWG11	Chromium	1 7	UW	1 7	UJ

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711 392

WET CHEMISTRY
(Alkalinity, Chloride, Nitrate, Sulfate, TOC, TOC Test 2)
USEPA SW846 Methods - Level III Review

Site: Naval Air Station Fort Worth - DO33 SDG #: 9A04G656

Client. HydroGeoLogic, Inc Date: May 12, 2000

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

Client Sample ID	Laboratory Sample ID	Matrix
DUP02	9A04G656-008	Water
LF05-5GWG11	9A04G656-009	Water
HM-112WG11	9A04G656-010	Water

Holding Times - All samples were analyzed within the recommended holding times 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 03/28/00 and 03/31/00 exhibited acceptable %RSD values and/or correlation coefficients No qualifications were required

Continuing Calibration - The continuing calibrations analyzed on 04/07/00 and 04/10/00 exhibited acceptable %D values No qualifications were required

Method and Calibration Blanks - Method blanks 80GAK032-MB1, 80GD4028-MB1 and 80GTC059-MB1 were free of contamination No qualifications were required.

Field and Equipment Blank - Field QC samples were not associated with the sample in this data package.

LCS - LCS samples 80GAK032-LCS, 80GD4028-LCS and 80GTC059-LCS exhibited acceptable %R values. No qualifications were required.

Matrix Spike/Duplicate - A matrix spike/duplicate sample was not analyzed with this data package

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Sample Duplicate - A sample duplicate was not analyzed with this data package.

Field Duplicates - Field duplicate results are summarized in the table below. No qualifications are made based on field duplicate results.

Compound	LF05-5GW11 ug/L	DUP02 ug/L	RPD
Alkalinity	409	410	0 24%
Chloride	46 2	46 5	0 64%
Sulfate	44.2	47 6	7 4%
TOC	3 7	4 6	21 7%
TOC Test 2	3 5	3 8	8 2%

Compound Quantitation - No discrepancies were identified.

Comments - The analyses of environmental samples and quality control samples are valid The NAS Fort Worth JRB 2000 Basewide Quality Assurance Project Plan, March 2000, data validation criteria were used in evaluating the data in this summary report

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

Qualification Summary Table - Wet Chemistry SDG 9A04G656					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
None Qualified	--	--	--	--	--

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711 394

VOLATILE ORGANIC COMPOUNDS (2-HEXANONE ONLY)

USEPA SW846 Method 8260B - Level III Review

Site Naval Air Station Fort Worth - DO33 SDG # 9A04G704

Client HydroGeoLogic, Inc. Date: May 17, 2000

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

Client Sample ID	Laboratory Sample ID	Matrix
BHGLTA723B-02	9A04G704-004	Soil
BHGLTA722-02	9A04G704-007	Soil
EB041000	9A04G704-009	Water
TB041000	9A04G704-010	Water

Holding Times - All samples were analyzed within the recommended holding time of 14 days for preserved water and soil samples as specified in the NAS Fort Worth JRB 2000 Basewide Quality Assurance Project Plan (QAPP). March 2000. No qualifications were required.

GC/MS Tuning - All of the BFB tunes in the initial and continuing calibrations met the percent relative abundance criteria. No qualifications were required

Initial Calibration - The initial calibrations analyzed on 03/09/00 and 03/27/00 exhibited acceptable %RSD values and/or correlation coefficients No qualifications were required.

Continuing Calibration - The continuing calibrations analyzed on 04/24/00 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 VBLKL2 and VBLKOB exhibited acceptable %R values. No qualifications were required.

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

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Internal Standard (IS) Area Performance - All associated internal standards met response and retention time (RT) criteria. No qualifications were required.

Method Blank - Method blanks VBLKL2 (04/24/00) and VBLKOB (04/24/00) were free of contamination. No qualifications were required.

Trip. field. equipment blank - Trip blank TB041000 was free of contamination. No qualifications were required.

Equipment blank EB041000 was free of contamination. No qualifications were required

Field Duplicates - Field duplicate samples were not analyzed with this data package.

Tentatively Identified Compounds - TICs were not reported.

Compound Quantitation - No discrepancies were identified.

Comments - The analyses of environmental samples and quality control samples are valid. The NAS Fort Worth JRB 2000 Basewide Quality Assurance Project Plan, March 2000, data validation criteria were used in evaluating the data in this summary report.

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

Qualification Summary Table - Volatiles SDG 9A04G704					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
None Qualified	--	--	--	--	--

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711 396

POLYNUCLEAR AROMATIC COMPOUNDS

USEPA SW846 Method 8310 - Level III Review

Site: Naval Air Station Fort Worth - DO33 SDG #: 9A04G704

Client HydroGeoLogic, Inc. Date: May 17, 2000

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

Client Sample ID	Laboratory Sample ID	Matrix
BHGLTA721-01	9A04G704-001	Soil
BHGLTA721-01MS	9A04G704-001MS	Soil
BHGLTA721-01MSD	9A04G704-001MSD	Soil
BHGLTA723B-01	9A04G704-005	Soil
BHGLTA723B-01DL	9A04G704-005DL	Soil
BHGLTA722-01	9A04G704-006	Soil
EB041000	9A04G704-009	Water

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

Initial Calibration - The initial calibration analyzed on 04/17/00 exhibited a low correlation coefficient for chrysene of 0 994 However, the %RSD for chrysene was acceptable at 9 93% and no qualifications were required

The initial calibration analyzed on 04/26/00 exhibited acceptable %RSD values <20% and correlation coefficients >0 995 No qualifications were required.

Continuing Calibration - The continuing calibrations analyzed on 04/17/00, 04/18/00, 04/19/00 and 04/20/00 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 BLKGP0312-MB1 and BLKGP0314-MB1 exhibited acceptable %R values. No qualifications were required.

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MS/MSD - MS/MSD sample BHGLTA721-01 exhibited several high %R values, however, all associated results are non-detect or already qualified due to the compound quantitation and no qualifications were required.

Method Blank - Method blanks 9AGP0312 (04/12/00) and 9AGP0314 (04/12/00) were free of contamination. No qualifications were required

Field, equipment blank - Equipment blank EB041000 was free of contamination. No qualifications were required.

Field Duplicates - Field duplicate samples were not analyzed with this data package.

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

Sample BHGLTA723B-01 exhibited several compounds which exceeded the linear range of the instrument and were flagged (E) by the laboratory. The sample was diluted and the original results were replaced with the dilution results on the Form I. 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.

Additional Comment - Very slight RT shifts were noted on both the UV and/or fluorescence detectors, however, the RT shifts did not occur simultaneously on both columns No qualifications were required.

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

Qualification Summary Table - PAH SDG 9A04G704					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc.	Qualifier
BHGLTA721-01	Fluoranthene	5 2	J	5 2	F
	Benzo(b)fluoranthene	2 9	J	2 9	F

Qualification Summary Table - PAH SDG 9A04G704					
Sample No.	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
BHGLTA723B-01	Acenaphthene	4300	J	4300	F
	Fluorene	150	J	150	F
	Phenanthrene	-	E	1700	F
	Anthracene	270	J	270	F
	Fluoranthene	-	E	3500	F
	Pyrene	-	E	3400	F
	Benzo(a)anthracene	-	E	1000	F
	Chrysene	-	E	2300	F
	Benzo(b)fluoranthene	-	E	1300	F
	Benzo(k)fluoranthene	-	E	630	F
	Benzo(a)pyrene	-	E	1300	F
	Indeno(1,2.3-cd)pyrene	-	E	990	F
BHGLTA723B-01DL	Phenanthrene	1700	J	1700	F
	Fluoranthene	3500	J	3500	F
	Pyrene	3400	J	3400	F
	Benzo(a)anthracene	1000	J	1000	F
	Chrysene	2300	J	2300	F
	Benzo(b)fluoranthene	1300	J	1300	F
	Benzo(k)fluoranthene	630	J	630	F
	Benzo(a)pyrene	1300	J	1300	F
	Indeno(1,2 3-cd)pyrene	990	J	990	F

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METALS (Ba, Co, Pb, Hg, Zn)
USEPA SW846 Methods 6010B, 7421/7470A- Level III Review

Site: Naval Air Station Fort Worth - D033 SDG #: 9A04G704

Client. HydroGeoLogic, Inc. Date: May 17, 2000

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

Client Sample ID	Laboratory Sample ID	Matrix
BHGLTA721-01	9A04G704-001	Soil
BHGLTA721-01MS	9A04G704-001MS	Soil
BHGLTA721-01MSD	9A04G704-001MSD	Soil
BHGLTA721-02	9A04G704-002	Soil
BHGLTA723B-04	9A04G704-003	Soil
BHGLTA723B-02	9A04G704-004	Soil
BHGLTA723B-01	9A04G704-005	Soil
BHGLTA722-01	9A04G704-006	Soil
BHGLTA722-02	9A04G704-007	Soil
BHGLTA722-04	9A04G704-008	Soil
EB041000	9A04G704-009	Water

Holding Times - All samples were extracted and analyzed within the recommended holding time of 28 days for mercury and 180 days for all other metals as specified in the NAS Fort Worth JRB 2000 Basewide Quality Assurance Project Plan (QAPP). March 2000 No qualifications were required

Calibration - All initial and continuing calibration verifications exhibited acceptable %R values. No qualifications were required.

Method Blanks - The water preparation blank PBW, initial and continuing calibration blanks were free of contamination. No qualifications were required.

The soil preparation blank PBS, initial and continuing calibration blanks exhibited cobalt and zinc at 0 9 ug/L and 1.970 mg/kg, respectively, however, all associated results are greater than 5X the blank concentration and no qualifications were required.

The soil preparation blank PBS, initial and continuing calibration blanks exhibited negative blank contamination for cobalt at -0 8 ug/L, respectively, however, all associated results are greater than 5X the blank concentration and no qualifications were required.

Field and equipment blank - Equipment blank EB041000 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 - An ICP serial dilution sample was not analyzed with this data package

Matrix Spike/Duplicate - Matrix spike/duplicate sample BHGLTA721-01 exhibited acceptable %R and RPD values No qualifications were required.

Field Duplicates - Field duplicate samples were not analyzed with this data package.

Graphite Furnace Atomic Absorption (GFAA) Analysis - Sample BHGLTA721-01 exhibited a postdigestion spike for the lead analysis out of control limits (85-115%) and sample absorbance is less than 50% of spike absorbance The laboratory flagged this result (W). however, this result has already been qualified due to the compound quantitation and no further qualifications were required

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

Comments - The analyses of environmental samples and quality control samples are valid within the constraints identified with the data quality flags as presented in the compound quantitation section of this report The NAS Fort Worth JRB 2000 Basewide Quality Assurance Project Plan, March 2000, data validation criteria were used in evaluating the data in this summary report.

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

Qualification Summary Table - Metals SDG. 9A04G704					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
BHGLTA721-01	Lead	6 8	BW	6 8	F
BHGLTA721-02	Lead	8 7	B	8 7	F
	Zinc	13 7	B	13 7	F
BHGLTA723B-04	Cobalt	2 1	B	2 1	F
BHGLTA722-01	Lead	8 0	B	8 0	F
BHGLTA722-04	Cobalt	3 9	B	3 9	F

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711 402

METALS (Cd, Pb)

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

Site: Naval Air Station Fort Worth - DO33CBB SDG # 9A06G843

Client: HydroGeoLogic, Inc Date: July 20, 2000

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

Client Sample ID	Laboratory Sample ID	Matrix
BHGLTS329-04	9A06G843-002	Water
BHGLTA23B-01	9A06G843-004	Water
BHGLTA103-01	9A06G843-006	Water
BHGLTA106-02	9A06G843-008	Water

Holding Times - All samples were extracted and analyzed within 180 days for both metals as specified in the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), March 2000 No qualifications were required.

Calibration - All initial and continuing calibration verifications exhibited acceptable %R values. No qualifications were required.

Method Blanks - The water preparation blank PBW, initial and/or continuing calibration blanks exhibited negative blank contamination for cadmium and lead at -0 60 ug/L and -1.9 ug/L, respectively Since the blank concentration was > the absolute value of the PQL. cadmium was rejected (R) in sample BHGLTA103-01. Lead has been qualified (UJ) in sample BHGLTA329-04.

Field and equipment blank - Field QC samples were not associated with the samples in this data package.

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

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ICP Serial Dilution - An ICP serial dilution sample was not analyzed with this data package.

Matrix Spike/Duplicate - A matrix spike/duplicate sample was not analyzed with this data package.

Field Duplicates - Field duplicate samples were not analyzed with this data package.

Graphite Furnace Atomic Absorption (GFAA) Analysis - No discrepancies were identified.

Compound Quantitation - 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 and compound quantitation sections of this report with the exception of cadmium in one sample due to the negative blank contamination. The NAS Fort Worth JRB 2000 Basewide Quality Assurance Project Plan, March 2000, data validation criteria were used in evaluating the data in this summary report.

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

Qualification Summary Table - Metals SDG: 9A06G843					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
BHGLTS329-04	Lead	1 5	U	1 5	UJ
BHGLTA23B-01	Lead	2 7	B	2 7	F
BHGLTA103-01	Cadmium	0 40	U	0.40	R
BHGLTA106-02	Lead	4 0	B	4 0	F

Received
8-23-00

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APPENDIX IX VOLATILE ORGANIC COMPOUNDS

USEPA SW846 Method 8260B - Level III Review

Site: Naval Air Station Fort Worth - DO33DCA SDG #: 9A07G200

Client: HydroGeoLogic, Inc. Date: August 24, 2000

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

Client Sample ID	Laboratory Sample ID	Matrix
TB072000	9A07G200-001	Water
EB072000	9A07G200-002	Water
HM-126WG12	9A07G200-003	Water
HM-126WG12DL	9A07G200-003DL	Water

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

GC/MS Tuning - All of the BFB tunes in the initial and continuing calibrations met the percent relative abundance criteria No qualifications were required.

Initial Calibration - The initial calibration analyzed on 08/02/00 exhibited acceptable %RSD values and/or correlation coefficients and mean RRF values No qualifications were required.

Continuing Calibration - The continuing calibration analyzed on 08/03/00 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 VBLKSZ exhibited high %R values for 1,1-dichloropropene, carbon tetrachloride, 1-chlorohexane, 1,3,5-trimethylbenzene and hexachlorobutadiene of 134%, 127%, 153%, 116% and 129, respectively, however, all associated results are non-detect and no qualifications were required.

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

Internal Standard (IS) Area Performance - All internal standards met response and retention time (RT) criteria. No qualifications were required.

Method Blank - Method blank VBLKSZ (08/03/00) was free of contamination. No qualifications were required.

Trip. field. equipment blank - Trip blank TB072000 exhibited methylene chloride contamination at 0.8 ug/L. Methylene chloride has been qualified (U) in sample HM-126WG12.

Equipment blank EB072000 was free of contamination. No qualifications were required.

Field Duplicates - Field duplicate samples were not analyzed with this data package.

Tentatively Identified Compounds - All TICs have been qualified (T).

Compound Quantitation - Sample HM-126WG12 exhibited two compounds which exceeded the linear range of the instrument and were flagged (E) by the laboratory The sample was diluted and reanalyzed and the original results for these compounds were replaced on the Form Is with the dilution results. All results on the original analysis Form Is 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 trip blank and TICs 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 - Volatiles SDG 9A07G200					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
HM-126WG12	Methylene Chloride	0 6	-	0 6	U

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8-23-00

APPENDIX IX VOLATILE ORGANIC COMPOUNDS

USEPA SW846 Method 8260B - Level III Review

Site: Naval Air Station Fort Worth - DO33DCA SDG #: 9A07G112

Client: HydroGeoLogic, Inc. Date: August 16, 2000

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

Client Sample ID	Laboratory Sample ID	Matrix
WITCTA017WG12	9A07G112-001	Water
WITCTA024WG12	9A07G112-002	Water
TB071200	9A07G112-003	Water
MW-53WG12	9A07G112-004	Water
LF03-3DWG12	9A07G112-005	Water
HM123WG12	9A07G112-006	Water
HM123WG12DL	9A07G112-006DL	Water
USGS07T	9A07G112-007	Water
W153WG12	9A07G112-008	Water
W153WG12DL	9A07G112-008DL	Water
TB071300	9A07G112-009	Water
ITMW-01TWG12	9A07G112-010	Water
WHGLTA011WG12	9A07G112-011	Water
SPOT35-5WG12	9A07G112-012	Water
SPOT35-5WG12DL	9A07G112-012DL	Water
WITCTA004WG12	9A07G112-013	Water
WITCTA004WG12DL	9A07G112-013DL	Water
LF05-01WG12	9A07G112-014	Water
LF05-01WG12DL	9A07G112-014DL	Water

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

GC/MS Tuning - All of the BFB tunes in the initial and continuing calibrations met the percent relative abundance criteria. No qualifications were required.

Initial Calibration - The initial calibrations analyzed on 07/25/00 exhibited acceptable %RSD values and/or correlation coefficients and mean RRF values. No qualifications were required

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Continuing Calibration - The continuing calibrations analyzed on 07/26/00 (0838), 07/26/00 (2107) and 07/27/00 exhibited acceptable %D and RRF values. No qualifications were required

The continuing calibration analyzed on 07/26/00 (0845) exhibited high %D values for bromomethane, methyl-tert-butyl ether and 2,2-dichloropropane of 53.5%, 93.5% and 77 4%, respectively All three compounds have been rejected (R) in samples W153WG12 and W153WG12DL.

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

Laboratory Control Samples - LCS sample VBLKIS exhibited low %R values for dichlorodifluoromethane and 1,1-dichloroethene of 48% and 70%, respectively, and a high %R value for 1-chlorohexane of 144%. Dichlorodifluoromethane and 1,1-dichloroethene have been qualified (J/R) in samples W153WG12 and W153WG12DL 1-Chlorohexane is non-detect in both samples and no further qualifications were required.

LCS sample VBLKIU exhibited a high %R value for 1-chlorohexane of 169%, however, all associated results are non-detect and no qualifications were required.

LCS sample VBLKNP exhibited high %R values for methyl-tert-butyl ether and 1-chlorohexane of 133% and 178%, respectively, however, all associated results are non-detect and no qualifications were required

LCS samples VBLKND exhibited low %R values for 1,1-dichloroethene, methylene chloride and trans-1,2-dichloroethene of 57%, 70% and 71%, respectively, and a high %R value for 1-chlorohexane of 161%. 1,1-Dichloroethene, methylene chloride and trans-1,2-dichloroethene have been qualified (J/R) in samples SPOT35-5WG12, WITCTA004WG12, LF05-01WG12DL, HM123WG12DL. 1-Chlorohexane is non-detect in all associated samples and no further qualifications were required.

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

Internal Standard (IS) Area Performance - All internal standards met response and retention time (RT) criteria. No qualifications were required.

Method Blank - Method blanks VBLKIU (07/26/00), VBLKIS (07/26/00), VBLKNP (07/26/00) and VBLKND (07/27/00) were free of contamination No qualifications were required

Trip, field, equipment blank - Trip blanks TB071200 and TB071300 exhibited methylene chloride contamination at 0.9 ug/L and 1.0 ug/L, respectively, however, all associated results are non-detect and no qualifications were required

Equipment blank EB071300 (from SDG 9A07G113) exhibited acetone contamination at 8 ug/L, however, acetone is not a reported compound and no qualifications were required.

Field Duplicates - Field duplicate samples were not analyzed with this data package.

Tentatively Identified Compounds - All TICs have been qualified (T).

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

Samples HM123WG12, W153WG12, SPOT35-5WG12, WITCTA004WG12 and LF05-01WG12 exhibited several compounds which exceeded the linear range of the instrument and were flagged (E) by the laboratory The samples were diluted and reanalyzed and the original results for these compounds were replaced on the Form Is with the dilution results. All results on the original analysis Form Is 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 LCS, TICs and compound quantitation sections of this report with the exception of several compounds which were rejected due to the 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. 9A07G112					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
W153WG12	Dichlorodifluoromethane	0 5	U	0 5	R
	Bromomethane	0 5	U	0 5	R
	1,1-Dichloroethene	2	-	2	J
	Methyl-tert-Butyl Ether	0 5	U	0 5	R
	2,2-Dichloropropane	0 5	U	0 5	R
ITMW-01TWG12	p,m-Xylene	0 2	J	0 2	F
SPOT35-5WG12	1,1-Dichloroethene	0 5	U	0 5	R

Qualification Summary Table - Volatiles SDG 9A07G112					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
	Methylene chloride	0 5	U	0 5	R
	trans-1,2-Dichloroethene	0 5	U	0 5	R
WITCTA004WG12	1,1-Dichloroethene	1	-	1	J
	Methylene chloride	0 5	U	0 5	R
	trans-1 2-Dichloroethene	0 8	-	0 8	J

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METALS

USEPA SW846 Methods 6010B/7000 - Level III Review

Site Naval Air Station Fort Worth - DO33DCA SDG #. 9A07G112

Client: HydroGeoLogic, Inc. Date. August 16, 2000

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

Client Sample ID	Laboratory Sample ID	Matrix
WITCTA017WG12	9A07G112-001	Water
USGSO7T	9A07G112-007	Water
ITMW-01TWG12	9A07G112-010	Water

Holding Times - All samples were extracted and analyzed within 28 days for mercury and 180 days for all other metals as specified in the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), March 2000. No qualifications were required.

Calibration - All initial and continuing calibration verifications exhibited acceptable %R values. No qualifications were required.

Method Blanks - The water preparation blank PBW, initial and continuing calibration blanks exhibited contamination for aluminum, cadmium, calcium, iron, magnesium, manganese, nickel, selenium, sodium, vanadium and zinc at 52.4 ug/L, 0.4 ug/L, 133 ug/L, 48 4 ug/L, 132.7 ug/L, 4.1 ug/L, 3.2 ug/L, 1.9 ug/L, 377 2 ug/L, 4.1 ug/L and 15 4 ug/L, respectively. Aluminum, manganese and selenium have all been qualified (U) in sample WITCTA017WG12 Vanadium has been qualified (U) in sample USGS07T.

The water preparation blank PBW, initial and continuing calibration blanks exhibited negative blank contamination for aluminum, arsenic, beryllium, cadmium, calcium, magnesium and nickel at -27 6 ug/L, -7 8 ug/L, -0 8 ug/L, -0.6 ug/L, -41 4 ug/L, -41.3 ug/L, and -3.3 ug/L, respectively Aluminum has been qualified (UJ) in samples WITCTA017WG12 and ITMW-01TWG12 Arsenic, beryllium, cadmium and nickel have all been qualified (UJ) in all samples.

Field and equipment blank - Field QC samples were not analyzed with this data package

ICP Interference Check Sample - All % recovery values met the QC acceptance criteria. No qualifications were required

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LCS - The LCS samples exhibited acceptable %R values. No qualifications were required.

ICP Serial Dilutions - ICP serial dilution sample USGS07T exhibited a high %D value for aluminum of 17.8%. Aluminum has been qualified (J) in sample USGS07T. All other aluminum results have already been qualified due to the method blanks and no further qualifications were required.

Matrix Spike/Duplicate - A matrix spike/duplicate sample was not analyzed with this data package.

Field Duplicates - Field duplicate sample was not analyzed with this data package.

Graphite Furnace Atomic Absorption (GFAA) Analysis - All samples exhibited a postdigestion spike for the antimony, lead, selenium 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 (UJ).

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

Comments - The analyses of environmental samples and quality control samples are valid within the constraints identified with the data quality flags as presented in the method blank, ICP serial dilution, 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 9A07G112					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc.	Qualifier
WITCTA017WG12	Aluminum	83 5	BE	83 5	UJ
	Arsenic	3 7	U	3 7	UJ
	Barium	74 7	B	74 7	F
	Beryllium	0 60	U	0.60	UJ
	Cadmium	0 40	U	0 40	UJ

Qualification Summary Table - Metals SDG· 9A07G112					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
	Iron	39 0	B	39 0	F
	Manganese	3 9	B	3 9	U
	Molybdenum	2 3	B	2 3	F
	Nickel	1 6	U	1 6	UJ
	Selenium	1 9	UW	1.9	UJ
	Thallium	1 7	UW	1 7	UJ
USGSO7T	Aluminum	1440	E	1440	J
	Antimony	2 7	UW	2 7	UJ
	Arsenic	3 7	U	3.7	UJ
	Barium	88 0	B	88.0	F
	Beryllium	0.60	U	0 60	UJ
	Cadmium	0.40	U	0 40	UJ
	Chromium	1 8	B	1 8	F
	Lead	1 5	UW	1 5	UJ
	Nickel	1 6	U	1 6	UJ
	Potassium	1000	B	1000	F
	Thallium	1 7	UW	1 7	UJ
	Vanadium	3 2	B	3 2	U
ITMW-01TWG12	Aluminum	20 3	UE	20 3	UJ
	Antimony	2 7	UW	2 7	UJ
	Arsenic	3 7	U	3 7	UJ
	Barium	98 3	B	98 3	F
	Beryllium	0 60	U	0 60	UJ
	Cadmium	0 40	U	0 40	UJ
	Molybdenum	2 9	B	2.9	F
	Nickel	1 6	U	1 6	UJ
	Potassium	1610	B	1610	F
	Selenium	2 4	BW	2 4	UJ
	Thallium	1 7	UW	1 7	UJ

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APPENDIX IX VOLATILE ORGANIC COMPOUNDS
USEPA SW846 Method 8260B - Level III Review

Site: Naval Air Station Fort Worth - DO33DDA SDG #: 9A10G890

Client: HydroGeoLogic, Inc. Date December 15, 2000

Laboratory: Severn Trent Laboratories, Chicago, IL Reviewer: Nancy Weaver

Client Sample ID	Laboratory Sample ID	Matrix
TB102600	9A10G890-001	Water
LF03-3DWG13	9A10G890-002	Water
LF05-01WG13	9A10G890-003	Water
LF05-01WG13DL	9A10G890-003DL	Water
GMI-22-04MWG13	9A10G890-004	Water
GMI-22-04MWG13DL	9A10G890-004DL	Water
WJETA-535WG13	9A10G890-005	Water
HM-116WG13	9A10G890-006	Water
HM-116WG13DL	9A10G890-006DL	Water
W-153WG13	9A10G890-007	Water
W-153WG13DL	9A10G890-007DL	Water
DUP04WG13	9A10G890-008	Water
DUP04WG13DL	9A10G890-008DL	Water
SPOT35-8WG13	9A10G890-009	Water

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

GC/MS Tuning - All of the BFB tunes in the initial and continuing calibrations met the percent relative abundance criteria. No qualifications were required

Initial Calibration - The initial calibrations analyzed on 01/14/00-10/05/00 exhibited acceptable %RSD values and/or correlation coefficients and mean RRF values. No qualifications were required.

Continuing Calibration - The continuing calibrations analyzed on 11/04/00, 11/06/00 (0902) and 11/06/00 (1939) exhibited high %D values for dichlorodifluoromethane of 34 6%, 35 3% and 38 4%, respectively Dichlorodifluoromethane has been rejected (R) in all samples

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

Laboratory Control Samples - LCS samples VBLKDD. VBLKDF and VBLKDT exhibited high %R values for 1-chlorohexane of 131%. 138% and 148%, respectively. However, 1-chlorohexane is non-detect in all samples and no qualifications were required.

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

Internal Standard (IS) Area Performance - All internal standards met response and retention time (RT) criteria. No qualifications were required

Method Blank - Method blanks VBLKDD (11/04/00). VBLKDF (11/06/00) and VBLKDT (11/06/00) were free of contamination. No qualifications were required.

Trip. field. equipment blank - Trip blank TB102600 was free of contamination No qualifications were required.

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

Compound	W-153WG13 ug/L	DUP04WG13 ug/L	RPD
Trichlorofluoromethane	3	3	0%
1 1-Dichloroethene	2	2	0%
Trans-1,2-Dichloroethene	2	2	0%
Cis-1,2-Dichloroethene	87	80	8%
Chloroform	0 7	0 7	0%
Trichloroethene	530	430	21%
Tetrachloroethene	5	5	0%

Tentatively Identified Compounds - TICs were not reported with this data package.

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

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Several samples exhibited several compounds which exceeded the linear range of the instrument and were flagged (E) by the laboratory The samples were diluted and reanalyzed and the original results for these compounds were replaced on the Form Is with the dilution results. All results on the original analysis Form Is 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 with the exception of one compound which was rejected due to the continuing 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 - Volatiles SDG 9A10G890					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
TB102600	Dichlorodifluoromethane	0 5	U	0 5	R
LF03-3DWG13	Dichlorodifluoromethane	0 5	U	0 5	R
LF05-01WG13	Dichlorodifluoromethane	0 5	U	0 5	R
	1 1-Dichloroethene	0 4	J	0 4	F
	1,2-Dichlorobenzene	0 2	J	0 2	F
GMI-22-04MWG13	Dichlorodifluoromethane	0 5	U	0 5	R
WJETA-535WG13	Dichlorodifluoromethane	0 5	U	0 5	R
HM-116WG13	Dichlorodifluoromethane	0 5	U	0 5	R
W-153WG13	Dichlorodifluoromethane	0 5	U	0 5	R
DUP04WG13	Dichlorodifluoromethane	0 5	U	0 5	R
SPOT35-8WG13	Dichlorodifluoromethane	0 5	U	0 5	R

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3-19-01

METALS

USEPA SW846 Methods 6010B/7000 - Level III Review

Site: Naval Air Station Fort Worth - DO33CBB SDG #: 9B01G206

Client HydroGeoLogic, Inc Date: March 6, 2001

Laboratory. Severn Trent Laboratories, Chicago, IL Reviewer: Christine Garvey

Client Sample ID	Laboratory Sample ID	Matrix
BHGLTA942-01	9B02G206-001	Soil
BHGLTA942-01MS	9B02G206-001MS	Soil
BHGLTA942-01MSD	9B02G206-001MSD	Soil
BHGLTA942-02	9B02G206-002	Soil
BHGLTA942-02 SPLP	9B02G206-003	Water
BHGLTA942-03	9B02G206-004	Soil
BHGLTA942-03 SPLP	9B02G206-005	Water
BHGLTA942-04	9B02G206-006	Soil
BHGLTA942-05	9B02G206-007	Soil
BHGLTA942-06	9B02G206-008	Soil
BHGLTA333-01	9B02G206-009	Soil
BHGLTA333-02	9B02G206-010	Soil
BHGLTA334-01	9B02G206-011	Soil
BHGLTA334-02	9B02G206-012	Soil
BHGLTA334-03	9B02G206-013	Soil
DUP01	9B02G206-014	Soil
DUP02	9B02G206-015	Soil
EB012401	9B02G206-016	Water

Holding Times - All samples were extracted and analyzed within 28 days for mercury and 180 days for all other metals as specified in the NAS Fort Worth JRB 2000 Basewide Quality Assurance Project Plan (QAPP), March 2000. No qualifications were required

Calibration - All initial and continuing calibration verifications exhibited acceptable %R values. No qualifications were required.

Method Blanks - The soil preparation blank PBS, initial and/or continuing calibration blanks exhibited contamination for several compounds, however, all associated results are non-detect or greater than 5X the blank concentration except the following

- Arsenic has been qualified (U) in samples BHGLTA942-01, BHGLTA942-02, BHGLTA942-05, BHGLTA942-06 and DUP01.
- Beryllium has been qualified (U) in samples BHGLTA942-01, BHGLTA942-02, BHGLTA942-03, BHGLTA942-04, BHGLTA942-05, BHGLTA942-06 and DUP01.
- Chromium has been qualified (U) in all soil samples except the SPLP samples.
- Copper has been qualified (U) in all soil samples except BHGLTA333-02.
- Nickel and tin have been qualified (U) in all soil samples except BHGLTA333-02 and the SPLP samples.

The soil preparation blank PBS, initial and/or continuing calibration blanks exhibited negative contamination for antimony, cadmium and silver at -4 0 ug/L, -0.07 mg/kg and -0.068 mg/kg, respectively, however, all associated results are non-detect or greater than 5X the blank concentration except the following

- Antimony has been qualified (J/UJ) in samples BHGLTA942-01, BHGLTA942-02, BHGLTA942-04, BHGLTA942-06, BHGLTA333-01, BHGLTA333-02, BHGLTA334-01, BHGLTA334-02, BHGLTA334-03 and DUP01
- Cadmium has been qualified (UJ) in samples BHGLTA942-01, BHGLTA942-02, BHGLTA942-04, BHGLTA942-05, BHGLTA942-06, BHGLTA333-03 and DUP01
- Silver has been qualified (UJ) in samples BHGLTA942-01, BHGLTA942-02, BHGLTA942-04, BHGLTA942-05, BHGLTA942-06, BHGLTA333-01, BHGLTA334-02, BHGLTA334-03, DUP01, DUP02, BHGLTA942-02 SPLP and BHGLTA942-03 SPLP.

The water preparation blank PBW, initial and/or continuing calibration blanks exhibited contamination for nickel and vanadium, however, all associated results are non-detect and no qualifications were required.

The SPLP water preparation blank PBW, initial and/or continuing calibration blanks exhibited contamination for several compounds, however, all associated results are non-detect or greater than 5X the blank concentration except the following.

- Barium and vanadium have been qualified (U) in samples BHGLTA942-02 SPLP and BHGLTA942-03 SPLP
- Zinc has been qualified (U) in sample BHGLTA942-02 SPLP.

The SPLP water preparation blank PBW, initial and/or continuing calibration blanks exhibited negative contamination for beryllium, cadmium, lead, nickel and tin at -0.7 ug/L, -0 5 ug/L, -1.7 ug/L, -3 0 ug/L and -4 8 ug/L, respectively, however, all associated results are non-detect or greater than 5X the blank concentration except the following

- Beryllium, cadmium, nickel and tin have been qualified (U) in samples BHGLTA942-02 SPLP and BHGLTA942-03 SPLP
- Lead has been qualified (UJ) in sample BHGLTA942-02 SPLP.

Field and equipment blank - Equipment blank EB012401 was free of contamination. No qualifications were required.

ICP Interference Check Sample - All %R values were acceptable No qualifications were required.

LCS - The LCS samples exhibited acceptable %R values. No qualifications were required

ICP Serial Dilution - ICP serial dilution sample BHGLTA942-01 exhibited acceptable %D values No qualifications were required

Matrix Spike/Duplicate - Matrix spike/duplicate sample BHGLTA942-01 exhibited low %R values for antimony and selenium of 16 8% and 26 9%. Antimony and selenium have been qualified (UJ) in all soil samples unless already qualified.

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

Compound	BHGLTA942-02 mg/kg	DUP01 mg/kg	RPD or Difference
Barium	24 6	12 9	62%
Cobalt	1 6	0 96	0 64
Lead	9 9	4 3	5 6
Vanadium	9 1	5 2	3 9
Zinc	17 3	5 2	12 1

Compound	BHGLTA333-01 mg/kg	DUP02 mg/kg	RPD
Arsenic	3 2	3 6	0 4
Barium	38 1	36 5	4%
Beryllium	0 48	0 49	0 01
Cadmium	0 07	0 06	0 01
Cobalt	2 8	2 5	0 3
Lead	7 7	14 0	6 3
Vanadium	17 7	18 0	0 3
Zinc	25 9	25 7	1%
Antimony	0 27U	0 29	0 02

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Graphite Furnace Atomic Absorption (GFAA) Analysis - Several samples exhibited a postdigestion spike for the antimony, lead, selenium, silver and 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

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

Comments - The analyses of environmental samples and quality control samples are valid within the constraints identified with the data quality flags as presented in the method blanks, matrix spike, 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 9B01G206					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
BHGLTA942-01	Antimony	0 24	UN	0 24	UJ
	Arsenic	1 8	B	1 8	UJ- U
	Barium	22 7	B	22 7	F
	Beryllium	0 20	B	0 20	U
	Cadmium	0 04	U	0 04	UJ
	Chromium	5 4	B	5 4	U
	Cobalt	2 0	B	2 0	F
	Copper	3 9	B	3 9	U
	Nickel	4 3	B	4 3	U
	Selenium	0 17	UWN	0 17	UJ
	Silver	0 01	UW	0 01	UJ
	Tin	1 6	B	1 6	U
	Vanadium	9 7	B	9 7	F
	Zinc	22 1	B	22 1	F

BHGLTA942-02	Antimony	0 22	UWN	0 22	UJ
	Arsenic	2 1	B	2 1	U
	Barium	24 6	B	24 6	F
	Beryllium	0 12	B	0 12	U
	Cadmium	0 03	U	0 03	UJ
	Chromium	5.4	B	5 4	U
	Cobalt	1 6	B	1 6	F
	Copper	6 2	B	6 2	U
	Nickel	3 3	B	3 3	U
	Selenium	1 6	UWN	1.6	UJ
	Silver	0 01	UW	0 01	UJ
	Thallium	0 16	UW	0 16	UJ
	Tin	1 9	B	1 9	U
	Vanadium	9 1	B	9 1	F
	Zinc	17 3	B	17 3	F
BHGLTA942-02 SPLP	Barium	185	B	185	U
	Beryllium	0 60	U	0 60	UJ
	Cadmium	0 40	U	0 40	UJ
	Chromium	8 6	B	8 6	F
	Copper	4 8	B	4.8	F
	Lead	1 5	UW	1 5	UJ
	Nickel	1 6	U	1 6	UJ
	Selenium	1 9	UW	1 9	UJ
	Thallium	1 8	UW	1 8	UJ
	Tin	3 4	U	3 4	UJ
	Vanadium	4 2	B	4 2	U
	Zinc	9 7	B	9 7	U
BHGLTA942-03	Antimony	0 34	BWN	0 34	F
	Arsenic	4 0	B	4 0	F
	Beryllium	0 22	B	0 22	U
	Cadmium	0 22	B	0 22	F
	Chromium	8 9	-	8 9	U
	Cobalt	2 3	B	2 3	F
	Copper	5 4	B	5 4	U
	Nickel	5 6	B	5 6	U
	Selenium	1 6	UWN	1 6	UJ
	Silver	0 02	BW	0 02	F
	Thallium	0 16	UW	0 16	UJ
	Tin	4 2	B	4 2	U
	Vanadium	12 8	B	12 8	F
BHGLTA942-03 SPLP	Barium	423	-	423	U
	Beryllium	0 60	U	0 60	UJ
	Cadmium	0 40	U	0 40	UJ
	Chromium	3 9	B	3 9	F
	Copper	3 9	B	3 9	F
	Lead	4 7	BW	4 7	F
	Nickel	1 6	U	1 6	UJ
	Selenium	1 9	UW	1 9	UJ
	Thallium	1 8	UW	1 8	UJ
	Tin	3 4	U	3 4	UJ
	Vanadium	6 3	B	6 3	U

BHGLTA942-04	Antimony	0 22	UN	0 22	UJ
	Arsenic	3 2	B	3 2	F
	Beryllium	0 28	-	0 28	U
	Cadmium	0 03	U	0 03	UJ
	Chromium	10 1	-	10 1	U
	Cobalt	2 5	B	2 5	F
	Copper	5 0	B	5 0	U
	Nickel	5 9	B	5 9	U
	Selenium	1 5	UWN	1 5	UJ
	Silver	0 01	UW	0 01	UJ
	Thallium	0 15	UW	0 15	UJ
	Tin	2 0	B	2 0	U
	Vanadium	15 1	B	15 1	F
BHGLTA942-05	Antimony	0 31	BN	0 31	F
	Arsenic	1 5	B	1 5	U
	Beryllium	0 21	B	0 21	U
	Cadmium	0 03	U	0 03	UJ
	Chromium	5 6	B	5 6	U
	Cobalt	1 8	B	1 8	F
	Copper	3 1	B	3 1	U
	Nickel	3 8	B	3 8	U
	Selenium	0 82	UWN	0 82	UJ
	Silver	0 01	UW	0 01	UJ
	Thallium	0 16	UW	0 16	UJ
	Tin	1 7	B	1 7	U
	Vanadium	8 7	B	8 7	F
	Zinc	9 8	B	9 8	F
BHGLTA942-06	Antimony	0 24	UWN	0 24	UJ
	Arsenic	0 42	B	0 42	U
	Barium	14 8	B	14 8	F
	Beryllium	0 08	B	0 08	U
	Cadmium	0 04	U	0 04	UJ
	Chromium	3 2	B	3 2	U
	Cobalt	0 56	B	0 56	F
	Copper	1 5	B	1 5	U
	Lead	2 2	W	2 2	J
	Nickel	1 7	B	1 7	U
	Selenium	0 87	UWN	0 87	UJ
	Silver	0 01	UW	0 01	UJ
	Tin	1 4	B	1 4	U
	Vanadium	7 0	B	7 0	F
	Zinc	5 8	B	5 8	F

BHGLTA333-01	Antimony	0 27	UN	0 27	UJ
	Arsenic	3 2	B	3 2	F
	Cadmium	0 07	B	0 07	F
	Chromium	9 6	-	9.6	U
	Cobalt	2 8	B	2 8	F
	Copper	7 4	B	7 4	U
	Nickel	6 8	B	6.8	U
	Selenium	0 97	UWN	0 97	UJ
	Silver	0 01	UW	0 01	UJ
	Thallium	0 19	UW	0 19	UJ
	Tin	2 1	B	2 1	U
	Vanadium	17 7	B	17 7	F
	Zinc	25 9	B	25 9	F
BHGLTA333-02	Antimony	0 89	WN	0 89	J
	Chromium	21.1	-	21 1	U
	Cobalt	4 2	B	4 2	F
	Selenium	0 86	UWN	0 86	UJ
	Thallium	0 17	UW	0 17	UJ
BHGLTA334-01	Antimony	0 26	UWN	0 26	UJ
	Arsenic	3 2	B	3 2	F
	Cadmium	0 15	B	0 15	F
	Chromium	9 9	-	9 9	U
	Cobalt	2 7	B	2 7	F
	Copper	8 6	B	8 6	U
	Nickel	6 7	B	6 7	U
	Selenium	0 93	UWN	0 93	UJ
	Silver	0 11	BW	0 11	F
	Thallium	0 19	UW	0 19	UJ
	Tin	2 4	B	2 4	U
	Vanadium	18 8	B	18 8	F
BHGLTA334-02	Antimony	0 25	UN	0 25	UJ
	Arsenic	3 0	B	3 0	F
	Cadmium	0 06	B	0 06	F
	Chromium	15 6	-	15 6	U
	Cobalt	2 1	B	2 1	F
	Copper	2 9	B	2 9	U
	Nickel	7 5	B	7 5	U
	Selenium	0 88	UWN	0 88	UJ
	Silver	0 01	U	0 01	UJ
	Thallium	0 18	UW	0 18	UJ
	Tin	1 9	B	1 9	U
	Zinc	16 7	B	16 7	F

BHGLTA334-03	Antimony	0 28	UN	0 28	UJ
	Cadmium	0 04	U	0 04	UJ
	Chromium	15 4	-	15 4	U
	Cobalt	4 5	B	4 5	F
	Copper	10 1	-	10 1	U
	Lead	7 4	W	7 4	J
	Nickel	20 5	-	20 5	U
	Selenium	1 0	UWN	1 0	UJ
	Silver	0 01	UW	0 01	UJ
	Thallium	0 20	UW	0 20	UJ
	Tin	2 2	B	2 2	U
	Vanadium	25 7	B	25 7	F
	Zinc	20 0	B	20 0	F
DUP01	Antimony	0.23	UN	0 23	UJ
	Arsenic	1.7	B	1 7	U
	Barium	12 9	B	12 9	F
	Beryllium	0 07	B	0 07	U
	Cadmium	0 03	U	0 03	UJ
	Chromium	2 2	B	2 2	U
	Cobalt	0 96	B	0 96	F
	Copper	1 5	B	1 5	U
	Lead	4 3	W	4 3	J
	Nickel	2 6	B	2 6	U
	Selenium	0 82	UWN	0 82	UJ
	Silver	0 01	UW	0 01	UJ
	Thallium	0 16	UW	0 16	UJ
	Tin	1 2	B	1 2	U
	Vanadium	5 2	B	5 2	F
	Zinc	5 2	B	5 2	F
DUP02	Antimony	0 29	BN	0 29	F
	Arsenic	3 6	B	3 6	F
	Barium	36 5	B	36 5	F
	Cadmium	0 06	B	0 06	F
	Chromium	7 9	B	7 9	U
	Cobalt	2 5	B	2 5	F
	Copper	7 7	B	7 7	U
	Nickel	6 6	B	6 6	U
	Selenium	0 20	UWN	0 20	UJ
	Silver	0 01	UW	0 01	UJ
	Thallium	0 20	UW	0 20	UJ
	Tin	2 2	B	2 2	U
	Vanadium	18 0	B	18 0	F
	Zinc	25 7	B	25 7	F
EB012401	Selenium	1 9	UW	1 9	UJ
	Thallium	1 8	UW	1 8	UJ

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3-19-01

POLYNUCLEAR AROMATIC HYDROCARBONS

USEPA SW846 Method 8310 - Level III Review

Site: Naval Air Station Fort Worth - DO33CBB SDG #: 9B01G206

Client HydroGeoLogic, Inc Date: March 5, 2001

Laboratory Severn Trent Laboratories, Chicago, IL Reviewer: Christine Garvey

Client Sample ID	Laboratory Sample ID	Matrix
BHGLTA942-01	9B01G206-001	Soil
BHGLTA942-01MS	9B01G206-001MS	Soil
BHGLTA942-01MSD	9B01G206-001MSD	Soil
BHGLTA942-02	9B01G206-002	Soil
BHGLTA942-02DL1	9B01G206-002DL1	Soil
BHGLTA942-02DL2	9B01G206-002DL2	Soil
BHGLTA942-02 SPLP	9B01G206-003	Water
BHGLTA942-03	9B01G206-004	Soil
BHGLTA942-03DL	9B01G206-004DL	Soil
BHGLTA942-03 SPLP	9B01G206-005	Water
BHGLTA942-04	9B01G206-006	Soil
BHGLTA942-04DL	9B01G206-006DL	Soil
BHGLTA942-05	9B01G206-007	Soil
BHGLTA942-06	9B01G206-008	Soil
DUP01	9B01G206-014	Soil
EB012401	9B01G206-016	Water

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

Initial Calibration - The initial calibrations analyzed on 01/18/01, 02/07/01 and 02/14/01 exhibited acceptable %RSD values <20% and correlation coefficients >0 995 No qualifications were required.

Continuing Calibration - The continuing calibrations analyzed on 02/06/01, 02/07/01, 02/08/01, 02/09/01, 02/10/01, 02/11/01, 02/14/01 and 02/15/01 exhibited acceptable %D and RRF values No qualifications were required

The 2nd source calibrations analyzed on 02/08/01 and 02/14/01 exhibited acceptable %D values No qualifications were required

Surrogates - Sample BHGLTA942-02 exhibited interference with surrogate compound 2-benzo(e)pyrene. All results have been qualified (J/UJ) in this sample unless already qualified

Laboratory Control Samples - LCS samples BLKGP0098-MB1, BLKGP0072-MB1, BLKGP0097-MB1 and BLKGP0069-MB1 exhibited acceptable %R values. No qualifications were required.

MS/MSD - MS/MSD sample BHGLTA942-01 exhibited a high MSD %R value for pyrene of 136%, however, this result has already been qualified and no further qualifications were required.

Method Blank - Method blanks BLKGP0069-MB1 (01/27/01), BLKGP0072-MB1(01/29/01), BLKGP0098-MB1(01/29/01) and BLKGP0097-MB1(02/07/01) were free of contamination No qualifications were required

Field, equipment blank - Equipment blank EB012401 exhibited fluorene contamination at 0.32 ug/L Fluorene has been qualified (U) in samples BHGLTA942-01 and BHGLTA942-02.

Field Duplicates - Field duplicate results are summarized in the table below. All identified compounds have been qualified (J/UJ) in both samples unless already qualified (F).

Compound	BHGLTA942-02 ug/kg	DUP01 ug/kg	RPD
Acenaphthene	150	88U	NC
Phenanthrene	22	8 4	89%
Anthracene	6 3	1 2	136%
Fluoranthene	120	28	124%
Pyrene	120	21	140%
Benzo(a)anthracene	83	11	153%
Chrysene	87	12	152%
Benzo(b)fluoranthene	120	14	158%
Benzo(k)fluoranthene	65	7 4	159%
Benzo(a)pyrene	150	12	170%
Dibenzo(a h)anthracene	110	18U	NC
Benzo(g,h,i)perylene	84	12	150%
Indeno(1,2,3-cd)pyrene	110	11	162%

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

Samples BHGLTA942-02, BHGLTA942-03 and BHGLTA942-04 exhibited several analytes which exceeded the linear range of the instrument and were flagged (E) or were not reported due to interference. The samples were diluted and reanalyzed and the dilution results were transferred to the original Form Is for these analytes. All results on the original analysis Form Is 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 surrogate, field blank, field duplicate and compound quantitation sections of this report. The NAS Fort Worth JRB 2000 Basewide Quality Assurance Project Plan, March 2000, data validation criteria were used in evaluating the data in this summary report.

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

Qualification Summary Table - PAH SDG 9B01G206					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
BHGLTA942-01	Fluorene	10	-	10	U
	Pyrene	6 9	J	6 9	F
	Benzo(a)anthracene	2 5	J	2 5	F
	Chrysene	3 6	J	3 6	F
	Benzo(g,h,i)perylene	3 3	J	3 3	F
BHGLTA942-02	All Results	-	U/J/E/-	-	UJ/F/U
BHGLTA942-03 SPLP	Anthracene	0 041	J	0 041	F
	Fluoranthene	0 059	J	0 059	F
BHGLTA942-04	Acenaphthene	910	J	910	F
	Fluorene	80	J	80	F
BHGLTA942-06	Phenanthrene	1 6	J	1 6	F
	Fluoranthene	2 0	J	2 0	F
	Benzo(b)fluoranthene	0 80	J	0 80	F
DUP01	Acenaphthene	88	U	88	UJ
	Phenanthrene	8 4	-	8 4	J
	Anthracene	1 2	J	1 2	F
	Fluoranthene	28	-	28	J
	Pyrene	21	-	21	J
	Benzo(a)anthracene	11	-	11	J
	Chrysene	12	-	12	J
	Benzo(b)fluoranthene	14	-	14	J
	Benzo(k)fluoranthene	7 4	-	7 4	J
	Benzo(a)pyrene	12	-	12	J
	Dibenzo(a,h)anthracene	18	U	18	UJ
	Benzo(g,h,i)perylene	12	-	12	J
	Indeno(1,2,3-cd)pyrene	11	-	11	J

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SEMIVOLATILE ORGANIC COMPOUNDS
USEPA SW846 Method 8270C - Level III Review

Site: Naval Air Station Fort Worth - DO33CBB SDG #: 9B01G206

Client: HydroGeoLogic, Inc. Date: March 5, 2001

Laboratory: Severn Trent Laboratories, Chicago, IL Reviewer: Christine Garvey

Client Sample ID	Laboratory Sample ID	Matrix
BHGLTA333-01	9B01G206-009	Soil
BHGLTA333-02	9B01G206-010	Soil
BHGLTA334-01	9B01G206-011	Soil
BHGLTA334-02	9B01G206-012	Soil
BHGLTA334-03	9B01G206-013	Soil
DUP02	9B01G206-015	Soil
EB012401	9B01G206-016	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

Initial Calibration - The initial calibration analyzed on 12/22/00 exhibited high %RSD values for 1,4-naphthoquinone and 4-nitroquinoline-1-oxide of 31 6% and 62 1%, respectively. Both compounds have been rejected (R) in all samples

Continuing Calibration - The continuing calibration analyzed on 01/31/01 exhibited high %D values for hexachlorocyclopentadiene and 1,4-naphthoquinone of 28.7% and 67.1%, respectively. Hexachlorocyclopentadiene has been rejected (R) in all samples 1,4-naphthoquinone has already been rejected due to the initial calibration and no further qualifications were required.

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

Laboratory Control Samples - LCS samples SBLKCO and SBLKCP exhibited acceptable %R values. No qualifications were required

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

Internal Standard (IS) Area Performance - All internal standards met response and retention time (RT) criteria No qualifications were required

Method Blank - Method blanks SBLKCP (01/29/01) and SBLKCO (01/30/01) were free of contamination No qualifications were required.

Field, equipment blank - Equipment blank EB012401 was free of contamination No qualifications were required.

Field Duplicates - Field duplicate results for samples BHGLTA333-01 and DUP02 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 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 rejected compounds due to the initial and continuing 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 9B01G206					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
BHGLTA333-01	Hexachlorocyclopentadiene	410	U	410	R
	1,4-Naphthoquinone	2000	U	2000	R
	4-Nitroquinoline-1-oxide	2000	U	2000	R
BHGLTA333-02	Hexachlorocyclopentadiene	390	U	390	R
	Fluoranthene	220	J	220	F
	Benzo(a)anthracene	330	J	330	F
	Chrysene	360	J	360	F
	Benzo(b)fluoranthene	130	J	130	F
	Benzo(k)fluoranthene	230	J	230	F
	Benzo(a)pyrene	250	J	250	F
	1,4-Naphthoquinone	2000	U	2000	R
	4-Nitroquinoline-1-oxide	2000	U	2000	R
BHGLTA334-01	Hexachlorocyclopentadiene	410	U	410	R
	1,4-Naphthoquinone	2000	U	2000	R
	4-Nitroquinoline-1-oxide	2000	U	2000	R
BHGLTA334-02	Hexachlorocyclopentadiene	390	U	390	R
	1,4-Naphthoquinone	1900	U	1900	R
	4-Nitroquinoline-1-oxide	1900	U	1900	R
BHGLTA334-03	Hexachlorocyclopentadiene	430	U	430	R
	1,4-Naphthoquinone	2200	U	2200	R
	4-Nitroquinoline-1-oxide	2200	U	2200	R
DUP02	Hexachlorocyclopentadiene	420	U	420	R
	1,4-Naphthoquinone	2100	U	2100	R
	4-Nitroquinoline-1-oxide	2100	U	2100	R
EB012401	Hexachlorocyclopentadiene	10	U	10	R
	1,4-Naphthoquinone	52	U	52	R
	4-Nitroquinoline-1-oxide	52	U	52	R

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APPENDIX IX VOLATILE ORGANIC COMPOUNDS

USEPA SW846 Method 8260B - Level III Review

Site Naval Air Station Fort Worth - DO33CBB SDG #: 9B01G206

Client: HydroGeoLogic, Inc Date: March 2, 2001

Laboratory: Severn Trent Laboratories, Chicago, IL Reviewer Christine Garvey

Client Sample ID	Laboratory Sample ID	Matrix
BHGLTA333-01	9B01G206-009	Soil
BHGLTA333-02	9B01G206-010	Soil
BHGLTA334-01	9B01G206-011	Soil
BHGLTA334-02	9B01G206-012	Soil
BHGLTA334-03	9B01G206-013	Soil
DUP02	9B01G206-015	Soil
EB012401	9B01G206-016	Water
TB012401	9B01G206-017	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.

Initial Calibration - The initial calibrations analyzed on 12/04/00-12/05/00 exhibited acceptable %RSD values and/or correlation coefficients and mean RRF values No qualifications were required

The initial calibrations analyzed on 12/28/00 exhibited acceptable %RSD values and/or correlation coefficients and mean RRF values. No qualifications were required.

The initial calibrations analyzed on 01/31/01-02/01/01 exhibited acceptable %RSD values and/or correlation coefficients and mean RRF values. No qualifications were required.

Continuing Calibration - The continuing calibration analyzed on 01/27/01 exhibited acceptable %D values No qualifications were required

The continuing calibration analyzed on 02/04/01 exhibited a high %D value for dichlorodifluoromethane of 36.3% Dichlorodifluoromethane has been rejected (R) in all soil samples.

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

Laboratory Control Samples - LCS sample VBLKZV exhibited a low %R value for methylene chloride of 58%. Methylene chloride has been rejected (R) in all water samples

LCS sample VBLKZP exhibited acceptable %R values No qualifications were required

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

Internal Standard (IS) Area Performance - All internal standards met response and retention time (RT) criteria No qualifications were required.

Method Blank - Method blanks VBLKZV and VBLKZP were free of contamination No qualifications were required

Trip. field. equipment blank - Trip blank TB012401 exhibited acetone contamination at 7 ug/L. Acetone has been qualified (U) in sample EB012401.

Equipment blank EB012401 was free of contamination No qualifications were required.

Field Duplicates - Field duplicate results for samples BHGLTA333-01 and DUP02 are non-detect No qualifications were required.

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 field blank, TIC and compound quantitation sections of this report with the exception of compounds rejected due to the continuing calibration and LCS. The NAS Basewide Quality Assurance Project Plan, March 2000, data validation criteria were used in evaluating the data in this summary report

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

Qualification Summary Table - Volatiles SDG 9B01G206					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
BHGLTA333-01	Dichlorodifluoromethane	6	U	6	R
BHGLTA333-02	Dichlorodifluoromethane	6	U	6	R
BHGLTA334-01	Dichlorodifluoromethane	6	U	6	R
BHGLTA334-02	Dichlorodifluoromethane	6	U	6	R
BHGLTA334-03	Dichlorodifluoromethane Toluene	6 3	U J	6 3	R F
DUP02	Dichlorodifluoromethane	6	U	6	R
EB012401	Acetone Methylene Chloride	8 0 5	- U	8 0 5	U R
TB012401	Methylene Chloride	0 5	U	0 5	R

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APPENDIX IX PESTICIDES/PCBs

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

Site Naval Air Station Fort Worth - DO33CBB SDG #: 9B01G206

Client: HydroGeoLogic, Inc Date: March 5, 2001

Laboratory: Severn Trent Laboratories, Chicago, IL Reviewer: Christine Garvey

Client Sample ID	Laboratory Sample ID	Matrix
BHGLTA942-01	9B01G206-001	Soil
BHGLTA942-01MS	9B01G206-001MS	Soil
BHGLTA942-01MSD	9B01G206-001MSD	Soil
BHGLTA942-01DL	9B01G206-001DL	Soil
BHGLTA942-01RE	9B01G206-001RE	Soil
BHGLTA942-02	9B01G206-002	Soil
BHGLTA942-02 SPLP	9B01G206-003	Water
BHGLTA942-02RE SPLP	9B01G206-003RE	Water
BHGLTA942-03	9B01G206-004	Soil
BHGLTA942-03 SPLP	9B01G206-005	Water
BHGLTA942-03RE SPLP	9B01G206-005RE	Water
BHGLTA942-04	9B01G206-006	Soil
BHGLTA942-05	9B01G206-007	Soil
BHGLTA942-06	9B01G206-008	Soil
BHGLTA333-01	9B01G206-009	Soil
BHGLTA333-02	9B01G206-010	Soil
BHGLTA334-01	9B01G206-011	Soil
BHGLTA334-02	9B01G206-012	Soil
BHGLTA334-03	9B01G206-013	Soil
DUP01	9B01G206-014	Soil
DUP02	9B01G206-015	Soil
EB012401	9B01G206-016	Water

Holding Times - All samples were extracted within 7 days for water samples and 14 days for soil/SPLP 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 with the exception of samples BHGLTA942-01RE, BHGLTA942-02RE SPLP and BHGLTA942-03RE SPLP which were extracted outside of holding times. All results have been qualified (UJ) in these samples.

Initial Calibration - The initial calibrations analyzed on 02/05/01-02/06/01 exhibited acceptable %RSD values and/or correlation coefficients greater than 0 995. No qualifications were required

The initial calibrations analyzed on 02/07/01 and 02/12/01 exhibited acceptable %RSD values and/or correlation coefficients greater than 0.995 No qualifications were required.

Continuing Calibration Verification - The continuing calibrations analyzed 02/08/01, 02/12/01, 02/13/01 and 02/19/01 exhibited acceptable %D values on either column for the reported compounds No qualifications were required.

The continuing calibration analyzed on 02/09/01 (0715) exhibited high %D values on both columns for alpha-BHC and heptachlor of 16.0%/21.8% and 15.6%/20.4%, respectively. Alpha-BHC and heptachlor have been rejected (R) in samples BHGLTA942-02, BHGLTA942-03, BHGLTA942-04, BHGLTA942-05, BHGLTA942-06, BHGLTA333-01, BHGLTA333-02, BHGLTA334-01, BHGLTA334-02, BHGLTA334-03, DUP01 and DUP02.

The continuing calibration analyzed on 02/09/01 (1822) exhibited high %D values on both columns for gamma-BHC of 16.6%/17 4% Gamma-BHC has been rejected (R) in samples BHGLTA942-05, BHGLTA942-06, BHGLTA333-01, BHGLTA333-02, BHGLTA334-01, BHGLTA334-02, BHGLTA334-03, DUP01 and DUP02

The 2nd source calibration analyzed on 02/05/01 exhibited high %D values on both columns for endrin aldehyde of 42 7%/46 2% Endrin aldehyde has been rejected (R) in all samples

Method Blank - Method blanks PBLKEI (01/27/01), PBLKEL (01/31/01), PBLKEU (02/07/01), PBLKEW (02/09/01) and PBLKFP (02/09/01) were free of contamination. No qualifications were required

Field, equipment blank - Equipment blank EB012401 exhibited heptachlor contamination at 0.30 ug/L, however, all associated results are non-detect and no qualifications were required

Surrogates - Sample BHGLTA942-03 SPLP exhibited a low %R value for surrogate compound DCB of 20% All results have been qualified (UJ) in this sample unless already qualified.

Laboratory Control Samples - LCS samples PBLKEJGP0070-MB2, PBLKELGP0075-MB1, PBLKEMGP0075-MB2, PBLKEXGP0111-MB2 AND PBLKFQGP0114-MB2 exhibited acceptable %R values. No qualifications were required.

LCS samples PBLKEIGP0070-MB1, PBLKEUGP0099-MB1, PBLKEWGP0111-MB1 and PBLKFPGP0114-MB1 exhibited high %R values for endrin aldehyde of 165%, 168%, 170% and 164%, respectively, however, all associated results are non-detect and no qualifications were required

MS/MSD - MS/MSD sample BHGLTA942-01 exhibited acceptable surrogate %R and RPD values No qualifications were required.

Field Duplicates - Field duplicate results are summarized in the tables below. Alpha-Chlordane, gamma-chlordane and chlordane have been qualified (J/UJ) in samples BHGLTA942-02 and DUP01

Compound	BHGLTA942-02 ug/kg	DUP01 ug/kg	RPD
Alpha Chlordane	820 U	13	NC
Gamma Chlordane	820 U	13	NC
Chlordane	490 U	110	NC

Compound	BHGLTA333-01 ug/kg	DUP02 ug/kg	RPD
None	ND	ND	--

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).

One sample was analyzed at a dilution due to matrix interference. No action was taken on this basis.

Sample BHGLTA942-01 exhibited aroclor-1254 but the MS/MSD sample was non-detect. The laboratory re-extracted the sample outside of holding times and the results were non-detect The original positive results for aroclor-1254 were suspected to be laboratory contamination per the laboratory case narrative. The reanalysis results should be used for reporting purposes.

Samples BHGLTA942-02 SPLP and BHGLTA942-03 SPLP were re-extracted outside of holding times The original sample results 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 holding times, surrogate and compound quantitation sections of this report with the exception of compounds rejected due to the continuing calibration and 2nd source 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 - Pesticides/PCBs SDG 9B01G206					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
BHGLTA942-01RE	Endrin Aldehyde	22	U	22	R
	All Results	--	U	--	UJ
BHGLTA942-02	Alpha-BHC	110	U	110	R
	Heptachlor	110	U	110	R
	Endrin Aldehyde	1100	U	1100	R
	Alpha-Chlordane	820	U	820	UJ
	Gamma-Chlordane	820	U	820	UJ
	Chlordane	490	U	490	UJ
BHGLTA942-03	Alpha-BHC	110	U	110	R
	Heptachlor	110	U	110	R
	Endrin Aldehyde	1100	U	1100	R
BHGLTA942-04	Alpha-BHC	110	U	110	R
	Heptachlor	110	U	110	R
	Endrin Aldehyde	1100	U	1100	R
BHGLTA942-05	Alpha-BHC	2 2	U	2 2	R
	Gamma-BHC	3 3	U	3 3	R
	Heptachlor	2 2	U	2 2	R
	Endrin Aldehyde	22	U	22	R
BHGLTA942-06	Alpha-BHC	2 3	U	2 3	R
	Gamma-BHC	3 4	U	3 4	R
	Heptachlor	2 3	U	2 3	R
	Endrin Aldehyde	23	U	23	R
BHGLTA333-01	Alpha-BHC	4 9	U	4 9	R
	Gamma-BHC	7 3	U	7 3	R
	Heptachlor	4 9	U	4 9	R
	Endrin Aldehyde	49	U	49	R
BHGLTA333-02	Alpha-BHC	12	U	12	R
	Gamma-BHC	18	U	18	R
	Heptachlor	12	U	12	R
	Endrin Aldehyde	120	U	120	R
BHGLTA334-01	Alpha-BHC	4 9	U	4 9	R
	Gamma-BHC	7 4	U	7 4	R
	Heptachlor	4 9	U	4 9	R

Qualification Summary Table - Pesticides/PCBs SDG 9B01G206					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
	Endrin Aldehyde	49	U	49	R
BHGLTA334-02	Alpha-BHC	2 3	U	2 3	R
	Gamma-BHC	3 5	U	3 5	R
	Heptachlor	2 3	U	2 3	R
	Endrin Aldehyde	23	U	23	R
BHGLTA334-03	Alpha-BHC	2 6	U	2 6	R
	Gamma-BHC	3 9	U	3 9	R
	Heptachlor	2 6	U	2 6	R
	Endrin Aldehyde	26	U	26	R
DUP01	Alpha-BHC	21	U	21	R
	Gamma-BHC	32	U	32	R
	Heptachlor	21	U	21	R
	Endrin Aldehyde	210	U	210	R
	Alpha-Chlordane	13	-	13	J
	Gamma-Chlordane	13	-	13	J
	Chlordane	110	-	110	J
DUP02	Alpha-BHC	2 5	U	2 5	R
	Gamma-BHC	3 7	U	3 7	R
	Heptachlor	2 5	U	2 5	R
	Endrin Aldehyde	25	U	25	R
EB012401	Endrin Aldehyde	0 24	U	0 24	R

METALS

USEPA SW846 Methods 6010B/7000 - Level III Review

Site. Naval Air Station Fort Worth - DO33CBB SDG #: 9B02G270

Client: HydroGeoLogic, Inc Date: April 20, 2001

Laboratory: Severn Trent Laboratories, Chicago, IL Reviewer Christine Garvey

Client Sample ID	Laboratory Sample ID	Matrix
HM127	9B02G270-001	Water
WHGLTA701WG01	9B02G270-002	Water
EB022001	9B02G270-003	Water
WHGLTA703WG01	9B02G270-005	Water
DUP15	9B02G270-007	Water

Holding Times - All samples were extracted and analyzed within 28 days for mercury and 180 days for all other metals as specified in the NAS Fort Worth JRB 2000 Basewide Quality Assurance Project Plan (QAPP), March 2000. No qualifications were required

Calibration - All initial and continuing calibration verifications exhibited acceptable %R values No qualifications were required

Method Blanks - The water preparation blank PBW, initial and/or continuing calibration blanks exhibited negative copper and vanadium contamination at -1 5 ug/L and -1.8 ug/L, respectively. Copper and vanadium have been qualified (UJ) in samples HM127 and EB022001.

Field and equipment blank - Equipment blank EB022001 was free of contamination. No qualifications were required

ICP Interference Check Sample - All %R values were acceptable No qualifications were required

LCS - The LCS samples exhibited acceptable %R values and values within the control limits No qualifications were required

ICP Serial Dilution - An ICP serial dilution sample was not analyzed with this data package.

Matrix Spike/Duplicate - A matrix spike/duplicate sample was not analyzed with this data package.

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

Compound	WHGLTA703WG01 ug/L	DUP15 ug/L	RPD
Arsenic	14 5	14 9	3%

Graphite Furnace Atomic Absorption (GFAA) Analysis - One sample exhibited a postdigestion spike for chromium and selenium analyses 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 (UJ) by the reviewer

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, 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 9B02G270					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
HM127	Barium	65 6	B	65 6	F
	Chromium	1 7	UW	1 7	UJ
	Copper	1 2	U	1 2	UJ
	Selenium	1 9	UW	1 9	UJ
	Vanadium	0 90	U	0 90	UJ
EB022001	Copper	1 2	U	1 2	UJ
	Vanadium	0 90	U	0 90	UJ
WHGLTA703WG01	Arsenic	14 5	B	14.5	F
DUP15	Arsenic	14 9	B	14 9	F

ENVIRONMENTAL
Data Services, Inc.

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4/25/01

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APPENDIX IX VOLATILE ORGANIC COMPOUNDS
USEPA SW846 Method 8260B - Level III Review

Site: Naval Air Station Fort Worth - DO33CBB SDG #: 9B02G270

Client: HydroGeoLogic, Inc Date: April 20, 2001

Laboratory Severn Trent Laboratories, Chicago, IL Reviewer: Christine Garvey

Client Sample ID	Laboratory Sample ID	Matrix
HM127	9B02G270-001	Water
WHGLTA701WG01	9B02G270-002	Water
WHGLTA701WG01DL10	9B02G270-002DL10	Water
WHGLTA701WG01DL100	9B02G270-002DL100	Water
EB022001	9B02G270-003	Water
TB022001	9B02G270-004	Water
WHGLTA703WG01	9B02G270-005	Water
WHGLTA703WG01DL	9B02G270-005DL	Water
WHGLTA702WG01	9B02G270-006	Water
DUP15	9B02G270-007	Water
DUP15DL	9B02G270-007DL	Water

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

GC/MS Tuning - All of the BFB tunes in the initial and continuing calibrations met the percent relative abundance criteria No qualifications were required

Initial Calibration - The initial calibrations analyzed on 12/28/00-02/24/01 exhibited acceptable %RSD values and/or correlation coefficients and mean RRF values. No qualifications were required.

Continuing Calibration - The continuing calibration analyzed on 02/27/01 exhibited acceptable %D values. No qualifications were required.

The continuing calibration analyzed on 02/26/01 exhibited a high %D value for MTBE of 25 6% MTBE has been rejected (R) in all original analysis samples except WHGLTA702WG01

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

Laboratory Control Samples - LCS samples VBLKHK and VBLKGS exhibited low %R values for methylene chloride of 74% and 67%, respectively Methylene chloride has been rejected (R) in all samples.

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

Internal Standard (IS) Area Performance - All internal standards met response and retention time (RT) criteria No qualifications were required.

Method Blank - Method blank VBLKGS (02/26/01) was free of contamination. No qualifications were required

Method blank VBLKHK (02/27/01) exhibited acetone contamination at 5 ug/L, however. the associated results are non-detect and no qualifications were required.

Trip, field. equipment blank - Equipment blank EB022001 exhibited acetone and methylene chloride contamination at 4 ug/L and 6 ug/L, respectively However. all associated results are non-detect and no qualifications were required

Trip blank TB022001 was free of contamination. No qualifications were required.

Field Duplicates - Field duplicate results are summarized in the table below. 1,4-Dichlorobenzene has been qualified (J) in both samples.

Compound	WHGLTA703WG01 ug/L	DUP15 ug/L	RPD
Vinyl Chloride	16	18	12%
1,1-Dichloroethene	3	3	0%
Trans-1,2-Dichloroethene	30	32	6%
1,1-Dichloroethane	0 6	0 7	15%
Cis-1,2-Dichloroethene	530	490	8%
Chloroform	0 5	0 5	0%
Trichloroethene	2200	2200	0%
1,4-Dichlorobenzene	0 4	0 3	29%*

Tentatively Identified Compounds - All TICs were qualified (T)

Compound Quantitation - Several samples exhibited compounds which exceeded the linear range of the instrument and were flagged (E) by the laboratory. The samples were diluted and reanalyzed and the original results for these compounds were replaced on the Form Is with the dilution results. All results on the original analysis Form Is 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 field duplicate and TICs sections of this report with the exception of two compounds rejected due to the LCS and continuing calibrations. The NAS Basewide Quality Assurance Project Plan, March 2000, data validation criteria were used in evaluating the data in this summary report.

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

Qualification Summary Table - Volatiles SDG 9B02G270					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
HM127	Methylene Chloride	0 5	U	0 5	R
	MTBE	0 5	U	0 5	R
WHGLTA701WG01	Methylene Chloride	0 5	U	0 5	R
	MTBE	0 5	U	0 5	R
EB022001	Methylene Chloride	6	-	6	R
	MTBE	0 5	U	0 5	R
TB022001	Methylene Chloride	0 5	U	0 5	R
	MTBE	0 5	U	0 5	R
WHGLTA703WG01	Methylene Chloride	0 5	U	0 5	R
	MTBE	0 5	U	0 5	R
	1,4-Dichlorobenzene	0 4	-	0 4	J
WHGLTA702WG01	Methylene Chloride	0 5	U	0 5	R
DUP15	Methylene Chloride	0 5	U	0 5	R
	MTBE	0 5	U	0 5	R
	1,4-Dichlorobenzene	0 3	-	0 3	J

711 443

ENVIRONMENTAL
Data Services, Inc.

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4/25/01

SEMIVOLATILE ORGANIC COMPOUNDS (PAH)

USEPA SW846 Method ~~8270C~~ - Level III Review
8310

Site: Naval Air Station Fort Worth - DO33CBB SDG #: 9B02G270

Client: HydroGeoLogic, Inc. Date: April 23, 2001

Laboratory: Severn Trent Laboratories, Chicago, IL Reviewer: Christine Garvey

Client Sample ID	Laboratory Sample ID	Matrix
HM127	9B02G270-001	Water
HM127RE	9B02G270-001RE	Water
EB022001	9B02G270-003	Water

Holding Times - All samples were extracted within 7 days for water samples and analyzed within 40 days as specified in NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), March 2000 with the exception of sample HM127RE which was extracted outside of holding times. All results have been qualified (UJ) in this sample

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 02/20/01, 03/05/01 and 03/08/01 exhibited acceptable %RSD values <30%, mean RRF values and correlation coefficients >0 995. No qualifications were required.

Continuing Calibration - The continuing calibrations analyzed on 02/26/01, 02/27/01, 03/05/01 and 03/08/01 exhibited acceptable %D and RRF values. No qualifications were required.

Surrogates - Sample HM127 exhibited a low %R value for surrogate compound decafluorobiphenyl of 5% All results have been rejected (R) in this sample.

Laboratory Control Samples - LCS samples 9BGP0148-MB1 and 9BGP0162-MB1 exhibited acceptable %R values No qualifications were required.

LCS sample SBLKDF exhibited a low %R value for bis(2-ethylhexyl)phthalate of 68%, however, all associated results are non-detect and no qualifications were required.

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

Internal Standard (IS) Area Performance - All internal standards met response and retention time (RT) criteria. No qualifications were required

Method Blank - Method blanks 9BGP0148 (02/23/01) and 9BGP0162 (02/28/01) were free of contamination No qualifications were required.

Field. equipment blank - Equipment blank EB022201 exhibited fluorene contamination at 0 24 ug/L, however. all associated results are non-detect and no qualifications were required

Field Duplicates - Field duplicate samples were not analyzed with this data package

Tentatively Identified Compounds (TICs) - TICs were not reported with the samples in this data package

Compound Quantitation - Sample HM127 exhibited a low (<10%) surrogate recovery and all results were rejected. The sample was reanalyzed outside of holding times and all results were qualified as estimated (UJ). Due to less severe qualifications, the reanalysis sample results 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 holding times and compound quantitation sections of this report with the exception of rejected results due to the low surrogate recovery 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 - PAH SDG 9B02G270					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
HM127	All Results	--	U	--	R

Qualification Summary Table - PAH SDG 9B02G270					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
HM127RE	All Results	--	U	--	UJ
EB022001	Fluorene	0 24	J	0 24	F

Metals
SW-846 ICP and AA methods
USEPA Level III Review

Site: Naval Air Station Fort Worth JRB, Texas — SDG # 202584

Laboratory: STL-Chicago — Date: 06.20.01

HydroGeoLogic, Inc. Reviewer. Kimberly Evers — Project AFC001-33DAA

Client Sample ID	Laboratory Sample ID	Matrix
LF03-3DWG14	202584-2	Water
WITCTA010WG14	202584-3	Water

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 analyzed within the required holding times for preserved water samples No qualification required.

Calibration [Form 2A] - The initial and continuing calibration verification standards had acceptable recoveries No qualification required

Method and Calibration Blanks [Form 3] -See the following table for the effects of positive and negative contamination in the preparation blank, initial calibration blanks, and continuing calibration blanks.

Analtye	Greatest Blank	Action Level	Affected samples
Aluminum	115 41	577.05	No effect on sample results
Aluminum	-28 86	(-144 3)	WITCTA010WG14
Arsenic	-4 2	(-21 0)	WITCTA010WG14
Calcium	90 02	450 1	No effect on sample results
Cadmium	-0 45	(-2 25)	WITCTA010WG14
Copper	4 28	21 4	WITCTA010WG14
Iron	45.11	225.55	No effect on sample results
Magnesium	78.28	391 4	No effect on sample results
Manganese	2 85	14 25	No effect on sample results
Nickel	-2 69	(-13.45)	WITCTA010WG14
Sodium	1 28	6.4	No effect on sample results
Vanadium	2.73	10 55	No effect on sample results

Due to a positive detection in associated blanks, copper should be U-qualified at the PQL in WITCTA010WG14. All other results were for these elements were non-detect or above 5X the blank concentration and no qualification is necessary

The preparation blank, initial calibration blank or continuing calibration blank showed negative baseline drift for aluminum, arsenic, cadmium and nickel. The aluminum, cadmium and nickel results for sample WITCTA010WG14 are non-detect and should be UJ flagged at the PQL The arsenic detection should retain its F-flag because it takes priority over a J-flag

Equipment Blanks [Form 1] - An equipment blank was not submitted with this data package; no qualification is necessary.

ICP Interference Check Sample [Form 4] - All %Rs were in control No qualification necessary.

ICP Serial Dilution [Form 9] - All %D% were in control. No qualification necessary.

Laboratory Control Samples [Form 7] - All LCSs had acceptable recoveries. No qualification required.

GFAA Recovery Tests [Form 14] - The recovery test result was above the UCL for chromium in samples LF03-3DWG14 and WITCTA010WG14 and below the LCL for selenium in sample WITCTA010WG14. The affected results are non-detect and are qualified UJ at the PQL.

MS/MSD [Form 5] - A matrix spike/matrix spike duplicate was preformed on sample WITCTA010WG14. All %Rs were in control except for a low %R for iron in the MS and calcium and selenium in the MS and MSD. The calcium and iron detections for WITCTA010WG14 should be J qualified Selenium results for this sample have already been UJ qualified due to a failure to meet recovery test criteria No further qualification required

Laboratory Duplicates [Form 6] - A laboratory duplicate was not analyzed with this data package No qualification necessary.

Field Duplicates [Form 1] - No field duplicate is associated with the samples in this SDG No qualification required

Compound Quantitation - Alll analytes detected below the PQL are reported as F-qualified detections

Qualification Summary Table

Sample ID	Analyte	Lab Val	Lab Qual	HGL Val	HGL Qual
LF03-3DWG14	Chromium	MDL	U	MDL	UJ
WITCTA010WG14	Aluminum	MDL	U	MDL	UJ
	Cadmium	MDL	U	MDL	UJ
	Calcium	82300	no flag	82300	J
	Chromium	MDL	U	1.7	UJ
	Copper	3.6	F	~~MDL~~ 3.6	U
	Iron	5930	no flag	5930	J
	Nickel	MDL	U	MDL	UJ
	Selenium	MDL	U	MDL	UJ

Volatile Organic Compounds
SW-846 Method 8260B
USEPA Level III Review

Site NAS Fort Worth JRB

SDG # 202584

Laboratory STL-Chicago

Date: 06 18 01

HydroGeoLogic, Inc Reviewer: Kimberly Evers

Project AFC001-33DAA

Client Sample ID	Laboratory Sample ID	Matrix
GMI-22-07MWG14	202584-1	Water
LF03-3DWG14	202584-2	Water
WITCTA010WG14	202584-3	Water
LF05-01WG14	202584-4	Water
TB032701	202584-5	Water
GMI-22-06MWG14	202584-6	Water

Sample Delivery and Condition - The samples arrived at the laboratory in acceptable condition and temperature, and properly preserved Proper custody was documented. No qualification required

Holding Times - All samples were analyzed within the required holding times for preserved water samples No qualification required

GC/MS Tuning [Form 5] - The initial calibration and sample analytical sequences were all performed within 12 hours of an acceptable MS tune No qualification required

Initial Calibration [Form 6] - Two initial calibrations are associated with these samples Both initial calibrations had acceptable average RRFs for all SPCCs The mean %RSD for all analytes was below 15%, all compound %RSDs were <30%. Compounds with a %RSD <15% are quantified using relative standard deviation. Those with %RSD >15% are quantified using the calibration curve. All calibration curves were evaluated and found to have r^2>0 995 No Qualification required

Continuing Calibration [Form 7] - Two continuing calibration verifications (CCVs) are associated with this SDG, a CCV run on 04 02 1 and one run on 04.04 01. All SPCCs had CCRFs in control All CCC %Ds were <20%, all other compound %Ds were in control with the following exceptions:

04.02 01 Bromomethane had a %D of 25.9% All results for this compound should be R-qualified

04 04 01· Methylene chloride had a %D of 30 24% No methylene chloride results associated with this CCV were reported and no qualification is necessary.

Surrogates [Form 2] -All surrogate recoveries were within established control limits. No data required qualification

Laboratory Control Samples [Form 3] - All %R results for LSCs VBLK14845BS and VBLK15373BS met established control limits and no qualifications are required

MS/MSD [Form 3] - Sample GMI-22-07MWG14 was used for the MS/MSD. All %Rs were in control except for low %R for 1-chlorohexane in the MSD The non-detect result for 1-chlorohexane in the parent sample should be UJ qualified All RPDs were in control with the exception of dichlorodifluoromethane , chloromethane, methyl-*tert*-butyl ether, bromochloromethane and 1-chlorohexane. There were no detections of the affected compounds and no qualification is necessary.

Internal Standard Performance [Form 8] - All internal standards met area and retention time criteria. No qualification necessary.

Method Blanks [Form 1] - Both method blanks were free from contamination No qualification necessary.

Equipment and Trip Blanks [Form 1] - Trip blank TB032701 was contaminated with 0 8 µg/L of chloromethane There were no detections of the affected compound and no qualification is necessary.

Field Duplicates [Form 1] - No duplicate pairs were submitted with this SDG . No qualification required.

Compound Quantitation - Sample LF05-01WG14 was analyzed at a 10 fold dilution due to high levels of TCE Sample GMI-22-06MWG14 was analyzed at a 50 fold dilution due to high levels of cis-1,2-dichloroethene and TCE.

Qualification Summary Table

Sample ID	Analyte	Lab Val	Lab Qual	HGL Val	HGL Qual
GMI-22-07MWG14	1-chlorohexane	0.3	U	0 3	UJ
LF03-3DWG14	No qualification necessary				
WITCTA010WG14	No qualification necessary				
LF05-01WG14	Trichloroethene	Dilution result used			
LF05-01WG14DL	Trichloroethene	46	--	46	No flag
TB032701	No qualification necessary	--	--	--	--
GMI-22-06MWG14	1,1-dichloroethene	0 4	--	0 4	F
	cis-1,2-dichloroethene	Dilution result used			
	Trichloroethene	Dilution result used			
GMI-22-06MWG14DL	cis-1,2-dichloroethene	84	--	84	No Flag
	Trichloroethene	160	--	160	No flag

Volatile Organic Compounds
SW-846 Method 8260B
USEPA Level III Review

Site NAS Fort Worth JRB | SDG # 202686

Laboratory STL-Chicago | Date 06.25 01

HydroGeoLogic, Inc Reviewer Kimberly Evers | Project AFC001-33DAA

Client Sample ID	Laboratory Sample ID	Lab Batch	Matrix
TB040301	202686-1	17650	Water
EB040301	202686-2	17650	Water
AB040301	202686-3	17650	Water
SPOT35-5WG14	202686-4	17650	Water
WITCTA004WG14	202686-5	17647/17653	Water
W-153WG14	202686-6	17647/17653	Water
HM-116WG14	202686-7	17647/17653	Water
WHGLTA043WG14	202686-8	17653	Water
DUP03WG14	202686-9	17647	Water
WHGLTA044WG14	202686-10	17647	Water
WHGLTA044WG14MS	202686-10	17647	Water
WHGLTA044WG14MSD	202686-10	17647	Water
WHGLTA045WG14	202686-11	17647	Water
WHGLTA704WG14	202686-12	17647	Water
HM-126WW14	202686-13	17647/17653	Water

Note The only compounds that are being considered are the target compounds reported in this SDG and those relevant compounds used for data validation

Sample Delivery and Condition - The samples arrived at the laboratory in acceptable condition and temperature, and properly preserved Proper custody was documented No qualification required

Holding Times - All samples were analyzed within the required holding times for preserved water samples No qualification required

GC/MS Tuning [Form 5] - The initial calibration and sample analytical sequences were all performed within 12 hours of an acceptable MS tune No qualification required

Initial Calibration [Form 6] - The initial calibration had acceptable average RRFs for all SPCCs The mean %RSD for all analytes was below 15%, all compound %RSDs were <30% Compounds with a %RSD <15% are quantified using relative standard deviation Those with %RSD >15% are quantified using the calibration curve All calibration curves were evaluated and found to have r^2>0 995 No Qualification required

Continuing Calibration [Form 7] - Three continuing calibration verifications (CCVs) are associated with this SDG One was run on 04 06 01, one was run on 04 09 01 (at 9 09) and one was run on 04 09 01 (at 20 36) All SPCCs had CCRFs in control. All CCC %Ds were <20%, all other compound %Ds were in control with the following exceptions.

04.09 01(9 09)· Methylene chloride had a %D of 28 33% All associated results should be R qualified.

04 09 01(20 36) Dichlorodifluoromethane had a %D of 26.99% All associated results should be R qualified.

04 09 01(20 36). Methylene chloride had a %D of 38 70% All associated results should be R qualified

Surrogates [Form 2] -All surrogate recoveries were within established control limits No data required qualification

Laboratory Control Samples [Form 3] - All %R results for LSC VBLK15484BS met established control limits and no qualifications are required All %R results for LSC VBLK15387BS met established control limits with the exception of a high %R for 1,1-dichloropropene of 132% and cis-1,3-dichloropropene of 128% All associated results are non-detect and no qualification is necessary All %R results for LSC VBLK15485BS met established control limits and no qualifications are required.

MS/MSD [Form 3] - Sample WHGLTA044WG14 was used for the MS/MSD All %Rs were in control except for high %R for cis-1,2-dichloroethene in the MS and MSD There was no detection of the affected compound in the parent sample and no qualification is necessary. All RPDs were in control and no qualification is necessary

Internal Standard Performance [Form 8] - All internal standards met area and retention time criteria No qualification necessary

Method Blanks [Form 1] - All three method blanks were free from contamination No qualification necessary

Equipment and Trip Blanks [Form 1] - Trip blank TB040301 was free from contamination and no qualification is necessary The equipment blank EB040301 and ambient blank AB040301 were both contaminated with 3 µg/L of methylene chloride The ambient blank was also contaminated with 0 6 µg/L of toluene Tnere were no detections of the affected compound and no qualification is necessary.

Field Duplicates [Form 1] - Field duplicate DUP03WG14 is associated with sample WHGLTA043WG14 The RPD meets the acceptance criteria and no qualification is required

Compound Quantitation - Sample WITCTA004WG14 was analyzed at a 10 fold dilution due to high levels of TCE Sample W-153WG14 was analyzed at a 50 fold dilution due to high levels of cis-1,2-dichloroethene and TCE Sample HM-116WG14 was analyzed at a 25 fold dilution due to high levels of cis-1,2-dichloroethene and TCE Sample HM-126WW14 was analyzed at a 10 fold dilution due to high levels of TCE

Qualification Summary Table
Note - The laboratory provides informational codes in a column in the report page called flags Those codes are removed and replaced with the appropriate qualifier.

Sample ID	Analyte	Lab Val	Lab Qual	HGL Val	HGL Qual
TB040301	No qualification necessary	--	--	--	--
EB040301	No qualification necessary	--	--	--	--
AB040301	No qualification necessary	--	--	--	--
SPOT35-5WG14	No qualification necessary	--	--	--	--
WITCTA004WG14	Methylene chloride	0 3	U	0 3	R
	Trichloroethene	Dilution results used			
WITCTA004WG14DL	Trichloroethene	230	--	230	No flag
W-153WG14	Methylene chloride	0 3	U	0 3	R
	cis-1,2-dichloroethene	Dilution results used			
	Trichloroethene	Dilution results used			
W-153WG14DL	cis-1,2-dichloroethene	130	--	130	No flag
	Trichloroethene	830	--	830	No flag
HM-116WG14	Methylene chloride	0 3	U	0 3	R
	cis-1,2-dichloroethene	Dilution results used			
	Trichloroethene	Dilution results used			
HM-116WG14DL	cis-1,2-dichloroethene	48	--	48	No flag
	Trichloroethene	480	--	480	No flag
WHGLTA043WG14	Dichlorodifluoromethane	0 4	U	0 4	R
	Methylene chloride	0 3	U	0 3	R
DUP03WG14	Methylene chloride	0.3	U	0 3	R
WHGLTA044WG14	Methylene chloride	0 3	U	0 3	R
WHGLTA045WG14	Methylene chloride	0 3	U	0 3	R
WHGLTA704WG14	Methylene chloride	0.3	U	0 3	R
HM-126WW14	Methylene chloride	0 3	U	0 3	R
	Trichloroethene	Dilution results used			
HM-126WW14DL	Trichloroethene	280	--	280	No flag

Wet Chemistry
(Alkalinity, Chloride, Nitrate, Sulfate, TOC)
USEPA Level III Review

Site: Naval Air Station Fort Worth JRB, Texas — SDG #: 202686

Laboratory. STL-Chicago — Date 06 25.01

HydroGeoLogic, Inc. Reviewer: Kimberly Evers — Project AFC001-33DAA

Client Sample ID	Laboratory Sample ID	Matrix
W-153WG14	202686-6	Water

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

Holding Times - All samples were analyzed within the required holding times for water samples. No qualification required.

Calibration - The initial calibrations analyzed exhibited acceptable %RSD values and correlation coefficients No qualification necessary.

Method and Calibration Blanks - The method blanks were free of contamination. No qualification necessary

Field and Equipment Blanks - Field QC samples were not associated with the sample in this data package. No qualification required.

Laboratory Control Samples - The LCS samples exhibited acceptable %R values and no qualification required

MS/MSD - Matrix Spike/ Matrix Spike Duplicate analyses were not performed on this sample batch. No qualification required.

Laboratory Duplicates - A laboratory duplicate was not analyzed with this data package. No qualification required

Field Duplicates - Field duplicate sample were not analyzed with this data package No qualification required.

Compound Quantitation - All samples were analyzed with QC elements in control. All results can be accepted as reported without additional qualification.

Metals
SW-846 ICP and AA methods
USEPA Level III Review

Site Naval Air Station Fort Worth JRB, Texas — SDG # 202686

Laboratory· STL-Chicago — Date. 06.25 01

HydroGeoLogic, Inc Reviewer Kimberly Evers — Project. AFC001-33DAA

Client Sample ID	Laboratory Sample ID	Matrix
HM-116WG14	202686-7	Water

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 analyzed within the required holding times for preserved water samples No qualification required

Calibration [Form 2A] - The initial and continuing calibration verification standards had acceptable recoveries. No qualification required

Method and Calibration Blanks [Form 3] -See the following table for the effects of positive and negative contamination in the preparation blank, initial calibration blanks, and continuing calibration blanks

Analtye	Greatest Blank	Action Level	Affected samples
Aluminum	115 41	577 05	No effect on sample results
Aluminum	-28 86	(-144 3)	HM-116WG14
Arsenic	-4 2	(-21 0)	HM-116WG14
Calcium	90 02	450 1	No effect on sample results
Cadmium	-0 45	(-2 25)	HM-116WG14
Cobalt	-0 41	(-2.05)	
Copper	5 22	26 1	HM-116WG14
Iron	45 11	225 55	HM-116WG14
Magnesium	78 28	391 4	No effect on sample results
Manganese	2.85	14 25	HM-116WG14
Nickel	-4 06	(-20 3)	HM-116WG14
Sodium	1 28	6 4	No effect on sample results
Vanadium	2 11	10 55	HM-116WG14

Due to a positive detection in associated blanks, copper, iron, manganese and vanadium should be U-qualified at the PQL in HM-116WG14 All other results were for these elements were non-detect or above 5X the blank concentration and no qualification is necessary

The preparation blank, initial calibration blank or continuing calibration blank showed negative baseline drift for aluminum, arsenic, cadmium, cobalt and nickel The aluminum, cadmium, cobalt and nickel results for sample HM-116WG14 are non-detect and should be UJ flagged at the PQL

Equipment Blanks [Form 1] - An equipment blank was not submitted with this data package, no qualification is necessary.

ICP Interference Check Sample [Form 4] - All %Rs were in control. No qualification necessary.

ICP Serial Dilution [Form 9] - All %D% were in control. No qualification necessary

Laboratory Control Samples [Form 7] - All LCSs had acceptable recoveries. No qualification required

GFAA Recovery Tests [Form 14] - All %Rs were in control. No qualification necessary.

MS/MSD [Form 5] - A matrix spike/matrix spike duplicate was not submitted with this SDG No qualification necessary

Laboratory Duplicates [Form 6] - A laboratory duplicate was not analyzed with this data package No qualification necessary.

Field Duplicates [Form 1] - No field duplicate is associated with the samples in this SDG. No qualification required.

Compound Quantitation - All analytes detected below the PQL are reported as F-qualified detections

Qualification Summary Table

Sample ID	Analyte	Lab Val	Lab Qual	HGL Val	HGL Qual
HM-116WG14	Aluminum	MDL	U	MDL	UJ
	Arsenic	MDL	U	MDL	UJ
	Cadmium	MDL	U	MDL	UJ
	Cobalt	MDL	U	MDL	UJ
	Copper	5 1	F	MDL	U
	Iron	34 9	F	34 9	U
	Manganese	1 3	F	MDL	U
	Nickel	MDL	U	MDL	UJ
	Vanadium	2.3	F	MDL	U

Metals
SW-846 6010B/7000A methods
USEPA Level III Review

Site Naval Air Station Fort Worth JRB, Texas SDG # 203519

Laboratory· STL-Chicago Date 07 26.01

HydroGeoLogic, Inc Reviewer· Ken Rapuano Project. AFC001-33CBB

Client Sample ID	Laboratory Sample ID	Matrix
BHGLTA333-02	205319-1	Soil
BHGLTA333-02	205319-1	SPLP Leachate

Sample Delivery and Condition - This SDG is a relog of a sample originally collected in January 2001 The sample arrived at the laboratory in acceptable condition and temperature Proper custody (internal and external) was documented Note that although the chain of custody requested analysis only for total and leachable arsenic, cadmium, chromium, and lead, the laboratory also reported results for total and leachable antimony, silver, copper, nickel, and zinc at the HydroGeoLogictask manager's request All results reported in this data package have been validated.

Holding Times - All samples were analyzed within the required holding times No qualification required

Calibration - The initial and continuing calibration verification standards had acceptable recoveries, with the exceptions of the ICV and one CCV associated with the analysis of antimony in the leachate The antimony SPLP result is rejected an qualified R

Method and Calibration Blanks - The method, initial calibration, and continuing calibration blanks associated with the soil and water analyses showed some come contamination Note that all blank results were reported in aqueous units and method blanks required conversion into soil units prior to evaluation

Soil Blank Table:

Analyte	Highest Blank (mg/L)	Action Level (mg/kg)
Arsenic	-0 01109	5 545
Cadmium	-0.00102	0 51
Copper	-0 00918	4.59
Nickel	-0 00589	2.945
Zinc	0 01963	9 815
Antimony	-3.384 µg/L	1 692
Lead	7 5205 µg/L	3.76
	-2 048 µg/L	12.4

Water Blank Table·

Analyte	Highest Blank (µg/L)	Action Level (µg/L)
Antimony	10.37	51.85
Cadmium	-0 71	3.55
	0 80	4 0
Copper	-5 53	27.65
	2.27	11 35
Nickel	-3.41	17 05
	1 72	8.6
Silver	3 82	19.1

Analyte detections associated with positive blank contamination should be qualified U if below the action level. Non-detects are not affected. Analyte detections associated with negative blank contamination should be qualified J if below the action level (F-qualified results will retain the F-qualification). Non-detects should be qualified UJ.

Equipment Blanks - Equipment blank 012401 (results located in SDG 9B01G206) is associated with this SDG The equipment blank was free from contamination. No qualification is necessary

ICP Interference Check Sample - All %Rs were in control. No qualification necessary.

ICP Serial Dilution - No analyte concentrations in the original sample are >5x the applicable PQL. No qualification necessary

Laboratory Control Samples - All LCSs had acceptable recoveries. No qualification required.

GFAA Recovery Tests - Antimony had a recovery test %R above the UCL in the soil sample, the associated result is a non-detect and should be qualified UJ. Lead had a recovery test %R above the UCL in the water leachate. The associated result is F-qualified and retains that qualifier over the J qualifier assigned for this discrepancy

MS - A matrix spike/matrix spike duplicate was not analyzed with this data package No qualification required.

Laboratory Duplicates - A laboratory duplicate was not analyzed with this data package. No qualification necessary

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

Compound Quantitation - Lead was analyzed at a 10X dilution in the soil sample MDL and RL raised accordingly.

Qualification Summary Table

Soil units in mg/kg; leachate units in µg/L.

Sample ID	Analyte	Lab Val	Lab Qual	HGL Val	HGL Qual
BHGLTA333-02 (soil sample)	Antimony	0 20	U	0.20	UJ
	Lead	10.3	--	10 3	J
	Cadmium	0.089	U	0.089	UJ
BHGLTA333-02 (leachate sample)	Cadmium	0.40	U	0 40	UJ
	Copper	3 5	F	3.5	UJ
	Nickel	7 1	F	7 1	UJ

Polynuclear Aromatic Hydrocarbons
SW8310
USEPA Level III Review

Site: Naval Air Station Fort Worth JRB, Texas SDG # 204118

Laboratory: STL-Chicago Date: 07.24 01

HydroGeoLogic, Inc. Reviewer: Ken Rapuano

Client Sample ID	Laboratory Sample ID	Matrix
BHGLTA335-02	204118-01	Soil
BHGLTA336-03	204118-02	Soil
BHGLTA336-04	204118-03	Soil

Each sample was analyzed for pyrene and chrysene only

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. No qualification required.

Initial Calibration - The initial calibrations had acceptable %RSD values for compounds quantitated using average response No qualification required.

Continuing Calibration - All continuing calibration %Ds were in control No qualification necessary

Surrogates - All surrogate recoveries were in control, no qualification necessary

Laboratory Control Samples - The LCS associated with the analytical results for all samples is in control for all compounds No qualification necessary

MS/MSD - An MS/MSD was not performed on a sample in this SDG. No qualification required.

Method Blanks - The method blank associated with samples in this SDG was free from contamination. No qualification is necessary

Field Blanks - No equipment blank was submitted with these samples. Target compounds were not detected in any sample, and no qualification is necessary.

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

Compound Quantitation -No issues noted.

Qualification Summary Table - No data require qualification

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TAB

APPENDIX H

APPENDIX H

LABORATORY QUALITY ASSURANCE AUDIT REPORT

LABORATORY AUDIT REPORT
MARCH 25-26, 1998
RECRA LABNET, UNIVERSITY PARK, ILLINOIS

1.0 INTRODUCTION

A two-day laboratory audit was performed at the Recra-Chicago facility by Ken Rapuano of HydroGeoLogic and Sue Max of Law Engineering and Environmental Services (LAW). The purpose of the audit was to evaluate the laboratory's quality assurance (QA) systems and procedures in preparation for analytical work to be submitted by HydroGeoLogic on NAS Fort Worth JRB projects. Sue Max provided assistance to HydroGeoLogic under LAW's Mentor-Protégée contract as part of the technology transfer phase of the program.

Prior to the audit, the laboratory submitted their Quality Assurance Program Plan to each of the auditors for review. The laboratory also sent an example of their electronic data deliverable (EDD) for evaluation to the MIS staff at LAW and HydroGeoLogic. The laboratory was supplied with a copy of the "Basewide Quality Assurance Project Plan (QAPP), NAS Fort Worth JRB, Texas" dated February 1998.

The on-site evaluation consisted of an orientation meeting, a detailed examination of the appropriate laboratory sections, and a debriefing meeting. Key staff involved from the laboratory included: Jane Huber, Donna McCarthy, Chuck Maw, Bosco Ramirez, Bill Preston, Sheryl Johnson, Marilyn Krueding, Linda Mackley, Mani Iyer, and Diane Harper. The laboratory's organization chart is attached (Attachment 1).

During the audit, brief interviews were conducted with the analysts and section managers to determine their level of understanding of the analytical procedures and the laboratory's quality assurance program. As part of the audit, the Basewide QAPP requirements for upcoming sampling events were discussed with laboratory personnel. The participants are to be commended for their cooperative spirit and helpful attitude during the audit.

2.0 LABORATORY FACILITY

The laboratory is an expansive facility with 51,000 square feet of laboratory and office space. In 1996, the laboratory completed a $2.0 million remodeling project to improve the laboratory's efficiency, improve health and safety, and upgrade the facility to meet the requirements for a Special Nuclear Materials License.

There is ample preparation capacity and instrument redundancy for large project requirements, as well as the infrastructure necessary for the management and reporting of concurrent large projects. The facility has been licensed by the Illinois Department of Nuclear Safety to handle low level radioactive samples, and a Health and Safety Program has been implemented to provide for a safe working environment for employees.

The laboratory has a self-contained Waste Storage Area with secondary containment, explosion-proof fixtures. and a chemical fire suppression system. Laboratory waste streams are segregated, and waste disposal is conducted following the regulatory requirements for hazardous waste.

The laboratory generates its reagent water using a reverse osmosis/deionized water system. The system appears to have ample capacity, and a large storage tank provides a backup water supply if the system goes down. There is a maintenance contract with an outside vendor for the water supply system. Real time monitoring is linked up to an alarm for immediate response if conductivity readings exceed the allowable range.

3.0 QUALITY ASSURANCE PROGRAM

Recra-Chicago maintains a fully-staffed Quality Assurance Department to conduct internal audits, assist with external audits, perform data review, maintain QA documentation, initiate corrective action procedures, record training activities, track performance evaluation samples, and maintain and update laboratory method detection limits (MDLs). The laboratory has an extensive QA program and has been ISO 9001 registered by the American Association for Laboratory Accreditation (A2LA). In addition, they are compliant with the international laboratory standard ISO/IEC Guide 25-1990, "General Requirements for the Competence of Calibration and Testing Laboratories."

Laboratory standard operating procedures (SOPs) were reviewed for completeness of documentation and for consistency with project QAPP requirements. All method SOPs reviewed fully documented the laboratory procedures required to process and report each analysis. Included were reagent and standard preparation instructions, calibration procedures, instrument conditions and operations instructions, instrument maintenance information, quality control (QC) requirements and limits, corrective action recommendations, health and safety information, data review procedures, and data reporting procedures. Examples of preparation sheets and instrument logs were included in the SOPs as attachments. SOPs are updated annually, and controlled copies are available to the analysts in the laboratory.

Analyst training records are maintained as part of the laboratory's QA Program. The laboratory has an active training program in place, and training documentation is maintained in the QA Department.

4.0 METHOD DETECTION LIMITS

Method detection limits are updated annually (see Attachment 2 for MDL status of newly promulgated SW-846 Update III methods). MDLs for the methods required for the NAS Fort Worth JRB project have been evaluated for consistency with reporting limits. Any discrepancies are to be documented as variances and submitted for AFCEE review prior to the start of this project.

5.0 COMPARABILITY OF DATA

5.1 PERFORMANCE EVALUATION (PE) SAMPLES

Recent PE results were reviewed to evaluate the performance of methods required for NAS Fort Worth JRB projects. The results of the past two years of EPA Water Study (WS) and Water Pollution (WP) series were reviewed for unacceptable results and any recurrences of outliers over more than one quarter. The laboratory's performance was consistently above average, and no recurring failures were observed over the two year period. All results considered outliers were followed up with a corrective action report filed in the Quality Assurance Department.

The laboratory also participates in numerous other PE studies and state and industrial certification programs. A comprehensive list is presented in Attachment 3.

5.2 TRACEABILITY

The laboratory's calibration and QC standard materials were evaluated for traceability to an appropriate standard reference material (NIST, EPA, A2LA, or SARMS). All standards used throughout the laboratory were labeled with the appropriate information to allow traceability of any standard or solution back to the parent vendor and lot number from which the standard originated. Standard log books were maintained to record the dates of receipt, preparation, and expiration of all chemicals and solutions. In addition, all new lot numbers of solvents were checked for impurities prior to their use in an analytical batch. Lot numbers that are unacceptable are rejected, and the vendor is requested to supply a new lot number for evaluation.

6.0 CALIBRATIONS

Those instruments in the laboratory that will be used to analyze NAS Fort Worth JRB samples were evaluated to determine whether proper instrument calibrations were being conducted. Preparation of reference materials used for calibration was documented as described above. A second source standard for calibration verification was available for all applicable methods. A multi-point calibration curve was prepared initially for each method as described in the Basewide QAPP. Calibration verification and continuing calibration verification were performed at the appropriate frequency. Corrective actions to be initiated when calibrations are out-of-control were identified in the laboratory SOPs and appeared to be well-understood by the bench chemists.

A functioning calibration program throughout the laboratory was evident for balances and thermometers. In addition, a system for routine monitoring of all refrigerators, freezers, and ovens was in place and consistently executed.

7.0 SECOND COLUMN CONFIRMATION

The laboratory conducts second column verification for all gas chromatography (GC) analyses as required by the AFCEE QAPP. For polynuclear aromatic hydrocarbons (PAHs) by HPLC (SW8310), positive result confirmation is accomplished using diode array comparisons. This is an acceptable protocol under the project QAPP.

8.0 QUALITY CONTROL RECORDS

Quality control was evaluated to determine whether the appropriate QC samples were being analyze, and whether the frequency of QC analyses was consistent with the requirements of the project QAPP. In each analytical batch, the laboratory includes a method blank and a full analyte list laboratory control sample (LCS). For NAS Fort Worth projects, a full analyte list matrix spike/matrix spike duplicate pair is prepared and analyzed once per site as requested by HydroGeoLogic on the chain-of-custody. Laboratory records indicated that QC analyses are routinely performed in accordance with QAPP protocols

Quality control sample results are reviewed by the section manager and spot-checked by the QA department. Any QC variance that could potentially affect sample results is documented in a corrective action report. In this report, the out-of-control event is described, the samples that are potentially affected are identified, and a corrective action is proposed. When possible, samples are reanalyzed after corrective action has been implemented and the system is back in control However, reanalysis is not always possible. In these cases, data generated by an analytical system that is determined to be out-of-control is not released without approval of the section manager, QA manager, laboratory manager, and client notification.

The laboratory has developed a QC charting system for recording and tracking QC sample results. QC charts are evident on the walls of several departments in the laboratory. In-house QC control limits are determined statistically, and daily QC results are plotted against the control ranges to help identify data shifts and trends. QC ranges are based on a 2 standard deviation (SD) window for acceptability and a 2 SD to 3 SD range as a warning limit. The laboratory is notified of project-specific QC requirements by the laboratory project manager who routes a summary package of information (Project Technical Profile) to the section managers prior to the start of each project.

9.0 SAMPLE MANAGEMENT

The laboratory supplies pre-cleaned sample bottles and preservatives to project field teams. These supplies are purchased from an outside vendor, and lot numbers are tracked when the supplies are shipped to a client. All samples are required to be preserved in the field immediately following sample collection. Upon receipt at the laboratory, temperatures are recorded from inside the shipping containers, preservation of all preserved water samples is checked (excluding volatiles samples which are checked just prior to analysis), and samples are logged-in and maintained at 4°C (±2°C) to ensure sample integrity. Volatiles samples are stored in refrigeration

units in the laboratory to avoid potential cross contamination It is recommended that high level hazardous waste samples also be segregated from trace level environmental samples as an additional precaution to prevent cross contamination. In addition, the laboratory should state in the sample receiving SOP what other precautions are taken to prevent cross contamination in the sample receiving area (e.g., changing gloves between projects, opening coolers under the hood to vent any built up vapors, how to handle samples when checking preservation, etc.)

The sample receiving staff check all documentation for consistency. Any discrepancies result in a Sample Discrepancy Report (SDR) which is delivered to the project manager for resolution. Clients are notified if a discrepancy will affect the results of the samples. Due dates are tracked in the laboratory using Laboratory Information Management System (LIMS) backlog reports and project information distributed by the log-in staff is used to track holding times. For analyses with holding times of 48 hours or less, the sample custodian notifies the section manager and in some sections (wet chemistry lab), the information is written on a bulletin board in the laboratory. The chain-of-custody is received with the samples and is signed by the sample custodian who then initiates internal chain-of-custody, if requested. For NAS Fort Worth projects, internal chain-of-custody was requested to ensure a complete chain of evidence.

10.0 RECORD KEEPING

10.1 CALIBRATION RECORDS

Instrument calibration records are maintained with all information necessary to recreate each step of the analytical process. Records are signed by the individuals initiating the documentation and by reviewers responsible for approving the data for release. All hand written records are in indelible ink. Corrections are appropriately made with single line mark-outs initialed and dated.

10.2 PREP AND ANALYSIS RECORDS

The laboratory uses many excellent preprinted forms for recording preparation and analytical data and binds the forms in-house to create pre-numbered log books. Distribution of log books is controlled by the QA Department. Log books identify preparation and analytical batches, document lot numbers and volumes of solvents and reagents used, indicate which samples were spiked and what QC standards were used, and indicate whether QC samples were initiated at the appropriate frequency. Throughout the laboratory, log book entries appeared to be properly recorded and all required information was completely captured. However, in some instances a timely review (review should occur within a month of the entries according to the QA representative) had not been performed.

11.0 DATA REVIEW

System reviews are performed at all levels. The individual analyst reviews the quality of data through calibration checks, quality control samples, and PE studies Data review is initiated by the analyst during, immediately following, and after the completed analysis. A data review checklist is used to verify that all analytical criteria have been met. Out-of-control situations are documented on the checklist and referred to the section manager for review and response.

A secondary review of the data is performed by a supervisor or another analyst (peer reviewer). Data reviewers are specially trained to evaluate the sample and QC results and take appropriate actions if discrepancies are noted. A sample discrepancy report (SDR) or corrective action report (CAR) is initiated if out-of-control events are noted. In addition, the case narrative of each report will describe any out-of-control situations that may have an impact on the sample data. For NAS Fort Worth projects, SDRs and CARs will also be included in the report

Each section manager or designee reviews the data for precision and accuracy to assure it meets all requirements. After approval by the section manager, the analytical report is assembled.

Prior to final review by the Laboratory Manager, the Data Reporting Section verifies that the report is complete using a Deliverable Checklist form. The project manager will also conduct a final completeness check before submitting the report to the client. The QA department independently conducts a review of selected reports to determine if laboratory and client requirements have been met. Any discrepancies are then reported back to the Section Manager for resolution. For NAS Fort Worth, the initial data package will be reviewed by the QA department.

12.0 REPORTS

Non-CLP reports are generated by the laboratory's LIMS. SOPs describe the process used for report generation, and a Deliverable Checklist is used to check the data package for completeness. A case narrative is included to discuss any discrepancies or out-of-control events affecting the sample results. Data are reported in no more than two or three significant figures. Soil samples are reported on a dry weight basis. The final report contains a glossary of data qualifiers and acronyms, a table of contents, and is paginated. An example hard copy report was reviewed at the time of the audit. The report was complete, well-organized and easy to read, and met LAW and HydroGeoLogic's requirements and expectations.

The electronic data deliverable (EDD) is generated from the LIMS in an IRPIMS format and checked using IRP Tools software. The example EDD submitted to LAW was found to be compliant with AFCEE requirements.

13.0 INSTRUMENT MAINTENANCE/RECORDS

Analysts are responsible for the routine care of equipment and instruments. Preventative maintenance is performed daily in most sections of the laboratory. In some sections preventative maintenance is recorded daily in the instrument log book. **It is recommended that *all* sections document daily preventative maintenance.** Guidance on required routine maintenance, as well as troubleshooting information, is provided in the instrument manuals and laboratory SOPs. For more extensive maintenance and repairs, the laboratory maintains full service contracts on all major instruments or has accounts established with the appropriate vendors.

Each analytical instrument is assigned an instrument maintenance log book. All maintenance activities are recorded in the log book including: date, initials, type of service performed and why it was necessary, and replacement parts installed A service record is used as documentation if service was provided by the manufacturer. The laboratory maintains a supply of routinely required spare parts to minimize the time needed to complete repairs.

14.0 PROJECT-SPECIFIC REQUIREMENTS

Project-specific requirements discussed with laboratory personnel during the audit include:

- Quality control requirements are defined in the project QAPP
- The IR thermometer used in sample receiving should be checked daily for a 0°C reading in an ice water bath
- Internal chain-of-custody is required
- Sample cleanup should be implemented as needed on samples exhibiting interferences
- A loose-leaf report is preferred over a bound report

15.0 CONCLUSIONS

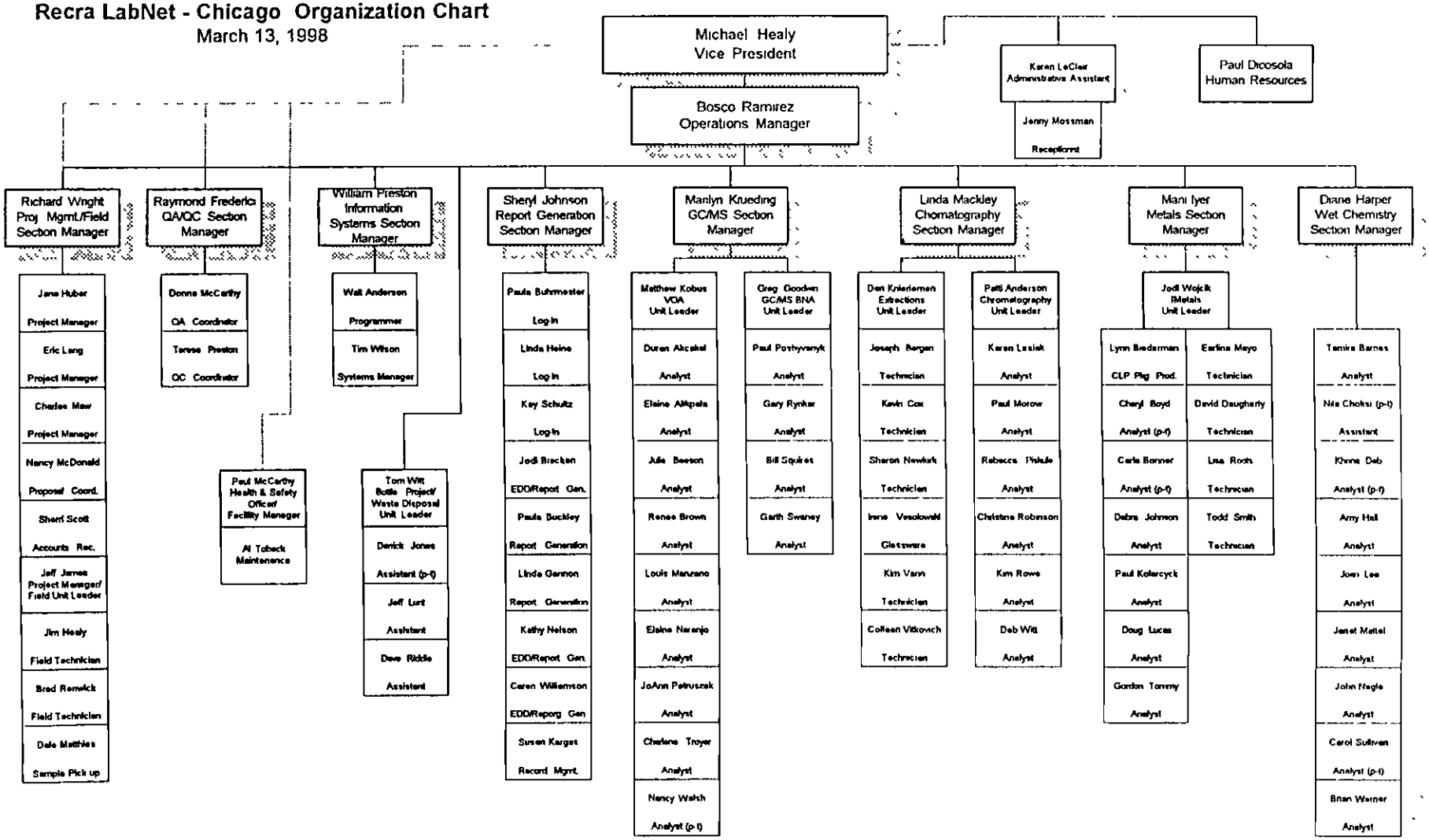
In the determination of the auditors, Recra LabNet's Chicago laboratory is qualified to analyze AFCEE environmental samples in accordance with the requirements of the AFCEE QAPP, individual methods, and good practice. The laboratory facility is well-maintained and state-of-the-art. Recra's personnel are qualified and properly trained. The preparation equipment and analytical instruments are up-to-date. SOPs and QC requirements are regularly reviewed and updated and distributed to laboratory personnel. The laboratory has adequate staffing and capacity to handle large workloads without compromising quality.

With few exceptions, the laboratory was found to be compliant with the requirements of ISO 9001. Two minor discrepancies were found by the auditors: 1) several log books had entries which had not been reviewed in a timely manner (within a month); and 2) although all repairs and extensive

maintenance are recorded in instrument log books. daily and routine maintenance are not uniformly documented throughout the laboratory The laboratory QC department was alerted to these discrepancies when they were observed, and these observations were reiterated at the audit debriefing meeting with laboratory personnel

Recra LabNet - Chicago Organization Chart

March 13, 1998



u:\projmgmt\winword\proposal\orgcht14.vsd

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Chicago SW846 Update III Review/Implementation Schedule

Order	Method	Description	SOP	MDL	Status
1	3500B	Organic extraction & sample prep	X	NA	Go
4	3510C	Sep funnel liquid liquid ext. OPPs, EPH, BNAs, BNA-TCLP, Pest-TCLP; Pest/PCBs; F-Listed Solvents, PAHs	X	NA	Go
5	3520C	Continuous liquid liquid ext. OPPs, EPH, BNAs, BNA-TCLP, Pest-TCLP; Pest/PCBs, F-Listed Solvents; PAHs	X	NA	Go
7	3550B	ultrasonic ext BNAs, PCBs, Pest/PCBs; F-Listed Solvents; EPH	X	NA	Go
8	3600C	Cleanup	X	NA	Go
9	3610B	Alumina cleanup	X	NA	Go
10	3620B	Florisil cleanup	X	NA	Go
11	3660B	Sulfur cleanup	X	NA	Go
12	3665A	Sulfuric Acid/permanganate cleanup	X	NA	Go
13	5000	Sample prep for VOA compounds (for GC/MS method)	X	NA	Go
13	5000	Sample prep for VOA compounds (fro GC Method)	X	NA	Go
15	5030B	purge & trap for aqueous samples (For GC Method)	X	NA	Go
17	8000B	Determinative chromatographic separations (for GC/MS methods)	X	NA	Go
18	8015B	Non-halogenated organics by GC/FID (Diesel Range Extractable Organics)	X		Go
21	8081A	Organochlorine Pesticides by GC	X	X	Go
22	8082	PCB's by GC	X	X	Go
23	8151A	Herbicides	X	X	Go
24	8260B	GCMS VOA	X	X	Go
25	8270C	GCMS BNA	X	X	Go
27	3050B	Acid digestion of sediments, sludges, and soils	X	X	Go
30	6010B	ICP	X	X	Go
34	9014	Titration & Manual spec. for Cyanide	X	X	Go
36	9034	Titration for acid soluble & acid insoluble sulfides	X	X	Go
39	9010B	Total Amenable Cyanide: Distillation	X	X	Go
41	9030B	Acid soluble and acid insoluble sulfide	X	X	Go
43	9095A	Paint filter test	X	NA	Go
6	3540C	soxhlet ext	Open	Open	Not Yet
16	5035	Closed system purge and trap for soils and waste samples (GC/MS)	X	Open	Not Yet
16	5035	Closed system purge and trap for soils and waste samples (GC)	Open	Open	Not Yet
17	8000B	Determinative chromatographic separations (for GC methods)	Open	NA	Not Yet
18	8015B	Non-halogenated organics by GC/FID (Gasolene Range Purgeable Organics)	Open	Open	Not Yet
28	3060A	Alkaline digestion for CR+6	X	Open	Not Yet
35	9023	EOX in solids	Open	Open	Not Yet
38	9214	fluoride by ion selective electrode	Open	Open	Not Yet
42	9050A	specific conductance	Open	NA	Not Yet
	5030B	purge & trap for aqueous samples (for GC/MS Method)		NA	Not Yet
2	3535	Solid phase extraction		NA	Z No Plans
3	3585	Waste dilution for volatile organics		NA	Z No Plans
14	5021	Volatile organic compounds in soils and other solid matrices by Equilibrium Headspace			Z No Plans
19	8021B	Aromatic & Halogenated volatiles by GC PID or ECD			Z No Plans
20	8061A	Phthalate esters by GC ECD			Z No Plans
26	3031	Acid Digestion of oils			Z No Plans
29	7521	Nickel (GFAA)			Z No Plans
31	1030	Ignitability of solids			Z No Plans
32	8041	Phenols by GC			Z No Plans
33	8440	TPH by IR			Z No Plans
37	9210	Nitrate by ion selective electrode			Z No Plans
40	9012A	Total Amenable Cyanide - automated			Z No Plans

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Recra LabNet - Chicago
Performance Evaluation Sample - 1997 Summary

RFW #	Agency/Client	Study Type	Date Received	Date Due	Date Sent
Blind	ASI 1st Qtr '97 (Double Blind)	Blind	NA	NA	NA
9701G381	ERA - Internal	WS	1/9/97	1/16/97	On File
9701G775	Env Standards - GM	WP	1/28/97	2/11/97	2/10/97
9702G919	ERA - Round Robin	WP	2/7/97	3/4/97	2/25/97
9702G066	USEPA WP037	WP	1/29/97	3/24/97	3/21/97
9702G086	NY 1st Qtr '97 WP	WP	1/31/97	3/3/97	3/3/97
9702G094	APG Ohio VAP		2/12/97	2/28/97	3/7/97
9702G287	NC DEHNR (ERA WP)	WP	2/27/97	3/29/97	3/25/97
9702G919	ERA Inter-lab Study				
9702G977	ELPAT - 18 1st Qtr '97	HW	2/3/97	3/3/97	3/3/97
9703G501	USACE Corp of Eng (Re-run)	WP	3/12/97	3/17/97	3/18/97
9703G530	ERA (WS-23) 1st Qtr '97	WS	3/10/97	4/21/97	4/21/97
9703G746	USACE Corp of Eng (Re-run)	WP	3/25/97	4/1/97	4/3/97
9704G198	NY 2nd Qtr '97 WS	WS	4/16/97	5/12/97	5/12/97
9704G406	APG - A2LA (action item)	WP	4/30/97	5/8/97	5/8/97
9705G519	ELPAT - 19 2nd Qtr '97	HW	5/5/97	6/2/97	5/29/97
9705G654	ERA - DW (WP-38)	WS	5/12/97	6/20/97	6/20/97
9705G663	USACE Corp of Eng	WP	5/14/97	5/22/97	5/22/97
9705G842	APG Ohio VAP (Cr+6)	WP	5/23/97	5/30/97	5/30/97
9706G127	USEPA WS039	WS	6/9/97	8/6/97	8/9/97
9706G357	MAPEP	Rad	6/16/97	9/16/97	9/17/97
9706G409	ERA - DW (WS-24)	WS	6/23/97	7/22/97	7/22/97
9706G509	California Waste	HW	6/27/97	8/29/97	8/28/97
9707G708	ERA - WI DNR	WP	7/9/97	Variable	8/8/97
9707G819	ERA - WI DNR	WP	7/16/97	Variable	8/8/97
9707G818	NY 3rd Qtr '97 WP	WP	7/16/97	8/11/97	8/11/97
9707G968	ASI - Single Blind (WS039)	WS	7/24/97	8/4/97	8/7/97
9707G998	USEPA WP038	WP	7/25/97	10/2/97	10/1/97
9708G125	ELPAT - Study 020	Pb	8/4/97	9/1/97	9/30/97
9708G274	Olin Corp (Badger AAP RFP)	SW	8/12/97	8/20/97	8/20/97
9708G345	Ford Motor Co : Round Robin	WW	8/14/97	8/28/97	8/29/97
Blind	ASI 3rd Qtr '97 (Double Blind)	Blind	NA	NA	NA
9709G692	ERA - WI DNR OP Pesticide	WP	9/2/97	9/23/97	
9709G738	APG - Ohio VAP	WP	9/4/97	10/2/97	10/9/97
9709G954	ERA - WS	WS	9/15/97	10/13/97	10/20/97
9709G966	ERA - WP (Cyanide/Phenol)	WP	9/16/97	10/13/97	10/20/97
9709G133	ASI - SW004 Benchmark	HW	9/24/97	10/15/97	10/15-16/97
9710G436	New York WS 4th Qtr.	WS	10/8/97	10/29/97	10/31/97
9710G767	APG - Ohio VAP	WP	10/29/97	11/12/97	11/26/97
9711G823	ELPAT - Round 021	HW	11/3/97	11/25/97	11/26/97

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Recra LabNet - Chicago
Performance Evaluation Sample - 1997 Summary

RFW #	Agency/Client	Study Type	Date Received	Date Due	Date Sent
9711G969	ERA - WP41	WW	11/12/97	12/18/97	12/19/97
9711G988	ERA - Flashpoint for ESI	WW	11/13/97	12/2/97	12/5/97
9711G022	ASI (D&M Motorola CA)	WW	11/14/97	11/17/97	N/A
9711G023	ERA (D&M Motorola CA)	WW	11/14/97	11/17/97	11/17/97
9711G065	APG - OVAP (PCB 1260)	WW	11/18/97	12/2/97	CANCELLED
9712G264	APG - OVAP (PCB 1260)	WW	12/2/97	12/19/97	12/23/97
9712G320	U S EPA WS040	WS	12/4/97	2/2/97	2/4/97
9712G637	ERA (WP038 Make-up)	WP	12/22/97		
9712G638	ERA - WS-26	WS	12/22/97		

Recra LabNet - Chicago
Performance Evaluation Sample - 1998 Summary

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RFW #	Agency/Client	Type	Date Recd	Date Due	Date Sent	Results Rec'd.
9801G786	APG - OVAP	WW	1/7/98	1/14/98	1/13/98	
9801G934	Ultra Scientific - Bench Study	WW	1/20/98	Open	3/13/98	4/29/98
9801G216	NY 1st Qtr Study - WW/HW	WW	1/29/98	2/20/98	2/19/98	
9801G218	USEPA WP039	WP	1/29/98	3/26/98	3/29/98	6/1/98
9802G238	EL PAT Round 22	HW	2/2/98	2/26/98		
9802G243	MAPEP-97-W5 (Metals)	WW	1/29/98	4/8/98	4/7/98	5/4/98
9802G381	MAPEP-97-W5 (BNAs)	WW	1/29/98	4/8/98	4/7/98	5/4/98
9803G952	ERA - WP43	WW	3/24/98	4/20/98	5/4/98	5/4/98
9804G232	NC DEHNR	WW	4/13/98	5/8/98	5/12/98	6/9/98
9804G270	NY DOH - WS -2nd Qtr	DW	4/13/98	5/11/98	5/11/98	
9805G520	ELPAT - Round 023	HW	5/4/98	6/1/98	5/28/98	
9805G695	ERA - WP44	WW	5/15/98	6/22/98		
9806G994	US EPA WS041	DW	6/3/98	8/10/98		

TAB

APPENDIX I

APPENDIX I

SUMMARY OF RFI ANALYTICAL DATA

Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA301 00 ft 1998-04-09	BHGLTA301 05 ft 1998-04-09	BHGLTA301 05 ft Duplicate 1998-04-09	BHGLTA301 10 ft 1998-04-09
AD5057	Density	g/mL	na	na	na	na
AD5057	Specific Gravity	NONE	na	na	na	na
LYDKHN	Total Organic Carbon	mg/kg	na	na	na	na
SW6010B	Antimony	mg/kg	8.5 UJ	3 4 F	8.6 UJ	7 5 UJ
SW6010B	Arsenic	mg/kg	2.5 F	55 3 U	51 6 U	3 F
SW6010B	Barium	mg/kg	55 5	105	94 1	35.6
SW6010B	Beryllium	mg/kg	0 64	1	0 96	0.67
SW6010B	Cadmium	mg/kg	3.4 U	3 7 U	3 4 U	3 U
SW6010B	Chromium, total	mg/kg	12 4	19.7	17 5	10 5
SW6010B	Cobalt	mg/kg	2 8 F	4 F	4.2 F	3 6 F
SW6010B	Copper	mg/kg	11 1	7 6	7 1	5.9
SW6010B	Lead	mg/kg	17.8 F	10 1 F	9 7 F	10 9 F
SW6010B	Nickel	mg/kg	7.5 F	11 7 F	11 2 F	10.1 F
SW6010B	Selenium	mg/kg	67 8 U	73 7 U	68 8 U	59 8 U
SW6010B	Silver	mg/kg	5 9 U	6 5 U	6 U	5 2 U
SW6010B	Thallium	mg/kg	5 9 F	9 2 F	34.4 F	12 3 F
SW6010B	Tin	mg/kg	8 5 U	9 2 U	2 U	7 5 U
SW6010B	Vanadium	mg/kg	23.4	37	36 9	17 5
SW6010B	Zinc	mg/kg	30 5	30	26 4 J	18 3
SW7041	Antimony	mg/kg	na	na	na	na
SW7060A	Arsenic	mg/kg	na	na	na	na
SW7421	Lead	mg/kg	na	na	na	na
SW7471A	Mercury	mg/kg	0 04 U	0 04 U	0.04 U	0.04 U
SW7740	Selenium	mg/kg	na	na	na	na
SW7761	Silver	mg/kg	na	na	na	na
SW7841	Thallium	mg/kg	na	na	na	na
SW8080A	Aldrin	mg/kg	na	na	na	na
SW8080A	alpha-BHC (alpha-Hexachlorocyclohexane)	mg/kg	na	na	na	na
SW8080A	alpha-Chlordane	mg/kg	na	na	na	na
SW8080A	alpha-Endosulfan	mg/kg	na	na	na	na
SW8080A	beta-BHC (beta-Hexachlorocyclohexane)	mg/kg	na	na	na	na
SW8080A	beta-Endosulfan	mg/kg	na	na	na	na
SW8080A	Chlordane	mg/kg	na	na	na	na
SW8080A	delta-BHC (delta-Hexachlorocyclohexane)	mg/kg	na	na	na	na
SW8080A	Dieldrin	mg/kg	na	na	na	na
SW8080A	Endosulfan sulfate	mg/kg	na	na	na	na

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA301 00 ft 1998-04-09	BHGLTA301 05 ft 1998-04-09	BHGLTA301 05 ft Duplicate 1998-04-09	BHGLTA301 10 ft 1998-04-09
SW8080A	Endrin	mg/kg	na	na	na	na
SW8080A	Endrin aldehyde	mg/kg	na	na	na	na
SW8080A	gamma-BHC (Lindane)	mg/kg	na	na	na	na
SW8080A	gamma-Chlordane	mg/kg	na	na	na	na
SW8080A	Heptachlor	mg/kg	na	na	na	na
SW8080A	Heptachlor epoxide	mg/kg	na	na	na	na
SW8080A	Isodrin	mg/kg	na	na	na	na
SW8080A	Kepone	mg/kg	na	na	na	na
SW8080A	Methoxychlor	mg/kg	na	na	na	na
SW8080A	p,p'-DDD	mg/kg	na	na	na	na
SW8080A	p,p'-DDE	mg/kg	na	na	na	na
SW8080A	p,p'-DDT	mg/kg	na	na	na	na
SW8080A	PCB-1016 (Aroclor 1016)	mg/kg	na	na	na	na
SW8080A	PCB-1221 (Aroclor 1221)	mg/kg	na	na	na	na
SW8080A	PCB-1232 (Aroclor 1232)	mg/kg	na	na	na	na
SW8080A	PCB-1242 (Aroclor 1242)	mg/kg	na	na	na	na
SW8080A	PCB-1248 (Aroclor 1248)	mg/kg	na	na	na	na
SW8080A	PCB-1254 (Aroclor 1254)	mg/kg	na	na	na	na
SW8080A	PCB-1260 (Aroclor 1260)	mg/kg	na	na	na	na
SW8080A	Toxaphene	mg/kg	na	na	na	na
SW8081A	Aldrin	mg/kg	0.0035 R	0 0036 R	0 0034 R	0 016 R
SW8081A	alpha-BHC (alpha-Hexachlorocyclohexane)	mg/kg	0.0023 U	0 0024 U	0 0023 U	0.011 U
SW8081A	alpha-Chlordane	mg/kg	0 017 U	0 018 U	0.017 U	0.082 U
SW8081A	alpha-Endosulfan	mg/kg	0 01 U	0 011 U	0.01 U	0.049 U
SW8081A	beta-BHC (beta-Hexachlorocyclohexane)	mg/kg	0 0046 R	0 0048 R	0.0046 R	0.022 R
SW8081A	beta-Endosulfan	mg/kg	0.0035 U	0.0036 U	0 0034 U	0 016 U
SW8081A	Chlordane	mg/kg	0.01 U	0.011 U	0.01 U	0 049 U
SW8081A	delta-BHC (delta-Hexachlorocyclohexane)	mg/kg	0 007 R	0 0072 R	0.0068 R	0 033 R
SW8081A	Dieldrin	mg/kg	0 012 U	0 012 U	0 011 U	0.055 U
SW8081A	Endosulfan sulfate	mg/kg	0.046 U	0.048 U	0.046 U	0 22 U
SW8081A	Endrin	mg/kg	0 0046 U	0 0048 U	0 0046 U	0 022 U
SW8081A	Endrin aldehyde	mg/kg	0.023 U	0.024 U	0 023 U	0.11 U
SW8081A	gamma-BHC (Lindane)	mg/kg	0.0035 U	0.0036 U	0.0034 U	0 016 U
SW8081A	gamma-Chlordane	mg/kg	0 017 U	0.018 U	0.017 U	0 082 U
SW8081A	Heptachlor	mg/kg	0 0023 U	0 0024 U	0 0023 U	0.011 U
SW8081A	Heptachlor epoxide	mg/kg	0.07 R	0.072 R	0.068 R	0 33 R

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA301 00 ft 1998-04-09	BHGLTA301 05 ft 1998-04-09	BHGLTA301 05 ft Duplicate 1998-04-09	BHGLTA301 10 ft 1998-04-09
SW8081A	Isodrin	mg/kg	0 0046 U	0 0048 U	0 0046 U	0 022 U
SW8081A	Kepone	mg/kg	0 097 U	0.099 U	0.095 U	0 46 U
SW8081A	Methoxychlor	mg/kg	0.12 R	0 12 R	0.11 R	0 55 R
SW8081A	p,p'-DDD	mg/kg	0 0081 U	0.0083 U	0 008 U	0 038 U
SW8081A	p,p'-DDE	mg/kg	0 0035 U	0 0036 U	0 0034 U	0.016 U
SW8081A	p,p'-DDT	mg/kg	0.0093 R	0 0095 R	0.0091 R	0 044 R
SW8081A	PCB-1016 (Aroclor 1016)	mg/kg	1.2 U	1 2 U	1.1 U	5.5 U
SW8081A	PCB-1221 (Aroclor 1221)	mg/kg	1 2 U	1 2 U	1.1 U	5 5 U
SW8081A	PCB-1232 (Aroclor 1232)	mg/kg	1.2 U	1.2 U	1.1 U	5 5 U
SW8081A	PCB-1242 (Aroclor 1242)	mg/kg	1.2 U	1 2 U	1.1 U	5 5 U
SW8081A	PCB-1248 (Aroclor 1248)	mg/kg	1 2 U	1 2 U	1.1 U	5 5 U
SW8081A	PCB-1254 (Aroclor 1254)	mg/kg	1 2 U	1.2 U	1 1 U	5 5 U
SW8081A	PCB-1260 (Aroclor 1260)	mg/kg	1 2 U	1.2 U	1 1 U	5.5 U
SW8081A	Toxaphene	mg/kg	0.23 U	0 24 U	0.23 U	1 1 U
SW8141A	Dimethoate	mg/kg	0 077 U	0.08 U	0 076 UJ	0.073 UJ
SW8141A	Disulfoton	mg/kg	0 077 U	0 08 UJ	0 076 UJ	0 073 UJ
SW8141A	Famphur	mg/kg	0 077 U	0 08 U	0 076 UJ	0 073 UJ
SW8141A	O,O,O-Triethyl phosphorothioate	mg/kg	0.077 U	0 08 U	0.076 UJ	0.073 UJ
SW8141A	Parathion, ethyl	mg/kg	0.077 U	0.08 U	0.076 UJ	0.073 UJ
SW8141A	Parathion, methyl	mg/kg	0 077 U	0.08 U	0 076 UJ	0 073 UJ
SW8141A	Phorate	mg/kg	0 077 U	0 08 U	0 076 UJ	0 073 UJ
SW8141A	Thiodiphosphoric acid, tetraethyl ester	mg/kg	0 077 U	0 08 U	0 076 UJ	0.073 UJ
SW8141A	Zinophos	mg/kg	0.077 U	0 08 U	0.076 UJ	0.073 UJ
SW8150B	2,4,5-T (Trichlorophenoxyacetic acid)	mg/kg	na	na	na	na
SW8150B	2,4-D (Dichlorophenoxyacetic acid)	mg/kg	na	na	na	na
SW8150B	Silvex (2,4,5-TP)	mg/kg	na	na	na	na
SW8151A	2,4,5-T (Trichlorophenoxyacetic acid)	mg/kg	0.038 U	0.04 U	0.039 U	0 037 U
SW8151A	2,4-D (Dichlorophenoxyacetic acid)	mg/kg	0 38 U	0.4 U	0 39 U	0 37 U
SW8151A	Silvex (2,4,5-TP)	mg/kg	0 038 U	0.04 U	0.039 U	0.037 U
SW8260B	1,1,1,2-Tetrachloroethane	mg/kg	0.004 U	0 004 U	0 004 U	0 003 U
SW8260B	1,1,1-Trichloroethane	mg/kg	0.005 U	0 005 U	0 005 U	0 004 U
SW8260B	1,1,2,2-Tetrachloroethane	mg/kg	0.002 R	0 002 R	0.002 R	0.002 R
SW8260B	1,1,2-Trichloroethane	mg/kg	0.006 U	0.006 U	0.006 U	0 006 U
SW8260B	1,1-Dichloroethane	mg/kg	0.002 U	0.002 U	0.002 U	0 002 U
SW8260B	1,1-Dichloroethene	mg/kg	0.006 U	0 006 U	0 006 U	0.006 U
SW8260B	1,2,3-Trichloropropane	mg/kg	0.006 R	0 006 R	0 006 R	0 006 R

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA301 00 ft 1998-04-09	BHGLTA301 05 ft 1998-04-09	BHGLTA301 05 ft Duplicate 1998-04-09	BHGLTA301 10 ft 1998-04-09
SW8260B	1,2-Dibromo-3-chloropropane	mg/kg	0.006 R	0 006 R	0.006 R	0.006 R
SW8260B	1,2-Dibromoethane (Ethylene dibromide)	mg/kg	0 004 R	0.004 R	0.004 R	0.003 R
SW8260B	1,2-Dichloroethane	mg/kg	0.004 U	0 004 U	0.004 U	0 003 U
SW8260B	1,2-Dichloropropane	mg/kg	0 002 U	0.002 U	0 002 U	0.002 U
SW8260B	2-Chloro-1,3-butadiene	mg/kg	0.006 U	0 006 U	0 006 U	0 006 U
SW8260B	2-Hexanone	mg/kg	0.006 U	0 006 U	0.006 U	0 006 U
SW8260B	Acetone	mg/kg	0 006 U	0.008 U	0.006 UJ	0 012 U
SW8260B	Acetonitrile	mg/kg	0.047 U	0 049 U	0 047 U	0.044 U
SW8260B	Acrolein	mg/kg	0.12 U	0 12 U	0 12 U	0.11 U
SW8260B	Acrylonitrile	mg/kg	0.047 U	0 049 U	0 047 U	0 044 U
SW8260B	Allyl chloride (3-Chloropropene)	mg/kg	0.012 U	0 012 U	0.012 U	0.011 U
SW8260B	Benzene	mg/kg	0.002 U	0.002 U	0 002 U	0.002 U
SW8260B	Bromodichloromethane	mg/kg	0.005 U	0 005 U	0.005 U	0 004 U
SW8260B	Bromoform	mg/kg	0.006 R	0 006 R	0.006 R	0 006 R
SW8260B	Bromomethane	mg/kg	0 006 U	0.006 U	0 006 U	0 006 U
SW8260B	Carbon disulfide	mg/kg	0.006 U	0 006 U	0.006 U	0.006 U
SW8260B	Carbon tetrachloride	mg/kg	0 006 U	0 006 U	0.006 U	0 006 U
SW8260B	Chlorobenzene	mg/kg	0.002 U	0.002 U	0 002 U	0.002 U
SW8260B	Chloroethane	mg/kg	0 006 U	0 006 U	0.006 U	0 006 U
SW8260B	Chloroform	mg/kg	0 002 U	0.002 U	0 002 U	0 002 U
SW8260B	Chloromethane	mg/kg	0 006 U	0 006 U	0.006 U	0 006 U
SW8260B	cis-1,2-Dichloroethene	mg/kg	0 006 U	0 006 U	0.006 U	0.006 U
SW8260B	cis-1,3-Dichloropropene	mg/kg	0 006 U	0 006 U	0.006 U	0.006 U
SW8260B	Dibromochloromethane	mg/kg	0.004 R	0 004 R	0 004 R	0 003 R
SW8260B	Dibromomethane	mg/kg	0.006 U	0 006 U	0 006 U	0 006 U
SW8260B	Dichlorodifluoromethane	mg/kg	0.006 R	0 006 R	0 006 R	0 006 R
SW8260B	Ethyl methacrylate	mg/kg	0 006 U	0 006 U	0.006 U	0 006 U
SW8260B	Ethylbenzene	mg/kg	0.004 U	0 004 U	0 004 U	0.003 U
SW8260B	Iodomethane (Methyl iodide)	mg/kg	0 006 U	0.006 U	0.006 U	0.006 U
SW8260B	Isobutanol	mg/kg	0 24 U	0 24 U	0.23 U	0 22 U
SW8260B	m,p-Xylene (sum of isomers)	mg/kg	na	na	na	na
SW8260B	Methyl ethyl ketone (2-Butanone)	mg/kg	0 006 U	0 006 U	0 006 U	0 006 U
SW8260B	Methyl isobutyl ketone (4-Methyl-2-pentanone)	mg/kg	0.006 U	0.006 U	0.006 U	0.006 U
SW8260B	Methyl methacrylate	mg/kg	0.006 U	0.006 U	0.006 U	0 006 U
SW8260B	Methylacrylonitrile	mg/kg	0.006 U	0.006 U	0.006 U	0 006 U
SW8260B	Methylene chloride	mg/kg	0 002	0 002 U	0.002 U	0 002 U

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA301 00 ft 1998-04-09	BHGLTA301 05 ft 1998-04-09	BHGLTA301 05 ft Duplicate 1998-04-09	BHGLTA301 10 ft 1998-04-09
SW8260B	M-Xylene (1,3-Dimethylbenzene)	mg/kg	0 006 U	0 006 U	0.006 U	0.006 U
SW8260B	o-Xylene (1,2-Dimethylbenzene)	mg/kg	0.006 U	0 006 U	0.006 U	0 006 U
SW8260B	Pentachloroethane	mg/kg	0.006 U	0.006 U	0 006 U	0 006 U
SW8260B	Propane nitrile (Propionitrile)	mg/kg	0.024 U	0.024 U	0 023 U	0.022 U
SW8260B	Styrene	mg/kg	0 002 U	0 002 U	0 002 U	0.002 U
SW8260B	Tert-Butyl Methyl Ether	mg/kg	na	na	na	na
SW8260B	Tetrachloroethene (PCE)	mg/kg	0.006 U	0 006 U	0 006 U	0.006 U
SW8260B	Toluene	mg/kg	0 006 U	0 006 U	0.006 U	0 006 U
SW8260B	Trans-1,2-Dichloroethene	mg/kg	0 004 U	0.004 U	0 004 U	0.003 U
SW8260B	Trans-1,3-Dichloropropene	mg/kg	0 006 U	0.006 U	0 006 U	0 006 U
SW8260B	Trans-1,4-Dichloro-2-Butene	mg/kg	0.006 U	0 006 U	0.006 U	0.006 U
SW8260B	Trichloroethene (TCE)	mg/kg	0 006 U	0 006 U	0 006 U	0 006 U
SW8260B	Trichlorofluoromethane	mg/kg	0.005 U	0.005 U	0.005 U	0.004 U
SW8260B	Vinyl acetate	mg/kg	0 006 U	0.006 U	0 006 U	0 006 U
SW8260B	Vinyl chloride	mg/kg	0.006 U	0.006 U	0 006 U	0 006 U
SW8270C	1,2,4,5-Tetrachlorobenzene	mg/kg	0 39 U	0.4 U	0 39 U	0 36 U
SW8270C	1,2,4-Trichlorobenzene	mg/kg	0.39 U	0.4 U	0 39 U	0 36 U
SW8270C	1,2-Dichlorobenzene	mg/kg	0.39 U	0.4 U	0 39 U	0 36 U
SW8270C	1,3,5-Trinitrobenzene	mg/kg	2 U	2 U	1 9 U	1 8 U
SW8270C	1,3-Dichlorobenzene	mg/kg	0 39 U	0 4 U	0.39 U	0.36 U
SW8270C	1,3-Dinitrobenzene	mg/kg	0.39 U	0 4 U	0 39 U	0.36 U
SW8270C	1,4-Dichlorobenzene	mg/kg	0.39 U	0 4 U	0.39 U	0 36 U
SW8270C	1,4-Dioxane (p-Dioxane)	mg/kg	0 78 U	0.79 U	0.78 U	0.73 U
SW8270C	1,4-naphthoquinone	mg/kg	3.9 U	4 U	3 9 U	3 6 U
SW8270C	1-naphthylamine	mg/kg	0.78 U	0.79 U	0.78 U	0.73 U
SW8270C	2,2'-Oxybis(1-chloropropane)	mg/kg	0 39 U	0.4 U	0 39 U	0.36 U
SW8270C	2,3,4,6-Tetrachlorophenol	mg/kg	0 39 U	0.4 U	0.39 U	0.36 U
SW8270C	2,4,5-Trichlorophenol	mg/kg	2 U	2 U	1 9 U	1 8 U
SW8270C	2,4,6-Trichlorophenol	mg/kg	0.39 U	0.4 U	0 39 U	0.36 U
SW8270C	2,4-Dichlorophenol	mg/kg	0 39 U	0 4 U	0.39 U	0 36 U
SW8270C	2,4-Dimethylphenol	mg/kg	0 39 U	0 4 U	0.39 U	0 36 U
SW8270C	2,4-Dinitrophenol	mg/kg	2 R	2 R	1 9 R	1.8 R
SW8270C	2,4-Dinitrotoluene	mg/kg	0 39 U	0 4 U	0 39 U	0.36 U
SW8270C	2,6-Dichlorophenol	mg/kg	0.78 U	0 79 U	0 78 U	0 73 U
SW8270C	2,6-Dinitrotoluene	mg/kg	0.39 U	0.4 U	0 39 U	0 36 U
SW8270C	2-Acetylaminofluorene	mg/kg	0.78 U	0.79 U	0 78 U	0 73 U

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA301 00 ft 1998-04-09	BHGLTA301 05 ft 1998-04-09	BHGLTA301 05 ft Duplicate 1998-04-09	BHGLTA301 10 ft 1998-04-09
SW8270C	2-Aminonaphthalene (beta-naphthylamine)	mg/kg	0 78 U	0 79 U	0.78 U	0 73 U
SW8270C	2-Chloronaphthalene	mg/kg	0 39 U	0 4 U	0.39 U	0.36 U
SW8270C	2-Chlorophenol	mg/kg	0.39 U	0.4 U	0 39 U	0.36 U
SW8270C	2-Methylnaphthalene	mg/kg	0.39 U	0.4 U	0.39 U	0 36 U
SW8270C	2-Methylphenol (o-Cresol)	mg/kg	0 39 U	0 4 U	0.39 U	0 36 U
SW8270C	2-Nitroaniline	mg/kg	2 U	2 U	1.9 U	1 8 U
SW8270C	2-Nitrophenol	mg/kg	0 39 U	0.4 U	0.39 U	0 36 U
SW8270C	2-Picoline (alpha-Picoline)	mg/kg	0 39 U	0 4 U	0 39 U	0.36 U
SW8270C	3,3'-Dichlorobenzidine	mg/kg	0 78 U	0.79 U	0.78 U	0 73 U
SW8270C	3,3'-Dimethylbenzidine	mg/kg	2 U	2 U	1 9 U	1.8 U
SW8270C	3-Methylcholanthrene	mg/kg	0.39 U	0.4 U	0.39 U	0 36 U
SW8270C	3-Nitroaniline	mg/kg	2 U	2 U	1.9 U	1.8 U
SW8270C	4,6-Dinitro-2-methylphenol	mg/kg	2 U	2 U	1 9 U	1.8 U
SW8270C	4-Aminobiphenyl (4-Biphenylamine)	mg/kg	0.78 U	0.79 U	0 78 U	0 73 U
SW8270C	4-Bromophenyl phenyl ether	mg/kg	0 39 U	0 4 U	0.39 U	0.36 U
SW8270C	4-Chloro-3-methylphenol	mg/kg	0 78 U	0 79 U	0.78 U	0.73 U
SW8270C	4-Chloroaniline	mg/kg	0.78 U	0.79 U	0.78 U	0 73 U
SW8270C	4-Chlorophenyl phenyl ether	mg/kg	0.39 U	0.4 U	0 39 U	0 36 U
SW8270C	4-Nitroaniline	mg/kg	2 R	2 R	1.9 R	1.8 R
SW8270C	4-Nitrophenol	mg/kg	2 U	2 U	1 9 U	1 8 U
SW8270C	4-Nitroquinoline-1-oxide	mg/kg	2 U	2 U	1 9 U	1 8 U
SW8270C	5-Nitro-o-toluidine	mg/kg	0.78 U	0 79 U	0.78 U	0.73 U
SW8270C	7,12-Dimethylbenzo(a)anthracene	mg/kg	0 78 U	0.79 U	0 78 U	0 73 U
SW8270C	Acenaphthene	mg/kg	0.39 U	0.4 U	0.39 U	0.36 U
SW8270C	Acenaphthylene	mg/kg	0 39 U	0 4 U	0.39 U	0 36 U
SW8270C	Acetophenone	mg/kg	0 78 U	0 79 U	0 78 U	0 73 U
SW8270C	alpha, alpha-Dimethylphenethylamine	mg/kg	2 U	2 U	1 9 U	1 8 U
SW8270C	Aniline (Phenylamine, Aminobenzene)	mg/kg	0 39 U	0.4 U	0 39 U	0.36 U
SW8270C	Anthracene	mg/kg	0.39 U	0.4 U	0.39 U	0.36 U
SW8270C	Aramite (total)	mg/kg	0 78 U	0.79 U	0.78 U	0 73 U
SW8270C	Benzo(a)anthracene	mg/kg	0.39 U	0.4 U	0.39 U	0 36 U
SW8270C	Benzo(a)pyrene	mg/kg	0 054 F	0 4 U	0 39 U	0.36 U
SW8270C	Benzo(b)fluoranthene	mg/kg	0 061 F	0.4 U	0 39 U	0 36 U
SW8270C	Benzo(g,h,i)perylene	mg/kg	0 39 U	0 4 U	0 39 U	0.36 U
SW8270C	Benzo(k)fluoranthene	mg/kg	0 044 F	0 4 U	0.39 U	0 36 U
SW8270C	Benzoic acid	mg/kg	2 U	2 U	1.9 U	1.8 U

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA301 00 ft 1998-04-09	BHGLTA301 05 ft 1998-04-09	BHGLTA301 05 ft Duplicate 1998-04-09	BHGLTA301 10 ft 1998-04-09
SW8270C	Benzyl alcohol	mg/kg	0 39 U	0.4 U	0 39 U	0.36 U
SW8270C	Benzyl butyl phthalate	mg/kg	0 39 U	0 4 U	0 39 U	0.36 U
SW8270C	bis(2-Chloroethoxy)methane	mg/kg	0 39 U	0.4 U	0 39 U	0 36 U
SW8270C	bis(2-Chloroethyl)ether (2-Chloroethyl ether)	mg/kg	0.39 U	0.4 U	0.39 U	0 36 U
SW8270C	bis(2-Ethylhexyl)phthalate	mg/kg	0 39 U	0.4 U	0.39 U	0.79 U
SW8270C	Chlorobenzilate	mg/kg	0 39 U	0 4 U	0 39 U	0 36 U
SW8270C	Chrysene	mg/kg	0.39 U	0.4 U	0 39 U	0 36 U
SW8270C	Cresols, m & p	mg/kg	0.39 U	0 4 U	0.39 U	0 36 U
SW8270C	Diallate (total of cis and trans isomers)	mg/kg	0 39 U	0 4 U	0 39 U	0 36 U
SW8270C	Dibenz(a,h)anthracene	mg/kg	0 39 U	0.4 U	0 39 U	0 36 U
SW8270C	Dibenzofuran	mg/kg	0.39 U	0.4 U	0.39 U	0.36 U
SW8270C	Diethyl phthalate	mg/kg	0.39 U	0.4 U	0.39 U	0.36 U
SW8270C	Dimethyl phthalate	mg/kg	0 39 U	0 4 U	0 39 U	0.36 U
SW8270C	Di-n-butyl phthalate	mg/kg	0 39 U	0 4 U	0 39 U	0 36 U
SW8270C	Di-n-octyl phthalate	mg/kg	0.39 U	0.4 U	0.39 U	0 36 U
SW8270C	Dinoseb	mg/kg	0.78 U	0 79 U	0.78 U	0 73 U
SW8270C	Diphenylamine	mg/kg	0.39 U	0.4 U	0.39 U	0.36 U
SW8270C	Ethyl methanesulfonate	mg/kg	0 78 U	0 79 U	0 78 U	0 73 U
SW8270C	Fluoranthene	mg/kg	0.39 U	0 4 U	0 39 U	0 36 U
SW8270C	Fluorene	mg/kg	0 39 U	0 4 U	0 39 U	0 36 U
SW8270C	Hexachlorobenzene	mg/kg	0 39 U	0.4 U	0 39 U	0.36 U
SW8270C	Hexachlorobutadiene	mg/kg	0 39 U	0.4 U	0.39 U	0 36 U
SW8270C	Hexachlorocyclopentadiene	mg/kg	0.39 U	0.4 U	0.39 U	0 36 U
SW8270C	Hexachloroethane	mg/kg	0.39 U	0 4 U	0 39 U	0 36 U
SW8270C	Hexachlorophene	mg/kg	3 9 U	4 U	3 9 U	3.6 U
SW8270C	Hexachloropropene	mg/kg	2 U	2 U	1 9 U	1.8 U
SW8270C	Indeno(1,2,3-c,d)pyrene	mg/kg	0 39 U	0 4 U	0 39 U	0.36 U
SW8270C	Isophorone	mg/kg	0 39 U	0 4 U	0.39 U	0.36 U
SW8270C	Isosafrole	mg/kg	0.39 U	0.4 U	0 39 U	0 36 U
SW8270C	Methapyrilene	mg/kg	0 98 U	0 99 U	0 97 U	0.91 U
SW8270C	Methyl methanesulfonate	mg/kg	0 78 U	0 79 U	0.78 U	0 73 U
SW8270C	naphthalene	mg/kg	0 39 U	0.4 U	0.39 U	0.36 U
SW8270C	Nitrobenzene	mg/kg	0 39 U	0.4 U	0 39 U	0.36 U
SW8270C	N-Nitrosodiethylamine	mg/kg	0.78 U	0.79 U	0 78 U	0 73 U
SW8270C	N-Nitrosodimethylamine	mg/kg	0.78 U	0 79 U	0.78 U	0.73 U
SW8270C	N-Nitrosodi-n-butylamine	mg/kg	0.39 U	0 4 U	0.39 U	0.36 U

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA301 00 ft 1998-04-09	BHGLTA301 05 ft 1998-04-09	BHGLTA301 05 ft Duplicate 1998-04-09	BHGLTA301 10 ft 1998-04-09
SW8270C	N-Nitrosodi-n-propylamine	mg/kg	0.39 U	0.4 U	0 39 U	0 36 U
SW8270C	N-Nitrosodiphenylamine	mg/kg	0.39 U	0.4 U	0 39 U	0.36 U
SW8270C	N-Nitrosomethylethylamine	mg/kg	0 39 U	0.4 U	0.39 U	0 36 U
SW8270C	N-Nitrosomorpholine	mg/kg	0 78 U	0.79 U	0.78 U	0 73 U
SW8270C	N-Nitrosopiperidine	mg/kg	0.39 U	0.4 U	0 39 U	0.36 U
SW8270C	N-Nitrosopyrrolidine	mg/kg	0.78 U	0.79 U	0.78 U	0 73 U
SW8270C	o-Toluidine	mg/kg	0.78 U	0.79 U	0 78 U	0 73 U
SW8270C	p-Dimethylaminoazobenzene	mg/kg	0 78 U	0 79 U	0 78 U	0 73 U
SW8270C	Pentachlorobenzene	mg/kg	0.39 U	0 4 U	0.39 U	0.36 U
SW8270C	Pentachloronitrobenzene	mg/kg	0.39 U	0.4 U	0.39 U	0 36 U
SW8270C	Pentachlorophenol	mg/kg	2 U	2 U	1.9 U	1 8 U
SW8270C	Phenacetin	mg/kg	0 39 U	0.4 U	0.39 U	0.36 U
SW8270C	Phenanthrene	mg/kg	0 39 U	0 4 U	0.39 U	0.36 U
SW8270C	Phenol	mg/kg	0.39 U	0 4 U	0 39 U	0.36 U
SW8270C	p-Phenylenediamine	mg/kg	5.8 U	5.9 U	5 8 U	5 5 U
SW8270C	Pronamide	mg/kg	0 39 U	0 4 U	0.39 U	0.36 U
SW8270C	Pyrene	mg/kg	0 39 U	0 4 U	0 39 U	0 36 U
SW8270C	Pyridine	mg/kg	0 78 U	0.79 U	0.78 U	0 73 U
SW8270C	Safrole	mg/kg	0 39 U	0 4 U	0 39 U	0 36 U
SW8280A	2,3,7,8-Tetrachlorodibenzofuran	mg/kg	0 00004 U	0 00004 U	0 00005 U	0 00003 U
SW8280A	2,3,7,8-Tetrachlorodibenzo-p-dioxin	mg/kg	0.00004 U	0 00005 U	0.00004 U	0.00004 U
SW8310	Chrysene	mg/kg	na	na	na	na
SW8310	Pyrene	mg/kg	na	na	na	na
SW9010	Cyanide	mg/kg	0.52 U	0 49 U	0 46 U	0 53 U
SW9030B	Sulfide	mg/kg	29 2 SU	24 5 SU	27.6 SU	25.5 SU
SW9041	pH	PH UNITS	na	na	na	na
SW9081	Cation-Exchange Capacity	MEQ/100G	na	na	na	na

Note
Sample date format: "YYYY-MM-DD"
F = The analyte was positively detected, but the associated numerical value is below the PQL
J = The analyte was positively detected, the associated numerical value is an estimation
R = The data are unusable due to QC deficiencies.
S = Applied to screening-level data
U = The analyte was analyzed for, but not detected
UJ = The analyte was analyzed for, but not detected, the associated numerical value is estimated
na = Not analyzed

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA301 15 ft 1998-04-09	BHGLTA302 00 ft 1998-04-09	BHGLTA302 05 ft 1998-04-09	BHGLTA302 10 ft 1998-04-09
AD5057	Density	g/mL	na	na	na	na
AD5057	Specific Gravity	NONE	na	na	na	na
LYDKHN	Total Organic Carbon	mg/kg	na	na	na	na
SW6010B	Antimony	mg/kg	8 5 UJ	8 8 UJ	9.3 UJ	7 9 UJ
SW6010B	Arsenic	mg/kg	3.3 F	52.6 U	2 7 F	5 6 F
SW6010B	Barium	mg/kg	89 5	41 6	33 8	95.6
SW6010B	Beryllium	mg/kg	0 78	0.67	0.53	0 33
SW6010B	Cadmium	mg/kg	3 4 U	3.5 U	3 7 U	3.2 U
SW6010B	Chromium, total	mg/kg	15.6	10 9	10 1	6.5
SW6010B	Cobalt	mg/kg	3.5 F	3 F	2 4 F	4.7 F
SW6010B	Copper	mg/kg	5 F	8.1	2 6 F	2 6 F
SW6010B	Lead	mg/kg	7.1 F	16 5 F	4 1 F	5.8 F
SW6010B	Nickel	mg/kg	8 5 F	7.6 F	5.2 F	5.9 F
SW6010B	Selenium	mg/kg	68.2 U	70 2 U	74 7 U	63.2 U
SW6010B	Silver	mg/kg	6 U	6.1 U	6.5 U	5 5 U
SW6010B	Thallium	mg/kg	12.8 F	9 8 F	5 9 F	10.1 F
SW6010B	Tin	mg/kg	8.5 U	8 8 U	9 3 U	7.9 U
SW6010B	Vanadium	mg/kg	31	18 3	15.8	31
SW6010B	Zinc	mg/kg	18 3 J	31 2	11.2	5 7
SW7041	Antimony	mg/kg	na	na	na	na
SW7060A	Arsenic	mg/kg	na	na	na	na
SW7421	Lead	mg/kg	na	na	na	na
SW7471A	Mercury	mg/kg	0 04 U	0.04 U	0 04 U	0 04 U
SW7740	Selenium	mg/kg	na	na	na	na
SW7761	Silver	mg/kg	na	na	na	na
SW7841	Thallium	mg/kg	na	na	na	na
SW8080A	Aldrin	mg/kg	na	na	na	na
SW8080A	alpha-BHC (alpha-Hexachlorocyclohexane)	mg/kg	na	na	na	na
SW8080A	alpha-Chlordane	mg/kg	na	na	na	na
SW8080A	alpha-Endosulfan	mg/kg	na	na	na	na
SW8080A	beta-BHC (beta-Hexachlorocyclohexane)	mg/kg	na	na	na	na
SW8080A	beta-Endosulfan	mg/kg	na	na	na	na
SW8080A	Chlordane	mg/kg	na	na	na	na
SW8080A	delta-BHC (delta-Hexachlorocyclohexane)	mg/kg	na	na	na	na
SW8080A	Dieldrin	mg/kg	na	na	na	na
SW8080A	Endosulfan sulfate	mg/kg	na	na	na	na

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA301 15 ft 1998-04-09	BHGLTA302 00 ft 1998-04-09	BHGLTA302 05 ft 1998-04-09	BHGLTA302 10 ft 1998-04-09
SW8080A	Endrin	mg/kg	na	na	na	na
SW8080A	Endrin aldehyde	mg/kg	na	na	na	na
SW8080A	gamma-BHC (Lindane)	mg/kg	na	na	na	na
SW8080A	gamma-Chlordane	mg/kg	na	na	na	na
SW8080A	Heptachlor	mg/kg	na	na	na	na
SW8080A	Heptachlor epoxide	mg/kg	na	na	na	na
SW8080A	Isodrin	mg/kg	na	na	na	na
SW8080A	Kepone	mg/kg	na	na	na	na
SW8080A	Methoxychlor	mg/kg	na	na	na	na
SW8080A	p,p'-DDD	mg/kg	na	na	na	na
SW8080A	p,p'-DDE	mg/kg	na	na	na	na
SW8080A	p,p'-DDT	mg/kg	na	na	na	na
SW8080A	PCB-1016 (Aroclor 1016)	mg/kg	na	na	na	na
SW8080A	PCB-1221 (Aroclor 1221)	mg/kg	na	na	na	na
SW8080A	PCB-1232 (Aroclor 1232)	mg/kg	na	na	na	na
SW8080A	PCB-1242 (Aroclor 1242)	mg/kg	na	na	na	na
SW8080A	PCB-1248 (Aroclor 1248)	mg/kg	na	na	na	na
SW8080A	PCB-1254 (Aroclor 1254)	mg/kg	na	na	na	na
SW8080A	PCB-1260 (Aroclor 1260)	mg/kg	na	na	na	na
SW8080A	Toxaphene	mg/kg	na	na	na	na
SW8081A	Aldrin	mg/kg	0.0034 R	0.0034 R	0.0037 U	0.0031 U
SW8081A	alpha-BHC (alpha-Hexachlorocyclohexane)	mg/kg	0.0022 U	0 0022 U	0.0024 U	0 0021 U
SW8081A	alpha-Chlordane	mg/kg	0.017 U	0 017 U	0.018 U	0 016 U
SW8081A	alpha-Endosulfan	mg/kg	0.01 U	0 01 U	0.011 U	0 0094 U
SW8081A	beta-BHC (beta-Hexachlorocyclohexane)	mg/kg	0 0045 R	0.0045 R	0 0049 U	0 0042 U
SW8081A	beta-Endosulfan	mg/kg	0 0034 U	0 0034 U	0 0037 U	0 0031 U
SW8081A	Chlordane	mg/kg	0 01 U	0 01 U	0 011 U	0.0094 U
SW8081A	delta-BHC (delta-Hexachlorocyclohexane)	mg/kg	0 0067 R	0.0068 R	0 0073 U	0 0062 U
SW8081A	Dieldrin	mg/kg	0 011 U	0 011 U	0 012 U	0 01 U
SW8081A	Endosulfan sulfate	mg/kg	0 045 U	0 045 U	0 049 U	0 042 U
SW8081A	Endrin	mg/kg	0 0045 U	0 0045 U	0.0049 U	0.0042 U
SW8081A	Endrin aldehyde	mg/kg	0 022 U	0 022 U	0.024 U	0.021 U
SW8081A	gamma-BHC (Lindane)	mg/kg	0 0034 U	0.0034 U	0 0037 U	0 0031 U
SW8081A	gamma-Chlordane	mg/kg	0.017 U	0.017 U	0.018 U	0.016 U
SW8081A	Heptachlor	mg/kg	0 0022 U	0.0022 U	0.0024 U	0 0021 U
SW8081A	Heptachlor epoxide	mg/kg	0 067 R	0 068 R	0.073 U	0 062 U

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA301 15 ft 1998-04-09	BHGLTA302 00 ft 1998-04-09	BHGLTA302 05 ft 1998-04-09	BHGLTA302 10 ft 1998-04-09
SW8081A	Isodrin	mg/kg	0.0045 U	0 0045 U	0.0049 U	0.0042 U
SW8081A	Kepone	mg/kg	0 094 U	0.094 U	0.1 U	0.087 U
SW8081A	Methoxychlor	mg/kg	0 11 R	0.11 R	0 12 R	0 1 R
SW8081A	p,p'-DDD	mg/kg	0.0078 U	0.0079 U	0 0086 U	0 0073 U
SW8081A	p,p'-DDE	mg/kg	0 0034 U	0 0034 U	0 0037 U	0.0031 U
SW8081A	p,p'-DDT	mg/kg	0.009 R	0 009 R	0 0098 U	0 0083 U
SW8081A	PCB-1016 (Aroclor 1016)	mg/kg	1.1 U	1 1 U	1.2 U	1 U
SW8081A	PCB-1221 (Aroclor 1221)	mg/kg	1.1 U	1 1 U	1 2 U	1 U
SW8081A	PCB-1232 (Aroclor 1232)	mg/kg	1 1 U	1.1 U	1 2 U	1 U
SW8081A	PCB-1242 (Aroclor 1242)	mg/kg	1.1 U	1 1 U	1.2 U	1 U
SW8081A	PCB-1248 (Aroclor 1248)	mg/kg	1 1 U	1.1 U	1 2 U	1 U
SW8081A	PCB-1254 (Aroclor 1254)	mg/kg	1.1 U	1 1 U	1.2 U	1 U
SW8081A	PCB-1260 (Aroclor 1260)	mg/kg	1 1 U	1.1 U	1 2 U	1 U
SW8081A	Toxaphene	mg/kg	0 22 U	0 22 U	0 24 U	0.21 U
SW8141A	Dimethoate	mg/kg	0 075 UJ	0 075 UJ	0.082 U	0 069 U
SW8141A	Disulfoton	mg/kg	0 075 UJ	0 075 UJ	0.082 U	0 069 U
SW8141A	Famphur	mg/kg	0 075 UJ	0 075 UJ	0 082 U	0.069 U
SW8141A	O,O,O-Triethyl phosphorothioate	mg/kg	0 075 UJ	0.075 UJ	0.082 U	0.069 U
SW8141A	Parathion, ethyl	mg/kg	0 075 UJ	0.075 UJ	0.082 U	0 069 U
SW8141A	Parathion, methyl	mg/kg	0 075 UJ	0 075 UJ	0.082 U	0 069 U
SW8141A	Phorate	mg/kg	0.075 UJ	0 075 UJ	0 082 U	0.069 U
SW8141A	Thiodiphosphoric acid, tetraethyl ester	mg/kg	0 075 UJ	0 075 UJ	0.082 U	0 069 U
SW8141A	Zinophos	mg/kg	0.075 UJ	0.075 UJ	0.082 U	0.069 U
SW8150B	2,4,5-T (Trichlorophenoxyacetic acid)	mg/kg	na	na	na	na
SW8150B	2,4-D (Dichlorophenoxyacetic acid)	mg/kg	na	na	na	na
SW8150B	Silvex (2,4,5-TP)	mg/kg	na	na	na	na
SW8151A	2,4,5-T (Trichlorophenoxyacetic acid)	mg/kg	0 037 U	0.037 U	0 041 U	0 035 U
SW8151A	2,4-D (Dichlorophenoxyacetic acid)	mg/kg	0 37 U	0.37 U	0.41 U	0.35 U
SW8151A	Silvex (2,4,5-TP)	mg/kg	0 037 U	0.037 U	0 041 U	0.035 U
SW8260B	1,1,1,2-Tetrachloroethane	mg/kg	0 003 U	0 003 U	0 004 U	0 003 U
SW8260B	1,1,1-Trichloroethane	mg/kg	0 004 U	0 004 U	0 005 U	0 004 U
SW8260B	1,1,2,2-Tetrachloroethane	mg/kg	0.002 R	0 002 R	0 002 U	0 002 U
SW8260B	1,1,2-Trichloroethane	mg/kg	0.006 U	0.006 U	0 006 U	0.005 U
SW8260B	1,1-Dichloroethane	mg/kg	0 002 U	0.002 U	0.002 U	0 002 U
SW8260B	1,1-Dichloroethene	mg/kg	0 006 U	0.006 U	0 006 U	0 005 U
SW8260B	1,2,3-Trichloropropane	mg/kg	0 006 R	0.006 R	0 006 U	0 005 U

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA301 15 ft 1998-04-09	BHGLTA302 00 ft 1998-04-09	BHGLTA302 05 ft 1998-04-09	BHGLTA302 10 ft 1998-04-09
SW8260B	1,2-Dibromo-3-chloropropane	mg/kg	0 006 R	0.006 R	0 006 U	0.005 U
SW8260B	1,2-Dibromoethane (Ethylene dibromide)	mg/kg	0 003 R	0.003 R	0 004 U	0 003 U
SW8260B	1,2-Dichloroethane	mg/kg	0 003 U	0 003 U	0.004 U	0 003 U
SW8260B	1,2-Dichloropropane	mg/kg	0 002 U	0 002 U	0 002 U	0.002 U
SW8260B	2-Chloro-1,3-butadiene	mg/kg	0.006 U	0.006 U	0 006 U	0 005 U
SW8260B	2-Hexanone	mg/kg	0 006 U	0.006 U	0.006 U	0 005 U
SW8260B	Acetone	mg/kg	0.019 U	0.006 U	0 007 U	0 01 U
SW8260B	Acetonitrile	mg/kg	0 045 U	0 045 U	0.049 U	0.042 U
SW8260B	Acrolein	mg/kg	0.11 U	0 11 U	0 12 U	0 1 U
SW8260B	Acrylonitrile	mg/kg	0.045 U	0.045 U	0.049 U	0.042 U
SW8260B	Allyl chloride (3-Chloropropene)	mg/kg	0 011 U	0 011 U	0 012 U	0.01 U
SW8260B	Benzene	mg/kg	0.002 U	0.002 U	0.002 U	0 002 U
SW8260B	Bromodichloromethane	mg/kg	0 004 U	0 004 U	0 005 U	0.004 U
SW8260B	Bromoform	mg/kg	0 006 R	0 006 R	0 006 U	0 005 U
SW8260B	Bromomethane	mg/kg	0 006 U	0.006 U	0 006 U	0 005 U
SW8260B	Carbon disulfide	mg/kg	0 006 U	0 006 U	0 006 U	0.005 U
SW8260B	Carbon tetrachloride	mg/kg	0 006 U	0 006 U	0 006 U	0 005 U
SW8260B	Chlorobenzene	mg/kg	0 002 U	0 002 U	0 002 U	0 002 U
SW8260B	Chloroethane	mg/kg	0 006 U	0.006 U	0 006 U	0.005 U
SW8260B	Chloroform	mg/kg	0.002 U	0.002 U	0.002 U	0.002 U
SW8260B	Chloromethane	mg/kg	0 006 U	0 006 U	0 006 U	0 005 U
SW8260B	cis-1,2-Dichloroethene	mg/kg	0.006 U	0.006 U	0.006 U	0.005 U
SW8260B	cis-1,3-Dichloropropene	mg/kg	0 006 U	0.006 U	0 006 U	0 005 U
SW8260B	Dibromochloromethane	mg/kg	0 003 R	0.003 R	0.004 U	0 003 U
SW8260B	Dibromomethane	mg/kg	0.006 U	0 006 U	0.006 U	0 005 U
SW8260B	Dichlorodifluoromethane	mg/kg	0 006 R	0 006 R	0 006 R	0 005 R
SW8260B	Ethyl methacrylate	mg/kg	0 006 U	0 006 U	0 006 U	0.005 U
SW8260B	Ethylbenzene	mg/kg	0 003 U	0 003 U	0 004 U	0.003 U
SW8260B	Iodomethane (Methyl iodide)	mg/kg	0 006 U	0 006 U	0 006 U	0.005 U
SW8260B	Isobutanol	mg/kg	0 23 U	0 23 U	0.25 U	0 21 U
SW8260B	m,p-Xylene (sum of isomers)	mg/kg	na	na	na	na
SW8260B	Methyl ethyl ketone (2-Butanone)	mg/kg	0.006 U	0.006 U	0 006 U	0.005 U
SW8260B	Methyl isobutyl ketone (4-Methyl-2-pentanone)	mg/kg	0 006 U	0 006 U	0 006 U	0 005 U
SW8260B	Methyl methacrylate	mg/kg	0.006 U	0.006 U	0 006 U	0 005 U
SW8260B	Methylacrylonitrile	mg/kg	0 006 U	0.006 U	0 006 U	0 005 U
SW8260B	Methylene chloride	mg/kg	0 002 U	0.002	0 002 U	0.002 U

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA301 15 ft 1998-04-09	BHGLTA302 00 ft 1998-04-09	BHGLTA302 05 ft 1998-04-09	BHGLTA302 10 ft 1998-04-09
SW8260B	M-Xylene (1,3-Dimethylbenzene)	mg/kg	0 006 U	0 006 U	0.006 U	0.005 U
SW8260B	o-Xylene (1,2-Dimethylbenzene)	mg/kg	0 006 U	0 006 U	0 006 U	0.005 U
SW8260B	Pentachloroethane	mg/kg	0 006 U	0 006 U	0 006 U	0.005 U
SW8260B	Propane nitrile (Propionitrile)	mg/kg	0.023 U	0 023 U	0 025 U	0 021 U
SW8260B	Styrene	mg/kg	0.002 U	0.002 U	0.002 U	0 002 U
SW8260B	Tert-Butyl Methyl Ether	mg/kg	na	na	na	na
SW8260B	Tetrachloroethene (PCE)	mg/kg	0 006 U	0 006 U	0 006 U	0 005 U
SW8260B	Toluene	mg/kg	0.006 U	0.006 U	0.006 U	0.005 U
SW8260B	Trans-1,2-Dichloroethene	mg/kg	0 003 U	0.003 U	0 004 U	0 003 U
SW8260B	Trans-1,3-Dichloropropene	mg/kg	0 006 U	0 006 U	0 006 U	0 005 U
SW8260B	Trans-1,4-Dichloro-2-Butene	mg/kg	0 006 U	0.006 U	0 006 U	0 005 U
SW8260B	Trichloroethene (TCE)	mg/kg	0.006 U	0.006 U	0.006 U	0.005 U
SW8260B	Trichlorofluoromethane	mg/kg	0.004 U	0 004 U	0.005 U	0.004 U
SW8260B	Vinyl acetate	mg/kg	0 006 U	0 006 U	0 006 U	0 005 U
SW8260B	Vinyl chloride	mg/kg	0 006 U	0 006 U	0 006 U	0 005 U
SW8270C	1,2,4,5-Tetrachlorobenzene	mg/kg	0 38 U	0.37 U	0.4 U	0.35 U
SW8270C	1,2,4-Trichlorobenzene	mg/kg	0.38 U	0.37 U	0 4 U	0.35 U
SW8270C	1,2-Dichlorobenzene	mg/kg	0 38 U	0 37 U	0 4 U	0.35 U
SW8270C	1,3,5-Trinitrobenzene	mg/kg	1.9 U	1.8 U	2 U	1 8 U
SW8270C	1,3-Dichlorobenzene	mg/kg	0 38 U	0 37 U	0 4 U	0 35 U
SW8270C	1,3-Dinitrobenzene	mg/kg	0 38 U	0.37 U	0.4 U	0.35 U
SW8270C	1,4-Dichlorobenzene	mg/kg	0 38 U	0.37 U	0.4 U	0.35 U
SW8270C	1,4-Dioxane (p-Dioxane)	mg/kg	0.76 U	0.73 U	0 8 U	0 71 U
SW8270C	1,4-naphthoquinone	mg/kg	3 8 U	3.7 U	4 U	3 5 U
SW8270C	1-naphthylamine	mg/kg	0 76 U	0 73 U	0 8 U	0 71 U
SW8270C	2,2'-Oxybis(1-chloropropane)	mg/kg	0.38 U	0 37 U	0 4 U	0 35 U
SW8270C	2,3,4,6-Tetrachlorophenol	mg/kg	0.38 U	0 37 U	0 4 U	0.35 U
SW8270C	2,4,5-Trichlorophenol	mg/kg	1 9 U	1 8 U	2 U	1 8 U
SW8270C	2,4,6-Trichlorophenol	mg/kg	0.38 U	0.37 U	0.4 U	0 35 U
SW8270C	2,4-Dichlorophenol	mg/kg	0 38 U	0 37 U	0 4 U	0.35 U
SW8270C	2,4-Dimethylphenol	mg/kg	0 38 U	0 37 U	0.4 U	0.35 U
SW8270C	2,4-Dinitrophenol	mg/kg	1 9 R	1.8 R	2 R	1.8 R
SW8270C	2,4-Dinitrotoluene	mg/kg	0 38 U	0.37 U	0 4 U	0.35 U
SW8270C	2,6-Dichlorophenol	mg/kg	0.76 U	0.73 U	0 8 U	0 71 U
SW8270C	2,6-Dinitrotoluene	mg/kg	0 38 U	0 37 U	0.4 U	0 35 U
SW8270C	2-Acetylaminofluorene	mg/kg	0.76 U	0.73 U	0.8 U	0 71 U

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA301 15 ft 1998-04-09	BHGLTA302 00 ft 1998-04-09	BHGLTA302 05 ft 1998-04-09	BHGLTA302 10 ft 1998-04-09
SW8270C	2-Aminonaphthalene (beta-naphthylamine)	mg/kg	0 76 U	0 73 U	0 8 U	0 71 U
SW8270C	2-Chloronaphthalene	mg/kg	0 38 U	0 37 U	0 4 U	0 35 U
SW8270C	2-Chlorophenol	mg/kg	0 38 U	0 37 U	0.4 U	0.35 U
SW8270C	2-Methylnaphthalene	mg/kg	0 38 U	0.37 U	0 4 U	0 35 U
SW8270C	2-Methylphenol (o-Cresol)	mg/kg	0 38 U	0.37 U	0 4 U	0.35 U
SW8270C	2-Nitroaniline	mg/kg	1 9 U	1 8 U	2 U	1 8 U
SW8270C	2-Nitrophenol	mg/kg	0 38 U	0 37 U	0.4 U	0 35 U
SW8270C	2-Picoline (alpha-Picoline)	mg/kg	0.38 U	0.37 U	0 4 U	0.35 U
SW8270C	3,3'-Dichlorobenzidine	mg/kg	0.76 U	0.73 U	0 8 U	0 71 U
SW8270C	3,3'-Dimethylbenzidine	mg/kg	1 9 U	1.8 U	2 U	1 8 U
SW8270C	3-Methylcholanthrene	mg/kg	0 38 U	0 37 U	0.4 U	0 35 U
SW8270C	3-Nitroaniline	mg/kg	1.9 U	1 8 U	2 U	1.8 U
SW8270C	4,6-Dinitro-2-methylphenol	mg/kg	1.9 U	1.8 U	2 U	1.8 U
SW8270C	4-Aminobiphenyl (4-Biphenylamine)	mg/kg	0.76 U	0.73 U	0 8 U	0 71 U
SW8270C	4-Bromophenyl phenyl ether	mg/kg	0 38 U	0.37 U	0 4 U	0 35 U
SW8270C	4-Chloro-3-methylphenol	mg/kg	0 76 U	0 73 U	0 8 U	0.71 U
SW8270C	4-Chloroaniline	mg/kg	0 76 U	0 73 U	0 8 U	0.71 U
SW8270C	4-Chlorophenyl phenyl ether	mg/kg	0.38 U	0.37 U	0.4 U	0 35 U
SW8270C	4-Nitroaniline	mg/kg	1 9 R	1 8 R	2 R	1.8 R
SW8270C	4-Nitrophenol	mg/kg	1.9 U	1.8 U	2 U	1 8 U
SW8270C	4-Nitroquinoline-1-oxide	mg/kg	1 9 U	1 8 U	2 U	1.8 U
SW8270C	5-Nitro-o-toluidine	mg/kg	0 76 U	0 73 U	0 8 U	0 71 U
SW8270C	7,12-Dimethylbenzo(a)anthracene	mg/kg	0 76 U	0 73 U	0.8 U	0 71 U
SW8270C	Acenaphthene	mg/kg	0.38 U	0.37 U	0.4 U	0 35 U
SW8270C	Acenaphthylene	mg/kg	0.38 U	0 37 U	0.4 U	0.35 U
SW8270C	Acetophenone	mg/kg	0 76 U	0 73 U	0 8 U	0 71 U
SW8270C	alpha, alpha-Dimethylphenethylamine	mg/kg	1.9 U	1.8 U	2 U	1.8 U
SW8270C	Aniline (Phenylamine, Aminobenzene)	mg/kg	0.38 U	0.37 U	0.4 U	0 35 U
SW8270C	Anthracene	mg/kg	0.38 U	0.37 U	0 4 U	0.35 U
SW8270C	Aramite (total)	mg/kg	0.76 U	0.73 U	0.8 U	0 71 U
SW8270C	Benzo(a)anthracene	mg/kg	0 38 U	0 37 U	0 4 U	0 35 U
SW8270C	Benzo(a)pyrene	mg/kg	0 38 U	0 37 U	0.4 U	0.35 U
SW8270C	Benzo(b)fluoranthene	mg/kg	0 38 U	0.042 F	0.4 U	0 35 U
SW8270C	Benzo(g,h,i)perylene	mg/kg	0.38 U	0.37 U	0 4 U	0.35 U
SW8270C	Benzo(k)fluoranthene	mg/kg	0.38 U	0.37 U	0 4 U	0.35 U
SW8270C	Benzoic acid	mg/kg	1 9 U	1 8 U	2 U	1.8 U

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA301 15 ft 1998-04-09	BHGLTA302 00 ft 1998-04-09	BHGLTA302 05 ft 1998-04-09	BHGLTA302 10 ft 1998-04-09
SW8270C	Benzyl alcohol	mg/kg	0.38 U	0 37 U	0 4 U	0.35 U
SW8270C	Benzyl butyl phthalate	mg/kg	0 38 U	0 37 U	0 4 U	0 35 U
SW8270C	bis(2-Chloroethoxy)methane	mg/kg	0.38 U	0.37 U	0.4 U	0 35 U
SW8270C	bis(2-Chloroethyl)ether (2-Chloroethyl ether)	mg/kg	0 38 U	0.37 U	0.4 U	0.35 U
SW8270C	bis(2-Ethylhexyl)phthalate	mg/kg	0.38 U	0.37 U	0 4 U	0 35 U
SW8270C	Chlorobenzilate	mg/kg	0 38 U	0.37 U	0.4 U	0 35 U
SW8270C	Chrysene	mg/kg	0.38 U	0.37 U	0 4 U	0 35 U
SW8270C	Cresols, m & p	mg/kg	0 38 U	0.37 U	0 4 U	0 35 U
SW8270C	Diallate (total of cis and trans isomers)	mg/kg	0 38 U	0.37 U	0 4 U	0 35 U
SW8270C	Dibenz(a,h)anthracene	mg/kg	0.38 U	0.37 U	0 4 U	0 35 U
SW8270C	Dibenzofuran	mg/kg	0.38 U	0.37 U	0 4 U	0 35 U
SW8270C	Diethyl phthalate	mg/kg	0 38 U	0.37 U	0.4 U	0 35 U
SW8270C	Dimethyl phthalate	mg/kg	0 38 U	0 37 U	0.4 U	0.35 U
SW8270C	Di-n-butyl phthalate	mg/kg	0.38 U	0.37 U	0.4 U	0 35 U
SW8270C	Di-n-octyl phthalate	mg/kg	0 38 U	0.37 U	0.4 U	0.35 U
SW8270C	Dinoseb	mg/kg	0.76 U	0.73 U	0 8 U	0 71 U
SW8270C	Diphenylamine	mg/kg	0.38 U	0.37 U	0 4 U	0 35 U
SW8270C	Ethyl methanesulfonate	mg/kg	0 76 U	0.73 U	0.8 U	0.71 U
SW8270C	Fluoranthene	mg/kg	0.38 U	0.37 U	0.4 U	0.35 U
SW8270C	Fluorene	mg/kg	0.38 U	0 37 U	0 4 U	0 35 U
SW8270C	Hexachlorobenzene	mg/kg	0 38 U	0 37 U	0 4 U	0 35 U
SW8270C	Hexachlorobutadiene	mg/kg	0 38 U	0.37 U	0 4 U	0 35 U
SW8270C	Hexachlorocyclopentadiene	mg/kg	0.38 U	0 37 U	0 4 U	0 35 U
SW8270C	Hexachloroethane	mg/kg	0 38 U	0 37 U	0 4 U	0 35 U
SW8270C	Hexachlorophene	mg/kg	3 8 U	3.7 U	4 U	3 5 U
SW8270C	Hexachloropropene	mg/kg	1.9 U	1.8 U	2 U	1 8 U
SW8270C	Indeno(1,2,3-c,d)pyrene	mg/kg	0 38 U	0 37 U	0 4 U	0.35 U
SW8270C	Isophorone	mg/kg	0 38 U	0 37 U	0.4 U	0 35 U
SW8270C	Isosafrole	mg/kg	0.38 U	0.37 U	0 4 U	0.35 U
SW8270C	Methapyrilene	mg/kg	0.94 U	0 92 U	1 U	0.88 U
SW8270C	Methyl methanesulfonate	mg/kg	0.76 U	0 73 U	0 8 U	0 71 U
SW8270C	naphthalene	mg/kg	0.38 U	0 37 U	0.4 U	0 35 U
SW8270C	Nitrobenzene	mg/kg	0.38 U	0 37 U	0 4 U	0.35 U
SW8270C	N-Nitrosodiethylamine	mg/kg	0 76 U	0 73 U	0 8 U	0 71 U
SW8270C	N-Nitrosodimethylamine	mg/kg	0.76 U	0.73 U	0.8 U	0 71 U
SW8270C	N-Nitrosodi-n-butylamine	mg/kg	0.38 U	0 37 U	0 4 U	0.35 U

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA301 15 ft 1998-04-09	BHGLTA302 00 ft 1998-04-09	BHGLTA302 05 ft 1998-04-09	BHGLTA302 10 ft 1998-04-09
SW8270C	N-Nitrosodi-n-propylamine	mg/kg	0 38 U	0 37 U	0 4 U	0.35 U
SW8270C	N-Nitrosodiphenylamine	mg/kg	0.38 U	0 37 U	0 4 U	0 35 U
SW8270C	N-Nitrosomethylethylamine	mg/kg	0 38 U	0 37 U	0 4 U	0.35 U
SW8270C	N-Nitrosomorpholine	mg/kg	0.76 U	0 73 U	0.8 U	0 71 U
SW8270C	N-Nitrosopiperidine	mg/kg	0 38 U	0.37 U	0 4 U	0.35 U
SW8270C	N-Nitrosopyrrolidine	mg/kg	0 76 U	0.73 U	0 8 U	0 71 U
SW8270C	o-Toluidine	mg/kg	0 76 U	0.73 U	0 8 U	0.71 U
SW8270C	p-Dimethylaminoazobenzene	mg/kg	0 76 U	0.73 U	0 8 U	0 71 U
SW8270C	Pentachlorobenzene	mg/kg	0 38 U	0 37 U	0.4 U	0 35 U
SW8270C	Pentachloronitrobenzene	mg/kg	0.38 U	0 37 U	0 4 U	0.35 U
SW8270C	Pentachlorophenol	mg/kg	1.9 U	1 8 U	2 U	1.8 U
SW8270C	Phenacetin	mg/kg	0.38 U	0.37 U	0 4 U	0 35 U
SW8270C	Phenanthrene	mg/kg	0 38 U	0 37 U	0.4 U	0 35 U
SW8270C	Phenol	mg/kg	0 38 U	0 37 U	0 4 U	0.35 U
SW8270C	p-Phenylenediamine	mg/kg	5 7 U	5.5 U	6 U	5 3 U
SW8270C	Pronamide	mg/kg	0 38 U	0 37 U	0.4 U	0.35 U
SW8270C	Pyrene	mg/kg	0 38 U	0.37 U	0.4 U	0.35 U
SW8270C	Pyridine	mg/kg	0 76 U	0 73 U	0.8 U	0.71 U
SW8270C	Safrole	mg/kg	0.38 U	0 37 U	0 4 U	0.35 U
SW8280A	2,3,7,8-Tetrachlorodibenzofuran	mg/kg	0.00004 U	0.00004 U	0 00003 U	0 00003 U
SW8280A	2,3,7,8-Tetrachlorodibenzo-p-dioxin	mg/kg	0.00003 U	0.00003 U	0.00004 U	0 00002 U
SW8310	Chrysene	mg/kg	na	na	na	na
SW8310	Pyrene	mg/kg	na	na	na	na
SW9010	Cyanide	mg/kg	0 57 U	0.42 U	0 49 U	0.38 U
SW9030B	Sulfide	mg/kg	27.3 SU	26 7 SU	30 5 SU	24 8 SU
SW9041	pH	PH UNITS	na	na	na	na
SW9081	Cation-Exchange Capacity	MEQ/100G	na	na	na	na

Note.
Sample date format. "YYYY-MM-DD"
F = The analyte was positively detected, but the associated numerical value is below the PQL
J = The analyte was positively detected, the associated numerical value is an estimation
R = The data are unusable due to QC deficiencies
S = Applied to screening-level data.
U = The analyte was analyzed for, but not detected
UJ = The analyte was analyzed for, but not detected, the associated numerical value is estimated
na = Not analyzed

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA303 00 ft 1998-04-14	BHGLTA303 05 ft 1998-04-14	BHGLTA303 10 ft 1998-04-14	BHGLTA303 15 ft 1998-04-14
AD5057	Density	g/mL	na	na	na	na
AD5057	Specific Gravity	NONE	na	na	na	na
LYDKHN	Total Organic Carbon	mg/kg	na	na	na	na
SW6010B	Antimony	mg/kg	10 9 UJ	10.9 UJ	9.9 UJ	10.2 UJ
SW6010B	Arsenic	mg/kg	4 1 F	65 3 U	2.9 F	60 9 U
SW6010B	Barium	mg/kg	96	67.1	69 5	25.9
SW6010B	Beryllium	mg/kg	0 94	0 71	1 1	0 41
SW6010B	Cadmium	mg/kg	4.4 U	4 4 U	4 U	4.1 U
SW6010B	Chromium, total	mg/kg	17 5	14.5	15.1	10
SW6010B	Cobalt	mg/kg	5.1 F	3 4 F	4 2 F	1 7 F
SW6010B	Copper	mg/kg	11 6	4.6 F	6 1	2 3 F
SW6010B	Lead	mg/kg	25.9 F	5 7 F	10 7 F	8.4 F
SW6010B	Nickel	mg/kg	11 2 F	7 7 F	9.2 F	4 7 F
SW6010B	Selenium	mg/kg	87 2 U	87.1 U	79 2 U	81 2 U
SW6010B	Silver	mg/kg	7 6 U	7.6 U	6.9 U	7 1 U
SW6010B	Thallium	mg/kg	7.5 F	10.1 F	11 F	6 4 F
SW6010B	Tin	mg/kg	10 9 U	10 9 U	9.9 U	10 2 U
SW6010B	Vanadium	mg/kg	31.9	30	29	26 9
SW6010B	Zinc	mg/kg	49 9	19.3	25 1	9 5
SW7041	Antimony	mg/kg	na	na	na	na
SW7060A	Arsenic	mg/kg	na	na	na	na
SW7421	Lead	mg/kg	na	na	na	na
SW7471A	Mercury	mg/kg	0.04 U	0 04 U	0 04 U	0 04 U
SW7740	Selenium	mg/kg	na	na	na	na
SW7761	Silver	mg/kg	na	na	na	na
SW7841	Thallium	mg/kg	na	na	na	na
SW8080A	Aldrin	mg/kg	na	na	na	na
SW8080A	alpha-BHC (alpha-Hexachlorocyclohexane)	mg/kg	na	na	na	na
SW8080A	alpha-Chlordane	mg/kg	na	na	na	na
SW8080A	alpha-Endosulfan	mg/kg	na	na	na	na
SW8080A	beta-BHC (beta-Hexachlorocyclohexane)	mg/kg	na	na	na	na
SW8080A	beta-Endosulfan	mg/kg	na	na	na	na
SW8080A	Chlordane	mg/kg	na	na	na	na
SW8080A	delta-BHC (delta-Hexachlorocyclohexane)	mg/kg	na	na	na	na
SW8080A	Dieldrin	mg/kg	na	na	na	na
SW8080A	Endosulfan sulfate	mg/kg	na	na	na	na

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA303 00 ft 1998-04-14	BHGLTA303 05 ft 1998-04-14	BHGLTA303 10 ft 1998-04-14	BHGLTA303 15 ft 1998-04-14
SW8080A	Endrin	mg/kg	na	na	na	na
SW8080A	Endrin aldehyde	mg/kg	na	na	na	na
SW8080A	gamma-BHC (Lindane)	mg/kg	na	na	na	na
SW8080A	gamma-Chlordane	mg/kg	na	na	na	na
SW8080A	Heptachlor	mg/kg	na	na	na	na
SW8080A	Heptachlor epoxide	mg/kg	na	na	na	na
SW8080A	Isodrin	mg/kg	na	na	na	na
SW8080A	Kepone	mg/kg	na	na	na	na
SW8080A	Methoxychlor	mg/kg	na	na	na	na
SW8080A	p,p'-DDD	mg/kg	na	na	na	na
SW8080A	p,p'-DDE	mg/kg	na	na	na	na
SW8080A	p,p'-DDT	mg/kg	na	na	na	na
SW8080A	PCB-1016 (Aroclor 1016)	mg/kg	na	na	na	na
SW8080A	PCB-1221 (Aroclor 1221)	mg/kg	na	na	na	na
SW8080A	PCB-1232 (Aroclor 1232)	mg/kg	na	na	na	na
SW8080A	PCB-1242 (Aroclor 1242)	mg/kg	na	na	na	na
SW8080A	PCB-1248 (Aroclor 1248)	mg/kg	na	na	na	na
SW8080A	PCB-1254 (Aroclor 1254)	mg/kg	na	na	na	na
SW8080A	PCB-1260 (Aroclor 1260)	mg/kg	na	na	na	na
SW8080A	Toxaphene	mg/kg	na	na	na	na
SW8081A	Aldrin	mg/kg	0 018 U	0 0036 U	0 0033 U	0 017 U
SW8081A	alpha-BHC (alpha-Hexachlorocyclohexane)	mg/kg	0.012 U	0 0024 U	0 0022 U	0.012 U
SW8081A	alpha-Chlordane	mg/kg	0 092 U	0.018 U	0 017 U	0 087 U
SW8081A	alpha-Endosulfan	mg/kg	0 055 U	0 011 U	0.01 U	0 052 U
SW8081A	beta-BHC (beta-Hexachlorocyclohexane)	mg/kg	0 024 U	0 0048 U	0 0045 U	0.023 U
SW8081A	beta-Endosulfan	mg/kg	0.018 U	0 0036 U	0 0033 U	0 017 U
SW8081A	Chlordane	mg/kg	0 055 U	0 011 U	0 01 U	0 052 U
SW8081A	delta-BHC (delta-Hexachlorocyclohexane)	mg/kg	0 037 U	0.0072 U	0 0067 U	0 035 U
SW8081A	Dieldrin	mg/kg	0 061 U	0.012 U	0.011 U	0.058 U
SW8081A	Endosulfan sulfate	mg/kg	0 24 U	0.048 U	0 045 U	0.23 U
SW8081A	Endrin	mg/kg	0.024 U	0 0048 U	0 0045 U	0 023 U
SW8081A	Endrin aldehyde	mg/kg	0 12 U	0 024 U	0.022 U	0.12 U
SW8081A	gamma-BHC (Lindane)	mg/kg	0 018 U	0.0036 U	0 0033 U	0 017 U
SW8081A	gamma-Chlordane	mg/kg	0 092 U	0 018 U	0 017 U	0.087 U
SW8081A	Heptachlor	mg/kg	0.012 U	0 0024 U	0.0022 U	0 012 U
SW8081A	Heptachlor epoxide	mg/kg	0 37 U	0 072 U	0.067 U	0 35 U

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA303 00 ft 1998-04-14	BHGLTA303 05 ft 1998-04-14	BHGLTA303 10 ft 1998-04-14	BHGLTA303 15 ft 1998-04-14
SW8081A	Isodrin	mg/kg	0 024 U	0 0048 U	0.0045 U	0 023 U
SW8081A	Kepone	mg/kg	0 51 R	0 099 U	0 093 U	0.48 R
SW8081A	Methoxychlor	mg/kg	0.61 R	0 12 U	0 11 U	0.58 R
SW8081A	p,p'-DDD	mg/kg	0.043 U	0 0083 U	0.0078 U	0.041 U
SW8081A	p,p'-DDE	mg/kg	0.018 U	0.0036 U	0 0033 U	0 017 U
SW8081A	p,p'-DDT	mg/kg	0 049 U	0 0095 U	0.0089 U	0.046 U
SW8081A	PCB-1016 (Aroclor 1016)	mg/kg	6 1 U	1 2 U	1 1 U	5 8 U
SW8081A	PCB-1221 (Aroclor 1221)	mg/kg	6 1 U	1 2 U	1.1 U	5.8 U
SW8081A	PCB-1232 (Aroclor 1232)	mg/kg	6.1 U	1 2 U	1.1 U	5 8 U
SW8081A	PCB-1242 (Aroclor 1242)	mg/kg	6.1 U	1.2 U	1.1 U	5 8 U
SW8081A	PCB-1248 (Aroclor 1248)	mg/kg	6.1 U	1.2 U	1.1 U	5 8 U
SW8081A	PCB-1254 (Aroclor 1254)	mg/kg	6.1 U	1.2 U	1.1 U	5 8 U
SW8081A	PCB-1260 (Aroclor 1260)	mg/kg	6.1 U	1.2 U	1.1 U	5.8 U
SW8081A	Toxaphene	mg/kg	1 2 U	0 24 U	0 22 U	1 2 U
SW8141A	Dimethoate	mg/kg	0 082 U	0 079 U	0 074 U	0 077 U
SW8141A	Disulfoton	mg/kg	0 082 U	0.079 U	0 074 U	0.077 U
SW8141A	Famphur	mg/kg	0.082 U	0.079 U	0.074 U	0.077 U
SW8141A	O,O,O-Triethyl phosphorothioate	mg/kg	0 082 U	0 079 U	0 074 U	0 077 U
SW8141A	Parathion, ethyl	mg/kg	0.082 U	0.079 U	0.074 U	0 077 U
SW8141A	Parathion, methyl	mg/kg	0 082 U	0 079 U	0 074 U	0 077 U
SW8141A	Phorate	mg/kg	0 082 U	0.079 U	0.074 U	0.077 U
SW8141A	Thiodiphosphoric acid, tetraethyl ester	mg/kg	0 082 U	0.079 U	0.074 U	0 077 U
SW8141A	Zinophos	mg/kg	0 082 U	0.079 U	0.074 U	0 077 U
SW8150B	2,4,5-T (Trichlorophenoxyacetic acid)	mg/kg	na	na	na	na
SW8150B	2,4-D (Dichlorophenoxyacetic acid)	mg/kg	na	na	na	na
SW8150B	Silvex (2,4,5-TP)	mg/kg	na	na	na	na
SW8151A	2,4,5-T (Trichlorophenoxyacetic acid)	mg/kg	0.041 U	0.04 U	0.038 U	0 039 U
SW8151A	2,4-D (Dichlorophenoxyacetic acid)	mg/kg	0 41 U	0 4 U	0 38 U	0 39 U
SW8151A	Silvex (2,4,5-TP)	mg/kg	0 041 R	0.04 R	0.038 R	0 039 R
SW8260B	1,1,1,2-Tetrachloroethane	mg/kg	0.004 U	0.004 U	0 003 U	0 004 U
SW8260B	1,1,1-Trichloroethane	mg/kg	0 005 U	0.005 U	0.004 U	0 005 U
SW8260B	1,1,2,2-Tetrachloroethane	mg/kg	0 002 U	0.002 U	0 002 U	0.002 U
SW8260B	1,1,2-Trichloroethane	mg/kg	0 006 U	0.006 U	0 006 U	0 006 U
SW8260B	1,1-Dichloroethane	mg/kg	0.002 U	0.002 U	0 002 U	0 002 U
SW8260B	1,1-Dichloroethene	mg/kg	0.006 U	0.006 U	0.006 U	0 006 U
SW8260B	1,2,3-Trichloropropane	mg/kg	0 006 U	0.006 U	0.006 U	0 006 U

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA303 00 ft 1998-04-14	BHGLTA303 05 ft 1998-04-14	BHGLTA303 10 ft 1998-04-14	BHGLTA303 15 ft 1998-04-14
SW8260B	1,2-Dibromo-3-chloropropane	mg/kg	0 006 U	0 006 U	0.006 U	0 006 U
SW8260B	1,2-Dibromoethane (Ethylene dibromide)	mg/kg	0.004 U	0.004 U	0.003 U	0.004 U
SW8260B	1,2-Dichloroethane	mg/kg	0.004 U	0 004 U	0 003 U	0 004 U
SW8260B	1,2-Dichloropropane	mg/kg	0 002 U	0.002 U	0 002 U	0.002 U
SW8260B	2-Chloro-1,3-butadiene	mg/kg	0 006 U	0.006 U	0.006 U	0.006 U
SW8260B	2-Hexanone	mg/kg	0 006 U	0 006 U	0 006 U	0.006 U
SW8260B	Acetone	mg/kg	0 006 U	0 006 U	0 076 U	0.062 U
SW8260B	Acetonitrile	mg/kg	0 05 U	0.049 U	0.046 U	0 047 U
SW8260B	Acrolein	mg/kg	0 12 U	0.12 U	0 11 U	0 12 U
SW8260B	Acrylonitrile	mg/kg	0.05 U	0.049 U	0 046 U	0 047 U
SW8260B	Allyl chloride (3-Chloropropene)	mg/kg	0.012 U	0.012 U	0 011 U	0 012 U
SW8260B	Benzene	mg/kg	0.002 U	0 002 U	0 002 U	0.002 U
SW8260B	Bromodichloromethane	mg/kg	0 005 U	0.005 U	0.004 U	0.005 U
SW8260B	Bromoform	mg/kg	0 006 R	0.006 R	0.006 R	0 006 R
SW8260B	Bromomethane	mg/kg	0 006 U	0.006 U	0 006 U	0 006 U
SW8260B	Carbon disulfide	mg/kg	0.006 U	0 006 U	0.006 U	0.006 U
SW8260B	Carbon tetrachloride	mg/kg	0 006 U	0.006 U	0.006 U	0 006 U
SW8260B	Chlorobenzene	mg/kg	0.002 U	0.002 U	0 002 U	0.002 U
SW8260B	Chloroethane	mg/kg	0 006 U	0 006 U	0.006 U	0 006 U
SW8260B	Chloroform	mg/kg	0 002 U	0.002 U	0 002 U	0.002 U
SW8260B	Chloromethane	mg/kg	0 006 U	0 006 U	0 006 U	0.006 U
SW8260B	cis-1,2-Dichloroethene	mg/kg	0 006 U	0 006 U	0.006 U	0 006 U
SW8260B	cis-1,3-Dichloropropene	mg/kg	0.006 U	0 006 U	0.006 U	0 006 U
SW8260B	Dibromochloromethane	mg/kg	0.004 U	0 004 U	0.003 U	0 004 U
SW8260B	Dibromomethane	mg/kg	0 006 U	0.006 U	0 006 U	0.006 U
SW8260B	Dichlorodifluoromethane	mg/kg	0 006 U	0 006 U	0.006 U	0.006 U
SW8260B	Ethyl methacrylate	mg/kg	0 006 U	0.006 U	0 006 U	0.006 U
SW8260B	Ethylbenzene	mg/kg	0.004 U	0 004 U	0 003 U	0.004
SW8260B	Iodomethane (Methyl iodide)	mg/kg	0 006 U	0 006 U	0.006 U	0.006 U
SW8260B	Isobutanol	mg/kg	0 25 U	0 24 U	0.23 U	0 24 U
SW8260B	m,p-Xylene (sum of isomers)	mg/kg	na	na	na	na
SW8260B	Methyl ethyl ketone (2-Butanone)	mg/kg	0.006 U	0.006 U	0 012	0 009
SW8260B	Methyl isobutyl ketone (4-Methyl-2-pentanone)	mg/kg	0 006 U	0 006 U	0 006 U	0 006 U
SW8260B	Methyl methacrylate	mg/kg	0 006 U	0.006 U	0.006 U	0.006 U
SW8260B	Methylacrylonitrile	mg/kg	0 006 U	0.006 U	0 006 U	0 006 U
SW8260B	Methylene chloride	mg/kg	0.002 U	0 002 U	0 002 U	0 002 U

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA303 00 ft 1998-04-14	BHGLTA303 05 ft 1998-04-14	BHGLTA303 10 ft 1998-04-14	BHGLTA303 15 ft 1998-04-14
SW8260B	M-Xylene (1,3-Dimethylbenzene)	mg/kg	0.006 U	0.006 U	0.006 U	0.006 U
SW8260B	o-Xylene (1,2-Dimethylbenzene)	mg/kg	0 006 U	0 006 U	0.006 U	0 006 U
SW8260B	Pentachloroethane	mg/kg	0.006 U	0.006 U	0 006 U	0.006 U
SW8260B	Propane nitrile (Propionitrile)	mg/kg	0 025 U	0 024 U	0.023 U	0 024 U
SW8260B	Styrene	mg/kg	0.002 U	0.002 U	0 002 U	0.002 U
SW8260B	Tert-Butyl Methyl Ether	mg/kg	na	na	na	na
SW8260B	Tetrachloroethene (PCE)	mg/kg	0.006 U	0.006 U	0.006 U	0 006 U
SW8260B	Toluene	mg/kg	0.006 U	0.006 U	0.006 U	0 006 U
SW8260B	Trans-1,2-Dichloroethene	mg/kg	0.004 U	0.004 U	0.003 U	0 004 U
SW8260B	Trans-1,3-Dichloropropene	mg/kg	0.006 U	0 006 U	0.006 U	0 006 U
SW8260B	Trans-1,4-Dichloro-2-Butene	mg/kg	0.006 U	0.006 U	0.006 U	0 006 U
SW8260B	Trichloroethene (TCE)	mg/kg	0.006 U	0.006 U	0.006 U	0 006 U
SW8260B	Trichlorofluoromethane	mg/kg	0 005 U	0 005 U	0.004 U	0.005 U
SW8260B	Vinyl acetate	mg/kg	0.006 U	0.006 U	0 006 U	0 006 U
SW8260B	Vinyl chloride	mg/kg	0 006 U	0 006 U	0 006 U	0.006 U
SW8270C	1,2,4,5-Tetrachlorobenzene	mg/kg	0.41 U	0.4 U	0.38 U	0.39 U
SW8270C	1,2,4-Trichlorobenzene	mg/kg	0 41 U	0 4 U	0.38 U	0.39 U
SW8270C	1,2-Dichlorobenzene	mg/kg	0 41 U	0.4 U	0 38 U	0 39 U
SW8270C	1,3,5-Trinitrobenzene	mg/kg	2 1 U	2 U	1 9 U	1 9 U
SW8270C	1,3-Dichlorobenzene	mg/kg	0 41 U	0.4 U	0 38 U	0 39 U
SW8270C	1,3-Dinitrobenzene	mg/kg	0 41 U	0.4 U	0 38 U	0.39 U
SW8270C	1,4-Dichlorobenzene	mg/kg	0 41 U	0.4 U	0.38 U	0.39 U
SW8270C	1,4-Dioxane (p-Dioxane)	mg/kg	0.82 U	0.81 U	0 75 U	0 77 U
SW8270C	1,4-naphthoquinone	mg/kg	4 1 U	4 U	3 8 U	3 9 U
SW8270C	1-naphthylamine	mg/kg	0.82 U	0.81 U	0.75 U	0 77 U
SW8270C	2,2'-Oxybis(1-chloropropane)	mg/kg	0.41 U	0 4 U	0.38 U	0.39 U
SW8270C	2,3,4,6-Tetrachlorophenol	mg/kg	0 41 U	0.4 U	0.38 U	0 39 U
SW8270C	2,4,5-Trichlorophenol	mg/kg	2 1 U	2 U	1 9 U	1 9 U
SW8270C	2,4,6-Trichlorophenol	mg/kg	0 41 U	0 4 U	0.38 U	0.39 U
SW8270C	2,4-Dichlorophenol	mg/kg	0 41 U	0 4 U	0.38 U	0 39 U
SW8270C	2,4-Dimethylphenol	mg/kg	0 41 U	0 4 U	0.38 U	0 39 U
SW8270C	2,4-Dinitrophenol	mg/kg	2 1 U	2 U	1.9 U	1 9 U
SW8270C	2,4-Dinitrotoluene	mg/kg	0 41 U	0 4 U	0.38 U	0.39 U
SW8270C	2,6-Dichlorophenol	mg/kg	0 82 U	0 81 U	0.75 U	0.77 U
SW8270C	2,6-Dinitrotoluene	mg/kg	0 41 U	0 4 U	0.38 U	0.39 U
SW8270C	2-Acetylaminofluorene	mg/kg	0.82 U	0.81 U	0.75 U	0.77 U

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA303 00 ft 1998-04-14	BHGLTA303 05 ft 1998-04-14	BHGLTA303 10 ft 1998-04-14	BHGLTA303 15 ft 1998-04-14
SW8270C	2-Aminonaphthalene (beta-naphthylamine)	mg/kg	0.82 U	0.81 U	0 75 U	0 77 U
SW8270C	2-Chloronaphthalene	mg/kg	0 41 U	0 4 U	0.38 U	0 39 U
SW8270C	2-Chlorophenol	mg/kg	0 41 U	0.4 U	0 38 U	0.39 U
SW8270C	2-Methylnaphthalene	mg/kg	0 41 U	0.4 U	0.38 U	0.39 U
SW8270C	2-Methylphenol (o-Cresol)	mg/kg	0 41 U	0 4 U	0 38 U	0 39 U
SW8270C	2-Nitroaniline	mg/kg	2 1 U	2 U	1 9 U	1.9 U
SW8270C	2-Nitrophenol	mg/kg	0 41 U	0 4 U	0 38 U	0.39 U
SW8270C	2-Picoline (alpha-Picoline)	mg/kg	0 41 U	0.4 U	0 38 U	0 39 U
SW8270C	3,3'-Dichlorobenzidine	mg/kg	0 82 U	0.81 U	0 75 U	0 77 U
SW8270C	3,3'-Dimethylbenzidine	mg/kg	2 1 U	2 U	1 9 U	1 9 U
SW8270C	3-Methylcholanthrene	mg/kg	0.41 U	0.4 U	0 38 U	0.39 U
SW8270C	3-Nitroaniline	mg/kg	2 UJ	2 R	1.9 R	1.9 UJ
SW8270C	4,6-Dinitro-2-methylphenol	mg/kg	2 1 U	2 U	1.9 U	1 9 U
SW8270C	4-Aminobiphenyl (4-Biphenylamine)	mg/kg	0.82 U	0 81 U	0.75 U	0.77 U
SW8270C	4-Bromophenyl phenyl ether	mg/kg	0 41 U	0 4 U	0.38 U	0 39 U
SW8270C	4-Chloro-3-methylphenol	mg/kg	0 82 U	0.81 U	0.75 U	0 77 U
SW8270C	4-Chloroaniline	mg/kg	0 82 U	0.81 U	0 75 U	0 77 U
SW8270C	4-Chlorophenyl phenyl ether	mg/kg	0 41 U	0 4 U	0 38 U	0.39 U
SW8270C	4-Nitroaniline	mg/kg	2.1 U	2 U	1.9 U	1.9 U
SW8270C	4-Nitrophenol	mg/kg	2 1 U	2 U	1.9 U	1 9 U
SW8270C	4-Nitroquinoline-1-oxide	mg/kg	2 1 U	2 U	1.9 U	1.9 U
SW8270C	5-Nitro-o-toluidine	mg/kg	0 82 U	0.81 U	0 75 U	0 77 U
SW8270C	7,12-Dimethylbenzo(a)anthracene	mg/kg	0 82 U	0.81 U	0 75 U	0.77 U
SW8270C	Acenaphthene	mg/kg	0.41 U	0 4 U	0.38 U	0.39 U
SW8270C	Acenaphthylene	mg/kg	0 41 U	0.4 U	0 38 U	0 39 U
SW8270C	Acetophenone	mg/kg	0 82 U	0 81 U	0.75 U	0 77 U
SW8270C	alpha, alpha-Dimethylphenethylamine	mg/kg	2 1 U	2 U	1 9 U	1 9 U
SW8270C	Aniline (Phenylamine, Aminobenzene)	mg/kg	0.41 U	0 4 U	0 38 U	0.39 U
SW8270C	Anthracene	mg/kg	0.41 U	0 4 U	0 38 U	0.39 U
SW8270C	Aramite (total)	mg/kg	0.82 U	0 81 U	0 75 U	0 77 U
SW8270C	Benzo(a)anthracene	mg/kg	0.41 U	0 4 U	0 38 U	0 067 F
SW8270C	Benzo(a)pyrene	mg/kg	0.41 U	0 4 U	0 38 U	0 084 F
SW8270C	Benzo(b)fluoranthene	mg/kg	0.41 U	0 4 U	0 38 U	0.12 F
SW8270C	Benzo(g,h,i)perylene	mg/kg	0.41 U	0 4 U	0 38 U	0 39 U
SW8270C	Benzo(k)fluoranthene	mg/kg	0.41 U	0 4 U	0 38 U	0.049 F
SW8270C	Benzoic acid	mg/kg	2.1 U	2 U	1.9 U	1 9 U

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA303 00 ft 1998-04-14	BHGLTA303 05 ft 1998-04-14	BHGLTA303 10 ft 1998-04-14	BHGLTA303 15 ft 1998-04-14
SW8270C	Benzyl alcohol	mg/kg	0.41 U	0.4 U	0.38 U	0 39 U
SW8270C	Benzyl butyl phthalate	mg/kg	0 41 U	0 4 U	0 38 U	0.39 U
SW8270C	bis(2-Chloroethoxy)methane	mg/kg	0.41 U	0.4 U	0.38 U	0 39 U
SW8270C	bis(2-Chloroethyl)ether (2-Chloroethyl ether)	mg/kg	0.41 U	0 4 U	0.38 U	0.39 U
SW8270C	bis(2-Ethylhexyl)phthalate	mg/kg	0.41 U	0 4 U	0.38 U	0.39 U
SW8270C	Chlorobenzilate	mg/kg	0.41 U	0 4 U	0.38 U	0 39 U
SW8270C	Chrysene	mg/kg	0.41 U	0 4 U	0.38 U	0.096 F
SW8270C	Cresols, m & p	mg/kg	0 41 U	0 4 U	0 38 U	0 39 U
SW8270C	Diallate (total of cis and trans isomers)	mg/kg	0.41 U	0.4 U	0.38 U	0.39 U
SW8270C	Dibenz(a,h)anthracene	mg/kg	0 41 U	0 4 U	0 38 U	0 39 U
SW8270C	Dibenzofuran	mg/kg	0.41 U	0.4 U	0.38 U	0.39 U
SW8270C	Diethyl phthalate	mg/kg	0 41 U	0 4 U	0.38 U	0.39 U
SW8270C	Dimethyl phthalate	mg/kg	0.41 U	0.4 U	0 38 U	0.39 U
SW8270C	Di-n-butyl phthalate	mg/kg	0 41 U	0.4 U	0.38 U	0 39 U
SW8270C	Di-n-octyl phthalate	mg/kg	0.41 U	0.4 U	0.38 U	0 39 U
SW8270C	Dinoseb	mg/kg	0.82 U	0.81 U	0 75 U	0 77 U
SW8270C	Diphenylamine	mg/kg	0 41 U	0.4 U	0.38 U	0 39 U
SW8270C	Ethyl methanesulfonate	mg/kg	0 82 U	0.81 U	0 75 U	0 77 U
SW8270C	Fluoranthene	mg/kg	0 41 U	0.4 U	0 38 U	0 12 F
SW8270C	Fluorene	mg/kg	0 41 U	0.4 U	0 38 U	0 39 U
SW8270C	Hexachlorobenzene	mg/kg	0.41 U	0 4 U	0.38 U	0.39 U
SW8270C	Hexachlorobutadiene	mg/kg	0 41 U	0.4 U	0.38 U	0 39 U
SW8270C	Hexachlorocyclopentadiene	mg/kg	0 41 UJ	0.4 U	0.38 U	0.39 U
SW8270C	Hexachloroethane	mg/kg	0 41 U	0.4 U	0 38 U	0 39 U
SW8270C	Hexachlorophene	mg/kg	4 1 U	4 U	3.8 U	3 9 U
SW8270C	Hexachloropropene	mg/kg	2.1 U	2 U	1 9 U	1 9 U
SW8270C	Indeno(1,2,3-c,d)pyrene	mg/kg	0 41 U	0 4 U	0.38 U	0 39 U
SW8270C	Isophorone	mg/kg	0 41 U	0.4 U	0 38 U	0 39 U
SW8270C	Isosafrole	mg/kg	0 41 U	0.4 U	0 38 U	0.39 U
SW8270C	Methapyrilene	mg/kg	1 U	1 U	0 94 U	0.96 U
SW8270C	Methyl methanesulfonate	mg/kg	0 82 U	0 81 U	0 75 U	0 77 U
SW8270C	naphthalene	mg/kg	0.41 U	0 4 U	0 38 U	0 39 U
SW8270C	Nitrobenzene	mg/kg	0 41 U	0 4 U	0.38 U	0 39 U
SW8270C	N-Nitrosodiethylamine	mg/kg	0 82 U	0.81 U	0.75 U	0 77 U
SW8270C	N-Nitrosodimethylamine	mg/kg	0.82 U	0.81 U	0.75 U	0.77 U
SW8270C	N-Nitrosodi-n-butylamine	mg/kg	0 41 U	0 4 U	0.38 U	0 39 U

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA303 00 ft 1998-04-14	BHGLTA303 05 ft 1998-04-14	BHGLTA303 10 ft 1998-04-14	BHGLTA303 15 ft 1998-04-14
SW8270C	N-Nitrosodi-n-propylamine	mg/kg	0 41 U	0.4 U	0.38 U	0.39 U
SW8270C	N-Nitrosodiphenylamine	mg/kg	0.41 U	0 4 U	0.38 U	0 39 U
SW8270C	N-Nitrosomethylethylamine	mg/kg	0.41 U	0 4 U	0.38 U	0 39 U
SW8270C	N-Nitrosomorpholine	mg/kg	0 82 U	0.81 U	0.75 U	0.77 U
SW8270C	N-Nitrosopiperidine	mg/kg	0 41 U	0.4 U	0.38 U	0 39 U
SW8270C	N-Nitrosopyrrolidine	mg/kg	0 82 U	0.81 U	0 75 U	0 77 U
SW8270C	o-Toluidine	mg/kg	0 82 U	0.81 U	0 75 U	0 77 U
SW8270C	p-Dimethylaminoazobenzene	mg/kg	0.82 U	0 81 U	0 75 U	0.77 U
SW8270C	Pentachlorobenzene	mg/kg	0 41 U	0.4 U	0 38 U	0 39 U
SW8270C	Pentachloronitrobenzene	mg/kg	0 41 U	0 4 U	0 38 U	0.39 U
SW8270C	Pentachlorophenol	mg/kg	2.1 U	2 U	1.9 U	1 9 U
SW8270C	Phenacetin	mg/kg	0.41 U	0.4 U	0.38 U	0 39 U
SW8270C	Phenanthrene	mg/kg	0.41 U	0.4 U	0.38 U	0.11 F
SW8270C	Phenol	mg/kg	0.41 U	0 4 U	0.38 U	0 39 U
SW8270C	p-Phenylenediamine	mg/kg	6.2 U	6 1 U	5.6 U	5 8 U
SW8270C	Pronamide	mg/kg	0 41 U	0.4 U	0 38 U	0.39 U
SW8270C	Pyrene	mg/kg	0 41 U	0 4 U	0 38 U	0 17 F
SW8270C	Pyridine	mg/kg	0 82 U	0.81 U	0 75 U	0.77 U
SW8270C	Safrole	mg/kg	0 41 U	0 4 U	0 38 U	0 39 U
SW8280A	2,3,7,8-Tetrachlorodibenzofuran	mg/kg	0.00004 U	0 00003 U	0.00002 U	0 00004 U
SW8280A	2,3,7,8-Tetrachlorodibenzo-p-dioxin	mg/kg	0.00004 U	0.00005 U	0 00003 U	0.00004 U
SW8310	Chrysene	mg/kg	na	na	na	na
SW8310	Pyrene	mg/kg	na	na	na	na
SW9010	Cyanide	mg/kg	0 18 F	0.54 U	0.43 U	0 38 U
SW9030B	Sulfide	mg/kg	28 2 SU	27 SU	24.8 SU	27 5 SU
SW9041	pH	PH UNITS	na	na	na	na
SW9081	Cation-Exchange Capacity	MEQ/100G	na	na	na	na

Note
Sample date format. "YYYY-MM-DD"
F = The analyte was positively detected, but the associated numerical value is below the PQL
J = The analyte was positively detected, the associated numerical value is an estimation
R = The data are unusable due to QC deficiencies.
S = Applied to screening-level data
U = The analyte was analyzed for, but not detected
UJ = The analyte was analyzed for, but not detected, the associated numerical value is estimated
na = Not analyzed

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA303 20 ft 1998-04-14	BHGLTA304 00 ft 1998-04-14	BHGLTA304 05 ft 1998-04-14	BHGLTA304 10 ft 1998-04-14
AD5057	Density	g/mL	na	na	na	na
AD5057	Specific Gravity	NONE	na	na	na	na
LYDKHN	Total Organic Carbon	mg/kg	na	na	na	na
SW6010B	Antimony	mg/kg	10 UJ	9 4 UJ	10 6 UJ	8 6 UJ
SW6010B	Arsenic	mg/kg	5 1 F	56 5 U	63.6 U	3 2 F
SW6010B	Barium	mg/kg	122	78 7	50 1	28
SW6010B	Beryllium	mg/kg	0.63	0 79	0 59	0 43
SW6010B	Cadmium	mg/kg	4 U	3.8 U	4 2 U	3.4 U
SW6010B	Chromium, total	mg/kg	13 5	14 7	12.4	9 6
SW6010B	Cobalt	mg/kg	4 5 F	3 5 F	2.2 F	2.5 F
SW6010B	Copper	mg/kg	5 1 F	11 9	3.8 F	2.9 F
SW6010B	Lead	mg/kg	7.1 F	18.3 F	4.3 F	7 1 F
SW6010B	Nickel	mg/kg	9 8 F	8 8 F	6.5 F	6 1 F
SW6010B	Selenium	mg/kg	80 U	75.3 U	84 7 U	68.8 U
SW6010B	Silver	mg/kg	7 U	6 6 U	7 4 U	6 U
SW6010B	Thallium	mg/kg	15 5 F	15 5 F	11 8 F	10 6 F
SW6010B	Tin	mg/kg	10 U	9 4 U	10 6 U	8 6 U
SW6010B	Vanadium	mg/kg	31 5	26 8	21.9	21 1
SW6010B	Zinc	mg/kg	19 6	45.9	16	11.9
SW7041	Antimony	mg/kg	na	na	na	na
SW7060A	Arsenic	mg/kg	na	na	na	na
SW7421	Lead	mg/kg	na	na	na	na
SW7471A	Mercury	mg/kg	0 04 U	0 04 U	0 04 U	0.04 U
SW7740	Selenium	mg/kg	na	na	na	na
SW7761	Silver	mg/kg	na	na	na	na
SW7841	Thallium	mg/kg	na	na	na	na
SW8080A	Aldrin	mg/kg	na	na	na	na
SW8080A	alpha-BHC (alpha-Hexachlorocyclohexane)	mg/kg	na	na	na	na
SW8080A	alpha-Chlordane	mg/kg	na	na	na	na
SW8080A	alpha-Endosulfan	mg/kg	na	na	na	na
SW8080A	beta-BHC (beta-Hexachlorocyclohexane)	mg/kg	na	na	na	na
SW8080A	beta-Endosulfan	mg/kg	na	na	na	na
SW8080A	Chlordane	mg/kg	na	na	na	na
SW8080A	delta-BHC (delta-Hexachlorocyclohexane)	mg/kg	na	na	na	na
SW8080A	Dieldrin	mg/kg	na	na	na	na
SW8080A	Endosulfan sulfate	mg/kg	na	na	na	na

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA303 20 ft 1998-04-14	BHGLTA304 00 ft 1998-04-14	BHGLTA304 05 ft 1998-04-14	BHGLTA304 10 ft 1998-04-14
SW8080A	Endrin	mg/kg	na	na	na	na
SW8080A	Endrin aldehyde	mg/kg	na	na	na	na
SW8080A	gamma-BHC (Lindane)	mg/kg	na	na	na	na
SW8080A	gamma-Chlordane	mg/kg	na	na	na	na
SW8080A	Heptachlor	mg/kg	na	na	na	na
SW8080A	Heptachlor epoxide	mg/kg	na	na	na	na
SW8080A	Isodrin	mg/kg	na	na	na	na
SW8080A	Kepone	mg/kg	na	na	na	na
SW8080A	Methoxychlor	mg/kg	na	na	na	na
SW8080A	p,p'-DDD	mg/kg	na	na	na	na
SW8080A	p,p'-DDE	mg/kg	na	na	na	na
SW8080A	p,p'-DDT	mg/kg	na	na	na	na
SW8080A	PCB-1016 (Aroclor 1016)	mg/kg	na	na	na	na
SW8080A	PCB-1221 (Aroclor 1221)	mg/kg	na	na	na	na
SW8080A	PCB-1232 (Aroclor 1232)	mg/kg	na	na	na	na
SW8080A	PCB-1242 (Aroclor 1242)	mg/kg	na	na	na	na
SW8080A	PCB-1248 (Aroclor 1248)	mg/kg	na	na	na	na
SW8080A	PCB-1254 (Aroclor 1254)	mg/kg	na	na	na	na
SW8080A	PCB-1260 (Aroclor 1260)	mg/kg	na	na	na	na
SW8080A	Toxaphene	mg/kg	na	na	na	na
SW8081A	Aldrin	mg/kg	0.0035 U	0.017 U	0 0035 U	0 033 U
SW8081A	alpha-BHC (alpha-Hexachlorocyclohexane)	mg/kg	0 0024 U	0.011 U	0.0024 U	0.022 U
SW8081A	alpha-Chlordane	mg/kg	0 018 U	0 084 U	0.018 U	0 16 U
SW8081A	alpha-Endosulfan	mg/kg	0 011 U	0 05 U	0 011 U	0 099 U
SW8081A	beta-BHC (beta-Hexachlorocyclohexane)	mg/kg	0.0047 U	0 022 U	0 0047 U	0.044 U
SW8081A	beta-Endosulfan	mg/kg	0 0035 U	0 017 U	0 0035 U	0 033 U
SW8081A	Chlordane	mg/kg	0 011 U	0 05 U	0 011 U	0.099 U
SW8081A	delta-BHC (delta-Hexachlorocyclohexane)	mg/kg	0.0071 U	0 033 U	0.0071 U	0 066 U
SW8081A	Dieldrin	mg/kg	0 012 U	0 056 U	0 012 U	0.11 U
SW8081A	Endosulfan sulfate	mg/kg	0.047 U	0.22 U	0 047 U	0.44 U
SW8081A	Endrin	mg/kg	0.0047 U	0.022 U	0.0047 U	0.044 U
SW8081A	Endrin aldehyde	mg/kg	0 024 U	0 11 U	0.024 U	0 22 U
SW8081A	gamma-BHC (Lindane)	mg/kg	0 0035 U	0 017 U	0 0035 U	0 033 U
SW8081A	gamma-Chlordane	mg/kg	0 018 U	0 084 U	0 018 U	0 16 U
SW8081A	Heptachlor	mg/kg	0 0024 U	0.011 U	0.0024 U	0.022 U
SW8081A	Heptachlor epoxide	mg/kg	0 071 U	0 33 U	0 071 U	0 66 U

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA303 20 ft 1998-04-14	BHGLTA304 00 ft 1998-04-14	BHGLTA304 05 ft 1998-04-14	BHGLTA304 10 ft 1998-04-14
SW8081A	Isodrin	mg/kg	0 0047 U	0.022 U	0 0047 U	0 044 U
SW8081A	Kepone	mg/kg	0 098 U	0 46 R	0 098 U	0 92 R
SW8081A	Methoxychlor	mg/kg	0 12 U	0.56 R	0.12 U	1.1 R
SW8081A	p,p'-DDD	mg/kg	0.0082 U	0 039 U	0 0082 U	0 077 U
SW8081A	p,p'-DDE	mg/kg	0 0035 U	0.017 U	0 0035 U	0 033 U
SW8081A	p,p'-DDT	mg/kg	0 0094 U	0 045 U	0.0094 U	0 088 U
SW8081A	PCB-1016 (Aroclor 1016)	mg/kg	1 2 U	5.6 U	1 2 U	11 U
SW8081A	PCB-1221 (Aroclor 1221)	mg/kg	1.2 U	5.6 U	1.2 U	11 U
SW8081A	PCB-1232 (Aroclor 1232)	mg/kg	1 2 U	5.6 U	1.2 U	11 U
SW8081A	PCB-1242 (Aroclor 1242)	mg/kg	1 2 U	5.6 U	1.2 U	11 U
SW8081A	PCB-1248 (Aroclor 1248)	mg/kg	1 2 U	5.6 U	1.2 U	11 U
SW8081A	PCB-1254 (Aroclor 1254)	mg/kg	1 2 U	5.6 U	1.2 U	11 U
SW8081A	PCB-1260 (Aroclor 1260)	mg/kg	1 2 U	5 6 U	1 2 U	11 U
SW8081A	Toxaphene	mg/kg	0 24 U	1.1 U	0.24 U	2 2 U
SW8141A	Dimethoate	mg/kg	0.078 U	0 074 U	0 078 U	0.073 U
SW8141A	Disulfoton	mg/kg	0 078 U	0 074 U	0.078 U	0 073 U
SW8141A	Famphur	mg/kg	0 078 U	0 074 U	0 078 U	0 073 U
SW8141A	O,O,O-Triethyl phosphorothioate	mg/kg	0 078 U	0 074 U	0 078 U	0.073 U
SW8141A	Parathion, ethyl	mg/kg	0.078 U	0 074 U	0 078 U	0.073 U
SW8141A	Parathion, methyl	mg/kg	0.078 U	0 074 U	0.078 U	0 073 U
SW8141A	Phorate	mg/kg	0 078 U	0.074 U	0.078 U	0 073 U
SW8141A	Thiodiphosphoric acid, tetraethyl ester	mg/kg	0 078 U	0 074 U	0.078 U	0 073 U
SW8141A	Zinophos	mg/kg	0 078 U	0.074 U	0 078 U	0.073 U
SW8150B	2,4,5-T (Trichlorophenoxyacetic acid)	mg/kg	na	na	na	na
SW8150B	2,4-D (Dichlorophenoxyacetic acid)	mg/kg	na	na	na	na
SW8150B	Silvex (2,4,5-TP)	mg/kg	na	na	na	na
SW8151A	2,4,5-T (Trichlorophenoxyacetic acid)	mg/kg	0 039 U	0 037 U	0 039 U	0.037 U
SW8151A	2,4-D (Dichlorophenoxyacetic acid)	mg/kg	0 39 U	0.37 U	0 39 U	0 37 U
SW8151A	Silvex (2,4,5-TP)	mg/kg	0.039 R	0 037 U	0 039 U	0.037 U
SW8260B	1,1,1,2-Tetrachloroethane	mg/kg	0.004 U	0 003 U	0 004 U	0.003 U
SW8260B	1,1,1-Trichloroethane	mg/kg	0 005 U	0 004 U	0 005 U	0.004 U
SW8260B	1,1,2,2-Tetrachloroethane	mg/kg	0 002 U	0 002 U	0 002 U	0.002 U
SW8260B	1,1,2-Trichloroethane	mg/kg	0 006 U	0 006 U	0 006 U	0 006 U
SW8260B	1,1-Dichloroethane	mg/kg	0 002 U	0.002 U	0 002 U	0 002 U
SW8260B	1,1-Dichloroethene	mg/kg	0 006 U	0 006 U	0 006 U	0 006 R
SW8260B	1,2,3-Trichloropropane	mg/kg	0.006 U	0.006 U	0 006 U	0 006 U

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA303 20 ft 1998-04-14	BHGLTA304 00 ft 1998-04-14	BHGLTA304 05 ft 1998-04-14	BHGLTA304 10 ft 1998-04-14
SW8260B	1,2-Dibromo-3-chloropropane	mg/kg	0 006 U	0.006 U	0.006 U	0.006 U
SW8260B	1,2-Dibromoethane (Ethylene dibromide)	mg/kg	0.004 U	0.003 U	0 004 U	0.003 U
SW8260B	1,2-Dichloroethane	mg/kg	0 004 U	0 003 U	0.004 U	0 003 U
SW8260B	1,2-Dichloropropane	mg/kg	0 002 U	0.002 U	0.002 U	0.002 U
SW8260B	2-Chloro-1,3-butadiene	mg/kg	0 006 U	0 006 U	0 006 U	0 006 U
SW8260B	2-Hexanone	mg/kg	0.006 U	0 006 U	0 006 U	0 006 U
SW8260B	Acetone	mg/kg	0.15 U	0 01 U	0 006 U	0.051 U
SW8260B	Acetonitrile	mg/kg	0 048 U	0.045 U	0.047 U	0.044 U
SW8260B	Acrolein	mg/kg	0.12 U	0.11 U	0.12 U	0 11 U
SW8260B	Acrylonitrile	mg/kg	0 048 U	0.045 U	0.047 U	0 044 U
SW8260B	Allyl chloride (3-Chloropropene)	mg/kg	0 012 U	0.011 U	0 012 U	0.011 U
SW8260B	Benzene	mg/kg	0.002 U	0.002 U	0.002 U	0.002 U
SW8260B	Bromodichloromethane	mg/kg	0 005 U	0 004 U	0 005 U	0 004 U
SW8260B	Bromoform	mg/kg	0 006 R	0 006 R	0 006 R	0.006 U
SW8260B	Bromomethane	mg/kg	0.006 U	0 006 U	0.006 U	0 006 U
SW8260B	Carbon disulfide	mg/kg	0.006 U	0 006 U	0.006 U	0 006 U
SW8260B	Carbon tetrachloride	mg/kg	0.006 U	0 006 U	0.006 U	0 006 U
SW8260B	Chlorobenzene	mg/kg	0 002 U	0 002 U	0.002 U	0 002 U
SW8260B	Chloroethane	mg/kg	0.006 U	0.006 U	0.006 U	0.006 U
SW8260B	Chloroform	mg/kg	0 002 U	0.002 U	0.002 U	0.002 U
SW8260B	Chloromethane	mg/kg	0.006 U	0 006 U	0.006 U	0.006 U
SW8260B	cis-1,2-Dichloroethene	mg/kg	0.006 U	0.006 U	0.006 U	0.006 U
SW8260B	cis-1,3-Dichloropropene	mg/kg	0 006 U	0.006 U	0.006 U	0.006 U
SW8260B	Dibromochloromethane	mg/kg	0.004 U	0.003 U	0 004 U	0 003 U
SW8260B	Dibromomethane	mg/kg	0 006 U	0 006 U	0 006 U	0.006 U
SW8260B	Dichlorodifluoromethane	mg/kg	0 006 U	0 006 U	0 006 U	0 006 U
SW8260B	Ethyl methacrylate	mg/kg	0 006 U	0 006 U	0 006 U	0 006 U
SW8260B	Ethylbenzene	mg/kg	0.001 F	0 003 U	0 004 U	0.003 U
SW8260B	Iodomethane (Methyl iodide)	mg/kg	0 006 U	0 006 U	0 006 U	0 006 U
SW8260B	Isobutanol	mg/kg	0 24 U	0.22 U	0 24 U	0 22 U
SW8260B	m,p-Xylene (sum of isomers)	mg/kg	na	na	na	na
SW8260B	Methyl ethyl ketone (2-Butanone)	mg/kg	0 041	0 006 U	0.006 U	0 008
SW8260B	Methyl isobutyl ketone (4-Methyl-2-pentanone)	mg/kg	0 006 U	0 006 U	0.006 U	0 006 U
SW8260B	Methyl methacrylate	mg/kg	0 006 U	0.006 U	0.006 U	0 006 U
SW8260B	Methylacrylonitrile	mg/kg	0 006 U	0.006 U	0.006 U	0 006 U
SW8260B	Methylene chloride	mg/kg	0 002 U	0.002 U	0.002 U	0.002 U

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA303 20 ft 1998-04-14	BHGLTA304 00 ft 1998-04-14	BHGLTA304 05 ft 1998-04-14	BHGLTA304 10 ft 1998-04-14
SW8260B	M-Xylene (1,3-Dimethylbenzene)	mg/kg	0.005 F	0 006 U	0.006 U	0 006 R
SW8260B	o-Xylene (1,2-Dimethylbenzene)	mg/kg	0 006 U	0.006 U	0.006 U	0 006 U
SW8260B	Pentachloroethane	mg/kg	0 006 U	0.006 U	0 006 U	0 006 U
SW8260B	Propane nitrile (Propionitrile)	mg/kg	0.024 U	0 022 U	0 024 U	0 022 U
SW8260B	Styrene	mg/kg	0 002 U	0 002 U	0 002 U	0 002 U
SW8260B	Tert-Butyl Methyl Ether	mg/kg	na	na	na	na
SW8260B	Tetrachloroethene (PCE)	mg/kg	0 006 U	0 006 U	0 006 U	0.006 U
SW8260B	Toluene	mg/kg	0.002 F	0 006 U	0.006 U	0 006 U
SW8260B	Trans-1,2-Dichloroethene	mg/kg	0 004 U	0.003 U	0 004 U	0.003 U
SW8260B	Trans-1,3-Dichloropropene	mg/kg	0.006 U	0 006 U	0.006 U	0 006 U
SW8260B	Trans-1,4-Dichloro-2-Butene	mg/kg	0 006 U	0.006 U	0 006 U	0.006 U
SW8260B	Trichloroethene (TCE)	mg/kg	0.006 U	0 006 U	0.006 U	0 006 U
SW8260B	Trichlorofluoromethane	mg/kg	0 005 U	0.004 U	0 005 U	0.004 U
SW8260B	Vinyl acetate	mg/kg	0 006 U	0 006 U	0 006 U	0 006 U
SW8260B	Vinyl chloride	mg/kg	0 006 U	0 006 U	0 006 U	0 006 U
SW8270C	1,2,4,5-Tetrachlorobenzene	mg/kg	0 39 U	0.37 U	0 4 U	0 37 U
SW8270C	1,2,4-Trichlorobenzene	mg/kg	0.39 U	0 37 U	0 4 U	0.37 U
SW8270C	1,2-Dichlorobenzene	mg/kg	0.39 U	0.37 U	0 4 U	0.37 U
SW8270C	1,3,5-Trinitrobenzene	mg/kg	2 U	1.8 U	2 U	1.8 U
SW8270C	1,3-Dichlorobenzene	mg/kg	0 39 U	0.37 U	0.4 U	0 37 U
SW8270C	1,3-Dinitrobenzene	mg/kg	0.39 U	0 37 U	0.4 U	0.37 U
SW8270C	1,4-Dichlorobenzene	mg/kg	0 39 U	0.37 U	0.4 U	0 37 U
SW8270C	1,4-Dioxane (p-Dioxane)	mg/kg	0.78 U	0 73 U	0.79 U	0.73 U
SW8270C	1,4-naphthoquinone	mg/kg	3 9 U	3.7 U	4 U	3 7 U
SW8270C	1-naphthylamine	mg/kg	0 78 U	0 73 U	0 79 U	0.73 U
SW8270C	2,2'-Oxybis(1-chloropropane)	mg/kg	0 39 U	0 37 U	0.4 U	0.37 U
SW8270C	2,3,4,6-Tetrachlorophenol	mg/kg	0 39 U	0 37 U	0 4 U	0 37 U
SW8270C	2,4,5-Trichlorophenol	mg/kg	2 U	1 8 U	2 U	1.8 U
SW8270C	2,4,6-Trichlorophenol	mg/kg	0.39 U	0.37 U	0 4 U	0 37 U
SW8270C	2,4-Dichlorophenol	mg/kg	0.39 U	0.37 U	0.4 U	0.37 U
SW8270C	2,4-Dimethylphenol	mg/kg	0 39 U	0 37 U	0 4 U	0 37 U
SW8270C	2,4-Dinitrophenol	mg/kg	2 U	1 8 U	2 U	1 8 U
SW8270C	2,4-Dinitrotoluene	mg/kg	0.39 U	0 37 U	0 4 U	0.37 U
SW8270C	2,6-Dichlorophenol	mg/kg	0.78 U	0.73 U	0.79 U	0 73 U
SW8270C	2,6-Dinitrotoluene	mg/kg	0 39 U	0.37 U	0 4 U	0.37 U
SW8270C	2-Acetylaminofluorene	mg/kg	0 78 U	0.73 U	0 79 U	0.73 U

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA303 20 ft 1998-04-14	BHGLTA304 00 ft 1998-04-14	BHGLTA304 05 ft 1998-04-14	BHGLTA304 10 ft 1998-04-14
SW8270C	2-Aminonaphthalene (beta-naphthylamine)	mg/kg	0 78 U	0 73 U	0 79 U	0.73 U
SW8270C	2-Chloronaphthalene	mg/kg	0 39 U	0 37 U	0 4 U	0 37 U
SW8270C	2-Chlorophenol	mg/kg	0 39 U	0.37 U	0 4 U	0 37 U
SW8270C	2-Methylnaphthalene	mg/kg	0 39 U	0.37 U	0 4 U	0 37 U
SW8270C	2-Methylphenol (o-Cresol)	mg/kg	0.39 U	0.37 U	0.4 U	0 37 U
SW8270C	2-Nitroaniline	mg/kg	2 U	1.8 U	2 U	1.8 U
SW8270C	2-Nitrophenol	mg/kg	0.39 U	0.37 U	0 4 U	0.37 U
SW8270C	2-Picoline (alpha-Picoline)	mg/kg	0 39 U	0.37 U	0.4 U	0 37 U
SW8270C	3,3'-Dichlorobenzidine	mg/kg	0.78 U	0.73 U	0.79 U	0.73 U
SW8270C	3,3'-Dimethylbenzidine	mg/kg	2 U	1 8 U	2 U	1 8 U
SW8270C	3-Methylcholanthrene	mg/kg	0 39 U	0.37 U	0.4 U	0.37 U
SW8270C	3-Nitroaniline	mg/kg	2 R	1 8 R	2 R	1 8 U
SW8270C	4,6-Dinitro-2-methylphenol	mg/kg	2 U	1 8 U	2 U	1 8 U
SW8270C	4-Aminobiphenyl (4-Biphenylamine)	mg/kg	0 78 U	0 73 U	0.79 U	0 73 U
SW8270C	4-Bromophenyl phenyl ether	mg/kg	0 39 U	0 37 U	0.4 U	0.37 U
SW8270C	4-Chloro-3-methylphenol	mg/kg	0 78 U	0.73 U	0 79 U	0 73 U
SW8270C	4-Chloroaniline	mg/kg	0 78 U	0.73 U	0.79 U	0.73 U
SW8270C	4-Chlorophenyl phenyl ether	mg/kg	0.39 U	0.37 U	0 4 U	0 37 U
SW8270C	4-Nitroaniline	mg/kg	2 U	1 8 U	2 U	1 8 U
SW8270C	4-Nitrophenol	mg/kg	2 U	1.8 U	2 U	1.8 U
SW8270C	4-Nitroquinoline-1-oxide	mg/kg	2 U	1.8 U	2 U	1 8 U
SW8270C	5-Nitro-o-toluidine	mg/kg	0 78 U	0 73 U	0 79 U	0.73 U
SW8270C	7,12-Dimethylbenzo(a)anthracene	mg/kg	0 78 U	0.73 U	0 79 U	0 73 U
SW8270C	Acenaphthene	mg/kg	0 39 U	0 37 U	0 4 U	0.37 U
SW8270C	Acenaphthylene	mg/kg	0.39 U	0 37 U	0 4 U	0.37 U
SW8270C	Acetophenone	mg/kg	0.78 U	0 73 U	0 79 U	0.73 U
SW8270C	alpha, alpha-Dimethylphenethylamine	mg/kg	2 U	1 8 U	2 U	1 8 U
SW8270C	Aniline (Phenylamine, Aminobenzene)	mg/kg	0 39 U	0.37 U	0.4 U	0.37 U
SW8270C	Anthracene	mg/kg	0 39 U	0.37 U	0.4 U	0.37 U
SW8270C	Aramite (total)	mg/kg	0.78 U	0.73 U	0 79 U	0 73 U
SW8270C	Benzo(a)anthracene	mg/kg	0.39 U	0 37 U	0.4 U	0.37 U
SW8270C	Benzo(a)pyrene	mg/kg	0.39 U	0 37 U	0 4 U	0 37 U
SW8270C	Benzo(b)fluoranthene	mg/kg	0 39 U	0 37 U	0.4 U	0.37 U
SW8270C	Benzo(g,h,i)perylene	mg/kg	0 39 U	0.37 U	0.4 U	0.37 U
SW8270C	Benzo(k)fluoranthene	mg/kg	0.39 U	0 37 U	0.4 U	0 37 U
SW8270C	Benzoic acid	mg/kg	2 U	1 8 U	2 U	1.8 U

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA303 20 ft 1998-04-14	BHGLTA304 00 ft 1998-04-14	BHGLTA304 05 ft 1998-04-14	BHGLTA304 10 ft 1998-04-14
SW8270C	Benzyl alcohol	mg/kg	0.39 U	0.37 U	0 4 U	0.37 U
SW8270C	Benzyl butyl phthalate	mg/kg	0.39 U	0.37 U	0 4 U	0.37 U
SW8270C	bis(2-Chloroethoxy)methane	mg/kg	0.39 U	0 37 U	0.4 U	0.37 U
SW8270C	bis(2-Chloroethyl)ether (2-Chloroethyl ether)	mg/kg	0.39 U	0.37 U	0.4 U	0 37 U
SW8270C	bis(2-Ethylhexyl)phthalate	mg/kg	0 39 U	0 37 U	0.4 U	0 37 U
SW8270C	Chlorobenzilate	mg/kg	0 39 U	0.37 U	0.4 U	0 37 U
SW8270C	Chrysene	mg/kg	0.39 U	0.37 U	0.4 U	0 37 U
SW8270C	Cresols, m & p	mg/kg	0 39 U	0 37 U	0.4 U	0.37 U
SW8270C	Diallate (total of cis and trans isomers)	mg/kg	0.39 U	0.37 U	0.4 U	0 37 U
SW8270C	Dibenz(a,h)anthracene	mg/kg	0 39 U	0 37 U	0.4 U	0.37 U
SW8270C	Dibenzofuran	mg/kg	0 39 U	0 37 U	0 4 U	0.37 U
SW8270C	Diethyl phthalate	mg/kg	0 39 U	0.37 U	0 4 U	0 37 U
SW8270C	Dimethyl phthalate	mg/kg	0 39 U	0 37 U	0 4 U	0 37 U
SW8270C	Di-n-butyl phthalate	mg/kg	0 39 U	0 37 U	0 4 U	0 37 U
SW8270C	Di-n-octyl phthalate	mg/kg	0 39 U	0 37 U	0 4 U	0 37 U
SW8270C	Dinoseb	mg/kg	0 78 U	0.73 U	0 79 U	0.73 U
SW8270C	Diphenylamine	mg/kg	0.39 U	0.37 U	0.4 U	0.37 U
SW8270C	Ethyl methanesulfonate	mg/kg	0 78 U	0 73 U	0 79 U	0 73 U
SW8270C	Fluoranthene	mg/kg	0.39 U	0.37 U	0.4 U	0 37 U
SW8270C	Fluorene	mg/kg	0.39 U	0 37 U	0 4 U	0.37 U
SW8270C	Hexachlorobenzene	mg/kg	0.39 U	0.37 U	0 4 U	0 37 U
SW8270C	Hexachlorobutadiene	mg/kg	0 39 U	0 37 U	0 4 U	0 37 U
SW8270C	Hexachlorocyclopentadiene	mg/kg	0 39 U	0 37 U	0 4 U	0 37 U
SW8270C	Hexachloroethane	mg/kg	0 39 U	0 37 U	0 4 U	0 37 U
SW8270C	Hexachlorophene	mg/kg	3 9 U	3 7 U	4 U	3 7 U
SW8270C	Hexachloropropene	mg/kg	- 2 U	1.8 U	2 U	1 8 U
SW8270C	Indeno(1,2,3-c,d)pyrene	mg/kg	0 39 U	0.37 U	0 4 U	0 37 U
SW8270C	Isophorone	mg/kg	0.39 U	0 37 U	0.4 U	0.37 U
SW8270C	Isosafrole	mg/kg	0.39 U	0 37 U	0.4 U	0.37 U
SW8270C	Methapyrilene	mg/kg	0.98 U	0 92 U	0 99 U	0.92 U
SW8270C	Methyl methanesulfonate	mg/kg	0 78 U	0.73 U	0.79 U	0 73 U
SW8270C	naphthalene	mg/kg	0.39 U	0.37 U	0 4 U	0 37 U
SW8270C	Nitrobenzene	mg/kg	0.39 U	0 37 U	0.4 U	0 37 U
SW8270C	N-Nitrosodiethylamine	mg/kg	0 78 U	0 73 U	0.79 U	0.73 U
SW8270C	N-Nitrosodimethylamine	mg/kg	0.78 U	0 73 U	0.79 U	0.73 U
SW8270C	N-Nitrosodi-n-butylamine	mg/kg	0 39 U	0.37 U	0.4 U	0.37 U

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA303 20 ft 1998-04-14	BHGLTA304 00 ft 1998-04-14	BHGLTA304 05 ft 1998-04-14	BHGLTA304 10 ft 1998-04-14
SW8270C	N-Nitrosodi-n-propylamine	mg/kg	0 39 U	0 37 U	0 4 U	0.37 U
SW8270C	N-Nitrosodiphenylamine	mg/kg	0 39 U	0.37 U	0 4 U	0 37 U
SW8270C	N-Nitrosomethylethylamine	mg/kg	0 39 U	0 37 U	0 4 U	0 37 U
SW8270C	N-Nitrosomorpholine	mg/kg	0 78 U	0 73 U	0 79 U	0.73 U
SW8270C	N-Nitrosopiperidine	mg/kg	0.39 U	0.37 U	0.4 U	0 37 U
SW8270C	N-Nitrosopyrrolidine	mg/kg	0.78 U	0.73 U	0.79 U	0 73 U
SW8270C	o-Toluidine	mg/kg	0.78 U	0 73 U	0.79 U	0.73 U
SW8270C	p-Dimethylaminoazobenzene	mg/kg	0 78 U	0 73 U	0 79 U	0 73 U
SW8270C	Pentachlorobenzene	mg/kg	0 39 U	0.37 U	0.4 U	0 37 U
SW8270C	Pentachloronitrobenzene	mg/kg	0.39 U	0.37 U	0.4 U	0.37 U
SW8270C	Pentachlorophenol	mg/kg	2 U	1.8 U	2 U	1.8 U
SW8270C	Phenacetin	mg/kg	0.39 U	0 37 U	0 4 U	0 37 U
SW8270C	Phenanthrene	mg/kg	0 39 U	0 37 U	0 4 U	0 37 U
SW8270C	Phenol	mg/kg	0 39 U	0 37 U	0 4 U	0 37 U
SW8270C	p-Phenylenediamine	mg/kg	5 8 U	5 5 U	5 9 U	5 5 U
SW8270C	Pronamide	mg/kg	0.39 U	0.37 U	0.4 U	0.37 U
SW8270C	Pyrene	mg/kg	0.39 U	0.37 U	0.4 U	0.37 U
SW8270C	Pyridine	mg/kg	0 78 U	0 73 U	0.79 U	0 73 U
SW8270C	Safrole	mg/kg	0.39 U	0.37 U	0.4 U	0 37 U
SW8280A	2,3,7,8-Tetrachlorodibenzofuran	mg/kg	0 00003 U	0 00004 U	0 00003 U	0 00004 U
SW8280A	2,3,7,8-Tetrachlorodibenzo-p-dioxin	mg/kg	0 00002 U	0.00003 U	0.00002 U	0 00005 U
SW8310	Chrysene	mg/kg	na	na	na	na
SW8310	Pyrene	mg/kg	na	na	na	na
SW9010	Cyanide	mg/kg	0.5 U	0 14 F	0 52 U	0.41 U
SW9030B	Sulfide	mg/kg	28 3 SU	26 2 SU	29 4 SU	26 9 SU
SW9041	pH	PH UNITS	na	na	na	na
SW9081	Cation-Exchange Capacity	MEQ/100G	na	na	na	na

Note·
Sample date format "YYYY-MM-DD"
F = The analyte was positively detected, but the associated numerical value is below the PQL
J = The analyte was positively detected, the associated numerical value is an estimation
R = The data are unusable due to QC deficiencies
S = Applied to screening-level data
U = The analyte was analyzed for, but not detected
UJ = The analyte was analyzed for, but not detected; the associated numerical value is estimated
na = Not analyzed

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA304 15 ft 1998-04-14	BHGLTA324 15 ft 1999-01-26	BHGLTA325 15 ft 1999-01-26	BHGLTA325 15 ft 1999-01-27
AD5057	Density	g/mL	na	na	na	na
AD5057	Specific Gravity	NONE	na	na	na	na
LYDKHN	Total Organic Carbon	mg/kg	na	na	na	na
SW6010B	Antimony	mg/kg	8 5 UJ	3.9 UJ	na	na
SW6010B	Arsenic	mg/kg	3 6 F	na	na	na
SW6010B	Barium	mg/kg	41	24 6 F	na	na
SW6010B	Beryllium	mg/kg	0 56	0 2 F	na	na
SW6010B	Cadmium	mg/kg	0 45 F	0 36 F	na	na
SW6010B	Chromium, total	mg/kg	11 1	5 4 F	na	na
SW6010B	Cobalt	mg/kg	2 1 F	1 3 F	na	na
SW6010B	Copper	mg/kg	6 8	4 4 F	na	na
SW6010B	Lead	mg/kg	247	105 J	na	na
SW6010B	Nickel	mg/kg	6 5 F	4.4 F	na	na
SW6010B	Selenium	mg/kg	68 U	na	na	na
SW6010B	Silver	mg/kg	6 U	na	na	na
SW6010B	Thallium	mg/kg	8 8 F	na	na	na
SW6010B	Tin	mg/kg	8.5 U	7 7 U	na	na
SW6010B	Vanadium	mg/kg	24 5	15 8 F	na	na
SW6010B	Zinc	mg/kg	15 7	9.6 F	na	na
SW7041	Antimony	mg/kg	na	na	na	na
SW7060A	Arsenic	mg/kg	na	3 F	na	na
SW7421	Lead	mg/kg	na	na	na	9 9 J
SW7471A	Mercury	mg/kg	0.04 U	0 04 U	na	na
SW7740	Selenium	mg/kg	na	1.2 UJ	na	na
SW7761	Silver	mg/kg	na	0 14	na	na
SW7841	Thallium	mg/kg	na	0 78 UJ	na	na
SW8080A	Aldrin	mg/kg	na	0.032 U	na	na
SW8080A	alpha-BHC (alpha-Hexachlorocyclohexane)	mg/kg	na	0 022 U	na	na
SW8080A	alpha-Chlordane	mg/kg	na	0.16 U	na	na
SW8080A	alpha-Endosulfan	mg/kg	na	0.097 U	na	na
SW8080A	beta-BHC (beta-Hexachlorocyclohexane)	mg/kg	na	0.043 U	na	na
SW8080A	beta-Endosulfan	mg/kg	na	0.032 U	na	na
SW8080A	Chlordane	mg/kg	na	0.097 U	na	na
SW8080A	delta-BHC (delta-Hexachlorocyclohexane)	mg/kg	na	0.065 U	na	na
SW8080A	Dieldrin	mg/kg	na	0 11 U	na	na
SW8080A	Endosulfan sulfate	mg/kg	na	0 43 U	na	na

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA304 15 ft 1998-04-14	BHGLTA324 15 ft 1999-01-26	BHGLTA325 15 ft 1999-01-26	BHGLTA325 15 ft 1999-01-27
SW8080A	Endrin	mg/kg	na	0.043 U	na	na
SW8080A	Endrin aldehyde	mg/kg	na	0.22 U	na	na
SW8080A	gamma-BHC (Lindane)	mg/kg	na	0.032 U	na	na
SW8080A	gamma-Chlordane	mg/kg	na	0 16 U	na	na
SW8080A	Heptachlor	mg/kg	na	0 022 U	na	na
SW8080A	Heptachlor epoxide	mg/kg	na	0 65 U	na	na
SW8080A	Isodrin	mg/kg	na	0.043 U	na	na
SW8080A	Kepone	mg/kg	na	0.9 U	na	na
SW8080A	Methoxychlor	mg/kg	na	1 1 U	na	na
SW8080A	p,p'-DDD	mg/kg	na	0 076 U	na	na
SW8080A	p,p'-DDE	mg/kg	na	0 032 U	na	na
SW8080A	p,p'-DDT	mg/kg	na	0.086 U	na	na
SW8080A	PCB-1016 (Aroclor 1016)	mg/kg	na	11 U	na	na
SW8080A	PCB-1221 (Aroclor 1221)	mg/kg	na	11 U	na	na
SW8080A	PCB-1232 (Aroclor 1232)	mg/kg	na	11 U	na	na
SW8080A	PCB-1242 (Aroclor 1242)	mg/kg	na	11 U	na	na
SW8080A	PCB-1248 (Aroclor 1248)	mg/kg	na	11 U	na	na
SW8080A	PCB-1254 (Aroclor 1254)	mg/kg	na	11 U	na	na
SW8080A	PCB-1260 (Aroclor 1260)	mg/kg	na	11 U	na	na
SW8080A	Toxaphene	mg/kg	na	2 2 U	na	na
SW8081A	Aldrin	mg/kg	0 031 U	na	na	na
SW8081A	alpha-BHC (alpha-Hexachlorocyclohexane)	mg/kg	0 021 U	na	na	na
SW8081A	alpha-Chlordane	mg/kg	0.16 U	na	na	na
SW8081A	alpha-Endosulfan	mg/kg	0 094 U	na	na	na
SW8081A	beta-BHC (beta-Hexachlorocyclohexane)	mg/kg	0.042 U	na	na	na
SW8081A	beta-Endosulfan	mg/kg	0.031 U	na	na	na
SW8081A	Chlordane	mg/kg	0 094 U	na	na	na
SW8081A	delta-BHC (delta-Hexachlorocyclohexane)	mg/kg	0 063 U	na	na	na
SW8081A	Dieldrin	mg/kg	0 1 U	na	na	na
SW8081A	Endosulfan sulfate	mg/kg	0 42 U	na	na	na
SW8081A	Endrin	mg/kg	0 042 U	na	na	na
SW8081A	Endrin aldehyde	mg/kg	0 21 U	na	na	na
SW8081A	gamma-BHC (Lindane)	mg/kg	0 031 U	na	na	na
SW8081A	gamma-Chlordane	mg/kg	0 16 U	na	na	na
SW8081A	Heptachlor	mg/kg	0 021 U	na	na	na
SW8081A	Heptachlor epoxide	mg/kg	0 63 U	na	na	na

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA304 15 ft 1998-04-14	BHGLTA324 15 ft 1999-01-26	BHGLTA325 15 ft 1999-01-26	BHGLTA325 15 ft 1999-01-27
SW8081A	Isodrin	mg/kg	0.042 U	na	na	na
SW8081A	Kepone	mg/kg	0.87 R	na	na	na
SW8081A	Methoxychlor	mg/kg	1 R	na	na	na
SW8081A	p,p'-DDD	mg/kg	0 073 U	na	na	na
SW8081A	p,p'-DDE	mg/kg	0 031 U	na	na	na
SW8081A	p,p'-DDT	mg/kg	0.084 U	na	na	na
SW8081A	PCB-1016 (Aroclor 1016)	mg/kg	10 U	na	na	na
SW8081A	PCB-1221 (Aroclor 1221)	mg/kg	10 U	na	na	na
SW8081A	PCB-1232 (Aroclor 1232)	mg/kg	10 U	na	na	na
SW8081A	PCB-1242 (Aroclor 1242)	mg/kg	10 U	na	na	na
SW8081A	PCB-1248 (Aroclor 1248)	mg/kg	10 U	na	na	na
SW8081A	PCB-1254 (Aroclor 1254)	mg/kg	10 U	na	na	na
SW8081A	PCB-1260 (Aroclor 1260)	mg/kg	10 U	na	na	na
SW8081A	Toxaphene	mg/kg	2 1 U	na	na	na
SW8141A	Dimethoate	mg/kg	0 07 U	0 073 U	na	na
SW8141A	Disulfoton	mg/kg	0 07 U	0.073 U	na	na
SW8141A	Famphur	mg/kg	0.07 U	0.073 U	na	na
SW8141A	O,O,O-Triethyl phosphorothioate	mg/kg	0.07 U	0.073 U	na	na
SW8141A	Parathion, ethyl	mg/kg	0 07 U	0.073 U	na	na
SW8141A	Parathion, methyl	mg/kg	0 07 U	0 073 U	na	na
SW8141A	Phorate	mg/kg	0 07 U	0.073 U	na	na
SW8141A	Thiodiphosphoric acid, tetraethyl ester	mg/kg	0 07 U	0 073 U	na	na
SW8141A	Zinophos	mg/kg	0.07 U	0 073 U	na	na
SW8150B	2,4,5-T (Trichlorophenoxyacetic acid)	mg/kg	na	0.036 U	na	na
SW8150B	2,4-D (Dichlorophenoxyacetic acid)	mg/kg	na	0 36 U	na	na
SW8150B	Silvex (2,4,5-TP)	mg/kg	na	0 036 U	na	na
SW8151A	2,4,5-T (Trichlorophenoxyacetic acid)	mg/kg	0 035 U	na	na	na
SW8151A	2,4-D (Dichlorophenoxyacetic acid)	mg/kg	0 35 U	na	na	na
SW8151A	Silvex (2,4,5-TP)	mg/kg	0.035 U	na	na	na
SW8260B	1,1,1,2-Tetrachloroethane	mg/kg	0 003 UJ	0.003 U	na	0.003 U
SW8260B	1,1,1-Trichloroethane	mg/kg	0 004 U	0 004 U	na	0.004 U
SW8260B	1,1,2,2-Tetrachloroethane	mg/kg	0 002 UJ	0 002 U	na	0 002 U
SW8260B	1,1,2-Trichloroethane	mg/kg	0 005 U	0.006 U	na	0 006 U
SW8260B	1,1-Dichloroethane	mg/kg	0.002 U	0.002 U	na	0.002 U
SW8260B	1,1-Dichloroethene	mg/kg	0 005 U	0 006 U	na	0 006 U
SW8260B	1,2,3-Trichloropropane	mg/kg	0 005 UJ	0 006 U	na	0 006 U

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA304 15 ft 1998-04-14	BHGLTA324 15 ft 1999-01-26	BHGLTA325 15 ft 1999-01-26	BHGLTA325 15 ft 1999-01-27
SW8260B	1,2-Dibromo-3-chloropropane	mg/kg	0 005 UJ	0 006 U	na	0.006 U
SW8260B	1,2-Dibromoethane (Ethylene dibromide)	mg/kg	0 003 U	0 003 U	na	0 003 U
SW8260B	1,2-Dichloroethane	mg/kg	0.003 U	0 003 U	na	0.003 U
SW8260B	1,2-Dichloropropane	mg/kg	0.002 U	0 002 U	na	0.002 U
SW8260B	2-Chloro-1,3-butadiene	mg/kg	0.005 U	0 006 U	na	0 006 U
SW8260B	2-Hexanone	mg/kg	0 019 UJ	0.006 U	na	0 006 U
SW8260B	Acetone	mg/kg	0 36 UJ	0 032	na	0 065
SW8260B	Acetonitrile	mg/kg	0.043 U	0 045 U	na	0 046 U
SW8260B	Acrolein	mg/kg	0 11 U	0.11 U	na	0 11 U
SW8260B	Acrylonitrile	mg/kg	0 043 U	0 045 U	na	0.046 U
SW8260B	Allyl chloride (3-Chloropropene)	mg/kg	0.011 U	0.011 U	na	0.011 U
SW8260B	Benzene	mg/kg	0.002 U	0.002 U	na	0 002 U
SW8260B	Bromodichloromethane	mg/kg	0 004 U	0 004 U	na	0.004 U
SW8260B	Bromoform	mg/kg	0.005 R	0 006 U	na	0 006 U
SW8260B	Bromomethane	mg/kg	0.005 U	0 006 U	na	0 006 U
SW8260B	Carbon disulfide	mg/kg	0.005 U	0.006 U	na	0.006 U
SW8260B	Carbon tetrachloride	mg/kg	0.005 U	0.006 U	na	0 006 U
SW8260B	Chlorobenzene	mg/kg	0 002 UJ	0 002 U	na	0.002 U
SW8260B	Chloroethane	mg/kg	0 005 U	0 006 U	na	0 006 U
SW8260B	Chloroform	mg/kg	0.002 U	0 002 U	na	0 002 U
SW8260B	Chloromethane	mg/kg	0 005 U	0 006 U	na	0.006 U
SW8260B	cis-1,2-Dichloroethene	mg/kg	0 005 U	0 006 U	na	0 006 U
SW8260B	cis-1,3-Dichloropropene	mg/kg	0.005 U	0 006 U	na	0 006 U
SW8260B	Dibromochloromethane	mg/kg	0.003 U	0.003 U	na	0.003 U
SW8260B	Dibromomethane	mg/kg	0 005 U	0.006 U	na	0 006 U
SW8260B	Dichlorodifluoromethane	mg/kg	0.005 U	0.006 U	na	0 006 U
SW8260B	Ethyl methacrylate	mg/kg	0 005 U	0 006 U	na	0 006 U
SW8260B	Ethylbenzene	mg/kg	0 003 UJ	0 003 U	na	0 003 U
SW8260B	Iodomethane (Methyl iodide)	mg/kg	0 005 U	0 006 U	na	0.006 U
SW8260B	Isobutanol	mg/kg	0.21 U	0.22 U	na	0 23 U
SW8260B	m,p-Xylene (sum of isomers)	mg/kg	na	0.006 U	na	0 006 U
SW8260B	Methyl ethyl ketone (2-Butanone)	mg/kg	0 088	0 006 U	na	0.006 U
SW8260B	Methyl isobutyl ketone (4-Methyl-2-pentanone)	mg/kg	0 005 U	0 006 U	na	0.006 U
SW8260B	Methyl methacrylate	mg/kg	0 005 U	0.006 U	na	0 006 U
SW8260B	Methylacrylonitrile	mg/kg	0.005 U	0.006 U	na	0 006 U
SW8260B	Methylene chloride	mg/kg	0.002 U	0.002 U	na	0 002 U

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA304 15 ft 1998-04-14	BHGLTA324 15 ft 1999-01-26	BHGLTA325 15 ft 1999-01-26	BHGLTA325 15 ft 1999-01-27
SW8260B	M-Xylene (1,3-Dimethylbenzene)	mg/kg	0 001 F	na	na	na
SW8260B	o-Xylene (1,2-Dimethylbenzene)	mg/kg	0 005 U	0.006 U	na	0 006 U
SW8260B	Pentachloroethane	mg/kg	0 005 U	0.006 U	na	0 006 U
SW8260B	Propane nitrile (Propionitrile)	mg/kg	0 021 U	0.022 U	na	0 023 U
SW8260B	Styrene	mg/kg	0 002 UJ	0.002 U	na	0.002 U
SW8260B	Tert-Butyl Methyl Ether	mg/kg	na	na	na	na
SW8260B	Tetrachloroethene (PCE)	mg/kg	0 005 UJ	0.006 U	na	0 006 U
SW8260B	Toluene	mg/kg	0 005 U	0 006 U	na	0 006 U
SW8260B	Trans-1,2-Dichloroethene	mg/kg	0 003 U	0.003 U	na	0.003 U
SW8260B	Trans-1,3-Dichloropropene	mg/kg	0 005 U	0 006 U	na	0.006 U
SW8260B	Trans-1,4-Dichloro-2-Butene	mg/kg	0 005 U	0.006 U	na	0 006 U
SW8260B	Trichloroethene (TCE)	mg/kg	0.005 U	0.006 U	na	0.006 U
SW8260B	Trichlorofluoromethane	mg/kg	0.004 U	0 004 U	na	0 004 U
SW8260B	Vinyl acetate	mg/kg	0.005 U	0 006 U	na	0.006 U
SW8260B	Vinyl chloride	mg/kg	0.005 U	0.006 U	na	0.006 U
SW8270C	1,2,4,5-Tetrachlorobenzene	mg/kg	0 35 U	0.37 UJ	0 37 U	na
SW8270C	1,2,4-Trichlorobenzene	mg/kg	0 35 U	0 37 UJ	0.37 U	na
SW8270C	1,2-Dichlorobenzene	mg/kg	0.35 U	0.37 UJ	0 37 U	na
SW8270C	1,3,5-Trinitrobenzene	mg/kg	1 8 U	1 8 UJ	1.8 U	na
SW8270C	1,3-Dichlorobenzene	mg/kg	0.35 U	0 37 UJ	0 37 U	na
SW8270C	1,3-Dinitrobenzene	mg/kg	0 35 U	0 37 UJ	0.37 U	na
SW8270C	1,4-Dichlorobenzene	mg/kg	0.35 U	0 37 UJ	0.37 U	na
SW8270C	1,4-Dioxane (p-Dioxane)	mg/kg	0 7 U	0 74 UJ	0.73 U	na
SW8270C	1,4-naphthoquinone	mg/kg	3.5 U	3 7 UJ	3.7 U	na
SW8270C	1-naphthylamine	mg/kg	0.7 U	0 74 UJ	0.73 U	na
SW8270C	2,2'-Oxybis(1-chloropropane)	mg/kg	0 35 U	0.37 UJ	0.37 U	na
SW8270C	2,3,4,6-Tetrachlorophenol	mg/kg	0 35 U	0 37 UJ	0.37 U	na
SW8270C	2,4,5-Trichlorophenol	mg/kg	1 8 U	1 8 UJ	1 8 U	na
SW8270C	2,4,6-Trichlorophenol	mg/kg	0.35 U	0.37 UJ	0 37 U	na
SW8270C	2,4-Dichlorophenol	mg/kg	0 35 U	0 37 UJ	0 37 U	na
SW8270C	2,4-Dimethylphenol	mg/kg	0.35 U	0 37 UJ	0.37 U	na
SW8270C	2,4-Dinitrophenol	mg/kg	1 8 U	1 8 R	1 8 R	na
SW8270C	2,4-Dinitrotoluene	mg/kg	0 35 U	0 37 UJ	0 37 U	na
SW8270C	2,6-Dichlorophenol	mg/kg	0 7 U	0 74 UJ	0 73 U	na
SW8270C	2,6-Dinitrotoluene	mg/kg	0.35 U	0 37 UJ	0 37 U	na
SW8270C	2-Acetylaminofluorene	mg/kg	0.7 U	0 74 U	0 73 U	na

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA304 15 ft 1998-04-14	BHGLTA324 15 ft 1999-01-26	BHGLTA325 15 ft 1999-01-26	BHGLTA325 15 ft 1999-01-27
SW8270C	2-Aminonaphthalene (beta-naphthylamine)	mg/kg	0 7 U	0 74 UJ	0.73 U	na
SW8270C	2-Chloronaphthalene	mg/kg	0 35 U	0.37 UJ	0 37 U	na
SW8270C	2-Chlorophenol	mg/kg	0.35 U	0.37 UJ	0 37 U	na
SW8270C	2-Methylnaphthalene	mg/kg	0 35 U	0 37 UJ	0.37 U	na
SW8270C	2-Methylphenol (o-Cresol)	mg/kg	0 35 U	0 37 UJ	0 37 U	na
SW8270C	2-Nitroaniline	mg/kg	1.8 U	1.8 UJ	1 8 U	na
SW8270C	2-Nitrophenol	mg/kg	0.35 U	0.37 UJ	0.37 U	na
SW8270C	2-Picoline (alpha-Picoline)	mg/kg	0.35 U	0.37 UJ	0 37 U	na
SW8270C	3,3'-Dichlorobenzidine	mg/kg	0.7 U	0.74 U	0.73 U	na
SW8270C	3,3'-Dimethylbenzidine	mg/kg	1.8 U	1 8 U	1.8 U	na
SW8270C	3-Methylcholanthrene	mg/kg	0.35 U	0 37 U	0.37 U	na
SW8270C	3-Nitroaniline	mg/kg	1 8 U	1.8 UJ	1 8 U	na
SW8270C	4,6-Dinitro-2-methylphenol	mg/kg	1.8 U	1.8 UJ	1 8 R	na
SW8270C	4-Aminobiphenyl (4-Biphenylamine)	mg/kg	0.7 U	0.74 UJ	0.73 U	na
SW8270C	4-Bromophenyl phenyl ether	mg/kg	0 35 U	0.37 UJ	0 37 U	na
SW8270C	4-Chloro-3-methylphenol	mg/kg	0.7 U	0 74 UJ	0 73 U	na
SW8270C	4-Chloroaniline	mg/kg	0 7 U	0 74 UJ	0 73 U	na
SW8270C	4-Chlorophenyl phenyl ether	mg/kg	0.35 U	0 37 UJ	0.37 U	na
SW8270C	4-Nitroaniline	mg/kg	1 8 U	1 8 UJ	1 8 U	na
SW8270C	4-Nitrophenol	mg/kg	1 8 U	1.8 UJ	1.8 U	na
SW8270C	4-Nitroquinoline-1-oxide	mg/kg	1.8 U	1 8 U	1 8 U	na
SW8270C	5-Nitro-o-toluidine	mg/kg	0 7 U	0 74 UJ	0 73 U	na
SW8270C	7,12-Dimethylbenzo(a)anthracene	mg/kg	0.7 U	0 74 U	0 73 U	na
SW8270C	Acenaphthene	mg/kg	0 35 U	0 37 UJ	0.37 U	na
SW8270C	Acenaphthylene	mg/kg	0.35 U	0.056 F	0 37 U	na
SW8270C	Acetophenone	mg/kg	0.7 U	0.74 UJ	0.73 U	na
SW8270C	alpha, alpha-Dimethylphenethylamine	mg/kg	1.8 U	1 8 UJ	1 8 U	na
SW8270C	Aniline (Phenylamine, Aminobenzene)	mg/kg	0 35 U	0 37 UJ	0 37 U	na
SW8270C	Anthracene	mg/kg	0 35 U	0 37 UJ	0.37 U	na
SW8270C	Aramite (total)	mg/kg	0 7 U	0 74 UJ	0 73 U	na
SW8270C	Benzo(a)anthracene	mg/kg	0.35 U	0 042 F	0 37 U	na
SW8270C	Benzo(a)pyrene	mg/kg	0 35 U	0 37 U	0.37 U	na
SW8270C	Benzo(b)fluoranthene	mg/kg	0 35 U	0 37 U	0.37 U	na
SW8270C	Benzo(g,h,i)perylene	mg/kg	0 35 U	0 039 F	0.37 U	na
SW8270C	Benzo(k)fluoranthene	mg/kg	0 35 U	0.37 U	0.37 U	na
SW8270C	Benzoic acid	mg/kg	1 8 U	1 8 UJ	1.8 U	na

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA304 15 ft 1998-04-14	BHGLTA324 15 ft 1999-01-26	BHGLTA325 15 ft 1999-01-26	BHGLTA325 15 ft 1999-01-27
SW8270C	Benzyl alcohol	mg/kg	0 35 U	0 37 UJ	0 37 U	na
SW8270C	Benzyl butyl phthalate	mg/kg	0.35 U	0.37 U	0.37 U	na
SW8270C	bis(2-Chloroethoxy)methane	mg/kg	0 35 U	0 37 UJ	0 37 U	na
SW8270C	bis(2-Chloroethyl)ether (2-Chloroethyl ether)	mg/kg	0.35 U	0.37 UJ	0.37 U	na
SW8270C	bis(2-Ethylhexyl)phthalate	mg/kg	0 35 U	0 37 U	0 37 U	na
SW8270C	Chlorobenzilate	mg/kg	0 35 U	0 37 U	0 37 U	na
SW8270C	Chrysene	mg/kg	0.35 U	0 038 F	0 37 U	na
SW8270C	Cresols, m & p	mg/kg	0 35 U	0 37 UJ	0 37 U	na
SW8270C	Diallate (total of cis and trans isomers)	mg/kg	0 35 U	0 37 UJ	0.37 U	na
SW8270C	Dibenz(a,h)anthracene	mg/kg	0 35 U	0 37 U	0.37 U	na
SW8270C	Dibenzofuran	mg/kg	0 35 U	0 37 UJ	0.37 U	na
SW8270C	Diethyl phthalate	mg/kg	0.35 U	0.37 UJ	0.37 U	na
SW8270C	Dimethyl phthalate	mg/kg	0.35 U	0.37 UJ	0 37 U	na
SW8270C	Di-n-butyl phthalate	mg/kg	0.35 U	0.37 UJ	0 37 U	na
SW8270C	Di-n-octyl phthalate	mg/kg	0.35 U	0.37 U	0 37 U	na
SW8270C	Dinoseb	mg/kg	0 7 U	0.74 UJ	0.73 U	na
SW8270C	Diphenylamine	mg/kg	0 35 U	0.37 UJ	0.37 U	na
SW8270C	Ethyl methanesulfonate	mg/kg	0 7 U	0.74 UJ	0 73 U	na
SW8270C	Fluoranthene	mg/kg	0.037 F	0 085 F	0 052 F	na
SW8270C	Fluorene	mg/kg	0.35 U	0 37 UJ	0 37 U	na
SW8270C	Hexachlorobenzene	mg/kg	0.35 U	0 37 UJ	0 37 U	na
SW8270C	Hexachlorobutadiene	mg/kg	0.35 U	0 37 UJ	0.37 U	na
SW8270C	Hexachlorocyclopentadiene	mg/kg	0 35 U	0 37 UJ	0.37 U	na
SW8270C	Hexachloroethane	mg/kg	0 35 U	0.37 UJ	0 37 U	na
SW8270C	Hexachlorophene	mg/kg	3 5 U	3 7 U	3.7 U	na
SW8270C	Hexachloropropene	mg/kg	1 8 U	1 8 UJ	1.8 U	na
SW8270C	Indeno(1,2,3-c,d)pyrene	mg/kg	0 35 U	0 37 U	0 37 U	na
SW8270C	Isophorone	mg/kg	0 35 U	0.37 UJ	0 37 U	na
SW8270C	Isosafrole	mg/kg	0 35 U	0.37 UJ	0 37 U	na
SW8270C	Methapyrilene	mg/kg	0.88 U	0 92 U	0 92 U	na
SW8270C	Methyl methanesulfonate	mg/kg	0 7 U	0.74 UJ	0 73 U	na
SW8270C	naphthalene	mg/kg	0 35 U	0.37 UJ	0 37 U	na
SW8270C	Nitrobenzene	mg/kg	0 35 U	0.37 UJ	0 37 U	na
SW8270C	N-Nitrosodiethylamine	mg/kg	0 7 U	0.74 UJ	0 73 U	na
SW8270C	N-Nitrosodimethylamine	mg/kg	0 7 U	0.74 UJ	0 73 U	na
SW8270C	N-Nitrosodi-n-butylamine	mg/kg	0 35 U	0 37 UJ	0 37 U	na

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA304 15 ft 1998-04-14	BHGLTA324 15 ft 1999-01-26	BHGLTA325 15 ft 1999-01-26	BHGLTA325 15 ft 1999-01-27
SW8270C	N-Nitrosodi-n-propylamine	mg/kg	0.35 U	0 37 UJ	0 37 U	na
SW8270C	N-Nitrosodiphenylamine	mg/kg	0 35 U	0.37 UJ	0.37 U	na
SW8270C	N-Nitrosomethylethylamine	mg/kg	0 35 U	0 37 UJ	0 37 U	na
SW8270C	N-Nitrosomorpholine	mg/kg	0 7 U	0 74 UJ	0.73 U	na
SW8270C	N-Nitrosopiperidine	mg/kg	0.35 U	0.37 UJ	0.37 U	na
SW8270C	N-Nitrosopyrrolidine	mg/kg	0 7 U	0 74 UJ	0 73 U	na
SW8270C	o-Toluidine	mg/kg	0.7 U	0 74 UJ	0.73 U	na
SW8270C	p-Dimethylaminoazobenzene	mg/kg	0.7 U	0 74 U	0 73 U	na
SW8270C	Pentachlorobenzene	mg/kg	0 35 U	0 37 UJ	0 37 U	na
SW8270C	Pentachloronitrobenzene	mg/kg	0 35 U	0.37 UJ	0 37 U	na
SW8270C	Pentachlorophenol	mg/kg	1.8 U	1.8 UJ	1.8 U	na
SW8270C	Phenacetin	mg/kg	0 35 U	0 37 UJ	0 37 U	na
SW8270C	Phenanthrene	mg/kg	0.046 F	0.13 F	0.37 U	na
SW8270C	Phenol	mg/kg	0.35 U	0 37 UJ	0.37 U	na
SW8270C	p-Phenylenediamine	mg/kg	5 2 U	5 5 UJ	5 5 U	na
SW8270C	Pronamide	mg/kg	0 35 U	0 37 UJ	0 37 U	na
SW8270C	Pyrene	mg/kg	0 25 F	0 17 F	0 061 F	na
SW8270C	Pyridine	mg/kg	0 7 U	0 74 UJ	0 73 U	na
SW8270C	Safrole	mg/kg	0 35 U	0 37 UJ	0 37 U	na
SW8280A	2,3,7,8-Tetrachlorodibenzofuran	mg/kg	0.00003 U	0.00003 U	na	na
SW8280A	2,3,7,8-Tetrachlorodibenzo-p-dioxin	mg/kg	0.00003 U	0.00002 U	na	na
SW8310	Chrysene	mg/kg	na	na	na	na
SW8310	Pyrene	mg/kg	na	na	na	na
SW9010	Cyanide	mg/kg	0.48 U	0.52 U	na	na
SW9030B	Sulfide	mg/kg	23 9 SU	27 4 SU	na	na
SW9041	pH	PH UNITS	na	na	na	na
SW9081	Cation-Exchange Capacity	MEQ/100G	na	na	na	na

Note
Sample date format "YYYY-MM-DD"
F = The analyte was positively detected, but the associated numerical value is below the PQL
J = The analyte was positively detected; the associated numerical value is an estimation
R = The data are unusable due to QC deficiencies
S = Applied to screening-level data
U = The analyte was analyzed for, but not detected
UJ = The analyte was analyzed for, but not detected; the associated numerical value is estimated
na = Not analyzed

Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA326 05 ft 1999-01-27	BHGLTA326 15 ft 1999-01-27	BHGLTA327 10 ft 1999-01-27	BHGLTA327 15 ft 1999-01-27
AD5057	Density	g/mL	na	na	na	na
AD5057	Specific Gravity	NONE	na	na	na	na
LYDKHN	Total Organic Carbon	mg/kg	na	na	na	na
SW6010B	Antimony	mg/kg	na	na	na	na
SW6010B	Arsenic	mg/kg	na	na	na	na
SW6010B	Barium	mg/kg	na	na	na	na
SW6010B	Beryllium	mg/kg	na	na	na	na
SW6010B	Cadmium	mg/kg	na	na	na	na
SW6010B	Chromium, total	mg/kg	na	na	na	na
SW6010B	Cobalt	mg/kg	na	na	na	na
SW6010B	Copper	mg/kg	na	na	na	na
SW6010B	Lead	mg/kg	na	na	na	na
SW6010B	Nickel	mg/kg	na	na	na	na
SW6010B	Selenium	mg/kg	na	na	na	na
SW6010B	Silver	mg/kg	na	na	na	na
SW6010B	Thallium	mg/kg	na	na	na	na
SW6010B	Tin	mg/kg	na	na	na	na
SW6010B	Vanadium	mg/kg	na	na	na	na
SW6010B	Zinc	mg/kg	na	na	na	na
SW7041	Antimony	mg/kg	na	na	na	na
SW7060A	Arsenic	mg/kg	na	na	na	na
SW7421	Lead	mg/kg	2.5 F	na	8.1 F	na
SW7471A	Mercury	mg/kg	na	na	na	na
SW7740	Selenium	mg/kg	na	na	na	na
SW7761	Silver	mg/kg	na	na	na	na
SW7841	Thallium	mg/kg	na	na	na	na
SW8080A	Aldrin	mg/kg	na	na	na	na
SW8080A	alpha-BHC (alpha-Hexachlorocyclohexane)	mg/kg	na	na	na	na
SW8080A	alpha-Chlordane	mg/kg	na	na	na	na
SW8080A	alpha-Endosulfan	mg/kg	na	na	na	na
SW8080A	beta-BHC (beta-Hexachlorocyclohexane)	mg/kg	na	na	na	na
SW8080A	beta-Endosulfan	mg/kg	na	na	na	na
SW8080A	Chlordane	mg/kg	na	na	na	na
SW8080A	delta-BHC (delta-Hexachlorocyclohexane)	mg/kg	na	na	na	na
SW8080A	Dieldrin	mg/kg	na	na	na	na
SW8080A	Endosulfan sulfate	mg/kg	na	na	na	na

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA326 05 ft 1999-01-27	BHGLTA326 15 ft 1999-01-27	BHGLTA327 10 ft 1999-01-27	BHGLTA327 15 ft 1999-01-27
SW8080A	Endrin	mg/kg	na	na	na	na
SW8080A	Endrin aldehyde	mg/kg	na	na	na	na
SW8080A	gamma-BHC (Lindane)	mg/kg	na	na	na	na
SW8080A	gamma-Chlordane	mg/kg	na	na	na	na
SW8080A	Heptachlor	mg/kg	na	na	na	na
SW8080A	Heptachlor epoxide	mg/kg	na	na	na	na
SW8080A	Isodrin	mg/kg	na	na	na	na
SW8080A	Kepone	mg/kg	na	na	na	na
SW8080A	Methoxychlor	mg/kg	na	na	na	na
SW8080A	p,p'-DDD	mg/kg	na	na	na	na
SW8080A	p,p'-DDE	mg/kg	na	na	na	na
SW8080A	p,p'-DDT	mg/kg	na	na	na	na
SW8080A	PCB-1016 (Aroclor 1016)	mg/kg	na	na	na	na
SW8080A	PCB-1221 (Aroclor 1221)	mg/kg	na	na	na	na
SW8080A	PCB-1232 (Aroclor 1232)	mg/kg	na	na	na	na
SW8080A	PCB-1242 (Aroclor 1242)	mg/kg	na	na	na	na
SW8080A	PCB-1248 (Aroclor 1248)	mg/kg	na	na	na	na
SW8080A	PCB-1254 (Aroclor 1254)	mg/kg	na	na	na	na
SW8080A	PCB-1260 (Aroclor 1260)	mg/kg	na	na	na	na
SW8080A	Toxaphene	mg/kg	na	na	na	na
SW8081A	Aldrin	mg/kg	na	na	na	na
SW8081A	alpha-BHC (alpha-Hexachlorocyclohexane)	mg/kg	na	na	na	na
SW8081A	alpha-Chlordane	mg/kg	na	na	na	na
SW8081A	alpha-Endosulfan	mg/kg	na	na	na	na
SW8081A	beta-BHC (beta-Hexachlorocyclohexane)	mg/kg	na	na	na	na
SW8081A	beta-Endosulfan	mg/kg	na	na	na	na
SW8081A	Chlordane	mg/kg	na	na	na	na
SW8081A	delta-BHC (delta-Hexachlorocyclohexane)	mg/kg	na	na	na	na
SW8081A	Dieldrin	mg/kg	na	na	na	na
SW8081A	Endosulfan sulfate	mg/kg	na	na	na	na
SW8081A	Endrin	mg/kg	na	na	na	na
SW8081A	Endrin aldehyde	mg/kg	na	na	na	na
SW8081A	gamma-BHC (Lindane)	mg/kg	na	na	na	na
SW8081A	gamma-Chlordane	mg/kg	na	na	na	na
SW8081A	Heptachlor	mg/kg	na	na	na	na
SW8081A	Heptachlor epoxide	mg/kg	na	na	na	na

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA326 05 ft 1999-01-27	BHGLTA326 15 ft 1999-01-27	BHGLTA327 10 ft 1999-01-27	BHGLTA327 15 ft 1999-01-27
SW8081A	Isodrin	mg/kg	na	na	na	na
SW8081A	Kepone	mg/kg	na	na	na	na
SW8081A	Methoxychlor	mg/kg	na	na	na	na
SW8081A	p,p'-DDD	mg/kg	na	na	na	na
SW8081A	p,p'-DDE	mg/kg	na	na	na	na
SW8081A	p,p'-DDT	mg/kg	na	na	na	na
SW8081A	PCB-1016 (Aroclor 1016)	mg/kg	na	na	na	na
SW8081A	PCB-1221 (Aroclor 1221)	mg/kg	na	na	na	na
SW8081A	PCB-1232 (Aroclor 1232)	mg/kg	na	na	na	na
SW8081A	PCB-1242 (Aroclor 1242)	mg/kg	na	na	na	na
SW8081A	PCB-1248 (Aroclor 1248)	mg/kg	na	na	na	na
SW8081A	PCB-1254 (Aroclor 1254)	mg/kg	na	na	na	na
SW8081A	PCB-1260 (Aroclor 1260)	mg/kg	na	na	na	na
SW8081A	Toxaphene	mg/kg	na	na	na	na
SW8141A	Dimethoate	mg/kg	na	na	na	na
SW8141A	Disulfoton	mg/kg	na	na	na	na
SW8141A	Famphur	mg/kg	na	na	na	na
SW8141A	O,O,O-Triethyl phosphorothioate	mg/kg	na	na	na	na
SW8141A	Parathion, ethyl	mg/kg	na	na	na	na
SW8141A	Parathion, methyl	mg/kg	na	na	na	na
SW8141A	Phorate	mg/kg	na	na	na	na
SW8141A	Thiodiphosphoric acid, tetraethyl ester	mg/kg	na	na	na	na
SW8141A	Zinophos	mg/kg	na	na	na	na
SW8150B	2,4,5-T (Trichlorophenoxyacetic acid)	mg/kg	na	na	na	na
SW8150B	2,4-D (Dichlorophenoxyacetic acid)	mg/kg	na	na	na	na
SW8150B	Silvex (2,4,5-TP)	mg/kg	na	na	na	na
SW8151A	2,4,5-T (Trichlorophenoxyacetic acid)	mg/kg	na	na	na	na
SW8151A	2,4-D (Dichlorophenoxyacetic acid)	mg/kg	na	na	na	na
SW8151A	Silvex (2,4,5-TP)	mg/kg	na	na	na	na
SW8260B	1,1,1,2-Tetrachloroethane	mg/kg	na	0.003 U	na	0 004 U
SW8260B	1,1,1-Trichloroethane	mg/kg	na	0 004 U	na	0 005 U
SW8260B	1,1,2,2-Tetrachloroethane	mg/kg	na	0.002 U	na	0.002 U
SW8260B	1,1,2-Trichloroethane	mg/kg	na	0.006 U	na	0 006 U
SW8260B	1,1-Dichloroethane	mg/kg	na	0.002 U	na	0 002 U
SW8260B	1,1-Dichloroethene	mg/kg	na	0.006 U	na	0 006 U
SW8260B	1,2,3-Trichloropropane	mg/kg	na	0.006 U	na	0 006 U

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA326 05 ft 1999-01-27	BHGLTA326 15 ft 1999-01-27	BHGLTA327 10 ft 1999-01-27	BHGLTA327 15 ft 1999-01-27
SW8260B	1,2-Dibromo-3-chloropropane	mg/kg	na	0.006 U	na	0 006 U
SW8260B	1,2-Dibromoethane (Ethylene dibromide)	mg/kg	na	0 003 U	na	0.004 U
SW8260B	1,2-Dichloroethane	mg/kg	na	0 003 U	na	0 004 U
SW8260B	1,2-Dichloropropane	mg/kg	na	0.002 U	na	0 002 U
SW8260B	2-Chloro-1,3-butadiene	mg/kg	na	0 006 U	na	0.006 U
SW8260B	2-Hexanone	mg/kg	na	0 006 U	na	0 006 U
SW8260B	Acetone	mg/kg	na	0 039	na	0 014
SW8260B	Acetonitrile	mg/kg	na	0 044 U	na	0 05 U
SW8260B	Acrolein	mg/kg	na	0 11 U	na	0 12 U
SW8260B	Acrylonitrile	mg/kg	na	0.044 U	na	0.05 U
SW8260B	Allyl chloride (3-Chloropropene)	mg/kg	na	0.011 U	na	0.012 U
SW8260B	Benzene	mg/kg	na	0.002 U	na	0.002 U
SW8260B	Bromodichloromethane	mg/kg	na	0 004 U	na	0 005 U
SW8260B	Bromoform	mg/kg	na	0 006 U	na	0 006 U
SW8260B	Bromomethane	mg/kg	na	0.006 U	na	0.006 U
SW8260B	Carbon disulfide	mg/kg	na	0 006 U	na	0 006 U
SW8260B	Carbon tetrachloride	mg/kg	na	0 006 U	na	0 006 U
SW8260B	Chlorobenzene	mg/kg	na	0 002 U	na	0.002 U
SW8260B	Chloroethane	mg/kg	na	0.006 U	na	0 006 U
SW8260B	Chloroform	mg/kg	na	0 002 U	na	0.002 U
SW8260B	Chloromethane	mg/kg	na	0.006 U	na	0 006 U
SW8260B	cis-1,2-Dichloroethene	mg/kg	na	0.006 U	na	0 006 U
SW8260B	cis-1,3-Dichloropropene	mg/kg	na	0 006 U	na	0.006 U
SW8260B	Dibromochloromethane	mg/kg	na	0 003 U	na	0 004 U
SW8260B	Dibromomethane	mg/kg	na	0 006 U	na	0 006 U
SW8260B	Dichlorodifluoromethane	mg/kg	na	0 006 U	na	0 006 U
SW8260B	Ethyl methacrylate	mg/kg	na	0.006 U	na	0 006 U
SW8260B	Ethylbenzene	mg/kg	na	0.003 U	na	0.004 U
SW8260B	Iodomethane (Methyl iodide)	mg/kg	na	0 006 U	na	0 006 U
SW8260B	Isobutanol	mg/kg	na	0 22 U	na	0.25 U
SW8260B	m,p-Xylene (sum of isomers)	mg/kg	na	0.006 U	na	0.006 U
SW8260B	Methyl ethyl ketone (2-Butanone)	mg/kg	na	0 006 U	na	0 006 U
SW8260B	Methyl isobutyl ketone (4-Methyl-2-pentanone)	mg/kg	na	0 006 U	na	0 006 U
SW8260B	Methyl methacrylate	mg/kg	na	0.006 U	na	0 006 U
SW8260B	Methylacrylonitrile	mg/kg	na	0 006 U	na	0.006 U
SW8260B	Methylene chloride	mg/kg	na	0.002 U	na	0 002 U

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA326 05 ft 1999-01-27	BHGLTA326 15 ft 1999-01-27	BHGLTA327 10 ft 1999-01-27	BHGLTA327 15 ft 1999-01-27
SW8260B	M-Xylene (1,3-Dimethylbenzene)	mg/kg	na	na	na	na
SW8260B	o-Xylene (1,2-Dimethylbenzene)	mg/kg	na	0 006 U	na	0 006 U
SW8260B	Pentachloroethane	mg/kg	na	0 006 U	na	0 006 U
SW8260B	Propane nitrile (Propionitrile)	mg/kg	na	0.022 U	na	0 025 U
SW8260B	Styrene	mg/kg	na	0 002 U	na	0.002 U
SW8260B	Tert-Butyl Methyl Ether	mg/kg	na	na	na	na
SW8260B	Tetrachloroethene (PCE)	mg/kg	na	0.006 U	na	0 006 U
SW8260B	Toluene	mg/kg	na	0 006 U	na	0 006 U
SW8260B	Trans-1,2-Dichloroethene	mg/kg	na	0.003 U	na	0 004 U
SW8260B	Trans-1,3-Dichloropropene	mg/kg	na	0.006 U	na	0 006 U
SW8260B	Trans-1,4-Dichloro-2-Butene	mg/kg	na	0.006 U	na	0 006 U
SW8260B	Trichloroethene (TCE)	mg/kg	na	0.006 U	na	0.006 U
SW8260B	Trichlorofluoromethane	mg/kg	na	0.004 U	na	0 005 U
SW8260B	Vinyl acetate	mg/kg	na	0 006 U	na	0.006 U
SW8260B	Vinyl chloride	mg/kg	na	0 006 U	na	0 006 U
SW8270C	1,2,4,5-Tetrachlorobenzene	mg/kg	na	0.36 U	na	0 41 U
SW8270C	1,2,4-Trichlorobenzene	mg/kg	na	0.36 U	na	0.41 U
SW8270C	1,2-Dichlorobenzene	mg/kg	na	0 36 U	na	0.41 U
SW8270C	1,3,5-Trinitrobenzene	mg/kg	na	1.8 U	na	2 U
SW8270C	1,3-Dichlorobenzene	mg/kg	na	0.36 U	na	0.41 U
SW8270C	1,3-Dinitrobenzene	mg/kg	na	0 36 U	na	0.41 U
SW8270C	1,4-Dichlorobenzene	mg/kg	na	0.36 U	na	0.41 U
SW8270C	1,4-Dioxane (p-Dioxane)	mg/kg	na	0 71 U	na	0 82 U
SW8270C	1,4-naphthoquinone	mg/kg	na	3 6 U	na	4 1 U
SW8270C	1-naphthylamine	mg/kg	na	0.71 U	na	0 82 U
SW8270C	2,2'-Oxybis(1-chloropropane)	mg/kg	na	0.36 U	na	0 41 U
SW8270C	2,3,4,6-Tetrachlorophenol	mg/kg	na	0 36 U	na	0.41 U
SW8270C	2,4,5-Trichlorophenol	mg/kg	na	1.8 U	na	2 U
SW8270C	2,4,6-Trichlorophenol	mg/kg	na	0 36 U	na	0 41 U
SW8270C	2,4-Dichlorophenol	mg/kg	na	0 36 U	na	0 41 U
SW8270C	2,4-Dimethylphenol	mg/kg	na	0 36 U	na	0 41 U
SW8270C	2,4-Dinitrophenol	mg/kg	na	1 8 R	na	2 R
SW8270C	2,4-Dinitrotoluene	mg/kg	na	0.36 U	na	0.41 U
SW8270C	2,6-Dichlorophenol	mg/kg	na	0 71 U	na	0.82 U
SW8270C	2,6-Dinitrotoluene	mg/kg	na	0.36 U	na	0.41 U
SW8270C	2-Acetylaminofluorene	mg/kg	na	0.71 U	na	0.82 U

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA326 05 ft 1999-01-27	BHGLTA326 15 ft 1999-01-27	BHGLTA327 10 ft 1999-01-27	BHGLTA327 15 ft 1999-01-27
SW8270C	2-Aminonaphthalene (beta-naphthylamine)	mg/kg	na	0 71 U	na	0.82 U
SW8270C	2-Chloronaphthalene	mg/kg	na	0 36 U	na	0 41 U
SW8270C	2-Chlorophenol	mg/kg	na	0.36 U	na	0.41 U
SW8270C	2-Methylnaphthalene	mg/kg	na	0.36 U	na	0.41 U
SW8270C	2-Methylphenol (o-Cresol)	mg/kg	na	0 36 U	na	0 41 U
SW8270C	2-Nitroaniline	mg/kg	na	1 8 U	na	2 U
SW8270C	2-Nitrophenol	mg/kg	na	0 36 U	na	0 41 U
SW8270C	2-Picoline (alpha-Picoline)	mg/kg	na	0 36 U	na	0 41 U
SW8270C	3,3'-Dichlorobenzidine	mg/kg	na	0 71 U	na	0.82 U
SW8270C	3,3'-Dimethylbenzidine	mg/kg	na	1 8 U	na	2 U
SW8270C	3-Methylcholanthrene	mg/kg	na	0 36 U	na	0.41 U
SW8270C	3-Nitroaniline	mg/kg	na	1.8 U	na	2 U
SW8270C	4,6-Dinitro-2-methylphenol	mg/kg	na	1 8 R	na	2 R
SW8270C	4-Aminobiphenyl (4-Biphenylamine)	mg/kg	na	0 71 U	na	0 82 U
SW8270C	4-Bromophenyl phenyl ether	mg/kg	na	0 36 U	na	0.41 U
SW8270C	4-Chloro-3-methylphenol	mg/kg	na	0 71 U	na	0 82 U
SW8270C	4-Chloroaniline	mg/kg	na	0 71 U	na	0.82 U
SW8270C	4-Chlorophenyl phenyl ether	mg/kg	na	0.36 U	na	0 41 U
SW8270C	4-Nitroaniline	mg/kg	na	1 8 U	na	2 U
SW8270C	4-Nitrophenol	mg/kg	na	1.8 U	na	2 U
SW8270C	4-Nitroquinoline-1-oxide	mg/kg	na	1 8 U	na	2 U
SW8270C	5-Nitro-o-toluidine	mg/kg	na	0 71 U	na	0 82 U
SW8270C	7,12-Dimethylbenzo(a)anthracene	mg/kg	na	0.71 U	na	0 82 U
SW8270C	Acenaphthene	mg/kg	na	0 36 U	na	0.41 U
SW8270C	Acenaphthylene	mg/kg	na	0.36 U	na	0 41 U
SW8270C	Acetophenone	mg/kg	na	0.71 U	na	0.82 U
SW8270C	alpha, alpha-Dimethylphenethylamine	mg/kg	na	1 8 U	na	2 U
SW8270C	Aniline (Phenylamine, Aminobenzene)	mg/kg	na	0 36 U	na	0 41 U
SW8270C	Anthracene	mg/kg	na	0 36 U	na	0.41 U
SW8270C	Aramite (total)	mg/kg	na	0.71 U	na	0 82 U
SW8270C	Benzo(a)anthracene	mg/kg	na	0 36 U	na	0 41 U
SW8270C	Benzo(a)pyrene	mg/kg	na	0 36 U	na	0.41 U
SW8270C	Benzo(b)fluoranthene	mg/kg	na	0 36 U	na	0.41 U
SW8270C	Benzo(g,h,i)perylene	mg/kg	na	0 36 U	na	0.41 U
SW8270C	Benzo(k)fluoranthene	mg/kg	na	0 36 U	na	0 41 U
SW8270C	Benzoic acid	mg/kg	na	1 8 U	na	2 U

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA326 05 ft 1999-01-27	BHGLTA326 15 ft 1999-01-27	BHGLTA327 10 ft 1999-01-27	BHGLTA327 15 ft 1999-01-27
SW8270C	Benzyl alcohol	mg/kg	na	0 36 U	na	0 41 U
SW8270C	Benzyl butyl phthalate	mg/kg	na	0.36 U	na	0 41 U
SW8270C	bis(2-Chloroethoxy)methane	mg/kg	na	0.36 U	na	0 41 U
SW8270C	bis(2-Chloroethyl)ether (2-Chloroethyl ether)	mg/kg	na	0.36 U	na	0 41 U
SW8270C	bis(2-Ethylhexyl)phthalate	mg/kg	na	0.36 U	na	0.41 U
SW8270C	Chlorobenzilate	mg/kg	na	0.36 U	na	0.41 U
SW8270C	Chrysene	mg/kg	na	0.36 U	na	0.41 U
SW8270C	Cresols, m & p	mg/kg	na	0 36 U	na	0 41 U
SW8270C	Diallate (total of cis and trans isomers)	mg/kg	na	0.36 U	na	0.41 U
SW8270C	Dibenz(a,h)anthracene	mg/kg	na	0 36 U	na	0 41 U
SW8270C	Dibenzofuran	mg/kg	na	0.36 U	na	0.41 U
SW8270C	Diethyl phthalate	mg/kg	na	0 36 U	na	0 41 U
SW8270C	Dimethyl phthalate	mg/kg	na	0 36 U	na	0.41 U
SW8270C	Di-n-butyl phthalate	mg/kg	na	0.36 U	na	0.41 U
SW8270C	Di-n-octyl phthalate	mg/kg	na	0.36 U	na	0.41 U
SW8270C	Dinoseb	mg/kg	na	0 71 U	na	0.82 U
SW8270C	Diphenylamine	mg/kg	na	0 36 U	na	0 41 U
SW8270C	Ethyl methanesulfonate	mg/kg	na	0 71 U	na	0.82 U
SW8270C	Fluoranthene	mg/kg	na	0 36 U	na	0.41 U
SW8270C	Fluorene	mg/kg	na	0.36 U	na	0 41 U
SW8270C	Hexachlorobenzene	mg/kg	na	0.36 U	na	0 41 U
SW8270C	Hexachlorobutadiene	mg/kg	na	0.36 U	na	0.41 U
SW8270C	Hexachlorocyclopentadiene	mg/kg	na	0 36 U	na	0.41 U
SW8270C	Hexachloroethane	mg/kg	na	0.36 U	na	0 41 U
SW8270C	Hexachlorophene	mg/kg	na	3 6 U	na	4.1 U
SW8270C	Hexachloropropene	mg/kg	na	1 8 U	na	2 U
SW8270C	Indeno(1,2,3-c,d)pyrene	mg/kg	na	0.36 U	na	0.41 U
SW8270C	Isophorone	mg/kg	na	0 36 U	na	0 41 U
SW8270C	Isosafrole	mg/kg	na	0 36 U	na	0 41 U
SW8270C	Methapyrilene	mg/kg	na	0 89 U	na	1 U
SW8270C	Methyl methanesulfonate	mg/kg	na	0.71 U	na	0 82 U
SW8270C	naphthalene	mg/kg	na	0.36 U	na	0 41 U
SW8270C	Nitrobenzene	mg/kg	na	0 36 U	na	0 41 U
SW8270C	N-Nitrosodiethylamine	mg/kg	na	0 71 U	na	0 82 U
SW8270C	N-Nitrosodimethylamine	mg/kg	na	0.71 U	na	0.82 U
SW8270C	N-Nitrosodi-n-butylamine	mg/kg	na	0.36 U	na	0.41 U

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA326 05 ft 1999-01-27	BHGLTA326 15 ft 1999-01-27	BHGLTA327 10 ft 1999-01-27	BHGLTA327 15 ft 1999-01-27
SW8270C	N-Nitrosodi-n-propylamine	mg/kg	na	0.36 U	na	0.41 U
SW8270C	N-Nitrosodiphenylamine	mg/kg	na	0.36 U	na	0 41 U
SW8270C	N-Nitrosomethylethylamine	mg/kg	na	0.36 U	na	0 41 U
SW8270C	N-Nitrosomorpholine	mg/kg	na	0.71 U	na	0 82 U
SW8270C	N-Nitrosopiperidine	mg/kg	na	0 36 U	na	0.41 U
SW8270C	N-Nitrosopyrrolidine	mg/kg	na	0.71 U	na	0 82 U
SW8270C	o-Toluidine	mg/kg	na	0.71 U	na	0 82 U
SW8270C	p-Dimethylaminoazobenzene	mg/kg	na	0 71 U	na	0.82 U
SW8270C	Pentachlorobenzene	mg/kg	na	0.36 U	na	0 41 U
SW8270C	Pentachloronitrobenzene	mg/kg	na	0.36 U	na	0 41 U
SW8270C	Pentachlorophenol	mg/kg	na	1 8 U	na	2 U
SW8270C	Phenacetin	mg/kg	na	0 36 U	na	0.41 U
SW8270C	Phenanthrene	mg/kg	na	0 36 U	na	0 41 U
SW8270C	Phenol	mg/kg	na	0.36 U	na	0 41 U
SW8270C	p-Phenylenediamine	mg/kg	na	5 3 U	na	6 1 U
SW8270C	Pronamide	mg/kg	na	0 36 U	na	0.41 U
SW8270C	Pyrene	mg/kg	na	0 36 U	na	0.41 U
SW8270C	Pyridine	mg/kg	na	0 71 U	na	0 82 U
SW8270C	Safrole	mg/kg	na	0.36 U	na	0.41 U
SW8280A	2,3,7,8-Tetrachlorodibenzofuran	mg/kg	na	na	na	na
SW8280A	2,3,7,8-Tetrachlorodibenzo-p-dioxin	mg/kg	na	na	na	na
SW8310	Chrysene	mg/kg	na	na	na	na
SW8310	Pyrene	mg/kg	na	na	na	na
SW9010	Cyanide	mg/kg	na	na	na	na
SW9030B	Sulfide	mg/kg	na	na	na	na
SW9041	pH	PH UNITS	na	na	na	na
SW9081	Cation-Exchange Capacity	MEQ/100G	na	na	na	na

Note·
Sample date format. "YYYY-MM-DD"
F = The analyte was positively detected, but the associated numerical value is below the PQL
J = The analyte was positively detected, the associated numerical value is an estimation
R = The data are unusable due to QC deficiencies
S = Applied to screening-level data.
U = The analyte was analyzed for, but not detected
UJ = The analyte was analyzed for, but not detected, the associated numerical value is estimated
na = Not analyzed

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA328 00 ft 1999-01-28	BHGLTA328 15 ft 1999-01-28	BHGLTA329 15 ft 2000-04-05	BHGLTA330 15 ft 2000-04-05
AD5057	Density	g/mL	na	na	1 25 U	1.46 U
AD5057	Specific Gravity	NONE	na	na	1 25 U	1 46 U
LYDKHN	Total Organic Carbon	mg/kg	na	na	6410	44000
SW6010B	Antimony	mg/kg	na	na	na	na
SW6010B	Arsenic	mg/kg	na	na	na	na
SW6010B	Barium	mg/kg	na	na	na	na
SW6010B	Beryllium	mg/kg	na	na	na	na
SW6010B	Cadmium	mg/kg	na	na	na	na
SW6010B	Chromium, total	mg/kg	na	na	na	na
SW6010B	Cobalt	mg/kg	na	na	na	na
SW6010B	Copper	mg/kg	na	na	na	na
SW6010B	Lead	mg/kg	na	na	na	na
SW6010B	Nickel	mg/kg	na	na	na	na
SW6010B	Selenium	mg/kg	na	na	na	na
SW6010B	Silver	mg/kg	na	na	na	na
SW6010B	Thallium	mg/kg	na	na	na	na
SW6010B	Tin	mg/kg	na	na	na	na
SW6010B	Vanadium	mg/kg	na	na	na	na
SW6010B	Zinc	mg/kg	na	na	na	na
SW7041	Antimony	mg/kg	na	na	na	na
SW7060A	Arsenic	mg/kg	na	na	na	na
SW7421	Lead	mg/kg	3 1 F	na	15	3 6 F
SW7471A	Mercury	mg/kg	na	na	na	na
SW7740	Selenium	mg/kg	na	na	na	na
SW7761	Silver	mg/kg	na	na	na	na
SW7841	Thallium	mg/kg	na	na	na	na
SW8080A	Aldrin	mg/kg	na	na	na	na
SW8080A	alpha-BHC (alpha-Hexachlorocyclohexane)	mg/kg	na	na	na	na
SW8080A	alpha-Chlordane	mg/kg	na	na	na	na
SW8080A	alpha-Endosulfan	mg/kg	na	na	na	na
SW8080A	beta-BHC (beta-Hexachlorocyclohexane)	mg/kg	na	na	na	na
SW8080A	beta-Endosulfan	mg/kg	na	na	na	na
SW8080A	Chlordane	mg/kg	na	na	na	na
SW8080A	delta-BHC (delta-Hexachlorocyclohexane)	mg/kg	na	na	na	na
SW8080A	Dieldrin	mg/kg	na	na	na	na
SW8080A	Endosulfan sulfate	mg/kg	na	na	na	na

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA328 00 ft 1999-01-28	BHGLTA328 15 ft 1999-01-28	BHGLTA329 15 ft 2000-04-05	BHGLTA330 15 ft 2000-04-05
SW8080A	Endrin	mg/kg	na	na	na	na
SW8080A	Endrin aldehyde	mg/kg	na	na	na	na
SW8080A	gamma-BHC (Lindane)	mg/kg	na	na	na	na
SW8080A	gamma-Chlordane	mg/kg	na	na	na	na
SW8080A	Heptachlor	mg/kg	na	na	na	na
SW8080A	Heptachlor epoxide	mg/kg	na	na	na	na
SW8080A	Isodrin	mg/kg	na	na	na	na
SW8080A	Kepone	mg/kg	na	na	na	na
SW8080A	Methoxychlor	mg/kg	na	na	na	na
SW8080A	p,p'-DDD	mg/kg	na	na	na	na
SW8080A	p,p'-DDE	mg/kg	na	na	na	na
SW8080A	p,p'-DDT	mg/kg	na	na	na	na
SW8080A	PCB-1016 (Aroclor 1016)	mg/kg	na	na	na	na
SW8080A	PCB-1221 (Aroclor 1221)	mg/kg	na	na	na	na
SW8080A	PCB-1232 (Aroclor 1232)	mg/kg	na	na	na	na
SW8080A	PCB-1242 (Aroclor 1242)	mg/kg	na	na	na	na
SW8080A	PCB-1248 (Aroclor 1248)	mg/kg	na	na	na	na
SW8080A	PCB-1254 (Aroclor 1254)	mg/kg	na	na	na	na
SW8080A	PCB-1260 (Aroclor 1260)	mg/kg	na	na	na	na
SW8080A	Toxaphene	mg/kg	na	na	na	na
SW8081A	Aldrin	mg/kg	na	na	na	na
SW8081A	alpha-BHC (alpha-Hexachlorocyclohexane)	mg/kg	na	na	na	na
SW8081A	alpha-Chlordane	mg/kg	na	na	na	na
SW8081A	alpha-Endosulfan	mg/kg	na	na	na	na
SW8081A	beta-BHC (beta-Hexachlorocyclohexane)	mg/kg	na	na	na	na
SW8081A	beta-Endosulfan	mg/kg	na	na	na	na
SW8081A	Chlordane	mg/kg	na	na	na	na
SW8081A	delta-BHC (delta-Hexachlorocyclohexane)	mg/kg	na	na	na	na
SW8081A	Dieldrin	mg/kg	na	na	na	na
SW8081A	Endosulfan sulfate	mg/kg	na	na	na	na
SW8081A	Endrin	mg/kg	na	na	na	na
SW8081A	Endrin aldehyde	mg/kg	na	na	na	na
SW8081A	gamma-BHC (Lindane)	mg/kg	na	na	na	na
SW8081A	gamma-Chlordane	mg/kg	na	na	na	na
SW8081A	Heptachlor	mg/kg	na	na	na	na
SW8081A	Heptachlor epoxide	mg/kg	na	na	na	na

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA328 00 ft 1999-01-28	BHGLTA328 15 ft 1999-01-28	BHGLTA329 15 ft 2000-04-05	BHGLTA330 15 ft 2000-04-05
SW8081A	Isodrin	mg/kg	na	na	na	na
SW8081A	Kepone	mg/kg	na	na	na	na
SW8081A	Methoxychlor	mg/kg	na	na	na	na
SW8081A	p,p'-DDD	mg/kg	na	na	na	na
SW8081A	p,p'-DDE	mg/kg	na	na	na	na
SW8081A	p,p'-DDT	mg/kg	na	na	na	na
SW8081A	PCB-1016 (Aroclor 1016)	mg/kg	na	na	na	na
SW8081A	PCB-1221 (Aroclor 1221)	mg/kg	na	na	na	na
SW8081A	PCB-1232 (Aroclor 1232)	mg/kg	na	na	na	na
SW8081A	PCB-1242 (Aroclor 1242)	mg/kg	na	na	na	na
SW8081A	PCB-1248 (Aroclor 1248)	mg/kg	na	na	na	na
SW8081A	PCB-1254 (Aroclor 1254)	mg/kg	na	na	na	na
SW8081A	PCB-1260 (Aroclor 1260)	mg/kg	na	na	na	na
SW8081A	Toxaphene	mg/kg	na	na	na	na
SW8141A	Dimethoate	mg/kg	na	na	na	na
SW8141A	Disulfoton	mg/kg	na	na	na	na
SW8141A	Famphur	mg/kg	na	na	na	na
SW8141A	O,O,O-Triethyl phosphorothioate	mg/kg	na	na	na	na
SW8141A	Parathion, ethyl	mg/kg	na	na	na	na
SW8141A	Parathion, methyl	mg/kg	na	na	na	na
SW8141A	Phorate	mg/kg	na	na	na	na
SW8141A	Thiodiphosphoric acid, tetraethyl ester	mg/kg	na	na	na	na
SW8141A	Zinophos	mg/kg	na	na	na	na
SW8150B	2,4,5-T (Trichlorophenoxyacetic acid)	mg/kg	na	na	na	na
SW8150B	2,4-D (Dichlorophenoxyacetic acid)	mg/kg	na	na	na	na
SW8150B	Silvex (2,4,5-TP)	mg/kg	na	na	na	na
SW8151A	2,4,5-T (Trichlorophenoxyacetic acid)	mg/kg	na	na	na	na
SW8151A	2,4-D (Dichlorophenoxyacetic acid)	mg/kg	na	na	na	na
SW8151A	Silvex (2,4,5-TP)	mg/kg	na	na	na	na
SW8260B	1,1,1,2-Tetrachloroethane	mg/kg	na	0 003 U	na	na
SW8260B	1,1,1-Trichloroethane	mg/kg	na	0 004 U	na	na
SW8260B	1,1,2,2-Tetrachloroethane	mg/kg	na	0 002 U	na	na
SW8260B	1,1,2-Trichloroethane	mg/kg	na	0 006 U	na	na
SW8260B	1,1-Dichloroethane	mg/kg	na	0 002 U	na	na
SW8260B	1,1-Dichloroethene	mg/kg	na	0 006 U	na	na
SW8260B	1,2,3-Trichloropropane	mg/kg	na	0 006 U	na	na

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA328 00 ft 1999-01-28	BHGLTA328 15 ft 1999-01-28	BHGLTA329 15 ft 2000-04-05	BHGLTA330 15 ft 2000-04-05
SW8260B	1,2-Dibromo-3-chloropropane	mg/kg	na	0.006 U	na	na
SW8260B	1,2-Dibromoethane (Ethylene dibromide)	mg/kg	na	0 003 U	na	na
SW8260B	1,2-Dichloroethane	mg/kg	na	0 003 U	na	na
SW8260B	1,2-Dichloropropane	mg/kg	na	0 002 U	na	na
SW8260B	2-Chloro-1,3-butadiene	mg/kg	na	0.006 U	na	na
SW8260B	2-Hexanone	mg/kg	na	0 006 U	na	na
SW8260B	Acetone	mg/kg	na	0 006 U	na	na
SW8260B	Acetonitrile	mg/kg	na	0 045 U	na	na
SW8260B	Acrolein	mg/kg	na	0 11 U	na	na
SW8260B	Acrylonitrile	mg/kg	na	0.045 U	na	na
SW8260B	Allyl chloride (3-Chloropropene)	mg/kg	na	0 011 U	na	na
SW8260B	Benzene	mg/kg	na	0.002 U	na	na
SW8260B	Bromodichloromethane	mg/kg	na	0.004 U	na	na
SW8260B	Bromoform	mg/kg	na	0 006 U	na	na
SW8260B	Bromomethane	mg/kg	na	0 006 U	na	na
SW8260B	Carbon disulfide	mg/kg	na	0 006 U	na	na
SW8260B	Carbon tetrachloride	mg/kg	na	0 006 U	na	na
SW8260B	Chlorobenzene	mg/kg	na	0 002 U	na	na
SW8260B	Chloroethane	mg/kg	na	0 006 U	na	na
SW8260B	Chloroform	mg/kg	na	0 002 U	na	na
SW8260B	Chloromethane	mg/kg	na	0.006 U	na	na
SW8260B	cis-1,2-Dichloroethene	mg/kg	na	0.006 U	na	na
SW8260B	cis-1,3-Dichloropropene	mg/kg	na	0 006 U	na	na
SW8260B	Dibromochloromethane	mg/kg	na	0.003 U	na	na
SW8260B	Dibromomethane	mg/kg	na	0 006 U	na	na
SW8260B	Dichlorodifluoromethane	mg/kg	na	0 006 U	na	na
SW8260B	Ethyl methacrylate	mg/kg	na	0.006 U	na	na
SW8260B	Ethylbenzene	mg/kg	na	0 003 U	na	na
SW8260B	Iodomethane (Methyl iodide)	mg/kg	na	0 006 U	na	na
SW8260B	Isobutanol	mg/kg	na	0 23 U	na	na
SW8260B	m,p-Xylene (sum of isomers)	mg/kg	na	0 006 U	na	na
SW8260B	Methyl ethyl ketone (2-Butanone)	mg/kg	na	0 006 U	na	na
SW8260B	Methyl isobutyl ketone (4-Methyl-2-pentanone)	mg/kg	na	0.006 U	na	na
SW8260B	Methyl methacrylate	mg/kg	na	0.006 U	na	na
SW8260B	Methylacrylonitrile	mg/kg	na	0 006 U	na	na
SW8260B	Methylene chloride	mg/kg	na	0.002 U	na	na

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
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Method	Analyte	Unit	BHGLTA328 00 ft 1999-01-28	BHGLTA328 15 ft 1999-01-28	BHGLTA329 15 ft 2000-04-05	BHGLTA330 15 ft 2000-04-05
SW8260B	M-Xylene (1,3-Dimethylbenzene)	mg/kg	na	na	na	na
SW8260B	o-Xylene (1,2-Dimethylbenzene)	mg/kg	na	0 006 U	na	na
SW8260B	Pentachloroethane	mg/kg	na	0 006 U	na	na
SW8260B	Propane nitrile (Propionitrile)	mg/kg	na	0 023 U	na	na
SW8260B	Styrene	mg/kg	na	0.002 U	na	na
SW8260B	Tert-Butyl Methyl Ether	mg/kg	na	na	na	na
SW8260B	Tetrachloroethene (PCE)	mg/kg	na	0 006 U	na	na
SW8260B	Toluene	mg/kg	na	0.006 U	na	na
SW8260B	Trans-1,2-Dichloroethene	mg/kg	na	0 003 U	na	na
SW8260B	Trans-1,3-Dichloropropene	mg/kg	na	0.006 U	na	na
SW8260B	Trans-1,4-Dichloro-2-Butene	mg/kg	na	0 006 U	na	na
SW8260B	Trichloroethene (TCE)	mg/kg	na	0.006 U	na	na
SW8260B	Trichlorofluoromethane	mg/kg	na	0.004 U	na	na
SW8260B	Vinyl acetate	mg/kg	na	0.006 U	na	na
SW8260B	Vinyl chloride	mg/kg	na	0 006 U	na	na
SW8270C	1,2,4,5-Tetrachlorobenzene	mg/kg	na	0 38 U	na	na
SW8270C	1,2,4-Trichlorobenzene	mg/kg	na	0 38 U	na	na
SW8270C	1,2-Dichlorobenzene	mg/kg	na	0 38 U	na	na
SW8270C	1,3,5-Trinitrobenzene	mg/kg	na	1 9 U	na	na
SW8270C	1,3-Dichlorobenzene	mg/kg	na	0 38 U	na	na
SW8270C	1,3-Dinitrobenzene	mg/kg	na	0 38 U	na	na
SW8270C	1,4-Dichlorobenzene	mg/kg	na	0.38 U	na	na
SW8270C	1,4-Dioxane (p-Dioxane)	mg/kg	na	0 75 U	na	na
SW8270C	1,4-naphthoquinone	mg/kg	na	3.8 U	na	na
SW8270C	1-naphthylamine	mg/kg	na	0 75 U	na	na
SW8270C	2,2'-Oxybis(1-chloropropane)	mg/kg	na	0.38 U	na	na
SW8270C	2,3,4,6-Tetrachlorophenol	mg/kg	na	0.38 U	na	na
SW8270C	2,4,5-Trichlorophenol	mg/kg	na	1.9 U	na	na
SW8270C	2,4,6-Trichlorophenol	mg/kg	na	0.38 U	na	na
SW8270C	2,4-Dichlorophenol	mg/kg	na	0 38 U	na	na
SW8270C	2,4-Dimethylphenol	mg/kg	na	0 38 U	na	na
SW8270C	2,4-Dinitrophenol	mg/kg	na	1.9 R	na	na
SW8270C	2,4-Dinitrotoluene	mg/kg	na	0 38 U	na	na
SW8270C	2,6-Dichlorophenol	mg/kg	na	0 75 U	na	na
SW8270C	2,6-Dinitrotoluene	mg/kg	na	0.38 U	na	na
SW8270C	2-Acetylaminofluorene	mg/kg	na	0.75 U	na	na

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA328 00 ft 1999-01-28	BHGLTA328 15 ft 1999-01-28	BHGLTA329 15 ft 2000-04-05	BHGLTA330 15 ft 2000-04-05
SW8270C	2-Aminonaphthalene (beta-naphthylamine)	mg/kg	na	0 75 U	na	na
SW8270C	2-Chloronaphthalene	mg/kg	na	0 38 U	na	na
SW8270C	2-Chlorophenol	mg/kg	na	0.38 U	na	na
SW8270C	2-Methylnaphthalene	mg/kg	na	0.38 U	na	na
SW8270C	2-Methylphenol (o-Cresol)	mg/kg	na	0 38 U	na	na
SW8270C	2-Nitroaniline	mg/kg	na	1 9 U	na	na
SW8270C	2-Nitrophenol	mg/kg	na	0 38 U	na	na
SW8270C	2-Picoline (alpha-Picoline)	mg/kg	na	0.38 U	na	na
SW8270C	3,3'-Dichlorobenzidine	mg/kg	na	0 75 U	na	na
SW8270C	3,3'-Dimethylbenzidine	mg/kg	na	1 9 U	na	na
SW8270C	3-Methylcholanthrene	mg/kg	na	0.38 U	na	na
SW8270C	3-Nitroaniline	mg/kg	na	1 9 U	na	na
SW8270C	4,6-Dinitro-2-methylphenol	mg/kg	na	1 9 R	na	na
SW8270C	4-Aminobiphenyl (4-Biphenylamine)	mg/kg	na	0.75 U	na	na
SW8270C	4-Bromophenyl phenyl ether	mg/kg	na	0.38 U	na	na
SW8270C	4-Chloro-3-methylphenol	mg/kg	na	0 75 U	na	na
SW8270C	4-Chloroaniline	mg/kg	na	0.75 U	na	na
SW8270C	4-Chlorophenyl phenyl ether	mg/kg	na	0 38 U	na	na
SW8270C	4-Nitroaniline	mg/kg	na	1 9 U	na	na
SW8270C	4-Nitrophenol	mg/kg	na	1.9 U	na	na
SW8270C	4-Nitroquinoline-1-oxide	mg/kg	na	1 9 U	na	na
SW8270C	5-Nitro-o-toluidine	mg/kg	na	0 75 U	na	na
SW8270C	7,12-Dimethylbenzo(a)anthracene	mg/kg	na	0.75 U	na	na
SW8270C	Acenaphthene	mg/kg	na	0.38 U	na	na
SW8270C	Acenaphthylene	mg/kg	na	0.38 U	na	na
SW8270C	Acetophenone	mg/kg	na	0.75 U	na	na
SW8270C	alpha, alpha-Dimethylphenethylamine	mg/kg	na	1.9 U	na	na
SW8270C	Aniline (Phenylamine, Aminobenzene)	mg/kg	na	0 38 U	na	na
SW8270C	Anthracene	mg/kg	na	0 38 U	na	na
SW8270C	Aramite (total)	mg/kg	na	0.75 U	na	na
SW8270C	Benzo(a)anthracene	mg/kg	na	0.38 U	na	na
SW8270C	Benzo(a)pyrene	mg/kg	na	0 38 U	na	na
SW8270C	Benzo(b)fluoranthene	mg/kg	na	0 38 U	na	na
SW8270C	Benzo(g,h,i)perylene	mg/kg	na	0.38 U	na	na
SW8270C	Benzo(k)fluoranthene	mg/kg	na	0.38 U	na	na
SW8270C	Benzoic acid	mg/kg	na	1.9 U	na	na

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
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Method	Analyte	Unit	BHGLTA328 00 ft 1999-01-28	BHGLTA328 15 ft 1999-01-28	BHGLTA329 15 ft 2000-04-05	BHGLTA330 15 ft 2000-04-05
SW8270C	Benzyl alcohol	mg/kg	na	0 38 U	na	na
SW8270C	Benzyl butyl phthalate	mg/kg	na	0 38 U	na	na
SW8270C	bis(2-Chloroethoxy)methane	mg/kg	na	0 38 U	na	na
SW8270C	bis(2-Chloroethyl)ether (2-Chloroethyl ether)	mg/kg	na	0 38 U	na	na
SW8270C	bis(2-Ethylhexyl)phthalate	mg/kg	na	0.21 F	na	na
SW8270C	Chlorobenzilate	mg/kg	na	0 38 U	na	na
SW8270C	Chrysene	mg/kg	na	0 38 U	na	na
SW8270C	Cresols, m & p	mg/kg	na	0.38 U	na	na
SW8270C	Diallate (total of cis and trans isomers)	mg/kg	na	0.38 U	na	na
SW8270C	Dibenz(a,h)anthracene	mg/kg	na	0.38 U	na	na
SW8270C	Dibenzofuran	mg/kg	na	0 38 U	na	na
SW8270C	Diethyl phthalate	mg/kg	na	0 38 U	na	na
SW8270C	Dimethyl phthalate	mg/kg	na	0.38 U	na	na
SW8270C	Di-n-butyl phthalate	mg/kg	na	0 38 U	na	na
SW8270C	Di-n-octyl phthalate	mg/kg	na	0.38 U	na	na
SW8270C	Dinoseb	mg/kg	na	0 75 U	na	na
SW8270C	Diphenylamine	mg/kg	na	0 38 U	na	na
SW8270C	Ethyl methanesulfonate	mg/kg	na	0.75 U	na	na
SW8270C	Fluoranthene	mg/kg	na	0 38 U	na	na
SW8270C	Fluorene	mg/kg	na	0.38 U	na	na
SW8270C	Hexachlorobenzene	mg/kg	na	0.38 U	na	na
SW8270C	Hexachlorobutadiene	mg/kg	na	0 38 U	na	na
SW8270C	Hexachlorocyclopentadiene	mg/kg	na	0 38 U	na	na
SW8270C	Hexachloroethane	mg/kg	na	0 38 U	na	na
SW8270C	Hexachlorophene	mg/kg	na	3 8 U	na	na
SW8270C	Hexachloropropene	mg/kg	na	1 9 U	na	na
SW8270C	Indeno(1,2,3-c,d)pyrene	mg/kg	na	0 38 U	na	na
SW8270C	Isophorone	mg/kg	na	0.38 U	na	na
SW8270C	Isosafrole	mg/kg	na	0.38 U	na	na
SW8270C	Methapyrilene	mg/kg	na	0 94 U	na	na
SW8270C	Methyl methanesulfonate	mg/kg	na	0.75 U	na	na
SW8270C	naphthalene	mg/kg	na	0 38 U	na	na
SW8270C	Nitrobenzene	mg/kg	na	0 38 U	na	na
SW8270C	N-Nitrosodiethylamine	mg/kg	na	0 75 U	na	na
SW8270C	N-Nitrosodimethylamine	mg/kg	na	0 75 U	na	na
SW8270C	N-Nitrosodi-n-butylamine	mg/kg	na	0.38 U	na	na

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA328 00 ft 1999-01-28	BHGLTA328 15 ft 1999-01-28	BHGLTA329 15 ft 2000-04-05	BHGLTA330 15 ft 2000-04-05
SW8270C	N-Nitrosodi-n-propylamine	mg/kg	na	0.38 U	na	na
SW8270C	N-Nitrosodiphenylamine	mg/kg	na	0 38 U	na	na
SW8270C	N-Nitrosomethylethylamine	mg/kg	na	0.38 U	na	na
SW8270C	N-Nitrosomorpholine	mg/kg	na	0 75 U	na	na
SW8270C	N-Nitrosopiperidine	mg/kg	na	0 38 U	na	na
SW8270C	N-Nitrosopyrrolidine	mg/kg	na	0 75 U	na	na
SW8270C	o-Toluidine	mg/kg	na	0 75 U	na	na
SW8270C	p-Dimethylaminoazobenzene	mg/kg	na	0.75 U	na	na
SW8270C	Pentachlorobenzene	mg/kg	na	0 38 U	na	na
SW8270C	Pentachloronitrobenzene	mg/kg	na	0 38 U	na	na
SW8270C	Pentachlorophenol	mg/kg	na	1.9 U	na	na
SW8270C	Phenacetin	mg/kg	na	0.38 U	na	na
SW8270C	Phenanthrene	mg/kg	na	0 38 U	na	na
SW8270C	Phenol	mg/kg	na	0 38 U	na	na
SW8270C	p-Phenylenediamine	mg/kg	na	5 6 U	na	na
SW8270C	Pronamide	mg/kg	na	0 38 U	na	na
SW8270C	Pyrene	mg/kg	na	0 38 U	na	na
SW8270C	Pyridine	mg/kg	na	0.75 U	na	na
SW8270C	Safrole	mg/kg	na	0.38 U	na	na
SW8280A	2,3,7,8-Tetrachlorodibenzofuran	mg/kg	na	na	na	na
SW8280A	2,3,7,8-Tetrachlorodibenzo-p-dioxin	mg/kg	na	na	na	na
SW8310	Chrysene	mg/kg	na	na	na	na
SW8310	Pyrene	mg/kg	na	na	na	na
SW9010	Cyanide	mg/kg	na	na	na	na
SW9030B	Sulfide	mg/kg	na	na	na	na
SW9041	pH	PH UNITS	na	na	7 7	8 4
SW9081	Cation-Exchange Capacity	MEQ/100G	na	na	16 3 U	16.3 U

Note.
Sample date format "YYYY-MM-DD"
F = The analyte was positively detected, but the associated numerical value is below the PQL.
J = The analyte was positively detected, the associated numerical value is an estimation.
R = The data are unusable due to QC deficiencies
S = Applied to screening-level data
U = The analyte was analyzed for, but not detected
UJ = The analyte was analyzed for, but not detected, the associated numerical value is estimated.
na = Not analyzed

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA331 15 ft 2000-04-05	BHGLTA333 00 ft 2001-01-24	BHGLTA333 00 ft Duplicate 2001-01-24	BHGLTA333 05 ft 2001-01-24
AD5057	Density	g/mL	1 08 U	na	na	na
AD5057	Specific Gravity	NONE	1.08 U	na	na	na
LYDKHN	Total Organic Carbon	mg/kg	21100	na	na	na
SW6010B	Antimony	mg/kg	na	na	na	na
SW6010B	Arsenic	mg/kg	na	3 2 F	3 6 F	6.8
SW6010B	Barium	mg/kg	na	38 1	36.5 F	128
SW6010B	Beryllium	mg/kg	na	0 48	0.49	0 52
SW6010B	Cadmium	mg/kg	na	0 07 F	0.06 F	8 4
SW6010B	Chromium, total	mg/kg	na	9 6 U	9.3 U	21 1 U
SW6010B	Cobalt	mg/kg	na	2 8 F	2.5 F	4 2 F
SW6010B	Copper	mg/kg	na	8 8 U	9.3 U	368
SW6010B	Lead	mg/kg	na	na	na	na
SW6010B	Nickel	mg/kg	na	8 8 U	9 3 U	33.8
SW6010B	Selenium	mg/kg	na	na	na	na
SW6010B	Silver	mg/kg	na	na	na	na
SW6010B	Thallium	mg/kg	na	na	na	na
SW6010B	Tin	mg/kg	na	8 8 U	9.3 U	42 3
SW6010B	Vanadium	mg/kg	na	17.7 F	18 F	29.5
SW6010B	Zinc	mg/kg	na	25.9 F	25 7 F	611
SW7041	Antimony	mg/kg	na	0.49 UJ	0 29 F	0 89 J
SW7060A	Arsenic	mg/kg	na	na	na	na
SW7421	Lead	mg/kg	9 1	7.7	14	166
SW7471A	Mercury	mg/kg	na	0 04 U	0.04 U	0.04 U
SW7740	Selenium	mg/kg	na	1.5 UJ	0 3 UJ	1 3 UJ
SW7761	Silver	mg/kg	na	0 19 UJ	0 2 UJ	1 3
SW7841	Thallium	mg/kg	na	0 97 UJ	0 99 UJ	0.86 UJ
SW8080A	Aldrin	mg/kg	na	na	na	na
SW8080A	alpha-BHC (alpha-Hexachlorocyclohexane)	mg/kg	na	na	na	na
SW8080A	alpha-Chlordane	mg/kg	na	na	na	na
SW8080A	alpha-Endosulfan	mg/kg	na	na	na	na
SW8080A	beta-BHC (beta-Hexachlorocyclohexane)	mg/kg	na	na	na	na
SW8080A	beta-Endosulfan	mg/kg	na	na	na	na
SW8080A	Chlordane	mg/kg	na	na	na	na
SW8080A	delta-BHC (delta-Hexachlorocyclohexane)	mg/kg	na	na	na	na
SW8080A	Dieldrin	mg/kg	na	na	na	na
SW8080A	Endosulfan sulfate	mg/kg	na	na	na	na

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA331 15 ft 2000-04-05	BHGLTA333 00 ft 2001-01-24	BHGLTA333 00 ft Duplicate 2001-01-24	BHGLTA333 05 ft 2001-01-24
SW8080A	Endrin	mg/kg	na	na	na	na
SW8080A	Endrin aldehyde	mg/kg	na	na	na	na
SW8080A	gamma-BHC (Lindane)	mg/kg	na	na	na	na
SW8080A	gamma-Chlordane	mg/kg	na	na	na	na
SW8080A	Heptachlor	mg/kg	na	na	na	na
SW8080A	Heptachlor epoxide	mg/kg	na	na	na	na
SW8080A	Isodrin	mg/kg	na	na	na	na
SW8080A	Kepone	mg/kg	na	na	na	na
SW8080A	Methoxychlor	mg/kg	na	na	na	na
SW8080A	p,p'-DDD	mg/kg	na	na	na	na
SW8080A	p,p'-DDE	mg/kg	na	na	na	na
SW8080A	p,p'-DDT	mg/kg	na	na	na	na
SW8080A	PCB-1016 (Aroclor 1016)	mg/kg	na	na	na	na
SW8080A	PCB-1221 (Aroclor 1221)	mg/kg	na	na	na	na
SW8080A	PCB-1232 (Aroclor 1232)	mg/kg	na	na	na	na
SW8080A	PCB-1242 (Aroclor 1242)	mg/kg	na	na	na	na
SW8080A	PCB-1248 (Aroclor 1248)	mg/kg	na	na	na	na
SW8080A	PCB-1254 (Aroclor 1254)	mg/kg	na	na	na	na
SW8080A	PCB-1260 (Aroclor 1260)	mg/kg	na	na	na	na
SW8080A	Toxaphene	mg/kg	na	na	na	na
SW8081A	Aldrin	mg/kg	na	0.0073 U	0.0037 U	0.018 U
SW8081A	alpha-BHC (alpha-Hexachlorocyclohexane)	mg/kg	na	0 0049 R	0 0025 R	0 012 R
SW8081A	alpha-Chlordane	mg/kg	na	0.036 U	0.019 U	0 088 U
SW8081A	alpha-Endosulfan	mg/kg	na	0 022 U	0 011 U	0 053 U
SW8081A	beta-BHC (beta-Hexachlorocyclohexane)	mg/kg	na	0 0097 U	0 005 U	0 023 U
SW8081A	beta-Endosulfan	mg/kg	na	0 0073 U	0 0037 U	0 018 U
SW8081A	Chlordane	mg/kg	na	0.022 U	0 011 U	0 053 U
SW8081A	delta-BHC (delta-Hexachlorocyclohexane)	mg/kg	na	0.015 U	0 0075 U	0.035 U
SW8081A	Dieldrin	mg/kg	na	0 024 U	0 012 U	0 059 U
SW8081A	Endosulfan sulfate	mg/kg	na	0 097 U	0 05 U	0 23 U
SW8081A	Endrin	mg/kg	na	0 0097 U	0 005 U	0 023 U
SW8081A	Endrin aldehyde	mg/kg	na	0.049 R	0.025 R	0.12 R
SW8081A	gamma-BHC (Lindane)	mg/kg	na	0.0073 R	0.0037 R	0 018 R
SW8081A	gamma-Chlordane	mg/kg	na	0.036 U	0.019 U	0 088 U
SW8081A	Heptachlor	mg/kg	na	0.0049 R	0 0025 R	0.012 R
SW8081A	Heptachlor epoxide	mg/kg	na	0 15 U	0.075 U	0.35 U

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA331 15 ft 2000-04-05	BHGLTA333 00 ft 2001-01-24	BHGLTA333 00 ft Duplicate 2001-01-24	BHGLTA333 05 ft 2001-01-24
SW8081A	Isodrin	mg/kg	na	0 0097 U	0 005 U	0 023 U
SW8081A	Kepone	mg/kg	na	0.2 U	0 1 U	0 49 U
SW8081A	Methoxychlor	mg/kg	na	0 24 U	0 12 U	0 59 U
SW8081A	p,p'-DDD	mg/kg	na	0 017 U	0 0087 U	0.041 U
SW8081A	p,p'-DDE	mg/kg	na	0 0073 U	0 0037 U	0.018 U
SW8081A	p,p'-DDT	mg/kg	na	0 019 U	0 01 U	0.047 U
SW8081A	PCB-1016 (Aroclor 1016)	mg/kg	na	2.4 U	1 2 U	5.9 U
SW8081A	PCB-1221 (Aroclor 1221)	mg/kg	na	2.4 U	1 2 U	5 9 U
SW8081A	PCB-1232 (Aroclor 1232)	mg/kg	na	2.4 U	1.2 U	5 9 U
SW8081A	PCB-1242 (Aroclor 1242)	mg/kg	na	2 4 U	1 2 U	5.9 U
SW8081A	PCB-1248 (Aroclor 1248)	mg/kg	na	2 4 U	1.2 U	5 9 U
SW8081A	PCB-1254 (Aroclor 1254)	mg/kg	na	2 4 U	1 2 U	5 9 U
SW8081A	PCB-1260 (Aroclor 1260)	mg/kg	na	2 4 U	1 2 U	5.9 U
SW8081A	Toxaphene	mg/kg	na	0.49 U	0 25 U	1.2 U
SW8141A	Dimethoate	mg/kg	na	na	na	na
SW8141A	Disulfoton	mg/kg	na	na	na	na
SW8141A	Famphur	mg/kg	na	na	na	na
SW8141A	O,O,O-Triethyl phosphorothioate	mg/kg	na	na	na	na
SW8141A	Parathion, ethyl	mg/kg	na	na	na	na
SW8141A	Parathion, methyl	mg/kg	na	na	na	na
SW8141A	Phorate	mg/kg	na	na	na	na
SW8141A	Thiodiphosphoric acid, tetraethyl ester	mg/kg	na	na	na	na
SW8141A	Zinophos	mg/kg	na	na	na	na
SW8150B	2,4,5-T (Trichlorophenoxyacetic acid)	mg/kg	na	na	na	na
SW8150B	2,4-D (Dichlorophenoxyacetic acid)	mg/kg	na	na	na	na
SW8150B	Silvex (2,4,5-TP)	mg/kg	na	na	na	na
SW8151A	2,4,5-T (Trichlorophenoxyacetic acid)	mg/kg	na	na	na	na
SW8151A	2,4-D (Dichlorophenoxyacetic acid)	mg/kg	na	na	na	na
SW8151A	Silvex (2,4,5-TP)	mg/kg	na	na	na	na
SW8260B	1,1,1,2-Tetrachloroethane	mg/kg	na	0 004 U	0 004 U	0.004 U
SW8260B	1,1,1-Trichloroethane	mg/kg	na	0.005 U	0.005 U	0 005 U
SW8260B	1,1,2,2-Tetrachloroethane	mg/kg	na	0 002 U	0 002 U	0.002 U
SW8260B	1,1,2-Trichloroethane	mg/kg	na	0 006 U	0 006 U	0.006 U
SW8260B	1,1-Dichloroethane	mg/kg	na	0.002 U	0.002 U	0.002 U
SW8260B	1,1-Dichloroethene	mg/kg	na	0.006 U	0 006 U	0 006 U
SW8260B	1,2,3-Trichloropropane	mg/kg	na	0 006 U	0 006 U	0 006 U

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA331 15 ft 2000-04-05	BHGLTA333 00 ft 2001-01-24	BHGLTA333 00 ft Duplicate 2001-01-24	BHGLTA333 05 ft 2001-01-24
SW8260B	1,2-Dibromo-3-chloropropane	mg/kg	na	0.006 U	0 006 U	0 006 U
SW8260B	1,2-Dibromoethane (Ethylene dibromide)	mg/kg	na	0.004 U	0 004 U	0 004 U
SW8260B	1,2-Dichloroethane	mg/kg	na	0 004 U	0 004 U	0.004 U
SW8260B	1,2-Dichloropropane	mg/kg	na	0 002 U	0.002 U	0 002 U
SW8260B	2-Chloro-1,3-butadiene	mg/kg	na	0 006 U	0 006 U	0 006 U
SW8260B	2-Hexanone	mg/kg	na	0 006 U	0.006 U	0 006 U
SW8260B	Acetone	mg/kg	na	0 006 U	0.006 U	0 006 U
SW8260B	Acetonitrile	mg/kg	na	0.049 U	0.05 U	0 047 U
SW8260B	Acrolein	mg/kg	na	0.12 U	0.12 U	0 12 U
SW8260B	Acrylonitrile	mg/kg	na	0 049 U	0.05 U	0 047 U
SW8260B	Allyl chloride (3-Chloropropene)	mg/kg	na	0 012 U	0 012 U	0 012 U
SW8260B	Benzene	mg/kg	na	0 002 U	0 002 U	0.002 U
SW8260B	Bromodichloromethane	mg/kg	na	0.005 U	0 005 U	0 005 U
SW8260B	Bromoform	mg/kg	na	0 006 U	0 006 U	0 006 U
SW8260B	Bromomethane	mg/kg	na	0 006 U	0.006 U	0 006 U
SW8260B	Carbon disulfide	mg/kg	na	0 006 U	0.006 U	0 006 U
SW8260B	Carbon tetrachloride	mg/kg	na	0 006 U	0.006 U	0.006 U
SW8260B	Chlorobenzene	mg/kg	na	0.002 U	0 002 U	0 002 U
SW8260B	Chloroethane	mg/kg	na	0 006 U	0.006 U	0.006 U
SW8260B	Chloroform	mg/kg	na	0 002 U	0 002 U	0.002 U
SW8260B	Chloromethane	mg/kg	na	0.006 U	0 006 U	0 006 U
SW8260B	cis-1,2-Dichloroethene	mg/kg	na	0.006 U	0.006 U	0.006 U
SW8260B	cis-1,3-Dichloropropene	mg/kg	na	0 006 U	0.006 U	0.006 U
SW8260B	Dibromochloromethane	mg/kg	na	0 004 U	0 004 U	0 004 U
SW8260B	Dibromomethane	mg/kg	na	0 006 U	0 006 U	0 006 U
SW8260B	Dichlorodifluoromethane	mg/kg	na	0 006 R	0.006 R	0 006 R
SW8260B	Ethyl methacrylate	mg/kg	na	0 012 U	0 012 U	0 012 U
SW8260B	Ethylbenzene	mg/kg	na	0.004 U	0 004 U	0.004 U
SW8260B	Iodomethane (Methyl iodide)	mg/kg	na	0.006 U	0.006 U	0 006 U
SW8260B	Isobutanol	mg/kg	na	0 24 U	0 25 U	0.24 U
SW8260B	m,p-Xylene (sum of isomers)	mg/kg	na	0 006 U	0 006 U	0 006 U
SW8260B	Methyl ethyl ketone (2-Butanone)	mg/kg	na	0.006 U	0.006 U	0 006 U
SW8260B	Methyl isobutyl ketone (4-Methyl-2-pentanone)	mg/kg	na	0 006 U	0 006 U	0.006 U
SW8260B	Methyl methacrylate	mg/kg	na	0 012 U	0 012 U	0 012 U
SW8260B	Methylacrylonitrile	mg/kg	na	0 012 U	0 012 U	0 012 U
SW8260B	Methylene chloride	mg/kg	na	0 002 U	0 002 U	0 002 U

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA331 15 ft 2000-04-05	BHGLTA333 00 ft 2001-01-24	BHGLTA333 00 ft Duplicate 2001-01-24	BHGLTA333 05 ft 2001-01-24
SW8260B	M-Xylene (1,3-Dimethylbenzene)	mg/kg	na	na	na	na
SW8260B	o-Xylene (1,2-Dimethylbenzene)	mg/kg	na	0 006 U	0 006 U	0 006 U
SW8260B	Pentachloroethane	mg/kg	na	0 012 U	0 012 U	0.012 U
SW8260B	Propane nitrile (Propionitrile)	mg/kg	na	0.049 U	0.05 U	0 047 U
SW8260B	Styrene	mg/kg	na	0 002 U	0 002 U	0.002 U
SW8260B	Tert-Butyl Methyl Ether	mg/kg	na	0 006 U	0.006 U	0 006 U
SW8260B	Tetrachloroethene (PCE)	mg/kg	na	0.006 U	0.006 U	0 006 U
SW8260B	Toluene	mg/kg	na	0.006 U	0 006 U	0.006 U
SW8260B	Trans-1,2-Dichloroethene	mg/kg	na	0 004 U	0 004 U	0 004 U
SW8260B	Trans-1,3-Dichloropropene	mg/kg	na	0 006 U	0.006 U	0 006 U
SW8260B	Trans-1,4-Dichloro-2-Butene	mg/kg	na	0 012 U	0.012 U	0 012 U
SW8260B	Trichloroethene (TCE)	mg/kg	na	0 006 U	0.006 U	0 006 U
SW8260B	Trichlorofluoromethane	mg/kg	na	0 005 U	0.005 U	0.005 U
SW8260B	Vinyl acetate	mg/kg	na	0.006 U	0.006 U	0.006 U
SW8260B	Vinyl chloride	mg/kg	na	0.006 U	0 006 U	0 006 U
SW8270C	1,2,4,5-Tetrachlorobenzene	mg/kg	na	0 41 U	0.42 U	0.39 U
SW8270C	1,2,4-Trichlorobenzene	mg/kg	na	0.41 U	0 42 U	0 39 U
SW8270C	1,2-Dichlorobenzene	mg/kg	na	0 41 U	0 42 U	0.39 U
SW8270C	1,3,5-Trinitrobenzene	mg/kg	na	1 6 U	1.7 U	1.6 U
SW8270C	1,3-Dichlorobenzene	mg/kg	na	0 41 U	0.42 U	0.39 U
SW8270C	1,3-Dinitrobenzene	mg/kg	na	0 81 U	0 83 U	0 78 U
SW8270C	1,4-Dichlorobenzene	mg/kg	na	0 41 U	0.42 U	0 39 U
SW8270C	1,4-Dioxane (p-Dioxane)	mg/kg	na	1.6 U	1 7 U	1 6 U
SW8270C	1,4-naphthoquinone	mg/kg	na	2 R	2 1 R	2 R
SW8270C	1-naphthylamine	mg/kg	na	0.81 U	0 83 U	0.78 U
SW8270C	2,2'-Oxybis(1-chloropropane)	mg/kg	na	0 41 U	0 42 U	0 39 U
SW8270C	2,3,4,6-Tetrachlorophenol	mg/kg	na	0.41 U	0 42 U	0.39 U
SW8270C	2,4,5-Trichlorophenol	mg/kg	na	2 U	2.1 U	2 U
SW8270C	2,4,6-Trichlorophenol	mg/kg	na	0.41 U	0.42 U	0 39 U
SW8270C	2,4-Dichlorophenol	mg/kg	na	0.41 U	0 42 U	0 39 U
SW8270C	2,4-Dimethylphenol	mg/kg	na	0.41 U	0.42 U	0.39 U
SW8270C	2,4-Dinitrophenol	mg/kg	na	2 U	2 1 U	2 U
SW8270C	2,4-Dinitrotoluene	mg/kg	na	0.41 U	0 42 U	0 39 U
SW8270C	2,6-Dichlorophenol	mg/kg	na	0.41 U	0 42 U	0.39 U
SW8270C	2,6-Dinitrotoluene	mg/kg	na	0 41 U	0 42 U	0.39 U
SW8270C	2-Acetylaminofluorene	mg/kg	na	0.81 U	0.83 U	0 78 U

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA331 15 ft 2000-04-05	BHGLTA333 00 ft 2001-01-24	BHGLTA333 00 ft Duplicate 2001-01-24	BHGLTA333 05 ft 2001-01-24
SW8270C	2-Aminonaphthalene (beta-naphthylamine)	mg/kg	na	0 81 U	0 83 U	0.78 U
SW8270C	2-Chloronaphthalene	mg/kg	na	0 41 U	0 42 U	0.39 U
SW8270C	2-Chlorophenol	mg/kg	na	0.41 U	0 42 U	0 39 U
SW8270C	2-Methylnaphthalene	mg/kg	na	0.41 U	0.42 U	0.39 U
SW8270C	2-Methylphenol (o-Cresol)	mg/kg	na	0 41 U	0 42 U	0.39 U
SW8270C	2-Nitroaniline	mg/kg	na	2 U	2 1 U	2 U
SW8270C	2-Nitrophenol	mg/kg	na	0 41 U	0 42 U	0 39 U
SW8270C	2-Picoline (alpha-Picoline)	mg/kg	na	0 41 U	0 42 U	0 39 U
SW8270C	3,3'-Dichlorobenzidine	mg/kg	na	0 81 U	0 83 U	0 78 U
SW8270C	3,3'-Dimethylbenzidine	mg/kg	na	2 U	2.1 U	2 U
SW8270C	3-Methylcholanthrene	mg/kg	na	0 41 U	0 42 U	0 39 U
SW8270C	3-Nitroaniline	mg/kg	na	2 U	2.1 U	2 U
SW8270C	4,6-Dinitro-2-methylphenol	mg/kg	na	2 U	2 1 U	2 U
SW8270C	4-Aminobiphenyl (4-Biphenylamine)	mg/kg	na	0.81 U	0.83 U	0.78 U
SW8270C	4-Bromophenyl phenyl ether	mg/kg	na	0.41 U	0 42 U	0 39 U
SW8270C	4-Chloro-3-methylphenol	mg/kg	na	0 41 U	0 42 U	0.39 U
SW8270C	4-Chloroaniline	mg/kg	na	0 41 U	0 42 U	0.39 U
SW8270C	4-Chlorophenyl phenyl ether	mg/kg	na	0 41 U	0.42 U	0 39 U
SW8270C	4-Nitroaniline	mg/kg	na	2 U	2.1 U	2 U
SW8270C	4-Nitrophenol	mg/kg	na	2 U	2.1 U	2 U
SW8270C	4-Nitroquinoline-1-oxide	mg/kg	na	2 R	2 1 R	2 R
SW8270C	5-Nitro-o-toluidine	mg/kg	na	0 81 U	0.83 U	0 78 U
SW8270C	7,12-Dimethylbenzo(a)anthracene	mg/kg	na	0.81 U	0.83 U	0 78 U
SW8270C	Acenaphthene	mg/kg	na	0 41 U	0 42 U	0.39 U
SW8270C	Acenaphthylene	mg/kg	na	0 41 U	0 42 U	0 39 U
SW8270C	Acetophenone	mg/kg	na	0 41 U	0 42 U	0 39 U
SW8270C	alpha, alpha-Dimethylphenethylamine	mg/kg	na	2 U	2.1 U	2 U
SW8270C	Aniline (Phenylamine, Aminobenzene)	mg/kg	na	0.41 U	0 42 U	0 39 U
SW8270C	Anthracene	mg/kg	na	0 41 U	0.42 U	0 39 U
SW8270C	Aramite (total)	mg/kg	na	0 81 U	0 83 U	0 78 U
SW8270C	Benzo(a)anthracene	mg/kg	na	0 41 U	0.42 U	0 33 F
SW8270C	Benzo(a)pyrene	mg/kg	na	0 41 U	0.42 U	0.25 F
SW8270C	Benzo(b)fluoranthene	mg/kg	na	0.41 U	0.42 U	0 13 F
SW8270C	Benzo(g,h,i)perylene	mg/kg	na	0.41 U	0 42 U	0 39 U
SW8270C	Benzo(k)fluoranthene	mg/kg	na	0.41 U	0.42 U	0 23 F
SW8270C	Benzoic acid	mg/kg	na	2 U	2 1 U	2 U

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA331 15 ft 2000-04-05	BHGLTA333 00 ft 2001-01-24	BHGLTA333 00 ft Duplicate 2001-01-24	BHGLTA333 05 ft 2001-01-24
SW8270C	Benzyl alcohol	mg/kg	na	0 41 U	0.42 U	0.39 U
SW8270C	Benzyl butyl phthalate	mg/kg	na	0.41 U	0 42 U	0 39 U
SW8270C	bis(2-Chloroethoxy)methane	mg/kg	na	0 41 U	0 42 U	0 39 U
SW8270C	bis(2-Chloroethyl)ether (2-Chloroethyl ether)	mg/kg	na	0 41 U	0 42 U	0 39 U
SW8270C	bis(2-Ethylhexyl)phthalate	mg/kg	na	0.41 U	0 42 U	0.39 U
SW8270C	Chlorobenzilate	mg/kg	na	0 41 U	0.42 U	0 39 U
SW8270C	Chrysene	mg/kg	na	0 41 U	0.42 U	0 36 F
SW8270C	Cresols, m & p	mg/kg	na	0 41 U	0.42 U	0 39 U
SW8270C	Diallate (total of cis and trans isomers)	mg/kg	na	0 41 U	0.42 U	0 39 U
SW8270C	Dibenz(a,h)anthracene	mg/kg	na	0 41 U	0.42 U	0 39 U
SW8270C	Dibenzofuran	mg/kg	na	0 41 U	0.42 U	0 39 U
SW8270C	Diethyl phthalate	mg/kg	na	0.41 U	0 42 U	0 39 U
SW8270C	Dimethyl phthalate	mg/kg	na	0.41 U	0.42 U	0 39 U
SW8270C	Di-n-butyl phthalate	mg/kg	na	0 41 U	0 42 U	0.39 U
SW8270C	Di-n-octyl phthalate	mg/kg	na	0.41 U	0.42 U	0 39 U
SW8270C	Dinoseb	mg/kg	na	0.81 U	0.83 U	0 78 U
SW8270C	Diphenylamine	mg/kg	na	0.41 U	0.42 U	0 39 U
SW8270C	Ethyl methanesulfonate	mg/kg	na	0 41 U	0.42 U	0.39 U
SW8270C	Fluoranthene	mg/kg	na	0 41 U	0.42 U	0.22 F
SW8270C	Fluorene	mg/kg	na	0 41 U	0 42 U	0.39 U
SW8270C	Hexachlorobenzene	mg/kg	na	0 41 U	0.42 U	0 39 U
SW8270C	Hexachlorobutadiene	mg/kg	na	0 41 U	0 42 U	0 39 U
SW8270C	Hexachlorocyclopentadiene	mg/kg	na	0.41 R	0.42 R	0.39 R
SW8270C	Hexachloroethane	mg/kg	na	0 41 U	0 42 U	0 39 U
SW8270C	Hexachlorophene	mg/kg	na	6 1 U	6.2 U	5 8 U
SW8270C	Hexachloropropene	mg/kg	na	2 U	2 1 U	2 U
SW8270C	Indeno(1,2,3-c,d)pyrene	mg/kg	na	0 41 U	0 42 U	0.39 U
SW8270C	Isophorone	mg/kg	na	0.41 U	0.42 U	0 39 U
SW8270C	Isosafrole	mg/kg	na	0 41 U	0 42 U	0 39 U
SW8270C	Methapyrilene	mg/kg	na	2 U	2.1 U	2 U
SW8270C	Methyl methanesulfonate	mg/kg	na	0.81 U	0.83 U	0.78 U
SW8270C	naphthalene	mg/kg	na	0.41 U	0.42 U	0.39 U
SW8270C	Nitrobenzene	mg/kg	na	0.41 U	0 42 U	0.39 U
SW8270C	N-Nitrosodiethylamine	mg/kg	na	0.81 U	0 83 U	0 78 U
SW8270C	N-Nitrosodimethylamine	mg/kg	na	0.41 U	0 42 U	0 39 U
SW8270C	N-Nitrosodi-n-butylamine	mg/kg	na	0 41 U	0 42 U	0 39 U

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA331 15 ft 2000-04-05	BHGLTA333 00 ft 2001-01-24	BHGLTA333 00 ft Duplicate 2001-01-24	BHGLTA333 05 ft 2001-01-24
SW8270C	N-Nitrosodi-n-propylamine	mg/kg	na	0 41 U	0 42 U	0.39 U
SW8270C	N-Nitrosodiphenylamine	mg/kg	na	0 41 U	0 42 U	0 39 U
SW8270C	N-Nitrosomethylethylamine	mg/kg	na	0.81 U	0 83 U	0 78 U
SW8270C	N-Nitrosomorpholine	mg/kg	na	0 81 U	0 83 U	0.78 U
SW8270C	N-Nitrosopiperidine	mg/kg	na	0 41 U	0.42 U	0.39 U
SW8270C	N-Nitrosopyrrolidine	mg/kg	na	2 U	2.1 U	2 U
SW8270C	o-Toluidine	mg/kg	na	0 41 U	0.42 U	0 39 U
SW8270C	p-Dimethylaminoazobenzene	mg/kg	na	0 81 U	0 83 U	0 78 U
SW8270C	Pentachlorobenzene	mg/kg	na	0.41 U	0 42 U	0.39 U
SW8270C	Pentachloronitrobenzene	mg/kg	na	0 41 U	0.42 U	0 39 U
SW8270C	Pentachlorophenol	mg/kg	na	2 U	2 1 U	2 U
SW8270C	Phenacetin	mg/kg	na	0 81 U	0 83 U	0.78 U
SW8270C	Phenanthrene	mg/kg	na	0 41 U	0.42 U	0 39 U
SW8270C	Phenol	mg/kg	na	0 41 U	0.42 U	0 39 U
SW8270C	p-Phenylenediamine	mg/kg	na	1 6 U	1.7 U	1 6 U
SW8270C	Pronamide	mg/kg	na	0 81 U	0.83 U	0.78 U
SW8270C	Pyrene	mg/kg	na	0 41 U	0.42 U	0.57
SW8270C	Pyridine	mg/kg	na	0 81 U	0.83 U	0 78 U
SW8270C	Safrole	mg/kg	na	0 41 U	0 42 U	0.39 U
SW8280A	2,3,7,8-Tetrachlorodibenzofuran	mg/kg	na	na	na	na
SW8280A	2,3,7,8-Tetrachlorodibenzo-p-dioxin	mg/kg	na	na	na	na
SW8310	Chrysene	mg/kg	na	na	na	na
SW8310	Pyrene	mg/kg	na	na	na	na
SW9010	Cyanide	mg/kg	na	na	na	na
SW9030B	Sulfide	mg/kg	na	na	na	na
SW9041	pH	PH UNITS	7.7	na	na	na
SW9081	Cation-Exchange Capacity	MEQ/100G	26 3	na	na	na

Note
Sample date format "YYYY-MM-DD"
F = The analyte was positively detected, but the associated numerical value is below the PQL
J = The analyte was positively detected, the associated numerical value is an estimation
R = The data are unusable due to QC deficiencies
S = Applied to screening-level data
U = The analyte was analyzed for, but not detected
UJ = The analyte was analyzed for, but not detected, the associated numerical value is estimated
na = Not analyzed

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA333 05 ft Duplicate 2001-01-24	BHGLTA334 00 ft 2001-01-24	BHGLTA334 05 ft 2001-01-24	BHGLTA334 10 ft 2001-01-24
AD5057	Density	g/mL	na	na	na	na
AD5057	Specific Gravity	NONE	na	na	na	na
LYDKHN	Total Organic Carbon	mg/kg	na	na	na	na
SW6010B	Antimony	mg/kg	na	na	na	na
SW6010B	Arsenic	mg/kg	1 7 F	3.2 F	3 F	5 7
SW6010B	Barium	mg/kg	na	46 5	63 3	42
SW6010B	Beryllium	mg/kg	na	0 49	0.59	0.7
SW6010B	Cadmium	mg/kg	0.089 UJ	0.15 F	0.06 F	0 5 UJ
SW6010B	Chromium, total	mg/kg	8 7 F	9.9 U	15 6 U	15 4 U
SW6010B	Cobalt	mg/kg	na	2 7 F	2.1 F	4 5 F
SW6010B	Copper	mg/kg	2 3 F	8 8 U	8 1 U	10.1 U
SW6010B	Lead	mg/kg	na	na	na	na
SW6010B	Nickel	mg/kg	5 F	8 8 U	8 1 U	20 5 U
SW6010B	Selenium	mg/kg	na	na	na	na
SW6010B	Silver	mg/kg	na	na	na	na
SW6010B	Thallium	mg/kg	na	na	na	na
SW6010B	Tin	mg/kg	na	8 8 U	8 1 U	10.1 U
SW6010B	Vanadium	mg/kg	na	18 8 F	25 8	25 7 F
SW6010B	Zinc	mg/kg	13 1 F	31	16 7 F	20 F
SW7041	Antimony	mg/kg	0 2 UJ	0 47 UJ	0.44 UJ	0.5 UJ
SW7060A	Arsenic	mg/kg	na	na	na	na
SW7421	Lead	mg/kg	10 3 J	15 4	7.1	7.4 J
SW7471A	Mercury	mg/kg	na	0 04 U	0 04 U	0 04 U
SW7740	Selenium	mg/kg	na	1.4 UJ	1 3 UJ	1.5 UJ
SW7761	Silver	mg/kg	0 069 U	0 11 F	0.18 UJ	0 2 UJ
SW7841	Thallium	mg/kg	na	0.93 UJ	0.88 UJ	1 UJ
SW8080A	Aldrin	mg/kg	na	na	na	na
SW8080A	alpha-BHC (alpha-Hexachlorocyclohexane)	mg/kg	na	na	na	na
SW8080A	alpha-Chlordane	mg/kg	na	na	na	na
SW8080A	alpha-Endosulfan	mg/kg	na	na	na	na
SW8080A	beta-BHC (beta-Hexachlorocyclohexane)	mg/kg	na	na	na	na
SW8080A	beta-Endosulfan	mg/kg	na	na	na	na
SW8080A	Chlordane	mg/kg	na	na	na	na
SW8080A	delta-BHC (delta-Hexachlorocyclohexane)	mg/kg	na	na	na	na
SW8080A	Dieldrin	mg/kg	na	na	na	na
SW8080A	Endosulfan sulfate	mg/kg	na	na	na	na

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA333 05 ft Duplicate 2001-01-24	BHGLTA334 00 ft 2001-01-24	BHGLTA334 05 ft 2001-01-24	BHGLTA334 10 ft 2001-01-24
SW8080A	Endrin	mg/kg	na	na	na	na
SW8080A	Endrin aldehyde	mg/kg	na	na	na	na
SW8080A	gamma-BHC (Lindane)	mg/kg	na	na	na	na
SW8080A	gamma-Chlordane	mg/kg	na	na	na	na
SW8080A	Heptachlor	mg/kg	na	na	na	na
SW8080A	Heptachlor epoxide	mg/kg	na	na	na	na
SW8080A	Isodrin	mg/kg	na	na	na	na
SW8080A	Kepone	mg/kg	na	na	na	na
SW8080A	Methoxychlor	mg/kg	na	na	na	na
SW8080A	p,p'-DDD	mg/kg	na	na	na	na
SW8080A	p,p'-DDE	mg/kg	na	na	na	na
SW8080A	p,p'-DDT	mg/kg	na	na	na	na
SW8080A	PCB-1016 (Aroclor 1016)	mg/kg	na	na	na	na
SW8080A	PCB-1221 (Aroclor 1221)	mg/kg	na	na	na	na
SW8080A	PCB-1232 (Aroclor 1232)	mg/kg	na	na	na	na
SW8080A	PCB-1242 (Aroclor 1242)	mg/kg	na	na	na	na
SW8080A	PCB-1248 (Aroclor 1248)	mg/kg	na	na	na	na
SW8080A	PCB-1254 (Aroclor 1254)	mg/kg	na	na	na	na
SW8080A	PCB-1260 (Aroclor 1260)	mg/kg	na	na	na	na
SW8080A	Toxaphene	mg/kg	na	na	na	na
SW8081A	Aldrin	mg/kg	na	0.0074 U	0 0035 U	0 0039 U
SW8081A	alpha-BHC (alpha-Hexachlorocyclohexane)	mg/kg	na	0.0049 R	0 0023 R	0 0026 R
SW8081A	alpha-Chlordane	mg/kg	na	0.037 U	0.017 U	0.019 U
SW8081A	alpha-Endosulfan	mg/kg	na	0 022 U	0.01 U	0.012 U
SW8081A	beta-BHC (beta-Hexachlorocyclohexane)	mg/kg	na	0 0098 U	0 0047 U	0 0052 U
SW8081A	beta-Endosulfan	mg/kg	na	0 0074 U	0 0035 U	0 0039 U
SW8081A	Chlordane	mg/kg	na	0 022 U	0 01 U	0.012 U
SW8081A	delta-BHC (delta-Hexachlorocyclohexane)	mg/kg	na	0.015 U	0.007 U	0 0078 U
SW8081A	Dieldrin	mg/kg	na	0.024 U	0 012 U	0 013 U
SW8081A	Endosulfan sulfate	mg/kg	na	0.098 U	0.047 U	0 052 U
SW8081A	Endrin	mg/kg	na	0.0098 U	0.0047 U	0.0052 U
SW8081A	Endrin aldehyde	mg/kg	na	0 049 R	0 023 R	0.026 R
SW8081A	gamma-BHC (Lindane)	mg/kg	na	0 0074 R	0 0035 R	0 0039 R
SW8081A	gamma-Chlordane	mg/kg	na	0 037 U	0.017 U	0.019 U
SW8081A	Heptachlor	mg/kg	na	0.0049 R	0 0023 R	0 0026 R
SW8081A	Heptachlor epoxide	mg/kg	na	0 15 U	0 07 U	0.078 U

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA333 05 ft Duplicate 2001-01-24	BHGLTA334 00 ft 2001-01-24	BHGLTA334 05 ft 2001-01-24	BHGLTA334 10 ft 2001-01-24
SW8081A	Isodrin	mg/kg	na	0 0098 U	0 0047 U	0 0052 U
SW8081A	Kepone	mg/kg	na	0 2 U	0 097 U	0.11 U
SW8081A	Methoxychlor	mg/kg	na	0.24 U	0 12 U	0.13 U
SW8081A	p,p'-DDD	mg/kg	na	0 017 U	0 0082 U	0 0091 U
SW8081A	p,p'-DDE	mg/kg	na	0.0074 U	0 0035 U	0 0039 U
SW8081A	p,p'-DDT	mg/kg	na	0.02 U	0.0093 U	0.01 U
SW8081A	PCB-1016 (Aroclor 1016)	mg/kg	na	2.4 U	1.2 U	1 3 U
SW8081A	PCB-1221 (Aroclor 1221)	mg/kg	na	2.4 U	1 2 U	1.3 U
SW8081A	PCB-1232 (Aroclor 1232)	mg/kg	na	2 4 U	1 2 U	1 3 U
SW8081A	PCB-1242 (Aroclor 1242)	mg/kg	na	2 4 U	1 2 U	1 3 U
SW8081A	PCB-1248 (Aroclor 1248)	mg/kg	na	2.4 U	1.2 U	1 3 U
SW8081A	PCB-1254 (Aroclor 1254)	mg/kg	na	2.4 U	1.2 U	1.3 U
SW8081A	PCB-1260 (Aroclor 1260)	mg/kg	na	2.4 U	1.2 U	1.3 U
SW8081A	Toxaphene	mg/kg	na	0.49 U	0.23 U	0.26 U
SW8141A	Dimethoate	mg/kg	na	na	na	na
SW8141A	Disulfoton	mg/kg	na	na	na	na
SW8141A	Famphur	mg/kg	na	na	na	na
SW8141A	O,O,O-Triethyl phosphorothioate	mg/kg	na	na	na	na
SW8141A	Parathion, ethyl	mg/kg	na	na	na	na
SW8141A	Parathion, methyl	mg/kg	na	na	na	na
SW8141A	Phorate	mg/kg	na	na	na	na
SW8141A	Thiodiphosphoric acid, tetraethyl ester	mg/kg	na	na	na	na
SW8141A	Zinophos	mg/kg	na	na	na	na
SW8150B	2,4,5-T (Trichlorophenoxyacetic acid)	mg/kg	na	na	na	na
SW8150B	2,4-D (Dichlorophenoxyacetic acid)	mg/kg	na	na	na	na
SW8150B	Silvex (2,4,5-TP)	mg/kg	na	na	na	na
SW8151A	2,4,5-T (Trichlorophenoxyacetic acid)	mg/kg	na	na	na	na
SW8151A	2,4-D (Dichlorophenoxyacetic acid)	mg/kg	na	na	na	na
SW8151A	Silvex (2,4,5-TP)	mg/kg	na	na	na	na
SW8260B	1,1,1,2-Tetrachloroethane	mg/kg	na	0.004 U	0 004 U	0.004 U
SW8260B	1,1,1-Trichloroethane	mg/kg	na	0 005 U	0 005 U	0 005 U
SW8260B	1,1,2,2-Tetrachloroethane	mg/kg	na	0 002 U	0 002 U	0.003 U
SW8260B	1,1,2-Trichloroethane	mg/kg	na	0.006 U	0.006 U	0.006 U
SW8260B	1,1-Dichloroethane	mg/kg	na	0 002 U	0 002 U	0 003 U
SW8260B	1,1-Dichloroethene	mg/kg	na	0 006 U	0.006 U	0 006 U
SW8260B	1,2,3-Trichloropropane	mg/kg	na	0.006 U	0.006 U	0 006 U

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA333 05 ft Duplicate 2001-01-24	BHGLTA334 00 ft 2001-01-24	BHGLTA334 05 ft 2001-01-24	BHGLTA334 10 ft 2001-01-24
SW8260B	1,2-Dibromo-3-chloropropane	mg/kg	na	0.006 U	0 006 U	0 006 U
SW8260B	1,2-Dibromoethane (Ethylene dibromide)	mg/kg	na	0 004 U	0.004 U	0 004 U
SW8260B	1,2-Dichloroethane	mg/kg	na	0 004 U	0 004 U	0.004 U
SW8260B	1,2-Dichloropropane	mg/kg	na	0 002 U	0.002 U	0 003 U
SW8260B	2-Chloro-1,3-butadiene	mg/kg	na	0.006 U	0 006 U	0 006 U
SW8260B	2-Hexanone	mg/kg	na	0.006 U	0 006 U	0 006 U
SW8260B	Acetone	mg/kg	na	0 006 U	0.006 U	0 006 U
SW8260B	Acetonitrile	mg/kg	na	0 049 U	0.047 U	0 052 U
SW8260B	Acrolein	mg/kg	na	0 12 U	0.12 U	0 13 U
SW8260B	Acrylonitrile	mg/kg	na	0.049 U	0 047 U	0.052 U
SW8260B	Allyl chloride (3-Chloropropene)	mg/kg	na	0.012 U	0 012 U	0.013 U
SW8260B	Benzene	mg/kg	na	0.002 U	0.002 U	0 003 U
SW8260B	Bromodichloromethane	mg/kg	na	0.005 U	0 005 U	0.005 U
SW8260B	Bromoform	mg/kg	na	0 006 U	0.006 U	0 006 U
SW8260B	Bromomethane	mg/kg	na	0 006 U	0 006 U	0.006 U
SW8260B	Carbon disulfide	mg/kg	na	0.006 U	0 006 U	0 006 U
SW8260B	Carbon tetrachloride	mg/kg	na	0.006 U	0 006 U	0 006 U
SW8260B	Chlorobenzene	mg/kg	na	0.002 U	0 002 U	0 003 U
SW8260B	Chloroethane	mg/kg	na	0.006 U	0.006 U	0 006 U
SW8260B	Chloroform	mg/kg	na	0 002 U	0 002 U	0.003 U
SW8260B	Chloromethane	mg/kg	na	0 006 U	0 006 U	0.008
SW8260B	cis-1,2-Dichloroethene	mg/kg	na	0 006 U	0 006 U	0 006 U
SW8260B	cis-1,3-Dichloropropene	mg/kg	na	0 006 U	0 006 U	0 006 U
SW8260B	Dibromochloromethane	mg/kg	na	0 004 U	0.004 U	0 004 U
SW8260B	Dibromomethane	mg/kg	na	0 006 U	0.006 U	0.006 U
SW8260B	Dichlorodifluoromethane	mg/kg	na	0.006 R	0 006 R	0.006 R
SW8260B	Ethyl methacrylate	mg/kg	na	0.012 U	0 012 U	0 013 U
SW8260B	Ethylbenzene	mg/kg	na	0 004 U	0 004 U	0 004 U
SW8260B	Iodomethane (Methyl iodide)	mg/kg	na	0 006 U	0.006 U	0.006 U
SW8260B	Isobutanol	mg/kg	na	0 25 U	0.23 U	0 26 U
SW8260B	m,p-Xylene (sum of isomers)	mg/kg	na	0 006 U	0.006 U	0 006 U
SW8260B	Methyl ethyl ketone (2-Butanone)	mg/kg	na	0 006 U	0.006 U	0 006 U
SW8260B	Methyl isobutyl ketone (4-Methyl-2-pentanone)	mg/kg	na	0 006 U	0 006 U	0.006 U
SW8260B	Methyl methacrylate	mg/kg	na	0 012 U	0 012 U	0 013 U
SW8260B	Methylacrylonitrile	mg/kg	na	0 012 U	0.012 U	0 013 U
SW8260B	Methylene chloride	mg/kg	na	0.002 U	0.002 U	0 003 U

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA333 05 ft Duplicate 2001-01-24	BHGLTA334 00 ft 2001-01-24	BHGLTA334 05 ft 2001-01-24	BHGLTA334 10 ft 2001-01-24
SW8260B	M-Xylene (1,3-Dimethylbenzene)	mg/kg	na	na	na	na
SW8260B	o-Xylene (1,2-Dimethylbenzene)	mg/kg	na	0 006 U	0 006 U	0.006 U
SW8260B	Pentachloroethane	mg/kg	na	0.012 U	0 012 U	0 013 U
SW8260B	Propane nitrile (Propionitrile)	mg/kg	na	0 049 U	0 047 U	0.052 U
SW8260B	Styrene	mg/kg	na	0 002 U	0 002 U	0 003 U
SW8260B	Tert-Butyl Methyl Ether	mg/kg	na	0 006 U	0 006 U	0 006 U
SW8260B	Tetrachloroethene (PCE)	mg/kg	na	0 006 U	0 006 U	0 006 U
SW8260B	Toluene	mg/kg	na	0 006 U	0 006 U	0 003 F
SW8260B	Trans-1,2-Dichloroethene	mg/kg	na	0 004 U	0.004 U	0 004 U
SW8260B	Trans-1,3-Dichloropropene	mg/kg	na	0.006 U	0 006 U	0 006 U
SW8260B	Trans-1,4-Dichloro-2-Butene	mg/kg	na	0.012 U	0.012 U	0.013 U
SW8260B	Trichloroethene (TCE)	mg/kg	na	0 006 U	0 006 U	0.006 U
SW8260B	Trichlorofluoromethane	mg/kg	na	0.005 U	0.005 U	0.005 U
SW8260B	Vinyl acetate	mg/kg	na	0 006 U	0 006 U	0 006 U
SW8260B	Vinyl chloride	mg/kg	na	0 006 U	0 006 U	0.006 U
SW8270C	1,2,4,5-Tetrachlorobenzene	mg/kg	na	0 41 U	0.39 U	0.43 U
SW8270C	1,2,4-Trichlorobenzene	mg/kg	na	0 41 U	0 39 U	0.43 U
SW8270C	1,2-Dichlorobenzene	mg/kg	na	0.41 U	0 39 U	0.43 U
SW8270C	1,3,5-Trinitrobenzene	mg/kg	na	1 6 U	1.5 U	1.7 U
SW8270C	1,3-Dichlorobenzene	mg/kg	na	0 41 U	0.39 U	0.43 U
SW8270C	1,3-Dinitrobenzene	mg/kg	na	0.82 U	0.77 U	0 86 U
SW8270C	1,4-Dichlorobenzene	mg/kg	na	0.41 U	0 39 U	0 43 U
SW8270C	1,4-Dioxane (p-Dioxane)	mg/kg	na	1 6 U	1.5 U	1.7 U
SW8270C	1,4-naphthoquinone	mg/kg	na	2 R	1 9 R	2.2 R
SW8270C	1-naphthylamine	mg/kg	na	0 82 U	0.77 U	0 86 U
SW8270C	2,2'-Oxybis(1-chloropropane)	mg/kg	na	0.41 U	0.39 U	0 43 U
SW8270C	2,3,4,6-Tetrachlorophenol	mg/kg	na	0 41 U	0 39 U	0.43 U
SW8270C	2,4,5-Trichlorophenol	mg/kg	na	2 U	1 9 U	2 2 U
SW8270C	2,4,6-Trichlorophenol	mg/kg	na	0 41 U	0.39 U	0 43 U
SW8270C	2,4-Dichlorophenol	mg/kg	na	0 41 U	0.39 U	0.43 U
SW8270C	2,4-Dimethylphenol	mg/kg	na	0 41 U	0.39 U	0.43 U
SW8270C	2,4-Dinitrophenol	mg/kg	na	2 U	1.9 U	2.2 U
SW8270C	2,4-Dinitrotoluene	mg/kg	na	0 41 U	0.39 U	0.43 U
SW8270C	2,6-Dichlorophenol	mg/kg	na	0 41 U	0.39 U	0 43 U
SW8270C	2,6-Dinitrotoluene	mg/kg	na	0.41 U	0 39 U	0.43 U
SW8270C	2-Acetylaminofluorene	mg/kg	na	0.82 U	0 77 U	0.86 U

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA333 05 ft Duplicate 2001-01-24	BHGLTA334 00 ft 2001-01-24	BHGLTA334 05 ft 2001-01-24	BHGLTA334 10 ft 2001-01-24
SW8270C	2-Aminonaphthalene (beta-naphthylamine)	mg/kg	na	0 82 U	0 77 U	0 86 U
SW8270C	2-Chloronaphthalene	mg/kg	na	0.41 U	0 39 U	0.43 U
SW8270C	2-Chlorophenol	mg/kg	na	0.41 U	0.39 U	0 43 U
SW8270C	2-Methylnaphthalene	mg/kg	na	0 41 U	0.39 U	0 43 U
SW8270C	2-Methylphenol (o-Cresol)	mg/kg	na	0 41 U	0.39 U	0 43 U
SW8270C	2-Nitroaniline	mg/kg	na	2 U	1 9 U	2 2 U
SW8270C	2-Nitrophenol	mg/kg	na	0 41 U	0 39 U	0.43 U
SW8270C	2-Picoline (alpha-Picoline)	mg/kg	na	0.41 U	0 39 U	0.43 U
SW8270C	3,3'-Dichlorobenzidine	mg/kg	na	0 82 U	0.77 U	0 86 U
SW8270C	3,3'-Dimethylbenzidine	mg/kg	na	2 U	1.9 U	2 2 U
SW8270C	3-Methylcholanthrene	mg/kg	na	0.41 U	0.39 U	0 43 U
SW8270C	3-Nitroaniline	mg/kg	na	2 U	1.9 U	2.2 U
SW8270C	4,6-Dinitro-2-methylphenol	mg/kg	na	2 U	1 9 U	2 2 U
SW8270C	4-Aminobiphenyl (4-Biphenylamine)	mg/kg	na	0 82 U	0 77 U	0 86 U
SW8270C	4-Bromophenyl phenyl ether	mg/kg	na	0.41 U	0 39 U	0 43 U
SW8270C	4-Chloro-3-methylphenol	mg/kg	na	0.41 U	0.39 U	0.43 U
SW8270C	4-Chloroaniline	mg/kg	na	0 41 U	0 39 U	0 43 U
SW8270C	4-Chlorophenyl phenyl ether	mg/kg	na	0 41 U	0 39 U	0.43 U
SW8270C	4-Nitroaniline	mg/kg	na	2 U	1.9 U	2.2 U
SW8270C	4-Nitrophenol	mg/kg	na	2 U	1 9 U	2 2 U
SW8270C	4-Nitroquinoline-1-oxide	mg/kg	na	2 R	1.9 R	2.2 R
SW8270C	5-Nitro-o-toluidine	mg/kg	na	0.82 U	0 77 U	0 86 U
SW8270C	7,12-Dimethylbenzo(a)anthracene	mg/kg	na	0 82 U	0.77 U	0 86 U
SW8270C	Acenaphthene	mg/kg	na	0.41 U	0 39 U	0.43 U
SW8270C	Acenaphthylene	mg/kg	na	0 41 U	0.39 U	0.43 U
SW8270C	Acetophenone	mg/kg	na	0 41 U	0 39 U	0.43 U
SW8270C	alpha, alpha-Dimethylphenethylamine	mg/kg	na	2 U	1.9 U	2 2 U
SW8270C	Aniline (Phenylamine, Aminobenzene)	mg/kg	na	0.41 U	0 39 U	0 43 U
SW8270C	Anthracene	mg/kg	na	0.41 U	0 39 U	0 43 U
SW8270C	Aramite (total)	mg/kg	na	0.82 U	0 77 U	0 86 U
SW8270C	Benzo(a)anthracene	mg/kg	na	0.41 U	0.39 U	0.43 U
SW8270C	Benzo(a)pyrene	mg/kg	na	0 41 U	0 39 U	0.43 U
SW8270C	Benzo(b)fluoranthene	mg/kg	na	0 41 U	0 39 U	0 43 U
SW8270C	Benzo(g,h,i)perylene	mg/kg	na	0.41 U	0.39 U	0.43 U
SW8270C	Benzo(k)fluoranthene	mg/kg	na	0.41 U	0.39 U	0 43 U
SW8270C	Benzoic acid	mg/kg	na	2 U	1.9 U	2 2 U

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA333 05 ft Duplicate 2001-01-24	BHGLTA334 00 ft 2001-01-24	BHGLTA334 05 ft 2001-01-24	BHGLTA334 10 ft 2001-01-24
SW8270C	Benzyl alcohol	mg/kg	na	0 41 U	0 39 U	0.43 U
SW8270C	Benzyl butyl phthalate	mg/kg	na	0.41 U	0.39 U	0 43 U
SW8270C	bis(2-Chloroethoxy)methane	mg/kg	na	0.41 U	0.39 U	0.43 U
SW8270C	bis(2-Chloroethyl)ether (2-Chloroethyl ether)	mg/kg	na	0.41 U	0.39 U	0.43 U
SW8270C	bis(2-Ethylhexyl)phthalate	mg/kg	na	0.41 U	0 39 U	0.43 U
SW8270C	Chlorobenzilate	mg/kg	na	0 41 U	0 39 U	0 43 U
SW8270C	Chrysene	mg/kg	na	0.41 U	0 39 U	0 43 U
SW8270C	Cresols, m & p	mg/kg	na	0 41 U	0 39 U	0.43 U
SW8270C	Diallate (total of cis and trans isomers)	mg/kg	na	0 41 U	0 39 U	0 43 U
SW8270C	Dibenz(a,h)anthracene	mg/kg	na	0.41 U	0.39 U	0.43 U
SW8270C	Dibenzofuran	mg/kg	na	0.41 U	0 39 U	0 43 U
SW8270C	Diethyl phthalate	mg/kg	na	0.41 U	0 39 U	0 52
SW8270C	Dimethyl phthalate	mg/kg	na	0 41 U	0.39 U	0.43 U
SW8270C	Di-n-butyl phthalate	mg/kg	na	0.41 U	0 39 U	0 43 U
SW8270C	Di-n-octyl phthalate	mg/kg	na	0.41 U	0 39 U	0 43 U
SW8270C	Dinoseb	mg/kg	na	0.82 U	0 77 U	0 86 U
SW8270C	Diphenylamine	mg/kg	na	0 41 U	0.39 U	0 43 U
SW8270C	Ethyl methanesulfonate	mg/kg	na	0 41 U	0.39 U	0 43 U
SW8270C	Fluoranthene	mg/kg	na	0.41 U	0 39 U	0.43 U
SW8270C	Fluorene	mg/kg	na	0.41 U	0.39 U	0 43 U
SW8270C	Hexachlorobenzene	mg/kg	na	0.41 U	0.39 U	0.43 U
SW8270C	Hexachlorobutadiene	mg/kg	na	0 41 U	0.39 U	0 43 U
SW8270C	Hexachlorocyclopentadiene	mg/kg	na	0 41 R	0 39 R	0.43 R
SW8270C	Hexachloroethane	mg/kg	na	0.41 U	0.39 U	0.43 U
SW8270C	Hexachlorophene	mg/kg	na	6 1 U	5.8 U	6 5 U
SW8270C	Hexachloropropene	mg/kg	na	2 U	1 9 U	2 2 U
SW8270C	Indeno(1,2,3-c,d)pyrene	mg/kg	na	0 41 U	0 39 U	0 43 U
SW8270C	Isophorone	mg/kg	na	0.41 U	0 39 U	0 43 U
SW8270C	Isosafrole	mg/kg	na	0 41 U	0 39 U	0 43 U
SW8270C	Methapyrilene	mg/kg	na	2 U	1.9 U	2.2 U
SW8270C	Methyl methanesulfonate	mg/kg	na	0.82 U	0 77 U	0 86 U
SW8270C	naphthalene	mg/kg	na	0 41 U	0.39 U	0 43 U
SW8270C	Nitrobenzene	mg/kg	na	0 41 U	0 39 U	0.43 U
SW8270C	N-Nitrosodiethylamine	mg/kg	na	0.82 U	0 77 U	0 86 U
SW8270C	N-Nitrosodimethylamine	mg/kg	na	0 41 U	0.39 U	0.43 U
SW8270C	N-Nitrosodi-n-butylamine	mg/kg	na	0.41 U	0.39 U	0.43 U

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA333 05 ft Duplicate 2001-01-24	BHGLTA334 00 ft 2001-01-24	BHGLTA334 05 ft 2001-01-24	BHGLTA334 10 ft 2001-01-24
SW8270C	N-Nitrosodi-n-propylamine	mg/kg	na	0 41 U	0 39 U	0 43 U
SW8270C	N-Nitrosodiphenylamine	mg/kg	na	0 41 U	0.39 U	0 43 U
SW8270C	N-Nitrosomethylethylamine	mg/kg	na	0 82 U	0 77 U	0.86 U
SW8270C	N-Nitrosomorpholine	mg/kg	na	0 82 U	0 77 U	0.86 U
SW8270C	N-Nitrosopiperidine	mg/kg	na	0 41 U	0.39 U	0 43 U
SW8270C	N-Nitrosopyrrolidine	mg/kg	na	2 U	1 9 U	2.2 U
SW8270C	o-Toluidine	mg/kg	na	0.41 U	0 39 U	0 43 U
SW8270C	p-Dimethylaminoazobenzene	mg/kg	na	0 82 U	0.77 U	0 86 U
SW8270C	Pentachlorobenzene	mg/kg	na	0 41 U	0 39 U	0.43 U
SW8270C	Pentachloronitrobenzene	mg/kg	na	0.41 U	0 39 U	0 43 U
SW8270C	Pentachlorophenol	mg/kg	na	2 U	1 9 U	2 2 U
SW8270C	Phenacetin	mg/kg	na	0.82 U	0.77 U	0 86 U
SW8270C	Phenanthrene	mg/kg	na	0.41 U	0.39 U	0.43 U
SW8270C	Phenol	mg/kg	na	0 41 U	0 39 U	0 43 U
SW8270C	p-Phenylenediamine	mg/kg	na	1 6 U	1 5 U	1 7 U
SW8270C	Pronamide	mg/kg	na	0 82 U	0 77 U	0 86 U
SW8270C	Pyrene	mg/kg	na	0.41 U	0 39 U	0 43 U
SW8270C	Pyridine	mg/kg	na	0 82 U	0 77 U	0 86 U
SW8270C	Safrole	mg/kg	na	0.41 U	0 39 U	0.43 U
SW8280A	2,3,7,8-Tetrachlorodibenzofuran	mg/kg	na	na	na	na
SW8280A	2,3,7,8-Tetrachlorodibenzo-p-dioxin	mg/kg	na	na	na	na
SW8310	Chrysene	mg/kg	na	na	na	na
SW8310	Pyrene	mg/kg	na	na	na	na
SW9010	Cyanide	mg/kg	na	na	na	na
SW9030B	Sulfide	mg/kg	na	na	na	na
SW9041	pH	PH UNITS	na	na	na	na
SW9081	Cation-Exchange Capacity	MEQ/100G	na	na	na	na

Note.
Sample date format "YYYY-MM-DD"
F = The analyte was positively detected, but the associated numerical value is below the PQL
J = The analyte was positively detected, the associated numerical value is an estimation
R = The data are unusable due to QC deficiencies
S = Applied to screening-level data
U = The analyte was analyzed for, but not detected.
UJ = The analyte was analyzed for, but not detected, the associated numerical value is estimated
na = Not analyzed

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA335 05 ft 2001-06-25	BHGLTA336 05 ft 2001-06-25	BHGLTA337 10 ft 2001-06-25
AD5057	Density	g/mL	na	na	na
AD5057	Specific Gravity	NONE	na	na	na
LYDKHN	Total Organic Carbon	mg/kg	na	na	na
SW6010B	Antimony	mg/kg	na	na	na
SW6010B	Arsenic	mg/kg	na	na	na
SW6010B	Barium	mg/kg	na	na	na
SW6010B	Beryllium	mg/kg	na	na	na
SW6010B	Cadmium	mg/kg	na	na	na
SW6010B	Chromium, total	mg/kg	na	na	na
SW6010B	Cobalt	mg/kg	na	na	na
SW6010B	Copper	mg/kg	na	na	na
SW6010B	Lead	mg/kg	na	na	na
SW6010B	Nickel	mg/kg	na	na	na
SW6010B	Selenium	mg/kg	na	na	na
SW6010B	Silver	mg/kg	na	na	na
SW6010B	Thallium	mg/kg	na	na	na
SW6010B	Tin	mg/kg	na	na	na
SW6010B	Vanadium	mg/kg	na	na	na
SW6010B	Zinc	mg/kg	na	na	na
SW7041	Antimony	mg/kg	na	na	na
SW7060A	Arsenic	mg/kg	na	na	na
SW7421	Lead	mg/kg	na	na	na
SW7471A	Mercury	mg/kg	na	na	na
SW7740	Selenium	mg/kg	na	na	na
SW7761	Silver	mg/kg	na	na	na
SW7841	Thallium	mg/kg	na	na	na
SW8080A	Aldrin	mg/kg	na	na	na
SW8080A	alpha-BHC (alpha-Hexachlorocyclohexane)	mg/kg	na	na	na
SW8080A	alpha-Chlordane	mg/kg	na	na	na
SW8080A	alpha-Endosulfan	mg/kg	na	na	na
SW8080A	beta-BHC (beta-Hexachlorocyclohexane)	mg/kg	na	na	na
SW8080A	beta-Endosulfan	mg/kg	na	na	na
SW8080A	Chlordane	mg/kg	na	na	na
SW8080A	delta-BHC (delta-Hexachlorocyclohexane)	mg/kg	na	na	na
SW8080A	Dieldrin	mg/kg	na	na	na
SW8080A	Endosulfan sulfate	mg/kg	na	na	na

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA335 05 ft 2001-06-25	BHGLTA336 05 ft 2001-06-25	BHGLTA337 10 ft 2001-06-25
SW8080A	Endrin	mg/kg	na	na	na
SW8080A	Endrin aldehyde	mg/kg	na	na	na
SW8080A	gamma-BHC (Lindane)	mg/kg	na	na	na
SW8080A	gamma-Chlordane	mg/kg	na	na	na
SW8080A	Heptachlor	mg/kg	na	na	na
SW8080A	Heptachlor epoxide	mg/kg	na	na	na
SW8080A	Isodrin	mg/kg	na	na	na
SW8080A	Kepone	mg/kg	na	na	na
SW8080A	Methoxychlor	mg/kg	na	na	na
SW8080A	p,p'-DDD	mg/kg	na	na	na
SW8080A	p,p'-DDE	mg/kg	na	na	na
SW8080A	p,p'-DDT	mg/kg	na	na	na
SW8080A	PCB-1016 (Aroclor 1016)	mg/kg	na	na	na
SW8080A	PCB-1221 (Aroclor 1221)	mg/kg	na	na	na
SW8080A	PCB-1232 (Aroclor 1232)	mg/kg	na	na	na
SW8080A	PCB-1242 (Aroclor 1242)	mg/kg	na	na	na
SW8080A	PCB-1248 (Aroclor 1248)	mg/kg	na	na	na
SW8080A	PCB-1254 (Aroclor 1254)	mg/kg	na	na	na
SW8080A	PCB-1260 (Aroclor 1260)	mg/kg	na	na	na
SW8080A	Toxaphene	mg/kg	na	na	na
SW8081A	Aldrin	mg/kg	na	na	na
SW8081A	alpha-BHC (alpha-Hexachlorocyclohexane)	mg/kg	na	na	na
SW8081A	alpha-Chlordane	mg/kg	na	na	na
SW8081A	alpha-Endosulfan	mg/kg	na	na	na
SW8081A	beta-BHC (beta-Hexachlorocyclohexane)	mg/kg	na	na	na
SW8081A	beta-Endosulfan	mg/kg	na	na	na
SW8081A	Chlordane	mg/kg	na	na	na
SW8081A	delta-BHC (delta-Hexachlorocyclohexane)	mg/kg	na	na	na
SW8081A	Dieldrin	mg/kg	na	na	na
SW8081A	Endosulfan sulfate	mg/kg	na	na	na
SW8081A	Endrin	mg/kg	na	na	na
SW8081A	Endrin aldehyde	mg/kg	na	na	na
SW8081A	gamma-BHC (Lindane)	mg/kg	na	na	na
SW8081A	gamma-Chlordane	mg/kg	na	na	na
SW8081A	Heptachlor	mg/kg	na	na	na
SW8081A	Heptachlor epoxide	mg/kg	na	na	na

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA335 05 ft 2001-06-25	BHGLTA336 05 ft 2001-06-25	BHGLTA337 10 ft 2001-06-25
SW8081A	Isodrin	mg/kg	na	na	na
SW8081A	Kepone	mg/kg	na	na	na
SW8081A	Methoxychlor	mg/kg	na	na	na
SW8081A	p,p'-DDD	mg/kg	na	na	na
SW8081A	p,p'-DDE	mg/kg	na	na	na
SW8081A	p,p'-DDT	mg/kg	na	na	na
SW8081A	PCB-1016 (Aroclor 1016)	mg/kg	na	na	na
SW8081A	PCB-1221 (Aroclor 1221)	mg/kg	na	na	na
SW8081A	PCB-1232 (Aroclor 1232)	mg/kg	na	na	na
SW8081A	PCB-1242 (Aroclor 1242)	mg/kg	na	na	na
SW8081A	PCB-1248 (Aroclor 1248)	mg/kg	na	na	na
SW8081A	PCB-1254 (Aroclor 1254)	mg/kg	na	na	na
SW8081A	PCB-1260 (Aroclor 1260)	mg/kg	na	na	na
SW8081A	Toxaphene	mg/kg	na	na	na
SW8141A	Dimethoate	mg/kg	na	na	na
SW8141A	Disulfoton	mg/kg	na	na	na
SW8141A	Famphur	mg/kg	na	na	na
SW8141A	O,O,O-Triethyl phosphorothioate	mg/kg	na	na	na
SW8141A	Parathion, ethyl	mg/kg	na	na	na
SW8141A	Parathion, methyl	mg/kg	na	na	na
SW8141A	Phorate	mg/kg	na	na	na
SW8141A	Thiodiphosphoric acid, tetraethyl ester	mg/kg	na	na	na
SW8141A	Zinophos	mg/kg	na	na	na
SW8150B	2,4,5-T (Trichlorophenoxyacetic acid)	mg/kg	na	na	na
SW8150B	2,4-D (Dichlorophenoxyacetic acid)	mg/kg	na	na	na
SW8150B	Silvex (2,4,5-TP)	mg/kg	na	na	na
SW8151A	2,4,5-T (Trichlorophenoxyacetic acid)	mg/kg	na	na	na
SW8151A	2,4-D (Dichlorophenoxyacetic acid)	mg/kg	na	na	na
SW8151A	Silvex (2,4,5-TP)	mg/kg	na	na	na
SW8260B	1,1,1,2-Tetrachloroethane	mg/kg	na	na	na
SW8260B	1,1,1-Trichloroethane	mg/kg	na	na	na
SW8260B	1,1,2,2-Tetrachloroethane	mg/kg	na	na	na
SW8260B	1,1,2-Trichloroethane	mg/kg	na	na	na
SW8260B	1,1-Dichloroethane	mg/kg	na	na	na
SW8260B	1,1-Dichloroethene	mg/kg	na	na	na
SW8260B	1,2,3-Trichloropropane	mg/kg	na	na	na

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA335 05 ft 2001-06-25	BHGLTA336 05 ft 2001-06-25	BHGLTA337 10 ft 2001-06-25
SW8260B	1,2-Dibromo-3-chloropropane	mg/kg	na	na	na
SW8260B	1,2-Dibromoethane (Ethylene dibromide)	mg/kg	na	na	na
SW8260B	1,2-Dichloroethane	mg/kg	na	na	na
SW8260B	1,2-Dichloropropane	mg/kg	na	na	na
SW8260B	2-Chloro-1,3-butadiene	mg/kg	na	na	na
SW8260B	2-Hexanone	mg/kg	na	na	na
SW8260B	Acetone	mg/kg	na	na	na
SW8260B	Acetonitrile	mg/kg	na	na	na
SW8260B	Acrolein	mg/kg	na	na	na
SW8260B	Acrylonitrile	mg/kg	na	na	na
SW8260B	Allyl chloride (3-Chloropropene)	mg/kg	na	na	na
SW8260B	Benzene	mg/kg	na	na	na
SW8260B	Bromodichloromethane	mg/kg	na	na	na
SW8260B	Bromoform	mg/kg	na	na	na
SW8260B	Bromomethane	mg/kg	na	na	na
SW8260B	Carbon disulfide	mg/kg	na	na	na
SW8260B	Carbon tetrachloride	mg/kg	na	na	na
SW8260B	Chlorobenzene	mg/kg	na	na	na
SW8260B	Chloroethane	mg/kg	na	na	na
SW8260B	Chloroform	mg/kg	na	na	na
SW8260B	Chloromethane	mg/kg	na	na	na
SW8260B	cis-1,2-Dichloroethene	mg/kg	na	na	na
SW8260B	cis-1,3-Dichloropropene	mg/kg	na	na	na
SW8260B	Dibromochloromethane	mg/kg	na	na	na
SW8260B	Dibromomethane	mg/kg	na	na	na
SW8260B	Dichlorodifluoromethane	mg/kg	na	na	na
SW8260B	Ethyl methacrylate	mg/kg	na	na	na
SW8260B	Ethylbenzene	mg/kg	na	na	na
SW8260B	Iodomethane (Methyl iodide)	mg/kg	na	na	na
SW8260B	Isobutanol	mg/kg	na	na	na
SW8260B	m,p-Xylene (sum of isomers)	mg/kg	na	na	na
SW8260B	Methyl ethyl ketone (2-Butanone)	mg/kg	na	na	na
SW8260B	Methyl isobutyl ketone (4-Methyl-2-pentanone)	mg/kg	na	na	na
SW8260B	Methyl methacrylate	mg/kg	na	na	na
SW8260B	Methylacrylonitrile	mg/kg	na	na	na
SW8260B	Methylene chloride	mg/kg	na	na	na

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA335 05 ft 2001-06-25	BHGLTA336 05 ft 2001-06-25	BHGLTA337 10 ft 2001-06-25
SW8260B	M-Xylene (1,3-Dimethylbenzene)	mg/kg	na	na	na
SW8260B	o-Xylene (1,2-Dimethylbenzene)	mg/kg	na	na	na
SW8260B	Pentachloroethane	mg/kg	na	na	na
SW8260B	Propane nitrile (Propionitrile)	mg/kg	na	na	na
SW8260B	Styrene	mg/kg	na	na	na
SW8260B	Tert-Butyl Methyl Ether	mg/kg	na	na	na
SW8260B	Tetrachloroethene (PCE)	mg/kg	na	na	na
SW8260B	Toluene	mg/kg	na	na	na
SW8260B	Trans-1,2-Dichloroethene	mg/kg	na	na	na
SW8260B	Trans-1,3-Dichloropropene	mg/kg	na	na	na
SW8260B	Trans-1,4-Dichloro-2-Butene	mg/kg	na	na	na
SW8260B	Trichloroethene (TCE)	mg/kg	na	na	na
SW8260B	Trichlorofluoromethane	mg/kg	na	na	na
SW8260B	Vinyl acetate	mg/kg	na	na	na
SW8260B	Vinyl chloride	mg/kg	na	na	na
SW8270C	1,2,4,5-Tetrachlorobenzene	mg/kg	na	na	na
SW8270C	1,2,4-Trichlorobenzene	mg/kg	na	na	na
SW8270C	1,2-Dichlorobenzene	mg/kg	na	na	na
SW8270C	1,3,5-Trinitrobenzene	mg/kg	na	na	na
SW8270C	1,3-Dichlorobenzene	mg/kg	na	na	na
SW8270C	1,3-Dinitrobenzene	mg/kg	na	na	na
SW8270C	1,4-Dichlorobenzene	mg/kg	na	na	na
SW8270C	1,4-Dioxane (p-Dioxane)	mg/kg	na	na	na
SW8270C	1,4-naphthoquinone	mg/kg	na	na	na
SW8270C	1-naphthylamine	mg/kg	na	na	na
SW8270C	2,2'-Oxybis(1-chloropropane)	mg/kg	na	na	na
SW8270C	2,3,4,6-Tetrachlorophenol	mg/kg	na	na	na
SW8270C	2,4,5-Trichlorophenol	mg/kg	na	na	na
SW8270C	2,4,6-Trichlorophenol	mg/kg	na	na	na
SW8270C	2,4-Dichlorophenol	mg/kg	na	na	na
SW8270C	2,4-Dimethylphenol	mg/kg	na	na	na
SW8270C	2,4-Dinitrophenol	mg/kg	na	na	na
SW8270C	2,4-Dinitrotoluene	mg/kg	na	na	na
SW8270C	2,6-Dichlorophenol	mg/kg	na	na	na
SW8270C	2,6-Dinitrotoluene	mg/kg	na	na	na
SW8270C	2-Acetylaminofluorene	mg/kg	na	na	na

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA335 05 ft 2001-06-25	BHGLTA336 05 ft 2001-06-25	BHGLTA337 10 ft 2001-06-25
SW8270C	2-Aminonaphthalene (beta-naphthylamine)	mg/kg	na	na	na
SW8270C	2-Chloronaphthalene	mg/kg	na	na	na
SW8270C	2-Chlorophenol	mg/kg	na	na	na
SW8270C	2-Methylnaphthalene	mg/kg	na	na	na
SW8270C	2-Methylphenol (o-Cresol)	mg/kg	na	na	na
SW8270C	2-Nitroaniline	mg/kg	na	na	na
SW8270C	2-Nitrophenol	mg/kg	na	na	na
SW8270C	2-Picoline (alpha-Picoline)	mg/kg	na	na	na
SW8270C	3,3'-Dichlorobenzidine	mg/kg	na	na	na
SW8270C	3,3'-Dimethylbenzidine	mg/kg	na	na	na
SW8270C	3-Methylcholanthrene	mg/kg	na	na	na
SW8270C	3-Nitroaniline	mg/kg	na	na	na
SW8270C	4,6-Dinitro-2-methylphenol	mg/kg	na	na	na
SW8270C	4-Aminobiphenyl (4-Biphenylamine)	mg/kg	na	na	na
SW8270C	4-Bromophenyl phenyl ether	mg/kg	na	na	na
SW8270C	4-Chloro-3-methylphenol	mg/kg	na	na	na
SW8270C	4-Chloroaniline	mg/kg	na	na	na
SW8270C	4-Chlorophenyl phenyl ether	mg/kg	na	na	na
SW8270C	4-Nitroaniline	mg/kg	na	na	na
SW8270C	4-Nitrophenol	mg/kg	na	na	na
SW8270C	4-Nitroquinoline-1-oxide	mg/kg	na	na	na
SW8270C	5-Nitro-o-toluidine	mg/kg	na	na	na
SW8270C	7,12-Dimethylbenzo(a)anthracene	mg/kg	na	na	na
SW8270C	Acenaphthene	mg/kg	na	na	na
SW8270C	Acenaphthylene	mg/kg	na	na	na
SW8270C	Acetophenone	mg/kg	na	na	na
SW8270C	alpha, alpha-Dimethylphenethylamine	mg/kg	na	na	na
SW8270C	Aniline (Phenylamine, Aminobenzene)	mg/kg	na	na	na
SW8270C	Anthracene	mg/kg	na	na	na
SW8270C	Aramite (total)	mg/kg	na	na	na
SW8270C	Benzo(a)anthracene	mg/kg	na	na	na
SW8270C	Benzo(a)pyrene	mg/kg	na	na	na
SW8270C	Benzo(b)fluoranthene	mg/kg	na	na	na
SW8270C	Benzo(g,h,i)perylene	mg/kg	na	na	na
SW8270C	Benzo(k)fluoranthene	mg/kg	na	na	na
SW8270C	Benzoic acid	mg/kg	na	na	na

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA335 05 ft 2001-06-25	BHGLTA336 05 ft 2001-06-25	BHGLTA337 10 ft 2001-06-25
SW8270C	Benzyl alcohol	mg/kg	na	na	na
SW8270C	Benzyl butyl phthalate	mg/kg	na	na	na
SW8270C	bis(2-Chloroethoxy)methane	mg/kg	na	na	na
SW8270C	bis(2-Chloroethyl)ether (2-Chloroethyl ether)	mg/kg	na	na	na
SW8270C	bis(2-Ethylhexyl)phthalate	mg/kg	na	na	na
SW8270C	Chlorobenzilate	mg/kg	na	na	na
SW8270C	Chrysene	mg/kg	na	na	na
SW8270C	Cresols, m & p	mg/kg	na	na	na
SW8270C	Diallate (total of cis and trans isomers)	mg/kg	na	na	na
SW8270C	Dibenz(a,h)anthracene	mg/kg	na	na	na
SW8270C	Dibenzofuran	mg/kg	na	na	na
SW8270C	Diethyl phthalate	mg/kg	na	na	na
SW8270C	Dimethyl phthalate	mg/kg	na	na	na
SW8270C	Di-n-butyl phthalate	mg/kg	na	na	na
SW8270C	Di-n-octyl phthalate	mg/kg	na	na	na
SW8270C	Dinoseb	mg/kg	na	na	na
SW8270C	Diphenylamine	mg/kg	na	na	na
SW8270C	Ethyl methanesulfonate	mg/kg	na	na	na
SW8270C	Fluoranthene	mg/kg	na	na	na
SW8270C	Fluorene	mg/kg	na	na	na
SW8270C	Hexachlorobenzene	mg/kg	na	na	na
SW8270C	Hexachlorobutadiene	mg/kg	na	na	na
SW8270C	Hexachlorocyclopentadiene	mg/kg	na	na	na
SW8270C	Hexachloroethane	mg/kg	na	na	na
SW8270C	Hexachlorophene	mg/kg	na	na	na
SW8270C	Hexachloropropene	mg/kg	na	na	na
SW8270C	Indeno(1,2,3-c,d)pyrene	mg/kg	na	na	na
SW8270C	Isophorone	mg/kg	na	na	na
SW8270C	Isosafrole	mg/kg	na	na	na
SW8270C	Methapyrilene	mg/kg	na	na	na
SW8270C	Methyl methanesulfonate	mg/kg	na	na	na
SW8270C	naphthalene	mg/kg	na	na	na
SW8270C	Nitrobenzene	mg/kg	na	na	na
SW8270C	N-Nitrosodiethylamine	mg/kg	na	na	na
SW8270C	N-Nitrosodimethylamine	mg/kg	na	na	na
SW8270C	N-Nitrosodi-n-butylamine	mg/kg	na	na	na

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Table I-1
Comprehensive Soil Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLTA335 05 ft 2001-06-25	BHGLTA336 05 ft 2001-06-25	BHGLTA337 10 ft 2001-06-25
SW8270C	N-Nitrosodi-n-propylamine	mg/kg	na	na	na
SW8270C	N-Nitrosodiphenylamine	mg/kg	na	na	na
SW8270C	N-Nitrosomethylethylamine	mg/kg	na	na	na
SW8270C	N-Nitrosomorpholine	mg/kg	na	na	na
SW8270C	N-Nitrosopiperidine	mg/kg	na	na	na
SW8270C	N-Nitrosopyrrolidine	mg/kg	na	na	na
SW8270C	o-Toluidine	mg/kg	na	na	na
SW8270C	p-Dimethylaminoazobenzene	mg/kg	na	na	na
SW8270C	Pentachlorobenzene	mg/kg	na	na	na
SW8270C	Pentachloronitrobenzene	mg/kg	na	na	na
SW8270C	Pentachlorophenol	mg/kg	na	na	na
SW8270C	Phenacetin	mg/kg	na	na	na
SW8270C	Phenanthrene	mg/kg	na	na	na
SW8270C	Phenol	mg/kg	na	na	na
SW8270C	p-Phenylenediamine	mg/kg	na	na	na
SW8270C	Pronamide	mg/kg	na	na	na
SW8270C	Pyrene	mg/kg	na	na	na
SW8270C	Pyridine	mg/kg	na	na	na
SW8270C	Safrole	mg/kg	na	na	na
SW8280A	2,3,7,8-Tetrachlorodibenzofuran	mg/kg	na	na	na
SW8280A	2,3,7,8-Tetrachlorodibenzo-p-dioxin	mg/kg	na	na	na
SW8310	Chrysene	mg/kg	0 0019 U	0 0019 U	0 0019 U
SW8310	Pyrene	mg/kg	0 0049 U	0 0047 U	0 0048 U
SW9010	Cyanide	mg/kg	na	na	na
SW9030B	Sulfide	mg/kg	na	na	na
SW9041	pH	PH UNITS	na	na	na
SW9081	Cation-Exchange Capacity	MEQ/100G	na	na	na

Note.
Sample date format "YYYY-MM-DD"
F = The analyte was positively detected, but the associated numerical value is below the PQL
J = The analyte was positively detected, the associated numerical value is an estimation.
R = The data are unusable due to QC deficiencies
S = Applied to screening-level data
U = The analyte was analyzed for, but not detected
UJ = The analyte was analyzed for, but not detected, the associated numerical value is estimated
na = Not analyzed

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Table I-2
Comprehensive Groundwater Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	HM-126 2000-07-20	HM-126 2001-04-03	HM-127 2000-04-10	HM-127 Duplicate 2000-04-10	HM-127 2001-02-20	LF03-3D 1998-09-29
E310.1	Alkalinity, Total (As Caco3)	na	na	na	na	na	na
E415 1	Total Organic Carbon	na	na	na	na	na	na
SW6010B	Aluminum	na	na	0 5 U	0 5 U	na	0 5 U
SW6010B	Antimony	na	na	na	na	0.01 U	0 4 U
SW6010B	Arsenic	na	na	0 05 U	0.05 U	0 05 U	0 6 U
SW6010B	Barium	na	na	0 0819 F	0.0801 F	0 0656 F	0 0393
SW6010B	Beryllium	na	na	0 003 U	0.003 U	0 003 U	0 003 UJ
SW6010B	Cadmium	na	na	0 005 UJ	0.005 UJ	0.005 U	0.04 U
SW6010B	Calcium	na	na	132	130	na	218
SW6010B	Chromium, total	na	na	na	na	na	0 07 U
SW6010B	Cobalt	na	na	0 01 U	0.01 U	0.01 U	0 07 U
SW6010B	Copper	na	na	0 1 UJ	0.1 UJ	0 1 UJ	0 06 U
SW6010B	Iron	na	na	0.196 J	0.07 UJ	na	0 07 U
SW6010B	Lead	na	na	na	na	na	0.5 U
SW6010B	Magnesium	na	na	7 33	7.26	na	12.3
SW6010B	Manganese	na	na	0 02 U	0 02 U	na	0.0204
SW6010B	Molybdenum	na	na	0 01 U	0 01 U	na	0.08 U
SW6010B	Nickel	na	na	0 02 UJ	0 02 UJ	0 02 U	0 15 U
SW6010B	Potassium	na	na	0 818 F	0 625 F	na	2 91 F
SW6010B	Selenium	na	na	na	na	na	0.8 U
SW6010B	Silver	na	na	0 005 U	0 005 U	0.005 U	0 07 U
SW6010B	Sodium	na	na	35	34.8	na	28
SW6010B	Thallium	na	na	0 05 U	0 05 U	0 05 U	0.4 U
SW6010B	Tin	na	na	na	na	0.1 U	na
SW6010B	Vanadium	na	na	0.01 U	0.01 U	0.01 UJ	0 08 U
SW6010B	Zinc	na	na	0 1 U	0 1 U	0 1 U	0.02 U
SW7041	Antimony	na	na	0 01 UJ	0 01 U	na	na
SW7191	Chromium, total	na	na	0 005 U	0 005 UJ	0 005 UJ	na
SW7421	Lead	na	na	0 002 U	0 002 U	0.002 U	na
SW7470A	Mercury	na	na	0 0002 U	0 0002 U	0 0002 U	0 0001 U
SW7740	Selenium	na	na	0.005 UJ	0 0018 F	0 005 UJ	na
SW8015	Ethane	na	na	na	na	na	na

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Table I-2
Comprehensive Groundwater Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	HM-126 2000-07-20	HM-126 2001-04-03	HM-127 2000-04-10	HM-127 Duplicate 2000-04-10	HM-127 2001-02-20	LF03-3D 1998-09-29
SW8015	Ethene	na	na	na	na	na	na
SW8015	Methane	na	na	na	na	na	na
SW8081A	Aldrin	na	na	na	na	na	na
SW8081A	alpha-BHC (alpha-Hexachlorocyclohexane)	na	na	na	na	na	na
SW8081A	alpha-Chlordane	na	na	na	na	na	na
SW8081A	alpha-Endosulfan	na	na	na	na	na	na
SW8081A	beta-BHC (beta-Hexachlorocyclohexane)	na	na	na	na	na	na
SW8081A	beta-Endosulfan	na	na	na	na	na	na
SW8081A	Chlordane	na	na	na	na	na	na
SW8081A	delta-BHC (delta-Hexachlorocyclohexane)	na	na	na	na	na	na
SW8081A	Dieldrin	na	na	na	na	na	na
SW8081A	Endosulfan sulfate	na	na	na	na	na	na
SW8081A	Endrin	na	na	na	na	na	na
SW8081A	Endrin aldehyde	na	na	na	na	na	na
SW8081A	gamma-BHC (Lindane)	na	na	na	na	na	na
SW8081A	gamma-Chlordane	na	na	na	na	na	na
SW8081A	Heptachlor	na	na	na	na	na	na
SW8081A	Heptachlor epoxide	na	na	na	na	na	na
SW8081A	Isodrin	na	na	na	na	na	na
SW8081A	Kepone	na	na	na	na	na	na
SW8081A	Methoxychlor	na	na	na	na	na	na
SW8081A	p,p'-DDD	na	na	na	na	na	na
SW8081A	p,p'-DDE	na	na	na	na	na	na
SW8081A	p,p'-DDT	na	na	na	na	na	na
SW8081A	PCB-1016 (Aroclor 1016)	na	na	na	na	na	na
SW8081A	PCB-1221 (Aroclor 1221)	na	na	na	na	na	na
SW8081A	PCB-1232 (Aroclor 1232)	na	na	na	na	na	na
SW8081A	PCB-1242 (Aroclor 1242)	na	na	na	na	na	na
SW8081A	PCB-1248 (Aroclor 1248)	na	na	na	na	na	na
SW8081A	PCB-1254 (Aroclor 1254)	na	na	na	na	na	na
SW8081A	PCB-1260 (Aroclor 1260)	na	na	na	na	na	na
SW8081A	Toxaphene	na	na	na	na	na	na

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Table I-2
Comprehensive Groundwater Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	HM-126 2000-07-20	HM-126 2001-04-03	HM-127 2000-04-10	HM-127 Duplicate 2000-04-10	HM-127 2001-02-20	LF03-3D 1998-09-29
SW8141A	Dimethoate	na	na	na	na	na	na
SW8141A	Disulfoton	na	na	na	na	na	na
SW8141A	Famphur	na	na	na	na	na	na
SW8141A	O,O,O-Triethyl phosphorothioate	na	na	na	na	na	na
SW8141A	Parathion, ethyl	na	na	na	na	na	na
SW8141A	Parathion, methyl	na	na	na	na	na	na
SW8141A	Phorate	na	na	na	na	na	na
SW8141A	Thiodiphosphoric acid, tetraethyl ester	na	na	na	na	na	na
SW8141A	Zinophos	na	na	na	na	na	na
SW8151A	2,4,5-T (Trichlorophenoxyacetic acid)	na	na	na	na	na	na
SW8151A	2,4-D (Dichlorophenoxyacetic acid)	na	na	na	na	na	na
SW8151A	Silvex (2,4,5-TP)	na	na	na	na	na	na
SW8260B	1,1,1,2-Tetrachloroethane	0.0005 U	0 0002 U	0 0005 U	0 0005 U	0 0005 U	0.0005 U
SW8260B	1,1,1-Trichloroethane	0.0005 U	0 0003 U	0 0005 U	0 0005 U	0 0005 U	0 0005 U
SW8260B	1,1,2,2-Tetrachloroethane	0 0005 U	0 0002 U	0 0005 U	0 0005 U	0 0005 U	0.0005 U
SW8260B	1,1,2-Trichloroethane	0.0005 U	0 0004 U	0.0005 U	0 0005 U	0.0005 U	0 0005 U
SW8260B	1,1-Dichloroethane	0.0004	0 0003 U	0 0004 U	0 0004 U	0.0004 U	0 0004 U
SW8260B	1,1-Dichloroethene	0 001	0.0004 F	0 0005 U	0.0005 U	0 0005 U	0 0005 U
SW8260B	1,1-Dichloropropene	0.0005 U	0 0004 U	na	na	na	0 0005 U
SW8260B	1,2,3-Trichlorobenzene	0 0005 U	0.0002 U	na	na	na	0.0005 U
SW8260B	1,2,3-Trichloropropane	0 0005 U	0.0003 U	0 0005 U	0.0005 U	0 0005 U	0 0005 U
SW8260B	1,2,4-Trichlorobenzene	0.0004 U	0 0002 U	na	na	na	0 0004 U
SW8260B	1,2,4-Trimethylbenzene	0.0005 U	0 0004 U	na	na	na	0 0005 U
SW8260B	1,2-Dibromo-3-chloropropane	0.0005 U	0 0005 U	0.0005 U	0 0005 U	0 0005 U	0.0005 U
SW8260B	1,2-Dibromoethane (Ethylene dibromide)	0.0005 U	0 0003 U	0.0005 U	0.0005 U	0 0005 U	0 0005 U
SW8260B	1,2-Dichlorobenzene	0.0003 U	0 0003 U	na	na	na	0.0003 U
SW8260B	1,2-Dichloroethane	0 0005 U	0 0002 U	0 0005 U	0.0005 U	0 0005 U	0 0005 U
SW8260B	1,2-Dichloropropane	0 0004 U	0.0002 U	0 0004 U	0 0004 U	0 0004 U	0 0004 U
SW8260B	1,3,5-Trimethylbenzene (Mesitylene)	0 0005 U	0 0002 U	na	na	na	0 0005 U
SW8260B	1,3-Dichlorobenzene	0 0005 U	0.0003 U	na	na	na	0 0005 U
SW8260B	1,3-Dichloropropane	0 0004 U	0 0002 U	na	na	na	0 0004 U
SW8260B	1,4-Dichlorobenzene	0.0003 U	0 0002 U	na	na	na	0 0003 U

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Table I-2
Comprehensive Groundwater Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	HM-126 2000-07-20	HM-126 2001-04-03	HM-127 2000-04-10	HM-127 Duplicate 2000-04-10	HM-127 2001-02-20	LF03-3D 1998-09-29
SW8260B	1-Chlorohexane	0 0005 U	0 0003 U	na	na	na	0 0005 U
SW8260B	2,2-Dichloropropane	0.0005 U	0 0003 U	na	na	na	0 0005 U
SW8260B	2-Chloro-1,3-butadiene	na	na	0 0005 U	0 0005 U	0 0005 U	na
SW8260B	2-Chlorotoluene	0.0004 U	0.0002 U	na	na	na	0.0004 U
SW8260B	2-Hexanone	na	na	0.002 U	0 002 U	0.002 U	na
SW8260B	4-Chlorotoluene	0.0005 U	0 0002 U	na	na	na	0 0005 U
SW8260B	Acetone	na	na	0 002 U	0.002 U	0.002 U	na
SW8260B	Acetonitrile	na	na	0 04 U	0.04 U	0.04 U	na
SW8260B	Acrolein	na	na	0 1 U	0.1 U	0.1 U	na
SW8260B	Acrylonitrile	na	na	0.04 U	0.04 U	0.04 U	na
SW8260B	Allyl chloride (3-Chloropropene)	na	na	0.002 U	0 002 U	0 002 U	na
SW8260B	Benzene	0.0004 U	0 0002 U	0 0004 U	0 0004 U	0 0004 U	0 0004 U
SW8260B	Bromobenzene	0.0003 U	0 0002 U	na	na	na	0.0003 U
SW8260B	Bromochloromethane	0 0004 U	0.0004 U	na	na	na	0 0004 U
SW8260B	Bromodichloromethane	0.0005 U	0 0002 U	0 0005 U	0 0005 U	0 0005 U	0.0005 U
SW8260B	Bromoform	0 0005 U	0 0002 U	0 0005 U	0 0005 U	0 0005 U	0 0005 U
SW8260B	Bromomethane	0 0005 U	0.0004 U	0.0005 U	0 0005 U	0 0005 U	0 0005 U
SW8260B	Carbon disulfide	na	na	0 002 U	0 002 U	0.002 U	na
SW8260B	Carbon tetrachloride	0.0005 U	0 0003 U	0 0005 U	0 0005 U	0.0005 U	0.0005 U
SW8260B	Chlorobenzene	0.0004 U	0 0002 U	0 0004 U	0.0004 U	0.0004 U	0 0004 U
SW8260B	Chloroethane	0.0005 U	0 0003 U	0 0005 U	0.0005 U	0.0005 U	0 0005 U
SW8260B	Chloroform	0 0006	0 0003 U	0 0003 U	0.0003 U	0 0003 U	0 0003 U
SW8260B	Chloromethane	0 0005 U	0 0004 U	0.0005 U	0.0005 U	0 0005 U	0 0005 U
SW8260B	cis-1,2-Dichloroethene	0 07	0 019	0.0005 U	0.0005 U	0 0005 U	0 0005 U
SW8260B	cis-1,3-Dichloropropene	0 0005 U	0.0003 U	0.0005 U	0 0005 U	0.0005 U	0.0005 U
SW8260B	Dibromochloromethane	0.0005 U	0 0002 U	0 0005 U	0.0005 U	0 0005 U	0.0005 U
SW8260B	Dibromomethane	0 0005 U	0.0002 U	0.0005 U	0 0005 U	0.0005 U	0 0005 U
SW8260B	Dichlorodifluoromethane	0.0005 U	0 0004 U	0 0005 U	0.0005 U	0 0005 U	0 0005 R
SW8260B	Ethyl methacrylate	na	na	0 002 U	0.002 U	0 002 U	na
SW8260B	Ethylbenzene	0 0005 U	0 0002 U	0 0005 U	0.0005 U	0.0005 U	0 0005 U
SW8260B	Hexachlorobutadiene	0 0005 U	0 0004 U	na	na	na	0 0005 U
SW8260B	Iodomethane (Methyl iodide)	na	na	0.002 U	0 002 U	0.002 U	na

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Table I-2
Comprehensive Groundwater Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	HM-126 2000-07-20	HM-126 2001-04-03	HM-127 2000-04-10	HM-127 Duplicate 2000-04-10	HM-127 2001-02-20	LF03-3D 1998-09-29
SW8260B	Isobutanol	na	na	0 1 U	0.1 U	0 1 U	na
SW8260B	Isopropylbenzene (Cumene)	0.0005 U	0 0002 U	na	na	na	0 0005 U
SW8260B	m,p-Xylene (sum of isomers)	0 0005 U	0 0005 U	0 0005 U	0 0005 U	0.0005 U	0.0005 U
SW8260B	Methyl ethyl ketone (2-Butanone)	na	na	0.002 U	0.002 U	0 002 U	na
SW8260B	Methyl isobutyl ketone (4-Methyl-2-pentanone)	na	na	0.002 U	0 002 U	0 002 U	na
SW8260B	Methyl methacrylate	na	na	0.002 U	0.002 U	0 002 U	na
SW8260B	Methylacrylonitrile	na	na	0.002 U	0 002 U	0.002 U	na
SW8260B	Methylene chloride	0.0006 U	0 0003 R	0 0005 U	0 0005 U	0.0005 R	0.0005 U
SW8260B	naphthalene	0.0005 U	0 001 U	na	na	na	0 0005 U
SW8260B	N-Butylbenzene	0 0005 U	0 0002 U	na	na	na	0 0005 U
SW8260B	N-Propylbenzene	0 0004 U	0.0002 U	na	na	na	0 0004 U
SW8260B	o-Xylene (1,2-Dimethylbenzene)	0.0005 U	0.0002 U	0.0005 U	0.0005 U	0 0005 U	0.0005 U
SW8260B	P-Cymene (P-Isopropyltoluene)	0 0005 U	0 0002 U	na	na	na	0 0005 U
SW8260B	Pentachloroethane	na	na	0 002 U	0 002 U	0 002 U	na
SW8260B	Propane nitrile (Propionitrile)	na	na	0 02 U	0 02 U	0 02 U	na
SW8260B	Sec-Butylbenzene	0 0005 U	0 0003 U	na	na	na	0.0005 U
SW8260B	Styrene	0 0004 U	0.0002 U	0.0004 UJ	0 0004 U	0 0004 U	0 0004 U
SW8260B	T-Butylbenzene	0.0005 U	0.0003 U	na	na	na	0 0005 U
SW8260B	Tert-Butyl Methyl Ether	0 0005 U	0 0003 U	0 0005 R	0 0005 R	0.0005 R	na
SW8260B	Tetrachloroethene (PCE)	0 001	0 0003 U	0 0005 U	0.0005 U	0.0005 U	0 0005 U
SW8260B	Toluene	0 0005 U	0 0002 U	0.0005 U	0 0005 U	0.0005 U	0 0005 U
SW8260B	Trans-1,2-Dichloroethene	0 003	0 003	0.0005 U	0.0005 U	0.0005 U	0 0005 U
SW8260B	Trans-1,3-Dichloropropene	0.0005 U	0 0002 U	0.0005 U	0.0005 U	0 0005 U	0 0005 U
SW8260B	Trans-1,4-Dichloro-2-Butene	na	na	0.002 U	0.002 U	0 002 U	na
SW8260B	Trichloroethene (TCE)	1.5	0 28	0 0003 F	0 0003 F	0 0005 U	0 0006
SW8260B	Trichlorofluoromethane	0 0005 U	0 0004 U	0 0005 U	0.0005 U	0.0005 U	0 0005 U
SW8260B	Vinyl acetate	0 002 U	0.0008 U	0 002 U	0 002 U	0 002 U	0 002 R
SW8260B	Vinyl chloride	0 0005 U	0.0003 U	0 0005 U	0 0005 U	0 0005 U	0 0005 U
SW8270C	1,2,4,5-Tetrachlorobenzene	na	na	0 01 U	0 01 U	na	na
SW8270C	1,2,4-Trichlorobenzene	na	na	0 01 U	0.01 U	na	0 01 U
SW8270C	1,2-Dichlorobenzene	na	na	0.01 U	0.01 U	na	0 01 U
SW8270C	1,3,5-Trinitrobenzene	na	na	0.039 U	0.039 U	na	na

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Table I-2
Comprehensive Groundwater Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	HM-126 2000-07-20	HM-126 2001-04-03	HM-127 2000-04-10	HM-127 Duplicate 2000-04-10	HM-127 2001-02-20	LF03-3D 1998-09-29
SW8270C	1,3-Dichlorobenzene	na	na	0.01 U	0 01 U	na	0 01 U
SW8270C	1,3-Dinitrobenzene	na	na	0 02 U	0 019 U	na	na
SW8270C	1,4-Dichlorobenzene	na	na	0 01 U	0 01 U	na	0 01 U
SW8270C	1,4-Dioxane (p-Dioxane)	na	na	0 078 U	0.078 U	na	na
SW8270C	1,4-naphthoquinone	na	na	0 049 U	0 048 U	na	na
SW8270C	1-naphthylamine	na	na	0 02 U	0 019 U	na	na
SW8270C	2,2'-Oxybis(1-chloropropane)	na	na	0 01 U	0.01 U	na	0 01 U
SW8270C	2,3,4,6-Tetrachlorophenol	na	na	0 01 U	0.01 U	na	na
SW8270C	2,4,5-Trichlorophenol	na	na	0.049 U	0.048 U	na	0.052 U
SW8270C	2,4,6-Trichlorophenol	na	na	0 01 U	0.01 U	na	0 01 U
SW8270C	2,4-Dichlorophenol	na	na	0.01 U	0.01 U	na	0.01 U
SW8270C	2,4-Dimethylphenol	na	na	0 01 U	0.01 U	na	0 01 U
SW8270C	2,4-Dinitrophenol	na	na	0 049 U	0.048 U	na	0 052 U
SW8270C	2,4-Dinitrotoluene	na	na	0.01 U	0 01 U	na	0.01 U
SW8270C	2,6-Dichlorophenol	na	na	0.01 U	0.01 U	na	na
SW8270C	2,6-Dinitrotoluene	na	na	0.01 U	0.01 U	na	0.01 U
SW8270C	2-Acetylaminofluorene	na	na	0.02 U	0.019 U	na	na
SW8270C	2-Aminonaphthalene (beta-naphthylamine)	na	na	0 02 U	0 019 U	na	na
SW8270C	2-Chloronaphthalene	na	na	0 01 U	0.01 U	na	0.01 U
SW8270C	2-Chlorophenol	na	na	0 01 U	0.01 U	na	0.01 U
SW8270C	2-Methylnaphthalene	na	na	0 01 U	0.01 U	na	0 01 U
SW8270C	2-Methylphenol (o-Cresol)	na	na	0 01 U	0 01 U	na	0.01 U
SW8270C	2-Nitroaniline	na	na	0.049 U	0 048 U	na	0 052 U
SW8270C	2-Nitrophenol	na	na	0.01 U	0 01 U	na	0 01 U
SW8270C	2-Picoline (alpha-Picoline)	na	na	0 01 U	0 01 U	na	na
SW8270C	3,3'-Dichlorobenzidine	na	na	0 02 U	0.019 U	na	0 021 U
SW8270C	3,3'-Dimethylbenzidine	na	na	0 049 U	0.048 U	na	na
SW8270C	3-Methylcholanthrene	na	na	0 01 U	0.01 U	na	na
SW8270C	3-Nitroaniline	na	na	0 049 U	0 048 U	na	0.052 R
SW8270C	4,6-Dinitro-2-methylphenol	na	na	0 049 U	0.048 U	na	0.052 U
SW8270C	4-Aminobiphenyl (4-Biphenylamine)	na	na	0 02 U	0.019 U	na	na
SW8270C	4-Bromophenyl phenyl ether	na	na	0 01 U	0.01 U	na	0 01 U

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Table I-2
Comprehensive Groundwater Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	HM-126 2000-07-20	HM-126 2001-04-03	HM-127 2000-04-10	HM-127 Duplicate 2000-04-10	HM-127 2001-02-20	LF03-3D 1998-09-29
SW8270C	4-Chloro-3-methylphenol	na	na	0 02 U	0 019 U	na	0.021 U
SW8270C	4-Chloroaniline	na	na	0 02 U	0.019 U	na	0 021 U
SW8270C	4-Chlorophenyl phenyl ether	na	na	0 01 U	0.01 U	na	0 01 U
SW8270C	4-Methylphenol (P-Cresol)	na	na	na	na	na	0 01 U
SW8270C	4-Nitroaniline	na	na	0 049 U	0.048 U	na	0 052 U
SW8270C	4-Nitrophenol	na	na	0 049 U	0.048 U	na	0.052 U
SW8270C	4-Nitroquinoline-1-oxide	na	na	0 049 U	0.048 U	na	na
SW8270C	5-Nitro-o-toluidine	na	na	0 02 U	0.019 U	na	na
SW8270C	7,12-Dimethylbenzo(a)anthracene	na	na	0.02 U	0.019 U	na	na
SW8270C	Acenaphthene	na	na	0.01 U	0.01 U	na	0.01 U
SW8270C	Acenaphthylene	na	na	0 01 U	0 01 U	na	0.01 U
SW8270C	Acetophenone	na	na	0 01 U	0 01 U	na	na
SW8270C	alpha, alpha-Dimethylphenethylamine	na	na	0.049 U	0.048 U	na	na
SW8270C	Aniline (Phenylamine, Aminobenzene)	na	na	0 01 U	0 01 U	na	na
SW8270C	Anthracene	na	na	0.01 U	0.01 U	na	0.01 U
SW8270C	Aramite (total)	na	na	0 02 U	0 019 U	na	na
SW8270C	Benzo(a)anthracene	na	na	0 01 U	0 01 U	na	0 01 U
SW8270C	Benzo(a)pyrene	na	na	0 01 U	0 01 U	na	0 01 U
SW8270C	Benzo(b)fluoranthene	na	na	0 01 U	0 01 U	na	0 01 U
SW8270C	Benzo(g,h,i)perylene	na	na	0.01 U	0.01 U	na	0.01 U
SW8270C	Benzo(k)fluoranthene	na	na	0 01 U	0 01 U	na	na
SW8270C	Benzoic acid	na	na	0.049 U	0.048 U	na	0.052 R
SW8270C	Benzyl alcohol	na	na	0 01 U	0 01 U	na	0 01 U
SW8270C	Benzyl butyl phthalate	na	na	0 01 U	0 01 U	na	0 01 U
SW8270C	bis(2-Chloroethoxy)methane	na	na	0.01 U	0.01 U	na	0 01 U
SW8270C	bis(2-Chloroethyl)ether (2-Chloroethyl ether)	na	na	0 01 U	0 01 U	na	0 01 U
SW8270C	bis(2-Ethylhexyl)phthalate	na	na	0 01 U	0 01 U	na	0.01 U
SW8270C	Chlorobenzilate	na	na	0 01 U	0 01 U	na	na
SW8270C	Chrysene	na	na	0 01 U	0 01 U	na	0 01 U
SW8270C	Cresols, m & p	na	na	0 01 U	0 01 U	na	na
SW8270C	Diallate (total of cis and trans isomers)	na	na	0.01 U	0 01 U	na	na
SW8270C	Dibenz(a,h)anthracene	na	na	0.01 U	0.01 U	na	0 01 U

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Table I-2
Comprehensive Groundwater Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	HM-126 2000-07-20	HM-126 2001-04-03	HM-127 2000-04-10	HM-127 Duplicate 2000-04-10	HM-127 2001-02-20	LF03-3D 1998-09-29
SW8270C	Dibenzofuran	na	na	0.01 U	0 01 U	na	0 01 U
SW8270C	Diethyl phthalate	na	na	0 01 U	0 01 U	na	0 01 R
SW8270C	Dimethyl phthalate	na	na	0 01 U	0 01 U	na	0.01 U
SW8270C	Di-n-butyl phthalate	na	na	0 01 U	0.01 U	na	0 01 U
SW8270C	Di-n-octyl phthalate	na	na	0 01 U	0.01 U	na	0 01 U
SW8270C	Dinoseb	na	na	0 02 U	0.019 U	na	na
SW8270C	Diphenylamine	na	na	0.01 U	0 01 U	na	na
SW8270C	Ethyl methanesulfonate	na	na	0 01 U	0 01 U	na	na
SW8270C	Fluoranthene	na	na	0 01 U	0 01 U	na	0 01 U
SW8270C	Fluorene	na	na	0 01 U	0 01 U	na	0 01 U
SW8270C	Hexachlorobenzene	na	na	0.01 U	0 01 U	na	0 01 U
SW8270C	Hexachlorobutadiene	na	na	0.01 U	0.01 U	na	0.01 U
SW8270C	Hexachlorocyclopentadiene	na	na	0.01 U	0 01 U	na	0.01 U
SW8270C	Hexachloroethane	na	na	0 01 U	0 01 U	na	0 01 U
SW8270C	Hexachlorophene	na	na	0.15 U	0 14 U	na	na
SW8270C	Hexachloropropene	na	na	0.049 U	0.048 U	na	na
SW8270C	Indeno(1,2,3-c,d)pyrene	na	na	0 01 U	0 01 U	na	0 01 U
SW8270C	Isophorone	na	na	0.01 U	0 01 U	na	0 01 U
SW8270C	Isosafrole	na	na	0 01 U	0.01 U	na	na
SW8270C	Methapyrilene	na	na	0.049 U	0 048 U	na	na
SW8270C	Methyl methanesulfonate	na	na	0 01 U	0.01 U	na	na
SW8270C	naphthalene	na	na	0 01 U	0.01 U	na	0.01 U
SW8270C	Nitrobenzene	na	na	0 01 U	0 01 U	na	0.01 U
SW8270C	N-Nitrosodiethylamine	na	na	0 02 U	0.019 U	na	na
SW8270C	N-Nitrosodimethylamine	na	na	0 01 U	0 01 U	na	na
SW8270C	N-Nitrosodi-n-butylamine	na	na	0 01 U	0 01 U	na	na
SW8270C	N-Nitrosodi-n-propylamine	na	na	0.01 U	0 01 U	na	0 01 U
SW8270C	N-Nitrosodiphenylamine	na	na	0.01 U	0.01 U	na	0 01 U
SW8270C	N-Nitrosomethylethylamine	na	na	0.02 U	0.019 U	na	na
SW8270C	N-Nitrosomorpholine	na	na	0 02 U	0 019 U	na	na
SW8270C	N-Nitrosopiperidine	na	na	0 01 U	0.01 U	na	na
SW8270C	N-Nitrosopyrrolidine	na	na	0.049 U	0.048 U	na	na

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Table I-2
Comprehensive Groundwater Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	HM-126 2000-07-20	HM-126 2001-04-03	HM-127 2000-04-10	HM-127 Duplicate 2000-04-10	HM-127 2001-02-20	LF03-3D 1998-09-29
SW8270C	o-Toluidine	na	na	0 01 U	0.01 U	na	na
SW8270C	p-Dimethylaminoazobenzene	na	na	0.02 U	0.019 U	na	na
SW8270C	Pentachlorobenzene	na	na	0.01 U	0.01 U	na	na
SW8270C	Pentachloronitrobenzene	na	na	0 01 U	0 01 U	na	na
SW8270C	Pentachlorophenol	na	na	0 049 U	0.048 U	na	0.052 U
SW8270C	Phenacetin	na	na	0.02 U	0.019 U	na	na
SW8270C	Phenanthrene	na	na	0 01 U	0.01 U	na	0.01 U
SW8270C	Phenol	na	na	0 01 U	0.01 U	na	0 01 U
SW8270C	p-Phenylenediamine	na	na	0 039 U	0 039 U	na	na
SW8270C	Pronamide	na	na	0 02 U	0 019 U	na	na
SW8270C	Pyrene	na	na	0 01 U	0 01 U	na	0 01 R
SW8270C	Pyridine	na	na	0 02 U	0 019 U	na	na
SW8270C	Safrole	na	na	0 01 U	0.01 U	na	na
SW8280A	2,3,7,8-Tetrachlorodibenzofuran	na	na	na	na	na	na
SW8280A	2,3,7,8-Tetrachlorodibenzo-p-dioxin	na	na	na	na	na	na
SW8310	Acenaphthene	na	na	na	na	0 0027 UJ	na
SW8310	Acenaphthylene	na	na	na	na	0.0014 UJ	na
SW8310	Anthracene	na	na	na	na	0.000055 UJ	na
SW8310	Benzo(a)anthracene	na	na	na	na	0 00014 UJ	na
SW8310	Benzo(a)pyrene	na	na	na	na	0.00014 UJ	na
SW8310	Benzo(b)fluoranthene	na	na	na	na	0.000055 UJ	na
SW8310	Benzo(g,h,i)perylene	na	na	na	na	0 00022 UJ	na
SW8310	Benzo(k)fluoranthene	na	na	na	na	0 000055 UJ	na
SW8310	Chrysene	na	na	na	na	0 00014 UJ	na
SW8310	Dibenz(a,h)anthracene	na	na	na	na	0.00055 UJ	na
SW8310	Fluoranthene	na	na	na	na	0.00014 UJ	na
SW8310	Fluorene	na	na	na	na	0.00027 UJ	na
SW8310	Indeno(1,2,3-c,d)pyrene	na	na	na	na	0 00014 UJ	na
SW8310	naphthalene	na	na	na	na	0.0014 UJ	na
SW8310	Phenanthrene	na	na	na	na	0 00011 UJ	na
SW8310	Pyrene	na	na	na	na	0.00027 UJ	na
SW9010	Cyanide	na	na	na	na	na	na

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Table I-2
Comprehensive Groundwater Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	HM-126 2000-07-20	HM-126 2001-04-03	HM-127 2000-04-10	HM-127 Duplicate 2000-04-10	HM-127 2001-02-20	LF03-3D 1998-09-29
SW9030B	Sulfide	na	na	na	na	na	na
SW9056	Chloride (As Cl)	na	na	na	na	na	na
SW9056	Nitrogen, Nitrate (As N)	na	na	na	na	na	na
SW9056	Sulfate (As So4)	na	na	na	na	na	na

Note
Sample date format "YYYY-MM-DD"
F = The analyte was positively detected, but the associated numerical value is below the PQL.
J = The analyte was positively detected, the associated numerical value is an estimation
R = The data are unusable due to QC deficiencies
S = Applied to screening-level data
U = The analyte was analyzed for, but not detected
UJ = The analyte was analyzed for, but not detected, the associated numerical value is estimated
na = Not analyzed
All concentrations in mg/L

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Table I-2
Comprehensive Groundwater Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	LF03-3D 1998-12-17	LF03-3D 1999-04-21	LF03-3D 1999-07-13	LF03-3D 1999-10-13	LF03-3D 2000-04-06	LF03-3D 2000-07-12
E310.1	Alkalinity, Total (As Caco3)	na	359	na	370	na	na
E415 1	Total Organic Carbon	na	1 3	na	1.5	na	na
SW6010B	Aluminum	0 5 U	na	na	na	na	na
SW6010B	Antimony	0 005 U	na	na	na	na	na
SW6010B	Arsenic	0.05 U	na	na	na	na	na
SW6010B	Barium	0.0406 F	na	na	na	na	na
SW6010B	Beryllium	0 003 UJ	na	na	na	na	na
SW6010B	Cadmium	0 005 U	na	na	na	na	na
SW6010B	Calcium	209	na	na	na	na	na
SW6010B	Chromium, total	0 1 UJ	na	na	na	na	na
SW6010B	Cobalt	0.4 U	na	na	na	na	na
SW6010B	Copper	0.4 UJ	na	na	na	na	na
SW6010B	Iron	0 07 U	na	na	na	na	na
SW6010B	Lead	0.01 U	na	na	na	na	na
SW6010B	Magnesium	11 6	na	na	na	na	na
SW6010B	Manganese	0 02 U	na	na	na	na	na
SW6010B	Molybdenum	0 08 U	na	na	na	na	na
SW6010B	Nickel	0.4 UJ	na	na	na	na	na
SW6010B	Potassium	2 12 F	na	na	na	na	na
SW6010B	Selenium	0 05 U	na	na	na	na	na
SW6010B	Silver	0 4 U	na	na	na	na	na
SW6010B	Sodium	27 5	na	na	na	na	na
SW6010B	Thallium	0 01 UJ	na	na	na	na	na
SW6010B	Tin	na	na	na	na	na	na
SW6010B	Vanadium	0.4 U	na	na	na	na	na
SW6010B	Zinc	0 4 U	na	na	na	na	na
SW7041	Antimony	na	na	na	na	na	na
SW7191	Chromium, total	na	na	na	0 005 U	0.005 UJ	na
SW7421	Lead	na	na	na	na	na	na
SW7470A	Mercury	0.00048 F	na	na	na	0 0002 U	na
SW7740	Selenium	na	na	na	na	na	na
SW8015	Ethane	na	0.001 U	0.001 U	0.001 U	na	na

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Table I-2
Comprehensive Groundwater Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	LF03-3D 1998-12-17	LF03-3D 1999-04-21	LF03-3D 1999-07-13	LF03-3D 1999-10-13	LF03-3D 2000-04-06	LF03-3D 2000-07-12
SW8015	Ethene	na	0.001 U	0 001 U	0 001 U	na	na
SW8015	Methane	na	1 U	0.001 U	0 001 U	na	na
SW8081A	Aldrin	na	na	na	na	na	na
SW8081A	alpha-BHC (alpha-Hexachlorocyclohexane)	na	na	na	na	na	na
SW8081A	alpha-Chlordane	na	na	na	na	na	na
SW8081A	alpha-Endosulfan	na	na	na	na	na	na
SW8081A	beta-BHC (beta-Hexachlorocyclohexane)	na	na	na	na	na	na
SW8081A	beta-Endosulfan	na	na	na	na	na	na
SW8081A	Chlordane	na	na	na	na	na	na
SW8081A	delta-BHC (delta-Hexachlorocyclohexane)	na	na	na	na	na	na
SW8081A	Dieldrin	na	na	na	na	na	na
SW8081A	Endosulfan sulfate	na	na	na	na	na	na
SW8081A	Endrin	na	na	na	na	na	na
SW8081A	Endrin aldehyde	na	na	na	na	na	na
SW8081A	gamma-BHC (Lindane)	na	na	na	na	na	na
SW8081A	gamma-Chlordane	na	na	na	na	na	na
SW8081A	Heptachlor	na	na	na	na	na	na
SW8081A	Heptachlor epoxide	na	na	na	na	na	na
SW8081A	Isodrin	na	na	na	na	na	na
SW8081A	Kepone	na	na	na	na	na	na
SW8081A	Methoxychlor	na	na	na	na	na	na
SW8081A	p,p'-DDD	na	na	na	na	na	na
SW8081A	p,p'-DDE	na	na	na	na	na	na
SW8081A	p,p'-DDT	na	na	na	na	na	na
SW8081A	PCB-1016 (Aroclor 1016)	na	na	na	na	na	na
SW8081A	PCB-1221 (Aroclor 1221)	na	na	na	na	na	na
SW8081A	PCB-1232 (Aroclor 1232)	na	na	na	na	na	na
SW8081A	PCB-1242 (Aroclor 1242)	na	na	na	na	na	na
SW8081A	PCB-1248 (Aroclor 1248)	na	na	na	na	na	na
SW8081A	PCB-1254 (Aroclor 1254)	na	na	na	na	na	na
SW8081A	PCB-1260 (Aroclor 1260)	na	na	na	na	na	na
SW8081A	Toxaphene	na	na	na	na	na	na

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Table I-2
Comprehensive Groundwater Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	LF03-3D 1998-12-17	LF03-3D 1999-04-21	LF03-3D 1999-07-13	LF03-3D 1999-10-13	LF03-3D 2000-04-06	LF03-3D 2000-07-12
SW8141A	Dimethoate	na	na	na	na	na	na
SW8141A	Disulfoton	na	na	na	na	na	na
SW8141A	Famphur	na	na	na	na	na	na
SW8141A	O,O,O-Triethyl phosphorothioate	na	na	na	na	na	na
SW8141A	Parathion, ethyl	na	na	na	na	na	na
SW8141A	Parathion, methyl	na	na	na	na	na	na
SW8141A	Phorate	na	na	na	na	na	na
SW8141A	Thiodiphosphoric acid, tetraethyl ester	na	na	na	na	na	na
SW8141A	Zinophos	na	na	na	na	na	na
SW8151A	2,4,5-T (Trichlorophenoxyacetic acid)	na	na	na	na	na	na
SW8151A	2,4-D (Dichlorophenoxyacetic acid)	na	na	na	na	na	na
SW8151A	Silvex (2,4,5-TP)	na	na	na	na	na	na
SW8260B	1,1,1,2-Tetrachloroethane	0 0005 U	0 0005 U	na	0 0005 U	0.0005 U	0 0005 U
SW8260B	1,1,1-Trichloroethane	0 0005 U	0 0005 U	na	0 0005 U	0 0005 U	0 0005 U
SW8260B	1,1,2,2-Tetrachloroethane	0 0005 U	0.0005 U	na	0 0005 U	0 0005 U	0 0005 U
SW8260B	1,1,2-Trichloroethane	0 0005 U	0 0005 U	na	0 0005 U	0 0005 U	0 0005 U
SW8260B	1,1-Dichloroethane	0 0004 U	0 0004 U	na	0.0004 U	0 0004 U	0.0004 U
SW8260B	1,1-Dichloroethene	0.0005 U	0.0005 U	na	0.0005 U	0.0005 U	0 0005 U
SW8260B	1,1-Dichloropropene	0.0005 U	0 0005 U	na	0 0005 U	0 0005 U	0 0005 U
SW8260B	1,2,3-Trichlorobenzene	0 0005 U	0 0005 U	na	0 0005 U	0.0005 U	0.0005 U
SW8260B	1,2,3-Trichloropropane	0.0005 U	0 0005 U	na	0.0005 U	0 0005 U	0 0005 U
SW8260B	1,2,4-Trichlorobenzene	0 0004 U	0 0004 U	na	0 0004 U	0 0004 U	0.0004 U
SW8260B	1,2,4-Trimethylbenzene	0.0005 U	0.0005 U	na	0.0005 U	0 0005 U	0 0005 U
SW8260B	1,2-Dibromo-3-chloropropane	0.0005 U	0.0005 U	na	0 0005 U	0 0005 U	0.0005 U
SW8260B	1,2-Dibromoethane (Ethylene dibromide)	0 0005 U	0 0005 U	na	0 0005 U	0.0005 U	0 0005 U
SW8260B	1,2-Dichlorobenzene	0 0003 U	0 0003 U	na	0.0003 U	0 0003 U	0 0003 U
SW8260B	1,2-Dichloroethane	0 0005 U	0 0005 U	na	0.0005 U	0 0005 U	0.0005 U
SW8260B	1,2-Dichloropropane	0 0004 U	0 0004 U	na	0.0004 U	0.0004 U	0.0004 U
SW8260B	1,3,5-Trimethylbenzene (Mesitylene)	0 0005 U	0 0005 U	na	0.0005 U	0 0005 U	0.0005 U
SW8260B	1,3-Dichlorobenzene	0 0005 U	0 0005 U	na	0.0005 U	0.0005 U	0 0005 U
SW8260B	1,3-Dichloropropane	0 0004 U	0 0004 U	na	0.0004 U	0.0004 U	0 0004 U
SW8260B	1,4-Dichlorobenzene	0 0003 U	0 0003 U	na	0.0003 U	0 0003 U	0.0003 U

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Table I-2
Comprehensive Groundwater Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	LF03-3D 1998-12-17	LF03-3D 1999-04-21	LF03-3D 1999-07-13	LF03-3D 1999-10-13	LF03-3D 2000-04-06	LF03-3D 2000-07-12
SW8260B	1-Chlorohexane	0 0005 U	0 0005 U	na	0 0005 U	0 0005 U	0 0005 U
SW8260B	2,2-Dichloropropane	0 0005 U	0 0005 U	na	0 0005 U	0 0005 U	0 0005 U
SW8260B	2-Chloro-1,3-butadiene	na	na	na	na	na	na
SW8260B	2-Chlorotoluene	0 0004 U	0 0004 U	na	0 0004 U	0 0004 U	0 0004 U
SW8260B	2-Hexanone	na	na	na	na	na	na
SW8260B	4-Chlorotoluene	0 0005 U	0 0005 U	na	0.0005 U	0.0005 U	0.0005 U
SW8260B	Acetone	na	na	na	na	na	na
SW8260B	Acetonitrile	na	na	na	na	na	na
SW8260B	Acrolein	na	na	na	na	na	na
SW8260B	Acrylonitrile	na	na	na	na	na	na
SW8260B	Allyl chloride (3-Chloropropene)	na	na	na	na	na	na
SW8260B	Benzene	0.0004 U	0 0004 U	na	0 0004 U	0.0004 U	0.0004 U
SW8260B	Bromobenzene	0.0003 U	0 0003 U	na	0 0003 U	0 0003 U	0 0003 U
SW8260B	Bromochloromethane	0.0004 U	0 0004 U	na	0 0004 U	0.0004 U	0.0004 U
SW8260B	Bromodichloromethane	0 0005 U	0 0005 U	na	0 0005 U	0 0005 U	0.0005 U
SW8260B	Bromoform	0.0005 U	0 0005 U	na	0 0005 U	0.0005 U	0.0005 U
SW8260B	Bromomethane	0 0005 U	0 0005 U	na	0.0005 U	0 0005 U	0 0005 U
SW8260B	Carbon disulfide	na	na	na	na	na	na
SW8260B	Carbon tetrachloride	0 0005 U	0 0005 U	na	0.0005 U	0 0005 U	0 0005 U
SW8260B	Chlorobenzene	0 0004 U	0.0004 U	na	0 0004 U	0 0004 U	0.0004 U
SW8260B	Chloroethane	0.0005 U	0 0005 U	na	0.0005 U	0.0005 U	0 0005 U
SW8260B	Chloroform	0 0003 U	0 0003 U	na	0.0003 U	0 0003 U	0 0003 U
SW8260B	Chloromethane	0 0005 U	0.0005 U	na	0.0005 U	0 0005 U	0.0005 U
SW8260B	cis-1,2-Dichloroethene	0.0005 U	0 0005 U	na	0.0005 U	0 0005 U	0 0005 U
SW8260B	cis-1,3-Dichloropropene	0 0005 U	0 0005 U	na	0.0005 U	0 0005 U	0 0005 U
SW8260B	Dibromochloromethane	0 0005 U	0.0005 U	na	0 0005 U	0 0005 U	0.0005 U
SW8260B	Dibromomethane	0 0005 U	0.0005 U	na	0 0005 U	0.0005 U	0 0005 U
SW8260B	Dichlorodifluoromethane	0.0005 U	0 0005 R	na	0.0005 U	0 0005 U	0 0005 U
SW8260B	Ethyl methacrylate	na	na	na	na	na	na
SW8260B	Ethylbenzene	0 0005 U	0.0005 U	na	0 0005 U	0.0005 U	0.0005 U
SW8260B	Hexachlorobutadiene	0 0005 U	0 0005 U	na	0.0005 U	0 0005 U	0 0005 U
SW8260B	Iodomethane (Methyl iodide)	na	na	na	na	na	na

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Table I-2
Comprehensive Groundwater Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	LF03-3D 1998-12-17	LF03-3D 1999-04-21	LF03-3D 1999-07-13	LF03-3D 1999-10-13	LF03-3D 2000-04-06	LF03-3D 2000-07-12
SW8260B	Isobutanol	na	na	na	na	na	na
SW8260B	Isopropylbenzene (Cumene)	0 0005 U	0.0005 U	na	0 0005 U	0 0005 U	0 0005 U
SW8260B	m,p-Xylene (sum of isomers)	0 0005 U	0 0005 U	na	0.0005 U	0 0005 U	0 0005 U
SW8260B	Methyl ethyl ketone (2-Butanone)	na	na	na	na	na	na
SW8260B	Methyl isobutyl ketone (4-Methyl-2-pentanone)	na	na	na	na	na	na
SW8260B	Methyl methacrylate	na	na	na	na	na	na
SW8260B	Methylacrylonitrile	na	na	na	na	na	na
SW8260B	Methylene chloride	0.0005 U	0.0005 U	na	0 0005 U	0 0005 U	0 0005 U
SW8260B	naphthalene	0.0005 U	0 0005 U	na	0 0005 U	0 0005 U	0 0005 U
SW8260B	N-Butylbenzene	0 0005 U	0 0005 U	na	0.0005 U	0.0005 U	0.0005 U
SW8260B	N-Propylbenzene	0 0004 U	0 0004 U	na	0.0004 U	0.0004 U	0.0004 U
SW8260B	o-Xylene (1,2-Dimethylbenzene)	0 0005 U	0.0005 U	na	0.0005 U	0.0005 U	0 0005 U
SW8260B	P-Cymene (P-Isopropyltoluene)	0 0005 U	0.0005 U	na	0 0005 U	0 0005 U	0 0005 U
SW8260B	Pentachloroethane	na	na	na	na	na	na
SW8260B	Propane nitrile (Propionitrile)	na	na	na	na	na	na
SW8260B	Sec-Butylbenzene	0.0005 U	0.0005 U	na	0 0005 U	0 0005 U	0 0005 U
SW8260B	Styrene	0 0004 U	0 0004 UJ	na	0.0004 U	0.0004 U	0 0004 U
SW8260B	T-Butylbenzene	0 0005 U	0 0005 U	na	0 0005 U	0 0005 U	0 0005 U
SW8260B	Tert-Butyl Methyl Ether	na	na	na	na	0.0005 U	0.002
SW8260B	Tetrachloroethene (PCE)	0.0005 U	0 0005 U	na	0.0005 U	0.0005 U	0 0005 U
SW8260B	Toluene	0 0005 U	0 0005 U	na	0.0005 U	0 0005 U	0 0005 U
SW8260B	Trans-1,2-Dichloroethene	0 0005 U	0.0005 U	na	0 0005 U	0 0005 U	0.0005 U
SW8260B	Trans-1,3-Dichloropropene	0.0005 U	0.0005 U	na	0 0005 U	0.0005 U	0 0005 U
SW8260B	Trans-1,4-Dichloro-2-Butene	na	na	na	na	na	na
SW8260B	Trichloroethene (TCE)	0 0005 U	0.0005 UJ	na	0.0005 U	0.0005 U	0 0005 U
SW8260B	Trichlorofluoromethane	0.0005 R	0 0005 U	na	0.0005 R	0 0005 U	0.0005 U
SW8260B	Vinyl acetate	0 002 U	0 002 U	na	0.002 U	0 002 U	0.002 U
SW8260B	Vinyl chloride	0 0005 U	0.0005 U	na	0 0005 U	0.0005 U	0 0005 U
SW8270C	1,2,4,5-Tetrachlorobenzene	na	na	na	na	na	na
SW8270C	1,2,4-Trichlorobenzene	0 01 U	na	na	na	na	na
SW8270C	1,2-Dichlorobenzene	0 01 U	na	na	na	na	na
SW8270C	1,3,5-Trinitrobenzene	na	na	na	na	na	na

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Table I-2
Comprehensive Groundwater Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	LF03-3D 1998-12-17	LF03-3D 1999-04-21	LF03-3D 1999-07-13	LF03-3D 1999-10-13	LF03-3D 2000-04-06	LF03-3D 2000-07-12
SW8270C	1,3-Dichlorobenzene	0 01 U	na	na	na	na	na
SW8270C	1,3-Dinitrobenzene	na	na	na	na	na	na
SW8270C	1,4-Dichlorobenzene	0 01 U	na	na	na	na	na
SW8270C	1,4-Dioxane (p-Dioxane)	na	na	na	na	na	na
SW8270C	1,4-naphthoquinone	na	na	na	na	na	na
SW8270C	1-naphthylamine	na	na	na	na	na	na
SW8270C	2,2'-Oxybis(1-chloropropane)	0.01 R	na	na	na	na	na
SW8270C	2,3,4,6-Tetrachlorophenol	na	na	na	na	na	na
SW8270C	2,4,5-Trichlorophenol	0 048 U	na	na	na	na	na
SW8270C	2,4,6-Trichlorophenol	0 01 U	na	na	na	na	na
SW8270C	2,4-Dichlorophenol	0 01 U	na	na	na	na	na
SW8270C	2,4-Dimethylphenol	0.01 U	na	na	na	na	na
SW8270C	2,4-Dinitrophenol	0.048 U	na	na	na	na	na
SW8270C	2,4-Dinitrotoluene	0 01 U	na	na	na	na	na
SW8270C	2,6-Dichlorophenol	na	na	na	na	na	na
SW8270C	2,6-Dinitrotoluene	0 01 U	na	na	na	na	na
SW8270C	2-Acetylaminofluorene	na	na	na	na	na	na
SW8270C	2-Aminonaphthalene (beta-naphthylamine)	na	na	na	na	na	na
SW8270C	2-Chloronaphthalene	0.01 U	na	na	na	na	na
SW8270C	2-Chlorophenol	0 01 U	na	na	na	na	na
SW8270C	2-Methylnaphthalene	0.01 U	na	na	na	na	na
SW8270C	2-Methylphenol (o-Cresol)	0.01 U	na	na	na	na	na
SW8270C	2-Nitroaniline	0.048 U	na	na	na	na	na
SW8270C	2-Nitrophenol	0.01 U	na	na	na	na	na
SW8270C	2-Picoline (alpha-Picoline)	na	na	na	na	na	na
SW8270C	3,3'-Dichlorobenzidine	0.019 U	na	na	na	na	na
SW8270C	3,3'-Dimethylbenzidine	na	na	na	na	na	na
SW8270C	3-Methylcholanthrene	na	na	na	na	na	na
SW8270C	3-Nitroaniline	0.048 R	na	na	na	na	na
SW8270C	4,6-Dinitro-2-methylphenol	0.048 U	na	na	na	na	na
SW8270C	4-Aminobiphenyl (4-Biphenylamine)	na	na	na	na	na	na
SW8270C	4-Bromophenyl phenyl ether	0.01 U	na	na	na	na	na

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Table I-2
Comprehensive Groundwater Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	LF03-3D 1998-12-17	LF03-3D 1999-04-21	LF03-3D 1999-07-13	LF03-3D 1999-10-13	LF03-3D 2000-04-06	LF03-3D 2000-07-12
SW8270C	4-Chloro-3-methylphenol	0 019 U	na	na	na	na	na
SW8270C	4-Chloroaniline	0 019 R	na	na	na	na	na
SW8270C	4-Chlorophenyl phenyl ether	0 01 U	na	na	na	na	na
SW8270C	4-Methylphenol (P-Cresol)	0 01 U	na	na	na	na	na
SW8270C	4-Nitroaniline	0 048 U	na	na	na	na	na
SW8270C	4-Nitrophenol	0 048 U	na	na	na	na	na
SW8270C	4-Nitroquinoline-1-oxide	na	na	na	na	na	na
SW8270C	5-Nitro-o-toluidine	na	na	na	na	na	na
SW8270C	7,12-Dimethylbenzo(a)anthracene	na	na	na	na	na	na
SW8270C	Acenaphthene	0.01 U	na	na	na	na	na
SW8270C	Acenaphthylene	0 01 U	na	na	na	na	na
SW8270C	Acetophenone	na	na	na	na	na	na
SW8270C	alpha, alpha-Dimethylphenethylamine	na	na	na	na	na	na
SW8270C	Aniline (Phenylamine, Aminobenzene)	na	na	na	na	na	na
SW8270C	Anthracene	0 01 U	na	na	na	na	na
SW8270C	Aramite (total)	na	na	na	na	na	na
SW8270C	Benzo(a)anthracene	0 01 U	na	na	na	na	na
SW8270C	Benzo(a)pyrene	0.01 U	na	na	na	na	na
SW8270C	Benzo(b)fluoranthene	0 01 U	na	na	na	na	na
SW8270C	Benzo(g,h,i)perylene	0 01 U	na	na	na	na	na
SW8270C	Benzo(k)fluoranthene	na	na	na	na	na	na
SW8270C	Benzoic acid	0 048 U	na	na	na	na	na
SW8270C	Benzyl alcohol	0 01 U	na	na	na	na	na
SW8270C	Benzyl butyl phthalate	0 01 U	na	na	na	na	na
SW8270C	bis(2-Chloroethoxy)methane	0.01 U	na	na	na	na	na
SW8270C	bis(2-Chloroethyl)ether (2-Chloroethyl ether)	0 01 R	na	na	na	na	na
SW8270C	bis(2-Ethylhexyl)phthalate	0.01 U	na	na	na	na	na
SW8270C	Chlorobenzilate	na	na	na	na	na	na
SW8270C	Chrysene	0 01 U	na	na	na	na	na
SW8270C	Cresols, m & p	na	na	na	na	na	na
SW8270C	Diallate (total of cis and trans isomers)	na	na	na	na	na	na
SW8270C	Dibenz(a,h)anthracene	0 01 R	na	na	na	na	na

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Table I-2
Comprehensive Groundwater Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	LF03-3D 1998-12-17	LF03-3D 1999-04-21	LF03-3D 1999-07-13	LF03-3D 1999-10-13	LF03-3D 2000-04-06	LF03-3D 2000-07-12
SW8270C	Dibenzofuran	0.01 U	na	na	na	na	na
SW8270C	Diethyl phthalate	0 01 U	na	na	na	na	na
SW8270C	Dimethyl phthalate	0 01 U	na	na	na	na	na
SW8270C	Di-n-butyl phthalate	0 01 U	na	na	na	na	na
SW8270C	Di-n-octyl phthalate	0.01 U	na	na	na	na	na
SW8270C	Dinoseb	na	na	na	na	na	na
SW8270C	Diphenylamine	na	na	na	na	na	na
SW8270C	Ethyl methanesulfonate	na	na	na	na	na	na
SW8270C	Fluoranthene	0.01 U	na	na	na	na	na
SW8270C	Fluorene	0.01 U	na	na	na	na	na
SW8270C	Hexachlorobenzene	0 01 U	na	na	na	na	na
SW8270C	Hexachlorobutadiene	0.01 U	na	na	na	na	na
SW8270C	Hexachlorocyclopentadiene	0 01 U	na	na	na	na	na
SW8270C	Hexachloroethane	0 01 U	na	na	na	na	na
SW8270C	Hexachlorophene	na	na	na	na	na	na
SW8270C	Hexachloropropene	na	na	na	na	na	na
SW8270C	Indeno(1,2,3-c,d)pyrene	0 01 U	na	na	na	na	na
SW8270C	Isophorone	0 01 U	na	na	na	na	na
SW8270C	Isosafrole	na	na	na	na	na	na
SW8270C	Methapyrilene	na	na	na	na	na	na
SW8270C	Methyl methanesulfonate	na	na	na	na	na	na
SW8270C	naphthalene	0.01 U	na	na	na	na	na
SW8270C	Nitrobenzene	0 01 U	na	na	na	na	na
SW8270C	N-Nitrosodiethylamine	na	na	na	na	na	na
SW8270C	N-Nitrosodimethylamine	na	na	na	na	na	na
SW8270C	N-Nitrosodi-n-butylamine	na	na	na	na	na	na
SW8270C	N-Nitrosodi-n-propylamine	0 01 U	na	na	na	na	na
SW8270C	N-Nitrosodiphenylamine	0 01 U	na	na	na	na	na
SW8270C	N-Nitrosomethylethylamine	na	na	na	na	na	na
SW8270C	N-Nitrosomorpholine	na	na	na	na	na	na
SW8270C	N-Nitrosopiperidine	na	na	na	na	na	na
SW8270C	N-Nitrosopyrrolidine	na	na	na	na	na	na

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Table I-2
Comprehensive Groundwater Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	LF03-3D 1998-12-17	LF03-3D 1999-04-21	LF03-3D 1999-07-13	LF03-3D 1999-10-13	LF03-3D 2000-04-06	LF03-3D 2000-07-12
SW8270C	o-Toluidine	na	na	na	na	na	na
SW8270C	p-Dimethylaminoazobenzene	na	na	na	na	na	na
SW8270C	Pentachlorobenzene	na	na	na	na	na	na
SW8270C	Pentachloronitrobenzene	na	na	na	na	na	na
SW8270C	Pentachlorophenol	0 048 U	na	na	na	na	na
SW8270C	Phenacetin	na	na	na	na	na	na
SW8270C	Phenanthrene	0.01 U	na	na	na	na	na
SW8270C	Phenol	0 01 U	na	na	na	na	na
SW8270C	p-Phenylenediamine	na	na	na	na	na	na
SW8270C	Pronamide	na	na	na	na	na	na
SW8270C	Pyrene	0 01 U	na	na	na	na	na
SW8270C	Pyridine	na	na	na	na	na	na
SW8270C	Safrole	na	na	na	na	na	na
SW8280A	2,3,7,8-Tetrachlorodibenzofuran	na	na	na	na	na	na
SW8280A	2,3,7,8-Tetrachlorodibenzo-p-dioxin	na	na	na	na	na	na
SW8310	Acenaphthene	na	na	na	na	na	na
SW8310	Acenaphthylene	na	na	na	na	na	na
SW8310	Anthracene	na	na	na	na	na	na
SW8310	Benzo(a)anthracene	na	na	na	na	na	na
SW8310	Benzo(a)pyrene	na	na	na	na	na	na
SW8310	Benzo(b)fluoranthene	na	na	na	na	na	na
SW8310	Benzo(g,h,i)perylene	na	na	na	na	na	na
SW8310	Benzo(k)fluoranthene	na	na	na	na	na	na
SW8310	Chrysene	na	na	na	na	na	na
SW8310	Dibenz(a,h)anthracene	na	na	na	na	na	na
SW8310	Fluoranthene	na	na	na	na	na	na
SW8310	Fluorene	na	na	na	na	na	na
SW8310	Indeno(1,2,3-c,d)pyrene	na	na	na	na	na	na
SW8310	naphthalene	na	na	na	na	na	na
SW8310	Phenanthrene	na	na	na	na	na	na
SW8310	Pyrene	na	na	na	na	na	na
SW9010	Cyanide	na	na	na	na	na	na

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Table I-2
Comprehensive Groundwater Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	LF03-3D 1998-12-17	LF03-3D 1999-04-21	LF03-3D 1999-07-13	LF03-3D 1999-10-13	LF03-3D 2000-04-06	LF03-3D 2000-07-12
SW9030B	Sulfide	na	na	na	na	na	na
SW9056	Chloride (As Cl)	na	9 6 J	na	11 6	na	na
SW9056	Nitrogen, Nitrate (As N)	na	1 9	na	0 65	na	na
SW9056	Sulfate (As So4)	na	370 J	na	182	na	na

Note.

Sample date format· "YYYY-MM-DD"

F = The analyte was positively detected, but the associated numerical value is below the PQL

J = The analyte was positively detected, the associated numerical value is an estimation

R = The data are unusable due to QC deficiencies

S = Applied to screening-level data

U = The analyte was analyzed for, but not detected

UJ = The analyte was analyzed for, but not detected, the associated numerical value is estimated

na = Not analyzed

All concentrations in mg/L

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Table I-2
Comprehensive Groundwater Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	LF03-3D 2000-10-26	LF03-3D 2001-03-27	WHGLTA302 1998-05-07	WHGLTA302 1998-09-29	WHGLTA302 1998-12-16	WHGLTA302 Duplicate 1998-12-16
E310.1	Alkalinity, Total (As Caco3)	na	na	na	na	na	na
E415 1	Total Organic Carbon	na	na	na	na	na	na
SW6010B	Aluminum	na	na	na	0 5 U	0 5 U	0 5 U
SW6010B	Antimony	na	na	0.4 U	0.4 U	0.005 U	0 005 U
SW6010B	Arsenic	na	na	0.6 U	0 6 U	0.05 U	0 05 U
SW6010B	Barium	na	na	0 02 U	0 168	0 163 F	0.168 F
SW6010B	Beryllium	na	na	0.003 U	0 003 UJ	0.003 UJ	0 003 UJ
SW6010B	Cadmium	na	na	0 04 U	0.04 U	0 005 U	0 005 U
SW6010B	Calcium	na	na	na	135	134	138
SW6010B	Chromium, total	na	na	0 07 U	0 07 U	0 1 UJ	0 1 UJ
SW6010B	Cobalt	na	na	0 07 U	0 07 U	0 00058 F	0 00063 F
SW6010B	Copper	na	na	0.06 U	0 06 U	0 4 UJ	0 4 UJ
SW6010B	Iron	na	na	na	0 411	0 454	0.44
SW6010B	Lead	na	na	0 5 U	0.5 U	0 01 U	0.01 U
SW6010B	Magnesium	na	na	na	7.37	7 09	7.31
SW6010B	Manganese	na	na	na	0 485	0.483	0 498
SW6010B	Molybdenum	na	na	na	0 08 U	0 0022 F	0.0016 F
SW6010B	Nickel	na	na	0 15 U	0.15 U	0 4 UJ	0 4 UJ
SW6010B	Potassium	na	na	na	1 94 F	1.64 F	1.75 F
SW6010B	Selenium	na	na	0 8 U	0.8 U	0 05 U	0.05 U
SW6010B	Silver	na	na	0 07 U	0.07 U	0 4 U	0 4 U
SW6010B	Sodium	na	na	na	24.1	24.1	25
SW6010B	Thallium	na	na	0.4 U	0 4 U	0.01 UJ	0.01 UJ
SW6010B	Tin	na	na	0 1 U	na	na	na
SW6010B	Vanadium	na	na	0 08 U	0.08 U	0.4 U	0.4 U
SW6010B	Zinc	na	na	0 02 U	0 02 U	0 4 U	0 4 U
SW7041	Antimony	na	na	na	na	na	na
SW7191	Chromium, total	0.005 U	0 002 UJ	na	na	na	na
SW7421	Lead	na	na	na	na	na	na
SW7470A	Mercury	na	na	0.0002 U	0 0001 U	0.002 U	0 002 U
SW7740	Selenium	na	na	na	na	na	na
SW8015	Ethane	na	na	na	na	na	na

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Table I-2
Comprehensive Groundwater Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	LF03-3D 2000-10-26	LF03-3D 2001-03-27	WHGLTA302 1998-05-07	WHGLTA302 1998-09-29	WHGLTA302 1998-12-16	WHGLTA302 Duplicate 1998-12-16
SW8015	Ethene	na	na	na	na	na	na
SW8015	Methane	na	na	na	na	na	na
SW8081A	Aldrin	na	na	0 000038 U	na	na	na
SW8081A	alpha-BHC (alpha-Hexachlorocyclohexane)	na	na	0 000028 U	na	na	na
SW8081A	alpha-Chlordane	na	na	0 00076 U	na	na	na
SW8081A	alpha-Endosulfan	na	na	0.00013 U	na	na	na
SW8081A	beta-BHC (beta-Hexachlorocyclohexane)	na	na	0.000057 U	na	na	na
SW8081A	beta-Endosulfan	na	na	0.000038 U	na	na	na
SW8081A	Chlordane	na	na	0.00048 U	na	na	na
SW8081A	delta-BHC (delta-Hexachlorocyclohexane)	na	na	0.000086 U	na	na	na
SW8081A	Dieldrin	na	na	0 000019 U	na	na	na
SW8081A	Endosulfan sulfate	na	na	0 00063 U	na	na	na
SW8081A	Endrin	na	na	0 000057 U	na	na	na
SW8081A	Endrin aldehyde	na	na	0 00022 U	na	na	na
SW8081A	gamma-BHC (Lindane)	na	na	0.000038 U	na	na	na
SW8081A	gamma-Chlordane	na	na	0 00035 U	na	na	na
SW8081A	Heptachlor	na	na	0 000028 U	na	na	na
SW8081A	Heptachlor epoxide	na	na	0.00079 U	na	na	na
SW8081A	Isodrin	na	na	0.000048 U	na	na	na
SW8081A	Kepone	na	na	0 0024 U	na	na	na
SW8081A	Methoxychlor	na	na	0.0017 R	na	na	na
SW8081A	p,p'-DDD	na	na	0.0001 R	na	na	na
SW8081A	p,p'-DDE	na	na	0 000038 U	na	na	na
SW8081A	p,p'-DDT	na	na	0 00011 R	na	na	na
SW8081A	PCB-1016 (Aroclor 1016)	na	na	0 00095 U	na	na	na
SW8081A	PCB-1221 (Aroclor 1221)	na	na	0.00095 U	na	na	na
SW8081A	PCB-1232 (Aroclor 1232)	na	na	0 00095 U	na	na	na
SW8081A	PCB-1242 (Aroclor 1242)	na	na	0.00095 U	na	na	na
SW8081A	PCB-1248 (Aroclor 1248)	na	na	0.00095 U	na	na	na
SW8081A	PCB-1254 (Aroclor 1254)	na	na	0 00095 U	na	na	na
SW8081A	PCB-1260 (Aroclor 1260)	na	na	0.00095 U	na	na	na
SW8081A	Toxaphene	na	na	0.0023 U	na	na	na

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Table I-2
Comprehensive Groundwater Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	LF03-3D 2000-10-26	LF03-3D 2001-03-27	WHGLTA302 1998-05-07	WHGLTA302 1998-09-29	WHGLTA302 1998-12-16	WHGLTA302 Duplicate 1998-12-16
SW8141A	Dimethoate	na	na	0.0019 U	na	na	na
SW8141A	Disulfoton	na	na	0 0019 U	na	na	na
SW8141A	Famphur	na	na	0 0019 U	na	na	na
SW8141A	O,O,O-Triethyl phosphorothioate	na	na	0 0019 U	na	na	na
SW8141A	Parathion, ethyl	na	na	0 0019 U	na	na	na
SW8141A	Parathion, methyl	na	na	0 0019 U	na	na	na
SW8141A	Phorate	na	na	0.0048 U	na	na	na
SW8141A	Thiodiphosphoric acid, tetraethyl ester	na	na	0.0019 U	na	na	na
SW8141A	Zinophos	na	na	0 0019 U	na	na	na
SW8151A	2,4,5-T (Trichlorophenoxyacetic acid)	na	na	0 0001 U	na	na	na
SW8151A	2,4-D (Dichlorophenoxyacetic acid)	na	na	0.001 U	na	na	na
SW8151A	Silvex (2,4,5-TP)	na	na	0 0001 U	na	na	na
SW8260B	1,1,1,2-Tetrachloroethane	0.0005 U	0.0002 U	0 0005 U	0.0005 U	0.0005 U	0 0005 U
SW8260B	1,1,1-Trichloroethane	0 0005 U	0 0003 U	0.0005 U	0 0005 U	0 0005 U	0.0005 U
SW8260B	1,1,2,2-Tetrachloroethane	0 0005 U	0 0002 U	0.0005 U	0 0005 U	0 0005 U	0.0005 U
SW8260B	1,1,2-Trichloroethane	0.0005 U	0 0004 U	0 0005 U	0.0005 U	0 0005 U	0 0005 U
SW8260B	1,1-Dichloroethane	0.0004 U	0.0003 U	0 001	0 001	0 0007	0.0007
SW8260B	1,1-Dichloroethene	0.0005 U	0.0003 U	0.006 J	0 005	0 003	0.002
SW8260B	1,1-Dichloropropene	0.0005 U	0.0004 U	na	0 0005 U	0 0005 U	0.0005 U
SW8260B	1,2,3-Trichlorobenzene	0 0005 U	0 0002 U	na	0 0005 U	0 0005 U	0 0005 U
SW8260B	1,2,3-Trichloropropane	0 0005 U	0 0003 U	0 0005 U	0.0005 U	0 0005 U	0 0005 U
SW8260B	1,2,4-Trichlorobenzene	0 0004 U	0 0002 U	na	0 0004 U	0.0004 U	0 0004 U
SW8260B	1,2,4-Trimethylbenzene	0.0005 U	0.0004 U	na	0 0005 U	0 0005 U	0 0005 U
SW8260B	1,2-Dibromo-3-chloropropane	0 0005 U	0 0005 U	0 0005 U	0 0005 U	0 0005 U	0 0005 U
SW8260B	1,2-Dibromoethane (Ethylene dibromide)	0 0005 U	0 0003 U	0.0005 U	0.0005 U	0 0005 U	0 0005 U
SW8260B	1,2-Dichlorobenzene	0 0003 U	0 0003 U	na	0.0003 U	0 0003 U	0 0003 U
SW8260B	1,2-Dichloroethane	0.0005 U	0.0002 U	0.0005 U	0.0005 U	0 0005 U	0 0005 U
SW8260B	1,2-Dichloropropane	0.0004 U	0.0002 U	0.0004 U	0.0004 U	0 0004 U	0.0004 U
SW8260B	1,3,5-Trimethylbenzene (Mesitylene)	0 0005 U	0.0002 U	na	0 0005 U	0 0005 U	0.0005 U
SW8260B	1,3-Dichlorobenzene	0 0005 U	0 0003 U	na	0.0005 U	0.0005 U	0 0005 U
SW8260B	1,3-Dichloropropane	0.0004 U	0 0002 U	na	0.0004 U	0.0004 U	0 0004 U
SW8260B	1,4-Dichlorobenzene	0 0003 U	0 0002 U	na	0.0003 U	0.0003 U	0.0003 U

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Table I-2
Comprehensive Groundwater Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	LF03-3D 2000-10-26	LF03-3D 2001-03-27	WHGLTA302 1998-05-07	WHGLTA302 1998-09-29	WHGLTA302 1998-12-16	WHGLTA302 Duplicate 1998-12-16
SW8260B	1-Chlorohexane	0 0005 U	0 0003 U	na	0.0005 U	0 0005 U	0 0005 U
SW8260B	2,2-Dichloropropane	0 0005 U	0 0003 U	na	0 0005 U	0 0005 U	0 0005 U
SW8260B	2-Chloro-1,3-butadiene	na	na	0.0005 U	na	na	na
SW8260B	2-Chlorotoluene	0 0004 U	0 0002 U	na	0 0004 U	0.0004 U	0.0004 U
SW8260B	2-Hexanone	na	na	0 002 U	na	na	na
SW8260B	4-Chlorotoluene	0 0005 U	0.0002 U	na	0.0005 U	0 0005 U	0.0005 U
SW8260B	Acetone	na	na	0.002 U	na	na	na
SW8260B	Acetonitrile	na	na	0.04 U	na	na	na
SW8260B	Acrolein	na	na	0 1 U	na	na	na
SW8260B	Acrylonitrile	na	na	0 04 U	na	na	na
SW8260B	Allyl chloride (3-Chloropropene)	na	na	0.002 U	na	na	na
SW8260B	Benzene	0.0004 U	0.0002 U	0 0004 U	0.0004 U	0 0004 U	0.0004 U
SW8260B	Bromobenzene	0 0003 U	0 0002 U	na	0.0003 U	0.0003 U	0 0003 U
SW8260B	Bromochloromethane	0 0004 U	0 0004 U	na	0 0004 U	0.0004 U	0.0004 U
SW8260B	Bromodichloromethane	0 0005 U	0 0002 U	0.0005 U	0 0005 U	0 0005 U	0 0005 U
SW8260B	Bromoform	0 0005 U	0 0002 U	0.0005 U	0 0005 U	0.0005 U	0.0005 U
SW8260B	Bromomethane	0 0005 U	0 0004 U	0.0005 U	0 0005 U	0.0005 U	0.0005 U
SW8260B	Carbon disulfide	na	na	0 002 U	na	na	na
SW8260B	Carbon tetrachloride	0 0005 U	0.0003 U	0 0005 U	0 0005 U	0.0005 U	0 0005 U
SW8260B	Chlorobenzene	0 0004 U	0 0002 U	0.0004 U	0 0004 U	0 0004 U	0 0004 U
SW8260B	Chloroethane	0.0005 U	0 0003 U	0 0005 U	0.0005 U	0.0005 U	0 0005 U
SW8260B	Chloroform	0 0003 U	0 0003 U	0.0005	0 0003 U	0 0003 U	0 0003 U
SW8260B	Chloromethane	0 0005 U	0.0004 U	0 0005 U	0 0005 U	0.0005 U	0.0005 U
SW8260B	cis-1,2-Dichloroethene	0 0005 U	0.0003 U	1.1	2.3	1 6	1 8
SW8260B	cis-1,3-Dichloropropene	0 0005 U	0 0003 U	0.0005 U	0 0005 U	0 0005 U	0 0005 U
SW8260B	Dibromochloromethane	0 0005 U	0 0002 U	0 0005 U	0.0005 U	0 0005 U	0.0005 U
SW8260B	Dibromomethane	0 0005 U	0 0002 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U
SW8260B	Dichlorodifluoromethane	0 0005 R	0 0004 U	0 0005 U	0.0005 R	0.0005 U	0 0005 U
SW8260B	Ethyl methacrylate	na	na	0.002 U	na	na	na
SW8260B	Ethylbenzene	0 0005 U	0 0002 U	0 0005 U	0.0005 U	0 0005 U	0 0005 U
SW8260B	Hexachlorobutadiene	0 0005 U	0 0004 U	na	0.0005 U	0 0005 U	0 0005 U
SW8260B	Iodomethane (Methyl iodide)	na	na	0 002 U	na	na	na

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Table I-2
Comprehensive Groundwater Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	LF03-3D 2000-10-26	LF03-3D 2001-03-27	WHGLTA302 1998-05-07	WHGLTA302 1998-09-29	WHGLTA302 1998-12-16	WHGLTA302 Duplicate 1998-12-16
SW8260B	Isobutanol	na	na	0.1 U	na	na	na
SW8260B	Isopropylbenzene (Cumene)	0 0005 U	0 0002 U	na	0 0005 U	0 0005 U	0 0005 U
SW8260B	m,p-Xylene (sum of isomers)	0.0005 U	0 0005 U	0 0005 U	0.0005 U	0 0005 U	0 0005 U
SW8260B	Methyl ethyl ketone (2-Butanone)	na	na	0 002 U	na	na	na
SW8260B	Methyl isobutyl ketone (4-Methyl-2-pentanone)	na	na	0 002 U	na	na	na
SW8260B	Methyl methacrylate	na	na	0 002 U	na	na	na
SW8260B	Methylacrylonitrile	na	na	0.002 U	na	na	na
SW8260B	Methylene chloride	0.0005 U	0 0003 U	0 0005 U	0.0005 U	0 0005 U	0.0005 U
SW8260B	naphthalene	0.0005 U	0.001 U	na	0 0005 U	0 0005 U	0 0005 U
SW8260B	N-Butylbenzene	0 0005 U	0.0002 U	na	0 0005 U	0 0005 U	0 0005 U
SW8260B	N-Propylbenzene	0 0004 U	0 0002 U	na	0 0004 U	0 0004 U	0.0004 U
SW8260B	o-Xylene (1,2-Dimethylbenzene)	0 0005 U	0 0002 U	0 0005 U	0.0005 U	0 0005 U	0 0005 U
SW8260B	P-Cymene (P-Isopropyltoluene)	0.0005 U	0 0002 U	na	0 0005 U	0.0005 U	0 0005 U
SW8260B	Pentachloroethane	na	na	0 002 U	na	na	na
SW8260B	Propane nitrile (Propionitrile)	na	na	0 02 U	na	na	na
SW8260B	Sec-Butylbenzene	0.0005 U	0.0003 U	na	0 0005 U	0 0005 U	0.0005 U
SW8260B	Styrene	0 0004 U	0 0002 U	0.0004 U	0.0004 U	0 0004 U	0 0004 U
SW8260B	T-Butylbenzene	0 0005 U	0 0003 U	na	0.0005 U	0.0005 U	0 0005 U
SW8260B	Tert-Butyl Methyl Ether	0.0005 U	0.0003 U	na	na	na	na
SW8260B	Tetrachloroethene (PCE)	0 0005 U	0 0003 U	0.0005 U	0.0005 U	0 0005 U	0 0005 U
SW8260B	Toluene	0 0005 U	0 0002 U	0 0005 U	0.0005 U	0.0005 U	0.0005 U
SW8260B	Trans-1,2-Dichloroethene	0.0005 U	0.0003 U	0.042	0 039	0 025	0 031
SW8260B	Trans-1,3-Dichloropropene	0 0005 U	0 0002 U	0.0005 U	0.0005 U	0.0005 U	0 0005 U
SW8260B	Trans-1,4-Dichloro-2-Butene	na	na	0 002 U	na	na	na
SW8260B	Trichloroethene (TCE)	0 0005 U	0 0003 U	1 4	0 82	0 25	0 27
SW8260B	Trichlorofluoromethane	0 0005 U	0 0004 U	0 0005 U	0 0005 U	0 0005 U	0 0005 U
SW8260B	Vinyl acetate	0.002 U	0.0008 U	0 002 U	0 002 R	0 002 U	0.002 U
SW8260B	Vinyl chloride	0.0005 U	0.0003 U	0 048	0 12	0 079	0.082
SW8270C	1,2,4,5-Tetrachlorobenzene	na	na	0 01 U	na	na	na
SW8270C	1,2,4-Trichlorobenzene	na	na	0.01 U	0 01 U	0.01 U	0.01 U
SW8270C	1,2-Dichlorobenzene	na	na	0.01 U	0 01 U	0 01 U	0 01 U
SW8270C	1,3,5-Trinitrobenzene	na	na	0.048 U	na	na	na

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Table I-2
Comprehensive Groundwater Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	LF03-3D 2000-10-26	LF03-3D 2001-03-27	WHGLTA302 1998-05-07	WHGLTA302 1998-09-29	WHGLTA302 1998-12-16	WHGLTA302 Duplicate 1998-12-16
SW8270C	1,3-Dichlorobenzene	na	na	0 01 U	0 01 U	0.01 U	0 01 U
SW8270C	1,3-Dinitrobenzene	na	na	0 01 U	na	na	na
SW8270C	1,4-Dichlorobenzene	na	na	0.01 U	0 01 U	0.01 U	0 01 U
SW8270C	1,4-Dioxane (p-Dioxane)	na	na	0.019 U	na	na	na
SW8270C	1,4-naphthoquinone	na	na	0.097 U	na	na	na
SW8270C	1-naphthylamine	na	na	0.019 U	na	na	na
SW8270C	2,2'-Oxybis(1-chloropropane)	na	na	0.01 U	0 01 U	0.01 R	0 01 R
SW8270C	2,3,4,6-Tetrachlorophenol	na	na	0 01 U	na	na	na
SW8270C	2,4,5-Trichlorophenol	na	na	0.048 U	0.05 U	0 048 U	0 048 U
SW8270C	2,4,6-Trichlorophenol	na	na	0 01 U	0 01 U	0.01 U	0 01 U
SW8270C	2,4-Dichlorophenol	na	na	0 01 U	0 01 U	0.01 U	0.01 U
SW8270C	2,4-Dimethylphenol	na	na	0 01 U	0 01 U	0.01 U	0.01 U
SW8270C	2,4-Dinitrophenol	na	na	0 048 U	0.05 U	0.048 U	0.048 U
SW8270C	2,4-Dinitrotoluene	na	na	0 01 U	0 01 U	0.01 U	0.01 U
SW8270C	2,6-Dichlorophenol	na	na	0.019 U	na	na	na
SW8270C	2,6-Dinitrotoluene	na	na	0 01 U	0 01 U	0.01 U	0 01 U
SW8270C	2-Acetylaminofluorene	na	na	0 019 U	na	na	na
SW8270C	2-Aminonaphthalene (beta-naphthylamine)	na	na	0 019 U	na	na	na
SW8270C	2-Chloronaphthalene	na	na	0 01 U	0.01 U	0.01 U	0.01 U
SW8270C	2-Chlorophenol	na	na	0 01 U	0.01 U	0 01 U	0 01 U
SW8270C	2-Methylnaphthalene	na	na	0 01 U	0 01 U	0.01 U	0 01 U
SW8270C	2-Methylphenol (o-Cresol)	na	na	0 01 U	0 01 U	0 01 U	0.01 U
SW8270C	2-Nitroaniline	na	na	0.048 U	0.05 U	0 048 U	0.048 U
SW8270C	2-Nitrophenol	na	na	0 01 U	0 01 U	0 01 U	0.01 U
SW8270C	2-Picoline (alpha-Picoline)	na	na	0 01 U	na	na	na
SW8270C	3,3'-Dichlorobenzidine	na	na	0 019 R	0.02 U	0.019 U	0 019 U
SW8270C	3,3'-Dimethylbenzidine	na	na	0.048 U	na	na	na
SW8270C	3-Methylcholanthrene	na	na	0 01 U	na	na	na
SW8270C	3-Nitroaniline	na	na	0.048 R	0.05 R	0 048 R	0 048 R
SW8270C	4,6-Dinitro-2-methylphenol	na	na	0 048 U	0 05 U	0.048 U	0 048 U
SW8270C	4-Aminobiphenyl (4-Biphenylamine)	na	na	0 019 U	na	na	na
SW8270C	4-Bromophenyl phenyl ether	na	na	0 01 U	0.01 U	0 01 U	0.01 U

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Table I-2
Comprehensive Groundwater Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	LF03-3D 2000-10-26	LF03-3D 2001-03-27	WHGLTA302 1998-05-07	WHGLTA302 1998-09-29	WHGLTA302 1998-12-16	WHGLTA302 Duplicate 1998-12-16
SW8270C	4-Chloro-3-methylphenol	na	na	0 019 U	0.02 U	0.019 U	0 019 U
SW8270C	4-Chloroaniline	na	na	0 019 R	0 02 U	0 019 R	0.019 R
SW8270C	4-Chlorophenyl phenyl ether	na	na	0.01 U	0 01 U	0 01 U	0 01 U
SW8270C	4-Methylphenol (P-Cresol)	na	na	na	0 01 U	0.01 U	0 01 U
SW8270C	4-Nitroaniline	na	na	0 048 R	0.05 U	0.048 U	0 048 U
SW8270C	4-Nitrophenol	na	na	0 048 U	0.05 U	0 048 U	0 048 U
SW8270C	4-Nitroquinoline-1-oxide	na	na	0 048 U	na	na	na
SW8270C	5-Nitro-o-toluidine	na	na	0 019 U	na	na	na
SW8270C	7,12-Dimethylbenzo(a)anthracene	na	na	0 019 U	na	na	na
SW8270C	Acenaphthene	na	na	0 01 U	0 01 U	0 01 U	0.01 U
SW8270C	Acenaphthylene	na	na	0 01 U	0 01 U	0 01 U	0 01 U
SW8270C	Acetophenone	na	na	0.019 U	na	na	na
SW8270C	alpha, alpha-Dimethylphenethylamine	na	na	0.048 U	na	na	na
SW8270C	Aniline (Phenylamine, Aminobenzene)	na	na	0 01 U	na	na	na
SW8270C	Anthracene	na	na	0 01 U	0 01 U	0 01 U	0 01 U
SW8270C	Aramite (total)	na	na	0 019 U	na	na	na
SW8270C	Benzo(a)anthracene	na	na	0.01 U	0.01 U	0.01 U	0.01 U
SW8270C	Benzo(a)pyrene	na	na	0 01 U	0 01 U	0 01 U	0 01 U
SW8270C	Benzo(b)fluoranthene	na	na	0.01 U	0.01 U	0 01 U	0 01 U
SW8270C	Benzo(g,h,i)perylene	na	na	0.01 U	0.01 U	0.01 U	0.01 U
SW8270C	Benzo(k)fluoranthene	na	na	0.01 U	na	na	na
SW8270C	Benzoic acid	na	na	0 048 U	0 05 R	0.048 U	0 048 U
SW8270C	Benzyl alcohol	na	na	0 01 U	0 01 U	0 01 U	0 01 U
SW8270C	Benzyl butyl phthalate	na	na	0 01 U	0 01 U	0.01 U	0.01 U
SW8270C	bis(2-Chloroethoxy)methane	na	na	0 01 U	0 01 U	0 01 U	0 01 U
SW8270C	bis(2-Chloroethyl)ether (2-Chloroethyl ether)	na	na	0 01 U	0.01 U	0 01 R	0.01 R
SW8270C	bis(2-Ethylhexyl)phthalate	na	na	0.01 U	0.01 U	0 01 U	0 01 U
SW8270C	Chlorobenzilate	na	na	0.01 U	na	na	na
SW8270C	Chrysene	na	na	0.01 U	0.01 U	0.01 U	0 01 U
SW8270C	Cresols, m & p	na	na	0 01 U	na	na	na
SW8270C	Diallate (total of cis and trans isomers)	na	na	0 01 U	na	na	na
SW8270C	Dibenz(a,h)anthracene	na	na	0 01 R	0 01 U	0 01 R	0 01 R

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Table I-2
Comprehensive Groundwater Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	LF03-3D 2000-10-26	LF03-3D 2001-03-27	WHGLTA302 1998-05-07	WHGLTA302 1998-09-29	WHGLTA302 1998-12-16	WHGLTA302 Duplicate 1998-12-16
SW8270C	Dibenzofuran	na	na	0.01 U	0 01 U	0 01 U	0.01 U
SW8270C	Diethyl phthalate	na	na	0 01 U	0.01 R	0.01 U	0.01 U
SW8270C	Dimethyl phthalate	na	na	0 01 U	0.01 U	0 01 U	0 01 U
SW8270C	Di-n-butyl phthalate	na	na	0.01 U	0.01 U	0.01 U	0.01 U
SW8270C	Di-n-octyl phthalate	na	na	0.01 U	0.01 U	0.01 U	0 01 U
SW8270C	Dinoseb	na	na	0 019 U	na	na	na
SW8270C	Diphenylamine	na	na	0 01 U	na	na	na
SW8270C	Ethyl methanesulfonate	na	na	0 019 U	na	na	na
SW8270C	Fluoranthene	na	na	0.01 U	0 01 U	0 01 U	0.01 U
SW8270C	Fluorene	na	na	0 01 U	0 01 U	0 01 U	0.01 U
SW8270C	Hexachlorobenzene	na	na	0.01 U	0.01 U	0.01 U	0 01 U
SW8270C	Hexachlorobutadiene	na	na	0 01 U	0.01 U	0 01 U	0.01 U
SW8270C	Hexachlorocyclopentadiene	na	na	0.01 U	0 01 U	0.01 U	0 01 U
SW8270C	Hexachloroethane	na	na	0 01 U	0.01 U	0 01 U	0.01 U
SW8270C	Hexachlorophene	na	na	0 097 U	na	na	na
SW8270C	Hexachloropropene	na	na	0.048 U	na	na	na
SW8270C	Indeno(1,2,3-c,d)pyrene	na	na	0 01 U	0.01 U	0 01 U	0 01 U
SW8270C	Isophorone	na	na	0 01 U	0 01 U	0.01 U	0 01 U
SW8270C	Isosafrole	na	na	0 01 U	na	na	na
SW8270C	Methapyrilene	na	na	0 024 U	na	na	na
SW8270C	Methyl methanesulfonate	na	na	0 019 U	na	na	na
SW8270C	naphthalene	na	na	0 01 U	0 01 U	0 01 U	0.01 U
SW8270C	Nitrobenzene	na	na	0 01 U	0 01 U	0 01 U	0 01 U
SW8270C	N-Nitrosodiethylamine	na	na	0 019 U	na	na	na
SW8270C	N-Nitrosodimethylamine	na	na	0 019 U	na	na	na
SW8270C	N-Nitrosodi-n-butylamine	na	na	0 01 U	na	na	na
SW8270C	N-Nitrosodi-n-propylamine	na	na	0.01 U	0.01 U	0.01 U	0.01 U
SW8270C	N-Nitrosodiphenylamine	na	na	0 01 U	0.01 U	0 01 U	0 01 U
SW8270C	N-Nitrosomethylethylamine	na	na	0 01 U	na	na	na
SW8270C	N-Nitrosomorpholine	na	na	0.019 U	na	na	na
SW8270C	N-Nitrosopiperidine	na	na	0 01 U	na	na	na
SW8270C	N-Nitrosopyrrolidine	na	na	0 019 U	na	na	na

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Table I-2
Comprehensive Groundwater Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	LF03-3D 2000-10-26	LF03-3D 2001-03-27	WHGLTA302 1998-05-07	WHGLTA302 1998-09-29	WHGLTA302 1998-12-16	WHGLTA302 Duplicate 1998-12-16
SW8270C	o-Toluidine	na	na	0 019 U	na	na	na
SW8270C	p-Dimethylaminoazobenzene	na	na	0 019 U	na	na	na
SW8270C	Pentachlorobenzene	na	na	0.01 U	na	na	na
SW8270C	Pentachloronitrobenzene	na	na	0.01 U	na	na	na
SW8270C	Pentachlorophenol	na	na	0 048 U	0 05 U	0.048 U	0 048 U
SW8270C	Phenacetin	na	na	0.01 U	na	na	na
SW8270C	Phenanthrene	na	na	0.01 U	0.01 U	0 01 U	0.01 U
SW8270C	Phenol	na	na	0 01 U	0.01 U	0 01 U	0 01 U
SW8270C	p-Phenylenediamine	na	na	0 14 U	na	na	na
SW8270C	Pronamide	na	na	0 01 U	na	na	na
SW8270C	Pyrene	na	na	0 01 U	0.01 R	0 01 U	0 01 U
SW8270C	Pyridine	na	na	0.019 U	na	na	na
SW8270C	Safrole	na	na	0.01 U	na	na	na
SW8280A	2,3,7,8-Tetrachlorodibenzofuran	na	na	0.0000003 U	na	na	na
SW8280A	2,3,7,8-Tetrachlorodibenzo-p-dioxin	na	na	0.00000044 U	na	na	na
SW8310	Acenaphthene	na	na	na	na	na	na
SW8310	Acenaphthylene	na	na	na	na	na	na
SW8310	Anthracene	na	na	na	na	na	na
SW8310	Benzo(a)anthracene	na	na	na	na	na	na
SW8310	Benzo(a)pyrene	na	na	na	na	na	na
SW8310	Benzo(b)fluoranthene	na	na	na	na	na	na
SW8310	Benzo(g,h,i)perylene	na	na	na	na	na	na
SW8310	Benzo(k)fluoranthene	na	na	na	na	na	na
SW8310	Chrysene	na	na	na	na	na	na
SW8310	Dibenz(a,h)anthracene	na	na	na	na	na	na
SW8310	Fluoranthene	na	na	na	na	na	na
SW8310	Fluorene	na	na	na	na	na	na
SW8310	Indeno(1,2,3-c,d)pyrene	na	na	na	na	na	na
SW8310	naphthalene	na	na	na	na	na	na
SW8310	Phenanthrene	na	na	na	na	na	na
SW8310	Pyrene	na	na	na	na	na	na
SW9010	Cyanide	na	na	0 01 U	na	na	na

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Table I-2
Comprehensive Groundwater Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	LF03-3D 2000-10-26	LF03-3D 2001-03-27	WHGLTA302 1998-05-07	WHGLTA302 1998-09-29	WHGLTA302 1998-12-16	WHGLTA302 Duplicate 1998-12-16
SW9030B	Sulfide	na	na	1 SU	na	na	na
SW9056	Chloride (As Cl)	na	na	na	na	na	na
SW9056	Nitrogen, Nitrate (As N)	na	na	na	na	na	na
SW9056	Sulfate (As So4)	na	na	na	na	na	na

Note.
Sample date format "YYYY-MM-DD"
F = The analyte was positively detected, but the associated numerical value is below the PQL
J = The analyte was positively detected, the associated numerical value is an estimation
R = The data are unusable due to QC deficiencies
S = Applied to screening-level data
U = The analyte was analyzed for, but not detected
UJ = The analyte was analyzed for, but not detected, the associated numerical value is estimated
na = Not analyzed
All concentrations in mg/L

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Table I-2
Comprehensive Groundwater Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	WHGLTA303 1998-05-08
E310.1	Alkalinity, Total (As Caco3)	na
E415.1	Total Organic Carbon	na
SW6010B	Aluminum	na
SW6010B	Antimony	0 4 U
SW6010B	Arsenic	0 6 U
SW6010B	Barium	0 0945
SW6010B	Beryllium	0.003 U
SW6010B	Cadmium	0 04 U
SW6010B	Calcium	na
SW6010B	Chromium, total	0 07 U
SW6010B	Cobalt	0.07 U
SW6010B	Copper	0.06 U
SW6010B	Iron	na
SW6010B	Lead	0.5 U
SW6010B	Magnesium	na
SW6010B	Manganese	na
SW6010B	Molybdenum	na
SW6010B	Nickel	0 15 U
SW6010B	Potassium	na
SW6010B	Selenium	0.8 U
SW6010B	Silver	0 07 U
SW6010B	Sodium	na
SW6010B	Thallium	0 4 U
SW6010B	Tin	0.1 U
SW6010B	Vanadium	0.08 U
SW6010B	Zinc	0 02 U
SW7041	Antimony	na
SW7191	Chromium, total	na
SW7421	Lead	na
SW7470A	Mercury	0 0002 U
SW7740	Selenium	na
SW8015	Ethane	na

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Table I-2
Comprehensive Groundwater Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	WHGLTA303 1998-05-08
SW8015	Ethene	na
SW8015	Methane	na
SW8081A	Aldrin	0 000038 U
SW8081A	alpha-BHC (alpha-Hexachlorocyclohexane)	0.000029 U
SW8081A	alpha-Chlordane	0.00077 U
SW8081A	alpha-Endosulfan	0 00013 U
SW8081A	beta-BHC (beta-Hexachlorocyclohexane)	0.000058 U
SW8081A	beta-Endosulfan	0 000038 U
SW8081A	Chlordane	0.00048 U
SW8081A	delta-BHC (delta-Hexachlorocyclohexane)	0.000086 U
SW8081A	Dieldrin	0.000019 U
SW8081A	Endosulfan sulfate	0.00063 U
SW8081A	Endrin	0.000058 U
SW8081A	Endrin aldehyde	0.00022 U
SW8081A	gamma-BHC (Lindane)	0 000038 U
SW8081A	gamma-Chlordane	0 00036 U
SW8081A	Heptachlor	0.000029 U
SW8081A	Heptachlor epoxide	0 0008 U
SW8081A	Isodrin	0.000048 U
SW8081A	Kepone	0 0024 U
SW8081A	Methoxychlor	0.0017 R
SW8081A	p,p'-DDD	0.0001 U
SW8081A	p,p'-DDE	0.000038 U
SW8081A	p,p'-DDT	0 00012 R
SW8081A	PCB-1016 (Aroclor 1016)	0 00096 U
SW8081A	PCB-1221 (Aroclor 1221)	0.00096 U
SW8081A	PCB-1232 (Aroclor 1232)	0 00096 U
SW8081A	PCB-1242 (Aroclor 1242)	0 00096 U
SW8081A	PCB-1248 (Aroclor 1248)	0 00096 U
SW8081A	PCB-1254 (Aroclor 1254)	0 00096 U
SW8081A	PCB-1260 (Aroclor 1260)	0 00096 U
SW8081A	Toxaphene	0 0023 U

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Table I-2
Comprehensive Groundwater Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	WHGLTA303 1998-05-08
SW8141A	Dimethoate	0 0019 U
SW8141A	Disulfoton	0 0019 U
SW8141A	Famphur	0.0019 U
SW8141A	O,O,O-Triethyl phosphorothioate	0.0019 U
SW8141A	Parathion, ethyl	0.0019 U
SW8141A	Parathion, methyl	0.0019 U
SW8141A	Phorate	0 0048 U
SW8141A	Thiodiphosphoric acid, tetraethyl ester	0 0019 U
SW8141A	Zinophos	0.0019 U
SW8151A	2,4,5-T (Trichlorophenoxyacetic acid)	0 0001 U
SW8151A	2,4-D (Dichlorophenoxyacetic acid)	0 001 U
SW8151A	Silvex (2,4,5-TP)	0 0001 U
SW8260B	1,1,1,2-Tetrachloroethane	0.0005 U
SW8260B	1,1,1-Trichloroethane	0.0005 U
SW8260B	1,1,2,2-Tetrachloroethane	0.0005 U
SW8260B	1,1,2-Trichloroethane	0.0005 U
SW8260B	1,1-Dichloroethane	0.0008
SW8260B	1,1-Dichloroethene	0 004 J
SW8260B	1,1-Dichloropropene	na
SW8260B	1,2,3-Trichlorobenzene	na
SW8260B	1,2,3-Trichloropropane	0.0005 U
SW8260B	1,2,4-Trichlorobenzene	na
SW8260B	1,2,4-Trimethylbenzene	na
SW8260B	1,2-Dibromo-3-chloropropane	0 0005 U
SW8260B	1,2-Dibromoethane (Ethylene dibromide)	0 0005 U
SW8260B	1,2-Dichlorobenzene	na
SW8260B	1,2-Dichloroethane	0 0005 U
SW8260B	1,2-Dichloropropane	0 0004 U
SW8260B	1,3,5-Trimethylbenzene (Mesitylene)	na
SW8260B	1,3-Dichlorobenzene	na
SW8260B	1,3-Dichloropropane	na
SW8260B	1,4-Dichlorobenzene	na

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Table I-2
Comprehensive Groundwater Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	WHGLTA303 1998-05-08
SW8260B	1-Chlorohexane	na
SW8260B	2,2-Dichloropropane	na
SW8260B	2-Chloro-1,3-butadiene	0.0005 U
SW8260B	2-Chlorotoluene	na
SW8260B	2-Hexanone	0 002 U
SW8260B	4-Chlorotoluene	na
SW8260B	Acetone	0.002 U
SW8260B	Acetonitrile	0.04 U
SW8260B	Acrolein	0.1 U
SW8260B	Acrylonitrile	0.04 U
SW8260B	Allyl chloride (3-Chloropropene)	0 002 U
SW8260B	Benzene	0 0004 U
SW8260B	Bromobenzene	na
SW8260B	Bromochloromethane	na
SW8260B	Bromodichloromethane	0 0005 U
SW8260B	Bromoform	0.0005 U
SW8260B	Bromomethane	0 0005 U
SW8260B	Carbon disulfide	0 002 U
SW8260B	Carbon tetrachloride	0 0005 U
SW8260B	Chlorobenzene	0 0004 U
SW8260B	Chloroethane	0.0005 U
SW8260B	Chloroform	0 0003 U
SW8260B	Chloromethane	0 0005 U
SW8260B	cis-1,2-Dichloroethene	1 1 J
SW8260B	cis-1,3-Dichloropropene	0.0005 U
SW8260B	Dibromochloromethane	0 0005 U
SW8260B	Dibromomethane	0.0005 U
SW8260B	Dichlorodifluoromethane	0.0005 U
SW8260B	Ethyl methacrylate	0 002 U
SW8260B	Ethylbenzene	0 0005 U
SW8260B	Hexachlorobutadiene	na
SW8260B	Iodomethane (Methyl iodide)	0.002 U

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Table I-2
Comprehensive Groundwater Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	WHGLTA303 1998-05-08
SW8260B	Isobutanol	0 1 U
SW8260B	Isopropylbenzene (Cumene)	na
SW8260B	m,p-Xylene (sum of isomers)	0 0005 U
SW8260B	Methyl ethyl ketone (2-Butanone)	0 002 U
SW8260B	Methyl isobutyl ketone (4-Methyl-2-pentanone)	0 002 U
SW8260B	Methyl methacrylate	0.002 U
SW8260B	Methylacrylonitrile	0.002 U
SW8260B	Methylene chloride	0.0005 U
SW8260B	naphthalene	na
SW8260B	N-Butylbenzene	na
SW8260B	N-Propylbenzene	na
SW8260B	o-Xylene (1,2-Dimethylbenzene)	0 0005 U
SW8260B	P-Cymene (P-Isopropyltoluene)	na
SW8260B	Pentachloroethane	0 002 U
SW8260B	Propane nitrile (Propionitrile)	0 02 U
SW8260B	Sec-Butylbenzene	na
SW8260B	Styrene	0.0004 U
SW8260B	T-Butylbenzene	na
SW8260B	Tert-Butyl Methyl Ether	na
SW8260B	Tetrachloroethene (PCE)	0 0005 U
SW8260B	Toluene	0 0005 U
SW8260B	Trans-1,2-Dichloroethene	0.046 J
SW8260B	Trans-1,3-Dichloropropene	0 0005 U
SW8260B	Trans-1,4-Dichloro-2-Butene	0 002 U
SW8260B	Trichloroethene (TCE)	0 88 J
SW8260B	Trichlorofluoromethane	0 0005 U
SW8260B	Vinyl acetate	0.002 U
SW8260B	Vinyl chloride	0 024
SW8270C	1,2,4,5-Tetrachlorobenzene	0.01 U
SW8270C	1,2,4-Trichlorobenzene	0 01 U
SW8270C	1,2-Dichlorobenzene	0 01 U
SW8270C	1,3,5-Trinitrobenzene	0.05 U

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Table I-2
Comprehensive Groundwater Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	WHGLTA303 1998-05-08
SW8270C	1,3-Dichlorobenzene	0.01 U
SW8270C	1,3-Dinitrobenzene	0 01 U
SW8270C	1,4-Dichlorobenzene	0.01 U
SW8270C	1,4-Dioxane (p-Dioxane)	0.02 U
SW8270C	1,4-naphthoquinone	0 1 U
SW8270C	1-naphthylamine	0 02 U
SW8270C	2,2'-Oxybis(1-chloropropane)	0 01 U
SW8270C	2,3,4,6-Tetrachlorophenol	0 01 U
SW8270C	2,4,5-Trichlorophenol	0 05 U
SW8270C	2,4,6-Trichlorophenol	0 01 U
SW8270C	2,4-Dichlorophenol	0.01 U
SW8270C	2,4-Dimethylphenol	0 01 U
SW8270C	2,4-Dinitrophenol	0 05 U
SW8270C	2,4-Dinitrotoluene	0 01 U
SW8270C	2,6-Dichlorophenol	0 02 U
SW8270C	2,6-Dinitrotoluene	0 01 U
SW8270C	2-Acetylaminofluorene	0 02 U
SW8270C	2-Aminonaphthalene (beta-naphthylamine)	0 02 U
SW8270C	2-Chloronaphthalene	0.01 U
SW8270C	2-Chlorophenol	0 01 U
SW8270C	2-Methylnaphthalene	0.01 U
SW8270C	2-Methylphenol (o-Cresol)	0 01 U
SW8270C	2-Nitroaniline	0.05 U
SW8270C	2-Nitrophenol	0.01 U
SW8270C	2-Picoline (alpha-Picoline)	0 01 U
SW8270C	3,3'-Dichlorobenzidine	0 02 R
SW8270C	3,3'-Dimethylbenzidine	0 05 U
SW8270C	3-Methylcholanthrene	0.01 U
SW8270C	3-Nitroaniline	0.05 R
SW8270C	4,6-Dinitro-2-methylphenol	0.05 U
SW8270C	4-Aminobiphenyl (4-Biphenylamine)	0.02 U
SW8270C	4-Bromophenyl phenyl ether	0.01 U

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Table I-2
Comprehensive Groundwater Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	WHGLTA303 1998-05-08
SW8270C	4-Chloro-3-methylphenol	0.02 U
SW8270C	4-Chloroaniline	0.02 R
SW8270C	4-Chlorophenyl phenyl ether	0 01 U
SW8270C	4-Methylphenol (P-Cresol)	na
SW8270C	4-Nitroaniline	0 05 R
SW8270C	4-Nitrophenol	0.05 U
SW8270C	4-Nitroquinoline-1-oxide	0.05 U
SW8270C	5-Nitro-o-toluidine	0.02 U
SW8270C	7,12-Dimethylbenzo(a)anthracene	0 02 U
SW8270C	Acenaphthene	0.01 U
SW8270C	Acenaphthylene	0.01 U
SW8270C	Acetophenone	0.02 U
SW8270C	alpha, alpha-Dimethylphenethylamine	0.05 U
SW8270C	Aniline (Phenylamine, Aminobenzene)	0 01 U
SW8270C	Anthracene	0.01 U
SW8270C	Aramite (total)	0 02 U
SW8270C	Benzo(a)anthracene	0 01 U
SW8270C	Benzo(a)pyrene	0.01 U
SW8270C	Benzo(b)fluoranthene	0.01 U
SW8270C	Benzo(g,h,i)perylene	0.01 U
SW8270C	Benzo(k)fluoranthene	0 01 U
SW8270C	Benzoic acid	0 05 U
SW8270C	Benzyl alcohol	0 01 U
SW8270C	Benzyl butyl phthalate	0 01 U
SW8270C	bis(2-Chloroethoxy)methane	0 01 U
SW8270C	bis(2-Chloroethyl)ether (2-Chloroethyl ether)	0 01 U
SW8270C	bis(2-Ethylhexyl)phthalate	0 11
SW8270C	Chlorobenzilate	0 01 U
SW8270C	Chrysene	0 01 U
SW8270C	Cresols, m & p	0.01 U
SW8270C	Diallate (total of cis and trans isomers)	0.01 U
SW8270C	Dibenz(a,h)anthracene	0.01 R

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Table I-2
Comprehensive Groundwater Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	WHGLTA303 1998-05-08
SW8270C	Dibenzofuran	0 01 U
SW8270C	Diethyl phthalate	0.01 U
SW8270C	Dimethyl phthalate	0 01 U
SW8270C	Di-n-butyl phthalate	0.01 U
SW8270C	Di-n-octyl phthalate	0.01 U
SW8270C	Dinoseb	0 02 U
SW8270C	Diphenylamine	0.01 U
SW8270C	Ethyl methanesulfonate	0 02 U
SW8270C	Fluoranthene	0 01 U
SW8270C	Fluorene	0.01 U
SW8270C	Hexachlorobenzene	0.01 U
SW8270C	Hexachlorobutadiene	0.01 U
SW8270C	Hexachlorocyclopentadiene	0 01 U
SW8270C	Hexachloroethane	0 01 U
SW8270C	Hexachlorophene	0 1 U
SW8270C	Hexachloropropene	0 05 U
SW8270C	Indeno(1,2,3-c,d)pyrene	0.01 U
SW8270C	Isophorone	0 01 U
SW8270C	Isosafrole	0.01 U
SW8270C	Methapyrilene	0 025 U
SW8270C	Methyl methanesulfonate	0.02 U
SW8270C	naphthalene	0.01 U
SW8270C	Nitrobenzene	0.01 U
SW8270C	N-Nitrosodiethylamine	0 02 U
SW8270C	N-Nitrosodimethylamine	0 02 U
SW8270C	N-Nitrosodi-n-butylamine	0.01 U
SW8270C	N-Nitrosodi-n-propylamine	0.01 U
SW8270C	N-Nitrosodiphenylamine	0 01 U
SW8270C	N-Nitrosomethylethylamine	0 01 U
SW8270C	N-Nitrosomorpholine	0 02 U
SW8270C	N-Nitrosopiperidine	0 01 U
SW8270C	N-Nitrosopyrrolidine	0.02 U

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Table I-2
Comprehensive Groundwater Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	WHGLTA303 1998-05-08
SW8270C	o-Toluidine	0.02 U
SW8270C	p-Dimethylaminoazobenzene	0.02 U
SW8270C	Pentachlorobenzene	0 01 U
SW8270C	Pentachloronitrobenzene	0.01 U
SW8270C	Pentachlorophenol	0.05 U
SW8270C	Phenacetin	0.01 U
SW8270C	Phenanthrene	0 01 U
SW8270C	Phenol	0 01 U
SW8270C	p-Phenylenediamine	0 15 U
SW8270C	Pronamide	0 01 U
SW8270C	Pyrene	0 01 U
SW8270C	Pyridine	0.02 U
SW8270C	Safrole	0 01 U
SW8280A	2,3,7,8-Tetrachlorodibenzofuran	0 00000033 U
SW8280A	2,3,7,8-Tetrachlorodibenzo-p-dioxin	0 00000049 U
SW8310	Acenaphthene	na
SW8310	Acenaphthylene	na
SW8310	Anthracene	na
SW8310	Benzo(a)anthracene	na
SW8310	Benzo(a)pyrene	na
SW8310	Benzo(b)fluoranthene	na
SW8310	Benzo(g,h,i)perylene	na
SW8310	Benzo(k)fluoranthene	na
SW8310	Chrysene	na
SW8310	Dibenz(a,h)anthracene	na
SW8310	Fluoranthene	na
SW8310	Fluorene	na
SW8310	Indeno(1,2,3-c,d)pyrene	na
SW8310	naphthalene	na
SW8310	Phenanthrene	na
SW8310	Pyrene	na
SW9010	Cyanide	0.01 U

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Table I-2
Comprehensive Groundwater Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Method	Analyte	WHGLTA303 1998-05-08
SW9030B	Sulfide	1 SU
SW9056	Chloride (As Cl)	na
SW9056	Nitrogen, Nitrate (As N)	na
SW9056	Sulfate (As So4)	na

Note·

Sample date format "YYYY-MM-DD"

F = The analyte was positively detected, but the associated numerical value is below the PQL

J = The analyte was positively detected; the associated numerical value is an estimation

R = The data are unusable due to QC deficiencies.

S = Applied to screening-level data

U = The analyte was analyzed for, but not detected

UJ = The analyte was analyzed for, but not detected, the associated numerical value is estimated

na = Not analyzed

All concentrations in mg/L

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Table I-3
SPLP Extraction Results
SWMU 26/Landfill 3
NAS Fort Worth JRB, Texas

Sample	Date	Interval	Soil Method	Analyte	Soil RRS-1 (mg/kg)	Soil RRS-2 (mg/kg)	Soil Result (mg/kg)	> RRS-1	> RRS-2	SPLP Method	SPLP Reporting Limit (mg/L)	Groundwater MSC (mg/L)	SPLP Result (mg/L)	> MSC
BHGLTA333 Duplicate	2001-01-24	05 ft	SW7041	Antimony	0 712	0 712	0 2 UJ	ND	ND	SW6010B	0 01	0 006	0 0066 U	ND
BHGLTA333 Duplicate	2001-01-24	05 ft	SW6010B	Arsenic	6 58	6 58	1 7 F	No	No	SW7060A	0 05	0 05	0 0035 F	No
BHGLTA333 Duplicate	2001-01-24	05 ft	SW6010B	Cadmium	0 59	0 59	0 089 UJ	ND	ND	SW6010B	0 005	0 005	0 0004 UJ	ND
BHGLTA333 Duplicate	2001-01-24	05 ft	SW6010B	Chromium, total	16 31	16 31	8 7 F	No	No	SW7191	0 005	0 1	0 0238	No
BHGLTA333 Duplicate	2001-01-24	05 ft	SW6010B	Copper	13 72	130	2 3 F	No	No	SW6010B	0 1	1 3	0 0035 UJ	ND
BHGLTA333 Duplicate	2001-01-24	05 ft	SW7421	Lead	12 66	12 66	10 3 J	No	No	SW7421	0 01	0 015	0 0056 F	No
BHGLTA333 Duplicate	2001-01-24	05 ft	SW6010B	Nickel	19 76	200	5 F	No	No	SW6010B	0 02	2	0 0071 UJ	ND
BHGLTA333 Duplicate	2001-01-24	05 ft	SW7761	Silver	0 128	51	0 069 U	ND	ND	SW6010B	0 005	0 51	0 0025 U	ND
BHGLTA333 Duplicate	2001-01-24	05 ft	SW6010B	Zinc	31 3	3100	13 1 F	No	No	SW6010B	0 1	31	0 0616 F	No
BHGLTA329	2000-04-05	15 ft	SW7421	Lead	12 66	12 66	15	Yes	Yes	SW7421	0 015	0 015	0 015 UJ	ND

Note
Sample date format "YYYY-MM-DD"
F = The analyte was positively detected but the associated numerical value is below the PQL
J = The analyte was positively detected, the associated numerical value is an estimation
R = The data are unusable due to QC deficiencies
S = Applied to screening-level data
U = The analyte was analyzed for, but not detected
UJ = The analyte was analyzed for, but not detected, the associated numerical value is estimated
ND = Not detected

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FINAL PAGE

ADMINISTRATIVE RECORD

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