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NAS FORT WORTH
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CLOSURE REPORT FOR AEROSPACE MUSEUM SITE WITH TRANSMITTAL LETTER NAS FORT WORTH TX
8/21/1997
CARSWELL AIR FORCE BASE

File: 17G
A.F.

NAVAL AIR STATION
FORT WORTH JRB
CARSWELL FIELD
TEXAS

ADMINISTRATIVE RECORD
COVER SHEET

AR File Number 395

395.

1

File: 17B-23
A.F.

395

Closure Document for Aerospace Museum Site (AOC 08) Site ID OT - 38 NAS JRB Fort Worth, TX

HQ Air Force Center for Environmental Excellence
Brooks Air Force Base, Texas 78235-3528

Closure Document for Aerospace Museum Site (AOC 08) Site ID OT - 38 NAS JRB Fort Worth, TX

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DEPARTMENT OF THE AIR FORCE
AIR FORCE BASE CONVERSION AGENCY

21 August 1997

MEMORANDUM FOR TNRCC

Industrial and Hazardous Waste Division
Attn: Mr. Mark Weegar
Park 35 Circle, Building D, MC 127
12015 N. IH-35
Austin, TX 78753

FROM: AFBCA DC Carswell
6550 White Settlement Road
Fort Worth, TX 76114-3520

Subject: Closure of Aerospace Museum Site (AOC 08) Site ID OT-38
Naval Air Station Joint Reserve Base, Ft. Worth (NAS JRB Ft. Worth)

This letter report supports closure of the referenced site under the Texas Natural Resources Conservation Commission (TNRCC) Risk Reduction Standard Number 2 (RRSN 2) as promulgated under Subpart S, Risk Reduction Standards, Sections 335.551 through 335.551 through 335.569 of Title 30, Texas Administrative Codes. This site has been remediated to health-based standards, and all waste, waste residue, leachate, and contaminated media decontaminated or controlled to regulated standards and criteria such that any substantial present or future threat to human health or the environment is eliminated or reduced to the maximum extent practicable.

The RRSN 2 regulations require characterization of the nature and extent of contamination, evaluation of the potential for constituent migration, and calculation of proposed media cleanup levels. The nature, extent, direction of movement, volume, and composition of contamination have been described in previous investigative reports. These reports include: 1) Draft Letter Report Results of Sampling at the Aerospace Museum Site, NAS JRB Fort Worth, TX dated July 1997 by Jacobs Engineering Group, Inc., 2) Comparison of Results from the Final Site Investigation/Site Characterization Technical Report with the Background, 3) Final Report: Demolition and Removal of Structures/Disposal of Transformers with PCB Oil dated June 19, 1997 by Jacobs Engineering Group, Inc., 4) Draft Basewide Background Study Vol. I dated January 1997 by Jacobs Engineering Group, Inc., and 5) Final Site Investigation/Site Characterization Technical Report for the Aerospace Museum Site and Grounds Maintenance Yard at NAS JRB Fort Worth, TX dated July 1996 by Law Environmental, Inc. Copies or applicable portions of the these reports are provided as attachments to document efforts undertaken by the Air Force to close this site.

Sampling performed by Law Environmental, Inc. in October 1995 indicated that all volatiles and semi-volatiles including polynuclear aromatic hydrocarbons (PAHs) and phthalates in the surface soil did not exceed the industrial medium specific concentrations (MSCs). Eight of the 22 metal constituents analyzed were detected at concentrations above the MSC. These metals include antimony, arsenic, barium, beryllium, cadmium, chromium, lead, and nickel.

Due to the high degree of variability that was observed in the background concentrations for some metals during the October 1995 sampling, a Base-wide background study was conducted by Jacobs, Engineering Group, Inc. in January 1997. Results from the background study were compared with the metals' data from the October 1995 investigation. As a result of the findings, confirmatory sampling was performed by Jacobs, Engineering Group, Inc. in May 1997. This was done to further evaluate those metal contaminants that exceeded the Soil/Air and Ingestion Standard for Industrial Use (SAI-Ind), the background Upper Tolerance Limit (UTL), or those metals that were non-detects at detection limits that were above the SAI-Ind or UTL. Results from the confirmatory sampling indicated that arsenic, chromium, and nickel, did not exceed the MSCs. For antimony the method detection limit (MDL) of 0.02 mg/L is above the MSC of 0.006 mg/L. In this case, the MDL can be used to satisfy the requirements of the RRSN 2 standard because MDL is the lowest achievable in the laboratory as a result of the 10x sample dilution required due to analytical interference with sodium. Lead was detected four times at concentrations ranging from 0.0206 to 0.0629 mg/L. Three of the four detections were between the MDL and the practical quantitation limit (PQL). The MDL of 0.016 mg/L only slightly exceeded the RRSN 2 standard of 0.015 mg/L. The difference, 0.001 mg/L, may very well be within the allowable percent error of the analytical method. Beryllium was detected in every sample at concentrations between the MDL and the PQL. The maximum concentration detected in the soil leachate was 0.0144 mg/L which is less than the MSC value. Additionally, beryllium was also detected in all laboratory blank samples at concentrations ranging from 0.0005 to 0.0162 mg/L.

In May 1997 Unified Services of Texas, Inc. (UST) demolished nine small structures and concrete pads located in the Aerospace Museum Site. The structures and concrete pads demolished included a wooden shed, electrical equipment box, two concrete structures that appeared to be old bast shields, and two concrete and one asphaltic concrete pads. Other materials that were removed and disposed consisted of one mobile fuel test system, soil piles, a rubble pile, and loose railroad ties. Following the demolition and removal activities, the site was restored by clean backfilling and compaction. The site was reseeded with native grass to replicate vegetation currently at the site.

In order for contaminants to pose a threat to human health or the environment, a pathway must be present for the contaminant to reach the receptor. A pathway is composed of four elements, namely: source, transport medium, point of receptor contact, and exposure route. Without all four elements, pathways are incomplete and should be eliminated for further consideration. The ultimate end use of the site is heavy industrial manufacturing that will continue to restrict access to the site. In the case of surface soil, any chemicals at concentrations above the MSCs are controlled at the site by these

restrictions. The sources of the contaminants observed are believed to be the previously observed asphalt, railroad ties, and debris that are no longer present at the site based on the visual site inspection conducted in December 17-18, 1996.

Ground water and subsurface soil have not been identified as media of concern at the site. Ground-water remediation is currently in place down gradient of the AMS to remediate trichloroethene contaminants from Air Force Plant 4 in the ground water at the upper most aquifer.

Considering the above discussion, no further action is recommended for the Aerospace Museum Site (AOC 08). If you have need of further information in this matter, please contact me at (817) 731-8284 or Mr. Charles Rice at (210) 536-6452

Mr. Olen R. Long, GM-13
Installation Management Officer

ENCLOSURE 1:

STATE OF TEXAS

Tarrant County Industrial Solid Waste
Certification of Remediation

KNOW ALL MEN BY THESE PRESENTS THAT:

Pursuant to the rules of the Texas Natural Resource Conservation Commission pertaining to Industrial Solid Waste Management, this document is hereby filed in the Deed Records of Tarrant County, Texas in compliance with the recordation requirements of said rules:

I

Naval Air Station Joint Reserve Base, Ft. Worth, (NAS JRB Ft. Worth) formally Carswell Air Force Base has performed a remediation of the land described herein. A copy of the **Solid Waste Registration 65004, including a description of the facility, is attached hereto** and is made part of this filing. A list of the known waste constituents, including known concentrations (i.e., soil and ground water, if applicable), which have been left in place is attached hereto and is made part of this filing. Further information concerning this matter may be found by an examination of Air Force records or in the Solid Waste Registration 65004 files, which are available for inspection upon request at the central office of the Texas Natural Resource Conservation Commission in Austin, Texas.

The Texas Natural Resource Conservation Commission derives its authority to review the remediation of this tract of land from the Texas Solid Waste Disposal Act §361.002, Texas Health and Safety Code, Chapter 361, which enables the Texas Natural Resource Conservation Commission to promulgate closure and remediation standards to safeguard the heath, welfare and physical property of the people of the State and to protect the environment by controlling the management of solid waste. In addition pursuant to the Texas Water Code §5.012 and §5.013, Texas Water Code, Annotated, Chapter 5, the Texas Natural Resource Conservation Commission is given primary responsibility for implementing the laws of the State of Texas relating to water and shall adopt any rules necessary to carry out its powers and duties under the Texas Water Code. In accordance with this authority, the Texas Natural Resource Conservation Commission requires certain persons to provide certification and/or recordation in the real property records to notify the public of the conditions of the land and/or the occurrence of remediation. This deed certification is not a representation or warranty by the Texas Natural Resource Conservation Commission of the suitability of this land for any purpose, nor does it constitute any guarantee by the Texas Natural Resource Conservation Commission that the remediation standards specified in this certification have been met by NAS JRB Ft. Worth.

II

Being a 15.14 acres tract, more or less, out of the L. W. SIMPSON SURVEY A-1444 TARRANT COUNTY TEXAS:

COMMENCING AT THE SOUTH WEST CORNER OF THE JOINT RESERVE BASE CARSWELL FIELD.
SAID POINT BEING A CORPS OF ENGINEER'S MONUMENT BRASS DISK SET IN CONCRETE AND MARKED 106.
THENCE NORTH 5924.11'
THENCE WEST 67.47' TO THE POINT OF BEGINNING.
BEGINNING AT THE SOUTH WEST CORNER OF THE AEROSPACE MUSEUM TRACT
THENCE: N27°17'01"W A DISTANCE OF 62.27' TO A POINT.
THENCE: N21°32'18"W A DISTANCE OF 58.08' TO A POINT.
THENCE: N14°54'45"W A DISTANCE OF 62.64' TO A POINT.
THENCE: N09°56'30"W A DISTANCE OF 62.77' TO A POINT.
THENCE: N01°47'39"W A DISTANCE OF 59.92' TO A POINT.
THENCE: N00°21'13"W A DISTANCE OF 124.42' TO A POINT.
THENCE: N39°04'16"E A DISTANCE OF 45.30' TO A POINT.
THENCE: N02°09'46"W A DISTANCE OF 28.70' TO A POINT.
THENCE: N37°15'15"W A DISTANCE OF 45.80' TO A POINT.
THENCE: N00°21'20"W A DISTANCE OF 282.92' TO A POINT.
THENCE: N00°16'59"W A DISTANCE OF 444.29' TO A POINT.
THENCE EAST A DISTANCE OF 472.00' TO A POINT.
THENCE: S03°40'50"E A DISTANCE OF 1311.50' TO A POINT.
THENCE WEST TO A DISTANCE OF 472.00' TO THE POINT OF BEGINNING
AND CONTAINING 15.14 ACRES OR 659,283 SQ. FEET MORE OR LESS

For Standard 2 cleanups: Contaminants deposited hereon have been remediated to meet non-residential (i.e., industrial) soil criteria, in accordance with a plan designed to meet the Texas Natural Resource Conservation Commission's requirements in 30 Texas Administrative Code §335.555), which mandates that the remedy be designed to eliminate substantial present and future risk such that no post-closure care or engineering or institutional control measures are required to protect human health and the environment. Future land use is considered suitable for (non-residential (i.e., industrial)) purposes in accordance with risk reduction standards applicable at the time of this filing. Future land use is intended to be non-residential.

III

The owner of the site is NAS JRB Ft. Worth, and its address is **301st Fighter Wing, 1654 Lyons drive Fort Worth, Texas 76127-6200**, where more specific information may be obtained from the **Installation Management Officer.**

EXECUTED this the 30 day of Sep, 19 97

NAS JRB Ft. Worth

Olen R. Long

Mr. Olen R. Long
Installation Management Officer

STATE OF TEXAS

TARRANT COUNTY

BEFORE ME, on this the 30th of the September, 19 97, personally appeared Mr. Olen R. Long, Installation Management Officer of **NAS JRB Ft. Worth**, known to me to be the person and agent of said facility whose name is subscribed to the foregoing instrument, and he acknowledged to me that he executed the same for the purposes and in the capacity therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this the 30th of the September, 19 97

Ronald J. Surprenant

Notary Public in and for the State of Texas, County of

10-28-98

My Commission Expires

PROPERTY DESCRIPTION

BEING A 15.14 ACRE TRACT OF THE L.W. SIMPSON SURVEY A-1444 TARRANT COUNTY TEXAS.

COMMENCING AT THE SOUTH WEST CORNER OF THE JOINT RESERVE BASE AT CARSWELL FIELD. SAID POINT BEING A CORPS OF ENGINEERING MONUMENT BRASS DISK IN CONCRETE AND MARKED 106.

THENCE NORTH 5924.11

THENCE WEST 67.47 TO POINT OF BEGINNING.

BEGINNING AT THE SOUTH WEST CORNER OF THE AEROSPACE MUSEUM TRACT.

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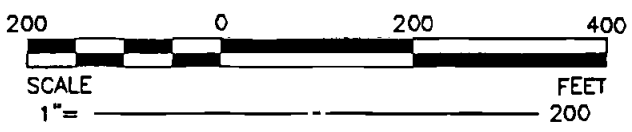
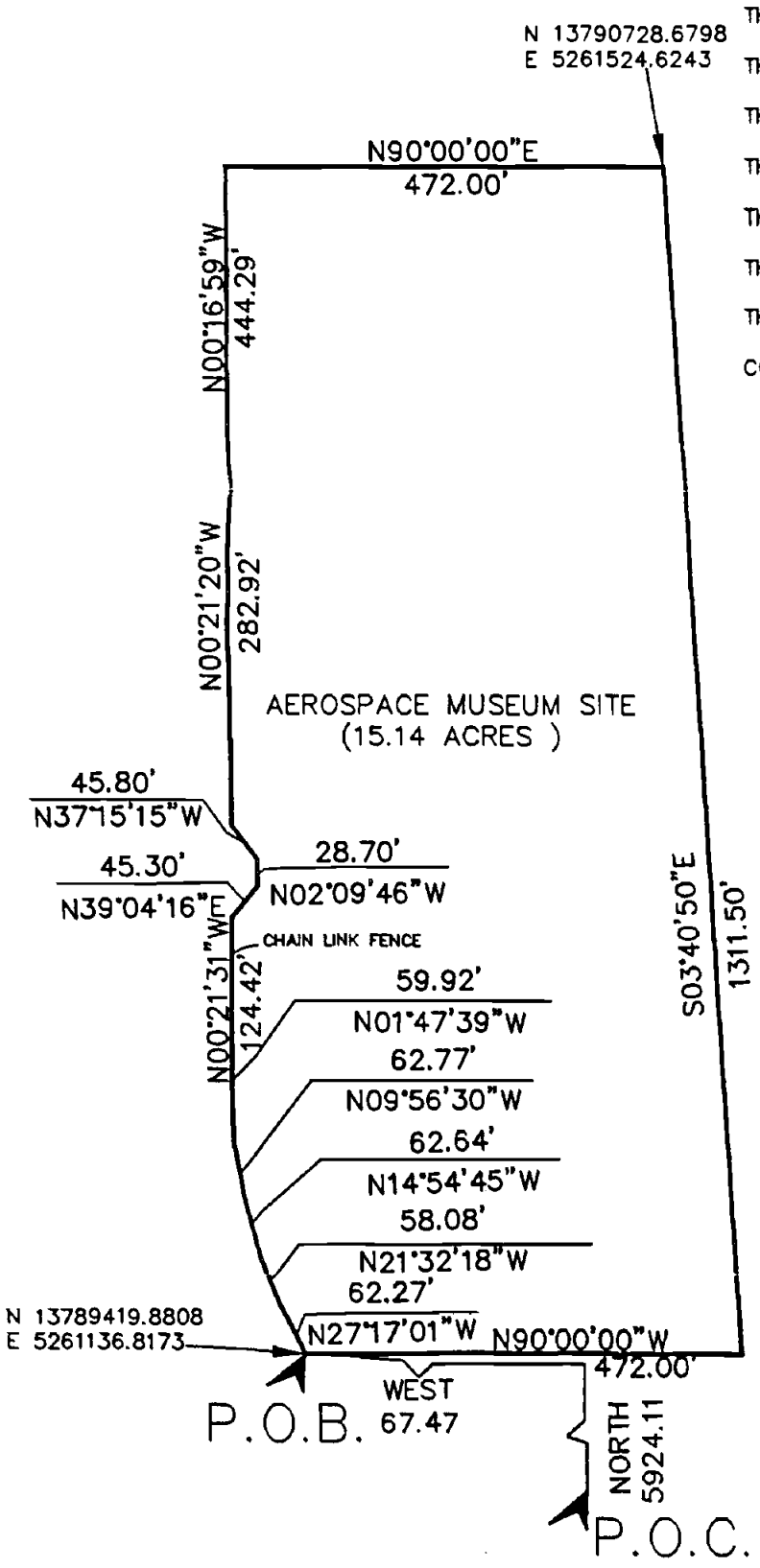
CONTAINING 15.14 ACRES OR 659,283 SQ.FEET MORE OR LESS





AN EXHIBIT SHOWING

A

15.14 ACRE TRACT

THE JOINT RESERVE BASE AT CARSWELL FIELD

DUNAWAY ASSOCIATES, Inc.

ENGINEERS - PLANNERS - SURVEYORS
1501 MERRIMAC CIRCLE, SUITE 100
FORT WORTH, TEXAS 76107
PH.(817)336-1121 METRO(817)429-2135
FAX(817)335-7437

AEROSPACE DESCRIPTION

PROPERTY DESCRIPTION

BEING A 15.14 ACRE TRACT OF THE L.W. SIMPSON SURVEY

A-1444 TARRANT COUNTY TEXAS.

COMMENCING AT THE SOUTH WEST CORNER OF THE

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A CORPS OF ENGINEERING MONUMENT BRASS DISK IN CONCRETE

AND MARKED 106.

THENCE NORTH 5924.11

THENCE WEST 67.47 TO POINT OF BEGINNING.

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TRACT.

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DUNAWAY ASSOCIATES, Inc.
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1501 MERRIMAC CIRCLE, SUITE 100
FORT WORTH, TEXAS 76107
PH.(817)335-1121 METRO(817)429-2135
FAX(817)335-7437

DRAFT LETTER REPORT

RESULTS OF SAMPLING AT THE AEROSPACE MUSEUM SITE NAVAL AIR STATION, FORT WORTH JRB FORT WORTH, TEXAS

July 1997

Jacobs Engineering Group, Inc.
600 Seventeenth Street, Suite 1100N
Denver, Colorado 80202

AEROSPACE MUSEUM SITE

Soil Sampling

Twenty-seven soil samples were collected at the Aerospace Museum Site from May 14 to May 17, 1997, in order to confirm the analytical results from soil samples collected in October of 1995 (Figure 1). Two field duplicate and three equipment blank samples were also collected. Samples were analyzed by EMAX Laboratories, Inc. for arsenic, beryllium, chromium, and lead by method SW6010A; antimony by method SW7041; and nickel by method SW7520. All samples were first prepared using the synthetic precipitate leaching procedure (SPLP) method SW1312.

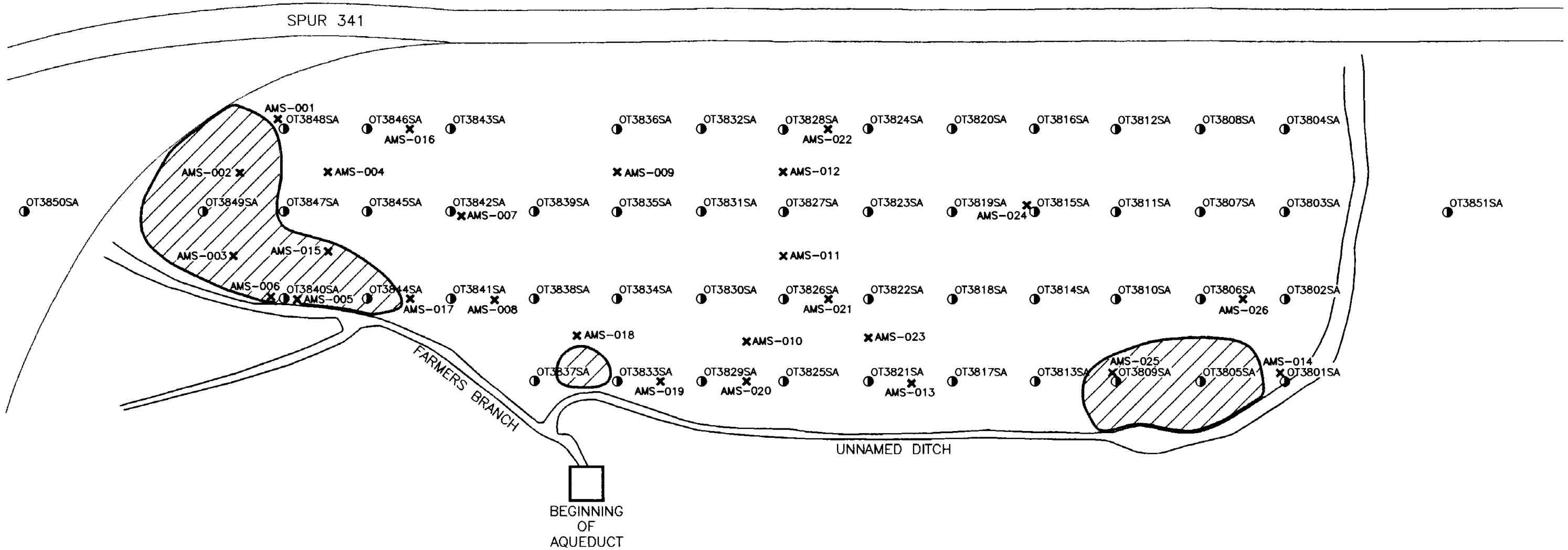
The results were compared to the Medium Specific Risk Reduction Standard Number 2 (RRS2) for each analyte.

Data Evaluation

Arsenic, chromium, nickel, and antimony were not detected in any of the samples (Table 1). The method detection limit (MDL) for arsenic, chromium, and nickel were all below the applicable RRS2 standard. For antimony, the MDL of 0.02 mg/L is above the RRS2 concentration of 0.006 mg/L. The MDL was the lowest achievable by the laboratory. Because of interference problems with sodium, the leachate was diluted 10 to 1 raising the detection limit from 0.002 to 0.02 mg/L.

Beryllium was detected in every sample at concentrations between the MDL and the practical quantitation limit (PQL). All beryllium results received a "B" qualifier, indicating the detected concentrations were less than 5 times the lab blank concentrations. This qualifier indicates that the beryllium is likely due to laboratory contamination and is not present in soil at these concentrations. Beryllium was detected in all seven lab blank samples at concentrations ranging from 0.0005 to 0.0162 mg/L, while the highest concentration in a soil sample was 0.0144 mg/L.

Lead was detected four times at concentrations ranging from 0.0206 to 0.0629 mg/L. Three of the four detections were between the MDL and the PQL. The MDL of 0.016 mg/L only slightly exceeded the RRS2 standard of 0.015 mg/L



LEGEND:

- ◑ ORIGINAL INVESTIGATION SAMPLE LOCATION (OCTOBER 1995)
- ✖ CONFIRMATION SAMPLE LOCATION (MAY 1997)
- FARMERS BRANCH OR UNNAMED DITCH
- DISTURBED AREA DUE TO SOIL/DEBRIS REMOVAL

Naval Air Station Fort Worth JRB
Fort Worth, Texas

Aerospace Museum Site
Sample Locations

PROJ. MGR.	ACAD FILE NO.	FIGURE NO.	
L. SCHUETTER	ASMSSL.DWG	1	
DRAWN BY	PROJ. NO.		DATE
J. HUNTER	05-G-47900		07/10/97

TABLE 1
Summary of Results from Soil Sampling at the Aerospace Museum Site

SAMPLE ID	SAMPLE INTERVAL	UNITS	ANALYTE	VALUE	PARVQ	MDL	PQL	LABQ	JEGQ	RRS2 Standard	Result Exceeds Standard?	MDL Exceeds Standard?
AMS-001	0 - 2	MG/L	Arsenic	0.0000	ND	0.0490	0.1000	U		0.05	No	No
AMS-002	0 - 2	MG/L	Arsenic	0.0000	ND	0.0490	0.1000	U		0.05	No	No
AMS-003	0 - 2	MG/L	Arsenic	0.0000	ND	0.0490	0.1000	U		0.05	No	No
AMS-004	0 - 2	MG/L	Arsenic	0.0000	ND	0.0490	0.1000	U		0.05	No	No
AMS-005	0 - 2	MG/L	Arsenic	0.0000	ND	0.0490	0.1000	U		0.05	No	No
AMS-006	0 - 2	MG/L	Arsenic	0.0000	ND	0.0490	0.1000	U		0.05	No	No
AMS-007	0 - 2	MG/L	Arsenic	0.0000	ND	0.0490	0.1000	U		0.05	No	No
AMS-008	0 - 2	MG/L	Arsenic	0.0000	ND	0.0490	0.1000	U		0.05	No	No
AMS-009	0 - 2	MG/L	Arsenic	0.0000	ND	0.0490	0.1000	U		0.05	No	No
AMS-010	0 - 2	MG/L	Arsenic	0.0000	ND	0.0490	0.1000	U		0.05	No	No
AMS-011	0 - 2	MG/L	Arsenic	0.0000	ND	0.0490	0.1000	U		0.05	No	No
AMS-012	0 - 2	MG/L	Arsenic	0.0000	ND	0.0490	0.1000	U		0.05	No	No
AMS-013	0 - 2	MG/L	Arsenic	0.0000	ND	0.0490	0.1000	U		0.05	No	No
AMS-014	0 - 2	MG/L	Arsenic	0.0000	ND	0.0490	0.1000	U		0.05	No	No
FD-AMS014	0 - 2	MG/L	Arsenic	0.0000	ND	0.0490	0.1000	U		0.05	No	No
AMS-015	0 - 2	MG/L	Arsenic	0.0000	ND	0.0490	0.1000	U		0.05	No	No
AMS-016	0 - 2	MG/L	Arsenic	0.0000	ND	0.0490	0.1000	U		0.05	No	No
AMS-017	0 - 2	MG/L	Arsenic	0.0000	ND	0.0490	0.1000	U		0.05	No	No
AMS-018	0 - 2	MG/L	Arsenic	0.0000	ND	0.0490	0.1000	U		0.05	No	No
AMS-019	0 - 2	MG/L	Arsenic	0.0000	ND	0.0490	0.1000	U		0.05	No	No
AMS-020	0 - 2	MG/L	Arsenic	0.0000	ND	0.0490	0.1000	U		0.05	No	No
AMS-021	0 - 2	MG/L	Arsenic	0.0000	ND	0.0490	0.1000	U		0.05	No	No
AMS-022	0 - 2	MG/L	Arsenic	0.0000	ND	0.0490	0.1000	U		0.05	No	No
AMS-023	0 - 2	MG/L	Arsenic	0.0000	ND	0.0490	0.1000	U		0.05	No	No
AMS-024	0 - 2	MG/L	Arsenic	0.0000	ND	0.0490	0.1000	U		0.05	No	No
AMS-025	0 - 2	MG/L	Arsenic	0.0000	ND	0.0490	0.1000	U		0.05	No	No
AMS-026	0 - 1.5	MG/L	Arsenic	0.0000	ND	0.0490	0.1000	U		0.05	No	No
AMS-026B	1.5 - 2	MG/L	Arsenic	0.0000	ND	0.0490	0.1000	U		0.05	No	No
FD-AMS026	0 - 1.5	MG/L	Arsenic	0.0000	ND	0.0490	0.1000	U		0.05	No	No
	-											
AMS-001	0 - 2	MG/L	Beryllium	0.0135	TR	0.0030	0.0300	F	B	0.004	Yes	No
AMS-002	0 - 2	MG/L	Beryllium	0.0124	TR	0.0030	0.0300	F	B	0.004	Yes	No
AMS-003	0 - 2	MG/L	Beryllium	0.0119	TR	0.0030	0.0300	F	B	0.004	Yes	No
AMS-004	0 - 2	MG/L	Beryllium	0.0115	TR	0.0030	0.0300	F	B	0.004	Yes	No
AMS-005	0 - 2	MG/L	Beryllium	0.0115	TR	0.0030	0.0300	F	B	0.004	Yes	No
AMS-006	0 - 2	MG/L	Beryllium	0.0114	TR	0.0030	0.0300	F	B	0.004	Yes	No
AMS-007	0 - 2	MG/L	Beryllium	0.0111	TR	0.0030	0.0300	F	B	0.004	Yes	No
AMS-008	0 - 2	MG/L	Beryllium	0.0109	TR	0.0030	0.0300	F	B	0.004	Yes	No
AMS-009	0 - 2	MG/L	Beryllium	0.0110	TR	0.0030	0.0300	F	B	0.004	Yes	No
AMS-010	0 - 2	MG/L	Beryllium	0.0108	TR	0.0030	0.0300	F	B	0.004	Yes	No
AMS-011	0 - 2	MG/L	Beryllium	0.0137	TR	0.0030	0.0300	F	B	0.004	Yes	No
AMS-012	0 - 2	MG/L	Beryllium	0.0117	TR	0.0030	0.0300	F	B	0.004	Yes	No
AMS-013	0 - 2	MG/L	Beryllium	0.0108	TR	0.0030	0.0300	F	B	0.004	Yes	No
AMS-014	0 - 2	MG/L	Beryllium	0.0113	TR	0.0030	0.0300	F	B	0.004	Yes	No
FD-AMS014	0 - 2	MG/L	Beryllium	0.0121	TR	0.0030	0.0300	F	B	0.004	Yes	No
AMS-015	0 - 2	MG/L	Beryllium	0.0104	TR	0.0030	0.0300	F	B	0.004	Yes	No
AMS-016	0 - 2	MG/L	Beryllium	0.0112	TR	0.0030	0.0300	F	B	0.004	Yes	No
AMS-017	0 - 2	MG/L	Beryllium	0.0106	TR	0.0030	0.0300	F	B	0.004	Yes	No
AMS-018	0 - 2	MG/L	Beryllium	0.0144	TR	0.0030	0.0300	F	B	0.004	Yes	No
AMS-019	0 - 2	MG/L	Beryllium	0.0113	TR	0.0030	0.0300	F	B	0.004	Yes	No
AMS-020	0 - 2	MG/L	Beryllium	0.0117	TR	0.0030	0.0300	F	B	0.004	Yes	No
AMS-021	0 - 2	MG/L	Beryllium	0.0112	TR	0.0030	0.0300	F	B	0.004	Yes	No
AMS-022	0 - 2	MG/L	Beryllium	0.0110	TR	0.0030	0.0300	F	B	0.004	Yes	No
AMS-023	0 - 2	MG/L	Beryllium	0.0128	TR	0.0030	0.0300	F	B	0.004	Yes	No
AMS-024	0 - 2	MG/L	Beryllium	0.0118	TR	0.0030	0.0300	F	B	0.004	Yes	No
AMS-025	0 - 2	MG/L	Beryllium	0.0111	TR	0.0030	0.0300	F	B	0.004	Yes	No
AMS-026	0 - 1.5	MG/L	Beryllium	0.0110	TR	0.0030	0.0300	F	B	0.004	Yes	No
AMS-026B	1.5 - 2	MG/L	Beryllium	0.0109	TR	0.0030	0.0300	F	B	0.004	Yes	No
FD-AMS026	0 - 1.5	MG/L	Beryllium	0.0115	TR	0.0030	0.0300	F	B	0.004	Yes	No
	-											
AMS-001	0 - 2	MG/L	Chromium	0.0000	ND	0.0890	0.2000	U		0.1	No	No
AMS-002	0 - 2	MG/L	Chromium	0.0000	ND	0.0890	0.2000	U		0.1	No	No
AMS-003	0 - 2	MG/L	Chromium	0.0000	ND	0.0890	0.2000	U		0.1	No	No
AMS-004	0 - 2	MG/L	Chromium	0.0000	ND	0.0890	0.2000	U		0.1	No	No

TABLE 1
Summary of Results from Soil Sampling at the Aerospace Museum Site

SAMPLE ID	SAMPLE INTERVAL	UNITS	ANALYTE	VALUE	PARVQ	MDL	PQL	LABQ	JEGQ	RRS2 Standard	Result Exceeds Standard?	MDL Exceeds Standard?
AMS-005	0 - 2	MG/L	Chromium	0.0000	ND	0.0890	0.2000	U		0.1	No	No
AMS-006	0 - 2	MG/L	Chromium	0.0000	ND	0.0890	0.2000	U		0.1	No	No
AMS-007	0 - 2	MG/L	Chromium	0.0000	ND	0.0890	0.2000	U		0.1	No	No
AMS-008	0 - 2	MG/L	Chromium	0.0000	ND	0.0890	0.2000	U		0.1	No	No
AMS-009	0 - 2	MG/L	Chromium	0.0000	ND	0.0890	0.2000	U		0.1	No	No
AMS-010	0 - 2	MG/L	Chromium	0.0000	ND	0.0890	0.2000	U		0.1	No	No
AMS-011	0 - 2	MG/L	Chromium	0.0000	ND	0.0890	0.2000	U		0.1	No	No
AMS-012	0 - 2	MG/L	Chromium	0.0000	ND	0.0890	0.2000	U		0.1	No	No
AMS-013	0 - 2	MG/L	Chromium	0.0000	ND	0.0890	0.2000	U		0.1	No	No
AMS-014	0 - 2	MG/L	Chromium	0.0000	ND	0.0890	0.2000	U		0.1	No	No
FD-AMS014	0 - 2	MG/L	Chromium	0.0000	ND	0.0890	0.2000	U		0.1	No	No
AMS-015	0 - 2	MG/L	Chromium	0.0000	ND	0.0890	0.2000	U		0.1	No	No
AMS-016	0 - 2	MG/L	Chromium	0.0000	ND	0.0890	0.2000	U		0.1	No	No
AMS-017	0 - 2	MG/L	Chromium	0.0000	ND	0.0890	0.2000	U		0.1	No	No
AMS-018	0 - 2	MG/L	Chromium	0.0000	ND	0.0890	0.2000	U		0.1	No	No
AMS-019	0 - 2	MG/L	Chromium	0.0000	ND	0.0890	0.2000	U		0.1	No	No
AMS-020	0 - 2	MG/L	Chromium	0.0000	ND	0.0890	0.2000	U		0.1	No	No
AMS-021	0 - 2	MG/L	Chromium	0.0000	ND	0.0890	0.2000	U		0.1	No	No
AMS-022	0 - 2	MG/L	Chromium	0.0000	ND	0.0890	0.2000	U		0.1	No	No
AMS-023	0 - 2	MG/L	Chromium	0.0000	ND	0.0890	0.2000	U		0.1	No	No
AMS-024	0 - 2	MG/L	Chromium	0.0000	ND	0.0890	0.2000	U		0.1	No	No
AMS-025	0 - 2	MG/L	Chromium	0.0000	ND	0.0890	0.2000	U		0.1	No	No
AMS-026	0 - 1.5	MG/L	Chromium	0.0000	ND	0.0890	0.2000	U		0.1	No	No
AMS-026B	1.5 - 2	MG/L	Chromium	0.0000	ND	0.0890	0.2000	U		0.1	No	No
FD-AMS026	0 - 1.5	MG/L	Chromium	0.0000	ND	0.0890	0.2000	U		0.1	No	No
	-											
AMS-001	0 - 2	MG/L	Nickel	0.0000	ND	0.0200	0.1000	U		0.1	No	No
AMS-002	0 - 2	MG/L	Nickel	0.0000	ND	0.0200	0.1000	U		0.1	No	No
AMS-003	0 - 2	MG/L	Nickel	0.0000	ND	0.0200	0.1000	U		0.1	No	No
AMS-004	0 - 2	MG/L	Nickel	0.0000	ND	0.0200	0.1000	U		0.1	No	No
AMS-005	0 - 2	MG/L	Nickel	0.0000	ND	0.0200	0.1000	U		0.1	No	No
AMS-006	0 - 2	MG/L	Nickel	0.0000	ND	0.0200	0.1000	U		0.1	No	No
AMS-007	0 - 2	MG/L	Nickel	0.0000	ND	0.0200	0.1000	U		0.1	No	No
AMS-008	0 - 2	MG/L	Nickel	0.0000	ND	0.0200	0.1000	U		0.1	No	No
AMS-009	0 - 2	MG/L	Nickel	0.0000	ND	0.0200	0.1000	U		0.1	No	No
AMS-010	0 - 2	MG/L	Nickel	0.0000	ND	0.0200	0.1000	U		0.1	No	No
AMS-011	0 - 2	MG/L	Nickel	0.0000	ND	0.0200	0.1000	U		0.1	No	No
AMS-012	0 - 2	MG/L	Nickel	0.0000	ND	0.0200	0.1000	U		0.1	No	No
AMS-013	0 - 2	MG/L	Nickel	0.0000	ND	0.0200	0.1000	U		0.1	No	No
AMS-014	0 - 2	MG/L	Nickel	0.0000	ND	0.0200	0.1000	U		0.1	No	No
FD-AMS014	0 - 2	MG/L	Nickel	0.0000	ND	0.0200	0.1000	U		0.1	No	No
AMS-015	0 - 2	MG/L	Nickel	0.0000	ND	0.0200	0.1000	U		0.1	No	No
AMS-016	0 - 2	MG/L	Nickel	0.0000	ND	0.0200	0.1000	U		0.1	No	No
AMS-017	0 - 2	MG/L	Nickel	0.0000	ND	0.0200	0.1000	U		0.1	No	No
AMS-018	0 - 2	MG/L	Nickel	0.0000	ND	0.0200	0.1000	U		0.1	No	No
AMS-019	0 - 2	MG/L	Nickel	0.0000	ND	0.0200	0.1000	U		0.1	No	No
AMS-020	0 - 2	MG/L	Nickel	0.0000	ND	0.0200	0.1000	U		0.1	No	No
AMS-021	0 - 2	MG/L	Nickel	0.0000	ND	0.0200	0.1000	U		0.1	No	No
AMS-022	0 - 2	MG/L	Nickel	0.0000	ND	0.0200	0.1000	U		0.1	No	No
AMS-023	0 - 2	MG/L	Nickel	0.0000	ND	0.0200	0.1000	U		0.1	No	No
AMS-024	0 - 2	MG/L	Nickel	0.0000	ND	0.0200	0.1000	U		0.1	No	No
AMS-025	0 - 2	MG/L	Nickel	0.0000	ND	0.0200	0.1000	U		0.1	No	No
AMS-026	0 - 1.5	MG/L	Nickel	0.0000	ND	0.0200	0.1000	U		0.1	No	No
AMS-026B	1.5 - 2	MG/L	Nickel	0.0000	ND	0.0200	0.1000	U		0.1	No	No
FD-AMS026	0 - 1.5	MG/L	Nickel	0.0000	ND	0.0200	0.1000	U		0.1	No	No
	-											
AMS-001	0 - 2	MG/L	Lead	0.0000	ND	0.0160	0.0500	U		0.015	No	Yes
AMS-002	0 - 2	MG/L	Lead	0.0000	ND	0.0160	0.0500	U		0.015	No	Yes
AMS-003	0 - 2	MG/L	Lead	0.0000	ND	0.0160	0.0500	U		0.015	No	Yes
AMS-004	0 - 2	MG/L	Lead	0.0000	ND	0.0160	0.0500	U		0.015	No	Yes
AMS-005	0 - 2	MG/L	Lead	0.0390	TR	0.0160	0.0500	F		0.015	Yes	Yes
AMS-006	0 - 2	MG/L	Lead	0.0000	ND	0.0160	0.0500	U		0.015	No	Yes
AMS-007	0 - 2	MG/L	Lead	0.0000	ND	0.0160	0.0500	U		0.015	No	Yes
AMS-008	0 - 2	MG/L	Lead	0.0000	ND	0.0160	0.0500	U		0.015	No	Yes

TABLE 1
Summary of Results from Soil Sampling at the Aerospace Museum Site

SAMPLE ID	SAMPLE INTERVAL	UNITS	ANALYTE	VALUE	PARVQ	MDL	PQL	LABQ	JEGQ	RRS2 Standard	Result Exceeds Standard?	MDL Exceeds Standard?
AMS-009	0 - 2	MG/L	Lead	0.0000	ND	0.0160	0.0500	U		0.015	No	Yes
AMS-010	0 - 2	MG/L	Lead	0.0000	ND	0.0160	0.0500	U		0.015	No	Yes
AMS-011	0 - 2	MG/L	Lead	0.0000	ND	0.0160	0.0500	U		0.015	No	Yes
AMS-012	0 - 2	MG/L	Lead	0.0000	ND	0.0160	0.0500	U		0.015	No	Yes
AMS-013	0 - 2	MG/L	Lead	0.0000	ND	0.0160	0.0500	U		0.015	No	Yes
AMS-014	0 - 2	MG/L	Lead	0.0315	TR	0.0160	0.0500	F		0.015	Yes	Yes
FD-AMS014	0 - 2	MG/L	Lead	0.0629	=	0.0160	0.0500			0.015	Yes	Yes
AMS-015	0 - 2	MG/L	Lead	0.0000	ND	0.0160	0.0500	U		0.015	No	Yes
AMS-016	0 - 2	MG/L	Lead	0.0000	ND	0.0160	0.0500	U		0.015	No	Yes
AMS-017	0 - 2	MG/L	Lead	0.0000	ND	0.0160	0.0500	U		0.015	No	Yes
AMS-018	0 - 2	MG/L	Lead	0.0000	ND	0.0160	0.0500	U		0.015	No	Yes
AMS-019	0 - 2	MG/L	Lead	0.0000	ND	0.0160	0.0500	U		0.015	No	Yes
AMS-020	0 - 2	MG/L	Lead	0.0000	ND	0.0160	0.0500	U		0.015	No	Yes
AMS-021	0 - 2	MG/L	Lead	0.0000	ND	0.0160	0.0500	U		0.015	No	Yes
AMS-022	0 - 2	MG/L	Lead	0.0206	TR	0.0160	0.0500	F		0.015	Yes	Yes
AMS-023	0 - 2	MG/L	Lead	0.0000	ND	0.0160	0.0500	U		0.015	No	Yes
AMS-024	0 - 2	MG/L	Lead	0.0000	ND	0.0160	0.0500	U		0.015	No	Yes
AMS-025	0 - 2	MG/L	Lead	0.0000	ND	0.0160	0.0500	U		0.015	No	Yes
AMS-026	0 - 1.5	MG/L	Lead	0.0000	ND	0.0160	0.0500	U		0.015	No	Yes
AMS-026B	1.5 - 2	MG/L	Lead	0.0000	ND	0.0160	0.0500	U		0.015	No	Yes
FD-AMS026	0 - 1.5	MG/L	Lead	0.0000	ND	0.0160	0.0500	U		0.015	No	Yes
	-											
AMS-001	0 - 2	MG/L	Antimony	0.0000	ND	0.0200	0.0500	U		0.006	No	Yes
AMS-002	0 - 2	MG/L	Antimony	0.0000	ND	0.0200	0.0500	U		0.006	No	Yes
AMS-003	0 - 2	MG/L	Antimony	0.0000	ND	0.0200	0.0500	U		0.006	No	Yes
AMS-004	0 - 2	MG/L	Antimony	0.0000	ND	0.0200	0.0500	U		0.006	No	Yes
AMS-005	0 - 2	MG/L	Antimony	0.0000	ND	0.0200	0.0500	U		0.006	No	Yes
AMS-006	0 - 2	MG/L	Antimony	0.0000	ND	0.0200	0.0500	U		0.006	No	Yes
AMS-007	0 - 2	MG/L	Antimony	0.0000	ND	0.0200	0.0500	U		0.006	No	Yes
AMS-008	0 - 2	MG/L	Antimony	0.0000	ND	0.0200	0.0500	U		0.006	No	Yes
AMS-009	0 - 2	MG/L	Antimony	0.0000	ND	0.0200	0.0500	U		0.006	No	Yes
AMS-010	0 - 2	MG/L	Antimony	0.0000	ND	0.0200	0.0500	U		0.006	No	Yes
AMS-011	0 - 2	MG/L	Antimony	0.0000	ND	0.0200	0.0500	U		0.006	No	Yes
AMS-012	0 - 2	MG/L	Antimony	0.0000	ND	0.0200	0.0500	U		0.006	No	Yes
AMS-013	0 - 2	MG/L	Antimony	0.0000	ND	0.0200	0.0500	U		0.006	No	Yes
AMS-014	0 - 2	MG/L	Antimony	0.0000	ND	0.0200	0.0500	U		0.006	No	Yes
FD-AMS014	0 - 2	MG/L	Antimony	0.0000	ND	0.0200	0.0500	U		0.006	No	Yes
AMS-015	0 - 2	MG/L	Antimony	0.0000	ND	0.0200	0.0500	U		0.006	No	Yes
AMS-016	0 - 2	MG/L	Antimony	0.0000	ND	0.0200	0.0500	U		0.006	No	Yes
AMS-017	0 - 2	MG/L	Antimony	0.0000	ND	0.0200	0.0500	U		0.006	No	Yes
AMS-018	0 - 2	MG/L	Antimony	0.0000	ND	0.0200	0.0500	U		0.006	No	Yes
AMS-019	0 - 2	MG/L	Antimony	0.0000	ND	0.0200	0.0500	U		0.006	No	Yes
AMS-020	0 - 2	MG/L	Antimony	0.0000	ND	0.0200	0.0500	U		0.006	No	Yes
AMS-021	0 - 2	MG/L	Antimony	0.0000	ND	0.0200	0.0500	U		0.006	No	Yes
AMS-022	0 - 2	MG/L	Antimony	0.0000	ND	0.0200	0.0500	U		0.006	No	Yes
AMS-023	0 - 2	MG/L	Antimony	0.0000	ND	0.0200	0.0500	U		0.006	No	Yes
AMS-024	0 - 2	MG/L	Antimony	0.0000	ND	0.0200	0.0500	U		0.006	No	Yes
AMS-025	0 - 2	MG/L	Antimony	0.0000	ND	0.0200	0.0500	U		0.006	No	Yes
AMS-026	0 - 1.5	MG/L	Antimony	0.0000	ND	0.0200	0.0500	U		0.006	No	Yes
AMS-026B	1.5 - 2	MG/L	Antimony	0.0000	ND	0.0200	0.0500	U		0.006	No	Yes
FD-AMS026	0 - 1.5	MG/L	Antimony	0.0000	ND	0.0200	0.0500	U		0.006	No	Yes

NOTES:

B = Detected at concentration less than 5 times the lab blank concentration
F = Detected above the method detected limit (MDL) but below the Practical Quantitation Limit (PQL).
JEGQ = Qualifier assigned by Jacobs Engineering data review program
LABQ = Laboratory qualifier
MG/L = Milligrams per liter
ND = Not detected
RRS2 = Medium Specific Concentration (MSC) for Groundwater based on Risk Reduction Standards Number 2.
TR = Detected above the method detected limit (MDL) but below the Practical Quantitation Limit (PQL).
U = Not detected

EMAX
LABORATORIES, INC.
630 Maple Ave.
Torrance, CA 90503
Telephone: (310) 618-8889
Fax: (310) 618-0818

RECEIVED
JUN 2 ? 1997
JE - Denver

Date: 06-21-1997
EMAX Batch No.: 97E103

Attn: Lynn Schuetter

Jacobs Engineering Group
600 17th. Street, Ste. 1100N
Denver CO 80202

Subject: Laboratory Report
Project: Carswell AFB / 05G47900

Enclosed is the Laboratory report for samples received on 05/22/97. The data reported include :

Sample ID	Control #	Col Date	Matrix	Analysis
CR-A162101	E103-01	05/18/97	Soil	SPLP Pesticides
				SPLP Metals
				SPLP Antimony
				SPLP Nickel
CR-A162102	E103-02	05/18/97	Soil	SPLP Pesticides
CR-A162103	E103-03	05/19/97	Soil	SPLP Pesticides
CR-A162104	E103-04	05/19/97	Soil	SPLP Pesticides
CR-A162105	E103-05	05/19/97	Soil	SPLP Pesticides
				SPLP Metals
				SPLP Nickel
				SPLP Antimony
CR-A162106	E103-06	05/19/97	Soil	SPLP Metals
				SPLP Nickel
				SPLP Antimony
CR-A162107	E103-07	05/18/97	Soil	SPLP Pesticides
CR-A162108	E103-08	05/18/97	Water	Metals
				Nickel
				Antimony
CR-A162109	E103-09	05/18/97	Water	EPA 608 (Pesticides)

#	Col Date	Matrix	Analysis	Sample ID	Control
	05/16/97	Soil	SPLP Metals SPLP Nickel SPLP Antimony	CR-A162201	E103-1(
	05/16/97	Soil	SPLP Metals SPLP Nickel SPLP Antimony	CR-A162202	E103-1:
	05/16/97	Soil	SPLP Metals SPLP Nickel SPLP Antimony	CR-A162203	E103-1:
	05/16/97	Soil	SPLP Metals SPLP Nickel SPLP Antimony	CR-A162204	E103-1:
	05/16/97	Soil	SPLP Metals SPLP Nickel SPLP Antimony	CR-A162205	E103-14
	05/16/97	Soil	SPLP Metals SPLP Nickel SPLP Antimony	CR-A162206	E103-15
	05/16/97	Water	Metals Nickel Antimony	CR-A162207	E103-16
	05/14/97	Soil	SPLP Metals SPLP Antimony SPLP Nickel	CR-A162301	E103-17
	05/14/97	Soil	SPLP Metals SPLP Antimony SPLP Nickel	CR-A162302	E103-18
	05/14/97	Soil	SPLP Metals SPLP Nickel SPLP Antimony	CR-A162303	E103-19
	05/16/97	Soil	SPLP Metals SPLP Nickel SPLP Antimony	CR-A162304	E103-20
	05/16/97	Soil	SPLP Metals SPLP Nickel SPLP Antimony	CR-A162305	E103-21
	05/17/97	Soil	SPLP Metals SPLP Nickel SPLP Antimony	CR-A162306	E103-22
	05/15/97	Soil	SPLP Metals SPLP Nickel	CR-A162401	E103-23

Sample ID	Control #	Col Date	Matrix	Analysis
CR-A162402	E103-24	05/17/97	Soil	SPLP Antimony SPLP Metals SPLP Nickel
CR-A162403	E103-25	05/16/97	Soil	SPLP Antimony SPLP Metals SPLP Nickel
CR-A162404	E103-26	05/16/97	Soil	SPLP Antimony SPLP Metals SPLP Antimony
CR-A162405	E103-27	05/15/97	Soil	SPLP Nickel SPLP Antimony SPLP Nickel
CR-A162406	E103-28	05/16/97	Soil	SPLP Metals SPLP Metals SPLP Antimony
CR-A162407	E103-29	05/17/97	Soil	SPLP Nickel SPLP Metals SPLP Nickel
CR-A162501	E103-30	05/16/97	Soil	SPLP Antimony SPLP Metals SPLP Nickel
CR-A162502	E103-31	05/16/97	Soil	SPLP Antimony SPLP Metals SPLP Antimony
CR-A162503	E103-32	05/15/97	Soil	SPLP Nickel SPLP Metals SPLP Antimony
CR-A162504	E103-33	05/17/97	Soil	SPLP Nickel SPLP Metals SPLP Nickel
CR-A162505	E103-34	05/15/97	Soil	SPLP Antimony SPLP Metals SPLP Nickel
CR-A162506	E103-35	05/17/97	Soil	SPLP Antimony SPLP Metals SPLP Nickel
CR-A162507	E103-36	05/15/97	Water	SPLP Antimony Metals Nickel Antimony
CR-A162601	E103-37	05/17/97	Soil	SPLP Metals

Sample ID	Control #	Col Date	Matrix	Analysis
				SPLP Nickel
				SPLP Antimony
CR-A162602	E103-38	05/17/97	Soil	SPLP Metals
				SPLP Antimony
				SPLP Nickel
CR-A162603	E103-39	05/17/97	Soil	SPLP Metals
				SPLP Antimony
				SPLP Nickel
CR-A162604	E103-40	05/17/97	Soil	SPLP Metals
				SPLP Nickel
				SPLP Antimony
CR-A162605	E103-41	05/17/97	Water	Nickel
				Antimony
				Metals
CR-A162701	E103-42	05/18/97	Soil	SPLP Metals
				SPLP Nickel
				SPLP Antimony
CR-A162702	E103-43	05/18/97	Soil	SPLP Metals
				SPLP Nickel
				SPLP Antimony
CR-A162703	E103-44	05/18/97	Soil	SPLP Metals
				SPLP Nickel
				SPLP Antimony
CR-A162704	E103-45	05/18/97	Soil	SPLP Metals
				SPLP Nickel
				SPLP Antimony
CR-A162705	E103-46	05/18/97	Soil	SPLP Metals
				SPLP Nickel
				SPLP Antimony
CR-A162706	E103-47	05/18/97	Soil	SPLP Metals
				SPLP Antimony
				SPLP Nickel
CR-A162707	E103-48	05/18/97	Soil	SPLP Metals
				SPLP Nickel
				SPLP Antimony
CR-A162708	E103-49	05/20/97	Water	Metals
				Nickel
				Antimony
CR-A162709	E103-50	05/20/97	Water	EPA 608 (PCBs)
CR-A162801	E103-51	05/18/97	Soil	SPLP Pesticides
CR-A162802	E103-52	05/18/97	Soil	SPLP Pesticides

Sample ID	Control #	Col Date	Matrix	Analysis
CR-A162803	E103-53	05/18/97	Soil	SPLP Pesticides
CR-A162804	E103-54	05/18/97	Soil	SPLP Pesticides
CR-A162805	E103-55	05/18/97	Soil	SPLP Pesticides
CR-A162806	E103-56	05/18/97	Soil	SPLP Pesticides
				SPLP Metals
				SPLP Nickel
				SPLP Antimony
CR-A162807	E103-57	05/18/97	Soil	SPLP Pesticides
				SPLP Metals
				SPLP Nickel
				SPLP Antimony
CR-A162808	E103-58	05/19/97	Soil	SPLP Pesticides
CR-A162809	E103-59	05/19/97	Soil	SPLP Metals
				SPLP Nickel
				SPLP Antimony
CR-A162901	E103-60	05/19/97	Soil	SPLP Metals
				SPLP Nickel
				SPLP Antimony
CR-A162902	E103-61	05/19/97	Soil	SPLP Metals
				SPLP Antimony
				SPLP Nickel
CR-A162903	E103-62	05/19/97	Soil	SPLP PCBs
CR-A162904	E103-63	05/19/97	Soil	SPLP PCBs
CR-A162905	E103-64	05/19/97	Soil	SPLP PCBs
CR-A162906	E103-65	05/20/97	Soil	SPLP PCBs
CR-A162907	E103-66	05/19/97	Water	Metals
				Nickel
				Antimony
CR-A162908	E103-67	05/19/97	water	EPA 8080
CR-A163001	E103-68	05/20/97	Soil	SPLP PCBs
CR-A163002	E103-69	05/20/97	Soil	SPLP PCBs
CR-A163003	E103-70	05/20/97	Soil	SPLP PCBs
CR-A163004	E103-71	05/20/97	Soil	SPLP PCBs
CR-A163005	E103-72	05/20/97	Soil	SPLP PCBs
CR-A163006	E103-73	05/20/97	Soil	SPLP PCBs
CR-A163007	E103-74	05/20/97	Soil	SPLP PCBs
				SPLP Metals
				SPLP Nickel
				SPLP Antimony
CR-A163008	E103-75	05/20/97	Soil	SPLP PCBs
CR-A163009	E103-76	05/20/97	Soil	SPLP Metals

Sample ID	Control #	Col Date	Matrix	Analysis
				SPLP Nickel
				SPLP Antimony
CR-A162101MS	E103-01M	05/18/97	Soil	SPLP Metals
				SPLP Nickel
				SPLP Antimony
CR-A162101DUP	E103-01D	05/18/97	Soil	SPLP Metals
				SPLP Antimony
				SPLP Nickel
CR-A162104MS	E103-04M	05/19/97	Soil	SPLP Pesticides
CR-A162104MSD	E103-04S	05/19/97	Soil	SPLP Pesticides
CR-A162707MS	E103-48M	05/18/97	Soil	SPLP Metals
				SPLP Antimony
				SPLP Nickel
CR-A162707DUP	E103-48D	05/18/97	Soil	SPLP Metals
				SPLP Nickel
				SPLP Antimony
CR-A162108MS	E103-08M	05/18/97	Soil	SPLP Metals
				SPLP Antimony
				SPLP Nickel
CR-A163009DUP	E103-08D	05/18/97	Soil	SPLP Metals
				SPLP Nickel
				SPLP Antimony

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning these results.

Sincerely yours,

Kam Y. Pang, Ph.D.
Laboratory Director

97E103 L1/L3

JACOBS ENGINEERING GROUP INC.
600 SEVENTEENTH STREET, SUITE 1100N DENVER, COLORADO 80202
TELEPHONE (303) 595 - 8855 FAX (303) 595 - 8857

CR-A1621 CHAIN OF CUSTODY RECORD

USE A BALLPOINT PEN, BLACK INK, AND PRESS FIRMLY. INSTRUCTIONS ARE ON THE BACK

PROJECT NAME: CARSWELL AFB (DO 21)
PROJECT NUMBER: 05G47900
WBS CODE: 505-01
SUBCONTRACT / D.O. No.
LABORATORY NAME & ADDRESS: MAX LABORATORIES, INC.
630 Maple Avenue
Torrance CA 90503-

SAMPLE NUMBER	COLLECTION DATE	COLLECTION TIME	SAMPLER'S INITIALS	NUMBER OF CONTAINERS	CONTAINER SIZE AND TYPE	PRESERVATIVE	MATRIX CODE	ANALYSES REQUESTED	QC	CONDITION ON RECEIPT	
CR-A162101	5/18/97	15:56	MJ	1	8 oz. Jar	4 deg C	S	SW1312 - Pesticides SW1312 AsBeCrNiPbSb		T=2'C	1
CR-A162102	5/18/97	16:27	MJ	1	8 oz. Jar	4 deg C	S	SW1312 - Pesticides			2
CR-A162103	5/18/97 MJ19	09:44	MJ	1	8 oz. Jar	4 deg C	S	SW1312 - Pesticides			3
CR-A162104	5/19/97	10:47	MJ	1 2	8 oz. Jar	4 deg C	S	SW1312 - Pesticides			4
CR-A162105	5/19/97	12:46	MJ	1	8 oz. Jar	4 deg C	S	SW1312 - Pesticides SW1312 AsBeCrNiPbSb			5
CR-A162106	5/19/97	13:15	MJ	1	8 oz. Jar	4 deg C	S	SW1312 AsBeCrNiPbSb			6
CR-A 162107	5/18/97	1645	MJ	1	8 oz Jar	4°	S	SW1312 - Pesticides			7
CR-A 162108	5/18/97	1700	MJ	1	~~8 oz~~ 500ml ~~Jar~~ Plast.	4° HNO3	W	~~SW1312 Pesticides~~ ~~SW1312~~ - As Be Cr Ni Pb Sb			8
CR-A 162109	5/18/97	1702	MJ	1	1L Amber	4°	W	Pesticides			9

COMMENTS:

COLLECTED & RELEASED BY	DATE	TIME	TURNAROUND TIME		
	5/21/97	17:00			
RECEIVED BY	DATE	TIME	RELINQUISHED BY	DATE	TIME
	5/22/97	10:[illegible]		/ /	:
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	/ /	:			
			SHIPPING NUMBER: 2652822325		

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97 E703

JACOBS ENGINEERING GROUP INC.
800 SEVENTEENTH STREET, SUITE 1100N DENVER, COLORADO 80202
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CR-A1622 CHAIN OF CUSTODY RECORD

USE A BALLPOINT PEN, BLACK INK, AND PRESS FIRMLY. INSTRUCTIONS ARE ON THE BACK

PROJECT NAME: CARSWELL AFB (DO 21)
LABORATORY NAME & ADDRESS: MAX LABORATORIES, INC.
PROJECT NUMBER: 05647900
630 Maple Avenue
WBS CODE: 505-01
SUBCONTRACT / D.O. No.
Torrance CA 90503-

SAMPLE NUMBER	COLLECTION DATE	COLLECTION TIME	SAMPLER'S INITIALS	NUMBER OF CONTAINERS	CONTAINER SIZE AND TYPE	PRESERVATIVE	MATRIX CODE	ANALYSES REQUESTED	QC	CONDITION ON RECEIPT	
CR-A162201	5/16/97	15:06	MJ	1	8 oz. Jar	4 deg C	S	SW1312 AsBeCrNiPbSb		T=2 Cr	10
CR-A162202	5/16/97	15:36	MJ	1	8 oz. Jar	4 deg C	S	SW1312 AsBeCrNiPbSb			11
CR-A162203	5/16/97	16:35	MJ	1	8 oz. Jar	4 deg C	S	SW1312 AsBeCrNiPbSb			12
CR-A162204	5/16/97	14:36	MJ	1	8 oz. Jar	4 deg C	S	SW1312 AsBeCrNiPbSb			
CR-A162205	5/16/97	09:02	MJ	1	8 oz. Jar	4 deg C	S	SW1312 AsBeCrNiPbSb			14
CR-A162206	5/16/97	08:32	MJ	1	8 oz. Jar	4 deg C	S	SW1312 AsBeCrNiPbSb			15
CR-A 162207	5/16/97	17:45	MJ	1	500 ml plastic	H.A.C. HNO3	W	As Be Cr Ni Pb Sb			16

COMMENTS:

COLLECTED & RELEASED BY	DATE	TIME	TURNAROUND TIME		
	5/21/97	17:00			
RECEIVED BY	DATE	TIME	RELINQUISHED BY	DATE	TIME
	5/22/97	10:00		/ /	:
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			SHIPPING NUMBER: 2652822325		

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JACOBS ENGINEERING GROUP INC.
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CR-A1623

CHAIN OF CUSTODY RECORD

USE A BALLPOINT PEN, BLACK INK, AND PRESS FIRMLY. INSTRUCTIONS ARE ON THE BACK

PROJECT NAME: CARSWELL AFB (DO 21)

PROJECT NUMBER: 05C47900

WBS CODE: 505-01

SUBCONTRACT / D.O. No.

LABORATORY NAME & ADDRESS: EMAX LABORATORIES, INC.
630 Maple Avenue
Torrance CA 90503-

SAMPLE NUMBER	COLLECTION DATE	COLLECTION TIME	SAMPLER'S INITIALS	NUMBER OF CONTAINERS	CONTAINER SIZE AND TYPE	PRESERVATIVE	MATRIX CODE	ANALYSES REQUESTED	QC	CONDITION ON RECEIPT	
CR-A162301	5 14 97	17:00	MJ	1	8 oz. Jar	4 deg C	S	SW1312 AsBeCrNiPbSb		T=2 cr	17
CR-A162302	5 14 97	17:43	MJ	1	8 oz. Jar	4 deg C	S	SW1312 AsBeCrNiPbSb			18
CR-A162303	5 14 97	16:49 PM	MJ	1	8 oz. Jar	4 deg C	S	SW1312 AsBeCrNiPbSb			19
CR-A162304	5 16 97	08:58	MJ	1	8 oz. Jar	4 deg C	S	SW1312 AsBeCrNiPbSb			20
CR-A162305	5 16 97	09:32	MJ	1	8 oz. Jar	4 deg C	S	SW1312 AsBeCrNiPbSb			21
CR-A162306	5 17 97	09:42	MJ	1	8 oz. Jar	4 deg C	S	SW1312 AsBeCrNiPbSb			22

COMMENTS:

	DATE	TIME		DATE	TIME
COLLECTED & RELEASED BY	5 21 97	17:06	TURNAROUND TIME		
RECEIVED BY	5 22 97	10:20	RELINQUISHED BY	/ /	:
RECORD RETURNED BY	/ /	:			
			SHIPPING NUMBER: 2657822325		

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CR-A1624 CHAIN OF CUSTODY RECORD

USE A BALLPOINT PEN, BLACK INK, AND PRESS FIRMLY. INSTRUCTIONS ARE ON THE BACK

PROJECT NAME: CARSWELL AFB (DO 21)
LABORATORY NAME & ADDRESS: EMAX LABORATORIES, INC.
PROJECT NUMBER: 05G47900
630 Maple Avenue
WBS CODE: 505-01
SUBCONTRACT / D.O. No.
Torrance CA 90503-

SAMPLE NUMBER	COLLECTION DATE	COLLECTION TIME	SAMPLER'S INITIALS	NUMBER OF CONTAINERS	CONTAINER SIZE AND TYPE	PRESERVATIVE	MATRIX CODE	ANALYSES REQUESTED	QC	CONDITION ON RECEIPT	
CR-A162401	5/15/97	15:08	MJ	1	8 oz. Jar	4 deg C	S	SW1312 AsBeCrNiPbSb		T=2 C	23
CR-A162402	5/15/97	11:57	MJ	1	8 oz. Jar	4 deg C	S	SW1312 AsBeCrNiPbSb			24
CR-A162403	5/16/97	16:06	MJ	1	8 oz. Jar	4 deg C	S	SW1312 AsBeCrNiPbSb			25
CR-A162404	5/16/97	14:11	MJ	1	8 oz. Jar	4 deg C	S	SW1312 AsBeCrNiPbSb			
CR-A162405	5/15/97	08:45	MJ	1	8 oz. Jar	4 deg C	S	SW1312 AsBeCrNiPbSb			27
CR-A162406	5/16/97	10:59	MJ	1	8 oz. Jar	4 deg C	S	SW1312 AsBeCrNiPbSb			28
CR-A162407	5/17/97	12:14	MJ	1	8 oz JAR	4C°	S	SW1312 As, Be, Ni Cr, Pb, Sb			29

COMMENTS:

COLLECTED & RELEASED BY	DATE	TIME	TURNAROUND TIME		
	5/21/97	17:00			
RECEIVED BY	DATE	TIME	RELINQUISHED BY	DATE	TIME
	5/22/97	10:00		/ /	:
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	/ /	:	SHIPPING NUMBER: 2657822325		

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JACOBS ENGINEERING GROUP INC.
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CR-A1625

CHAIN OF CUSTODY RECORD

USE A BALLPOINT PEN, BLACK INK, AND PRESS FIRMLY. INSTRUCTIONS ARE ON THE BACK

PROJECT NAME: CARSWELL AFB (DO 21)
PROJECT NUMBER: 05C47900
WBS CODE: 505-01
SUBCONTRACT / D.O. No.

LABORATORY NAME & ADDRESS: KNOX LABORATORIES, INC.
630 Maple Avenue
Torrance CA 90503-

	SAMPLE NUMBER	COLLECTION DATE	COLLECTION TIME	SAMPLER'S INITIALS	NUMBER OF CONTAINERS	CONTAINER SIZE AND TYPE	PRESERVATIVE	MATRIX CODE	ANALYSES REQUESTED	QC	CONDITION ON RECEIPT	
✓	CR-A162501	5/16/97	16:04	MJ	1	8 oz. Jar	4 deg C	S	SW1312 AsBeCrNiPbSb		T=2°C	30
✓	CR-A162502	5/16/97	08:30	MJ	1	8 oz. Jar	4 deg C	S	SW1312 AsBeCrNiPbSb			31
✓	CR-A162503	5/15/97	16:51	MJ	1	8 oz. Jar	4 deg C	S	SW1312 AsBeCrNiPbSb			32
✓	CR-A162504	5/17/97	10:15 ~~15:58~~	MJ	1	8 oz. Jar	4 deg C	S	SW1312 AsBeCrNiPbSb			33
✓	CR-A162505	5/15/97	15:58	MJ	1	8 oz. Jar	4 deg C	S	SW1312 AsBeCrNiPbSb			34
✓	CR-A162506	5/17/97	11:30	MJ	1	8 oz. Jar	4 deg C	S	SW1312 AsBeCrNiPbSb			35
✓	CR-A 162507	5/15/97	1815	MJ	1	1L Plastic	4 deg C HNO3	W	As, Be, Cr, Ni, Pb, Sb			36

COMMENTS:

COLLECTED & RELEASED BY	DATE	TIME	TURNAROUND TIME		
	5/21/97	17:00			
RECEIVED BY	DATE	TIME	RELINQUISHED BY	DATE	TIME
	5/22/97	10:00		/ /	:
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JACOBS ENGINEERING GROUP INC.
800 SEVENTEENTH STREET, SUITE 1100N DENVER, COLORADO 80202
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CR-A1626 CHAIN OF CUSTODY RECORD

USE A BALLPOINT PEN, BLACK INK, AND PRESS FIRMLY. INSTRUCTIONS ARE ON THE BACK

PROJECT NAME: CARSWELL AFB (DO 21)
PROJECT NUMBER: 05C47900
WBS CODE: 505-01
SUBCONTRACT / D.O. No.
LABORATORY NAME & ADDRESS: MAI LABORATORIES, INC.
630 Maple Avenue
Torrance CA 90503-

SAMPLE NUMBER	COLLECTION DATE	COLLECTION TIME	SAMPLER'S INITIALS	NUMBER OF CONTAINERS	CONTAINER SIZE AND TYPE	PRESERVATIVE	MATRIX CODE	ANALYSES REQUESTED	QC	CONDITION ON RECEIPT	
CR-A162601	11/17/97	10:56	MJ	1	8 oz. Jar	4 deg C	S	SW1312 AsBeCrNiPbSb		T=2 Cr	37
CR-A162602	11/17/97	12:33	MJ	1	8 oz. Jar	4 deg C	S	SW1312 AsBeCrNiPbSb			38
CR-A 162603	11/17/97	1246	MJ	1	8 oz Jar	4°	S	SW 1312 As Be Cr Ni Pb Sb.			39
CR-A 162604	11/17/97	1303	MJ	1	8 oz Jar	4°	S	SW 1312 As Be Cr. Ni Pb Sb			40
CR-A 162605	11/17/97	1755	MJ	1	500 ml Plastic	4° HNO_3	W	As Be Cr Ni Pb Sb			41

COMMENTS:

COLLECTED & RELEASED BY	DATE	TIME	TURNAROUND TIME		
	5/21/97	1700			
RECEIVED BY	DATE	TIME	RELINQUISHED BY	DATE	TIME
	5/22/97	10:00		/ /	:
RECORD RETURNED BY	DATE	TIME			
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JACOBS ENGINEERING GROUP INC.
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CR-A1627 CHAIN OF CUSTODY RECORD

USE A BALLPOINT PEN, BLACK INK, AND PRESS FIRMLY. INSTRUCTIONS ARE ON THE BACK

PROJECT NAME: CARSWELL AFB (DO 21)
PROJECT NUMBER: 05647900
WBS CODE: 505-01
SUBCONTRACT / D.O. No.

LABORATORY NAME & ADDRESS: EMAX LABORATORIES, INC.
630 Maple Avenue
Torrance CA 90503-

SAMPLE NUMBER	COLLECTION DATE	COLLECTION TIME	SAMPLER'S INITIALS	NUMBER OF CONTAINERS	CONTAINER SIZE AND TYPE	PRESERVATIVE	MATRIX CODE	ANALYSES REQUESTED	QC	CONDITION ON RECEIPT	
CR-A162701	5/18/97	08:32	MJ	1	8 oz. Jar	4 deg C	S	SW1312 AsBeCrNiPbSb		T=2°C	42
CR-A162702	5/18/97	10:05	MJ	1	8 oz. Jar	4 deg C	S	SW1312 AsBeCrNiPbSb			43
CR-A162703	5/18/97	09:29	MJ	1	8 oz. Jar	4 deg C	S	SW1312 AsBeCrNiPbSb			44
CR-A162704	5/18/97	10:30	MJ	1	8 oz. Jar	4 deg C	S	SW1312 AsBeCrNiPbSb			45
CR-A162705	5/18/97	10:58	MJ	1	8 oz. Jar	4 deg C	S	SW1312 AsBeCrNiPbSb			46
CR-A162706	5/18/97	11:37	MJ	1	8 oz. Jar	4 deg C	S	SW1312 AsBeCrNiPbSb			47
CR-A 162707	5/18/97	0840	MJ	2	8 oz Jar	4°	S	SW1312 As Be Cr Ni Pb Sb	MS/MSD		48
CR-A 162708	5/20/97	1016	MJ	1	500 ml Plastic	4° HNO3	W	As Be Cr Ni Pb Sb			49
CR-A 162709	5/20/97	1016	MJ	1	1L Amber	4°	W	PCB - SW8080			50

COMMENTS:

COLLECTED & RELEASED BY	DATE	TIME	TURNAROUND TIME		
	5/21/97	17:00			
RECEIVED BY	DATE	TIME	RELINQUISHED BY	DATE	TIME
	5/22/97	10:40		/ /	:
RECORD RETURNED BY	DATE	TIME			
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			SHIPPING NUMBER: 2052822325		

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97 E103

JACOBS ENGINEERING GROUP INC.
600 SEVENTEENTH STREET, SUITE 1100N DENVER, COLORADO 80202
TELEPHONE (303) 595 - 8855 FAX (303) 595 - 8857

CR-A1628 CHAIN OF CUSTODY RECORD

USE A BALLPOINT PEN, BLACK INK, AND PRESS FIRMLY. INSTRUCTIONS ARE ON THE BACK

PROJECT NAME: CARSWELL AFB (DO 21)
LABORATORY NAME & ADDRESS: ENVAY LABORATORIES, INC.
PROJECT NUMBER: 05G47900
630 Maple Avenue
WBS CODE: 505-01
SUBCONTRACT / D.O. No.
Torrance CA 90503-

SAMPLE NUMBER	COLLECTION DATE	COLLECTION TIME	SAMPLER'S INITIALS	NUMBER OF CONTAINERS	CONTAINER SIZE AND TYPE	PRESERVATIVE	MATRIX CODE	ANALYSES REQUESTED	QC	CONDITION ON RECEIPT	
✓ CR-A162801	5/18/97	12:16	MJ	1	8 oz. Jar	4 deg C	S	SW1312 - Pesticides		T=2°C	51
✓ CR-A162802	5/18/97	12:48	MJ	1	8 oz. Jar	4 deg C	S	SW1312 - Pesticides			52
✓ CR-A162803	5/18/97	13:14	MJ	1	8 oz. Jar	4 deg C	S	SW1312 - Pesticides			53
✓ CR-A162804	5/18/97	13:50	MJ	1	8 oz. Jar	4 deg C	S	SW1312 - Pesticides			54
✓ CR-A162805	5/18/97	14:19	MJ	1	8 oz. Jar	4 deg C	S	SW1312 - Pesticides			55
✓ CR-A162806	5/18/97	13:25	MJ	1	8 oz. Jar	4 deg C	S	SW1312 - Pesticides SW1312 AsBeCrNiPbSb			56
✓ CR-A 162807	5/18/97	1305	MJ	1	8 oz Jar	4°	S	SW1312 - Pesticides SW1312 AsBeCrNiPbSb			57
✓ CR-A 162808	MJA 5/18/97	1000	MJ	1	8 oz Jar	4°	S	SW1312 - Pesticides			58
✓ CR-A 162809	5/19/97	1315 ~~1332~~	MJ	1	8 oz Jar	4°	S	SW1312 As Be Ni Pb Sb Cr			59

COMMENTS:

COLLECTED & RELEASED BY	DATE	TIME	TURNAROUND TIME		
[signature]	5/21/97	1700			
RECEIVED BY	DATE	TIME	RELINQUISHED BY	DATE	TIME
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RECORD RETURNED BY	DATE	TIME			
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			SHIPPING NUMBER: 2652822325		

DISTRIBUTION: WHITE - PROJECT FILE / CANARY - LAB RECEIPT / PINK - DATA MANAGEMENT / GOLDENROD - FIELD

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JACOBS ENGINEERING GROUP INC.
600 SEVENTEENTH STREET, SUITE 1100N DENVER, COLORADO 80202
TELEPHONE (303) 595 - 8855 FAX (303) 595 - 8857

CR-A1629 CHAIN OF CUSTODY RECORD

USE A BALLPOINT PEN, BLACK INK, AND PRESS FIRMLY. INSTRUCTIONS ARE ON THE BACK

PROJECT NAME: CARSWELL AFB (DO 21)
LABORATORY NAME & ADDRESS: ENVIRO LABORATORIES, INC.
PROJECT NUMBER: 05G47900
630 Maple Avenue
WBS CODE: 505-01
SUBCONTRACT / D.O. No.
Torrance CA 90503-

SAMPLE NUMBER	COLLECTION DATE	COLLECTION TIME	SAMPLER'S INITIALS	NUMBER OF CONTAINERS	CONTAINER SIZE AND TYPE	PRESERVATIVE	MATRIX CODE	ANALYSES REQUESTED	QC	CONDITION ON RECEIPT	
CR-A162901	5/19/97	13:58	MJ	1	8 oz. Jar	4 deg C	S	SW1312 AsBeCrNiPbSb		T=2°C	60
CR-A162902	5/19/97	16:14 ~~15:27~~ mg	MJ	1	8 oz. Jar	4 deg C	S	SW1312 AsBeCrNiPbSb			61
CR-A162903	5/19/97	15:27	MJ	1	8 oz. Jar	4 deg C	S	SW1312 - PCBs			62
CR-A162904	5/19/97	16:40	MJ	1	8 oz. Jar	4 deg C	S	SW1312 - PCBs			63
CR-A162905	5/19/97	17:04	MJ	1	8 oz. Jar	4 deg C	S	SW1312 - PCBs			64
CR-A162906	5/20/97	08:35	MJ	1	8 oz. Jar	4 deg C	S	SW1312 - PCBs			65
CR-A 162907	5/19/97	1730	MJ	1	500ml plastic	4° HNO3	W	As Be Cr Ni Pb Sb			66
CR-A 162908	5/19/97	1730	MJ	1	1L Amber	4°	W	SW-8080 Pesticides & PCB			67
~~CR-A 162909~~	~~5/19/97~~	~~1730~~	~~MJ~~	~~1~~	~~1L Amber~~	~~4°~~	~~W~~	~~PCB~~			

COMMENTS:

COLLECTED & RELEASED BY	DATE	TIME	TURNAROUND TIME		
[signature]	5/19/97	1700			
RECEIVED BY	DATE	TIME	RELINQUISHED BY	DATE	TIME
[signature]	5/22/97	10:00 AM		/ /	:
RECORD RETURNED BY	DATE	TIME			
	/ /	:			
			SHIPPING NUMBER: 2652822325		

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JACOBS ENGINEERING GROUP INC.
600 SEVENTEENTH STREET, SUITE 1100N DENVER, COLORADO 80202
TELEPHONE (303) 595 - 8855 FAX (303) 595 - 8857

CR-A1630 CHAIN OF CUSTODY RECORD

USE A BALLPOINT PEN, BLACK INK, AND PRESS FIRMLY. INSTRUCTIONS ARE ON THE BACK

PROJECT NAME: CARSWELL AFB (DO 21)
PROJECT NUMBER: 05G47900
WBS CODE: 505-01
SUBCONTRACT / D.O. No.
LABORATORY NAME & ADDRESS: BOLY LABORATORIES, INC.
630 Maple Avenue
Torrance CA 90503-

SAMPLE NUMBER	COLLECTION DATE	COLLECTION TIME	SAMPLER'S INITIALS	NUMBER OF CONTAINERS	CONTAINER SIZE AND TYPE	PRESERVATIVE	MATRIX CODE	ANALYSES REQUESTED	QC	CONDITION ON RECEIPT	
CR-A163001	5-20-97	08:42	MJ	1	8 oz. Jar	4 deg C	S	SW1312 - PCBs		T=2°C	68
CR-A163002	5-20-97	08:55	MJ	1	8 oz. Jar	4 deg C	S	SW1312 - PCBs			69
CR-A163003	5-20-97	09:10	MJ	1 2	~~8~~ 4 oz. Jar	4 deg C	S	SW1312 - PCBs			70
CR-A163004	5-20-97	09:12	MJ	1 2	~~8~~ 4 oz. Jar	4 deg C	S	SW1312 - PCBs			
CR-A163005	5-20-97	09:15	MJ	1 2	~~8~~ 4 oz. Jar	4 deg C	S	SW1312 - PCBs ~~SW1312 AsBeCrNiPbSb~~			72
CR-A163006	5-20-97	09:20	MJ	1 2	~~8~~ 4 oz. Jar	4 deg C	S	SW1312 - PCBs			73
CR-A163007	5-20-97	09:25	MJ	1 2	~~8~~ 4 oz. Jar	4 deg C	S	SW1312 - PCBs, SW1312 As Be Cr Ni Pb Sb			74
CR-A 163008	5/20/97	0900	MJ	1	8 oz Jar	4°	S	SW1312 - PCBS			75
CR-A 163009	5/20/97	0932	MJ	2	4 oz Jar	4°	S	SW 1312 As Be Cr Ni Pb Sb			76

COMMENTS:

COLLECTED & RELEASED BY	DATE	TIME	TURNAROUND TIME		
[signature]	5/21/97	1700			
RECEIVED BY	DATE	TIME	RELINQUISHED BY	DATE	TIME
[signature]	5/22/97	10:00 am		/ /	:
RECORD RETURNED BY	DATE	TIME			
	/ /	:			
			SHIPPING NUMBER: 2657822325		

DISTRIBUTION: WHITE - PROJECT FILE / CANARY - LAB RECEIPT / PINK - DATA MANAGEMENT / GOLDENROD - FIELD

FedEx *USA Airbill*

3 COOLERS

Tracking Number 2652822325

97E103 x 5-22-97

MPS 924 3697 522 pient's Copy

1 From

Date 5/21/97 MPS 924 3697 513

Sender's Name Mike Johnson Phone 435-75 8855

Company Jacobs Engineering Dept./Floor/Suite/Room 1100N

Address 600 17th St

City Denver State CO Zip 80202

2 Your Internal Billing Reference Information 0564-1400 505-01

3 To

Recipient's Name Cecilia Chavez Phone 310 608-8889

Company EMAX Laboratories Dept./Floor/Suite/Room

Address 630 Maple Ave.
(To "HOLD" at FedEx location, print FedEx address here)

City Torrance State CA Zip 90503

For HOLD at FedEx Location check here

- [ ] Hold Weekday (Not available with FedEx First Overnight)
- [ ] Hold Saturday (Not available at all locations) (Not available with FedEx First Overnight or FedEx Standard Overnight)

For Saturday Delivery check here

- [ ] (Extra Charge. Not available to all locations) (Not available with FedEx First Overnight or FedEx Standard Overnight)

2652822325

4a Express Package Service *Packages under 150 lbs.*

Delivery commitment may be later in some areas.

- [x] FedEx Priority Overnight (Next business morning)
- [ ] FedEx Standard Overnight (Next business afternoon)
- [ ] FedEx 2Day* (Second business day)
- [ ] NEW FedEx First Overnight (Earliest next business morning delivery to select locations) (Higher rates apply)

*FedEx Letter Rate not available. Minimum charge: One pound FedEx 2Day rate

4b Express Freight Service *Packages over 150 lbs.*

Delivery commitment may be later in some areas.

- [ ] FedEx Overnight Freight (Next business day service for any distance)
- [ ] FedEx 2Day Freight (Second business day service for any distance)
- [ ] FedEx Express Saver Freight (Up to 3 business day service based upon distance)

(Call for delivery schedule. See back for detailed descriptions of freight products.)

5 Packaging

- [ ] FedEx Letter (Declared value limit $500)
- [ ] FedEx Pak
- [ ] FedEx Box
- [ ] FedEx Tube
- [x] Other Pkg.

6 Special Handling

Does this shipment contain dangerous goods?

- [ ] Yes (As per attached Shipper's Declaration)
- [ ] Yes (Shipper's Declaration not required)
- [ ] Dry Ice — Dry Ice, 9, UN 1845 III ____ x ____ kg 904 (Dangerous Goods Shipper's Declaration not required)
- CA [ ] Cargo Aircraft Only

7 Payment

Bill to:

- [x] Sender (Account no. in section 1 will be billed)
- [ ] Recipient
- [ ] Third Party
- [ ] Credit Card
- [ ] Cash/Check
- [ ] Obtain Recipient FedEx Account No.

(Enter FedEx account no. or Credit Card no. below)

Total Packages	Total Weight	Total Declared Value*	Total Charges
3	184	$ .00	$

*When declaring a value higher than $100 per shipment, you pay an additional charge. See SERVICE CONDITIONS, DECLARED VALUE AND LIMIT OF LIABILITY section for further information

Credit Card Auth.

8 Release Signature

Your signature authorizes Federal Express to deliver this shipment without obtaining a signature and agrees to indemnify and hold harmless Federal Express from any resulting claims.

Questions?
Call 1-800-Go-FedEx
(1-800-463-3339)

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Rev. Date 6/96
PART #147957
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SAMPLE RECEIPT FORM

CONTROL NO.	97E 103
CLIENT	JACOBS ENG
PROJECT	CARSWELL AFB D021

DATE	05-22-97
TIME	10:00 AM
RECIPIENT	I. PATEL

SAMPLE TRANSPORTATION TO EMAX LABORATORY:	BY	ON(DATE)	AT(TIME)	FROM(SITE/CO.)	COMMENTS
PICKED UP BY EMAX COURIER					
DELIVERED BY CLIENT ✓					
SHIPPED/AIRBILL NO. FEDEX APTNS: 2652823 25 MPS	924 3697	513	/ -522	SEE AIRBILL	

SAMPLE BATCH PACKAGING/SEALING UPON RECEIPT:			✓ INTACT	___ DAMAGED	___ SEALED	✓ NOT SEALED	___ NO CONTAINER
CONTAINER:	INSIDE TEMPERATURE (4°C ± 2°C)	2° °C		CUSTODY SEAL		LOCATION	NUMBER
3 COOLERS	PACKAGING	TYPE	SUFFICIENCY	___ INTACT	___ DAMAGED		
___ BOX	INSULATION:		OK	NAME:			
___ OTHER:	ICE/COOLANT:	REGULAR		DATE:			
	PACKING MATERIAL:	STYRO		TIME:			

SAMPLE DOCUMENTATION/CHAIN-OF-CUSTODY(COC)	___ SEALED	✓ ENCLOSED	___ HANDCARRIED	___ FAXED	___ MAILED

SAMPLE LOG-IN:	CRITERIA	COMMENTS	DISCREPANCY
SAMPLE CUSTODY SEAL	EVERY SAMPLE	NONE	
CONTAINER TYPE/MATERIAL	APPROPRIATE	OK	
SAMPLE AMOUNT	ENOUGH		
HOLDING TIME	SUFFICENT		
SAMPLE PRESERVATION (For appropriate preservative see GP-0001 Appendix I)	NaOH preserved samples pH ≥ 12 HNO_3 / H_2SO_4 preserved samples pH ≤ 2		
HEADSPACE/BUBBLES	ZERO/NONE		
SAMPLE LABEL INFORMATION	SUFFICIENT		
CHAIN-OF-CUSTODY INFORMATION	SUFFICIENT	SEE BELOW	

SAMPLE INFO.:	SAMPLE ID	DATE	TIME	SIGNATURE	ANALYSES	PRESERVATIVE	CONTAINER

INDIVIDUAL SAMPLE CONTAINER: ___ NONE ✓ SEALED PLASTIC BAG ___ CAN ___ OTHER(SPECIFY): BUBBLEPAK

SAMPLE NUMBER	CLIENT ID	DISCREPANCY	ACTION
4	CR-A162104	REC'D (2) CONTAINERS, LABEL SAYS MS/MSD BUT COC DOES NOT SAY.	5/29/97 - W/ per phone MS/MSD
14, 15		S. DATE IS 5-17-97 ON CONTAINER	Client has not resp.

CLIENT SERVICES COPY | RECEIVED BY: [illegible] 5/23/9 | DATE | TIME

LABORATORY REPORT FOR

JACOBS ENGINEERING GROUP

CARSWELL AFB / 05G47900

METALS

SDG#: 97E103

JUNE 21, 1997

CASE NARRATIVE

CLIENT: JACOBS ENGINEERING GROUP

PROJECT: CARSWELL AFB

SDG: 97E103

METALS

Fifty-two (51) water samples were received on 05/22/97 to be analyzed for beryllium, chromium, nickel, antimony, lead, and arsenic analysis in accordance with USEPA SW846. Fourty-six samples were requested for SPLP leaching prior to analysis.

1. **Holding Time**

   Digestion and analysis met holding time criteria.

2. **Blank**

   All blanks were free of contaminations at below PQL levels.

3. **Matrix Spike**

   All MS recoveries were within QC limits.

4. **Duplicate**

   All RPDs of duplicate results were within QC limits.

5 **Lab Control Sample/Lab Control Duplicate**

   All lab control results were within the control limits.

6. **Calibration**

   All initial and continuing calibration results were within QC criteria.

7. **Sample Analysis**

   Analysis was performed within the QC requirements.

   Arsenic and Lead were analyzed by Trace-ICP, beryllium and chromium by regular ICP, and nickel and antimony by GFAA methods.

05/27/1997 11:58

LAB CHRONICLE
SPLP Metals

CLIENT: Jacobs Engineering Group
PROJECT: Carswell AFB / 05G47900

LOG/BATCH NO.: 97E103
MATRIX: Soil

SAMPLE ID	CONTROL NO	%H2O	PREPARATION BATCH/DATE/TIME	ANALYTICAL BATCH/DATE/TIME	CALIB REF	FILE ID
CR-A162101	E103-01	13.7	1PE025W / 5.29.97 / 13:00	I07E027 / 5.30.97		*
CR-A162105	E103-05	19.6				
CR-A162106	E103-06	21.7				
CR-A162201	E103-10	20.2				
CR-A162202	E103-11	17.2				
CR-A162203	E103-12	17.3				
CR-A162204	E103-13	15.2				
CR-A162205	E103-14	14.9				
CR-A162206	E103-15	16.6				
CR-A162301	E103-17	16.1				
CR-A162302	E103-18	16.8				
CR-A162303	E103-19	14.2				
CR-A162304	E103-20	16.2				
CR-A162305	E103-21	13.2				
CR-A162306	E103-22	14.3				
CR-A162401	E103-23	16.0				
CR-A162402	E103-24	11.5				
CR-A162403	E103-25	17.4				
CR-A162404	E103-26	18.9				
CR-A162405	E103-27	19.0				
CR-A162406	E103-28	17.5	1PE026W / 5.29.97 / 13:00	I07E027 / 5.30.97		* *
CR-A162407	E103-29	11.9				

CR-A162501	E103-30	20.6	1PE026W	5.29.97	13:00	D07E027	5.30.97	* *
CR-A162502	E103-31	17.7	↓			↓	↓
CR-A162503	E103-32	20.9	↓			↓	↓
MBLKIW	1PE025WB		1PE025W	5.29.97	13:00	D07E027	5.30.97	*
LG	↓	WL	↓			↓	↓
LWD		WR					

* As + Pb were analyzed by Trace-ICP on 5.30.97
File D31E029.

** As + Pb were analyzed by Trace-ICP on 6.2.97
File D31F001

SAMPLE ID	CONTROL NO	%H2O	PREPARATION BATCH/DATE/TIME	ANALYTICAL BATCH/DATE/TIME	CALIB REF	FILE ID
CR-A162504	E103-33	19.0	1PE026W/5.29.97/13:00	I07E027/5.30.97	*	*
CR-A162505	E103-34	20.2				
CR-A162506	E103-35	17.3				
CR-A162601	E103-37	20.0				
CR-A162602	E103-38	13.8				
CR-A162603	E103-39	13.8				
CR-A162604	E103-40	22.7				
CR-A162701	E103-42	7.0				
CR-A162702	E103-43	19.1				
CR-A162703	E103-44	17.4				
CR-A162704	E103-45	22.5				
CR-A162705	E103-46	20.8				
CR-A162706	E103-47	19.8				
CR-A162707	E103-48	15.5				
CR-A162806	E103-56	NA				
CR-A162807	E103-57	NA	1PE027W/5.29.97/13:00	I07F001/6.2.97	*	
CR-A162809	E103-59	NA				
CR-A162901	E103-60	NA				
CR-A162902	E103-61	NA				
CR-A163007	E103-74	NA				
CR-A163009	E103-76	NA				
CR-A162101MS	E103-01M	13.7	1PE025W/5.29.97/13:00	I07E027/5.30.97		
CR-A162101DUP	E103-01D	13.7				

CR-A162707MS	E103-48M 15.5	IPE026W	I07E027/5.30.97
CR-A162707DUP	E103-48D 15.5	↓	↓
CR-A162108MS	E103-08M NA	IPE027W	I07F001/6.2.97
CR-A163009DUP	E103-08D NA	↓	↓

** As & Pb were analyzed by Trace ICP on 6.2.97 File I31F001

MBLKIW	IPE027WB	IPE027W/5.29.97/13:00	I07F001/6.2.97	*
LCS	WL	↓	↓	↓
LCSD	WL	↓	↓	↓

* As & Pb were analyzed by Trace-ICP on 6.3.97 File I31F002

05/27/1997 11:58

LAB CHRONICLE
Metals

LIENT: Jacobs Engineering Group
PROJECT: Carswell AFB / 05G47900

DG/BATCH NO.: 97E103
ATRIX: Water

SAMPLE ID	CONTROL NO	%H2O	PREPARATION BATCH/DATE/TIME	ANALYTICAL BATCH/DATE/TIME	CALIB REF	FILE ID
R-A162108	E103-08	NA	1PE027W/5.29.97/13:00	I07F001/6.2.97		*
R-A162207	E103-16	NA				
CR-A162507	E103-36	NA				
R-A162605	E103-41	NA				
CR-A162708	E103-49	NA				
R-A162907	E103-66	NA				
	~~E103-57~~					
MBLKIW	1PE027WB					
LCS	WL					
LCSD	WL					

* As + Pb were analyzed by Trace-ICP File I31F002 on 6.3.97.

EPA 3005A/6010A
ARSENIC BY TRACE-ICP

Client : JACOBS ENGINEERING GROUP
Project : CARSWELL AFB / 05G47900
Batch No. : 97E103
Matrix : WATER

Date Collected : 05/18/97
DaTime Received: 05/22/97
Instrument ID : T-1007

SAMPLE ID	CONTROL NO	RESULTS (mg/L)	DLF	MOIST	PQL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH
MBLK5W	IPE027WB	ND	1	NA	.01	.0049	06/03/9716:13	05/29/9713:00	I31F002	I31F002	IPE027W
CR-A162108	E103-08	ND	1	NA	.01	.0049	06/03/9717:19	05/29/9713:00	I31F002	I31F002	IPE027W
CR-A162207*	E103-16	ND	1	NA	.01	.0049	06/03/9718:00	05/29/9713:00	I31F002	I31F002	IPE027W
CR-A162507**	E103-36	ND	1	NA	.01	.0049	06/03/9718:16	05/29/9713:00	I31F002	I31F002	IPE027W
CR-A162605***	E103-41	ND	1	NA	.01	.0049	06/03/9718:20	05/29/9713:00	I31F002	I31F002	IPE027W
CR-A162708****	E103-49	ND	1	NA	.01	.0049	06/03/9718:24	05/29/9713:00	I31F002	I31F002	IPE027W
CR-A162907*****	E103-66	ND	1	NA	.01	.0049	06/03/9718:28	05/29/9713:00	I31F002	I31F002	IPE027W

* DATE COLLECTED : 05/16/97
** DATE COLLECTED : 05/15/97
*** DATE COLLECTED : 05/17/97
**** DATE COLLECTED : 05/20/97
***** DATE COLLECTED : 05/19/97
PQL: Practical Quantitation Limit
AFCEE Ver. 1.1

0007

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: JACOBS ENGINEERING GROUP
PROJECT: CARSWELL AFB / 05G47900
BATCH NO.: 97E103
METHOD: EPA 3005A/6010A

MATRIX:	WATER			% MOISTURE:	NA
DILTN FACTR:	1	1	1		
SAMPLE ID:	CR-A162108	CR-A162108MS	CR-A162108MSD		
CONTROL NO.:	E103-08	E103-08M	E103-08S		
LAB FILE ID:	I31F002	I31F002	I31F002		
DATIME EXTRCTD:	05/29/9713:00	05/29/9713:00	05/29/9713:00	DATE COLLECTED:	05/18/97
DATIME ANALYZD:	06/03/9717:19	06/03/9717:36	06/03/9717:40	DATE RECEIVED:	05/22/97
PREP. BATCH:	IPE027W	IPE027W	IPE027W		
CALIB. REF:	I31F002	I31F002	I31F002		

ACCESSION:

PARAMETER	SMPL RSLT (mg/L)	SPIKE AMT (mg/L)	MS RSLT (mg/L)	MS % REC	SPIKE AMT (mg/L)	MSD RSLT (mg/L)	MSD % REC	RPD %	QC LIMIT %	MAX RPD %
Arsenic	ND	1.0	0.905	91	1.0	0.944	94	3	80-120	15

EMAX QUALITY CONTROL DATA
LCS ANALYSIS

CLIENT: JACOBS ENGINEERING GROUP
PROJECT: CARSWELL AFB / 05G47900
BATCH NO.: 97E103
METHOD: EPA 3005A/6010A

==========

MATRIX:	WATER		% MOISTURE:	NA
DILTN FACTR:	1	1		
SAMPLE ID:	MBLK5W	LCS5W		
CONTROL NO.:	IPE027WB	IPE027WL		
LAB FILE ID:	I31F002	I31F002		
DATIME EXTRCTD:	05/29/9713:00	05/29/9713:00	DATE COLLECTED:	NA
DATIME ANALYZD:	06/02/9716:13	06/02/9716:17	DATE RECEIVED:	05/29/97
PREP. BATCH:	IPE027W	IPE027W		
CALIB. REF:	I31F002	I31F002		

ACCESSION:

PARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	QC LIMIT (%)
Arsenic	ND	1.0	0.956	96	80-120

6000

EPA 1312/6010A
SPLP ARSENIC BY TRACE-ICP

Client : JACOBS ENGINEERING GROUP
Project : CARSWELL AFB / 05G47900
Batch No. : 97E103
Matrix : WATER

Date Collected : 05/18/97
DaTime Received: 05/22/97
Instrument ID : T-1007

SAMPLE ID	CONTROL NO	RESULTS (mg/L)	DLF	MOIST	PRL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH
MBLK1W	IPE025WB	ND	1	NA	.1	.049	05/30/9716:51	05/29/9713:00	IPE025	IPE025	IPE025W
MBLK2W	TXE005SB	ND	1	NA	.1	.049	05/30/9717:03	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162101	E103-01	ND	1	NA	.1	.049	05/30/9717:15	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162105*	E103-05	ND	1	NA	.1	.049	05/30/9717:38	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162106*	E103-06	ND	1	NA	.1	.049	05/30/9717:42	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162201**	E103-10	ND	1	NA	.1	.049	05/30/9718:04	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162202**	E103-11	ND	1	NA	.1	.049	05/30/9718:08	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162203**	E103-12	ND	1	NA	.1	.049	05/30/9718:12	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162204**	E103-13	ND	1	NA	.1	.049	05/30/9718:16	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162205**	E103-14	ND	1	NA	.1	.049	05/30/9718:20	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162206**	E103-15	ND	1	NA	.1	.049	05/30/9718:24	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162301***	E103-17	ND	1	NA	.1	.049	05/30/9718:29	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162302***	E103-18	ND	1	NA	.1	.049	05/30/9718:33	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162303***	E103-19	ND	1	NA	.1	.049	05/30/9718:37	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162304**	E103-20	ND	1	NA	.1	.049	05/30/9718:41	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162305**	E103-21	ND	1	NA	.1	.049	05/30/9719:01	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162306****	E103-22	ND	1	NA	.1	.049	05/30/9719:09	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162401*****	E103-23	ND	1	NA	.1	.049	05/30/9719:14	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162402****	E103-24	ND	1	NA	.1	.049	05/30/9719:18	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162403**	E103-25	ND	1	NA	.1	.049	05/30/9719:22	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162404**	E103-26	ND	1	NA	.1	.049	05/30/9719:26	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162405*****	E103-27	ND	1	NA	.1	.049	05/30/9719:30	05/29/9713:00	IPE025	IPE025	IPE025W
MBLK3W	IPE026WB	ND	1	NA	.1	.049	06/02/9717:22	05/29/9713:00	IPE026	IPE026	IPE026W
MBLK4W	TXE026SB	ND	1	NA	.1	.049	06/02/9717:34	05/29/9713:00	IPE027	IPE027	IPE027W
CR-A162406**	E103-28	ND	1	NA	.1	.049	06/02/9719:41	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162407****	E103-29	ND	1	NA	.1	.049	06/02/9719:45	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162501**	E103-30	ND	1	NA	.1	.049	06/02/9719:49	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162502**	E103-31	ND	1	NA	.1	.049	06/02/9719:53	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162503*****	E103-32	NO	1	NA	.1	.049	06/02/9718:21	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162504****	E103-33	ND	1	NA	.1	.049	06/02/9718:25	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162505*****	E103-34	ND	1	NA	.1	.049	06/02/9718:41	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162506****	E103-35	ND	1	NA	.1	.049	06/02/9718:45	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162601****	E103-37	ND	1	NA	.1	.049	06/02/9718:49	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162602****	E103-38	ND	1	NA	.1	.049	06/02/9718:53	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162603****	E103-39	ND	1	NA	.1	.049	06/02/9718:57	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162604****	E103-40	ND	1	NA	.1	.049	06/02/9719:01	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162701	E103-42	ND	1	NA	.1	.049	06/02/9719:05	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162702	E103-43	ND	1	NA	.1	.049	06/02/9719:09	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162703	E103-44	ND	1	NA	.1	.049	06/02/9719:13	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162704	E103-45	ND	1	NA	.1	.049	06/02/9719:17	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162705	E103-46	ND	1	NA	.1	.049	06/02/9719:33	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162706	E103-47	ND	1	NA	.1	.049	06/02/9719:37	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162707	E103-48	ND	1	NA	.1	.049	06/02/9717:58	05/29/9713:00	IPE026	IPE026	IPE026W

CR-A162806	E103-56	ND	1	NA	.1	.049	06/02/9719:57	05/29/9713:00	IPE026	IPE026	IPE026W
MBLK5W	IPE027WB	ND	1	NA	.1	.049	06/03/9716:13	05/29/9713:00	IPE027	IPE027	IPE027W
MBLK6W	TXE007WB	ND	1	NA	.1	.049	06/03/9716:25	05/29/9713:00	IPE027	IPE027	IPE027W
CR-A162807	E103-57	ND	1	NA	.1	.049	06/03/9716:37	05/29/9713:00	IPE027	IPE027	IPE027W
CR-A162809*	E103-59	ND	1	NA	.1	.049	06/03/9716:59	05/29/9713:00	IPE027	IPE027	IPE027W
CR-A162901*	E103-60	ND	1	NA	.1	.049	06/03/9717:03	05/29/9713:00	IPE027	IPE027	IPE027W
CR-A162902*	E103-61	ND	1	NA	.1	.049	06/03/9717:48	05/29/9713:00	IPE027	IPE027	IPE027W
CR-A163007******	E103-74	ND	1	NA	.1	.049	06/03/9717:52	05/29/9713:00	IPE027	IPE027	IPE027W
CR-A163009******	E103-76	ND	1	NA	.1	.049	06/03/9717:56	05/29/9713:00	IPE027	IPE027	IPE027W

* DATE COLLECTED : 05/19/97
** DATE COLLECTED : 05/16/97
*** DATE COLLECTED : 05/14/97
**** DATE COLLECTED : 05/17/97
***** DATE COLLECTED : 05/15/97
****** DATE COLLECTED : 05/20/97
PQL: Practical Quantitation Limit
Leaching Date: 05/27/97 16:00
AFCEE Ver. 1.1

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: JACOBS ENGINEERING GROUP
PROJECT: CARSWELL AFB / 05G47900
BATCH NO.: 97E103
METHOD: EPA 1312/6010A

MATRIX:	WATER			% MOISTURE:	NA
DILTN FACTR:	1	1	1		
SAMPLE ID:	CR-A162101				
CONTROL NO.:	E103-01	E103-01M	E103-01S		
LAB FILE ID:	IPE025	IPE025	IPE025		
DATIME EXTRCTD:	05/29/9713:00	05/30/9713:00	05/30/9713:00	DATE COLLECTED:	05/18/97
DATIME ANALYZD:	05/30/9717:15	05/30/9717:26	05/30/9717:30	DATE RECEIVED:	05/22/97
PREP. BATCH:	IPE025W	IPE025W	IPE025W		
CALIB. REF:	IPE025	IPE025	IPE025		

ACCESSION:

PARAMETER	SMPL RSLT (mg/L)	SPIKE AMT (mg/L)	MS RSLT (mg/L)	MS % REC	SPIKE AMT (mg/L)	MSD RSLT (mg/L)	MSD % REC	RPD %	QC LIMIT %	MAX RPD %
Arsenic	ND	10.000	9.900	99	10.000	8.890	89	11	80-120	15

AFCEE Ver. 1.1

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: JACOBS ENGINEERING GROUP
PROJECT: CARSWELL AFB / 05G47900
BATCH NO.: 97E103
METHOD: EPA 1312/6010A

MATRIX:	WATER			% MOISTURE:	NA
DILTN FACTR:	1	1	1		
SAMPLE ID:	CR-A162707				
CONTROL NO.:	E103-48	E103-48M	E103-48S		
LAB FILE ID:	IPE026	IPE026	IPE026		
DATIME EXTRCTD:	05/29/9713:00	05/29/9713:00	05/29/9713:00	DATE COLLECTED:	05/18/97
DATIME ANALYZD:	06/02/9717:58	06/02/9718:09	06/02/9718:13	DATE RECEIVED:	05/22/97
PREP. BATCH:	IPE026W	IPE026W	IPE026W		
CALIB. REF:	IPE026	IPE026	IPE026		

ACCESSION:

PARAMETER	SMPL RSLT (mg/L)	SPIKE AMT (mg/L)	MS RSLT (mg/L)	MS % REC	SPIKE AMT (mg/L)	MSD RSLT (mg/L)	MSD % REC	RPD %	QC LIMIT %	MAX RPD %
Arsenic	ND	10.000	9.700	97	10.000	9.830	98	1	80-120	15

AFCEE Ver. 1.1

0013

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: JACOBS ENGINEERING GROUP
PROJECT: CARSWELL AFB / 05G47900
BATCH NO.: 97E103
METHOD: EPA 1312/6010A

MATRIX:	WATER			% MOISTURE:	NA
DILTN FACTR:	1	1	1		
SAMPLE ID:	CR-A162807				
CONTROL NO.:	E103-57	E103-57M	E103-57S		
LAB FILE ID:	IPE027	IPE027	IPE027		
DATIME EXTRCTD:	05/29/9713:00	05/30/9713:00	05/30/9713:00	DATE COLLECTED:	05/18/97
DATIME ANALYZD:	06/03/9716:37	06/03/9716:47	06/03/9716:51	DATE RECEIVED:	05/22/97
PREP. BATCH:	IPE027W	IPE027W	IPE027W		
CALIB. REF:	IPE027	IPE027	IPE027		

ACCESSION:

PARAMETER	SMPL RSLT (mg/L)	SPIKE AMT (mg/L)	MS RSLT (mg/L)	MS % REC	SPIKE AMT (mg/L)	MSD RSLT (mg/L)	MSD % REC	RPD %	QC LIMIT %	MAX RPD %
Arsenic	ND	10.000	10.100	101	10.000	9.090	91	10	80-120	15

AFCEE Ver. 1.1

EMAX QUALITY CONTROL DATA
LCS ANALYSIS

CLIENT: JACOBS ENGINEERING GROUP
PROJECT: CARSWELL AFB / 05G47900
BATCH NO.: 97E103
METHOD: EPA 1312/6010A

MATRIX:	WATER		% MOISTURE:	NA
DILTN FACTR:	1	1		
SAMPLE ID:	MBLK1W	LCS1W		
CONTROL NO.:	IPE025WB	IPE025WL		
LAB FILE ID:	IPE025	IPE025		
DATIME EXTRCTD:	05/29/9713:00	05/29/9713:00	DATE COLLECTED:	NA
DATIME ANALYZD:	05/30/9716:51	05/30/9716:55	DATE RECEIVED:	NA
PREP. BATCH:	IPE025W	IPE025W		
CALIB. REF:	IPE025	IPE025		

ACCESSION:

PARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	QC LIMIT (%)
Arsenic	ND	10.000	9.610	96	80-120

0015

EMAX QUALITY CONTROL DATA
LCS ANALYSIS

CLIENT: JACOBS ENGINEERING GROUP
PROJECT: CARSWELL AFB / 05G47900
BATCH NO.: 97E103
METHOD: EPA 1312/6010A

MATRIX:	WATER		% MOISTURE:	NA
DILTN FACTR:	1	1		
SAMPLE ID:	MBLK3W	LCS3W		
CONTROL NO.:	IPE026WB	IPE026WL		
LAB FILE ID:	IPE026	IPE026		
DATIME EXTRCTD:	05/29/9713:00	05/29/9713:00	DATE COLLECTED:	NA
DATIME ANALYZD:	06/02/9717:22	06/02/9717:26	DATE RECEIVED:	NA
PREP. BATCH:	IPE026W	IPE026W		
CALIB. REF:	IPE026	IPE026		

ACCESSION:

PARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	QC LIMIT (%)
Arsenic	ND	10.000	9.520	95	80-120

EPA 3005A/6010A
BERYLLIUM BY ICP

Client : JACOBS ENGINEERING GROUP
Project : CARSWELL AFB / 05G47900
Batch No. : 97E103
Matrix : WATER

Date Collected : 05/18/97
DaTime Received: 05/22/97
Instrument ID : T-1007

SAMPLE ID	CONTROL NO	RESULTS (mg/L)	DLF	MOIST	PQL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH
MBLK5W	IPE027W8	.00054F	1	NA	.003	.0003	06/02/9715:44	05/29/9713:00	IPE027	IPE027	IPE027W
CR-A162108	E103-08	.00055F	1	NA	.003	.0003	06/02/9716:57	05/29/9713:00	IPE027	IPE027	IPE027W
CR-A162207*	E103-16	.0018F	1	NA	.003	.0003	06/02/9717:15	05/29/9713:00	IPE027	IPE027	IPE027W
CR-A162507**	E103-36	.00056F	1	NA	.003	.0003	06/02/9717:36	05/29/9713:00	IPE027	IPE027	IPE027W
CR-A162605***	E103-41	.00052F	1	NA	.003	.0003	06/02/9717:40	05/29/9713:00	IPE027	IPE027	IPE027W
CR-A162708****	E103-49	.00058F	1	NA	.003	.0003	06/02/9717:44	05/29/9713:00	IPE027	IPE027	IPE027W
CR-A162907*****	E103-66	.00045F	1	NA	.003	.0003	06/02/9717:47	05/29/9713:00	IPE027	IPE027	IPE027W

* DATE COLLECTED : 05/16/97
** DATE COLLECTED : 05/15/97
*** DATE COLLECTED : 05/17/97
**** DATE COLLECTED : 05/20/97
***** DATE COLLECTED : 05/19/97
PQL: Practical Quantitation Limit
AFCEE Ver. 1.1

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: JACOBS ENGINEERING GROUP
PROJECT: CARSWELL AFB / 05G47900
BATCH NO.: 97E103
METHOD: EPA 3005A/6010A

MATRIX:	WATER			% MOISTURE:	NA
DILTN FACTR:	1	1	1		
SAMPLE ID:	CR-A162108				
CONTROL NO.:	E103-08	E103-08M	E103-08S		
LAB FILE ID:	IPE027	IPE027	IPE027		
DATIME EXTRCTD:	05/29/9713:00	05/29/9713:00	05/29/9713:00	DATE COLLECTED:	05/18/97
DATIME ANALYZD:	06/02/9716:57	06/02/9717:06	06/02/9717:10	DATE RECEIVED:	05/22/97
PREP. BATCH:	IPE027W	IPE027W	IPE027W		
CALIB. REF:	IPE027	IPE027	IPE027		

ACCESSION:

PARAMETER	SMPL RSLT (mg/L)	SPIKE AMT (mg/L)	MS RSLT (mg/L)	MS % REC	SPIKE AMT (mg/L)	MSD RSLT (mg/L)	MSD % REC	RPD %	QC LIMIT %	MAX RPD %
Beryllium	.00055F	1.0	0.97	97	1.0	.916	92	6	80-120	15

AFCEE Ver. 1.1

EMAX QUALITY CONTROL DATA
LCS ANALYSIS

CLIENT: JACOBS ENGINEERING GROUP
PROJECT: CARSWELL AFB / 05G47900
BATCH NO.: 97E103
METHOD: EPA 3005A/6010A

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MATRIX:	WATER		% MOISTURE:	NA
DILTN FACTR:	1	1		
SAMPLE ID:	MBLK5W	LCS5W		
CONTROL NO.:	IPE027WB	IPED27WL		
LAB FILE ID:	IPE027	IPE027		
DATIME EXTRCTD:	05/29/9713:00	05/29/9713:00	DATE COLLECTED:	NA
DATIME ANALYZD:	06/02/9715:44	06/02/9715:47	DATE RECEIVED:	NA
PREP. BATCH:	IPE027W	IPE027W		
CALIB. REF:	IPE027	IPE027		

ACCESSION:

PARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	QC LIMIT (%)
Beryllium	.00054F	1.0	1.01	101	80-120

0019

EPA 1312/6010A
SPLP BERYLLIUM BY ICP

Client : JACOBS ENGINEERING GROUP
Project : CARSWELL AFB / 05G47900
Batch No. : 97E103
Matrix : WATER

Date Collected : 05/18/97
DaTime Received: 05/22/97
Instrument ID : T-1007

SAMPLE ID	CONTROL NO	RESULTS (mg/L)	DLF	MOIST	PRL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH
MBLK1W	IPE025WB	.0129F	1	NA	.03	.003	05/30/9719:06	05/29/9713:00	IPE025	IPE025	IPE025W
MBLK2W	TXE005SB	.0162F	1	NA	.03	.003	05/30/9719;18	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162101	E103-01	.0158F	1	NA	.03	.003	05/30/9719:29	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162105*	E103-05	.0166F	1	NA	.03	.003	05/30/9719:49	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162106*	E103-06	.0126F	1	NA	.03	.003	05/30/9719:53	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162201**	E103-10	.0135F	1	NA	.03	.003	05/30/9720:08	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162202**	E103-11	.0124F	1	NA	.03	.003	05/30/9720:12	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162203**	E103-12	.0119F	1	NA	.03	.003	05/30/9720:15	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162204**	E103-13	.0115F	1	NA	.03	.003	05/30/9720:19	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162205**	E103-14	.0115F	1	NA	.03	.003	05/30/9720:23	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162206**	E103-15	.0114F	1	NA	.03	.003	05/30/9720:27	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162301***	E103-17	.0111F	1	NA	.03	.003	05/30/9720:30	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162302***	E103-18	.0109F	1	NA	.03	.003	05/30/9720:34	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162303***	E103-19	.011F	1	NA	.03	.003	05/30/9720:38	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162304**	E103-20	.0108F	1	NA	.03	.003	05/30/9720:41	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162305**	E103-21	.0137F	1	NA	.03	.003	05/30/9720:56	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162306****	E103-22	.0117F	1	NA	.03	.003	05/30/9721:00	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162401*****	E103-23	.0108F	1	NA	.03	.003	05/30/9721:04	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162402****	E103-24	.0113F	1	NA	.03	.003	05/30/9721:08	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162403**	E103-25	.0104F	1	NA	.03	.003	05/30/9721:11	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162404**	E103-26	.0112F	1	NA	.03	.003	05/30/9721:15	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162405*****	E103-27	.0106F	1	NA	.03	.003	05/30/9721:19	05/29/9713:00	IPE025	IPE025	IPE025W
MBLK3W	IPE026WB	.0133F	1	NA	.03	.003	05/30/9722:02	05/29/9713:00	IPE026	IPE026	IPE026W
MBLK4W	TXE006SB	.015F	1	NA	.03	.003	05/30/9722:13	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162406**	E103-28	.0144F	1	NA	.03	.003	05/30/9722:24	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162407****	E103-29	.0121F	1	NA	.03	.003	05/30/9722:28	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162501**	E103-30	.0113F	1	NA	.03	.003	05/30/9722:32	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162502**	E103-31	.0117F	1	NA	.03	.003	05/30/9722:35	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162503*****	E103-32	.0112F	1	NA	.03	.003	05/30/9722:39	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162504****	E103-33	.011F	1	NA	.03	.003	05/30/9722:43	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162505*****	E103-34	.0128F	1	NA	.03	.003	05/30/9722:58	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162506****	E103-35	.0118F	1	NA	.03	.003	05/30/9723:02	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162601****	E103-37	.0111F	1	NA	.03	.003	05/30/9723:05	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162602****	E103-38	.011F	1	NA	.03	.003	05/30/9723:09	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162603****	E103-39	.0115F	1	NA	.03	.003	05/30/9723:13	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162604****	E103-40	.0109F	1	NA	.03	.003	05/30/9723:17	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162701	E103-42	.0107F	1	NA	.03	.003	05/30/9723:20	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162702	E103-43	.0113F	1	NA	.03	.003	05/30/9723:24	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162703	E103-44	.0113F	1	NA	.03	.003	05/30/9723:28	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162704	E103-45	.0115F	1	NA	.03	.003	05/30/9723:31	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162705	E103-46	.0139F	1	NA	.03	.003	05/30/9723:46	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162706	E103-47	.0108F	1	NA	.03	.003	05/30/9723:50	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162707	E103-48	.0108F	1	NA	.03	.003	05/30/9723:54	05/29/9713:00	IPE026	IPE026	IPE026W

CR-A162806	E103-56	.0149F	1	NA	.03	.003	05/31/9700:14	05/29/9713:00	IPE026	IPE026	IPE026W
MBLK5W	IPE027WB	.0054F	1	NA	.03	.003	06/02/9715:44	05/29/9713:00	IPE027	IPE027	IPE027W
MBLK6W	TXE007SB	.00942F	1	NA	.03	.003	06/02/9715:55	05/29/9713:00	IPE027	IPE027	IPE027W
CR-A162807	E103-57	.00896F	1	NA	.03	.003	06/02/9716:06	05/29/9713:00	IPE027	IPE027	IPE027W
CR-A162809*	E103-59	.0106F	1	NA	.03	.003	06/02/9716:27	05/29/9713:00	IPE027	IPE027	IPE027W
CR-A162901*	E103-60	.00533F	1	NA	.03	.003	06/02/9716:30	05/29/9713:00	IPE027	IPE027	IPE027W
CR-A162902*	E103-61	.0068F	1	NA	.03	.003	06/02/9716:45	05/29/9713:00	IPE027	IPE027	IPE027W
CR-A163007******	E103-74	.00545F	1	NA	.03	.003	06/02/9716:49	05/29/9713:00	IPE027	IPE027	IPE027W
CR-A163009******	E103-76	.00487F	1	NA	.03	.003	06/02/9716:53	05/29/9713:00	IPE027	IPE027	IPE027W

* DATE COLLECTED : 05/19/97
** DATE COLLECTED : 05/16/97
*** DATE COLLECTED : 05/14/97
**** DATE COLLECTED : 05/17/97
***** DATE COLLECTED : 05/15/97
****** DATE COLLECTED : 05/20/97
PQL: Practical Quantitation Limit
Leaching Date: xx/xx/xx
AFCEE Ver. 1.1

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: JACOBS ENGINEERING GROUP
PROJECT: CARSWELL AFB / 05G47900
BATCH NO.: 97E103
METHOD: EPA 1312/6010A

MATRIX:	WATER			% MOISTURE:	NA
DILTN FACTR:	1	1	1		
SAMPLE ID:	CR-A162101				
CONTROL NO.:	E103-01	E103-01M	E103-01S		
LAB FILE ID:	IPE025	IPE025	IPE025		
DATIME EXTRCTD:	05/29/9713:00	05/29/9713:00	05/29/9713:00	DATE COLLECTED:	05/18/97
DATIME ANALYZD:	05/30/9719:29	05/30/9719:38	05/30/9719:42	DATE RECEIVED:	05/22/97
PREP. BATCH:	IPE025W	IPE025W	IPE025W		
CALIB. REF:	IPE025	IPE025	IPE025		

ACCESSION:

PARAMETER	SMPL RSLT (mg/L)	SPIKE AMT (mg/L)	MS RSLT (mg/L)	MS % REC	SPIKE AMT (mg/L)	MSD RSLT (mg/L)	MSD % REC	RPD %	QC LIMIT %	MAX RPD %
Beryllium	.016F	10.000	10.300	103	10.000	9.500	95	8	80-120	15

AFCEE Ver. 1.1

0022

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: JACOBS ENGINEERING GROUP
PROJECT: CARSWELL AFB / 05G47900
BATCH NO.: 97E103
METHOD: EPA 1312/6010A

MATRIX:	WATER			% MOISTURE:	NA
DILTN FACTR:	1	1	1		
SAMPLE ID:	CR-A162707				
CONTROL NO.:	E103-48	E103-48M	E103-48S		
LAB FILE ID:	IPE026	IPE026	IPE026		
DATIME EXTRCTD:	05/29/9713:00	05/29/9713:00	05/29/9713:00	DATE COLLECTED:	05/18/97
DATIME ANALYZD:	05/30/9723:54	05/31/9700:03	05/31/9700:07	DATE RECEIVED:	05/22/97
PREP. BATCH:	IPE026W	IPE026W	IPE026W		
CALIB. REF:	IPE026	IPE026	IPE026		

ACCESSION:

PARAMETER	SMPL RSLT (mg/L)	SPIKE AMT (mg/L)	MS RSLT (mg/L)	MS % REC	SPIKE AMT (mg/L)	MSD RSLT (mg/L)	MSD % REC	RPD %	QC LIMIT %	MAX RPD %
Beryllium	.011F	10.000	9.100	91	10.000	9.260	92	2	80-120	15

AFCEE Ver. 1.1

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: JACOBS ENGINEERING GROUP
PROJECT: CARSWELL AFB / 05G47900
BATCH NO.: 97E103
METHOD: EPA 1312/6010A

MATRIX:	WATER			% MOISTURE:	NA
DILTN FACTR:	1	1	1		
SAMPLE ID:	CR-A162807				
CONTROL NO.:	E103-57	E103-57M	E103-57S		
LAB FILE ID:	IPE027	IPE027	IPE027		
DATIME EXTRCTD:	05/29/9713:00	05/29/9713:00	05/29/9713:00	DATE COLLECTED:	05/18/97
DATIME ANALYZD:	06/02/9716:06	06/02/9716:15	06/02/9716:19	DATE RECEIVED:	05/22/97
PREP. BATCH:	IPE027W	IPE027W	IPE027W		
CALIB. REF:	IPE027	IPE027	IPE027		

ACCESSION:

PARAMETER	SMPL RSLT (mg/L)	SPIKE AMT (mg/L)	MS RSLT (mg/L)	MS % REC	SPIKE AMT (mg/L)	MSD RSLT (mg/L)	MSD % REC	RPD %	QC LIMIT %	MAX RPD %
Beryllium	.009F	10.000	10.500	105	10.000	10.300	103	2	80-120	15

AFCEE Ver. 1.1

EMAX QUALITY CONTROL DATA
LCS ANALYSIS

CLIENT: JACOBS ENGINEERING GROUP
PROJECT: CARSWELL AFB / 05G47900
BATCH NO.: 97E103
METHOD: EPA 1312/6010A

MATRIX:	WATER		% MOISTURE:	NA
DILTN FACTR:	1	1		
SAMPLE ID:	MBLK1W	LCS1W		
CONTROL NO.:	IPE025WB	IPE025WL		
LAB FILE ID:	IPE025	IPE025		
DATIME EXTRCTD:	05/29/9713:00	05/29/9713:00	DATE COLLECTED:	NA
DATIME ANALYZD:	05/30/9719:06	05/30/9719:10	DATE RECEIVED:	NA
PREP. BATCH:	IPE025W	IPE025W		
CALIB. REF:	IPE025	IPE025		

ACCESSION:

PARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	QC LIMIT (%)
Beryllium	.0129F	10.000	9.990	100	80-120

0025

EMAX QUALITY CONTROL DATA
LCS ANALYSIS

CLIENT: JACOBS ENGINEERING GROUP
PROJECT: CARSWELL AFB / 05G47900
BATCH NO.: 97E103
METHOD: EPA 1312/6010A

MATRIX:	WATER		% MOISTURE:	NA
DILTN FACTR:	1	1		
SAMPLE ID:	MBLK3W	LCS3W		
CONTROL NO.:	IPE026WB	IPE026WL		
LAB FILE ID:	IPE026	IPE026		
DATIME EXTRCTD:	05/29/9713:00	05/29/9713:00	DATE COLLECTED:	NA
DATIME ANALYZD:	05/30/9722:02	05/30/9722:06	DATE RECEIVED:	NA
PREP. BATCH:	IPE026W	IPE026W		
CALIB. REF:	IPE026	IPE026		

ACCESSION:

PARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	QC LIMIT (%)
Beryllium	.0133F	10.000	9.540	95	80-120

EMAX QUALITY CONTROL DATA
LCS ANALYSIS

CLIENT: JACOBS ENGINEERING GROUP
PROJECT: CARSWELL AFB / 05G47900
BATCH NO.: 97E103
METHOD: EPA 1312/6010A

MATRIX:	WATER		% MOISTURE:	NA
DILTN FACTR:	1	1		
SAMPLE ID:	MBLK5W	LCS5W		
CONTROL NO.:	IPE027WB	IPE027WL		
LAB FILE ID:	IPE027	IPE027		
DATIME EXTRCTD:	05/29/9713:00	05/29/9713:00	DATE COLLECTED:	NA
DATIME ANALYZD:	06/02/9715:44	06/02/9715:47	DATE RECEIVED:	NA
PREP. BATCH:	IPE027W	IPE027W		
CALIB. REF:	IPE027	IPE027		

ACCESSION:

PARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	QC LIMIT (%)
Beryllium	.00543F	10.000	10.100	101	80-120

0027

EPA 3005A/6010A
CHROMIUM BY ICP

Client : JACOBS ENGINEERING GROUP
Project : CARSWELL AFB / 05G47900
Batch No. : 97E103
Matrix : WATER

Date Collected : 05/18/97
DaTime Received: 05/22/97
Instrument ID : T-1007

SAMPLE ID	CONTROL NO	RESULTS (mg/L)	DLF	MOIST	PQL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH
MBLK5W	IPE027WB	ND	1	NA	.02	.0089	06/02/9715:44	05/29/9713:00	IPE027	IPE027	IPE027W
CR-A162108	E103-08	ND	1	NA	.02	.0089	06/02/9716:57	05/29/9713:00	IPE027	IPE027	IPE027W
CR-A162207*	E103-16	ND	1	NA	.02	.0089	06/02/9717:15	05/29/9713:00	IPE027	IPE027	IPE027W
CR-A162507**	E103-36	ND	1	NA	.02	.0089	06/02/9717:36	05/29/9713:D0	IPE027	IPE027	IPE027W
CR-A162605***	E103-41	ND	1	NA	.02	.0089	06/02/9717:40	05/29/9713:00	IPE027	IPE027	IPE027W
CR-A162708****	E103-49	ND	1	NA	.02	.0089	06/02/9717:44	05/29/9713:00	IPE027	IPE027	IPE027W
CR-A162907*****	E103-66	ND	1	NA	.02	.0089	06/02/9717:47	05/29/9713:00	IPE027	IPE027	IPE027W

* DATE COLLECTED : 05/16/97
** DATE COLLECTED : 05/15/97
*** DATE COLLECTED : 05/17/97
**** DATE COLLECTED : 05/20/97
***** DATE COLLECTED : 05/19/97
PQL: Practical Quantitation Limit
AFCEE Ver. 1.1

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: JACOBS ENGINEERING GROUP
PROJECT: CARSWELL AFB / 05G47900
BATCH NO.: 97E103
METHOD: EPA 3005A/6010A

MATRIX:	WATER			% MOISTURE:	NA
DILTN FACTR:	1	1	1		
SAMPLE ID:	CR-A162108				
CONTROL NO.:	E103-08	E103-08M	E103-08S		
LAB FILE ID:	IPE027	IPE027	IPE027		
DATIME EXTRCTD:	05/29/9713:00	05/29/9713:00	05/29/9713:00	DATE COLLECTED:	05/18/97
DATIME ANALYZD:	06/02/9716:57	06/02/9717:06	06/02/9717:10	DATE RECEIVED:	05/22/97
PREP. BATCH:	IPE027W	IPE027W	IPE027W		
CALIB. REF:	IPE027	IPE027	IPE027		

ACCESSION:

PARAMETER	SMPL RSLT (mg/L)	SPIKE AMT (mg/L)	MS RSLT (mg/L)	MS % REC	SPIKE AMT (mg/L)	MSD RSLT (mg/L)	MSD % REC	RPD %	QC LIMIT %	MAX RPD %
Chromium	ND	1.00	0.94	94	1.00	.952	95	1	80-120	15

AFCEE Ver. 1.1

0029

EMAX QUALITY CONTROL DATA
LCS ANALYSIS

CLIENT: JACOBS ENGINEERING GROUP
PROJECT: CARSWELL AFB / 05G47900
BATCH NO.: 97E103
METHOD: EPA 3005A/6010A

MATRIX:	WATER		% MOISTURE:	NA
DILTN FACTR:	1	1		
SAMPLE ID:	MBLK1W	LCS5W		
CONTROL NO.:	IPE027WB	IPE027WL		
LAB FILE ID:	IPE027	IPE027		
DATIME EXTRCTD:	05/29/9713:00	05/29/9713:00	DATE COLLECTED:	NA
DATIME ANALYZD:	06/02/9715:44	06/02/9715:47	DATE RECEIVED:	NA
PREP. BATCH:	IPE027W	IPE027W		
CALIB. REF:	IPE027	IPE027		

ACCESSION:

PARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	QC LIMIT (%)
Chromium	ND	1.0	1.03	103	80-120

EPA 1312/6010A
SPLP CHROMIUM BY ICP

Client : JACOBS ENGINEERING GROUP
Project : CARSWELL AFB / 05G47900
Batch No. : 97E103
Matrix : WATER

Date Collected : 05/18/97
DaTime Received: 05/22/97
Instrument ID : T-I007

SAMPLE ID	CONTROL NO	RESULTS (mg/L)	DLF	MOIST	PRL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH
MBLK1W	IPE025WB	ND	1	NA	.2	.089	05/30/9719:06	05/29/9713:00	IPE025	IPE025	IPE025W
MBLK2W	TXE005SB	ND	1	NA	.2	.089	05/30/9719;18	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162101	E103-01	ND	1	NA	.2	.089	05/30/9719:29	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162105*	E103-05	ND	1	NA	.2	.089	05/30/9719:49	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162106*	E103-06	ND	1	NA	.2	.089	05/30/9719:53	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162201**	E103-10	ND	1	NA	.2	.089	05/30/9720:08	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162202**	E103-11	ND	1	NA	.2	.089	05/30/9720:12	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162203**	E103-12	ND	1	NA	.2	.089	05/30/9720:15	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162204**	E103-13	ND	1	NA	.2	.089	05/30/9720:19	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162205**	E103-14	ND	1	NA	.2	.089	05/30/9720:23	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162206**	E103-15	ND	1	NA	.2	.089	05/30/9720:27	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162301***	E103-17	NO	1	NA	.2	.089	05/30/9720:30	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162302***	E103-18	ND	1	NA	.2	.089	05/30/9720:34	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162303***	E103-19	ND	1	NA	.2	.089	05/30/9720:38	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162304**	E103-20	ND	1	NA	.2	.089	05/30/9720:41	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162305**	E103-21	ND	1	NA	.2	.089	05/30/9720:56	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162306****	E103-22	ND	1	NA	.2	.089	05/30/9721:00	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162401*****	E103-23	ND	1	NA	.2	.089	05/30/9721:04	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162402****	E103-24	ND	1	NA	.2	.089	05/30/9721:08	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162403**	E103-25	ND	1	NA	.2	.089	05/30/9721:11	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162404**	E103-26	ND	1	NA	.2	.089	05/30/9721:15	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162405*****	E103-27	ND	1	NA	.2	.089	05/30/9721:19	05/29/9713:00	IPE025	IPE025	IPE025W
MBLK3W	IPE026WB	ND	1	NA	.2	.089	05/30/9722:02	05/29/9713:00	IPE026	IPE026	IPE026W
MBLK4W	TXE006SB	ND	1	NA	.2	.089	05/30/9722:13	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162406**	E103-28	ND	1	NA	.2	.089	05/30/9722:24	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162407****	E103-29	ND	1	NA	.2	.089	05/30/9722:28	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162501**	E103-30	ND	1	NA	.2	.089	05/30/9722:32	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162502**	E103-31	ND	1	NA	.2	.089	05/30/9722:35	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162503*****	E103-32	ND	1	NA	.2	.089	05/30/9722:39	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162504****	E103-33	ND	1	NA	.2	.089	05/30/9722:43	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162505*****	E103-34	ND	1	NA	.2	.089	05/30/9722:58	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162506****	E103-35	ND	1	NA	.2	.089	05/30/9723:02	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162601****	E103-37	ND	1	NA	.2	.089	05/30/9723:05	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162602****	E103-38	ND	1	NA	.2	.089	05/30/9723:09	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162603****	E103-39	ND	1	NA	.2	.089	05/30/9723:13	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162604****	E103-40	ND	1	NA	.2	.089	05/30/9723:17	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162701	E103-42	ND	1	NA	.2	.089	05/30/9723:20	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162702	E103-43	ND	1	NA	.2	.089	05/30/9723:24	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162703	E103-44	ND	1	NA	.2	.089	05/30/9723:28	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162704	E103-45	ND	1	NA	.2	.089	05/30/9723:31	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162705	E103-46	NO	1	NA	.2	.089	05/30/9723:46	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162706	E103-47	ND	1	NA	.2	.089	05/30/9723:50	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162707	E103-48	ND	1	NA	.2	.089	05/30/9723:54	05/29/9713:00	IPE026	IPE026	IPE026W

CR-A162806	E103-56	ND	1	NA	.2	.089	05/31/9[illegible]:14	05/29/9713:00	IPE026	IPE026	IPE026W
MBLK5W	IPE027WB	ND	1	NA	.2	.089	06/02/97[illegible]	05/29/9713:00	IPE027	IPE027	IPE027W
LCS5W	IPE027WL	ND	1	NA	.2	.089	06/02/9715:47	05/29/9713:00	IPE027	IPE027	IPE027W
MBLK6W	TXE007SB	ND	1	NA	.2	.089	06/02/9715:55	05/29/9713:00	IPE027	IPE027	IPE027W
CR-A162807	E103-57	ND	1	NA	.2	.089	06/02/9716:06	05/29/9713:00	IPE027	IPE027	IPE027W
CR-A162809*	E103-59	ND	1	NA	.2	.089	06/02/9716:27	05/29/9713:00	IPE027	IPE027	IPE027W
CR-A162901*	E103-60	ND	1	NA	.2	.089	06/02/9716:30	05/29/9713:00	IPE027	IPE027	IPE027W
CR-A162902*	E103-61	ND	1	NA	.2	.089	06/02/9716:45	05/29/9713:00	IPE027	IPE027	IPE027W
CR-A163007******	E103-74	ND	1	NA	.2	.089	06/02/9716:49	05/29/9713:00	IPE027	IPE027	IPE027W
CR-A163009******	E103-76	ND	1	NA	.2	.089	06/02/9716:53	05/29/9713:00	IPE027	IPE027	IPE027W

* DATE COLLECTED : 05/19/97
** DATE COLLECTED : 05/16/97
*** DATE COLLECTED : 05/14/97
**** DATE COLLECTED : 05/17/97
***** DATE COLLECTED : 05/15/97
****** DATE COLLECTED : 05/20/97
PQL: Practical Quantitation Limit
Leaching Date: xx/xx/xx
AFCEE Ver. 1.1

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: JACOBS ENGINEERING GROUP
PROJECT: CARSWELL AFB / 05G47900
BATCH NO.: 97E103
METHOD: EPA 1312/6010A

MATRIX:	WATER			% MOISTURE:	NA
DILTN FACTR:	1	1	1		
SAMPLE ID:	CR-A162101				
CONTROL NO.:	E103-01	E103-01M	E103-01S		
LAB FILE ID:	IPE025	IPE025	IPE025		
DATIME EXTRCTD:	05/29/9713:00	05/29/9713:00	05/29/9713:00	DATE COLLECTED:	05/18/97
DATIME ANALYZD:	05/30/9719:29	05/30/9719:38	05/30/9719:42	DATE RECEIVED:	05/22/97
PREP. BATCH:	IPE025W	IPE025W	IPE025W		
CALIB. REF:	IPE025	IPE025	IPE025		

ACCESSION:

PARAMETER	SMPL RSLT (mg/L)	SPIKE AMT (mg/L)	MS RSLT (mg/L)	MS % REC	SPIKE AMT (mg/L)	MSD RSLT (mg/L)	MSD % REC	RPD %	QC LIMIT %	MAX RPD %
Chromium	ND	10.000	10.400	104	10.000	9.590	96	8	80-120	15

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0033

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: JACOBS ENGINEERING GROUP
PROJECT: CARSWELL AFB / 05G47900
BATCH NO.: 97E103
METHOD: EPA 1312/6010A

MATRIX:	WATER			% MOISTURE:	NA
DILTN FACTR:	1	1	1		
SAMPLE ID:	CR-A162707				
CONTROL NO.:	E103-48	E103-48M	E103-48S		
LAB FILE ID:	IPE026	IPE026	IPE026		
DATIME EXTRCTD:	05/29/9713:00	05/29/9713:00	05/29/9713:00	DATE COLLECTED:	05/18/97
DATIME ANALYZD:	05/30/9723:54	05/31/9700:03	05/31/9700:07	DATE RECEIVED:	05/22/97
PREP. BATCH:	IPE026W	IPE026W	IPE026W		
CALIB. REF:	IPE026	IPE026	IPE026		

ACCESSION:

PARAMETER	SMPL RSLT (mg/L)	SPIKE AMT (mg/L)	MS RSLT (mg/L)	MS % REC	SPIKE AMT (mg/L)	MSD RSLT (mg/L)	MSD % REC	RPD %	QC LIMIT %	MAX RPD %
Chromium	ND	10.000	8.830	88	10.000	9.03	90	2	80-120	15

AFCEE Ver. 1.1

0034

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: JACOBS ENGINEERING GROUP
PROJECT: CARSWELL AFB / 05G47900
BATCH NO.: 97E103
METHOD: EPA 1312/6010A

MATRIX:	WATER			% MOISTURE:	NA
DILTN FACTR:	1	1	1		
SAMPLE ID:	CR-A162807				
CONTROL NO.:	E103-57	E103-57M	E103-57S		
LAB FILE ID:	IPE027	IPE027	IPE027		
DATIME EXTRCTD:	05/29/9713:00	05/29/9713:00	05/29/9713:00	DATE COLLECTED:	05/18/97
DATIME ANALYZD:	06/02/9716:06	06/02/9716:15	06/02/9716:19	DATE RECEIVED:	05/22/97
PREP. BATCH:	IPE027W	IPE027W	IPE027W		
CALIB. REF:	IPE027	IPE027	IPE027		

ACCESSION:

PARAMETER	SMPL RSLT (mg/L)	SPIKE AMT (mg/L)	MS RSLT (mg/L)	MS % REC	SPIKE AMT (mg/L)	MSD RSLT (mg/L)	MSD % REC	RPD %	QC LIMIT %	MAX RPD %
Chromium	ND	10.000	10.700	107	10.000	10.500	105	2	80-120	15

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0035

EMAX QUALITY CONTROL DATA
LCS ANALYSIS

CLIENT: JACOBS ENGINEERING GROUP
PROJECT: CARSWELL AFB / 05G47900
BATCH NO.: 97E103
METHOD: EPA 1312/6010A

==========

MATRIX:	WATER		% MOISTURE:	NA
DILTN FACTR:	1	1		
SAMPLE ID:	MBLK1W	LCS1W		
CONTROL NO.:	1PE025WB	1PE025WL		
LAB FILE ID:	1PE025	1PE025		
DATIME EXTRCTD:	05/29/9713:00	05/29/9713:00	DATE COLLECTED:	NA
DATIME ANALYZD:	05/30/9719:06	05/30/9719:10	DATE RECEIVED:	NA
PREP. BATCH:	1PE025W	1PE025W		
CALIB. REF:	1PE025	1PE025		

ACCESSION:

PARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	QC LIMIT (%)
Chromium	ND	10.000	10.000	100	80-120

0036

EMAX QUALITY CONTROL DATA
LCS ANALYSIS

CLIENT: JACOBS ENGINEERING GROUP
PROJECT: CARSWELL AFB / 05G47900
BATCH NO.: 97E103
METHOD: EPA 1312/6010A

MATRIX:	WATER		% MOISTURE:	NA
DILTN FACTR:	1	1		
SAMPLE ID:	MBLK3W	LCS3W		
CONTROL NO.:	IPE026WB	IPE026WL		
LAB FILE ID:	IPE026	IPE026		
DATIME EXTRCTD:	05/29/9713:00	05/29/9713:00	DATE COLLECTED:	NA
DATIME ANALYZD:	05/30/9722:02	05/30/9722:06	DATE RECEIVED:	NA
PREP. BATCH:	IPE026W	IPE026W		
CALIB. REF:	IPE026	IPE026		

ACCESSION:

PARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	QC LIMIT (%)
Chromium	ND	10.000	9.430	94	80-120

0037

EMAX QUALITY CONTROL DATA
LCS ANALYSIS

CLIENT: JACOBS ENGINEERING GROUP
PROJECT: CARSWELL AFB / 05G47900
BATCH NO.: 97E103
METHOD: EPA 1312/6010A

MATRIX:	WATER		% MOISTURE:	NA
DILTN FACTR:	1	1		
SAMPLE ID:	MBLK5W	LCS5W		
CONTROL NO.:	IPE027WB	IPE027WL		
LAB FILE ID:	IPE027	IPE027		
DATIME EXTRCTD:	05/29/9713:00	05/29/9713:00	DATE COLLECTED:	NA
DATIME ANALYZD:	06/02/9715:44	06/02/9715:47	DATE RECEIVED:	NA
PREP. BATCH:	IPE027W	IPE027W		
CALIB. REF:	IPE027	IPE027		

ACCESSION:

PARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	QC LIMIT (%)
Chromium	ND	10.000	10.300	103	80-120

0038

EPA 3005A/6010A
LEAD BY TRACE-ICP

Client : JACOBS ENGINEERING GROUP
Project : CARSWELL AFB / 05G47900
Batch No. : 97E103
Matrix : WATER

Date Collected : 05/18/97
DaTime Received: 05/22/97
Instrument ID : T-1007

SAMPLE ID	CONTROL NO	RESULTS (mg/L)	DLF	MOIST	PQL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH
MBLK5W	IPE027WB	ND	1	NA	.005	.0016	06/03/9716:13	05/29/9713:00	I31F002	I31F002	IPE027W
CR-A162108	E103-08	ND	1	NA	.005	.0016	06/03/9717:19	05/29/9713:00	I31F002	I31F002	IPE027W
CR-A162207*	E103-16	ND	1	NA	.005	.0016	06/03/9718:00	05/29/9713:00	I31F002	I31F002	IPE027W
CR-A162507**	E103-36	ND	1	NA	.005	.0016	06/03/9718:16	05/29/9713:00	I31F002	I31F002	IPE027W
CR-A162605***	E103-41	ND	1	NA	.005	.0016	06/03/9718:20	05/29/9713:00	I31F002	I31F002	IPE027W
CR-A162708****	E103-49	ND	1	NA	.005	.0016	06/03/9718:24	05/29/9713:00	I31F002	I31F002	IPE027W
CR-A162907*****	E103-66	ND	1	NA	.005	.0016	06/03/9718:28	05/29/9713:00	I31F002	I31F002	IPE027W

* DATE COLLECTED : 05/16/97
** DATE COLLECTED : 05/15/97
*** DATE COLLECTED : 05/17/97
**** DATE COLLECTED : 05/20/97
***** DATE COLLECTED : 05/19/97
PQL: Practical Quantitation Limit
AFCEE Ver. 1.1

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: JACOBS ENGINEERING GROUP
PROJECT: CARSWELL AFB / 05G47900
BATCH NO.: 97E103
METHOD: EPA 3005A/6010A

MATRIX:	WATER			% MOISTURE:	NA
DILTN FACTR:	1	1	1		
SAMPLE ID:	CR-A162108				
CONTROL NO.:	E103-08	E103-08M	E103-08S		
LAB FILE ID:	I31F002	I31F002	I31F002		
DATIME EXTRCTD:	05/29/9713:00	05/29/9713:00	05/29/9713:00	DATE COLLECTED:	05/18/97
DATIME ANALYZD:	06/03/9717:19	06/03/9717:36	06/03/9717:40	DATE RECEIVED:	05/22/97
PREP. BATCH:	IPE027W	IPE027W	IPE027W		
CALIB. REF:	I31F002	I31F002	I31F002		

ACCESSION:

PARAMETER	SMPL RSLT (mg/L)	SPIKE AMT (mg/L)	MS RSLT (mg/L)	MS % REC	SPIKE AMT (mg/L)	MSD RSLT (mg/L)	MSD % REC	RPD %	QC LIMIT %	MAX RPD %
Lead	ND	1.0	0.906	91	1.0	0.920	92	2	80-120	15

AFCEE Ver. 1.1

0040

EMAX QUALITY CONTROL DATA
LCS ANALYSIS

CLIENT: JACOBS ENGINEERING GROUP
PROJECT: CARSWELL AFB / 05G47900
BATCH NO.: 97E103
METHOD: EPA 3005A/6010A

MATRIX:	WATER		% MOISTURE:	NA
DILTN FACTR:	1	1		
SAMPLE ID:	MBLK5W	LCS5W		
CONTROL NO.:	IPE027WB	IPE027WL		
LAB FILE ID:	I31F002	I31F002		
DATIME EXTRCTD:	05/29/9713:00	05/29/9713:00	DATE COLLECTED:	NA
DATIME ANALYZD:	06/03/9716:13	06/03/9716:17	DATE RECEIVED:	05/29/97
PREP. BATCH:	IPE027W	IPE027W		
CALIB. REF:	I31F002	I31F002		

ACCESSION:

PARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	QC LIMIT (%)
Lead	ND	1.0	.995	100	80-120

0041

EPA 1312/6010A
SPLP LEAD BY TRACE-ICP

Client : JACOBS ENGINEERING GROUP
Project : CARSWELL AFB / 05G47900
Batch No. : 97E103
Matrix : WATER

Date Collected : 05/18/97
DaTime Received: 05/22/97
Instrument ID : T-1007

SAMPLE ID	CONTROL NO	RESULTS (mg/L)	DLF	MOIST	PRL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH
MBLK1W	IPE025WB	ND	1	NA	.05	.016	05/30/9716:51	05/29/9713:00	IPE025	IPE025	IPE025W
MBLK2W	TXE005SB	ND	1	NA	.05	.016	05/30/9717:03	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162101	E103-01	ND	1	NA	.05	.016	05/30/9717:15	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162105*	E103-05	ND	1	NA	.05	.016	05/30/9717:38	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162106*	E103-06	ND	1	NA	.05	.016	05/30/9717:42	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162201**	E103-10	ND	1	NA	.05	.016	05/30/9718:04	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162202**	E103-11	ND	1	NA	.05	.016	05/30/9718:08	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162203**	E103-12	ND	1	NA	.05	.016	05/30/9718:12	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162204**	E103-13	ND	1	NA	.05	.016	05/30/9718:16	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162205**	E103-14	.039F	1	NA	.05	.016	05/30/9718:20	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162206**	E103-15	ND	1	NA	.05	.016	05/30/9718:24	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162301***	E103-17	ND	1	NA	.05	.016	05/30/9718:29	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162302***	E103-18	ND	1	NA	.05	.016	05/30/9718:33	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162303***	E103-19	ND	1	NA	.05	.016	05/30/9718:37	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162304**	E103-20	ND	1	NA	.05	.016	05/30/9718:41	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162305**	E103-21	ND	1	NA	.05	.016	05/30/9719:01	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162306****	E103-22	ND	1	NA	.05	.016	05/30/9719:09	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162401*****	E103-23	ND	1	NA	.05	.016	05/30/9719:14	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162402****	E103-24	.0315F	1	NA	.05	.016	05/30/9719:18	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162403**	E103-25	ND	1	NA	.05	.016	05/30/9719:22	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162404**	E103-26	ND	1	NA	.05	.016	05/30/9719:26	05/29/9713:00	IPE025	IPE025	IPE025W
CR-A162405*****	E103-27	ND	1	NA	.05	.016	05/30/9719:30	05/29/9713:00	IPE025	IPE025	IPE025W
MBLK3W	IPE026WB	ND	1	NA	.05	.016	06/02/9717:22	05/29/9713:00	IPE026	IPE026	IPE026W
MBLK4W	TXE026SB	ND	1	NA	.05	.016	06/02/9717:34	05/29/9713:00	IPE027	IPE027	IPE027W
CR-A162406**	E103-28	ND	1	NA	.05	.016	06/02/9719:41	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162407****	E103-29	.0629	1	NA	.05	.016	06/02/9719:45	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162501**	E103-30	ND	1	NA	.05	.016	06/02/9719:49	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162502**	E103-31	ND	1	NA	.05	.016	06/02/9719:53	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162503*****	E103-32	ND	1	NA	.05	.016	06/02/9718:21	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162504****	E103-33	.0206F	1	NA	.05	.016	06/02/9718:25	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162505*****	E103-34	ND	1	NA	.05	.016	06/02/9718:41	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162506****	E103-35	ND	1	NA	.05	.016	06/02/9718:45	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162601****	E103-37	ND	1	NA	.05	.016	06/02/9718:49	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162602****	E103-38	ND	1	NA	.05	.016	06/02/9718:53	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162603****	E103-39	ND	1	NA	.05	.016	06/02/9718:57	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162604****	E103-40	ND	1	NA	.05	.016	06/02/9719:01	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162701	E103-42	ND	1	NA	.05	.016	06/02/9719:05	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162702	E103-43	.0238F	1	NA	.05	.016	06/02/9719:09	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162703	E103-44	.0186F	1	NA	.05	.016	06/02/9719:13	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162704	E103-45	ND	1	NA	.05	.016	06/02/9719:17	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162705	E103-46	ND	1	NA	.05	.016	06/02/9719:33	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162706	E103-47	ND	1	NA	.05	.016	06/02/9719:37	05/29/9713:00	IPE026	IPE026	IPE026W
CR-A162707	E103-48	.0719	1	NA	.05	.016	06/02/9717:58	05/29/9713:00	IPE026	IPE026	IPE026W

CR-A162806	E103-56	.0230F	1	NA	.05	.016	06/02/9719:57	05/29/9713:00	IPE026	IPE026	IPE026W
MBLK5W	IPE027WB	ND	1	NA	.05	.016	06/03/9716:13	05/29/9713:00	IPE027	IPE027	IPE027W
MBLK6W	TXE007WB	ND	1	NA	.05	.016	06/03/9716:25	05/29/9713:00	IPE027	IPE027	IPE027W
CR-A162807	E103-57	ND	1	NA	.05	.016	06/03/9716:37	05/29/9713:00	IPE027	IPE027	IPE027W
CR-A162809*	E103-59	ND	1	NA	.05	.016	06/03/9716:59	05/29/9713:00	IPE027	IPE027	IPE027W
CR-A162901*	E103-60	ND	1	NA	.05	.016	06/03/9717:03	05/29/9713:00	IPE027	IPE027	IPE027W
CR-A162902*	E103-61	ND	1	NA	.05	.016	06/03/9717:48	05/29/9713:00	IPE027	IPE027	IPE027W
CR-A163007******	E103-74	ND	1	NA	.05	.016	06/03/9717:52	05/29/9713:00	IPE027	IPE027	IPE027W
CR-A163009******	E103-76	ND	1	NA	.05	.016	06/03/9717:56	05/29/9713:00	IPE027	IPE027	IPE027W

* DATE COLLECTED : 05/19/97
** DATE COLLECTED : 05/16/97
*** DATE COLLECTED : 05/14/97
**** DATE COLLECTED : 05/17/97
***** DATE COLLECTED : 05/15/97
****** DATE COLLECTED : 05/20/97
PQL: Practical Quantitation Limit
Leaching Date: xx/xx/xx
AFCEE Ver. 1.1

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: JACOBS ENGINEERING GROUP
PROJECT: CARSWELL AFB / 05G47900
BATCH NO.: 97E103
METHOD: EPA 1312/6010A

MATRIX:	WATER			% MOISTURE:	NA
DILTN FACTR:	1	1	1		
SAMPLE ID:	CR-A162101				
CONTROL NO.:	E103-01	E103-01M	E103-01S		
LAB FILE ID:	IPE025	IPE025	IPE025		
DATIME EXTRCTD:	05/29/9713:00	05/30/9713:00	05/30/9713:00	DATE COLLECTED:	05/18/97
DATIME ANALYZD:	05/30/9717:15	05/30/9717:26	05/30/9717:30	DATE RECEIVED:	05/22/97
PREP. BATCH:	IPE025W	IPE025W	IPE025W		
CALIB. REF:	IPE025	IPE025	IPE025		

ACCESSION:

PARAMETER	SMPL RSLT (mg/L)	SPIKE AMT (mg/L)	MS RSLT (mg/L)	MS % REC	SPIKE AMT (mg/L)	MSD RSLT (mg/L)	MSD % REC	RPD %	QC LIMIT %	MAX RPD %
Lead	ND	10.000	9.990	100	10.000	8.940	89	11	80-120	15

AFCEE Ver. 1.1

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: JACOBS ENGINEERING GROUP
PROJECT: CARSWELL AFB / 05G47900
BATCH NO.: 97E103
METHOD: EPA 1312/6010A

MATRIX:	WATER			% MOISTURE:	NA
DILTN FACTR:	1	1	1		
SAMPLE ID:	CR-A162707				
CONTROL NO.:	E103-48	E103-48M	E103-48S		
LAB FILE ID:	IPE026	IPE026	IPE026		
DATIME EXTRCTD:	05/29/9713:00	05/29/9713:00	05/29/9713:00	DATE COLLECTED:	05/18/97
DATIME ANALYZD:	06/02/9717:58	06/02/9718:09	06/02/9718:13	DATE RECEIVED:	05/22/97
PREP. BATCH:	IPE026W	IPE026W	IPE026W		
CALIB. REF:	IPE026	IPE026	IPE026		

ACCESSION:

PARAMETER	SMPL RSLT (mg/L)	SPIKE AMT (mg/L)	MS RSLT (mg/L)	MS % REC	SPIKE AMT (mg/L)	MSD RSLT (mg/L)	MSD % REC	RPD %	QC LIMIT %	MAX RPD %
Lead	.0719	10.000	9.770	97	10.000	9.790	97	0	80-120	15

AFCEE Ver. 1.1

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: JACOBS ENGINEERING GROUP
PROJECT: CARSWELL AFB / 05G47900
BATCH NO.: 97E103
METHOD: EPA 1312/6010A

MATRIX:	WATER			% MOISTURE:	NA
DILTN FACTR:	1	1	1		
SAMPLE ID:	CR-A162807				
CONTROL NO.:	E103-57	E103-57M	E103-57S		
LAB FILE ID:	IPE027	IPE027	IPE027		
DATIME EXTRCTD:	05/29/9713:00	05/30/9713:00	05/30/9713:00	DATE COLLECTED:	05/18/97
DATIME ANALYZD:	06/03/9716:37	06/03/9716:47	06/03/9716:51	DATE RECEIVED:	05/22/97
PREP. BATCH:	IPE027W	IPE027W	IPE027W		
CALIB. REF:	IPE027	IPE027	IPE027		

ACCESSION:

PARAMETER	SMPL RSLT (mg/L)	SPIKE AMT (mg/L)	MS RSLT (mg/L)	MS % REC	SPIKE AMT (mg/L)	MSD RSLT (mg/L)	MSD % REC	RPD %	QC LIMIT %	MAX RPD %
Lead	ND	10.000	10.400	104	10.000	9.650	96	7	80-120	15

AFCEE Ver. 1.1

EMAX QUALITY CONTROL DATA
LCS ANALYSIS

CLIENT: JACOBS ENGINEERING GROUP
PROJECT: CARSWELL AFB / 05G47900
BATCH NO.: 97E103
METHOD: EPA 1312/6010A

MATRIX:	WATER		% MOISTURE:	NA
DILTN FACTR:	1	1		
SAMPLE ID:	MBLK1W	LCS1W		
CONTROL NO.:	IPE025WB	IPE025WL		
LAB FILE ID:	IPE025	IPE025		
DATIME EXTRCTD:	05/29/9713:00	05/29/9713:00	DATE COLLECTED:	NA
DATIME ANALYZD:	05/30/9716:51	05/30/9716:55	DATE RECEIVED:	NA
PREP. BATCH:	IPE025W	IPE025W		
CALIB. REF:	IPE025	IPE025		

ACCESSION:

PARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	QC LIMIT (%)
Lead	ND	10.000	9.800	98	80-120

EMAX QUALITY CONTROL DATA
LCS ANALYSIS

CLIENT: JACOBS ENGINEERING GROUP
PROJECT: CARSWELL AFB / 05G47900
BATCH NO.: 97E103
METHOD: EPA 1312/6010A

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MATRIX:	WATER		% MOISTURE:	NA
DILTN FACTR:	1	1		
SAMPLE ID:	MBLK3W	LCS3W		
CONTROL NO.:	IPE026WB	IPE026WL		
LAB FILE ID:	IPE026	IPE026		
DATIME EXTRCTD:	05/29/9713:00	05/29/9713:00	DATE COLLECTED:	NA
DATIME ANALYZD:	06/02/9717:22	06/02/9717:26	DATE RECEIVED:	NA
PREP. BATCH:	IPE026W	IPE026W		
CALIB. REF:	IPE026	IPE026		

ACCESSION:

PARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	QC LIMIT (%)
Lead	ND	10.000	9.770	98	80-120

EMAX QUALITY CONTROL DATA
LCS ANALYSIS

CLIENT: JACOBS ENGINEERING GROUP
PROJECT: CARSWELL AFB / 05G47900
BATCH NO.: 97E103
METHOD: EPA 1312/6010A

==========

MATRIX:	WATER		% MOISTURE:	NA
DILTN FACTR:	1	1		
SAMPLE ID:	MBLK5W	LCS5W		
CONTROL NO.:	IPE027WB	IPE027WL		
LAB FILE ID:	IPE027	IPE027		
DATIME EXTRCTD:	05/29/9713:00	05/29/9713:00	DATE COLLECTED:	NA
DATIME ANALYZD:	06/03/9716:13	06/03/9716:17	DATE RECEIVED:	NA
PREP. BATCH:	IPE027W	IPE027W		
CALIB. REF:	IPE027	IPE027		

ACCESSION:

PARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	QC LIMIT (%)
Lead	ND	10.000	9.950	99	80-120

05/27/1997 11:58

LAB CHRONICLE
SPLP Nickel

LIENT: Jacobs Engineering Group
ROJECT: Carswell AFB / 05G47900

DG/BATCH NO.: 97E103
ATRIX: Soil

SAMPLE ID	CONTROL NO	%H2O	PREPARATION BATCH/DATE/TIME	ANALYTICAL BATCH/DATE/TIME	CALIB REF	FILE ID	
R-A162101	E103-01	13.7	GFE003/TXE005/5-27@	G06F004 ~~TXE005~~/6-4-97/@ 1727	CCV1	G06F004	1
R-A162105	E103-05	19.6	1500 hrs.	1747	↓		21
CR-A162106	E103-06	21.7		1800	CCV2		24
R-A162201	E103-10	20.2		1804			25
CR-A162202	E103-11	17.2		1808			26
R-A162203	E103-12	17.3		1812			27
CR 162204	E103-13	15.2		1817			28
CR-A162205	E103-14	14.9		1821			29
R-A162206	E103-15	16.6		1825			30
CR-A162301	E103-17	16.1		1829			31
R-A162302	E103-18	16.8		1834			32
CR-A162303	E103-19	14.2		1838			33
CR-A162304	E103-20	16.2		1855	CCV3		36
R-A162305	E103-21	13.2		1859			37
CR-A162306	E103-22	14.3		1904			38
R-A162401	E103-23	16.0		1908			39
CR-A162402	E103-24	11.5		1912			40
CR-A162403	E103-25	17.4		1917			41
R-A162404	E103-26	18.9		1921			42
CR 162405	E103-27	19.0		1925			43
R-A162406	E103-28	17.5	GFE004/TXE005/05-27@/GCC	G03F004/6-4-97/@ 2325	G03F004/ CCV1	G03F004/ -2	
CR-A162407	E103-29	11.9		2338	G03F004/ CCV2		-24

			GFE003/TXE003/5-27-97C		G03F004/6-4-97/C		G03F004/CCV1	G03F004
CR-A162501	E103-30	20.6	1600		2342			-2
CR-A162502	E103-31	17.7			2346			
CR-A162503	E103-32	20.9			2350			2
GF MBLKW1	GFE003 WB		GFE003/5-29-97C 1300	G06F004/6-4-97/C	1710	G06F004/CCV1	G06F004-1	
LCSW1	↓	WL	↓		1714			
TXMBLKS1	TXE005 SB		TXE005 S/5-27-97C 1500		1718			14
LCSS1		SL			1723			
MSS1	E103-	01M			1739			1
MSDS1		01S	↓		1743			
MSAS1		01A	GFE003/5-29-97C 1300		1735			19
Ser. Dil	↓	01T	↓		1731			
GF MBLKW2	GFE004 WB		GFE004 W/5-29-97C 1300	G03F004/6-4-97/C	2248	G03F004/CCV1	G03F	
LCSW2	↓	WL	↓		2252			
TX MBLKS2	TXE006 SB		TXE006/5-27C 1600		2256			14
LCSS2	↓	SL			2300			
MSAS2	E103-	48A			2313			18
Serial Dil	↓	48T			2309			17

SAMPLE ID	CONTROL NO	%H2O	PREPARATION BATCH/DATE/TIME	ANALYTICAL BATCH/DATE/TIME	CALIB REF	FILE ID
CR-A162504	E103-33	19.0	GFE004/TXE005/@5-27-97	G03F004/6-4-97/@2354	G03F004/CCV2	G03F004
CR-A162505	E103-34	20.2	@ 16 other	2358		
CR-A162506	E103-35	17.3		6-5-97/@0003		
CR-A162601	E103-37	20.0		0007		
CR-A162602	E103-38	13.8		0011		
CR-A162603	E103-39	13.8		0016		
CR-A162604	E103-40	22.7		0020	G03F004/CCV3	
CR-A162701	E103-42	7.0		0033		
CR-A162702	E103-43	19.1		0037		
CR-A162703	E103-44	17.4		0041		
CR-A162704	E103-45	22.5		0046		
CR-A162705	E103-46	20.8		0050		
CR-A162706	E103-47	19.8		0054		
CR-A162707	E103-48	15.5		6-4-97@ 2305 ~~0054~~	G03F004/CCV1	
CR-A162806	E103-56	NA		6-5-97@ 0058	G03F004/CCV3	
CR-A162807	E103-57	NA	TXE007/5-27-97@1600 ~~GFE005/5-27-@1500~~	G03F003/6-4-97/@1438	G03F003/CCV1	G03F003
CR-A162809	E103-59	NA		1458		
CR-A162901	E103-60	NA		1511	G03F003/CCV2	
CR-A162902	E103-61	NA		1515		
CR-A163007	E103-74	NA		1519		
CR-A163009	E103-76	NA		1523		
CR-A162101MS	E103-01M	13.7	TXE003/5-27-97@1500	G03F004/6-4-97/@1739	G03F004 CCV1	G03F004
CR-A162101DUP	E103-01D	13.7		1743		

CR-A162707MS	E103-48M	15.5	TX E00 G5/5-29-97e/600	G03F004/6-4-97/e	2317	G03F004/	G03F004-	19
MS	S							
CR-A162707PUP	E103-48D	15.5	↓	↓	↓	2321	CCV1	↓	20
CR-A162108MS	E103-08M	NA	GFEC05/5-29-97e 1300						
MS	S		~~TXE0075/5-27-97e 600~~	G03F003	/6-4-97/	1540	G03F003/CCV2	G03F003-	3
CR-A163009PUP	E103-08D	NA	↓	↓	↓	1544	CCV2	↓	3
GFMBLKW3	GFEC05WB		GFEC05W/5-29-97e 1300	G03F003/6-4-97/e		1421	G03F003/CCV1	G03F003	
LCSW3	↓	WL	↓			1425			13
TXMBLKS3	TXEC07SB		TXEC07/5-29-97e 1600			1429			14
LCSS3	↓	SL				1434	↓		15
MSAS3	E103-57A					1440	G03F003/CCV1		16
Sunrise Dilution	57T		↓			1442	↓		17
MSAW1	-08A		GFEC05/5-29-97e/1300			1536	G03F003/CCV2		30
Sunrise Dilution	08T		↓			1532	↓		2

05/27/1997 11:58

LAB CHRONICLE
Nickel

LIENT: Jacobs Engineering Group
ROJECT: Carswell AFB / 05G47900

DG/BATCH NO.: 97E103
ATRIX: Water

SAMPLE ID	CONTROL NO	%H2O	PREPARATION BATCH/DATE/TIME	ANALYTICAL BATCH/DATE/TIME	CALIB REF	FILE ID
R-A162108	E103-08	NA	6PE103W 5-29-97 @ 1300	6G3P003 6-4-97 @ 1527	6G3P003/CCV2	6G3P003-28
R-A162207	E103-16	NA		1549		33
CR-A162507	E103-36	NA		1602	6G3P003/CCV3	36
R-A162605	E103-41	NA		1606		37
CR-A162708	E103-49	NA		1610		38
R-A162907	E103-66	NA		1614		39

EPA 3020A/7520
NICKEL BY GFAA

Client : JACOBS ENGINEERING GROUP
Project : CARSWELL AFB / 05G47900
Batch No. : 97E103
Matrix : WATER

Date Collected : 05/18/97
DaTime Received: 05/22/97
Instrument ID : EMAXTI03

SAMPLE ID	CONTROL NO	RESULTS (mg/L)	DLF	MOIST	PQL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH
MBLK5W	GFE005WB	ND	1	NA	.01	.002	06/04/9714:21	05/29/9713:00	G03F003012	G03F003010	GFE005W
CR-A162108	E103-08	ND	1	NA	.01	.002	06/04/9715:27	05/29/9713:00	G03F003028	G03F003022	GFE005W
CR-A162207*	E103-16	ND	1	NA	.01	.002	06/04/9715:49	05/29/9713:00	G03F003033	G03F003022	GFE005W
CR-A162507**	E103-36	ND	1	NA	.01	.002	06/04/9716:02	05/29/9713:00	G03F003036	G03F003034	GFE005W
CR-A162605***	E103-41	ND	1	NA	.01	.002	06/04/9716:06	05/29/9713:00	G03F003037	G03F003034	GFE005W
CR-A162708****	E103-49	ND	1	NA	.01	.002	06/04/9716:10	05/29/9713:00	G03F003038	G03F003034	GFE005W
CR-A162907*****	E103-66	ND	1	NA	.01	.002	06/04/9716:14	05/29/9713:00	G03F003039	G03F003034	GFE005W

* DATE COLLECTED : 05/16/97
** DATE COLLECTED : 05/15/97
*** DATE COLLECTED : 05/17/97
**** DATE COLLECTED : 05/20/97
***** DATE COLLECTED : 05/19/97
PQL: Practical Quantitation Limit
AFCEE Ver. 1.1

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: JACOBS ENGINEERING GROUP
PROJECT: CARSWELL AFB / 05G47900
BATCH NO.: 97E103
METHOD: EPA 3020A/7520

MATRIX:	WATER			% MOISTURE:	NA
DILTN FACTR:	1	1	1		
SAMPLE ID:	CR-A162108				
CONTROL NO.:	E103-08	E103-08M	E103-08S		
LAB FILE ID:	G03F003028	G03F003031	G03F003032		
DATIME EXTRCTD:	05/29/9713:00	05/29/9713:00	05/29/9713:00	DATE COLLECTED:	05/18/97
DATIME ANALYZD:	06/04/9715:27	06/04/9715:40	06/04/9715:44	DATE RECEIVED:	05/22/97
PREP. BATCH:	GFE005W	GFE005W	GFE005W		
CALIB. REF:	G03F003022	G03F003022	G03F003022		

ACCESSION:

PARAMETER	SMPL RSLT (mg/L)	SPIKE AMT (mg/L)	MS RSLT (mg/L)	MS % REC	SPIKE AMT (mg/L)	MSD RSLT (mg/L)	MSD % REC	RPD %	QC LIMIT %	MAX RPD %
Nickel	ND	.010	.0104	104	.010	.00973	97	7	75-125	15

AFCEE Ver. 1.1

0056

EMAX QUALITY CONTROL DATA
LCS ANALYSIS

CLIENT: JACOBS ENGINEERING GROUP
PROJECT: CARSWELL AFB / 05G47900
BATCH NO.: 97E103
METHOD: EPA 3020A/7520

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MATRIX:	WATER		% MOISTURE:	NA
DILTN FACTR:	1	1		
SAMPLE ID:	MBLK5W	LCS5W		
CONTROL NO.:	GFE005WB	GFE005WL		
LAB FILE ID:	G03F003012	G03F003013		
DATIME EXTRCTD:	05/29/9713:00	05/29/9713:00	DATE COLLECTED:	NA
DATIME ANALYZD:	06/04/9714:21	06/04/9714:25	DATE RECEIVED:	NA
PREP. BATCH:	GFE005W	GFE005W		
CALIB. REF:	G03F003010	G03F003010		

ACCESSION:

PARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	QC LIMIT (%)
Nickel	ND	.010	.00956	96	75-125

EPA 1312/3020/7520
SPLP/NICKEL BY GFAA

Client : JACOBS ENGINEERING GROUP
Project : CARSWELL AFB / 05G47900
Batch No. : 97E103
Matrix : WATER

Date Collected : 05/18/97
DaTime Received: 05/22/97
Instrument ID : EMAXTI06

SAMPLE ID	CONTROL NO	RESULTS (mg/L)	DLF	MOIST	PRL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH
CR-A162101	E103-01	ND	1	NA	.1	.02	06/04/9717:27	05/29/9713:00	G06F004015	G06F004009	GFE003W
CR-A162105*	E103-05	ND	1	NA	.1	.02	06/04/9717:47	05/29/9713:00	G06F004020	G06F004009	GFE003W
CR-A162106*	E103-06	ND	1	NA	.1	.02	06/04/9718:00	05/29/9713:00	G06F004023	G06F004021	GFE003W
CR-A162201**	E103-10	ND	1	NA	.1	.02	06/04/9718:04	05/29/9713:00	G06F004024	G06F004021	GFE003W
CR-A162202**	E103-11	ND	1	NA	.1	.02	06/04/9718:08	05/29/9713:00	G06F004025	G06F004021	GFE003W
CR-A162203**	E103-12	ND	1	NA	.1	.02	06/04/9718:12	05/29/9713:00	G06F004026	G06F004021	GFE003W
CR-A162204**	E103-13	ND	1	NA	.1	.02	06/04/9718:17	05/29/9713:00	G06F004027	G06F004021	GFE003W
CR-A162205**	E103-14	ND	1	NA	.1	.02	06/04/9718:21	05/29/9713:00	G06F004028	G06F004021	GFE003W
CR-A162206**	E103-15	ND	1	NA	.1	.02	06/04/9718:25	05/29/9713:00	G06F004029	G06F004021	GFE003W
CR-A162301***	E103-17	NO	1	NA	.1	.02	06/04/9718:25	05/29/9713:00	G06F004030	G06F004021	GFE003W
CR-A162302***	E103-18	ND	1	NA	.1	.02	06/04/9718:34	05/29/9713:00	G06F004031	G06F004021	GFE003W
CR-A162303***	E103-19	ND	1	NA	.1	.02	06/04/9718:38	05/29/9713:00	G06F004032	G06F004021	GFE003W
CR-A162304**	E103-20	ND	1	NA	.1	.02	06/04/9718:55	05/29/9713:00	G06F004036	G06F004034	GFE003W
CR-A162305**	E103-21	ND	1	NA	.1	.02	06/04/9718:59	05/29/9713:00	G06F004037	G06F004034	GFE003W
CR-A162306****	E103-22	ND	1	NA	.1	.02	06/04/9719:04	05/29/9713:00	G06F004038	G06F004034	GFE003W
CR-A162401*****	E103-23	ND	1	NA	.1	.02	06/04/9719:08	05/29/9713:00	G06F004039	G06F004034	GFE003W
CR-A162402****	E103-24	ND	1	NA	.1	.02	06/04/9719:12	05/29/9713:00	G06F004040	G06F004034	GFE003W
CR-A162403**	E103-25	ND	1	NA	.1	.02	06/04/9719:17	05/29/9713:00	G06F004041	G06F004034	GFE003W
CR-A162404**	E103-26	ND	1	NA	.1	.02	06/04/9719:21	05/29/9713:00	G06F004042	G06F004034	GFE003W
CR-A162405*****	E103-27	ND	1	NA	.1	.02	06/04/9719:25	05/29/9713:00	G06F004043	G06F004034	GFE003W
CR-A162406**!	E103-28	ND	1	NA	.1	.02	06/04/9723:25	05/29/9713:00	G03F004020	G03F004009	GFE004W
CR-A162407****!	E103-29	NO	1	NA	.1	.02	06/04/9723:38	05/29/9713:00	G03F004023	G03F004021	GFE004W
CR-A162501**!	E103-30	NO	1	NA	.1	.02	06/04/9723:42	05/29/9713:00	G03F004024	G03F004021	GFE004W
CR-A162502**!	E103-31	ND	1	NA	.1	.02	06/04/9723:46	05/29/9713:00	G03F004025	G03F004021	GFE004W
CR-A162503*****!	E103-32	ND	1	NA	.1	.02	06/04/9723:50	05/29/9713:00	G03F004026	G03F004021	GFE004W
CR-A162504****!	E103-33	ND	1	NA	.1	.02	06/04/9723:54	05/29/9713:00	G03F004027	G03F004021	GFE004W
CR-A162505*****!	E103-34	ND	1	NA	.1	.02	06/04/9723:58	05/29/9713:00	G03F004028	G03F004021	GFE004W
CR-A162506****!	E103-35	ND	1	NA	.1	.02	06/05/9700:03	05/29/9713:00	G03F004029	G03F004021	GFE004W
CR-A162601****!	E103-37	ND	1	NA	.1	.02	06/05/9700:07	05/29/9713:00	G03F004030	G03F004021	GFE004W
CR-A162602****!	E103-38	ND	1	NA	.1	.02	06/05/9700:11	05/29/9713:00	G03F004031	G03F004021	GFE004W
CR-A162603****!	E103-39	ND	1	NA	.1	.02	06/05/9700:16	05/29/9713:00	G03F004032	G03F004021	GFE004W
CR-A162604****!	E103-40	ND	1	NA	.1	.02	06/05/9700:28	05/29/9713:00	G03F004035	G03F004033	GFE004W
CR-A162701!	E103-42	ND	1	NA	.1	.02	06/05/9700:33	05/29/9713:00	G03F004036	G03F004033	GFE004W
CR-A162702!	E103-43	ND	1	NA	.1	.02	06/05/9700:37	05/29/9713:00	G03F004037	G03F004033	GFE004W
CR-A162703!	E103-44	ND	1	NA	.1	.02	06/05/9700:41	05/29/9713:00	G03F004038	G03F004033	GFE004W
CR-A162704!	E103-45	ND	1	NA	.1	.02	06/05/9700:46	05/29/9713:00	G03F004039	G03F004033	GFE004W
CR-A162705!	E103-46	ND	1	NA	.1	.02	06/05/9700:50	05/29/9713:00	G03F004040	G03F004033	GFE004W
CR-A162706!	E103-47	ND	1	NA	.1	.02	06/05/9700:54	05/29/9713:00	G03F004041	G03F004033	GFE004W
CR-A162707!	E103-48	NO	1	NA	.1	.02	06/04/9723:05	05/29/9713:00	G03F004015	G03F004009	GFE004W
CR-A162806!	E103-56	ND	1	NA	.1	.02	06/05/9700:58	05/29/9713:00	G03F004042	G03F004033	GFE004W
CR-A162807!	E103-57	ND	1	NA	.1	.02	06/04/9714:38	05/29/9713:00	G03F003016	G03F003010	GFE005W
CR-A162809*!	E103-59	ND	1	NA	.1	.02	06/04/9714:58	05/29/9713:00	G03F003021	G03F003010	GFE005W
CR-A162901*!	E103-60	ND	1	NA	.1	.02	06/04/9715:11	05/29/9713:00	G03F003024	G03F003022	GFE005W

CR-A162902*!	E103-61	ND	1	NA	.1	.02	06/04/9715:15	05/29/9713:00	G03F003025	G03F003022	GFE005W
CR-A163007******!	E103-74	ND	1	NA	.1	.02	06/04/9715:19	05/29/9713:00	G03F003026	G03F003022	GFE005W
CR-A163009******!	E103-76	ND	1	NA	.1	.02	06/04/9715:23	05/29/9713:00	G03F003027	G03F003022	GFE005W
MBLK1W	GFE003WB	ND	1	NA	.1	.02	06/04/9717:10	05/29/9713:00	G06F004011	G06F004009	GFE003W
MBLK2W	TXE005SB	ND	1	NA	.1	.02	06/04/9717:18	05/29/9713:00	G06F004013	G06F004009	GFE003W
MBLK3W!	GFE004WB	ND	1	NA	.1	.02	06/04/9722:48	05/29/9713:00	G03F004011	G03F004009	GFE004W
MBLK4W!	TXE006SB	ND	1	NA	.1	.02	06/04/9722:56	05/29/9713:00	G03F004013	G03F004009	GFE004W
MBLK5W!	GFE005WB	ND	1	NA	.1	.02	06/04/9714:21	05/29/9713:00	G03F003012	G03F003010	GFE005W
MBLK6W!	TXE007SB	ND	1	NA	.1	.02	06/04/9714:29	05/29/9713:00	G03F003014	G03F003010	GFE005W

* DATE COLLECTED : 05/19/97
** DATE COLLECTED : 05/16/97
*** DATE COLLECTED : 05/14/97
**** DATE COLLECTED : 05/17/97
***** DATE COLLECTED : 05/15/97
****** DATE COLLECTED : 05/20/97
! Instrument ID : EMAXT103
PQL: Practical Quantitation Limit
Leaching Date: xx/xx/xx
AFCEE Ver. 1.1

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: JACOBS ENGINEERING GROUP
PROJECT: CARSWELL AFB / 05G47900
BATCH NO.: 97E103
METHOD: EPA 1312/7520

MATRIX:	WATER			% MOISTURE:	NA
DILTN FACTR:	1	1	1		
SAMPLE ID:	CR-A162807				
CONTROL NO.:	E103-57	E103-57M	E103-57S		
LAB FILE ID:	G03F003016	G03F003019	G03F003020		
DATIME EXTRCTD:	05/29/9713:00	05/29/9713:00	05/29/9713:00	DATE COLLECTED:	05/18/97
DATIME ANALYZD:	06/04/9714:38	06/04/9714:50	06/04/9714:54	DATE RECEIVED:	05/22/97
PREP. BATCH:	GFE005W	GFE005W	GFE005W		
CALIB. REF:	G03F003010	G03F003010	G03F003010		

ACCESSION:

PARAMETER	SMPL RSLT (mg/L)	SPIKE AMT (mg/L)	MS RSLT (mg/L)	MS % REC	SPIKE AMT (mg/L)	MSD RSLT (mg/L)	MSD % REC	RPD %	QC LIMIT %	MAX RPD %
Nickel	ND	.10	.105	105	.10	.106	106	1	75-125	15

AFCEE Ver. 1.1

0900

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: JACOBS ENGINEERING GROUP
PROJECT: CARSWELL AFB / 05G47900
BATCH NO.: 97E103
METHOD: EPA 1312/7520

MATRIX:	WATER			% MOISTURE:	NA
DILTN FACTR:	1	1	1		
SAMPLE ID:	CR-A162101				
CONTROL NO.:	E103-01	E103-01M	E103-01S		
LAB FILE ID:	G06F004015	G06F004018	G06F004019		
DATIME EXTRCTD:	05/29/9713:00	05/29/9713:00	05/29/9713:00	DATE COLLECTED:	05/18/97
DATIME ANALYZD:	06/04/9717:27	06/04/9717:39	06/04/9717:43	DATE RECEIVED:	05/22/97
PREP. BATCH:	GFE003W	GFE003W	GFE003W		
CALIB. REF:	G06F004009	G06F004009	G06F004009		

ACCESSION:

PARAMETER	SMPL RSLT (mg/L)	SPIKE AMT (mg/L)	MS RSLT (mg/L)	MS % REC	SPIKE AMT (mg/L)	MSD RSLT (mg/L)	MSD % REC	RPD %	QC LIMIT %	MAX RPD %
Nickel	ND	.10	.098	98	.10	.091	91	7	75-125	15

AFCEE Ver. 1.1

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: JACOBS ENGINEERING GROUP
PROJECT: CARSWELL AFB / 05G47900
BATCH NO.: 97E103
METHOD: EPA 1312/7520

MATRIX:	WATER			% MOISTURE:	NA
DILTN FACTR:	1	1	1		
SAMPLE ID:	CR-A162707				
CONTROL NO.:	E103-48	E103-48M	E103-48S		
LAB FILE ID:	G03F004015	G06F004018	G03F004019		
DATIME EXTRCTD:	05/29/9713:00	05/29/9713:00	05/29/9713:00	DATE COLLECTED:	05/18/97
DATIME ANALYZD:	06/04/9723:05	06/04/9723:17	06/04/9723:21	DATE RECEIVED:	05/22/97
PREP. BATCH:	GFE004W	GFE003W	GFE004W		
CALIB. REF:	G03F004009	G06F004009	G03F004009		

ACCESSION:

PARAMETER	SMPL RSLT (mg/L)	SPIKE AMT (mg/L)	MS RSLT (mg/L)	MS % REC	SPIKE AMT (mg/L)	MSD RSLT (mg/L)	MSD % REC	RPD %	QC LIMIT %	MAX RPD %
Nickel	ND	.10	.101	101	.10	.094	94	7	75-125	15

AFCEE Ver. 1.1

EMAX QUALITY CONTROL DATA
LCS ANALYSIS

CLIENT: JACOBS ENGINEERING GROUP
PROJECT: CARSWELL AFB / 05G47900
BATCH NO.: 97E103
METHOD: EPA 1312/7520

MATRIX:	WATER		% MOISTURE:	NA
DILTN FACTR:	1	1		
SAMPLE ID:	MBLK1W	LCS1W		
CONTROL NO.:	GFE003WB	GFE003WL		
LAB FILE ID:	G06F004011	G06F004012		
DATIME EXTRCTD:	05/29/9713:00	05/29/9713:00	DATE COLLECTED:	NA
DATIME ANALYZD:	06/04/9717:10	06/04/9717:14	DATE RECEIVED:	NA
PREP. BATCH:	GFE003W	GFE003W		
CALIB. REF:	G06F004009	G06F004009		

ACCESSION:

PARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	QC LIMIT (%)
Nickel	ND	.10	.093	93	75-125

0062

EMAX QUALITY CONTROL DATA
LCS ANALYSIS

CLIENT: JACOBS ENGINEERING GROUP
PROJECT: CARSWELL AFB / 05G47900
BATCH NO.: 97E103
METHOD: EPA 1312/7520

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MATRIX:	WATER		% MOISTURE:	NA
DILTN FACTR:	1	1		
SAMPLE ID:	MBLK3W	LCS3W		
CONTROL NO.:	GFE004WB	GFE004WL		
LAB FILE ID:	G03F004011	G03F004012		
DATIME EXTRCTD:	05/29/9713:00	05/29/9713:00	DATE COLLECTED:	NA
DATIME ANALYZD:	06/04/9722:48	06/04/9722:52	DATE RECEIVED:	NA
PREP. BATCH:	GFE004W	GFE004W		
CALIB. REF:	G03F004009	G03F004009		

ACCESSION:

PARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	QC LIMIT (%)
Nickel	ND	.10	.108	108	75-125

EMAX QUALITY CONTROL DATA
LCS ANALYSIS

CLIENT: JACOBS ENGINEERING GROUP
PROJECT: CARSWELL AFB / 05G47900
BATCH NO.: 97E103
METHOD: EPA 1312/7520

MATRIX:	WATER		% MOISTURE:	NA
DILTN FACTR:	1	1		
SAMPLE ID:	MBLK5W	LCS5W		
CONTROL NO.:	GFE005WB	GFE005WL		
LAB FILE ID:	G03F003012	G03F003013		
DATIME EXTRCTD:	05/29/9713:00	05/29/9713:00	DATE COLLECTED:	NA
DATIME ANALYZD:	06/04/9714:21	06/04/9714:25	DATE RECEIVED:	NA
PREP. BATCH:	GFE005W	GFE005W		
CALIB. REF:	G03F003010	G03F003010		

ACCESSION:

PARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	QC LIMIT (%)
Nickel	ND	.10	.096	96	75-125

0065

05/27/1997 11:58

LAB CHRONICLE
SPLP Antimony

CLIENT: Jacobs Engineering Group
PROJECT: Carswell AFB / 05G47900

SDG/BATCH NO.: 97E103
MATRIX: Soil

SAMPLE ID	CONTROL NO	%H2O	PREPARATION BATCH/DATE/TIME	ANALYTICAL BATCH/DATE/TIME	CALIB REF	FILE ID
CR-A162101	E103-01	13.7	IPE025 ~~GFE023~~/TXE005 5/3-29-97 1300 hrs.	G06F001/6-3/97 ~~TRE005~~/5-29 @ 1636	CCV1 G06F001-	G06F001-16
CR-A162105	E103-05	19.6	@ ~~1300 hrs.~~	1826		21
CR-A162106	E103-06	21.7		1830		24
CR-A162201	E103-10	20.2		1834		25
CR-A162202	E103-11	17.2		1837		26
CR-A162203	E103-12	17.3		1841		27
CR-A162204	E103-13	15.2		1844		28
CR-A162205	E103-14	14.9		1848		29
CR-A162206	E103-15	16.6		1852		30
CR-A162301	E103-17	16.1		1856		31
CR-A162302	E103-18	16.8		1859		32
CR-A162303	E103-19	14.2		1911	CCV2	33
CR-A162304	E103-20	16.2		1915		34
CR-A162305	E103-21	13.2		1918		37
CR-A162306	E103-22	14.3		1922		38
CR-A162401	E103-23	16.0		1926		39
CR-A162402	E103-24	11.5		1930		40
CR-A162403	E103-25	17.4		1933		41
CR-A162404	E103-26	18.9		1937		42
CR-A162405	E103-27	19.0		1941		43
CR-A162406	E103-28	17.5	IPE026 ~~GFE024~~/TXE005/5-29/~~1300~~	G03F001/6-3-97/6 1813	G03F001/CCV1	G03F00
CR-A162407	E103-29	11.9	↓ @1300	↓ ↓ 1824	G03F001/CCV2	↓ -21 29

CR-A162501	E103-30	20.6	IPE026/ ~~GFE004~~	TXE002	5-29@1300	G03F001	6-3-97@	1828	G03F001/	G03F001-
CR-A162502	E103-31	17.7						1835	CCV2	
CR-A162503	E103-32	20.9						1835		
GFMBLKW1	~~GFE003~~ IPE025	WB	IPE025/ ~~GFE003~~	TXE003S/		G06F001	6-3-97@	1622	G06F001/CCV1	G06F00
LCSW1	↓	WL		5-29@1300				1625		
TXMBLKS1	TXE003	SB						1629		
LCSS 1	↓	SL						1633		
MSS1	E103-	01M						1644		
MSDS1	↓	01S						1651		
MSAS1	E103-	01A						1644		
Serial Dil.	↓	01T						1640		
GFMBLKW2	IPE026 ~~GFE004~~	WB	IPE026 ~~GFE004~~	5-29@1300		G03F001	6-3-97@	1740	G03F001/ CCV1	G03F001-
LCSW2	↓	WL						1744		
TXMBLKS2	TXE006	SB	TXE006S	5-29@ ~~1600~~ 1300				1748		
LCSS2	↓	SL						1752		
MSAS2	E103-	48A						1802		
Serial Dil		48T						1759		
GFMBLKW3	IPE027 ~~GFE005~~	WB	IPE027 ~~GFE005~~	W/5-29@1300		G03F002	6-3-97	@2049	G03F002/CCV1	G03F00
LCSW3	↓	WL						2053		
TXMBLKS3	TXE007	SB	TXE007S	5-29@1300				2057		
LCSS 3	↓	SL						2101		
MSAS 3	E103-	57A						2111		
Serial Dilution		57T						2108		
MSAW1	E103-	08A	TXE007 ~~GFE006~~	5-29@1300				2155	G03F002/ CCV2	
Serial Dilution		08T						2152		

SAMPLE ID	CONTROL NO	%H2O	PREPARATION BATCH/DATE/TIME	ANALYTICAL BATCH/DATE/TIME	CALIB REF	FILE ID
CR-A162504	E103-33	19.0	TXE006S/5-29-97C/900	G03F001/6-3-97/1839	G03F001/CCV2	G03F001-
CR-A162505	E103-34	20.2		1842		
CR-A162506	E103-35	17.3		1846		
CR-A162601	E103-37	20.0		1850		
CR-A162602	E103-38	13.8		1854		
CR-A162603	E103-39	13.8		1858		
CR-A162604	E103-40	22.7		1900	G03F001/CCV3	G03F001
CR-A162701	E103-42	7.0		1913		
CR-A162702	E103-43	19.1		1917		
CR-A162703	E103-44	17.4		1920		
CR-A162704	E103-45	22.5		1924		
CR-A162705	E103-46	20.8		1928		
CR-A162706	E103-47	19.8		1931		
CR-A162707	E103-48	15.5		1755 ~~1935~~	G03F001/CCV1	
CR-A162806	E103-56	NA		1935	G03F001/CCV3	
CR-A162807	E103-57	NA	TXE007S/5-29-97C/900	G03F002/6-3-97C 2104	G03F002/CCV1	G03F002-
CR-A162809	E103-59	NA		2122	G03F002/CCV1	
CR-A162901	E103-60	NA		2133	G03F002/CCV2	
CR-A162902	E103-61	NA		2137		
CR-A163007	E103-74	NA		2141		
CR-A163009	E103-76	NA		2144		
CR-A162101MS	E103-01M	13.7	~~TPE025~~ TXE001/5-27-97C	G06F001/6-3-97C 1647	G06F001/	G06F00
CR-A162101DUP	E103-01D	13.7	1600	1651	CCV1	

CR-A162707MS	E103-48M	15.5	TXE005	S/5-29-97	@ 1600	GD3F001	6-3-97	@ 1806	G03F001	GV1	G03F001
MS	S				1300					
CR-A162707DUP	E103-48D	15.5		↓		↓	↓	1809	↓	↓
CR-A162108MS	E103-08M	NA	~~IPE087~~ ~~GD005~~	5-29-97	@ 1300	G03F002	6-3-97	@ 2159	G03F002	GV2	G03F002
MS	S									
CR-A163009DUP	E103-08D	NA		↓		↓	↓	2203	↓	↓

05/27/1997 11:58

LAB CHRONICLE
Antimony

LIENT: Jacobs Engineering Group
ROJECT: Carswell AFB / 05G47900

DG/BATCH NO.: 97E103
ATRIX: Water

SAMPLE ID	CONTROL NO	%H2O	PREPARATION BATCH/DATE/TIME	ANALYTICAL BATCH/DATE/TIME	CALIB REF	FILE ID
R-A162108	E103-08	NA	~~TYE067~~ 1PE027 ~~GFE067~~ W/5-29-97 1300	G03F002/6-3-97/@ 2148	G03F002/CV2	G03F002
R-A162207	E103-16	NA		2207		
CR-A162507	E103-36	NA		2218 G03F002/@V3		
R-A162605	E103-41	NA		2222		
CR-A162708	E103-49	NA		2226		
R-A162907	E103-66	NA		2229		

EPA 3005A/7041
ANTIMONY BY GFAA

Client : JACOBS ENGINEERING GROUP
Project : CARSWELL AFB / 05G47900
Batch No. : 97E103
Matrix : WATER

Date Collected : 05/18/97
DaTime Received: 05/22/97
Instrument ID : EMAXTI03

SAMPLE ID	CONTROL NO	RESULTS (mg/L)	DLF	MOIST	PQL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH
MBLK5W	IPE027WB	ND	1	NA	.005	.002	06/03/9720:49	05/29/9713:00	G03F002012	G03F002010	IPE027W
CR-A162108	E103-08	ND	1	NA	.005	.002	06/03/9721:48	05/29/9713:00	G03F002028	G03F002022	IPE027W
CR-A162207*	E103-16	ND	1	NA	.005	.002	06/03/9722:07	05/29/9713:00	G03F002033	G03F002022	IPE027W
CR-A162507**	E103-36	ND	1	NA	.005	.002	06/03/9722:18	05/29/9713:00	G03F002036	G03F002034	IPE027W
CR-A162605***	E103-41	ND	1	NA	.005	.002	06/03/9722:22	05/29/9713:00	G03F002037	G03F002034	IPE027W
CR-A162708****	E103-49	ND	1	NA	.005	.002	06/03/9722:26	05/29/9713:00	G03F002038	G03F002034	IPE027W
CR-A162907*****	E103-66	ND	1	NA	.005	.002	06/03/9722:29	05/29/9713:00	G03F002039	G03F002034	IPE027W

* DATE COLLECTED : 05/16/97
** DATE COLLECTED : 05/15/97
*** DATE COLLECTED : 05/17/97
**** DATE COLLECTED : 05/20/97
***** DATE COLLECTED : 05/19/97
PQL: Practical Quantitation Limit
AFCEE Ver. 1.1

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: JACOBS ENGINEERING GROUP
PROJECT: CARSWELL AFB / 05G47900
BATCH NO.: 97E103
METHOD: EPA 3005A/7041

MATRIX:	WATER			% MOISTURE:	NA
DILTN FACTR:	1	1	1		
SAMPLE ID:	CR-A162108				
CONTROL NO.:	E103-08	E103-08M	E103-08S		
LAB FILE ID:	G03F002028	G03F002031	G03F002032		
DATIME EXTRCTD:	05/29/9713:00	05/29/9713:00	05/29/9713:00	DATE COLLECTED:	05/18/97
DATIME ANALYZD:	06/03/9721:48	06/03/9721:59	06/03/9722:03	DATE RECEIVED:	05/22/97
PREP. BATCH:	IPE027W	IPE027W	IPE027W		
CALIB. REF:	G03F002022	G03F002022	G03F002022		

ACCESSION:

PARAMETER	SMPL RSLT (mg/L)	SPIKE AMT (mg/L)	MS RSLT (mg/L)	MS % REC	SPIKE AMT (mg/L)	MSD RSLT (mg/L)	MSD % REC	RPD %	QC LIMIT %	MAX RPD %
Antimony	ND	.020	.0207	103	.020	.0207	103	0	75-125	15

AFCEE Ver. 1.1

EMAX QUALITY CONTROL DATA
LCS ANALYSIS

CLIENT: JACOBS ENGINEERING GROUP
PROJECT: CARSWELL AFB / 05G47900
BATCH NO.: 97E103
METHOD: EPA 3005A/7041

MATRIX:	WATER		% MOISTURE:	NA
DILTN FACTR:	1	1		
SAMPLE ID:	MBLK5W	LCS5W		
CONTROL NO.:	IPE027WB	IPE027WL		
LAB FILE ID:	G03F002012	G03F002013		
DATIME EXTRCTD:	05/29/9713:00	05/29/9713:00	DATE COLLECTED:	NA
DATIME ANALYZD:	06/03/9720:49	06/03/9720:53	DATE RECEIVED:	05/29/97
PREP. BATCH:	IPE027W	IPE027W		
CALIB. REF:	G03F002010	G03F002010		

ACCESSION:

PARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	QC LIMIT (%)
Antimony	ND	.020	.0204	97	75-125

EPA 1312/3020/7041
SPLP/ANTIMONY BY GFAA

Client : JACOBS ENGINEERING GROUP
Project : CARSWELL AFB / 05G47900
Batch No. : 97E103
Matrix : WATER

Date Collected : 05/18/97
DaTime Received: 05/22/97
Instrument ID : EMAXTI06

SAMPLE ID	CONTROL NO	RESULTS (mg/L)	DLF	MOIST	PRL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH
CR-A162101	E103-01	ND	1	NA	.05	.02	06/03/9716:36	05/29/9713:00	G06F001017	G06F001008	IPE025W
CR-A162105*	E103-05	ND	1	NA	.05	.02	06/03/9716:54	05/29/9713:00	G06F001022	G06F001008	IPE025W
CR-A162106*	E103-06	ND	1	NA	.05	.02	06/03/9718:30	05/29/9713:00	G06F001041	G06F001038	IPE025W
CR-A162201**	E103-10	ND	1	NA	.05	.02	06/03/9718:34	05/29/9713:00	G06F001042	G06F001038	IPE025W
CR-A162202**	E103-11	ND	1	NA	.05	.02	06/03/9718:37	05/29/9713:00	G06F001043	G06F001038	IPE025W
CR-A162203**	E103-12	ND	1	NA	.05	.02	06/03/9718:41	05/29/9713:00	G06F001044	G06F001038	IPE025W
CR-A162204**	E103-13	ND	1	NA	.05	.02	06/03/9718:44	05/29/9713:00	G06F001045	G06F001038	IPE025W
CR-A162205**	E103-14	ND	1	NA	.05	.02	06/03/9718:48	05/29/9713:00	G06F001046	G06F001038	IPE025W
CR-A162206**	E103-15	ND	1	NA	.05	.02	06/03/9718:52	05/29/9713:00	G06F001047	G06F001038	IPE025W
CR-A162301***	E103-17	ND	1	NA	.05	.02	06/03/9718:56	05/29/9713:00	G06F001048	G06F001038	IPE025W
CR-A162302***	E103-18	ND	1	NA	.05	.02	06/03/9718:59	05/29/9713:00	G06F001049	G06F001038	IPE025W
CR-A162303***	E103-19	ND	1	NA	.05	.02	06/03/9719:11	05/29/9713:00	G06F001052	G06F001050	IPE025W
CR-A162304**	E103-20	ND	1	NA	.05	.02	06/03/9719:15	05/29/9713:00	G06F001053	G06F001050	IPE025W
CR-A162305**	E103-21	ND	1	NA	.05	.02	06/03/9719:18	05/29/9713:00	G06F001054	G06F001050	IPE025W
CR-A162306****	E103-22	ND	1	NA	.05	.02	06/03/9719:22	05/29/9713:00	G06F001055	G06F001050	IPE025W
CR-A162401*****	E103-23	ND	1	NA	.05	.02	06/03/9719:26	05/29/9713:00	G06F001056	G06F001050	IPE025W
CR-A162402****	E103-24	ND	1	NA	.05	.02	06/03/9719:30	05/29/9713:00	G06F001057	G06F001050	IPE025W
CR-A162403**	E103-25	ND	1	NA	.05	.02	06/03/9719:33	05/29/9713:00	G06F001058	G06F001050	IPE025W
CR-A162404**	E103-26	ND	1	NA	.05	.02	06/03/9719:37	05/29/9713:00	G06F001059	G06F001050	IPE025W
CR-A162405*****	E103-27	ND	1	NA	.05	.02	06/03/9719:41	05/29/9713:00	G06F001060	G06F001050	IPE025W
CR-A162406**!	E103-28	ND	1	NA	.05	.02	06/03/9718:13	05/29/9713:00	G03F001021	G03F001010	IPE026W
CR-A162407****!	E103-29	ND	1	NA	.05	.02	06/03/9718:24	05/29/9713:00	G03F001024	G03F001022	IPE026W
CR-A162501**!	E103-30	ND	1	NA	.05	.02	06/03/9718:28	05/29/9713:00	G03F001025	G03F001022	IPE026W
CR-A162502**!	E103-31	ND	1	NA	.05	.02	06/03/9718:31	05/29/9713:00	G03F001026	G03F001022	IPE026W
CR-A162503*****!	E103-32	ND	1	NA	.05	.02	06/03/9718:35	05/29/9713:00	G03F001027	G03F001022	IPE026W
CR-A162504****!	E103-33	ND	1	NA	.05	.02	06/03/9718:39	05/29/9713:00	G03F001028	G03F001022	IPE026W
CR-A162505*****!	E103-34	ND	1	NA	.05	.02	06/03/9718:42	05/29/9713:00	G03F001029	G03F001022	IPE026W
CR-A162506****!	E103-35	ND	1	NA	.05	.02	06/03/9718:46	05/29/9713:00	G03F001030	G03F001022	IPE026W
CR-A162601****!	E103-37	ND	1	NA	.05	.02	06/03/9718:50	05/29/9713:00	G03F001031	G03F001022	IPE026W
CR-A162602****!	E103-38	ND	1	NA	.05	.02	06/03/9718:54	05/29/9713:00	G03F001032	G03F001022	IPE026W
CR-A162603****!	E103-39	ND	1	NA	.05	.02	06/03/9718:58	05/29/9713:00	G03F001033	G03F001022	IPE026W
CR-A162604****!	E103-40	ND	1	NA	.05	.02	06/03/9719:09	05/29/9713:00	G03F001036	G03F001034	IPE026W
CR-A162701!	E103-42	ND	1	NA	.05	.02	06/03/9719:13	05/29/9713:00	G03F001037	G03F001034	IPE026W
CR-A162702!	E103-43	ND	1	NA	.05	.02	06/03/9719:17	05/29/9713:00	G03F001038	G03F001034	IPE026W
CR-A162703!	E103-44	ND	1	NA	.05	.02	06/03/9719:20	05/29/9713:00	G03F001039	G03F001034	IPE026W
CR-A162704!	E103-45	ND	1	NA	.05	.02	06/03/9719:24	05/29/9713:00	G03F001040	G03F001034	IPE026W
CR-A162705!	E103-46	ND	1	NA	.05	.02	06/03/9719:28	05/29/9713:00	G03F001041	G03F001034	IPE026W
CR-A162706!	E103-47	ND	1	NA	.05	.02	06/03/9719:31	05/29/9713:00	G03F001042	G03F001034	IPE026W
CR-A162707!	E103-48	ND	1	NA	.05	.02	06/03/9717:55	05/29/9713:00	G03F001016	G03F001010	IPE026W
CR-A162806!	E103-56	ND	1	NA	.05	.02	06/03/9719:35	05/29/9713:00	G03F001043	G03F001034	IPE026W
CR-A162807!	E103-57	ND	1	NA	.05	.02	06/03/9721:04	05/29/9713:00	G03F002016	G03F002010	IPE027W
CR-A162809*!	E103-59	ND	1	NA	.05	.02	06/03/9721:22	05/29/9713:00	G03F002021	G03F002010	IPE027W
CR-A162901*!	E103-60	ND	1	NA	.05	.02	06/03/9721:33	05/29/9713:00	G03F002024	G03F002022	IPE027W

CR-A162902*!	E103-61	ND	1	NA	.05	.02	06/03/9721:37	05/29/9713:00	G03F002025	G03F002022	IPE027W
CR-A163007******!	E103-74	ND	1	NA	.05	.02	06/03/9721:41	05/29/9713:00	G03F002026	G03F002022	IPE027W
CR-A163009******!	E103-76	ND	1	NA	.05	.02	06/03/9721:44	05/29/9713:00	G03F002027	G03F002022	IPE027W
MBLK1W	IPE025WB	ND	1	NA	.05	.02	06/03/9716:22	05/29/9713:00	G06F001013	G06F001008	IPE025W
MBLK2W	TXE005SB	ND	1	NA	.05	.02	06/03/9716:29	05/29/9713:00	G06F001015	G06F001008	IPE025W
MBLK3W!	IPE026WB	ND	1	NA	.05	.02	06/03/9717:40	05/29/9713:00	G03F001012	G03F001010	IPE026W
MBLK4W!	TXE006SB	ND	1	NA	.05	.02	06/03/9717:48	05/29/9713:00	G03F001014	G03F001010	IPE026W
MBLK5W!	IPE027WB	ND	1	NA	.05	.02	06/03/9721:11	05/29/9713:00	G03F002018	G03F002010	IPE027W
MBLK6W!	TXE007SB	ND	1	NA	.05	.02	06/03/9721:19	05/29/9713:00	G03F002020	G03F002010	IPE027W

* DATE COLLECTED : 05/19/97
** DATE COLLECTED : 05/16/97
*** DATE COLLECTED : 05/14/97
**** DATE COLLECTED : 05/17/97
***** DATE COLLECTED : 05/15/97
****** DATE COLLECTED : 05/20/97
! Instrument ID : EMAXTI03
PQL: Practical Quantitation Limit
Leaching Date: xx/xx/xx
AFCEE Ver. 1.1

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: JACOBS ENGINEERING GROUP
PROJECT: CARSWELL AFB / 05G47900
BATCH NO.: 97E103
METHOD: EPA 1312/7041

MATRIX:	WATER			% MOISTURE:	NA
DILTN FACTR:	1	1	1		
SAMPLE ID:	CR-A162101				
CONTROL NO.:	E103-01	E103-01M	E103-01S		
LAB FILE ID:	G06F001017	G06F001020	G06F001021		
DATIME EXTRCTD:	05/29/9713:00	05/29/9713:00	05/29/9713:00	DATE COLLECTED:	05/18/97
DATIME ANALYZD:	06/03/9716:36	06/03/9716:47	06/03/9716:51	DATE RECEIVED:	D5/22/97
PREP. BATCH:	IPE025W	IPE025W	IPE025W		
CALIB. REF:	G06F001008	G06F001008	G06F001008		

ACCESSION:

PARAMETER	SMPL RSLT (mg/L)	SPIKE AMT (mg/L)	MS RSLT (mg/L)	MS % REC	SPIKE AMT (mg/L)	MSD RSLT (mg/L)	MSD % REC	RPD %	QC LIMIT %	MAX RPD %
Antimony	ND	.200	.183	92	.200	.189	95	3	75-125	15

AFCEE Ver. 1.1

9400

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: JACOBS ENGINEERING GROUP
PROJECT: CARSWELL AFB / 05G47900
BATCH NO.: 97E103
METHOD: EPA 1312/7041

MATRIX:	WATER			% MOISTURE:	NA
DILTN FACTR:	1	1	1		
SAMPLE ID:	CR-A162707				
CONTROL NO.:	E103-48	E103-48M	E103-48S		
LAB FILE ID:	G03F001016	G03F001019	G03F001020		
DATIME EXTRCTD:	05/29/9713:00	05/29/9713:00	05/29/9713:00	DATE COLLECTED:	05/18/97
DATIME ANALYZD:	06/03/9717:55	06/03/9718:06	06/03/9718:09	DATE RECEIVED:	05/22/97
PREP. BATCH:	IPE026W	IPE026W	IPE026W		
CALIB. REF:	G03F001010	G03F001010	G03F001010		

ACCESSION:

PARAMETER	SMPL RSLT (mg/L)	SPIKE AMT (mg/L)	MS RSLT (mg/L)	MS % REC	SPIKE AMT (mg/L)	MSD RSLT (mg/L)	MSD % REC	RPD %	QC LIMIT %	MAX RPD %
Antimony	ND	.200	.186	93	.200	.206	103	10	75-125	15

AFCEE Ver. 1.1

0077

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: JACOBS ENGINEERING GROUP
PROJECT: CARSWELL AFB / 05G47900
BATCH NO.: 97E103
METHOD: EPA 1312/7041

MATRIX:	WATER			% MOISTURE:	NA
DILTN FACTR:	1	1	1		
SAMPLE ID:	CR-A162807				
CONTROL NO.:	E103-57	E103-57M	E103-57S		
LAB FILE ID:	G03F002016	G03F002019	G03F002020		
DATIME EXTRCTD:	05/29/9713:00	05/29/9713:00	05/29/9713:00	DATE COLLECTED:	05/18/97
DATIME ANALYZD:	06/03/9721:04	06/03/9721:15	06/03/9721:19	DATE RECEIVED:	05/22/97
PREP. BATCH:	IPE027W	IPE027W	IPE027W		
CALIB. REF:	G03F002010	G03F002010	G03F002010		

ACCESSION:

PARAMETER	SMPL RSLT (mg/L)	SPIKE AMT (mg/L)	MS RSLT (mg/L)	MS % REC	SPIKE AMT (mg/L)	MSD RSLT (mg/L)	MSD % REC	RPD %	QC LIMIT %	MAX RPD %
Antimony	ND	.200	.199	100	.200	.191	96	4	75-125	15

AFCEE Ver. 1.1

0079

EMAX QUALITY CONTROL DATA
LCS ANALYSIS

CLIENT: JACOBS ENGINEERING GROUP
PROJECT: CARSWELL AFB / 05G47900
BATCH NO.: 97E103
METHOD: EPA 1312/7041

MATRIX:	WATER		% MOISTURE:	NA
DILTN FACTR:	1	1		
SAMPLE ID:	MBLK1W	LCS1W		
CONTROL NO.:	IPE025WB	IPE025WL		
LAB FILE ID:	G06F001013	G06F001014		
DATIME EXTRCTD:	05/29/9713:00	05/29/9713:00	DATE COLLECTED:	NA
DATIME ANALYZD:	06/03/9716:22	06/03/9716:25	DATE RECEIVED:	NA
PREP. BATCH:	IPE025W	IPE025W		
CALIB. REF:	G06F001008	G06F001008		

ACCESSION:

PARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	QC LIMIT (%)
Antimony	ND	.20	.206	103	75-125

0079

EMAX QUALITY CONTROL DATA
LCS ANALYSIS

CLIENT: JACOBS ENGINEERING GROUP
PROJECT: CARSWELL AFB / 05G47900
BATCH NO.: 97E103
METHOD: EPA 1312/7041

MATRIX:	WATER		% MOISTURE:	NA
DILTN FACTR:	1	1		
SAMPLE ID:	MBLK3W	LCS3W		
CONTROL NO.:	IPE026WB	IPE026WL		
LAB FILE ID:	G03F001012	G03F001013		
DATIME EXTRCTD:	05/29/9713:00	05/29/9713:00	DATE COLLECTED:	NA
DATIME ANALYZD:	06/03/9717:40	06/03/9717:44	DATE RECEIVED:	NA
PREP. BATCH:	IPE026W	IPE026W		
CALIB. REF:	G03F001010	G03F001010		

ACCESSION:

PARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	QC LIMIT (%)
Antimony	ND	.20	.216	108	75-125

EMAX QUALITY CONTROL DATA
LCS ANALYSIS

CLIENT: JACOBS ENGINEERING GROUP
PROJECT: CARSWELL AFB / 05G47900
BATCH NO.: 97E103
METHOD: EPA 1312/7041

MATRIX:	WATER		% MOISTURE:	NA
DILTN FACTR:	1	1		
SAMPLE ID:	MBLK5W	LCS5W		
CONTROL NO.:	IPE027WB	IPE027WL		
LAB FILE ID:	G03F002018	G03F002019		
DATIME EXTRCTD:	05/29/9713:00	05/29/9713:00	DATE COLLECTED:	NA
DATIME ANALYZD:	06/03/9721:11	06/03/9721:15	DATE RECEIVED:	NA
PREP. BATCH:	IPE027W	IPE027W		
CALIB. REF:	G03F002010	G03F002010		

ACCESSION:

PARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	QC LIMIT (%)
Antimony	ND	.20	.204	102	75-125

0081

TAB

2

Comparison of Results from the Final Site Investigation/Site Characterization Technical Report to Background at Aerospace Museum Site NAS JRB Fort Worth, TX

Jacobs Engineering Group, Inc.

INTRODUCTION

In order to assess if inorganic analytes detected at the Aerospace Museum Site and the Grounds Maintenance Yard represent site contamination and to evaluate if additional sampling is necessary at either of the sites, the results reported in the *Site Investigation/Site Characterization Technical Report for The Aerospace Museum Site and Grounds Maintenance Yard* report (Air Force, 1996) were compared to background concentrations as reported in the NAS Fort Worth JRB, Texas Basewide Background Study, January 1997 (Jacobs, 1997).

COMPARISON OF RESULTS TO BACKGROUND

The reported results were compared to the $UTL_{95,95}$ background screening value, or the value that we can say, with 95 percent confidence, will exceed 95 percent of the background data. Any site value greater than the $UTL_{95,95}$ has only a small probability of being drawn from the background data population, and thus may indicate the presence of site-related contamination. On the other hand, 5 percent of the background data would be expected to exceed the $UTL_{95,95}$. The $UTL_{95,95}$ is established as a screening criterion to identify results which may require additional evaluation. To further evaluate results which exceeded the $UTL_{95,95}$, some of the results were then compared to a $UTL_{95,99}$, or the value that we can say, with 95 percent confidence, will exceed 99 percent of the background data.

Tables 1 and 2 present a summary comparison of metals results to background for the Aerospace Museum Site and Grounds Maintenance Yard, respectively. Additionally, Tables 3 and 4 present all of the metals results by analyte and their comparison to UTL screening values for the Aerospace Museum Site and Grounds Maintenance Yard, respectively. Tables 3 and 4 also compare each result to the Texas Natural Resource Conservation Commission (TNRCC) Soil/Air and Ingestion Standard for Industrial Use (SAI-Ind) Medium-Specific Concentrations (MSCs). The results of the comparisons of

inorganics results to background, as well as a discussion of volatiles, semivolatiles, pesticides/PCBs, and herbicides results for each site, as applicable, follows

Aerospace Museum Site

The results of the background concentrations comparison are presented in Tables 1 and 3 Antimony, barium, beryllium, cadmium, calcium, chromium, cobalt, copper, iron, lead, magnesium, molybdenum, nickel, silver, and zinc were detected in concentrations that exceeded the $UTL_{95,95}$ established for these analytes. A $UTL_{95,99}$ was established for surface soils to further evaluate the metals exceeding the $UTL_{95,95}$ Metals with concentrations detected above their $UTL_{95,99}$ include cadmium, chromium, cobalt, copper and lead $UTL_{95,99}$ include could not be calculated for antimony, barium, beryllium, molybdenum, nickel, sodium, or zinc because the $UTL_{95,95}$ was established as the highest value in the background data set (Jacobs, 1997)

An analyte was deemed to require further evaluation if any results exceeded either the background ($UTL_{95,95}$ or $UTL_{95,99}$, as applicable) or the SAI-Ind MSC, where established, for that analyte.

Based on these criteria, 6 of the 22 inorganic analytes require further evaluation As shown on Table 1, suggested means of further evaluation include:

- qualifying the results because the analyte is an essential nutrient and probably does not present a health risk at any concentration, or
- comparing the results to EPA RBCs, or
- subjecting the site data to non-parametric tests.

Preliminary application of the first two of these methods eliminated all analytes except lead at the Aerospace Museum Site. Non-parametric tests were not performed as part of this evaluation.

Volatile Organic Compounds

Methylene chloride and toluene were detected at the Aerospace Museum Methylene chloride was detected below the practical quantitation limit (PQL) in all cases Toluene was detected in 44 of 51 samples, but 27 of the 44 detections were below the PQL. Toluene was detected in samples throughout the site at relatively low concentrations.

Semivolatile Organic Compounds

Semivolatile organic compounds were detected throughout the site Concentrations detected were generally low, and TNRCC SAI-Ind MSCs or the EPA Region III RBCs for industrial scenario ingestion were not exceeded

Grounds Maintenance Yard

As Table 2 indicates, there were concentrations of antimony, arsenic, calcium, chromium, copper, lead, magnesium, molybdenum, nickel, and zinc detected which exceeded their respective $UTL_{95,95}$ screening criteria Furthermore, arsenic, chromium, copper, and lead exceeded their respective $UTL_{95,99}$ screening criteria as well In the cases of antimony, barium, beryllium, molybdenum, nickel, sodium, and zinc, calculation of a $UTL_{95,99}$ was not possible because the $UTL_{95,95}$ was established as the highest value in the background data set (Jacobs, 1997) Table 2 also indicates which analytes exceeded the TNRCC SAI-Ind MSC, where established Arsenic was the only analyte which exceeded the SAI-Ind MSC.

An analyte was deemed to require further evaluation if any results exceeded either the background ($UTL_{95,95}$ or $UTL_{95,99}$, as applicable) or the SAI-Ind MSC, where established, for that analyte

Based on this criteria, four of the 20 inorganic analytes require further evaluation. As shown on Table 2, suggested means of further evaluation include

- qualifying the results because the analyte is an essential nutrient and probably does not present a health risk at any concentration, or
- comparing the results to EPA RBCs, or
- subject the site data to non-parametric tests.

Preliminary application of the first two of these methods eliminated all analytes except arsenic at the Grounds Maintenance yard. Non-parametric tests were not performed for arsenic as part of this evaluation.

Pesticides and PCBs

Arochlor 1254 was detected twice, and 4,4'-DDE, 4,4'-DDT, and dieldrin were each detected once at concentrations above the TNRCC MSC.

No other chlorinated herbicides, volatiles, or semivolatiles were detected at concentrations above the TNRCC MSC.

RECOMMENDATIONS FOR ADDITIONAL SAMPLING

To evaluate if additional sampling is necessary at either of the sites, the above evaluation of inorganics was combined with an evaluation of volatiles, semivolatiles, pesticides, and herbicides detected at the sites, as applicable. Based on these evaluations, additional sampling is recommended at the Aerospace Museum Site as follows.

Additional sampling of soils for the analysis of volatile organic compounds is not recommended Methylene chloride is a common laboratory contaminant and was detected at concentrations below the PQL. Toluene was detected in many of the samples collected from the Aerospace Museum site in relatively low concentrations Toluene was also detected in soil samples collected during the basewide background study in similar concentrations. Given the proximity of the aerospace museum site to Grants Lane and Carswell the concentrations of toluene detected likely represent anthropogenic background concentrations of toluene in the local urban setting.

Additional sampling of soil to further evaluate semivolatile organic compounds detected at the Aerospace Museum is not recommended. Detectable concentrations of semivolatile compounds did not exceed the TNRCC SAI-Ind MSCs, or the EPA Region III RBCs. Sample OT3801SA collected near the storm channel in the northeast corner of the site (Installation Restoration Program (IRP) Site Investigation/Site Characterization Technical Report, February 1996) exhibited the highest concentrations of polycyclic aromatic hydrocarbons at the site. Semivolatile organic compounds were also detected in the surface water and sediment samples collected along Farmers Branch during the basewide background study. Because this storm channel drains Grants Lane and collects water from other storm drains, these PAHs are likely representative of anthropogenic background concentrations.

Additional sampling of soils for metals analysis is not recommended except for lead. All metals with the exception of lead were eliminated for further evaluation based on the results detailed in the Summary Table 1. In, general concentrations of metals exceeding related background concentrations were below the TNRCC established SAI-Ind MSC, the EPA Region III RBC, or could be related to an essential nutrient requirement A single sample, OT3840SA, exceeded the background concentrations and the TNRCC MSC of 1,000 mg/kg. This sample location is located in the area of a rubble pile containing bricks, concrete, and other miscellaneous debris in the south east portion of the site. It is recommended that that up to 6 additional surface soil samples be collected and analyzed

for lead Two samples could be collected from the rubble pile if the sample location is confirmed to coincide with this pile. The remaining four samples could be collected from locations surrounding the pile. This rubble pile is scheduled for removal. Samples from inside the pile should be collected prior to removal and disposal. After the pile has been removed a sample could be collected at the bottom of the excavation.

If it is determined that the rubble pile is not related to the sample location OT3840SA, then four samples could be collected surrounding the sample location, and a single sample collected from 5 feet below the ground surface at the location OT3840SA.

Additional sampling is recommended at the Grounds Maintenance Yard as follows:

- Sampling for PCBs in the vicinity of the transformers (or former location of transformers),
- Sampling for pesticides along the west fence line of the Grounds Maintenance Yard,
- Sampling for arsenic near sample location OT3907SA (if non-parametric analysis does not eliminate it).

TABLE 1

Summary of Samples Exceeding Screening Criteria
Aerospace Museum Site, Naval Air Station, Fort Worth

Analyte	Samples Exceeding UTL $_{95,95}$	Samples Exceeding UTL $_{95,99}$	Samples Exceeding MSC	Requires Additional Evaluation?	Method of Further Evaluation
Aluminum	0	0	NE	NO	
Antimony	16	-------	0	NO	
Arsenic	0	0	3	NO	
Barium	1	-------	0	NO	
Beryllium	5	-------	4	YES	Non-Parametric Tests Comparison to EPA RBCs
Cadmium	2	2	0	NO	
Calcium	13	0	NE	NO	
Chromium	3	1	0	NO	
Cobalt	3	1	NE	YES	Non-Parametric Tests Comparison to EPA RBCs Analyte is Essential Nutrient
Copper	1	1	NE	YES	Non-Parametric Tests Comparison to EPA RBCs Analyte is Essential Nutrient
Iron	1	0	NE	NO	
Lead	15	10	1	YES	Additional Sampling
Magnesium	2	0	NE	NO	
Manganese	0	0	NE	NO	
Molybdenum	30	-------	NE	YES	Non-Parametric Tests Comparison to EPA RBCs Analyte is Essential Nutrient
Nickel	27	-------	0	NO	
Potassium	0	0	NE	NO	
Selenium	0	0	0	NO	
Silver	4	0	0	NO	
Sodium	0	-------	NE	NO	
Vanadium	0	0	NE	NO	
Zinc	23	-------	NE	YES	Non-Parametric Tests Comparison to EPA RBCs Analyte is Essential Nutrient

Notes:

------- = Calculation of UTL $_{95,99}$ not possible. UTL established as highest value in background data set.
MSC = Medium-Specific Concentration
NE = MSC not established
SAI-Ind = Soil/Air and Ingestion Standard for Industrial Use
TNRCC = Texas Natural Resource Conservation Commission

Table 3

Comparison of Aluminum Concentrations in Surface Soils to Background Concentrations
Aerospace Museum

Sample Number			Sample Type	Analyte	Result	Qualifier	MSC	$UTL_{95\ 95}$	$UTL_{95\ 95}$ Exceeded?
OT	3801	SA	Surface Soil	Aluminum	4,190		NE	22,035	NO
OT	3802	SA	Surface Soil	Aluminum	2,640		NE	22,035	NO
OT	3803	SA	Surface Soil	Aluminum	12,900		NE	22,035	NO
OT	3804	SA	Surface Soil	Aluminum	7,950		NE	22,035	NO
OT	3805	SA	Surface Soil	Aluminum	7,130		NE	22,035	NO
OT	3806	SA	Surface Soil	Aluminum	3,320		NE	22,035	NO
OT	3807	SA	Surface Soil	Aluminum	7,490		NE	22,035	NO
OT	3808	SA	Surface Soil	Aluminum	11,700		NE	22,035	NO
OT	3809	SA	Surface Soil	Aluminum	6,230		NE	22,035	NO
OT	3810	SA	Surface Soil	Aluminum	8,970		NE	22,035	NO
OT	3811	SA	Surface Soil	Aluminum	8,120		NE	22,035	NO
OT	3812	SA	Surface Soil	Aluminum	4,740		NE	22,035	NO
OT	3813	SA	Surface Soil	Aluminum	7,970		NE	22,035	NO
OT	3814	SA	Surface Soil	Aluminum	6,900		NE	22,035	NO
OT	3815	SA	Surface Soil	Aluminum	6,770		NE	22,035	NO
OT	3816	SA	Surface Soil	Aluminum	4,100		NE	22,035	NO
OT	3817	SA	Surface Soil	Aluminum	1,210		NE	22,035	NO
OT	3818	SA	Surface Soil	Aluminum	9,640		NE	22,035	NO
OT	3819	SA	Surface Soil	Aluminum	7,710		NE	22,035	NO
OT	3820	SA	Surface Soil	Aluminum	14,200		NE	22,035	NO
OT	3821	SA	Surface Soil	Aluminum	4,240		NE	22,035	NO
OT	3822	SA	Surface Soil	Aluminum	12,700		NE	22,035	NO
OT	3823	SA	Surface Soil	Aluminum	11,000		NE	22,035	NO
OT	3824	SA	Surface Soil	Aluminum	20,800		NE	22,035	NO
OT	3825	SA	Surface Soil	Aluminum	13,200		NE	22,035	NO
OT	3826	SA	Surface Soil	Aluminum	7,940		NE	22,035	NO
OT	3827	SA	Surface Soil	Aluminum	5,460		NE	22,035	NO
OT	3828	SA	Surface Soil	Aluminum	6,050		NE	22,035	NO
OT	3829	SA	Surface Soil	Aluminum	7,260		NE	22,035	NO
OT	3830	SA	Surface Soil	Aluminum	12,200		NE	22,035	NO
OT	3831	SA	Surface Soil	Aluminum	8,850		NE	22,035	NO
OT	3832	SA	Surface Soil	Aluminum	12,200		NE	22,035	NO
OT	3833	SA	Surface Soil	Aluminum	6,320		NE	22,035	NO
OT	3834	SA	Surface Soil	Aluminum	10,600		NE	22,035	NO
OT	3835	SA	Surface Soil	Aluminum	6,460		NE	22,035	NO
OT	3836	SA	Surface Soil	Aluminum	7,090		NE	22,035	NO
OT	3837	SA	Surface Soil	Aluminum	9,770		NE	22,035	NO
OT	3838	SA	Surface Soil	Aluminum	7,480		NE	22,035	NO
OT	3839	SA	Surface Soil	Aluminum	10,100		NE	22,035	NO
OT	3840	SA	Surface Soil	Aluminum	5,120		NE	22,035	NO
OT	3841	SA	Surface Soil	Aluminum	6,050		NE	22,035	NO
OT	3842	SA	Surface Soil	Aluminum	11,600	J	NE	22,035	NO
OT	3843	SA	Surface Soil	Aluminum	8,860		NE	22,035	NO
OT	3844	SA	Surface Soil	Aluminum	8,120		NE	22,035	NO
OT	3845	SA	Surface Soil	Aluminum	13,000		NE	22,035	NO
OT	3846	SA	Surface Soil	Aluminum	6,110		NE	22,035	NO
OT	3847	SA	Surface Soil	Aluminum	6,300		NE	22,035	NO
OT	3848	SA	Surface Soil	Aluminum	10,700		NE	22,035	NO
OT	3849	SA	Surface Soil	Aluminum	2,550		NE	22,035	NO
OT	3850	SA	Background	Aluminum	5,120		NE	22,035	NO
OT	3851	SA	Background	Aluminum	3,650		NE	22,035	NO

Notes:

1. J = Estimated quantitation based on QC data.
2. JB = Estimated quantitation: possibly biased high or a false positive based upon blank data.
3. JH = Estimated quantitation: possibly biased high based upon QC data.
4. JL = Estimated quantitation: possibly biased low or a false negative based upon QC data.
5. JQ = Estimated quantitation: detected below the PQL.
6. NE = MSC not established for this analyte.

Table 3

Comparison of Antimony Concentrations in Surface Soils to Background Concentrations

Aerospace Museum

Sample Number			Sample Type	Analyte	Result	Qualifier	Detection Limit?	SAI - IND MSC	$UTL_{95,95}$	$UTL_{95,95}$ Exceeded?	SAI - IND MSC Exceeded?
OT	3801	SA	Surface Soil	Antimony	2.08	JQ		818	0.56	YES	NO
OT	3802	SA	Surface Soil	Antimony	1.72	JQ		818	0.56	YES	NO
OT	3803	SA	Surface Soil	Antimony	0.00		<20.6	818	0.56	NO	NO
OT	3804	SA	Surface Soil	Antimony	2.44	JQ		818	0.56	YES	NO
OT	3805	SA	Surface Soil	Antimony	0.00		<20.4	818	0.56	NO	NO
OT	3806	SA	Surface Soil	Antimony	2.47	JQ		818	0.56	YES	NO
OT	3807	SA	Surface Soil	Antimony	0.00		<22.6	818	0.56	NO	NO
OT	3808	SA	Surface Soil	Antimony	0.00		<22.2	818	0.56	NO	NO
OT	3809	SA	Surface Soil	Antimony	1.69	JQ		818	0.56	YES	NO
OT	3810	SA	Surface Soil	Antimony	0.00		<20.4	818	0.56	NO	NO
OT	3811	SA	Surface Soil	Antimony	0.00		<20.4	818	0.56	NO	NO
OT	3812	SA	Surface Soil	Antimony	0.00		<21.5	818	0.56	NO	NO
OT	3813	SA	Surface Soil	Antimony	0.00		<21.2	818	0.56	NO	NO
OT	3814	SA	Surface Soil	Antimony	1.87	JQ		818	0.56	YES	NO
OT	3815	SA	Surface Soil	Antimony	0.00		<21.4	818	0.56	NO	NO
OT	3816	SA	Surface Soil	Antimony	0.00		<20.2	818	0.56	NO	NO
OT	3817	SA	Surface Soil	Antimony	0.00		<19.1	818	0.56	NO	NO
OT	3818	SA	Surface Soil	Antimony	0.00		<19.1	818	0.56	NO	NO
OT	3819	SA	Surface Soil	Antimony	2.08	JQ		818	0.56	YES	NO
OT	3820	SA	Surface Soil	Antimony	1.95	JL		818	0.56	YES	NO
OT	3821	SA	Surface Soil	Antimony	0.00		<18.1	818	0.56	NO	NO
OT	3822	SA	Surface Soil	Antimony	0.00	JL	<21.5	818	0.56	NO	NO
OT	3823	SA	Surface Soil	Antimony	0.00		<20.7	818	0.56	NO	NO
OT	3824	SA	Surface Soil	Antimony	0.00		<29.5	818	0.56	NO	NO
OT	3825	SA	Surface Soil	Antimony	0.00		<21.4	818	0.56	NO	NO
OT	3826	SA	Surface Soil	Antimony	1.90	JQ		818	0.56	YES	NO
OT	3827	SA	Surface Soil	Antimony	2.42	JQ		818	0.56	YES	NO
OT	3828	SA	Surface Soil	Antimony	0.00		<19.6	818	0.56	NO	NO
OT	3829	SA	Surface Soil	Antimony	0.00		<21.2	818	0.56	NO	NO
OT	3830	SA	Surface Soil	Antimony	0.00	JL	<22	818	0.56	NO	NO
OT	3831	SA	Surface Soil	Antimony	0.00		<22.3	818	0.56	NO	NO
OT	3832	SA	Surface Soil	Antimony	0.00		<21.3	818	0.56	NO	NO
OT	3833	SA	Surface Soil	Antimony	0.00		<20.2	818	0.56	NO	NO
OT	3834	SA	Surface Soil	Antimony	0.00		<21	818	0.56	NO	NO
OT	3835	SA	Surface Soil	Antimony	2.32	JQ		818	0.56	YES	NO
OT	3836	SA	Surface Soil	Antimony	2.19	JQ		818	0.56	YES	NO
OT	3837	SA	Surface Soil	Antimony	0.00		<21.6	818	0.56	NO	NO
OT	3838	SA	Surface Soil	Antimony	0.00		<20.6	818	0.56	NO	NO
OT	3839	SA	Surface Soil	Antimony	0.00		<21.0	818	0.56	NO	NO
OT	3840	SA	Surface Soil	Antimony	1.98	JL		818	0.56	YES	NO
OT	3841	SA	Surface Soil	Antimony	0.00		<18.1	818	0.56	NO	NO
OT	3842	SA	Surface Soil	Antimony	1.97	JQ		818	0.56	YES	NO
OT	3843	SA	Surface Soil	Antimony	0.00		<19.9	818	0.56	NO	NO
OT	3844	SA	Surface Soil	Antimony	0.00		<20.7	818	0.56	NO	NO
OT	3845	SA	Surface Soil	Antimony	0.00		<22.9	818	0.56	NO	NO
OT	3846	SA	Surface Soil	Antimony	2.49	JQ		818	0.56	YES	NO
OT	3847	SA	Surface Soil	Antimony	0.00		<19.3	818	0.56	NO	NO
OT	3848	SA	Surface Soil	Antimony	0.00		<22.7	818	0.56	NO	NO
OT	3849	SA	Surface Soil	Antimony	0.00		<18.1	818	0.56	NO	NO
OT	3850	SA	Background	Antimony	1.99	JL		818	0.56	YES	NO
OT	3851	SA	Background	Antimony	0.00		<18	818	0.56	NO	NO

Notes

1. J = Estimated quantitation based on QC data.
2. JB = Estimated quantitation: possibly biased high or a false positive based upon blank data.
3. JH = Estimated quantitation: possibly biased high based upon QC data.
4. JL = Estimated quantitation: possibly biased low or a false negative based upon QC data.
5. JQ = Estimated quantitation: detected below the PQL.
6. NE = MSC not established for this analyte.
7. Comparison to $UTL_{95,99}$ not possible because UTL was established as the highest value in the background dataset.

Table 3
Comparison of Arsenic Concentrations in Surface Soils to Background Concentrations
Aerospace Museum

Sample Number			Sample Type	Analyte	Result	Qualifier	SAI - IND MSC	$UTL_{95,95}$	$UTL_{95,99}$	$UTL_{95,95}$ Exceeded?	$UTL_{95,99}$ Exceeded?	MSC Exceeded?
OT	3801	SA	Surface Soil	Arsenic	1.87		3.27	5.855	6.748	NO	NO	NO
OT	3802	SA	Surface Soil	Arsenic	1.07		3.27	5.855	6.748	NO	NO	NO
OT	3803	SA	Surface Soil	Arsenic	1.73		3.27	5.855	6.748	NO	NO	NO
OT	3804	SA	Surface Soil	Arsenic	2.78		3.27	5.855	6.748	NO	NO	NO
OT	3805	SA	Surface Soil	Arsenic	1.77		3.27	5.855	6.748	NO	NO	NO
OT	3806	SA	Surface Soil	Arsenic	1.61		3.27	5.855	6.748	NO	NO	NO
OT	3807	SA	Surface Soil	Arsenic	1.65		3.27	5.855	6.748	NO	NO	NO
OT	3808	SA	Surface Soil	Arsenic	3.0		3.27	5.855	6.748	NO	NO	NO
OT	3809	SA	Surface Soil	Arsenic	1.95		3.27	5.855	6.748	NO	NO	NO
OT	3810	SA	Surface Soil	Arsenic	2.04		3.27	5.855	6.748	NO	NO	NO
OT	3811	SA	Surface Soil	Arsenic	2.05		3.27	5.855	6.748	NO	NO	NO
OT	3812	SA	Surface Soil	Arsenic	1.94		3.27	5.855	6.748	NO	NO	NO
OT	3813	SA	Surface Soil	Arsenic	1.96		3.27	5.855	6.748	NO	NO	NO
OT	3814	SA	Surface Soil	Arsenic	2.16		3.27	5.855	6.748	NO	NO	NO
OT	3815	SA	Surface Soil	Arsenic	1.88	JL	3.27	5.855	6.748	NO	NO	NO
OT	3816	SA	Surface Soil	Arsenic	1.57		3.27	5.855	6.748	NO	NO	NO
OT	3817	SA	Surface Soil	Arsenic	0.844		3.27	5.855	6.748	NO	NO	NO
OT	3818	SA	Surface Soil	Arsenic	2.78		3.27	5.855	6.748	NO	NO	NO
OT	3819	SA	Surface Soil	Arsenic	1.42		3.27	5.855	6.748	NO	NO	NO
OT	3820	SA	Surface Soil	Arsenic	2.21	JL	3.27	5.855	6.748	NO	NO	NO
OT	3821	SA	Surface Soil	Arsenic	0.789		3.27	5.855	6.748	NO	NO	NO
OT	3822	SA	Surface Soil	Arsenic	1.44	JL	3.27	5.855	6.748	NO	NO	NO
OT	3823	SA	Surface Soil	Arsenic	0.957		3.27	5.855	6.748	NO	NO	NO
OT	3824	SA	Surface Soil	Arsenic	1.86	JH	3.27	5.855	6.748	NO	NO	NO
OT	3825	SA	Surface Soil	Arsenic	1.32		3.27	5.855	6.748	NO	NO	NO
OT	3826	SA	Surface Soil	Arsenic	1.16	JL	3.27	5.855	6.748	NO	NO	NO
OT	3827	SA	Surface Soil	Arsenic	4.14		3.27	5.855	6.748	NO	NO	YES
OT	3828	SA	Surface Soil	Arsenic	3.21		3.27	5.855	6.748	NO	NO	NO
OT	3829	SA	Surface Soil	Arsenic	3.47		3.27	5.855	6.748	NO	NO	YES
OT	3830	SA	Surface Soil	Arsenic	1.56	JL	3.27	5.855	6.748	NO	NO	NO
OT	3831	SA	Surface Soil	Arsenic	1.11		3.27	5.855	6.748	NO	NO	NO
OT	3832	SA	Surface Soil	Arsenic	1.58		3.27	5.855	6.748	NO	NO	NO
OT	3833	SA	Surface Soil	Arsenic	0.663		3.27	5.855	6.748	NO	NO	NO
OT	3834	SA	Surface Soil	Arsenic	1.27		3.27	5.855	6.748	NO	NO	NO
OT	3835	SA	Surface Soil	Arsenic	0.685		3.27	5.855	6.748	NO	NO	NO
OT	3836	SA	Surface Soil	Arsenic	1.37		3.27	5.855	6.748	NO	NO	NO
OT	3837	SA	Surface Soil	Arsenic	2.05		3.27	5.855	6.748	NO	NO	NO
OT	3838	SA	Surface Soil	Arsenic	1.94		3.27	5.855	6.748	NO	NO	NO
OT	3839	SA	Surface Soil	Arsenic	1.81		3.27	5.855	6.748	NO	NO	NO
OT	3840	SA	Surface Soil	Arsenic	2.87	JL	3.27	5.855	6.748	NO	NO	NO
OT	3841	SA	Surface Soil	Arsenic	1.04		3.27	5.855	6.748	NO	NO	NO
OT	3842	SA	Surface Soil	Arsenic	2.42		3.27	5.855	6.748	NO	NO	NO
OT	3843	SA	Surface Soil	Arsenic	2.6		3.27	5.855	6.748	NO	NO	NO
OT	3844	SA	Surface Soil	Arsenic	2.36		3.27	5.855	6.748	NO	NO	NO
OT	3845	SA	Surface Soil	Arsenic	2.57		3.27	5.855	6.748	NO	NO	NO
OT	3846	SA	Surface Soil	Arsenic	1.96		3.27	5.855	6.748	NO	NO	NO
OT	3847	SA	Surface Soil	Arsenic	0.982	J	3.27	5.855	6.748	NO	NO	NO
OT	3848	SA	Surface Soil	Arsenic	3.53	J	3.27	5.855	6.748	NO	NO	YES
OT	3849	SA	Surface Soil	Arsenic	2.25		3.27	5.855	6.748	NO	NO	NO
OT	3850	SA	Background	Arsenic	2.31	JL	3.27	5.855	6.748	NO	NO	NO
OT	3851	SA	Background	Arsenic	1.69		3.27	5.855	6.748	NO	NO	NO

Notes:

1. J = Estimated quantitation based on QC data
2. JB = Estimated quantitation: possibly biased high or a false positive based upon blank data.
3. JH = Estimated quantitation: possibly biased high based upon QC data.
4. JL = Estimated quantitation: possibly biased low or a false negative based upon QC data
5. JQ = Estimated quantitation: detected below the PQL
6. NE = MSC not established for this analyte.

Table 3
Comparison of Barium Concentrations in Surface Soils to Background Concentrations
Aerospace Museum

Sample Number	Sample Type	Analyte	Result	Qualifier	SAI-Ind MSC	$UTL_{95,95}$	$UTL_{95,95}$ Exceeded?	SAI-Ind MSC Exceeded?
OT 3801 SA	Surface Soil	Barium	80.0		137,000	233	NO	NO
OT 3802 SA	Surface Soil	Barium	89.9		137,000	233	NO	NO
OT 3803 SA	Surface Soil	Barium	129.0		137,000	233	NO	NO
OT 3804 SA	Surface Soil	Barium	122.0		137,000	233	NO	NO
OT 3805 SA	Surface Soil	Barium	83.6		137,000	233	NO	NO
OT 3806 SA	Surface Soil	Barium	83.8		137,000	233	NO	NO
OT 3807 SA	Surface Soil	Barium	112.0		137,000	233	NO	NO
OT 3808 SA	Surface Soil	Barium	118.0		137,000	233	NO	NO
OT 3809 SA	Surface Soil	Barium	78.1		137,000	233	NO	NO
OT 3810 SA	Surface Soil	Barium	104.0		137,000	233	NO	NO
OT 3811 SA	Surface Soil	Barium	115.0		137,000	233	NO	NO
OT 3812 SA	Surface Soil	Barium	55.0		137,000	233	NO	NO
OT 3813 SA	Surface Soil	Barium	90.3		137,000	233	NO	NO
OT 3814 SA	Surface Soil	Barium	79.5		137,000	233	NO	NO
OT 3815 SA	Surface Soil	Barium	139.0		137,000	233	NO	NO
OT 3816 SA	Surface Soil	Barium	58.1		137,000	233	NO	NO
OT 3817 SA	Surface Soil	Barium	98.6		137,000	233	NO	NO
OT 3818 SA	Surface Soil	Barium	115.0		137,000	233	NO	NO
OT 3819 SA	Surface Soil	Barium	111.0		137,000	233	NO	NO
OT 3820 SA	Surface Soil	Barium	119.0		137,000	233	NO	NO
OT 3821 SA	Surface Soil	Barium	69.5	J	137,000	233	NO	NO
OT 3822 SA	Surface Soil	Barium	148.0		137,000	233	NO	NO
OT 3823 SA	Surface Soil	Barium	132.0		137,000	233	NO	NO
OT 3824 SA	Surface Soil	Barium	176.0		137,000	233	NO	NO
OT 3825 SA	Surface Soil	Barium	107.0		137,000	233	NO	NO
OT 3826 SA	Surface Soil	Barium	89.3		137,000	233	NO	NO
OT 3827 SA	Surface Soil	Barium	59.8		137,000	233	NO	NO
OT 3828 SA	Surface Soil	Barium	63.3		137,000	233	NO	NO
OT 3829 SA	Surface Soil	Barium	136.0		137,000	233	NO	NO
OT 3830 SA	Surface Soil	Barium	107.0		137,000	233	NO	NO
OT 3831 SA	Surface Soil	Barium	106.0		137,000	233	NO	NO
OT 3832 SA	Surface Soil	Barium	121.0		137,000	233	NO	NO
OT 3833 SA	Surface Soil	Barium	75.1		137,000	233	NO	NO
OT 3834 SA	Surface Soil	Barium	102.0		137,000	233	NO	NO
OT 3835 SA	Surface Soil	Barium	6,730.0		137,000	233	YES	NO
OT 3836 SA	Surface Soil	Barium	77.0		137,000	233	NO	NO
OT 3837 SA	Surface Soil	Barium	79.1		137,000	233	NO	NO
OT 3838 SA	Surface Soil	Barium	85.9		137,000	233	NO	NO
OT 3839 SA	Surface Soil	Barium	92.2		137,000	233	NO	NO
OT 3840 SA	Surface Soil	Barium	74.1	J	137,000	233	NO	NO
OT 3841 SA	Surface Soil	Barium	58.0		137,000	233	NO	NO
OT 3842 SA	Surface Soil	Barium	103.0		137,000	233	NO	NO
OT 3843 SA	Surface Soil	Barium	94.8		137,000	233	NO	NO
OT 3844 SA	Surface Soil	Barium	81.2		137,000	233	NO	NO
OT 3845 SA	Surface Soil	Barium	88.9		137,000	233	NO	NO
OT 3846 SA	Surface Soil	Barium	82.4		137,000	233	NO	NO
OT 3847 SA	Surface Soil	Barium	77.9		137,000	233	NO	NO
OT 3848 SA	Surface Soil	Barium	83.6		137,000	233	NO	NO
OT 3849 SA	Surface Soil	Barium	28.9		137,000	233	NO	NO
OT 3850 SA	Background	Barium	57.2		137,000	233	NO	NO
OT 3851 SA	Background	Barium	53.1		137,000	233	NO	NO

Notes:

1. J = Estimated quantitation based on QC data.
2. JB = Estimated quantitation: possibly biased high or a false positive based upon blank data.
3. JH = Estimated quantitation: possibly biased high based upon QC data.
4. JL = Estimated quantitation: possibly biased low or a false negative based upon QC data.
5. JQ = Estimated quantitation: detected below the PQL.
6. NE = MSC not established for this analyte
7. Comparison to $UTL_{95,99}$ not possible because UTL was established as the highest value in the background dataset

Table 5

Comparison of Beryllium Concentrations in Surface Soils to Background Concentrations
Aerospace Museum

Sample Number			Sample Type	Analyte	Result	Qualifier	Detection Limit?	SAI-Ind MSC	$UTL_{95,95}$	$UTL_{95,95}$ Exceeded?	SAI-Ind MSC Exceeded?
OT	3801	SA	Surface Soil	Beryllium	0.0		<2.4	1.33	1.02	NO	NO
OT	3802	SA	Surface Soil	Beryllium	0.0		<2.25	1.33	1.02	NO	NO
OT	3803	SA	Surface Soil	Beryllium	0.908			1.33	1.02	NO	NO
OT	3804	SA	Surface Soil	Beryllium	0.584			1.33	1.02	NO	NO
OT	3805	SA	Surface Soil	Beryllium	0.570			1.33	1.02	NO	NO
OT	3806	SA	Surface Soil	Beryllium	0.0		<2.24	1.33	1.02	NO	NO
OT	3807	SA	Surface Soil	Beryllium	0.724			1.33	1.02	NO	NO
OT	3808	SA	Surface Soil	Beryllium	0.799			1.33	1.02	NO	NO
OT	3809	SA	Surface Soil	Beryllium	0.0		<2.3	1.33	1.02	NO	NO
OT	3810	SA	Surface Soil	Beryllium	0.651			1.33	1.02	NO	NO
OT	3811	SA	Surface Soil	Beryllium	0.57			1.33	1.02	NO	NO
OT	3812	SA	Surface Soil	Beryllium	0.344			1.33	1.02	NO	NO
OT	3813	SA	Surface Soil	Beryllium	0.506			1.33	1.02	NO	NO
OT	3814	SA	Surface Soil	Beryllium	0.487			1.33	1.02	NO	NO
OT	3815	SA	Surface Soil	Beryllium	0.0		<2.57	1.33	1.02	NO	NO
OT	3816	SA	Surface Soil	Beryllium	0.242			1.33	1.02	NO	NO
OT	3817	SA	Surface Soil	Beryllium	0.0		<2.29	1.33	1.02	NO	NO
OT	3818	SA	Surface Soil	Beryllium	0.0		<2.37	1.33	1.02	NO	NO
OT	3819	SA	Surface Soil	Beryllium	0.606			1.33	1.02	NO	NO
OT	3820	SA	Surface Soil	Beryllium	0.799			1.33	1.02	NO	NO
OT	3821	SA	Surface Soil	Beryllium	0.0		<2.17	1.33	1.02	NO	NO
OT	3822	SA	Surface Soil	Beryllium	0.964			1.33	1.02	NO	NO
OT	3823	SA	Surface Soil	Beryllium	0.746			1.33	1.02	NO	NO
OT	3824	SA	Surface Soil	Beryllium	1.18			1.33	1.02	YES	NO
OT	3825	SA	Surface Soil	Beryllium	1.72	JQ		1.33	1.02	YES	YES
OT	3826	SA	Surface Soil	Beryllium	0.0		<2.48	1.33	1.02	NO	NO
OT	3827	SA	Surface Soil	Beryllium	1.62	JQ		1.33	1.02	YES	YES
OT	3828	SA	Surface Soil	Beryllium	0.0		<2.39	1.33	1.02	NO	NO
OT	3829	SA	Surface Soil	Beryllium	0.0		<2.54	1.33	1.02	NO	NO
OT	3830	SA	Surface Soil	Beryllium	0.793			1.33	1.02	NO	NO
OT	3831	SA	Surface Soil	Beryllium	0.624			1.33	1.02	NO	NO
OT	3832	SA	Surface Soil	Beryllium	0.682			1.33	1.02	NO	NO
OT	3833	SA	Surface Soil	Beryllium	0.0		<2.42	1.33	1.02	NO	NO
OT	3834	SA	Surface Soil	Beryllium	0.756			1.33	1.02	NO	NO
OT	3835	SA	Surface Soil	Beryllium	0.0		<2.24	1.33	1.02	NO	NO
OT	3836	SA	Surface Soil	Beryllium	0.0		<2.43	1.33	1.02	NO	NO
OT	3837	SA	Surface Soil	Beryllium	0.605			1.33	1.02	NO	NO
OT	3838	SA	Surface Soil	Beryllium	0.0		<2.48	1.33	1.02	NO	NO
OT	3839	SA	Surface Soil	Beryllium	0.587			1.33	1.02	NO	NO
OT	3840	SA	Surface Soil	Beryllium	0.0		<2.47	1.33	1.02	NO	NO
OT	3841	SA	Surface Soil	Beryllium	0.0		<2.32	1.33	1.02	NO	NO
OT	3842	SA	Surface Soil	Beryllium	1.58	JQ		1.33	1.02	YES	YES
OT	3843	SA	Surface Soil	Beryllium	0.0		<2.39	1.33	1.02	NO	NO
OT	3844	SA	Surface Soil	Beryllium	1.66	JQ		1.33	1.02	YES	YES
OT	3845	SA	Surface Soil	Beryllium	0.733			1.33	1.02	NO	NO
OT	3846	SA	Surface Soil	Beryllium	0.0		<2.33	1.33	1.02	NO	NO
OT	3847	SA	Surface Soil	Beryllium	0.0		<2.31	1.33	1.02	NO	NO
OT	3848	SA	Surface Soil	Beryllium	0.0		<2.73	1.33	1.02	NO	NO
OT	3849	SA	Surface Soil	Beryllium	0.0		<2.17	1.33	1.02	NO	NO
OT	3850	SA	Background	Beryllium	0.0		<2.60	1.33	1.02	NO	NO
OT	3851	SA	Background	Beryllium	0.216			1.33	1.02	NO	NO

Notes

1. J = Estimated quantitation based on QC data.
2. JB = Estimated quantitation: possibly biased high or a false positive based upon blank data
3. JH = Estimated quantitation: possibly biased high based upon QC data.
4. JL = Estimated quantitation: possibly biased low or a false negative based upon QC data.
5. JQ = Estimated quantitation: detected below the PQL.
6. NE = MSC not established for this analyte.
7. Comparison to $UTL_{95,99}$ not possible because UTL was established as the highest value in the background dataset.

Table 3

Comparison of Cadmium Concentrations in Surface Soils to Background Concentrations
Aerospace Museum

Sample Number			Sample Type	Analyte	Result	Qualifier	Detection Limit?	SAI-Ind MSC	$UTL_{95,95}$	$UTL_{95,99}$	$UTL_{95,95}$ Exceeded?	$UTL_{95,99}$ Exceeded?	SAI-Ind MSC Exceeded?
OT	3801	SA	Surface Soil	Cadmium	0.0		<0.8	1,020.00	0.5562	0.838	NO	NO	NO
OT	3802	SA	Surface Soil	Cadmium	0.0		<0.749	1,020.00	0.5562	0.838	NO	NO	NO
OT	3803	SA	Surface Soil	Cadmium	0.0		<0.825	1,020.00	0.5562	0.838	NO	NO	NO
OT	3804	SA	Surface Soil	Cadmium	0.0		<0.974	1,020.00	0.5562	0.838	NO	NO	NO
OT	3805	SA	Surface Soil	Cadmium	0.00		<0.814	1,020.00	0.5562	0.838	NO	NO	NO
OT	3806	SA	Surface Soil	Cadmium	0.972			1,020.00	0.5562	0.838	YES	YES	NO
OT	3807	SA	Surface Soil	Cadmium	0.0		<0.905	1,020.00	0.5562	0.838	NO	NO	NO
OT	3808	SA	Surface Soil	Cadmium	0.0		<0.888	1,020.00	0.5562	0.838	NO	NO	NO
OT	3809	SA	Surface Soil	Cadmium	0.843			1,020.00	0.5562	0.838	YES	YES	NO
OT	3810	SA	Surface Soil	Cadmium	0.0		<0.814	1,020.00	0.5562	0.838	NO	NO	NO
OT	3811	SA	Surface Soil	Cadmium	0.0		<0.814	1,020.00	0.5562	0.838	NO	NO	NO
OT	3812	SA	Surface Soil	Cadmium	0.0		<0.859	1,020.00	0.5562	0.838	NO	NO	NO
OT	3813	SA	Surface Soil	Cadmium	0.0		<0.843	1,020.00	0.5562	0.838	NO	NO	NO
OT	3814	SA	Surface Soil	Cadmium	0.0		<0.811	1,020.00	0.5562	0.838	NO	NO	NO
OT	3815	SA	Surface Soil	Cadmium	0.0	JL	<0.858	1,020.00	0.5562	0.838	NO	NO	NO
OT	3816	SA	Surface Soil	Cadmium	0.0		<0.806	1,020.00	0.5562	0.838	NO	NO	NO
OT	3817	SA	Surface Soil	Cadmium	0.0		<0.764	1,020.00	0.5562	0.838	NO	NO	NO
OT	3818	SA	Surface Soil	Cadmium	0.0		<0.791	1,020.00	0.5562	0.838	NO	NO	NO
OT	3819	SA	Surface Soil	Cadmium	0.0		<0.865	1,020.00	0.5562	0.838	NO	NO	NO
OT	3820	SA	Surface Soil	Cadmium	0.0	JL	<0.888	1,020.00	0.5562	0.838	NO	NO	NO
OT	3821	SA	Surface Soil	Cadmium	0.0			1,020.00	0.5562	0.838	NO	NO	NO
OT	3822	SA	Surface Soil	Cadmium	0.0			1,020.00	0.5562	0.838	NO	NO	NO
OT	3823	SA	Surface Soil	Cadmium	0.0			1,020.00	0.5562	0.838	NO	NO	NO
OT	3824	SA	Surface Soil	Cadmium	0.0			1,020.00	0.5562	0.838	NO	NO	NO
OT	3825	SA	Surface Soil	Cadmium	0.0			1,020.00	0.5562	0.838	NO	NO	NO
OT	3826	SA	Surface Soil	Cadmium	0.0			1,020.00	0.5562	0.838	NO	NO	NO
OT	3827	SA	Surface Soil	Cadmium	0.0			1,020.00	0.5562	0.838	NO	NO	NO
OT	3828	SA	Surface Soil	Cadmium	0.0			1,020.00	0.5562	0.838	NO	NO	NO
OT	3829	SA	Surface Soil	Cadmium	0.0			1,020.00	0.5562	0.838	NO	NO	NO
OT	3830	SA	Surface Soil	Cadmium	0.0			1,020.00	0.5562	0.838	NO	NO	NO
OT	3831	SA	Surface Soil	Cadmium	0.0			1,020.00	0.5562	0.838	NO	NO	NO
OT	3832	SA	Surface Soil	Cadmium	0.0			1,020.00	0.5562	0.838	NO	NO	NO
OT	3833	SA	Surface Soil	Cadmium	0.0			1,020.00	0.5562	0.838	NO	NO	NO
OT	3834	SA	Surface Soil	Cadmium	0.0			1,020.00	0.5562	0.838	NO	NO	NO
OT	3835	SA	Surface Soil	Cadmium	0.0			1,020.00	0.5562	0.838	NO	NO	NO
OT	3836	SA	Surface Soil	Cadmium	0.0			1,020.00	0.5562	0.838	NO	NO	NO
OT	3837	SA	Surface Soil	Cadmium	0.0			1,020.00	0.5562	0.838	NO	NO	NO
OT	3838	SA	Surface Soil	Cadmium	0.0			1,020.00	0.5562	0.838	NO	NO	NO
OT	3839	SA	Surface Soil	Cadmium	0.0			1,020.00	0.5562	0.838	NO	NO	NO
OT	3840	SA	Surface Soil	Cadmium	0.0			1,020.00	0.5562	0.838	NO	NO	NO
OT	3841	SA	Surface Soil	Cadmium	0.0			1,020.00	0.5562	0.838	NO	NO	NO
OT	3842	SA	Surface Soil	Cadmium	0.0			1,020.00	0.5562	0.838	NO	NO	NO
OT	3843	SA	Surface Soil	Cadmium	0.0			1,020.00	0.5562	0.838	NO	NO	NO
OT	3844	SA	Surface Soil	Cadmium	0.0			1,020.00	0.5562	0.838	NO	NO	NO
OT	3845	SA	Surface Soil	Cadmium	0.0			1,020.00	0.5562	0.838	NO	NO	NO
OT	3846	SA	Surface Soil	Cadmium	0.0			1,020.00	0.5562	0.838	NO	NO	NO
OT	3847	SA	Surface Soil	Cadmium	0.0			1,020.00	0.5562	0.838	NO	NO	NO
OT	3848	SA	Surface Soil	Cadmium	0.0			1,020.00	0.5562	0.838	NO	NO	NO
OT	3849	SA	Surface Soil	Cadmium	0.0			1,020.00	0.5562	0.838	NO	NO	NO
OT	3850	SA	Background	Cadmium	0.0			1,020.00	0.5562	0.838	NO	NO	NO
OT	3851	SA	Background	Cadmium	0.0			1,020.00	0.5562	0.838	NO	NO	NO

Notes:

1. J = Estimated quantitation based on QC data
2. JB = Estimated quantitation: possibly biased high or a false positive based upon blank data
3. JH = Estimated quantitation: possibly biased high based upon QC data.
4. JL = Estimated quantitation: possibly biased low or a false negative based upon QC data.
5. JQ = Estimated quantitation: detected below the PQL.
6. NE = MSC not established for this analyte

Table 3

Comparison of Calcium Concentrations in Surface Soils to Background Concentrations
Aerospace Museum

Sample Number			Sample Type	Analyte	Result	Qualifier	Detection Limit?	MSC	$UTL_{95,95}$	$UTL_{95,99}$	$UTL_{95,95}$ Exceeded?	$UTL_{95,99}$ Exceeded?
OT	3801	SA	Surface Soil	Calcium	17,300			NE	167,788.0	490,604.0	NO	NO
OT	3802	SA	Surface Soil	Calcium	209,000			NE	167,788.0	490,604.0	YES	NO
OT	3803	SA	Surface Soil	Calcium	62,700			NE	167,788.0	490,604.0	NO	NO
OT	3804	SA	Surface Soil	Calcium	77,400			NE	167,788.0	490,604.0	NO	NO
OT	3805	SA	Surface Soil	Calcium	114,000			NE	167,788.0	490,604.0	NO	NO
OT	3806	SA	Surface Soil	Calcium	195,000			NE	167,788.0	490,604.0	YES	NO
OT	3807	SA	Surface Soil	Calcium	55,000			NE	167,788.0	490,604.0	NO	NO
OT	3808	SA	Surface Soil	Calcium	48,700			NE	167,788.0	490,604.0	NO	NO
OT	3809	SA	Surface Soil	Calcium	140,000			NE	167,788.0	490,604.0	NO	NO
OT	3810	SA	Surface Soil	Calcium	82,300			NE	167,788.0	490,604.0	NO	NO
OT	3811	SA	Surface Soil	Calcium	98,100	J		NE	167,788.0	490,604.0	NO	NO
OT	3812	SA	Surface Soil	Calcium	58,800			NE	167,788.0	490,604.0	NO	NO
OT	3813	SA	Surface Soil	Calcium	74,300			NE	167,788.0	490,604.0	NO	NO
OT	3814	SA	Surface Soil	Calcium	82,100			NE	167,788.0	490,604.0	NO	NO
OT	3815	SA	Surface Soil	Calcium	184,000			NE	167,788.0	490,604.0	YES	NO
OT	3816	SA	Surface Soil	Calcium	85,800			NE	167,788.0	490,604.0	NO	NO
OT	3817	SA	Surface Soil	Calcium	285,000			NE	167,788.0	490,604.0	YES	NO
OT	3818	SA	Surface Soil	Calcium	118,000			NE	167,788.0	490,604.0	NO	NO
OT	3819	SA	Surface Soil	Calcium	61,900			NE	167,788.0	490,604.0	NO	NO
OT	3820	SA	Surface Soil	Calcium	72,600			NE	167,788.0	490,604.0	NO	NO
OT	3821	SA	Surface Soil	Calcium	191,000			NE	167,788.0	490,604.0	YES	NO
OT	3822	SA	Surface Soil	Calcium	33,300			NE	167,788.0	490,604.0	NO	NO
OT	3823	SA	Surface Soil	Calcium	80,000			NE	167,788.0	490,604.0	NO	NO
OT	3824	SA	Surface Soil	Calcium	56,500			NE	167,788.0	490,604.0	NO	NO
OT	3825	SA	Surface Soil	Calcium	150,000			NE	167,788.0	490,604.0	NO	NO
OT	3826	SA	Surface Soil	Calcium	159,000			NE	167,788.0	490,604.0	NO	NO
OT	3827	SA	Surface Soil	Calcium	284,000			NE	167,788.0	490,604.0	YES	NO
OT	3828	SA	Surface Soil	Calcium	188,000			NE	167,788.0	490,604.0	YES	NO
OT	3829	SA	Surface Soil	Calcium	222,000			NE	167,788.0	490,604.0	YES	NO
OT	3830	SA	Surface Soil	Calcium	66,000			NE	167,788.0	490,604.0	NO	NO
OT	3831	SA	Surface Soil	Calcium	117,000			NE	167,788.0	490,604.0	NO	NO
OT	3832	SA	Surface Soil	Calcium	91,300			NE	167,788.0	490,604.0	NO	NO
OT	3833	SA	Surface Soil	Calcium	100,000			NE	167,788.0	490,604.0	NO	NO
OT	3834	SA	Surface Soil	Calcium	61,400			NE	167,788.0	490,604.0	NO	NO
OT	3835	SA	Surface Soil	Calcium	142,000			NE	167,788.0	490,604.0	NO	NO
OT	3836	SA	Surface Soil	Calcium	149,000			NE	167,788.0	490,604.0	NO	NO
OT	3837	SA	Surface Soil	Calcium	104,000			NE	167,788.0	490,604.0	NO	NO
OT	3838	SA	Surface Soil	Calcium	182,000			NE	167,788.0	490,604.0	YES	NO
OT	3839	SA	Surface Soil	Calcium	117,000			NE	167,788.0	490,604.0	NO	NO
OT	3840	SA	Surface Soil	Calcium	165,000			NE	167,788.0	490,604.0	NO	NO
OT	3841	SA	Surface Soil	Calcium	157,000			NE	167,788.0	490,604.0	NO	NO
OT	3842	SA	Surface Soil	Calcium	116,000			NE	167,788.0	490,604.0	NO	NO
OT	3843	SA	Surface Soil	Calcium	113,000			NE	167,788.0	490,604.0	NO	NO
OT	3844	SA	Surface Soil	Calcium	186,000			NE	167,788.0	490,604.0	YES	NO
OT	3845	SA	Surface Soil	Calcium	121,000			NE	167,788.0	490,604.0	NO	NO
OT	3846	SA	Surface Soil	Calcium	179,000			NE	167,788.0	490,604.0	YES	NO
OT	3847	SA	Surface Soil	Calcium	109,000			NE	167,788.0	490,604.0	NO	NO
OT	3848	SA	Surface Soil	Calcium	139,000			NE	167,788.0	490,604.0	NO	NO
OT	3849	SA	Surface Soil	Calcium	180,000			NE	167,788.0	490,604.0	YES	NO
OT	3850	SA	Background	Calcium	170,000			NE	167,788.0	490,604.0	YES	NO
OT	3851	SA	Background	Calcium	75,900			NE	167,788.0	490,604.0	NO	NO

Notes

1. J = Estimated quantitation based on QC data
2. JB = Estimated quantitation: possibly biased high or a false positive based upon blank data
3. JH = Estimated quantitation: possibly biased high based upon QC data
4. JL = Estimated quantitation: possibly biased low or a false negative based upon QC data
5. JQ = Estimated quantitation: detected below the PQL
6. NE = MSC not established for this analyte

Table 3

Comparison of Chromium Concentrations in Surface Soils to Background Concentrations
Aerospace Museum

Sample Number			Sample Type	Analyte	Result	Qualifier	Detection Limit?	SAI-Ind MSC	$UTL_{95\ 95}$	$UTL_{95\ 99}$	$UTL_{95\ 95}$ Exceeded?	$UTL_{95\ 99}$ Exceeded?	SAI-Ind MSC Exceeded?
OT	3801	SA	Surface Soil	Chromium	40.8			5,110.00	21.056	24.604	YES	YES	NO
OT	3802	SA	Surface Soil	Chromium	7.49	J		5,110.00	21.056	24.604	NO	NO	NO
OT	3803	SA	Surface Soil	Chromium	12.0			5,110.00	21.056	24.604	NO	NO	NO
OT	3804	SA	Surface Soil	Chromium	9.25			5,110.00	21.056	24.604	NO	NO	NO
OT	3805	SA	Surface Soil	Chromium	11.3			5,110.00	21.056	24.604	NO	NO	NO
OT	3806	SA	Surface Soil	Chromium	18.7	JQ		5,110.00	21.056	24.604	NO	NO	NO
OT	3807	SA	Surface Soil	Chromium	10.9			5,110.00	21.056	24.604	NO	NO	NO
OT	3808	SA	Surface Soil	Chromium	10.4			5,110.00	21.056	24.604	NO	NO	NO
OT	3809	SA	Surface Soil	Chromium	13.0	JQ		5,110.00	21.056	24.604	NO	NO	NO
OT	3810	SA	Surface Soil	Chromium	7.49			5,110.00	21.056	24.604	NO	NO	NO
OT	3811	SA	Surface Soil	Chromium	4.64			5,110.00	21.056	24.604	NO	NO	NO
OT	3812	SA	Surface Soil	Chromium	3.01	JQ		5,110.00	21.056	24.604	NO	NO	NO
OT	3813	SA	Surface Soil	Chromium	3.37	JQ		5,110.00	21.056	24.604	NO	NO	NO
OT	3814	SA	Surface Soil	Chromium	14.6			5,110.00	21.056	24.604	NO	NO	NO
OT	3815	SA	Surface Soil	Chromium	19.7	J		5,110.00	21.056	24.604	NO	NO	NO
OT	3816	SA	Surface Soil	Chromium	4.84			5,110.00	21.056	24.604	NO	NO	NO
OT	3817	SA	Surface Soil	Chromium	0.0		<38.2	5,110.00	21.056	24.604	NO	NO	NO
OT	3818	SA	Surface Soil	Chromium	13.4	JQ		5,110.00	21.056	24.604	NO	NO	NO
OT	3819	SA	Surface Soil	Chromium	9.17			5,110.00	21.056	24.604	NO	NO	NO
OT	3820	SA	Surface Soil	Chromium	13.9			5,110.00	21.056	24.604	NO	NO	NO
OT	3821	SA	Surface Soil	Chromium	0.0		<36.2	5,110.00	21.056	24.604	NO	NO	NO
OT	3822	SA	Surface Soil	Chromium	22.1	J		5,110.00	21.056	24.604	YES	NO	NO
OT	3823	SA	Surface Soil	Chromium	10.4			5,110.00	21.056	24.604	NO	NO	NO
OT	3824	SA	Surface Soil	Chromium	16.4			5,110.00	21.056	24.604	NO	NO	NO
OT	3825	SA	Surface Soil	Chromium	21.4			5,110.00	21.056	24.604	YES	NO	NO
OT	3826	SA	Surface Soil	Chromium	0.0		<41.4	5,110.00	21.056	24.604	NO	NO	NO
OT	3827	SA	Surface Soil	Chromium	0.0		<40.4	5,110.00	21.056	24.604	NO	NO	NO
OT	3828	SA	Surface Soil	Chromium	0.0		<39.8	5,110.00	21.056	24.604	NO	NO	NO
OT	3829	SA	Surface Soil	Chromium	11.0	JQ		5,110.00	21.056	24.604	NO	NO	NO
OT	3830	SA	Surface Soil	Chromium	13.0			5,110.00	21.056	24.604	NO	NO	NO
OT	3831	SA	Surface Soil	Chromium	8.74			5,110.00	21.056	24.604	NO	NO	NO
OT	3832	SA	Surface Soil	Chromium	9.72			5,110.00	21.056	24.604	NO	NO	NO
OT	3833	SA	Surface Soil	Chromium	0.0		<40.4	5,110.00	21.056	24.604	NO	NO	NO
OT	3834	SA	Surface Soil	Chromium	11.4			5,110.00	21.056	24.604	NO	NO	NO
OT	3835	SA	Surface Soil	Chromium	0.0		<37.4	5,110.00	21.056	24.604	NO	NO	NO
OT	3836	SA	Surface Soil	Chromium	0.0		<40.6	5,110.00	21.056	24.604	NO	NO	NO
OT	3837	SA	Surface Soil	Chromium	8.47			5,110.00	21.056	24.604	NO	NO	NO
OT	3838	SA	Surface Soil	Chromium	0.0		<41.3	5,110.00	21.056	24.604	NO	NO	NO
OT	3839	SA	Surface Soil	Chromium	8.39			5,110.00	21.056	24.604	NO	NO	NO
OT	3840	SA	Surface Soil	Chromium	14.8	JQ		5,110.00	21.056	24.604	NO	NO	NO
OT	3841	SA	Surface Soil	Chromium	0.0		<38.7	5,110.00	21.056	24.604	NO	NO	NO
OT	3842	SA	Surface Soil	Chromium	10.3	JQ		5,110.00	21.056	24.604	NO	NO	NO
OT	3843	SA	Surface Soil	Chromium	0.0		<39.8	5,110.00	21.056	24.604	NO	NO	NO
OT	3844	SA	Surface Soil	Chromium	8.29	JQ		5,110.00	21.056	24.604	NO	NO	NO
OT	3845	SA	Surface Soil	Chromium	10.8			5,110.00	21.056	24.604	NO	NO	NO
OT	3846	SA	Surface Soil	Chromium	0.0		<38.8	5,110.00	21.056	24.604	NO	NO	NO
OT	3847	SA	Surface Soil	Chromium	0.0		<38.6	5,110.00	21.056	24.604	NO	NO	NO
OT	3848	SA	Surface Soil	Chromium	0.0		<45.4	5,110.00	21.056	24.604	NO	NO	NO
OT	3849	SA	Surface Soil	Chromium	0.0		<36.2	5,110.00	21.056	24.604	NO	NO	NO
OT	3850	SA	Background	Chromium	0.0		<43.4	5,110.00	21.056	24.604	NO	NO	NO
OT	3851	SA	Background	Chromium	10.8			5,110.00	21.056	24.604	NO	NO	NO

Notes

1. J = Estimated quantitation based on QC data
2. JB = Estimated quantitation: possibly biased high or a false positive based upon blank data
3. JH = Estimated quantitation: possibly biased high based upon QC data
4. JL = Estimated quantitation: possibly biased low or a false negative based upon QC data
5. JQ = Estimated quantitation: detected below the PQL
6. NE = MSC not established for this analyte.

Table 3
Comparison of Cobalt Concentrations in Surface Soils to Background Concentrations
Aerospace Museum

Sample Number			Sample Type	Analyte	Result	Qualifier	MSC	$UTL_{95,95}$	$UTL_{95,99}$	$UTL_{95,95}$ Exceeded?	$UTL_{95,99}$ Exceeded?
OT	3801	SA	Surface Soil	Cobalt	2.08	JQ	NE	11.05	15.687	NO	NO
OT	3802	SA	Surface Soil	Cobalt	1.42	JQ	NE	11.05	15.687	NO	NO
OT	3803	SA	Surface Soil	Cobalt	5.36		NE	11.05	15.687	NO	NO
OT	3804	SA	Surface Soil	Cobalt	5.55		NE	11.05	15.687	NO	NO
OT	3805	SA	Surface Soil	Cobalt	11.30		NE	11.05	15.687	YES	NO
OT	3806	SA	Surface Soil	Cobalt	18.70	JQ	NE	11.05	15.687	YES	YES
OT	3807	SA	Surface Soil	Cobalt	10.90		NE	11.05	15.687	NO	NO
OT	3808	SA	Surface Soil	Cobalt	10.40		NE	11.05	15.687	NO	NO
OT	3809	SA	Surface Soil	Cobalt	13.00	JQ	NE	11.05	15.687	YES	NO
OT	3810	SA	Surface Soil	Cobalt	7.49		NE	11.05	15.687	NO	NO
OT	3811	SA	Surface Soil	Cobalt	4.64		NE	11.05	15.687	NO	NO
OT	3812	SA	Surface Soil	Cobalt	3.01	JQ	NE	11.05	15.687	NO	NO
OT	3813	SA	Surface Soil	Cobalt	3.37	JQ	NE	11.05	15.687	NO	NO
OT	3814	SA	Surface Soil	Cobalt	3.73	JQ	NE	11.05	15.687	NO	NO
OT	3815	SA	Surface Soil	Cobalt	4.12	JQ	NE	11.05	15.687	NO	NO
OT	3816	SA	Surface Soil	Cobalt	2.74	JQ	NE	11.05	15.687	NO	NO
OT	3817	SA	Surface Soil	Cobalt	0.99	JQ	NE	11.05	15.687	NO	NO
OT	3818	SA	Surface Soil	Cobalt	3.56	JQ	NE	11.05	15.687	NO	NO
OT	3819	SA	Surface Soil	Cobalt	4.24	JQ	NE	11.05	15.687	NO	NO
OT	3820	SA	Surface Soil	Cobalt	4.35	JQ	NE	11.05	15.687	NO	NO
OT	3821	SA	Surface Soil	Cobalt	1.45	JQ	NE	11.05	15.687	NO	NO
OT	3822	SA	Surface Soil	Cobalt	5.69		NE	11.05	15.687	NO	NO
OT	3823	SA	Surface Soil	Cobalt	4.23		NE	11.05	15.687	NO	NO
OT	3824	SA	Surface Soil	Cobalt	4.96	JQ	NE	11.05	15.687	NO	NO
OT	3825	SA	Surface Soil	Cobalt	2.23	JQ	NE	11.05	15.687	NO	NO
OT	3826	SA	Surface Soil	Cobalt	2.40	JQ	NE	11.05	15.687	NO	NO
OT	3827	SA	Surface Soil	Cobalt	3.15	JQ	NE	11.05	15.687	NO	NO
OT	3828	SA	Surface Soil	Cobalt	2.27	JQ	NE	11.05	15.687	NO	NO
OT	3829	SA	Surface Soil	Cobalt	4.58		NE	11.05	15.687	NO	NO
OT	3830	SA	Surface Soil	Cobalt	3.52	JQ	NE	11.05	15.687	NO	NO
OT	3831	SA	Surface Soil	Cobalt	2.50		NE	11.05	15.687	NO	NO
OT	3832	SA	Surface Soil	Cobalt	2.90	JQ	NE	11.05	15.687	NO	NO
OT	3833	SA	Surface Soil	Cobalt	2.18	JQ	NE	11.05	15.687	NO	NO
OT	3834	SA	Surface Soil	Cobalt	3.11	JQ	NE	11.05	15.687	NO	NO
OT	3835	SA	Surface Soil	Cobalt	2.24	JQ	NE	11.05	15.687	NO	NO
OT	3836	SA	Surface Soil	Cobalt	2.68	JQ	NE	11.05	15.687	NO	NO
OT	3837	SA	Surface Soil	Cobalt	2.76	JQ	NE	11.05	15.687	NO	NO
OT	3838	SA	Surface Soil	Cobalt	2.81	JQ	NE	11.05	15.687	NO	NO
OT	3839	SA	Surface Soil	Cobalt	2.77	JQ	NE	11.05	15.687	NO	NO
OT	3840	SA	Surface Soil	Cobalt	2.14	J	NE	11.05	15.687	NO	NO
OT	3841	SA	Surface Soil	Cobalt	2.17	JQ	NE	11.05	15.687	NO	NO
OT	3842	SA	Surface Soil	Cobalt	3.94		NE	11.05	15.687	NO	NO
OT	3843	SA	Surface Soil	Cobalt	2.95	JQ	NE	11.05	15.687	NO	NO
OT	3844	SA	Surface Soil	Cobalt	2.90	JQ	NE	11.05	15.687	NO	NO
OT	3845	SA	Surface Soil	Cobalt	4.03	JQ	NE	11.05	15.687	NO	NO
OT	3846	SA	Surface Soil	Cobalt	3.57	JQ	NE	11.05	15.687	NO	NO
OT	3847	SA	Surface Soil	Cobalt	2.31	JQ	NE	11.05	15.687	NO	NO
OT	3848	SA	Surface Soil	Cobalt	4.00	JQ	NE	11.05	15.687	NO	NO
OT	3849	SA	Surface Soil	Cobalt	1.66	JQ	NE	11.05	15.687	NO	NO
OT	3850	SA	Background	Cobalt	2.17	JQ	NE	11.05	15.687	NO	NO
OT	3851	SA	Background	Cobalt	3.45	JQ	NE	11.05	15.687	NO	NO

Notes:

1. J = Estimated quantitation based on QC data.
2. JB = Estimated quantitation: possibly biased high or a false positive based upon blank data.
3. JH = Estimated quantitation: possibly biased high based upon QC data.
4. JL = Estimated quantitation: possibly biased low or a false negative based upon QC data.
5. JQ = Estimated quantitation: detected below the PQL.
6. NE = MSC not established for this analyte.

Table 3

Comparison of Copper Concentrations in Surface Soils to Background Concentrations
Aerospace Museum

Sample Number	Sample Type	Analyte	Result	Qualifier	Detection Limit?	MSC	$UTL_{95,95}$	$UTL_{95,99}$	$UTL_{95,95}$ Exceeded?	$UTL_{95,99}$ Exceeded?
OT 3801 SA	Surface Soil	Copper	24.80	JQ		NE	17.373	19.883	YES	YES
OT 3802 SA	Surface Soil	Copper	6.74	JQ		NE	17.373	19.883	NO	NO
OT 3803 SA	Surface Soil	Copper	8.66			NE	17.373	19.883	NO	NO
OT 3804 SA	Surface Soil	Copper	8.28			NE	17.373	19.883	NO	NO
OT 3805 SA	Surface Soil	Copper	7.73			NE	17.373	19.883	NO	NO
OT 3806 SA	Surface Soil	Copper	15.70	JQ		NE	17.373	19.883	NO	NO
OT 3807 SA	Surface Soil	Copper	7.87			NE	17.373	19.883	NO	NO
OT 3808 SA	Surface Soil	Copper	9.15			NE	17.373	19.883	NO	NO
OT 3809 SA	Surface Soil	Copper	6.89	JQ		NE	17.373	19.883	NO	NO
OT 3810 SA	Surface Soil	Copper	7.98			NE	17.373	19.883	NO	NO
OT 3811 SA	Surface Soil	Copper	7.00			NE	17.373	19.883	NO	NO
OT 3812 SA	Surface Soil	Copper	4.81			NE	17.373	19.883	NO	NO
OT 3813 SA	Surface Soil	Copper	5.82			NE	17.373	19.883	NO	NO
OT 3814 SA	Surface Soil	Copper	7.62			NE	17.373	19.883	NO	NO
OT 3815 SA	Surface Soil	Copper	11.20	JQ		NE	17.373	19.883	NO	NO
OT 3816 SA	Surface Soil	Copper	6.13			NE	17.373	19.883	NO	NO
OT 3817 SA	Surface Soil	Copper	3.82	JQ		NE	17.373	19.883	NO	NO
OT 3818 SA	Surface Soil	Copper	6.33	JQ		NE	17.373	19.883	NO	NO
OT 3819 SA	Surface Soil	Copper	6.06			NE	17.373	19.883	NO	NO
OT 3820 SA	Surface Soil	Copper	8.61			NE	17.373	19.883	NO	NO
OT 3821 SA	Surface Soil	Copper	4.34	JQ		NE	17.373	19.883	NO	NO
OT 3822 SA	Surface Soil	Copper	13.20			NE	17.373	19.883	NO	NO
OT 3823 SA	Surface Soil	Copper	7.88			NE	17.373	19.883	NO	NO
OT 3824 SA	Surface Soil	Copper	10.50			NE	17.373	19.883	NO	NO
OT 3825 SA	Surface Soil	Copper	0.00		<42.9	NE	17.373	19.883	NO	NO
OT 3826 SA	Surface Soil	Copper	4.96	JQ		NE	17.373	19.883	NO	NO
OT 3827 SA	Surface Soil	Copper	8.89	JQ		NE	17.373	19.883	NO	NO
OT 3828 SA	Surface Soil	Copper	3.91	JQ		NE	17.373	19.883	NO	NO
OT 3829 SA	Surface Soil	Copper	6.78	JQ		NE	17.373	19.883	NO	NO
OT 3830 SA	Surface Soil	Copper	9.16			NE	17.373	19.883	NO	NO
OT 3831 SA	Surface Soil	Copper	6.33			NE	17.373	19.883	NO	NO
OT 3832 SA	Surface Soil	Copper	6.14			NE	17.373	19.883	NO	NO
OT 3833 SA	Surface Soil	Copper	5.66	JQ		NE	17.373	19.883	NO	NO
OT 3834 SA	Surface Soil	Copper	8.06			NE	17.373	19.883	NO	NO
OT 3835 SA	Surface Soil	Copper	6.73	JQ		NE	17.373	19.883	NO	NO
OT 3836 SA	Surface Soil	Copper	6.49	JQ		NE	17.373	19.883	NO	NO
OT 3837 SA	Surface Soil	Copper	7.17			NE	17.373	19.883	NO	NO
OT 3838 SA	Surface Soil	Copper	4.13	JQ		NE	17.373	19.883	NO	NO
OT 3839 SA	Surface Soil	Copper	4.70			NE	17.373	19.883	NO	NO
OT 3840 SA	Surface Soil	Copper	14.80	J		NE	17.373	19.883	NO	NO
OT 3841 SA	Surface Soil	Copper	6.19	JQ		NE	17.373	19.883	NO	NO
OT 3842 SA	Surface Soil	Copper	10.30	JQ		NE	17.373	19.883	NO	NO
OT 3843 SA	Surface Soil	Copper	11.20			NE	17.373	19.883	NO	NO
OT 3844 SA	Surface Soil	Copper	3.32	JQ		NE	17.373	19.883	NO	NO
OT 3845 SA	Surface Soil	Copper	8.79			NE	17.373	19.883	NO	NO
OT 3846 SA	Surface Soil	Copper	6.99			NE	17.373	19.883	NO	NO
OT 3847 SA	Surface Soil	Copper	9.25	JQ		NE	17.373	19.883	NO	NO
OT 3848 SA	Surface Soil	Copper	17.30	JQ		NE	17.373	19.883	NO	NO
OT 3849 SA	Surface Soil	Copper	0.00		<36.2	NE	17.373	19.883	NO	NO
OT 3850 SA	Background	Copper	6.07	JQ		NE	17.373	19.883	NO	NO
OT 3851 SA	Background	Copper	6.90			NE	17.373	19.883	NO	NO

Notes:

1. J = Estimated quantitation based on QC data.
2. JB = Estimated quantitation: possibly biased high or a false positive based upon blank data.
3. JH = Estimated quantitation: possibly biased high based upon QC data.
4. JL = Estimated quantitation: possibly biased low or a false negative based upon QC data.
5. JQ = Estimated quantitation: detected below the PQL.
6. NE = MSC not established for this analyte

Table 3
Comparison of Iron Concentrations in Surface Soils to Background Concentrations
Aerospace Museum

Sample Number	Sample Type	Analyte	Result	Qualifier	MSC	$UTL_{95\,95}$	$UTL_{95\,99}$	$UTL_{95\,95}$ Exceeded?	$UTL_{95\,99}$ Exceeded?
OT 3801 SA	Surface Soil	Iron	6,880.00		NE	17,717.0	20,574.0	NO	NO
OT 3802 SA	Surface Soil	Iron	3,690.00		NE	17,717.0	20,574.0	NO	NO
OT 3803 SA	Surface Soil	Iron	11,400.00		NE	17,717.0	20,574.0	NO	NO
OT 3804 SA	Surface Soil	Iron	11,600.00		NE	17,717.0	20,574.0	NO	NO
OT 3805 SA	Surface Soil	Iron	10,500.00		NE	17,717.0	20,574.0	NO	NO
OT 3806 SA	Surface Soil	Iron	4,870.00		NE	17,717.0	20,574.0	NO	NO
OT 3807 SA	Surface Soil	Iron	8,710.00		NE	17,717.0	20,574.0	NO	NO
OT 3808 SA	Surface Soil	Iron	7,400.00		NE	17,717.0	20,574.0	NO	NO
OT 3809 SA	Surface Soil	Iron	6,680.00		NE	17,717.0	20,574.0	NO	NO
OT 3810 SA	Surface Soil	Iron	10,300.00		NE	17,717.0	20,574.0	NO	NO
OT 3811 SA	Surface Soil	Iron	7,440.00		NE	17,717.0	20,574.0	NO	NO
OT 3812 SA	Surface Soil	Iron	7,030.00		NE	17,717.0	20,574.0	NO	NO
OT 3813 SA	Surface Soil	Iron	7,980.00		NE	17,717.0	20,574.0	NO	NO
OT 3814 SA	Surface Soil	Iron	10,200.00		NE	17,717.0	20,574.0	NO	NO
OT 3815 SA	Surface Soil	Iron	8,050.00		NE	17,717.0	20,574.0	NO	NO
OT 3816 SA	Surface Soil	Iron	6,000.00		NE	17,717.0	20,574.0	NO	NO
OT 3817 SA	Surface Soil	Iron	2,680.00		NE	17,717.0	20,574.0	NO	NO
OT 3818 SA	Surface Soil	Iron	6,940.00		NE	17,717.0	20,574.0	NO	NO
OT 3819 SA	Surface Soil	Iron	8,360.00		NE	17,717.0	20,574.0	NO	NO
OT 3820 SA	Surface Soil	Iron	11,900.00		NE	17,717.0	20,574.0	NO	NO
OT 3821 SA	Surface Soil	Iron	4,100.00		NE	17,717.0	20,574.0	NO	NO
OT 3822 SA	Surface Soil	Iron	10,500.00		NE	17,717.0	20,574.0	NO	NO
OT 3823 SA	Surface Soil	Iron	9,510.00		NE	17,717.0	20,574.0	NO	NO
OT 3824 SA	Surface Soil	Iron	15,600.00		NE	17,717.0	20,574.0	NO	NO
OT 3825 SA	Surface Soil	Iron	11,200.00		NE	17,717.0	20,574.0	NO	NO
OT 3826 SA	Surface Soil	Iron	7,170.00		NE	17,717.0	20,574.0	NO	NO
OT 3827 SA	Surface Soil	Iron	11,000.00		NE	17,717.0	20,574.0	NO	NO
OT 3828 SA	Surface Soil	Iron	7,630.00		NE	17,717.0	20,574.0	NO	NO
OT 3829 SA	Surface Soil	Iron	8,100.00		NE	17,717.0	20,574.0	NO	NO
OT 3830 SA	Surface Soil	Iron	8,360.00		NE	17,717.0	20,574.0	NO	NO
OT 3831 SA	Surface Soil	Iron	6,580.00		NE	17,717.0	20,574.0	NO	NO
OT 3832 SA	Surface Soil	Iron	8,130.00		NE	17,717.0	20,574.0	NO	NO
OT 3833 SA	Surface Soil	Iron	5,860.00		NE	17,717.0	20,574.0	NO	NO
OT 3834 SA	Surface Soil	Iron	9,300.00		NE	17,717.0	20,574.0	NO	NO
OT 3835 SA	Surface Soil	Iron	5,400.00		NE	17,717.0	20,574.0	NO	NO
OT 3836 SA	Surface Soil	Iron	7,980.00		NE	17,717.0	20,574.0	NO	NO
OT 3837 SA	Surface Soil	Iron	10,200.00		NE	17,717.0	20,574.0	NO	NO
OT 3838 SA	Surface Soil	Iron	10,400.00		NE	17,717.0	20,574.0	NO	NO
OT 3839 SA	Surface Soil	Iron	8,000.00		NE	17,717.0	20,574.0	NO	NO
OT 3840 SA	Surface Soil	Iron	20,000.00		NE	17,717.0	20,574.0	YES	NO
OT 3841 SA	Surface Soil	Iron	6,530.00		NE	17,717.0	20,574.0	NO	NO
OT 3842 SA	Surface Soil	Iron	11,800.00	J	NE	17,717.0	20,574.0	NO	NO
OT 3843 SA	Surface Soil	Iron	9,180.00		NE	17,717.0	20,574.0	NO	NO
OT 3844 SA	Surface Soil	Iron	11,200.00		NE	17,717.0	20,574.0	NO	NO
OT 3845 SA	Surface Soil	Iron	12,700.00		NE	17,717.0	20,574.0	NO	NO
OT 3846 SA	Surface Soil	Iron	7,470.00		NE	17,717.0	20,574.0	NO	NO
OT 3847 SA	Surface Soil	Iron	6,230.00		NE	17,717.0	20,574.0	NO	NO
OT 3848 SA	Surface Soil	Iron	13,200.00		NE	17,717.0	20,574.0	NO	NO
OT 3849 SA	Surface Soil	Iron	4,740.00		NE	17,717.0	20,574.0	NO	NO
OT 3850 SA	Background	Iron	7,040.00		NE	17,717.0	20,574.0	NO	NO
OT 3851 SA	Background	Iron	5,110.00		NE	17,717.0	20,574.0	NO	NO

Notes:

1. J = Estimated quantitation based on QC data.
2. JB = Estimated quantitation: possibly biased high or a false positive based upon blank data.
3. JH = Estimated quantitation: possibly biased high based upon QC data.
4. JL = Estimated quantitation: possibly biased low or a false negative based upon QC data.
5. JQ = Estimated quantitation: detected below the PQL.
6. NE = MSC not established for this analyte.

Table 3
Comparison of Lead Concentrations in Surface Soils to Background Concentrations
Aerospace Museum

Sample Number	Sample Type	Analyte	Result	Qualifier	SAI-Ind MSC	$UTL_{95\,95}$	$UTL_{95\,99}$	$UTL_{95\,95}$ Exceeded?	$UTL_{95\,99}$ Exceeded?	SAI-Ind MSC Exceeded?
OT 3801 SA	Surface Soil	Lead	227.0		1,000.00	30.97	42.397	YES	YES	NO
OT 3802 SA	Surface Soil	Lead	12.6		1,000.00	30.97	42.397	NO	NO	NO
OT 3803 SA	Surface Soil	Lead	26.6		1,000.00	30.97	42.397	NO	NO	NO
OT 3804 SA	Surface Soil	Lead	33.0		1,000.00	30.97	42.397	YES	NO	NO
OT 3805 SA	Surface Soil	Lead	21.0		1,000.00	30.97	42.397	NO	NO	NO
OT 3806 SA	Surface Soil	Lead	26.3		1,000.00	30.97	42.397	NO	NO	NO
OT 3807 SA	Surface Soil	Lead	49.4		1,000.00	30.97	42.397	YES	YES	NO
OT 3808 SA	Surface Soil	Lead	25.4		1,000.00	30.97	42.397	NO	NO	NO
OT 3809 SA	Surface Soil	Lead	19.1		1,000.00	30.97	42.397	NO	NO	NO
OT 3810 SA	Surface Soil	Lead	19.0		1,000.00	30.97	42.397	NO	NO	NO
OT 3811 SA	Surface Soil	Lead	17.0		1,000.00	30.97	42.397	NO	NO	NO
OT 3812 SA	Surface Soil	Lead	32.9		1,000.00	30.97	42.397	YES	NO	NO
OT 3813 SA	Surface Soil	Lead	21.9		1,000.00	30.97	42.397	NO	NO	NO
OT 3814 SA	Surface Soil	Lead	42.8		1,000.00	30.97	42.397	YES	YES	NO
OT 3815 SA	Surface Soil	Lead	15.4		1,000.00	30.97	42.397	NO	NO	NO
OT 3816 SA	Surface Soil	Lead	52.2		1,000.00	30.97	42.397	YES	YES	NO
OT 3817 SA	Surface Soil	Lead	4.0		1,000.00	30.97	42.397	NO	NO	NO
OT 3818 SA	Surface Soil	Lead	15.3		1,000.00	30.97	42.397	NO	NO	NO
OT 3819 SA	Surface Soil	Lead	13.0		1,000.00	30.97	42.397	NO	NO	NO
OT 3820 SA	Surface Soil	Lead	27.7		1,000.00	30.97	42.397	NO	NO	NO
OT 3821 SA	Surface Soil	Lead	9.1		1,000.00	30.97	42.397	NO	NO	NO
OT 3822 SA	Surface Soil	Lead	36.2	JL	1,000.00	30.97	42.397	YES	NO	NO
OT 3823 SA	Surface Soil	Lead	23.0	JH	1,000.00	30.97	42.397	NO	NO	NO
OT 3824 SA	Surface Soil	Lead	62.2		1,000.00	30.97	42.397	YES	YES	NO
OT 3825 SA	Surface Soil	Lead	16.6		1,000.00	30.97	42.397	NO	NO	NO
OT 3826 SA	Surface Soil	Lead	16.3		1,000.00	30.97	42.397	NO	NO	NO
OT 3827 SA	Surface Soil	Lead	16.2		1,000.00	30.97	42.397	NO	NO	NO
OT 3828 SA	Surface Soil	Lead	14.2		1,000.00	30.97	42.397	NO	NO	NO
OT 3829 SA	Surface Soil	Lead	19.3		1,000.00	30.97	42.397	NO	NO	NO
OT 3830 SA	Surface Soil	Lead	16.0	J	1,000.00	30.97	42.397	NO	NO	NO
OT 3831 SA	Surface Soil	Lead	21.0		1,000.00	30.97	42.397	NO	NO	NO
OT 3832 SA	Surface Soil	Lead	36.0		1,000.00	30.97	42.397	YES	NO	NO
OT 3833 SA	Surface Soil	Lead	14.4		1,000.00	30.97	42.397	NO	NO	NO
OT 3834 SA	Surface Soil	Lead	21.9		1,000.00	30.97	42.397	NO	NO	NO
OT 3835 SA	Surface Soil	Lead	14.2		1,000.00	30.97	42.397	NO	NO	NO
OT 3836 SA	Surface Soil	Lead	22.4		1,000.00	30.97	42.397	NO	NO	NO
OT 3837 SA	Surface Soil	Lead	11.0		1,000.00	30.97	42.397	NO	NO	NO
OT 3838 SA	Surface Soil	Lead	14.9		1,000.00	30.97	42.397	NO	NO	NO
OT 3839 SA	Surface Soil	Lead	11.2		1,000.00	30.97	42.397	NO	NO	NO
OT 3840 SA	Surface Soil	Lead	1,030.0		1,000.00	30.97	42.397	YES	YES	YES
OT 3841 SA	Surface Soil	Lead	11.6		1,000.00	30.97	42.397	NO	NO	NO
OT 3842 SA	Surface Soil	Lead	20.9		1,000.00	30.97	42.397	NO	NO	NO
OT 3843 SA	Surface Soil	Lead	27.5		1,000.00	30.97	42.397	NO	NO	NO
OT 3844 SA	Surface Soil	Lead	29.0		1,000.00	30.97	42.397	NO	NO	NO
OT 3845 SA	Surface Soil	Lead	19.6		1,000.00	30.97	42.397	NO	NO	NO
OT 3846 SA	Surface Soil	Lead	38.4		1,000.00	30.97	42.397	YES	NO	NO
OT 3847 SA	Surface Soil	Lead	128.0		1,000.00	30.97	42.397	YES	YES	NO
OT 3848 SA	Surface Soil	Lead	580.0		1,000.00	30.97	42.397	YES	YES	NO
OT 3849 SA	Surface Soil	Lead	13.9		1,000.00	30.97	42.397	NO	NO	NO
OT 3850 SA	Background	Lead	52.3		1,000.00	30.97	42.397	YES	YES	NO
OT 3851 SA	Background	Lead	96.3		1,000.00	30.97	42.397	YES	YES	NO

Notes

1. J = Estimated quantitation based on QC data.
2. JB = Estimated quantitation: possibly biased high or a false positive based upon blank data.
3. JH = Estimated quantitation: possibly biased high based upon QC data.
4. JL = Estimated quantitation: possibly biased low or a false negative based upon QC data.
5. JQ = Estimated quantitation: detected below the PQL.
6. NE = MSC not established for this analyte.

Table 3

Comparison of Magnesium Concentrations in Surface Soils to Background Concentrations
Aerospace Museum

Sample Number			Sample Type	Analyte	Result	Qualifier	MSC	$UTL_{95,95}$	$UTL_{95,99}$	$UTL_{95,95}$ Exceeded?	$UTL_{95,99}$ Exceeded?
OT	3801	SA	Surface Soil	Magnesium	1,960		NE	3,003.0	3,624.0	NO	NO
OT	3802	SA	Surface Soil	Magnesium	2,090		NE	3,003.0	3,624.0	NO	NO
OT	3803	SA	Surface Soil	Magnesium	2,300		NE	3,003.0	3,624.0	NO	NO
OT	3804	SA	Surface Soil	Magnesium	1,740		NE	3,003.0	3,624.0	NO	NO
OT	3805	SA	Surface Soil	Magnesium	1,880		NE	3,003.0	3,624.0	NO	NO
OT	3806	SA	Surface Soil	Magnesium	2,040		NE	3,003.0	3,624.0	NO	NO
OT	3807	SA	Surface Soil	Magnesium	2,200		NE	3,003.0	3,624.0	NO	NO
OT	3808	SA	Surface Soil	Magnesium	2,160		NE	3,003.0	3,624.0	NO	NO
OT	3809	SA	Surface Soil	Magnesium	1,990		NE	3,003.0	3,624.0	NO	NO
OT	3810	SA	Surface Soil	Magnesium	2,140		NE	3,003.0	3,624.0	NO	NO
OT	3811	SA	Surface Soil	Magnesium	2,190		NE	3,003.0	3,624.0	NO	NO
OT	3812	SA	Surface Soil	Magnesium	1,280		NE	3,003.0	3,624.0	NO	NO
OT	3813	SA	Surface Soil	Magnesium	1,620		NE	3,003.0	3,624.0	NO	NO
OT	3814	SA	Surface Soil	Magnesium	1,500		NE	3,003.0	3,624.0	NO	NO
OT	3815	SA	Surface Soil	Magnesium	2,090		NE	3,003.0	3,624.0	NO	NO
OT	3816	SA	Surface Soil	Magnesium	1,320		NE	3,003.0	3,624.0	NO	NO
OT	3817	SA	Surface Soil	Magnesium	2,020		NE	3,003.0	3,624.0	NO	NO
OT	3818	SA	Surface Soil	Magnesium	1,880		NE	3,003.0	3,624.0	NO	NO
OT	3819	SA	Surface Soil	Magnesium	1,460		NE	3,003.0	3,624.0	NO	NO
OT	3820	SA	Surface Soil	Magnesium	2,240		NE	3,003.0	3,624.0	NO	NO
OT	3821	SA	Surface Soil	Magnesium	2,000	J	NE	3,003.0	3,624.0	NO	NO
OT	3822	SA	Surface Soil	Magnesium	2,170		NE	3,003.0	3,624.0	NO	NO
OT	3823	SA	Surface Soil	Magnesium	2,100		NE	3,003.0	3,624.0	NO	NO
OT	3824	SA	Surface Soil	Magnesium	3,200		NE	3,003.0	3,624.0	YES	NO
OT	3825	SA	Surface Soil	Magnesium	2,200		NE	3,003.0	3,624.0	NO	NO
OT	3826	SA	Surface Soil	Magnesium	1,810		NE	3,003.0	3,624.0	NO	NO
OT	3827	SA	Surface Soil	Magnesium	2,340		NE	3,003.0	3,624.0	NO	NO
OT	3828	SA	Surface Soil	Magnesium	2,340		NE	3,003.0	3,624.0	NO	NO
OT	3829	SA	Surface Soil	Magnesium	2,680		NE	3,003.0	3,624.0	NO	NO
OT	3830	SA	Surface Soil	Magnesium	2,650		NE	3,003.0	3,624.0	NO	NO
OT	3831	SA	Surface Soil	Magnesium	1,770		NE	3,003.0	3,624.0	NO	NO
OT	3832	SA	Surface Soil	Magnesium	1,950		NE	3,003.0	3,624.0	NO	NO
OT	3833	SA	Surface Soil	Magnesium	1,930		NE	3,003.0	3,624.0	NO	NO
OT	3834	SA	Surface Soil	Magnesium	2,320		NE	3,003.0	3,624.0	NO	NO
OT	3835	SA	Surface Soil	Magnesium	1,800		NE	3,003.0	3,624.0	NO	NO
OT	3836	SA	Surface Soil	Magnesium	2,150		NE	3,003.0	3,624.0	NO	NO
OT	3837	SA	Surface Soil	Magnesium	2,380		NE	3,003.0	3,624.0	NO	NO
OT	3838	SA	Surface Soil	Magnesium	2,270		NE	3,003.0	3,624.0	NO	NO
OT	3839	SA	Surface Soil	Magnesium	2,110		NE	3,003.0	3,624.0	NO	NO
OT	3840	SA	Surface Soil	Magnesium	1,880		NE	3,003.0	3,624.0	NO	NO
OT	3841	SA	Surface Soil	Magnesium	2,100		NE	3,003.0	3,624.0	NO	NO
OT	3842	SA	Surface Soil	Magnesium	2,660		NE	3,003.0	3,624.0	NO	NO
OT	3843	SA	Surface Soil	Magnesium	2,100		NE	3,003.0	3,624.0	NO	NO
OT	3844	SA	Surface Soil	Magnesium	2,510		NE	3,003.0	3,624.0	NO	NO
OT	3845	SA	Surface Soil	Magnesium	3,150		NE	3,003.0	3,624.0	YES	NO
OT	3846	SA	Surface Soil	Magnesium	2,350		NE	3,003.0	3,624.0	NO	NO
OT	3847	SA	Surface Soil	Magnesium	1,920		NE	3,003.0	3,624.0	NO	NO
OT	3848	SA	Surface Soil	Magnesium	2,800		NE	3,003.0	3,624.0	NO	NO
OT	3849	SA	Surface Soil	Magnesium	1,650		NE	3,003.0	3,624.0	NO	NO
OT	3850	SA	Background	Magnesium	2,000		NE	3,003.0	3,624.0	NO	NO
OT	3851	SA	Background	Magnesium	1,080		NE	3,003.0	3,624.0	NO	NO

Notes:

1. J = Estimated quantitation based on QC data.
2. JB = Estimated quantitation: possibly biased high or a false positive based upon blank data
3. JH = Estimated quantitation: possibly biased high based upon QC data
4. JL = Estimated quantitation: possibly biased low or a false negative based upon QC data.
5. JQ = Estimated quantitation: detected below the PQL.
6. NE = MSC not established for this analyte.

Table 3
Comparison of Manganese Concentrations in Surface Soils to Background Concentrations
Aerospace Museum

Sample Number			Sample Type	Analyte	Result	Qualifier	MSC	UTL 95,95	UTL 95,95 Exceeded?
OT	3801	SA	Surface Soil	Manganese	370		NE	849.1	NO
OT	3802	SA	Surface Soil	Manganese	389		NE	849.1	NO
OT	3803	SA	Surface Soil	Manganese	574		NE	849.1	NO
OT	3804	SA	Surface Soil	Manganese	526		NE	849.1	NO
OT	3805	SA	Surface Soil	Manganese	353		NE	849.1	NO
OT	3806	SA	Surface Soil	Manganese	435		NE	849.1	NO
OT	3807	SA	Surface Soil	Manganese	422		NE	849.1	NO
OT	3808	SA	Surface Soil	Manganese	291		NE	849.1	NO
OT	3809	SA	Surface Soil	Manganese	351		NE	849.1	NO
OT	3810	SA	Surface Soil	Manganese	572		NE	849.1	NO
OT	3811	SA	Surface Soil	Manganese	457		NE	849.1	NO
OT	3812	SA	Surface Soil	Manganese	303		NE	849.1	NO
OT	3813	SA	Surface Soil	Manganese	224		NE	849.1	NO
OT	3814	SA	Surface Soil	Manganese	255		NE	849.1	NO
OT	3815	SA	Surface Soil	Manganese	631		NE	849.1	NO
OT	3816	SA	Surface Soil	Manganese	290		NE	849.1	NO
OT	3817	SA	Surface Soil	Manganese	355		NE	849.1	NO
OT	3818	SA	Surface Soil	Manganese	428		NE	849.1	NO
OT	3819	SA	Surface Soil	Manganese	374		NE	849.1	NO
OT	3820	SA	Surface Soil	Manganese	329		NE	849.1	NO
OT	3821	SA	Surface Soil	Manganese	372		NE	849.1	NO
OT	3822	SA	Surface Soil	Manganese	678		NE	849.1	NO
OT	3823	SA	Surface Soil	Manganese	429		NE	849.1	NO
OT	3824	SA	Surface Soil	Manganese	421		NE	849.1	NO
OT	3825	SA	Surface Soil	Manganese	325		NE	849.1	NO
OT	3826	SA	Surface Soil	Manganese	447		NE	849.1	NO
OT	3827	SA	Surface Soil	Manganese	538		NE	849.1	NO
OT	3828	SA	Surface Soil	Manganese	361		NE	849.1	NO
OT	3829	SA	Surface Soil	Manganese	667		NE	849.1	NO
OT	3830	SA	Surface Soil	Manganese	296		NE	849.1	NO
OT	3831	SA	Surface Soil	Manganese	168		NE	849.1	NO
OT	3832	SA	Surface Soil	Manganese	317		NE	849.1	NO
OT	3833	SA	Surface Soil	Manganese	221		NE	849.1	NO
OT	3834	SA	Surface Soil	Manganese	261		NE	849.1	NO
OT	3835	SA	Surface Soil	Manganese	303		NE	849.1	NO
OT	3836	SA	Surface Soil	Manganese	408		NE	849.1	NO
OT	3837	SA	Surface Soil	Manganese	283		NE	849.1	NO
OT	3838	SA	Surface Soil	Manganese	368		NE	849.1	NO
OT	3839	SA	Surface Soil	Manganese	231		NE	849.1	NO
OT	3840	SA	Surface Soil	Manganese	476		NE	849.1	NO
OT	3841	SA	Surface Soil	Manganese	323		NE	849.1	NO
OT	3842	SA	Surface Soil	Manganese	527	J	NE	849.1	NO
OT	3843	SA	Surface Soil	Manganese	403		NE	849.1	NO
OT	3844	SA	Surface Soil	Manganese	455		NE	849.1	NO
OT	3845	SA	Surface Soil	Manganese	364		NE	849.1	NO
OT	3846	SA	Surface Soil	Manganese	474		NE	849.1	NO
OT	3847	SA	Surface Soil	Manganese	318		NE	849.1	NO
OT	3848	SA	Surface Soil	Manganese	479		NE	849.1	NO
OT	3849	SA	Surface Soil	Manganese	338		NE	849.1	NO
OT	3850	SA	Background	Manganese	346		NE	849.1	NO
OT	3851	SA	Background	Manganese	229		NE	849.1	NO

Notes

1. J = Estimated quantitation based on QC data.
2. JB = Estimated quantitation: possibly biased high or a false positive based upon blank data.
3. JH = Estimated quantitation: possibly biased high based upon QC data.
4. JL = Estimated quantitation: possibly biased low or a false negative based upon QC data.
5. JQ = Estimated quantitation: detected below the PQL.
6. NE = MSC not established for this analyte.

Table 3
Comparison of Molybdenum Concentrations in Surface Soils to Background Concentrations
Aerospace Museum

Sample Number			Sample Type	Analyte	Result	Qualifier	Detection Limit?	MSC	$UTL_{95,95}$	$UTL_{95,95}$ Exceeded?
OT	3801	SA	Surface Soil	Molybdenum	1.52	JQ		NE	1.460	YES
OT	3802	SA	Surface Soil	Molybdenum	0.0		<3.74	NE	1.460	NO
OT	3803	SA	Surface Soil	Molybdenum	1.98	JQ		NE	1.460	YES
OT	3804	SA	Surface Soil	Molybdenum	2.34			NE	1.460	YES
OT	3805	SA	Surface Soil	Molybdenum	2.04	JQ		NE	1.460	YES
OT	3806	SA	Surface Soil	Molybdenum	0.0		<3.74	NE	1.460	NO
OT	3807	SA	Surface Soil	Molybdenum	1.81	JQ		NE	1.460	YES
OT	3808	SA	Surface Soil	Molybdenum	0.0		<4.44	NE	1.460	NO
OT	3809	SA	Surface Soil	Molybdenum	2.22	JQ		NE	1.460	YES
OT	3810	SA	Surface Soil	Molybdenum	1.79	JQ		NE	1.460	YES
OT	3811	SA	Surface Soil	Molybdenum	0.0		<4.07	NE	1.460	NO
OT	3812	SA	Surface Soil	Molybdenum	1.63	JQ		NE	1.460	YES
OT	3813	SA	Surface Soil	Molybdenum	1.35	JQ		NE	1.460	NO
OT	3814	SA	Surface Soil	Molybdenum	1.78	JQ		NE	1.460	YES
OT	3815	SA	Surface Soil	Molybdenum	0.0		<4.29	NE	1.460	NO
OT	3816	SA	Surface Soil	Molybdenum	0.0		<4.03	NE	1.460	NO
OT	3817	SA	Surface Soil	Molybdenum	0.0		<3.82	NE	1.460	NO
OT	3818	SA	Surface Soil	Molybdenum	0.0		<3.96	NE	1.460	NO
OT	3819	SA	Surface Soil	Molybdenum	1.64	JQ		NE	1.460	YES
OT	3820	SA	Surface Soil	Molybdenum	1.6	JL		NE	1.460	YES
OT	3821	SA	Surface Soil	Molybdenum	1.23	JQ		NE	1.460	NO
OT	3822	SA	Surface Soil	Molybdenum	2.19	JL		NE	1.460	YES
OT	3823	SA	Surface Soil	Molybdenum	1.99	JQ		NE	1.460	YES
OT	3824	SA	Surface Soil	Molybdenum	0.0		<5.90	NE	1.460	NO
OT	3825	SA	Surface Soil	Molybdenum	2.49	JQ		NE	1.460	YES
OT	3826	SA	Surface Soil	Molybdenum	2.07	JQ		NE	1.460	YES
OT	3827	SA	Surface Soil	Molybdenum	2.99	JQ		NE	1.460	YES
OT	3828	SA	Surface Soil	Molybdenum	2.03	JQ		NE	1.460	YES
OT	3829	SA	Surface Soil	Molybdenum	2.54	JQ		NE	1.460	YES
OT	3830	SA	Surface Soil	Molybdenum	1.32	JL		NE	1.460	NO
OT	3831	SA	Surface Soil	Molybdenum	0.0		<4.46	NE	1.460	NO
OT	3832	SA	Surface Soil	Molybdenum	2.13	JQ		NE	1.460	YES
OT	3833	SA	Surface Soil	Molybdenum	1.78	JQ		NE	1.460	YES
OT	3834	SA	Surface Soil	Molybdenum	2.86	JQ		NE	1.460	YES
OT	3835	SA	Surface Soil	Molybdenum	1.42	JQ		NE	1.460	NO
OT	3836	SA	Surface Soil	Molybdenum	3.0	JQ		NE	1.460	YES
OT	3837	SA	Surface Soil	Molybdenum	0.0		<4.32	NE	1.460	NO
OT	3838	SA	Surface Soil	Molybdenum	0.0		<4.13	NE	1.460	NO
OT	3839	SA	Surface Soil	Molybdenum	0.0		<4.20	NE	1.460	NO
OT	3840	SA	Surface Soil	Molybdenum	4.03	JL		NE	1.460	YES
OT	3841	SA	Surface Soil	Molybdenum	1.39	JQ		NE	1.460	NO
OT	3842	SA	Surface Soil	Molybdenum	1.97	JQ		NE	1.460	YES
OT	3843	SA	Surface Soil	Molybdenum	1.91	JQ		NE	1.460	YES
OT	3844	SA	Surface Soil	Molybdenum	2.4	JQ		NE	1.460	YES
OT	3845	SA	Surface Soil	Molybdenum	2.2	JQ		NE	1.460	YES
OT	3846	SA	Surface Soil	Molybdenum	1.79	JQ		NE	1.460	YES
OT	3847	SA	Surface Soil	Molybdenum	1.46	JQ		NE	1.460	NO
OT	3848	SA	Surface Soil	Molybdenum	2.91	JQ		NE	1.460	YES
OT	3849	SA	Surface Soil	Molybdenum	0.0		<3.62	NE	1.460	NO
OT	3850	SA	Background	Molybdenum	1.91	JL		NE	1.460	YES
OT	3851	SA	Background	Molybdenum	0.0		<3.60	NE	1.460	NO

Notes

1. J = Estimated quantitation based on QC data.
2. JB = Estimated quantitation: possibly biased high or a false positive based upon blank data
3. JH = Estimated quantitation: possibly biased high based upon QC data.
4. JL = Estimated quantitation: possibly biased low or a false negative based upon QC data.
5. JQ = Estimated quantitation: detected below the PQL.
6. NE = MSC not established for this analyte.
7. Comparison to $UTL_{95,99}$ not possible because UTL was established as the highest value in the background dataset.

Table 3
Comparison of Nickel Concentrations in Surface Soils to Background Concentrations
Aerospace Museum

Sample Number			Sample Type	Analyte	Result	Qualifier	SAI-Ind MSC	$UTL_{95,95}$	$UTL_{95,95}$ Exceeded?	SAI-Ind MSC Exceeded?
OT	3801	SA	Surface Soil	Nickel	214.0		20,400.0	14.6	YES	NO
OT	3802	SA	Surface Soil	Nickel	198.0		20,400.0	14.6	YES	NO
OT	3803	SA	Surface Soil	Nickel	11.0		20,400.0	14.6	NO	NO
OT	3804	SA	Surface Soil	Nickel	10.4		20,400.0	14.6	NO	NO
OT	3805	SA	Surface Soil	Nickel	8.22		20,400.0	14.6	NO	NO
OT	3806	SA	Surface Soil	Nickel	198.0		20,400.0	14.6	YES	NO
OT	3807	SA	Surface Soil	Nickel	10.5		20,400.0	14.6	NO	NO
OT	3808	SA	Surface Soil	Nickel	8.97		20,400.0	14.6	NO	NO
OT	3809	SA	Surface Soil	Nickel	205.0		20,400.0	14.6	YES	NO
OT	3810	SA	Surface Soil	Nickel	9.28		20,400.0	14.6	NO	NO
OT	3811	SA	Surface Soil	Nickel	8.79	J	20,400.0	14.6	NO	NO
OT	3812	SA	Surface Soil	Nickel	6.36		20,400.0	14.6	NO	NO
OT	3813	SA	Surface Soil	Nickel	8.43		20,400.0	14.6	NO	NO
OT	3814	SA	Surface Soil	Nickel	8.76		20,400.0	14.6	NO	NO
OT	3815	SA	Surface Soil	Nickel	229.0		20,400.0	14.6	YES	NO
OT	3816	SA	Surface Soil	Nickel	5.88		20,400.0	14.6	NO	NO
OT	3817	SA	Surface Soil	Nickel	200.0		20,400.0	14.6	YES	NO
OT	3818	SA	Surface Soil	Nickel	58.6		20,400.0	14.6	YES	NO
OT	3819	SA	Surface Soil	Nickel	8.3		20,400.0	14.6	NO	NO
OT	3820	SA	Surface Soil	Nickel	9.15		20,400.0	14.6	NO	NO
OT	3821	SA	Surface Soil	Nickel	189.0		20,400.0	14.6	YES	NO
OT	3822	SA	Surface Soil	Nickel	12.4		20,400.0	14.6	NO	NO
OT	3823	SA	Surface Soil	Nickel	9.28		20,400.0	14.6	NO	NO
OT	3824	SA	Surface Soil	Nickel	14.0		20,400.0	14.6	NO	NO
OT	3825	SA	Surface Soil	Nickel	63.1		20,400.0	14.6	YES	NO
OT	3826	SA	Surface Soil	Nickel	218.0		20,400.0	14.6	YES	NO
OT	3827	SA	Surface Soil	Nickel	218.0		20,400.0	14.6	YES	NO
OT	3828	SA	Surface Soil	Nickel	206.0		20,400.0	14.6	YES	NO
OT	3829	SA	Surface Soil	Nickel	224.0		20,400.0	14.6	YES	NO
OT	3830	SA	Surface Soil	Nickel	9.34		20,400.0	14.6	NO	NO
OT	3831	SA	Surface Soil	Nickel	6.42		20,400.0	14.6	NO	NO
OT	3832	SA	Surface Soil	Nickel	7.85		20,400.0	14.6	NO	NO
OT	3833	SA	Surface Soil	Nickel	57.9		20,400.0	14.6	YES	NO
OT	3834	SA	Surface Soil	Nickel	9.83		20,400.0	14.6	NO	NO
OT	3835	SA	Surface Soil	Nickel	196.0		20,400.0	14.6	YES	NO
OT	3836	SA	Surface Soil	Nickel	214.0		20,400.0	14.6	YES	NO
OT	3837	SA	Surface Soil	Nickel	8.73		20,400.0	14.6	NO	NO
OT	3838	SA	Surface Soil	Nickel	220.0		20,400.0	14.6	YES	NO
OT	3839	SA	Surface Soil	Nickel	7.38		20,400.0	14.6	NO	NO
OT	3840	SA	Surface Soil	Nickel	222.0		20,400.0	14.6	YES	NO
OT	3841	SA	Surface Soil	Nickel	203.0		20,400.0	14.6	YES	NO
OT	3842	SA	Surface Soil	Nickel	60.8		20,400.0	14.6	YES	NO
OT	3843	SA	Surface Soil	Nickel	59.1		20,400.0	14.6	YES	NO
OT	3844	SA	Surface Soil	Nickel	224.0		20,400.0	14.6	YES	NO
OT	3845	SA	Surface Soil	Nickel	9.71		20,400.0	14.6	NO	NO
OT	3846	SA	Surface Soil	Nickel	206.0		20,400.0	14.6	YES	NO
OT	3847	SA	Surface Soil	Nickel	154.0		20,400.0	14.6	YES	NO
OT	3848	SA	Surface Soil	Nickel	242.0		20,400.0	14.6	YES	NO
OT	3849	SA	Surface Soil	Nickel	191.0		20,400.0	14.6	YES	NO
OT	3850	SA	Background	Nickel	230.0		20,400.0	14.6	YES	NO
OT	3851	SA	Background	Nickel	5.75		20,400.0	14.6	NO	NO

Notes:

1. J = Estimated quantitation based on QC data.
2. JB = Estimated quantitation: possibly biased high or a false positive based upon blank data
3. JH = Estimated quantitation: possibly biased high based upon QC data.
4. JL = Estimated quantitation: possibly biased low or a false negative based upon QC data.
5. JQ = Estimated quantitation: detected below the PQL.
6. NE = MSC not established for this analyte.
7. Comparison to $UTL_{95,99}$ not possible because UTL was established as the highest value in the background dataset.

Table 3

Comparison of Potassium Concentrations in Surface Soils to Background Concentrations
Aerospace Museum

Sample Number			Sample Type	Analyte	Result	Qualifier	MSC	$UTL_{95\,95}$	$UTL_{95\,95}$ Exceeded?
OT	3801	SA	Surface Soil	Potassium	966.0		NE	2,895	NO
OT	3802	SA	Surface Soil	Potassium	614.0	JH	NE	2,895	NO
OT	3803	SA	Surface Soil	Potassium	1,880.0	JH	NE	2,895	NO
OT	3804	SA	Surface Soil	Potassium	1,450.0		NE	2,895	NO
OT	3805	SA	Surface Soil	Potassium	1,520.0	JH	NE	2,895	NO
OT	3806	SA	Surface Soil	Potassium	980.0	JH	NE	2,895	NO
OT	3807	SA	Surface Soil	Potassium	1,570.0	JH	NE	2,895	NO
OT	3808	SA	Surface Soil	Potassium	1,710.0		NE	2,895	NO
OT	3809	SA	Surface Soil	Potassium	1,370.0	JH	NE	2,895	NO
OT	3810	SA	Surface Soil	Potassium	1,790.0	JH	NE	2,895	NO
OT	3811	SA	Surface Soil	Potassium	1,530.0	JH	NE	2,895	NO
OT	3812	SA	Surface Soil	Potassium	1,160.0	JH	NE	2,895	NO
OT	3813	SA	Surface Soil	Potassium	1,210.0	JH	NE	2,895	NO
OT	3814	SA	Surface Soil	Potassium	1,330.0	JH	NE	2,895	NO
OT	3815	SA	Surface Soil	Potassium	1,200.0	JH	NE	2,895	NO
OT	3816	SA	Surface Soil	Potassium	1,080.0	JH	NE	2,895	NO
OT	3817	SA	Surface Soil	Potassium	299.0		NE	2,895	NO
OT	3818	SA	Surface Soil	Potassium	1,300.0		NE	2,895	NO
OT	3819	SA	Surface Soil	Potassium	1,250.0		NE	2,895	NO
OT	3820	SA	Surface Soil	Potassium	2,030.0		NE	2,895	NO
OT	3821	SA	Surface Soil	Potassium	712.0		NE	2,895	NO
OT	3822	SA	Surface Soil	Potassium	1,880.0		NE	2,895	NO
OT	3823	SA	Surface Soil	Potassium	1,320.0		NE	2,895	NO
OT	3824	SA	Surface Soil	Potassium	2,740.0		NE	2,895	NO
OT	3825	SA	Surface Soil	Potassium	1,850.0		NE	2,895	NO
OT	3826	SA	Surface Soil	Potassium	955.0		NE	2,895	NO
OT	3827	SA	Surface Soil	Potassium	1,260.0		NE	2,895	NO
OT	3828	SA	Surface Soil	Potassium	1,210.0		NE	2,895	NO
OT	3829	SA	Surface Soil	Potassium	1,020.0		NE	2,895	NO
OT	3830	SA	Surface Soil	Potassium	1,710.0		NE	2,895	NO
OT	3831	SA	Surface Soil	Potassium	1,060.0		NE	2,895	NO
OT	3832	SA	Surface Soil	Potassium	1,390.0		NE	2,895	NO
OT	3833	SA	Surface Soil	Potassium	1,020.0		NE	2,895	NO
OT	3834	SA	Surface Soil	Potassium	1,410.0		NE	2,895	NO
OT	3835	SA	Surface Soil	Potassium	628.0		NE	2,895	NO
OT	3836	SA	Surface Soil	Potassium	867.0		NE	2,895	NO
OT	3837	SA	Surface Soil	Potassium	1,790.0		NE	2,895	NO
OT	3838	SA	Surface Soil	Potassium	1,300.0		NE	2,895	NO
OT	3839	SA	Surface Soil	Potassium	1,090.0		NE	2,895	NO
OT	3840	SA	Surface Soil	Potassium	1,070.0		NE	2,895	NO
OT	3841	SA	Surface Soil	Potassium	891.0		NE	2,895	NO
OT	3842	SA	Surface Soil	Potassium	2,190.0	J	NE	2,895	NO
OT	3843	SA	Surface Soil	Potassium	1,250.0		NE	2,895	NO
OT	3844	SA	Surface Soil	Potassium	1,920.0		NE	2,895	NO
OT	3845	SA	Surface Soil	Potassium	2,490.0		NE	2,895	NO
OT	3846	SA	Surface Soil	Potassium	1,030.0		NE	2,895	NO
OT	3847	SA	Surface Soil	Potassium	927.0		NE	2,895	NO
OT	3848	SA	Surface Soil	Potassium	1,770.0		NE	2,895	NO
OT	3849	SA	Surface Soil	Potassium	653.0		NE	2,895	NO
OT	3850	SA	Background	Potassium	1,160.0		NE	2,895	NO
OT	3851	SA	Background	Potassium	967.0	JH	NE	2,895	NO

Notes:

1. J = Estimated quantitation based on QC data.
2. JB = Estimated quantitation: possibly biased high or a false positive based upon blank data
3. JH = Estimated quantitation: possibly biased high based upon QC data.
4. JL = Estimated quantitation: possibly biased low or a false negative based upon QC data
5. JQ = Estimated quantitation: detected below the PQL
6. NE = MSC not established for this analyte.

Table 3

Comparison of Selenium Concentrations in Surface Soils to Background Concentrations

Aerospace Museum

Sample Number			Sample Type	Analyte	Result	Qualifier	Detection Limit?	$UTL_{95\,95}$	SAI-Ind MSC	$UTL_{95\,95}$	SAI-Ind MSC Exceeded?
OT	3801	SA	Surface Soil	Selenium	0.0		<0.409	0.9072	10,200.0	NO	NO
OT	3802	SA	Surface Soil	Selenium	0.0		<0.347	0.9072	10,200.0	NO	NO
OT	3803	SA	Surface Soil	Selenium	0.0		<0.456	0.9072	10,200.0	NO	NO
OT	3804	SA	Surface Soil	Selenium	0.094	JL		0.9072	10,200.0	NO	NO
OT	3805	SA	Surface Soil	Selenium	0.0		<0.366	0.9072	10,200.0	NO	NO
OT	3806	SA	Surface Soil	Selenium	0.0		<0.413	0.9072	10,200.0	NO	NO
OT	3807	SA	Surface Soil	Selenium	0.0		<0.355	0.9072	10,200.0	NO	NO
OT	3808	SA	Surface Soil	Selenium	0.0	JL	<0.424	0.9072	10,200.0	NO	NO
OT	3809	SA	Surface Soil	Selenium	0.0		<1.89	0.9072	10,200.0	NO	NO
OT	3810	SA	Surface Soil	Selenium	0.0		<0.407	0.9072	10,200.0	NO	NO
OT	3811	SA	Surface Soil	Selenium	0.0		<0.416	0.9072	10,200.0	NO	NO
OT	3812	SA	Surface Soil	Selenium	0.0	JL	<0.439	0.9072	10,200.0	NO	NO
OT	3813	SA	Surface Soil	Selenium	0.0		<0.418	0.9072	10,200.0	NO	NO
OT	3814	SA	Surface Soil	Selenium	0.0		<0.4	0.9072	10,200.0	NO	NO
OT	3815	SA	Surface Soil	Selenium	0.0	JL	<0.42	0.9072	10,200.0	NO	NO
OT	3816	SA	Surface Soil	Selenium	0.0	JL	<0.427	0.9072	10,200.0	NO	NO
OT	3817	SA	Surface Soil	Selenium	0.0	JL	<0.371	0.9072	10,200.0	NO	NO
OT	3818	SA	Surface Soil	Selenium	0.0	JL	<0.429	0.9072	10,200.0	NO	NO
OT	3819	SA	Surface Soil	Selenium	0.108	JL		0.9072	10,200.0	NO	NO
OT	3820	SA	Surface Soil	Selenium	0.0	JL	<0.43	0.9072	10,200.0	NO	NO
OT	3821	SA	Surface Soil	Selenium	0.0	JL	<1.9	0.9072	10,200.0	NO	NO
OT	3822	SA	Surface Soil	Selenium	0.0	JL	<0.448	0.9072	10,200.0	NO	NO
OT	3823	SA	Surface Soil	Selenium	0.0		<2.2	0.9072	10,200.0	NO	NO
OT	3824	SA	Surface Soil	Selenium	0.0		<0.59	0.9072	10,200.0	NO	NO
OT	3825	SA	Surface Soil	Selenium	0.0		<0.404	0.9072	10,200.0	NO	NO
OT	3826	SA	Surface Soil	Selenium	0.0	JL	<2.11	0.9072	10,200.0	NO	NO
OT	3827	SA	Surface Soil	Selenium	0.0		<0.413	0.9072	10,200.0	NO	NO
OT	3828	SA	Surface Soil	Selenium	0.0	JL	<1.89	0.9072	10,200.0	NO	NO
OT	3829	SA	Surface Soil	Selenium	0.0	JL	<2.25	0.9072	10,200.0	NO	NO
OT	3830	SA	Surface Soil	Selenium	0.143	JL		0.9072	10,200.0	NO	NO
OT	3831	SA	Surface Soil	Selenium	0.0993	JL		0.9072	10,200.0	NO	NO
OT	3832	SA	Surface Soil	Selenium	0.0		<0.442	0.9072	10,200.0	NO	NO
OT	3833	SA	Surface Soil	Selenium	0.0	JL	<2.05	0.9072	10,200.0	NO	NO
OT	3834	SA	Surface Soil	Selenium	0.0		<0.452	0.9072	10,200.0	NO	NO
OT	3835	SA	Surface Soil	Selenium	0.0	JL	<1.96	0.9072	10,200.0	NO	NO
OT	3836	SA	Surface Soil	Selenium	0.0		<2.03	0.9072	10,200.0	NO	NO
OT	3837	SA	Surface Soil	Selenium	0.0864	JL		0.9072	10,200.0	NO	NO
OT	3838	SA	Surface Soil	Selenium	0.0	JL	<0.429	0.9072	10,200.0	NO	NO
OT	3839	SA	Surface Soil	Selenium	0.0829	JL		0.9072	10,200.0	NO	NO
OT	3840	SA	Surface Soil	Selenium	0.0	JL	<0.429	0.9072	10,200.0	NO	NO
OT	3841	SA	Surface Soil	Selenium	0.0	JL	<2.02	0.9072	10,200.0	NO	NO
OT	3842	SA	Surface Soil	Selenium	0.0		<0.427	0.9072	10,200.0	NO	NO
OT	3843	SA	Surface Soil	Selenium	0.0		<2.06	0.9072	10,200.0	NO	NO
OT	3844	SA	Surface Soil	Selenium	0.0		<0.421	0.9072	10,200.0	NO	NO
OT	3845	SA	Surface Soil	Selenium	0.0		<0.434	0.9072	10,200.0	NO	NO
OT	3846	SA	Surface Soil	Selenium	0.0	JL	<1.9	0.9072	10,200.0	NO	NO
OT	3847	SA	Surface Soil	Selenium	0.0		<2.18	0.9072	10,200.0	NO	NO
OT	3848	SA	Surface Soil	Selenium	0.0	JL	<2.19	0.9072	10,200.0	NO	NO
OT	3849	SA	Surface Soil	Selenium	0.0	JL	<0.386	0.9072	10,200.0	NO	NO
OT	3850	SA	Background	Selenium	0.0	JL	<0.424	0.9072	10,200.0	NO	NO
OT	3851	SA	Background	Selenium	0.0		<0.4	0.9072	10,200.0	NO	NO

Notes

1. J = Estimated quantitation based on QC data.
2. JB = Estimated quantitation: possibly biased high or a false positive based upon blank data
3. JH = Estimated quantitation: possibly biased high based upon QC data.
4. JL = Estimated quantitation: possibly biased low or a false negative based upon QC data
5. JQ = Estimated quantitation: detected below the PQL.
6. NE = MSC not established for this analyte

Table 3

Comparison of Silver Concentrations in Surface Soils to Background Concentrations
Aerospace Museum

Sample Number	Sample Type	Analyte	Result	Qualifier	Detection Limit?	$UTL_{95\,95}$	SAI-Ind MSC	$UTL_{95\,95}$	SAI-Ind MSC Exceeded?
OT 3801 SA	Surface Soil	Silver	3.36	JQ		0.213	1,020.0	YES	NO
OT 3802 SA	Surface Soil	Silver	0.0		<3.74	0.213	1,020.0	NO	NO
OT 3803 SA	Surface Soil	Silver	0.0		<4.12	0.213	1,020.0	NO	NO
OT 3804 SA	Surface Soil	Silver	0.0		<4.87	0.213	1,020.0	NO	NO
OT 3805 SA	Surface Soil	Silver	0.0		<4.07	0.213	1,020.0	NO	NO
OT 3806 SA	Surface Soil	Silver	0.0		<3.74	0.213	1,020.0	NO	NO
OT 3807 SA	Surface Soil	Silver	0.0		<4.52	0.213	1,020.0	NO	NO
OT 3808 SA	Surface Soil	Silver	0.0		<4.44	0.213	1,020.0	NO	NO
OT 3809 SA	Surface Soil	Silver	0.0		<3.83	0.213	1,020.0	NO	NO
OT 3810 SA	Surface Soil	Silver	0.0		<4.07	0.213	1,020.0	NO	NO
OT 3811 SA	Surface Soil	Silver	0.0		<4.07	0.213	1,020.0	NO	NO
OT 3812 SA	Surface Soil	Silver	0.0		<4.3	0.213	1,020.0	NO	NO
OT 3813 SA	Surface Soil	Silver	0.0		<4.22	0.213	1,020.0	NO	NO
OT 3814 SA	Surface Soil	Silver	0.568	JQ		0.213	1,020.0	YES	NO
OT 3815 SA	Surface Soil	Silver	0.0		<4.29	0.213	1,020.0	NO	NO
OT 3816 SA	Surface Soil	Silver	0.0		<4.03	0.213	1,020.0	NO	NO
OT 3817 SA	Surface Soil	Silver	0.0		<3.82	0.213	1,020.0	NO	NO
OT 3818 SA	Surface Soil	Silver	0.0		<3.96	0.213	1,020.0	NO	NO
OT 3819 SA	Surface Soil	Silver	0.0		<4.32	0.213	1,020.0	NO	NO
OT 3820 SA	Surface Soil	Silver	0.0		<4.44	0.213	1,020.0	NO	NO
OT 3821 SA	Surface Soil	Silver	0.0		<3.62	0.213	1,020.0	NO	NO
OT 3822 SA	Surface Soil	Silver	0.613	JQ		0.213	1,020.0	YES	NO
OT 3823 SA	Surface Soil	Silver	0.0		<4.14	0.213	1,020.0	NO	NO
OT 3824 SA	Surface Soil	Silver	0.0		<5.9	0.213	1,020.0	NO	NO
OT 3825 SA	Surface Soil	Silver	0.0		<4.29	0.213	1,020.0	NO	NO
OT 3826 SA	Surface Soil	Silver	0.0		<4.14	0.213	1,020.0	NO	NO
OT 3827 SA	Surface Soil	Silver	0.0		<4.04	0.213	1,020.0	NO	NO
OT 3828 SA	Surface Soil	Silver	0.0		<3.91	0.213	1,020.0	NO	NO
OT 3829 SA	Surface Soil	Silver	0.0		<4.24	0.213	1,020.0	NO	NO
OT 3830 SA	Surface Soil	Silver	0.0		<4.4	0.213	1,020.0	NO	NO
OT 3831 SA	Surface Soil	Silver	0.0		<4.46	0.213	1,020.0	NO	NO
OT 3832 SA	Surface Soil	Silver	0.0		<4.26	0.213	1,020.0	NO	NO
OT 3833 SA	Surface Soil	Silver	0.0		<4.04	0.213	1,020.0	NO	NO
OT 3834 SA	Surface Soil	Silver	0.0		<4.2	0.213	1,020.0	NO	NO
OT 3835 SA	Surface Soil	Silver	0.0		<3.74	0.213	1,020.0	NO	NO
OT 3836 SA	Surface Soil	Silver	0.0		<4.06	0.213	1,020.0	NO	NO
OT 3837 SA	Surface Soil	Silver	0.0		<4.32	0.213	1,020.0	NO	NO
OT 3838 SA	Surface Soil	Silver	0.0		<4.13	0.213	1,020.0	NO	NO
OT 3839 SA	Surface Soil	Silver	0.0		<4.2	0.213	1,020.0	NO	NO
OT 3840 SA	Surface Soil	Silver	0.0	J	<4.12	0.213	1,020.0	NO	NO
OT 3841 SA	Surface Soil	Silver	0.0		<3.62	0.213	1,020.0	NO	NO
OT 3842 SA	Surface Soil	Silver	0.0		<3.94	0.213	1,020.0	NO	NO
OT 3843 SA	Surface Soil	Silver	0.0		<3.98	0.213	1,020.0	NO	NO
OT 3844 SA	Surface Soil	Silver	0.0		<4.14	0.213	1,020.0	NO	NO
OT 3845 SA	Surface Soil	Silver	0.0		<4.58	0.213	1,020.0	NO	NO
OT 3846 SA	Surface Soil	Silver	0.0		<3.88	0.213	1,020.0	NO	NO
OT 3847 SA	Surface Soil	Silver	0.0		<3.86	0.213	1,020.0	NO	NO
OT 3848 SA	Surface Soil	Silver	0.0		<4.54	0.213	1,020.0	NO	NO
OT 3849 SA	Surface Soil	Silver	0.0		<3.62	0.213	1,020.0	NO	NO
OT 3850 SA	Background	Silver	0.0		<4.34	0.213	1,020.0	NO	NO
OT 3851 SA	Background	Silver	0.431	JH		0.213	1,020.0	YES	NO

Notes

1. J = Estimated quantitation based on QC data
2. JB = Estimated quantitation: possibly biased high or a false positive based upon blank data.
3. JH = Estimated quantitation: possibly biased high based upon QC data
4. JL = Estimated quantitation: possibly biased low or a false negative based upon QC data.
5. JQ = Estimated quantitation: detected below the PQL
6. NE = MSC not established for this analyte

Table 3

Comparison of Sodium Concentrations in Surface Soils to Background Concentrations
Aerospace Museum

Sample Number			Sample Type	Analyte	Result	Qualifier	MSC	$UTL_{95,95}$	$UTL_{95,95}$ Exceeded?
OT	3801	SA	Surface Soil	Sodium	81.8		NE	25,800	NO
OT	3802	SA	Surface Soil	Sodium	58.3	JB	NE	25,800	NO
OT	3803	SA	Surface Soil	Sodium	155.0		NE	25,800	NO
OT	3804	SA	Surface Soil	Sodium	94.4		NE	25,800	NO
OT	3805	SA	Surface Soil	Sodium	79.7	JB	NE	25,800	NO
OT	3806	SA	Surface Soil	Sodium	52.7	JB	NE	25,800	NO
OT	3807	SA	Surface Soil	Sodium	277.0		NE	25,800	NO
OT	3808	SA	Surface Soil	Sodium	134.0		NE	25,800	NO
OT	3809	SA	Surface Soil	Sodium	62.5	JB	NE	25,800	NO
OT	3810	SA	Surface Soil	Sodium	97.8	JB	NE	25,800	NO
OT	3811	SA	Surface Soil	Sodium	61.3	JB	NE	25,800	NO
OT	3812	SA	Surface Soil	Sodium	110.0	JB	NE	25,800	NO
OT	3813	SA	Surface Soil	Sodium	69.8	JB	NE	25,800	NO
OT	3814	SA	Surface Soil	Sodium	60.7	JB	NE	25,800	NO
OT	3815	SA	Surface Soil	Sodium	87.5	JB	NE	25,800	NO
OT	3816	SA	Surface Soil	Sodium	43.4	JB	NE	25,800	NO
OT	3817	SA	Surface Soil	Sodium	59.3		NE	25,800	NO
OT	3818	SA	Surface Soil	Sodium	60.4		NE	25,800	NO
OT	3819	SA	Surface Soil	Sodium	65.3		NE	25,800	NO
OT	3820	SA	Surface Soil	Sodium	59.4		NE	25,800	NO
OT	3821	SA	Surface Soil	Sodium	46.1	JB	NE	25,800	NO
OT	3822	SA	Surface Soil	Sodium	60.4		NE	25,800	NO
OT	3823	SA	Surface Soil	Sodium	95.1		NE	25,800	NO
OT	3824	SA	Surface Soil	Sodium	364.0		NE	25,800	NO
OT	3825	SA	Surface Soil	Sodium	245.0		NE	25,800	NO
OT	3826	SA	Surface Soil	Sodium	79.2		NE	25,800	NO
OT	3827	SA	Surface Soil	Sodium	287.0		NE	25,800	NO
OT	3828	SA	Surface Soil	Sodium	121.0		NE	25,800	NO
OT	3829	SA	Surface Soil	Sodium	182.0		NE	25,800	NO
OT	3830	SA	Surface Soil	Sodium	69.9		NE	25,800	NO
OT	3831	SA	Surface Soil	Sodium	98.6		NE	25,800	NO
OT	3832	SA	Surface Soil	Sodium	248.0		NE	25,800	NO
OT	3833	SA	Surface Soil	Sodium	88.6		NE	25,800	NO
OT	3834	SA	Surface Soil	Sodium	70.1		NE	25,800	NO
OT	3835	SA	Surface Soil	Sodium	90.7		NE	25,800	NO
OT	3836	SA	Surface Soil	Sodium	112.0		NE	25,800	NO
OT	3837	SA	Surface Soil	Sodium	88.8		NE	25,800	NO
OT	3838	SA	Surface Soil	Sodium	129.0		NE	25,800	NO
OT	3839	SA	Surface Soil	Sodium	79.5		NE	25,800	NO
OT	3840	SA	Surface Soil	Sodium	426.0		NE	25,800	NO
OT	3841	SA	Surface Soil	Sodium	109.0		NE	25,800	NO
OT	3842	SA	Surface Soil	Sodium	338.0	J	NE	25,800	NO
OT	3843	SA	Surface Soil	Sodium	101.0		NE	25,800	NO
OT	3844	SA	Surface Soil	Sodium	288.0		NE	25,800	NO
OT	3845	SA	Surface Soil	Sodium	273.0		NE	25,800	NO
OT	3846	SA	Surface Soil	Sodium	110.0		NE	25,800	NO
OT	3847	SA	Surface Soil	Sodium	78.9		NE	25,800	NO
OT	3848	SA	Surface Soil	Sodium	103.0		NE	25,800	NO
OT	3849	SA	Surface Soil	Sodium	173.0		NE	25,800	NO
OT	3850	SA	Background	Sodium	135.0		NE	25,800	NO
OT	3851	SA	Background	Sodium	75.9	JB	NE	25,800	NO

Notes:

1. J = Estimated quantitation based on QC data.
2. JB = Estimated quantitation: possibly biased high or a false positive based upon blank data
3. JH = Estimated quantitation: possibly biased high based upon QC data.
4. JL = Estimated quantitation: possibly biased low or a false negative based upon QC data.
5. JQ = Estimated quantitation: detected below the PQL.
6. NE = MSC not established for this analyte.
7. Comparison to $UTL_{95,99}$ not possible because UTL was established as the highest value in the background dataset.

Table 3

Comparison of Vanadium Concentrations in Surface Soils to Background Concentrations
Aerospace Museum

Sample Number			Sample Type	Analyte	Result	Qualifier	$UTL_{95,95}$	MSC	$UTL_{95,95}$ Exceeded?
OT	3801	SA	Surface Soil	Vanadium	11.8		46.26	NE	NO
OT	3802	SA	Surface Soil	Vanadium	7.86		46.26	NE	NO
OT	3803	SA	Surface Soil	Vanadium	28.1		46.26	NE	NO
OT	3804	SA	Surface Soil	Vanadium	20.6		46.26	NE	NO
OT	3805	SA	Surface Soil	Vanadium	21.4		46.26	NE	NO
OT	3806	SA	Surface Soil	Vanadium	9.42		46.26	NE	NO
OT	3807	SA	Surface Soil	Vanadium	25.6		46.26	NE	NO
OT	3808	SA	Surface Soil	Vanadium	21.0		46.26	NE	NO
OT	3809	SA	Surface Soil	Vanadium	17.2		46.26	NE	NO
OT	3810	SA	Surface Soil	Vanadium	17.6		46.26	NE	NO
OT	3811	SA	Surface Soil	Vanadium	19.5		46.26	NE	NO
OT	3812	SA	Surface Soil	Vanadium	13.2		46.26	NE	NO
OT	3813	SA	Surface Soil	Vanadium	17.4		46.26	NE	NO
OT	3814	SA	Surface Soil	Vanadium	20.4		46.26	NE	NO
OT	3815	SA	Surface Soil	Vanadium	23.7		46.26	NE	NO
OT	3816	SA	Surface Soil	Vanadium	13.3		46.26	NE	NO
OT	3817	SA	Surface Soil	Vanadium	3.29	JQ	46.26	NE	NO
OT	3818	SA	Surface Soil	Vanadium	17.6		46.26	NE	NO
OT	3819	SA	Surface Soil	Vanadium	20.6		46.26	NE	NO
OT	3820	SA	Surface Soil	Vanadium	21.8		46.26	NE	NO
OT	3821	SA	Surface Soil	Vanadium	8.62		46.26	NE	NO
OT	3822	SA	Surface Soil	Vanadium	18.8		46.26	NE	NO
OT	3823	SA	Surface Soil	Vanadium	22.1		46.26	NE	NO
OT	3824	SA	Surface Soil	Vanadium	23.6		46.26	NE	NO
OT	3825	SA	Surface Soil	Vanadium	20.3		46.26	NE	NO
OT	3826	SA	Surface Soil	Vanadium	19.7		46.26	NE	NO
OT	3827	SA	Surface Soil	Vanadium	20.4		46.26	NE	NO
OT	3828	SA	Surface Soil	Vanadium	15.2		46.26	NE	NO
OT	3829	SA	Surface Soil	Vanadium	28.5		46.26	NE	NO
OT	3830	SA	Surface Soil	Vanadium	17.1		46.26	NE	NO
OT	3831	SA	Surface Soil	Vanadium	18.4		46.26	NE	NO
OT	3832	SA	Surface Soil	Vanadium	21.7		46.26	NE	NO
OT	3833	SA	Surface Soil	Vanadium	12.4		46.26	NE	NO
OT	3834	SA	Surface Soil	Vanadium	21.1		46.26	NE	NO
OT	3835	SA	Surface Soil	Vanadium	17.7		46.26	NE	NO
OT	3836	SA	Surface Soil	Vanadium	20.4		46.26	NE	NO
OT	3837	SA	Surface Soil	Vanadium	19.6		46.26	NE	NO
OT	3838	SA	Surface Soil	Vanadium	19.1		46.26	NE	NO
OT	3839	SA	Surface Soil	Vanadium	21.6		46.26	NE	NO
OT	3840	SA	Surface Soil	Vanadium	10.4		46.26	NE	NO
OT	3841	SA	Surface Soil	Vanadium	18.1		46.26	NE	NO
OT	3842	SA	Surface Soil	Vanadium	21.0		46.26	NE	NO
OT	3843	SA	Surface Soil	Vanadium	19.9		46.26	NE	NO
OT	3844	SA	Surface Soil	Vanadium	17.1		46.26	NE	NO
OT	3845	SA	Surface Soil	Vanadium	17.5		46.26	NE	NO
OT	3846	SA	Surface Soil	Vanadium	24.1		46.26	NE	NO
OT	3847	SA	Surface Soil	Vanadium	15.4		46.26	NE	NO
OT	3848	SA	Surface Soil	Vanadium	23.3		46.26	NE	NO
OT	3849	SA	Surface Soil	Vanadium	8.68		46.26	NE	NO
OT	3850	SA	Background	Vanadium	14.5		46.26	NE	NO
OT	3851	SA	Background	Vanadium	12.2		46.26	NE	NO

Notes:

1. J = Estimated quantitation based on QC data.
2. JB = Estimated quantitation: possibly biased high or a false positive based upon blank data.
3. JH = Estimated quantitation: possibly biased high based upon QC data.
4. JL = Estimated quantitation: possibly biased low or a false negative based upon QC data.
5. JQ = Estimated quantitation: detected below the PQL.
6. NE = MSC not established for this analyte.

Table 3
Comparison of Zinc Concentrations in Surface Soils to Background Concentrations
Aerospace Museum

Sample Number			Sample Type	Analyte	Result	Qualifier	$UTL_{95,95}$	MSC	$UTL_{95,95}$ Exceeded?
OT	3801	SA	Surface Soil	Zinc	127.0		38.8	NE	YES
OT	3802	SA	Surface Soil	Zinc	70.3		38.8	NE	YES
OT	3803	SA	Surface Soil	Zinc	29.6		38.8	NE	NO
OT	3804	SA	Surface Soil	Zinc	35.7		38.8	NE	NO
OT	3805	SA	Surface Soil	Zinc	26.6		38.8	NE	NO
OT	3806	SA	Surface Soil	Zinc	83.0		38.8	NE	YES
OT	3807	SA	Surface Soil	Zinc	27.1		38.8	NE	NO
OT	3808	SA	Surface Soil	Zinc	25.4		38.8	NE	NO
OT	3809	SA	Surface Soil	Zinc	81.2		38.8	NE	YES
OT	3810	SA	Surface Soil	Zinc	31.2		38.8	NE	NO
OT	3811	SA	Surface Soil	Zinc	21.2	J	38.8	NE	NO
OT	3812	SA	Surface Soil	Zinc	19.2		38.8	NE	NO
OT	3813	SA	Surface Soil	Zinc	21.9		38.8	NE	NO
OT	3814	SA	Surface Soil	Zinc	25.5		38.8	NE	NO
OT	3815	SA	Surface Soil	Zinc	79.5		38.8	NE	YES
OT	3816	SA	Surface Soil	Zinc	25.3		38.8	NE	NO
OT	3817	SA	Surface Soil	Zinc	61.3		38.8	NE	YES
OT	3818	SA	Surface Soil	Zinc	33.4		38.8	NE	NO
OT	3819	SA	Surface Soil	Zinc	16.6		38.8	NE	NO
OT	3820	SA	Surface Soil	Zinc	27.8		38.8	NE	NO
OT	3821	SA	Surface Soil	Zinc	63.2		38.8	NE	YES
OT	3822	SA	Surface Soil	Zinc	35.0	J	38.8	NE	NO
OT	3823	SA	Surface Soil	Zinc	22.0		38.8	NE	NO
OT	3824	SA	Surface Soil	Zinc	36.5		38.8	NE	NO
OT	3825	SA	Surface Soil	Zinc	37.2		38.8	NE	NO
OT	3826	SA	Surface Soil	Zinc	72.9		38.8	NE	YES
OT	3827	SA	Surface Soil	Zinc	77.3		38.8	NE	YES
OT	3828	SA	Surface Soil	Zinc	70.9		38.8	NE	YES
OT	3829	SA	Surface Soil	Zinc	75.0		38.8	NE	YES
OT	3830	SA	Surface Soil	Zinc	24.0		38.8	NE	NO
OT	3831	SA	Surface Soil	Zinc	20.8		38.8	NE	NO
OT	3832	SA	Surface Soil	Zinc	22.0		38.8	NE	NO
OT	3833	SA	Surface Soil	Zinc	33.7		38.8	NE	NO
OT	3834	SA	Surface Soil	Zinc	20.0		38.8	NE	NO
OT	3835	SA	Surface Soil	Zinc	65.7		38.8	NE	YES
OT	3836	SA	Surface Soil	Zinc	73.8		38.8	NE	YES
OT	3837	SA	Surface Soil	Zinc	19.3		38.8	NE	NO
OT	3838	SA	Surface Soil	Zinc	76.7		38.8	NE	YES
OT	3839	SA	Surface Soil	Zinc	14.3		38.8	NE	NO
OT	3840	SA	Surface Soil	Zinc	106.0	J	38.8	NE	YES
OT	3841	SA	Surface Soil	Zinc	67.5		38.8	NE	YES
OT	3842	SA	Surface Soil	Zinc	37.6	J	38.8	NE	NO
OT	3843	SA	Surface Soil	Zinc	31.6		38.8	NE	NO
OT	3844	SA	Surface Soil	Zinc	87.0		38.8	NE	YES
OT	3845	SA	Surface Soil	Zinc	28.1		38.8	NE	NO
OT	3846	SA	Surface Soil	Zinc	69.5		38.8	NE	YES
OT	3847	SA	Surface Soil	Zinc	89.5		38.8	NE	YES
OT	3848	SA	Surface Soil	Zinc	204.0		38.8	NE	YES
OT	3849	SA	Surface Soil	Zinc	62.8		38.8	NE	YES
OT	3850	SA	Background	Zinc	110.0		38.8	NE	YES
OT	3851	SA	Background	Zinc	43.1		38.8	NE	YES

Notes:

1. J = Estimated quantitation based on QC data.
2. JB = Estimated quantitation: possibly biased high or a false positive based upon blank data.
3. JH = Estimated quantitation: possibly biased high based upon QC data.
4. JL = Estimated quantitation: possibly biased low or a false negative based upon QC data.
5. JQ = Estimated quantitation: detected below the PQL.
6. NE = MSC not established for this analyte.
7. Comparison to $UTL_{95,99}$ not possible because UTL was established as the highest value in the background dataset.

TAB

3

Final Report
Demolition and Removal of Structures/Disposal of Transformers With PCB Oil at Aerospace Museum Site NAS JRB Fort Worth, TX Unified Services of Texas, Inc.

Vorgel C.

FINAL REPORT

DEMOLITION AND REMOVAL OF STRUCTURES/ DISPOSAL OF TRANSFORMERS WITH PCB OIL

Authority:

JEG Subcontract No. 05-G479-00-1001
NAS FT. WORTH JRB,
Carswell Field, Fort Worth, Texas

Report Number: 3397-006 and 3997-002

June 19, 1997

Prepared for:

Ms. Kathleen R. Bindl, Subcontract Manager
JACOBS ENGINEERING GROUP, INC.
600 Seventeenth Street, Suite 1100N
Denver, Colorado 80202
(303) 595-8855; Facsimile (303) 595-8857

Prepared by:

UNIFIED SERVICES OF TEXAS, INC.
2110 Greenbriar Drive
Southlake, Texas 76092
Metro (817) 481-9510
Fax (817) 488-1729

RESTRICTIONS ON THE USE AND DISCLOSURE OF INFORMATION AND/OR DATA

The information and/or data contained herein shall not be disclosed outside Jacobs Engineering Group, Inc. and shall not be duplicated, used, or disclosed in whole or in part for any purpose without authorization from Jacobs Engineering Group, Inc. This restriction does not limit the right to use information obtained herein if it is obtained from another source without restriction. This restriction applies to all information and/or data contained herein.

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FINAL REPORT

DEMOLITION AND REMOVAL OF STRUCTURES/ DISPOSAL OF TRANSFORMERS WITH PCB OIL

Authority:

JEG Subcontract No. 05-G479-00-1001
NAS FT. WORTH JRB,
Carswell Field, Fort Worth, Texas

Report Number: 3397-006 and 3997-002

June 19, 1997

Prepared for:

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JACOBS ENGINEERING GROUP, INC.
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I. NOTIFICATION TO OWNER

Unified Services of Texas, Inc. (UST) is licensed within the State of Texas, under the Texas Natural Resource Conservation Commission (TNRCC) Contractor Registration Program (CRP) and the Registered Corrective Action Specialist (RCAS) as licensee numbers 000970 and 000278, respectively. Mr. Clarence D. Hill is licensed within the State of Texas, under the TNRCC Individual License Program (ILP) as licensee number 001549, licensed to repair and install, as well as remove underground storage tank systems, "A" and "B" licenses respectively. All aspects of this project were performed under the guidance of the Petroleum Equipment Institute Recommended Practice Number 100 (PEI RP-100) and other acceptable industry practices.

As specified in Subcontract No. 05-G479-00-R-97-1001, UST demolished and removed debris of small structures and concrete pads as well as removed and disposed of 23 transformers containing Polychlorinated Biphenyl (PCB) oil at the Naval Air Station (NAS) Fort Worth Joint Reserve Base (JRB), Carswell Field, Fort Worth, Texas (see appendices A and B).

Contained within this report are copies of data collected during the field operations and other pertinent data sources. Site maps and plans are contained in Appendices A and B respectively. Laboratory reports are contained in Appendix C and receipts for disposal of liquids and hazardous wastes are contained in Appendix D. A chronology of events is included as Appendix E, and any additional general correspondence pertaining to this project is contained in Appendix F.

Five (5) copies of this report have been provided to Ms. Kathleen R. Bindl, Subcontract Manager, Jacobs Engineering Group, Inc. An original copy is also retained on file in UST's office.

II. EXECUTIVE SUMMARY

To ensure compliance with Title 40, Code of Federal Regulations, Parts 280 and 281, and Title 30, Texas Administrative Code, Part 1 "Environmental Quality", Subchapter 334, the Air Force Center for Environmental Excellence (AFCEE) in support of the Air Force Remedial Action Program, contracted for the demolition and removal of small structures and concrete pads as well as removal and disposal of 23 transformers with PCB oil at Naval Air Station Fort Worth Joint Reserve Base, Carswell Field, Fort Worth, Texas.

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III. INTRODUCTION AND PURPOSE

The purpose of this Subcontract was to obtain services for demolishing and removing debris of small structures and concrete pads as well as the removal and disposal of 23 transformers containing PCB oil in support of the Air Force Installation Restoration Program.

Unified Services of Texas, Incorporated (UST) provides this report for the purpose of documenting the field activities conducted at the site and the observations made during the project. This report provides the data and information necessary to assess the actions taken as well as any actions which may remain incomplete. The following representatives of the companies and agencies listed participated in this UST investigative and repair procedure.

Responsibility	Identification
Fuel/Tank System Owner Owner ID# 04532 Facility ID #0009696	United States Air Force NAS Fort Worth JRB Carswell Field Fort Worth, Texas 76127
Contractor's Team Members	
Prime Contractor Contract #USAF/F41624-94-D-8046	Jacobs Engineering Group. Inc. Ms. Kathleen R. Bindl, Subcontract Manager 600 17th Street, Suite 1100N Denver, Colorado 80202 (303) 595-8855; Facsimile (303) 595-8857
	JE Remediation Technologies, Inc. Mr. John C. McManus, Site Manager P. O. Box 52667 Houston, Texas 77052 (817) 737-7237; Facsimile (817) 737-7217
Subcontractors	
SCN #05-G479-00-1001	Unified Services of Texas, Inc. Mr. Clarence D. Hill, President 2110 Greenbriar Drive Southlake, Texas 76092 (817) 481-9510; Facsimile (817) 488-1729
Transformer Disposal	Aptus, Inc. P.O. Box 1328 Hwy. 169 North Coffeyville, KS 67337 (316) 251-6380

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Transformer Recycling

Nix Electric Company
110 Sentry Drive, North
Mansfield, Texas 76063
(817) 477-3759

IV. SCOPE OF WORK

The City of Fort Worth did not require a permit for this work, nor did the Texas Natural Resource Conservation Commission (TNRCC) require a Thirty Day Construction Notification. All operations were performed in compliance with applicable State, Federal and local laws and regulations as well as in a prudent, conscientious and safe manner.

UST demolished nine (9) small structures and concrete pads located in the former Aerospace Museum area, and demolished one (1) structure and one (1) concrete pad at the Grounds Maintenance Yard. Demolition activities included removing, transporting and disposing of concrete pads and structures. The structures and concrete pads demolished at the Aerospace Museum included a wooden shed, electrical equipment box, two (2) concrete structures that appeared to be old bast shields, two (2) concrete and one (1) asphaltic concrete pad. Other material that was removed and disposed consisted of one (1) mobile fuel test system, soil piles, a rubble pile and loose railroad ties. Following the demolition and removal activities, the Aerospace Museum was restored by clean backfilling and compaction. The site was reseeded with native grass to replicate vegetation currently at the site. The Grounds Maintenance Yard was backfilled and compacted to 95%.

UST disposed of twenty-three (23) transformers of varying sizes located on a concrete pad to the northeast of the Grounds Maintenance Yard at NAS Fort Worth JRB. Following the receipt of analytical results from JEG, each transformer was labeled with the appropriate tag indicating the PCB content. Included in Appendix D are the waste disposal manifests indicating appropriate disposal of all materials removed.

IV. SAMPLING PROCEDURES AND RESULTS

UST identified and segregated three (3) transformers containing PCB oil in excess of the maximum limit of 50 ppm. These three (3) transformers were labeled "G", "H", and "10" respectively and were transported to Aptus/Rollins for incineration. The remaining twenty (20) transformers were transported to Nix Electric for recycling. Absorbent material was wind-rowed around the transformers to provide a primary spill control boundary. Each transformer was double checked for tightness prior to loading and transporting.

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UST's contract team, properly attired, disposed of twenty-three (23) transformers. The transformers were segregated into two (2) categories of <50ppm and >50ppm but <500ppm. Each transformer was transported to a TNRCC approved disposal/recycling facility. All subcontractor generated debris was removed and disposed of and the job site restored to satisfactory condition.

Unified Services of Texas, Inc. provides the information contained herein based on field observations and activities conducted from May 6, 1997 through May 20, 1997, as well as from any information provided and deemed to be accurate by other competent sources involved, whether directly or indirectly received. It is recommended that this report be included as a permanent part of NAS Fort Worth JRB's records and a copy be maintained on site. UST appreciates the opportunity to serve your demolition and sampling needs and looks forward to assisting you in any future requirements. If after you review the information contained herein you have questions, or if I may be of further assistance, please contact me at (817) 481-9510.

Respectfully submitted,

Chris Baker

Chris Baker
Report Writer

Reviewed by:

Clarence D. Hill

Clarence D. Hill
President

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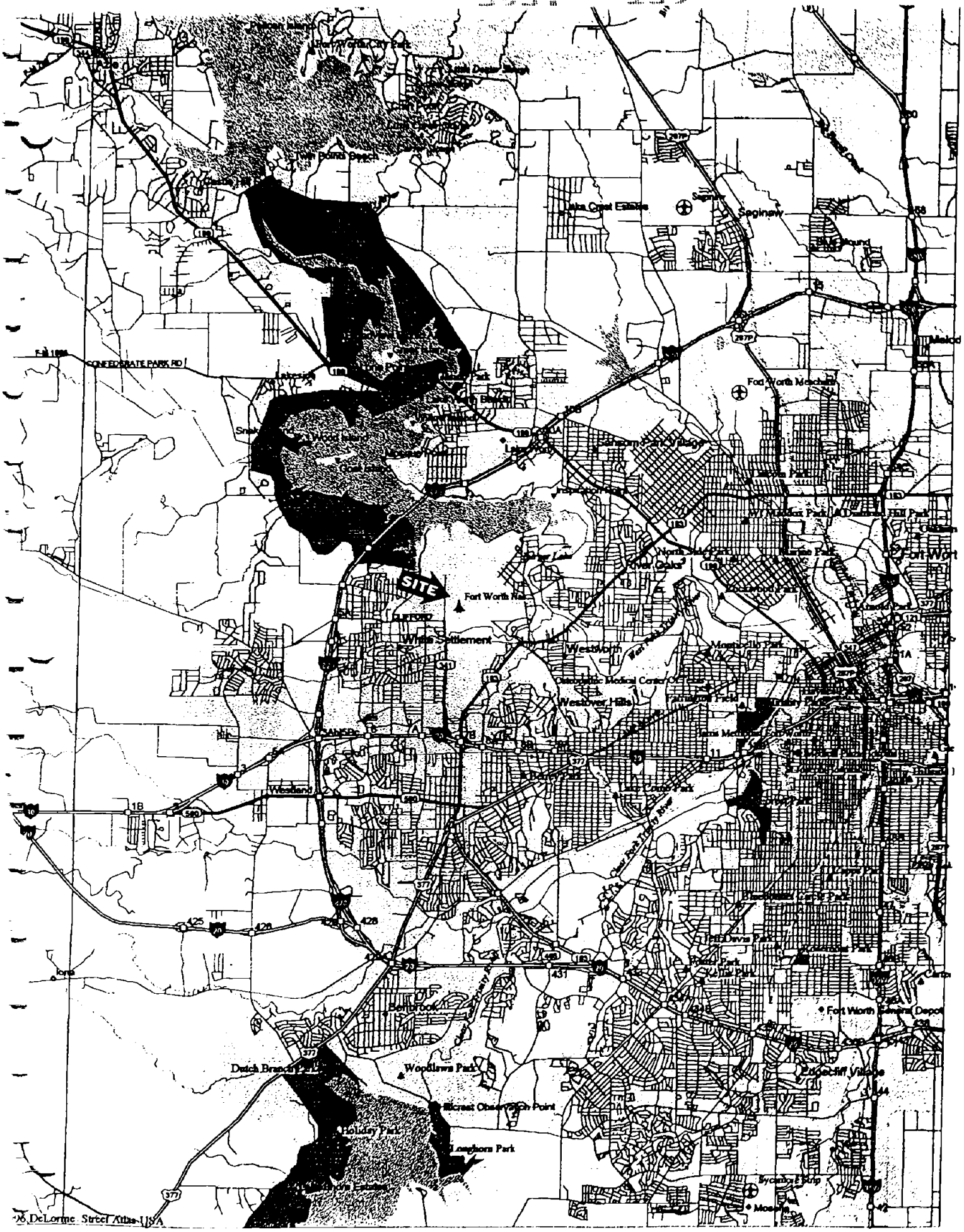
APPENDIX A

SITE VICINITY MAP

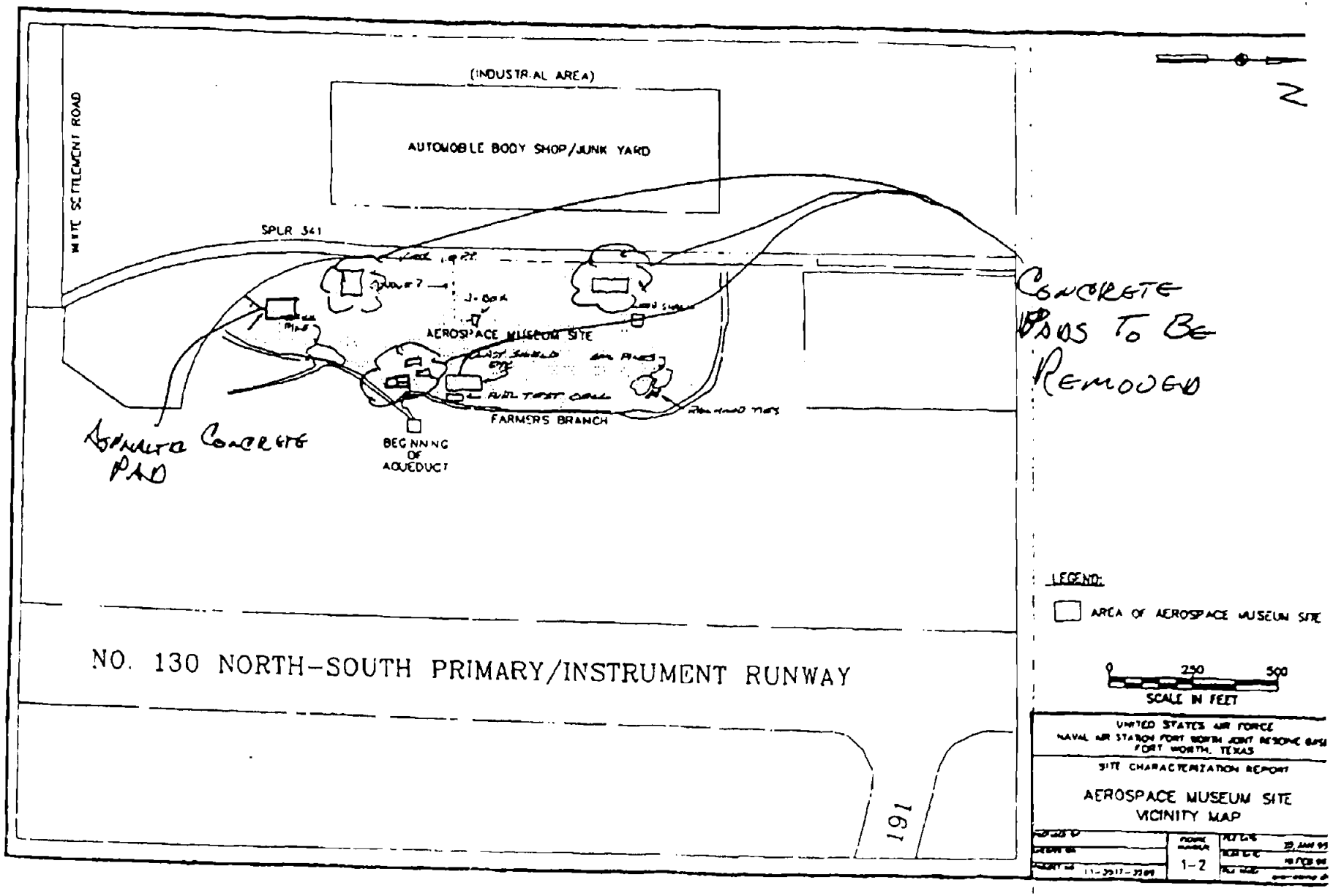
THE USE OR DISCLOSURE OF THE INFORMATION AND/OR DATA CONTAINED HEREIN IS SUBJECT TO THE RESTRICTION ON THE TITLE PAGE


SITE
Fort Worth Naas
White Settlement
Westworth
Westover Hills
Saginaw
Fort Worth Meacham
Fort Worth
Benbrook
Dutch Branch Park
Woodlawn Park
Holiday Park
Longhorn Park
Fort Worth Depot
Eagle Mtn Village
Mosier
Melod
Lake Worth City Park
Lake Cooper Estates
Lake Worth Estates
Lake Worth Village
Wood Island
Oak Island
Pecan Island
Twin Points Beach
Glenn Hill
Sanctuary Park Village
Lake Worth Estates
Bicrest Observation Point
Bycanyon Stop
CONFEDERATE PARK RD
Westland
Lake Como Park
Rosedale Park
Trinity River
Clear Fork Trinity River
© DeLorme Street Atlas USA

APPENDIX B

SITE PLANS

THE USE OR DISCLOSURE OF THE INFORMATION AND/OR DATA CONTAINED HEREIN IS SUBJECT TO THE RESTRICTION ON THE TITLE PAGE


(INDUSTRIAL AREA)
AUTOMOBILE BODY SHOP/JUNK YARD
WHITE SETTLEMENT ROAD
SPUR 341
AEROSPACE MUSEUM SITE
FARMERS BRANCH
BEGINNING OF AQUEDUCT
Asphalt Concrete Pad
Concrete Pads To Be Removed
NO. 130 NORTH-SOUTH PRIMARY/INSTRUMENT RUNWAY
191
N
LEGEND:
AREA OF AEROSPACE MUSEUM SITE
0
250
500
SCALE IN FEET
UNITED STATES AIR FORCE
NAVAL AIR STATION FORT WORTH JOINT RESERVE BASE
FORT WORTH, TEXAS
SITE CHARACTERIZATION REPORT
AEROSPACE MUSEUM SITE
VICINITY MAP
1-2

APPENDIX C

LABORATORY REPORTS

THE USE OR DISCLOSURE OF THE INFORMATION AND/OR DATA CONTAINED HEREIN IS SUBJECT TO THE RESTRICTION ON THE TITLE PAGE

Atomus Laboratory
P.O. Box 1227
Arlington, Texas 76004-1227
(817) 274-5754 • METRO (817) 469-8353

Case # 7EA973 Page: 1 OF 1

Date : 28 APR 97 Matrix: OIL

Date received: 24 APR 97

Identification: TRANSFORMERS

PCB
METHOD: 3580A/8082
Analysis Date 28 APR 97 Analyst CA

Sample ID:	Lab #	Results	DL
A	973	<1	1
B	974	<1	1
C	975	<1	1
D	976	<1	1
E	977	<1	1
F	978	<1	1
G	979	55	1
H	980	51	1
J	981	10	1
K	982	19	1
L	983	18	1

Unit - mg/kg
DL - Detection Limit

Reviewed by _____
Chuck Ables, BCFE
Lab Director

[illegible] are discarded 30 days after reports are mailed unless prior arrangements are made in writing. A storage fee will apply on samples held over 30 days. Our letters and reports are for the exclusive use of the client to whom they are addressed. The use of our name must receive our prior written approval. Our letters and reports apply to the sample as received and/or inspected, and are not

Atomus Laboratory

P.O. Box 1227 • Arlington, Texas 76004-1227
134 Browning • Suite 102 • Arlington, Texas 76010

QUALITY ASSURANCE REPORT
MATRIX SPIKE / MATRIX SPIKE DUPLICATE

Date: 28 APR 97

Case # 7EA973 Matrix Type: OIL

PARAMETER	SAMPLE RESULT	MS RESULT	MSD RESULT	SPIKE TRUE VALUE	% REC MS	% REC MSD	% RPD	CONTROL SAMPLE REC %
PCB	bdl	93	103	100	93	103	10	N/A

bdl - Below Detection Limit

UNIT OF MEASUREMENT: ppm

All method blanks were within quality control criteria.

One spike/spike duplicate per 10 samples is performed for quality control purposes.

Note: QA Data maybe from a different sample.

APPROVED BY: _____
Chuck Ables, BCFE
Lab Director

ATOMUS LABORATORY

134 Browing Dr. • Suite 102 • Arlington, Tx 76010
Metro (817) 469-8353 • Fax (817) 265-7150

CHAIN OF CUSTODY RECORD

PROJECT NO.

PROJECT NAME

PURCHASE ORDER

SAMPLERS (Signature)

SAMPLE ID	DATE	TIME	SAMPLE LOCATION	WATER	SOIL	AIR	SLUDGE	PRODUCT	HCL	HNO_3	H_2SO_4	NaOH	ICE	UNPRESERVED	# CONTAINERS	PCB
A	4/24	1330	TRANSFORMER A					X								X
B		1340	B													
C		1345	C													
D		1350	D													
E		1355	E													
F		1405	F													
G		1410	G													
H		1420	H													
I		1425	J													
K		1430	K													

REMARKS:

TOTAL # CONTAINERS 10

DISPOSAL OF HAZARDOUS SAMPLES
The client agrees to:
Pay for sample disposal ___
Accept returned samples X IF

ATOMUS LABORATORY

134 Browing Dr. • Suite 102 • Arlington, Tx 76010
Metro (817) 469-8353 • Fax (817) 265-7150

CHAIN OF CUSTODY RECORD

PROJECT NO.

PROJECT NAME

PURCHASE ORDER

SAMPLERS: (Signature)

SAMPLE ID	DATE	TIME	SAMPLE LOCATION	WATER	SOIL	AIR	SLUDGE	PRODUCT	HCL	HNO_3	H_2SO_4	NaOH	ICE	UNPRESERVED	# CONTAINERS	PCB
		1440	Transformer L					X								X

Atomus Laboratory
P.O. Box 1227
Arlington, Texas 76004-1227
(817) 274-5754 • METRO (817) 469-8353

Case # 7EA1053 Page: 1 of

Date : 12 MAY 97 Matrix: DUST

Report to: UNIFIED SERVICES OF TEXAS
ATTN: DAN HILL
2110 GREENBRIAR DR.
SOUTHLAKE, TX 76092

Date received: 7 MAY 97

Identification: 3997-002

RECEIVED
MAY 13 1997

PESTICIDES - SW846 8080
Extraction Method: 3510
Analysis Date 9 MAY 97 Analyst CH

Sample ID:	1	2	3	
Lab #	1053	1054	1055	DL
Aldrin	<1.00	<1.00	<1.00	1.00
alpha-BHC	<0.500	<0.500	<0.500	0.500
beta-BHC	<0.500	<0.500	<0.500	0.500
Lindane	<1.00	<1.00	<1.00	1.00
delta-BHC	<0.500	<0.500	<0.500	0.500
Chlorodane	<12.5	<12.5	<12.5	12.5
4,4-DDD	<0.500	<0.500	<0.500	0.500
4,4-DDE	<1.00	<1.00	<1.00	1.00
4,4-DDT	<1.00	<1.00	<1.00	1.00
Dieldrin	<0.500	<0.500	<0.500	0.500
alpha-Endosulfan	<0.500	<0.500	<0.500	0.500
beta-Endosulfan	<1.00	<1.00	<1.00	1.00
Endosulfan Sulfate	<0.500	<0.500	<0.500	0.500
Endrin	<1.00	<1.00	<1.00	1.00
Endrin Aldehyde	<0.500	<0.500	<0.500	0.500
Heptachlor	<0.500	<0.500	<0.500	0.500
Heptachlor Epoxide	<0.500	<0.500	<0.500	0.500
Methoxychlor	<25.0	<25.0	<25.0	25.0
Toxaphene	<25.0	<25.0	<25.0	25.0

DL - Detection Limit
Unit of measurement - mg/kg

Reviewed by: Chuck Ables, BCFE
Lab Director

Samples are discarded 30 days after reports are mailed unless prior arrangements are made in writing. A storage fee will apply on samples held over 30 days. Our letters and reports are for the exclusive use of the client to whom they are addressed. The use of our name must receive our prior written approval. Our letters and reports apply to the sample tested and/or inspected, and are not necessarily indicative of the qualities of apparently identical or similar products.

Atomus Laboratory

P.O. Box 1227 • Arlington, Texas 76004-1227
134 Browning • Suite 102 • Arlington, Texas 76010

QUALITY ASSURANCE REPORT
MATRIX SPIKE / MATRIX SPIKE DUPLICATE

Date: 12 MAY 97 Customer Name: UNIFIED SERVICES OF TEXAS

Case # 7EA1Ø53 Matrix Type: Solid

PARAMETER	SAMPLE RESULT	MS RESULT	MSD RESULT	SPIKE TRUE VALUE	% REC MS	% REC MSD	% RPD	CONTROL SAMPLE REC %
Dibutyl Chlorendate	bdl	112	112	1ØØ	112	112	Ø	11Ø

bdl = Below Detection Limit

UNIT OF MEASUREMENT: ppm

All method blanks were within quality control criteria.

One spike/spike duplicate per 1Ø samples is performed for quality control purposes.

Note: QA Data maybe from a different sample.

APPROVED BY: _____
Chuck Ables, BCFE
Lab Director

(817) 274-5754 • METRO (817) 469-8353 • FAX (817) 265-7150

UST Unified Services of Texas, Inc.
Complete Petroleum Storage Tank Services
2110 Greenbriar Drive, Southlake, TX 76092 (817) 481-9510, FAX (817) 488-1729

CHAIN OF CUSTODY RECORD

PROJECT NO: 3997-002 TAT: ____24HR RUSH ✓ 48HR NORMAL ____5DA

SAMPLE DATE	SAMPLE TIME	SAMPLE ID	SAMPLE LOCATION	SAMPLE DEPTH	SAMPLE TYPE	# OF CNTRS	TEST FOR
5-7-97	11:58	1	NAS Maintenance	3"	Concrete dust	1	Pesticides
5-7-97	12:03	2	" "	1-1.5"	"	1	"
5-7-97	12:07	3	" "	1-1.5"	"	1	"

SAMPLED BY: Curtis Morrissey

Relinquished By: (Signature)	Date	Time	Received By: (Signature)	Date	Time
	5/7/97	1525		5/7/97	1525
Relinquished By: (Signature)	Date	Time	Received By: (Signature)	Date	Time
	5/7/97	1620		5/7/97	16:20
Relinquished By: (Signature)	Date	Time	Received By: (Signature)	Date	Time
Relinquished By: (Signature)	Date	Time	Received By: (Signature)	Date	Time
Relinquished By: (Signature)	Date	Time	Received By: (Signature)	Date	Time

Date Extracted: ____
Date Digested: ____
Date Analyzed: ____

FINAL DISPOSITION: ____

LAB REPRESENTATIVE'S SIGNATURE: ____

APPENDIX D

RECEIPTS FOR DISPOSABLE LIQUIDS AND HAZARDOUS WASTES

THE USE OR DISCLOSURE OF THE INFORMATION AND/OR DATA CONTAINED HEREIN IS SUBJECT TO THE RESTRICTION ON THE TITLE PAGE

NIX ELECTRIC CO., d.b.a.
Transformer Repair Service

ORDER TICKET 395 170 ORDER NO. 55621

TOMER ORDER NO. _____ DATE _____

CUSTOMER: UST - United Services of Texas inc

ADDRESS: 210 Greenbriar Dr Southlake TX 76092

	SERIAL NO.	SIZE	DESCRIPTION					
1.	0178916	25	7200/12470Y - 120/240	4-2½	AC	1.8		J
2.	N547027-YAW	50	7200/12470Y - 277/480Y	2-2½	GE	2.10		9
3	3008899	100	12000 - 120/240	AC	4-2½	AC	3.1	K
4.	851014766	167	7200/12470Y - 120/240	2-2½	RTE	3.1		L
5.	61928-3185	50	7200/12470Y - 277/480Y	2-2½	Howard	2.5		7
6.	P163123-YWA	75	12470GY/7200 - 120/240	N/T	GE	2.75		5
7.	N547029-YAW	50	7200/12470Y - 277/480Y	2-2½	GE	2.10		6
8.	3791880	15	7200/12470Y - 120/240	4-2½	AC	1.5		8
9.	79U2490	25	7200/12470Y - 120/240	2-2½	UT	2.1		F
10.	79U2489	25	7200/12470Y - 120/240	2-2½	UT	2.1		
11.	79U 2492	25	7200/12470Y - 120/240	2-2½	UT	2.1		E
12.	M431939YBPA	325	7200/12470Y - 120/240	2-2½	GE	2.58		C
13.	H703467468AA	75	7200/12470Y - 120/240	4-2½	GE	1.75		B
	81007147	50	7200/12470Y - 120/240	4-2½	RTE	2.5		A
15.	80-146-2	100	7200/12470Y - 120/240	2-2½	Greenville			3
16.	9305373	25	7200/12470Y - 120/240	4-2½	GE			4

THE CUSTOMER AS EVIDENCED BY HIS SIGNATURE BELOW AGREES TO ALL OF THE TERMS AND CONDITIONS PRINTED ON THE REVERSE SIDE.

SIGNED: Clarence D. Hill Co. Name: UST, Inc. Date: 5/7/97

720 LOOP 289 S.E. LUBBOCK, TEXAS 79404 (806) 745-4166
110 SENTRY DR. NORTH MANSFIELD, TEXAS 76063 (817) 477-3759 ❖ 8774 ANDREWS HWY. N. ODESSA, TEXAS 79765 (915) 362-0940

395 171

ORDER TICKET

ORDER NO. 55626

NIX ELECTRIC CO., d.b.a.
Transformer Repair Service

STOMER ORDER NO. _____ DATE 5-7-97

CUSTOMER: UST - Unified Services of Texas Inc

ADDRESS: 2110 Greenbriar Dr Southlake, TX 76092

	SERIAL NO.	SIZE	DESCRIPTION
1.	705394	100	7200/12470Y - 120/240 4-2½ CM 3.0 2
2.	80-146-1	100	7200/12470Y - 120/240 2-2½ Greenville 2.8 1
3	810230-1	75	12470 Delta - 208Y/120 3Ø Pad Sg D 4-2½ 3.4
4.	N227545YETA	75	4.16GY/2.4 X 12.476GY/7.2 KV - 208Y/120 3Ø GE 2-2½ 287
5.			
6.			
7.			
8.			
9.			These units were Bought For Salvage
10.			
11.			
12.			
13.			
15.			
16.			

THE CUSTOMER AS EVIDENCED BY HIS SIGNATURE BELOW AGREES TO ALL OF THE TERMS AND CONDITIONS PRINTED ON THE REVERSE SIDE.

SIGNED: [signature] Co. Name: UST, INC Date: 5/7/97

720 LOOP 289 S.E. LUBBOCK, TEXAS 79404 (806) 745-4166
110 SENTRY DR. NORTH MANSFIELD, TEXAS 76063 (817) 477-3759 ◆ 8774 ANDREWS HWY. N. ODESSA, TEXAS 79765 (915) 362-0940

UNIFORM WASTE DATA SHEET (Exhibit B)
Universal Product Category: *PCB Transformers/Bushings*

ROLLINS ENVIRONMENTAL, INC

(Rollins Use Only) Facility To Invoice: ☐ Same As "A" ☐ REI Office _____
CSR/FSR _____ Sales # _____ Stream No. _____

A. INVOICE INFORMATION
1. Company UNIFIED SERVICES OF TEXAS, INC.
2. Address 2110 GREENBRIAR DRIVE 3. City/State/Zip SOUTHLAKE, TX 76092
4. Invoice Contact C. DAN HILL 5. Phone No. (817) 481-9510

B. PICK UP LOCATION Same As Section ☐ A ☑ C
1. Company _____
2. Address _____ 3. City/State/Zip _____
4. Pick Up Contact _____ 5. Phone No. ( ) _____

C. GENERATOR AND SHIPPING INFORMATION
1. Generator USAF BASE CONVERSION AGENCY 2. US EPA ID No. TX 0571924042
3. Address 6550 WHITE SETTLEMENT RD 4. City/State/Zip FORT WORTH, TX 76114
5. Technical Contact (can answer questions about this waste stream) (SAME AS ABOVE) ALAN FLOLO
a) Phone No. (817) 731-8973 EXT 18 b) Fax No. (817) 731-8137
6. Send Waste Stream Quotation to same as Section: ☑ A ☐ B ☐ C Add'l. Copies To: _____
7. State Generator's I.D. No. [RES (TX) Only] 65004; WASTE Code NHNI3961
8. ☑ DOT Regulated a. DOT Shipping Description: *RQ, Polychlorinated Biphenyls,* _____ 9. *UN2315, II*
(If applicable, add "mixture or solution" above)
9. ☐ Non-DOT Regulated a. Shipping Description: *Polychlorinated Biphenyls (Non-DOT Regulated) < 1 Lb. RQ*
10. ☑ Rollins Transportation or ☐ Customer Arranged 11. Special Requirements NONE

D. WASTE INFORMATION BY PRODUCT CATEGORY (PC)
1. ☐ *PCB Transformers: Contained Liquids/Rinsate For TSCA Incineration/Detoxification; Drained Carcasses For TSCA Landfill* ..... *PC 67*
a. PCB Transformer(s)/Transformer Related Components (excluding loose bushings & silicone oil-filled transformers).
Month Quarter Other
i. Quantity _____ per ☐ ☐ _____ ii. ☐ Full of Oil (< 500 ppm PCB); iii. ☐ Full of Oil (≥ 500 ppm PCB);
iv. ☐ Drained (< 500 ppm PCB); v. ☐ Drained Only (≥ 500 ppm PCB); vi. ☐ Drained & Flushed (≥ 500 ppm PCB).
Note: Transformers are *Non-Leaking*. Leaking Transformers will be containerized/drained of oils & absorbent added to the shipping container (NO FREE LIQUIDS).
b. List any Transformer dimensions (including fins) that exceed 7' x 7' x 7' & Transformer weights exceeding 14,000 lbs. each: _____
c. Disposal State Waste Code No(s). _____
Rollins Use Only
d. Stream No. _____ (Full of Oil < 500 ppm) e. Stream No. _____ (Full of Oil ≥ 500 ppm)
f. Stream No. _____ (Drained < 500 ppm) g. Stream No. _____ (Drained Only ≥ 500 ppm)
h. Stream No. _____ (Drained & Flushed ≥ 500 ppm)

D. CONTINUATION OF WASTE INFORMATION

2. ☑ *PCB Transformers: For TSCA Reclamation* *PC*63

a. PCB Transformer(s)/Transformer related components (excluding loose bushings & silicone oil-filled transformers). Contained liquids will be incinerated or chemically de-toxified and carcasses will be recycled/reclaimed.

Month Quarter Other

i. Quantity _____ per ☐ ☐ _____ ii. ☐ Full of Oil (< 500 ppm PCB):

iii. ☐ Full of Oil (≥ 500 ppm PCB): iv. ☐ Drained (< 500 ppm PCB): v. ☐ Drained Only (≥ 500 ppm PCB).

Note: Transformers are *Non-Leaking*. Leaking Transformers will be containerized/drained of oils & absorbent added to the shipping container (NO FREE LIQUIDS).

b. List any Transformer dimensions (including fins) that exceed 7' x 7' x 7' & Transformer weights exceeding 14,000 lbs. each:

_____

c. Disposal State Waste Code No(s). _____

Rollins Use Only

d. Stream No. _____ (Full of Oil < 500 ppm) e. Stream No. _____ (Full of Oil ≥ 500 ppm)

f. Stream No. _____ (Drained < 500 ppm) g. Stream No. _____ (Drained Only ≥ 500 pp

3. ☐ *PCB (Pole-Mount) Transformers For TSCA Incineration: Contained Liquids & Carcasses For Incineration* *PC*6

Month Quarter Other

a. Quantity _____ per ☐ ☐ _____ b. Non-Bulk Containers (Type & Size) _____

c. PCB Concentration _____ ppm

(e.g., 50–99, 50<10,000, > 10,000, etc.)

d. Standard Pole-Mount (thin-wall) Transformers. Transformer dimensions NOT TO EXCEED 25" diameter (including fins) x 42" he & maximum weight of 300 lbs. each. *Note:* Transformers are *Non-Leaking*. Leaking Transformers will be containerized/drained of oils & absorbent added to the shipping container (NO FREE LIQUIDS).

e. Disposal State Waste Code No(s). _____

Rollins Use Only

f. Stream No. _____

4. ☐ *PCB Bushings For Incineration Or Reclamation* *PC*6

a. ☐ PCB Bushings For Incineration; Or ☐ PCB Bushings For Reclamation

Month Quarter Other

b. Quantity _____ per ☐ ☐ _____ c. Non-Bulk Containers (Type & Size) _____

d. PCB Concentration _____ ppm e. List Any Bushing Dimensions Exceeding 4' Length: _____

(e.g., 50–99, 50<10,000, > 10,000, etc.)

Note: Bushings are *Non-Leaking*. Leaking Bushings will be containerized/drained of oils & absorbent added to the shipping conta (NO FREE LIQUIDS).

f. Disposal State Waste Code No(s). _____

Rollins Use Only

g. Stream No. _____

E. GENERATOR CERTIFICATION

I hereby certify and warrant that the information supplied on this form and on any attachments or supplements represents a complete accurate identification and description by the generator company of this waste material, its constituents, and its known or suspected haz Furthermore, I warrant that this material is not a *hazardous waste* under RCRA, nor is its treatment or disposal regulated under any EP DOE program(s) other than TSCA.

Alan W. Flolo — Signature

Alan W. Flolo, Engineering Tech — Name & Title (Printed or Typed)

05/06/9 — Date

395 174

TEXAS NATURAL RESOURCE
CONSERVATION COMMISSION
P.O. Box 13087
Austin, Texas 78711-3087

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form approved. OMB No. 2050-0039, expires 09/30/95

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. TX0571924042 — Manifest Document No. P0670

2. Page 1 of 2 — Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address
U.S.A.F. Base Conversion Agency
6550 White Settlement Road
Fort Worth, TX 76114

4. Generator's Phone (817) 731-8973

A. State Manifest Document Number 01405055

B. State Generator's ID 65004

5. Transporter 1 Company Name: Tri-State Motor Transit CO.

6. US EPA ID Number: MOD095038998

C. State Transporter's ID 40355

D. Transporter's Phone 417-624-3131

7. Transporter 2 Company Name

8. US EPA ID Number

E. State Transporter's ID

F. Transporter's Phone

9. Designated Facility Name and Site Address
Aptus, Inc.
P.O. Box 1328/Hwy. 169 North
Coffeyville, KS 67337

10. US EPA ID Number: KSD981306025

G. State Facility's ID 130020

H. Facility's Phone 316-251-6380

11A. HM	11. US DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No	Type	13. Total Quantity	14. Unit Wt/Vol	Waste No
	a. POLYCHLORINATED BIPHENYLS	003	CN	1080	K	NHN13961
	b.					
	c.					
	d.					

J. Additional Descriptions for Materials Listed Above
a. transformers filled with 559 ppm PCB oil

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
Storage Dates SEE ATTACHMENT
Work Order #113893
EMERGENCY NUMBER 817 995 9909
Aptus Manifest #P0670 ER6171

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations, including applicable state regulations.
If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

GENERATOR

Printed/Typed Name: CLARENCE D. HILL — Signature: Clarence D. Hill — Month Day Year: 05 20 97

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials — Date

Printed/Typed Name: JAMES D. TAKAI — Signature: James D. Takai — Month Day Year: 05 20 97

18. Transporter 2 Acknowledgement of Receipt of Materials — Date

Printed/Typed Name — Signature — Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19. — Date

Printed/Typed Name — Signature — Month Day Year

IRCC 0311 (Rev 07/13/94) White - original Pink-TSD Facility Yellow-Transporter Green Generator's first copy

PCB MANIFEST CONTINUATION SHEET

ROLLINS ENVIRONMENTAL INC.

MANIFEST DOCUMENT NO. PG670

OR

STATE MANIFEST DOCUMENT NO.

PAGE 2 OF 2

(1) WASTE STREAM NUMBER	(2) GENERATOR'S UNIQUE IDENTIFYING NO. (Maximum 10 digits)	(3) TYPE OF PCB WASTE	(4) EARLIEST DATE OF REMOVAL FROM SERVICE FOR DISPOSAL	(5) WEIGHT IN KILOGRAMS
PK5213744	H 300[illegible]6	Transf.	1-1-97 ~~613~~	613 kg
PK5313746	6 11[illegible]7	Transf.	1-1-97	148 kg
PK5313746	10 CEAD2501	Transf.	1-1-97	315 kg

▶ "Instructions and Example" on the reverse side of this page.

• White - Original • Pink - TSD Facility • Yellow - Transporter • Green - Generator

RES 50-948 10/95

UST Unified Services of Texas, Inc.
2110 Greenbriar Drive, Southlake, Texas 76092
(817) 481-9510; FAX: (817) 488-1729

Manifest # 3397-006-001

Disposal Center Acceptance # N/A

NON-HAZARDOUS WASTE MANIFEST

NAS FT WORTH JRB GENERATOR

GENERATOR NAME: NAS CARSWELL SITE NAME: AIR MUSEUM

ADDRESS: ~~SPUR 341~~ 6550 WHITE SETTLEMENT RD ADDRESS: SPUR 341

PHONE NO: ~~(817) 931-8973 x 18~~ PHONE NO: (SAME)

WASTE CODE: N/A RECYCLED

DESCRIPTION OF WASTE: TRANSMISSION FLUID

HIGHEST TPH: n/a HIGHEST BTEX: n/a CONTAINS METALS: YES ____ NO ✓

QUANTITY: 6 gal UNIT: GAL NUMBER OF CONTAINERS: 2

TYPE OF CONTAINER: TRUCK ____ CARTON ____ BAG ____ OTHER 5 gal cans

CERTIFICATION: I HEREBY CERTIFY THAT THE ABOVE NAMED MATERIAL (1) DOES NOT CONTAIN FREE LIQUID AS DEFINED BY 40 CFR 260.10 OR ANY APPLICABLE STATE LAW; (2) IS NOT A HAZARDOUS WASTE AS DEFINED BY 40 CFR 261 OR ANY APPLICABLE STATE LAW; (3) HAS BEEN PROPERLY DESCRIBED, CLASSIFIED AND PACKAGED; AND (4) IS IN PROPER CONDITION FOR TRANSPORTATION ACCORDING TO APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS.

CLARENCE D. HILL — Clarence D. Hill — 5/9/97
GENERATOR / AGENT NAME (PRINTED) — SIGNATURE — DATE SHIPPED

TRANSPORTER

TRUCK NO: #12 PHONE NO: (817) 481-9510

TRANSPORTER: UST DRIVER'S NAME: MARK AUER JR (PRINTED)

ADDRESS: 2110 GREENBRIAR DR VEHICLE LICENSE NO: GL 3765

CERTIFICATION: I HEREBY CERTIFY THAT THE ABOVE NAMED MATERIAL WAS PICKED UP AT THE GENERATOR SITE LISTED ABOVE.

x Mark Auer Jr — 5/9/97 11:30A
(DRIVER'S SIGNATURE) — (DATE / TIME OF LOADING)

IT IS FURTHER CERTIFIED THAT THE ABOVE NAMED MATERIAL WAS DELIVERED TO THE RECYCLING/DISPOSAL FACILITY LISTED BELOW. NO INCIDENT WAS ENCOUNTERED DURING TRANSIT.

Mark Auer Jr — 5-9-97 1309
(DRIVER'S SIGNATURE) — (DATE / TIME OF DELIVERY)

DESTINATION

FACILITY NAME: Pla Cycle Oil inc PHONE NO: 817-523-4938

ADDRESS: PO BOX 1540

CERTIFICATION: I HEREBY CERTIFY THAT THE ABOVE NAMED MATERIAL WAS ACCEPTED BY THIS FACILITY FOR RECYCLING/DISPOSAL AS APPROPRIATE, AND TO THE BEST OF MY KNOWLEDGE, THE ABOVE INFORMATION IS CORRECT AND ACCURATE.

Jerry Vincent — Jerry Vincent — 5-9-97
(AUTHORIZED FACILITY REPRESENTATIVE) — (SIGNATURE) — (DATE OF RECEIPT)

APPENDIX E

CHRONOLOGY OF EVENTS

THE USE OR DISCLOSURE OF THE INFORMATION AND/OR DATA CONTAINED HEREIN IS SUBJECT TO THE RESTRICTION ON THE TITLE PAGE

STRUCTURE DEMOLITION AND DISPOSAL OF TRANSFORMERS
CHRONOLOGY OF EVENTS

April 30, 1997

UST submitted proposals 5397-013 and 5997-004 in response to the request from Jacobs Engineering Group, Inc. (JEG) to perform demolition work and dispose of transformers with PCB oil at NAS Fort Worth JRB, Carswell Field, Fort Worth, Texas.

May 2, 1997

Conducted site visit to determine work plan.

May 6, 1997

Began demolition of building and concrete pad. Uncovered unidentifiable cable. Debris was removed from the site.

May 7, 1997

Transported 20 transformers to Nix Electric for recycling. Collected concrete samples for pesticide analysis. Finished demolition and continued to remove trash from site.

May 8, 1997

Loaded trash and dirt. Moved and leveled top soil.

May 13, 1997

Hauled off three (3) loads of concrete. Compacted soil around two (2) areas of site.

May 14, 1997

Re-buried unknown cable discovered during slab removal. Removed backfill (clay) from slab area, replaced and compacted to grade.

May 20, 1997

Loaded three (3) transformers, >50 ppm PCB, for disposal at Rollins Environmental, Inc.

THE USE OR DISCLOSURE OF THE INFORMATION AND/OR DATA CONTAINED HEREIN IS SUBJECT TO THE RESTRICTION ON THE TITLE PAGE

APPENDIX F

GENERAL CORRESPONDENCE

THE USE OR DISCLOSURE OF THE INFORMATION AND/OR DATA CONTAINED HEREIN IS SUBJECT TO THE RESTRICTION ON THE TITLE PAGE

UNIFIED SERVICES OF TEXAS, INCORPORATED
CORPORATE MEMORANDUM

DATE: April 11, 1997

TO: Kathleen R. Bindl, Subcontract Manager

FROM: Clarence D. "Dan" Hill, President

SUBJECT: RFP 05-G479-00-R-97-1002; Confirmation of Attendance at Site Walk

==========

1. As requested by the subject RFP dated 09 April 1997, UST will have one or more representatives in attendance at the site walk scheduled for 10:00am April 17, 1997. If the site walk will originate from a location other than the AFBCA offices, please advise me soonest of the point of departure. The name and telephone number of the AFBCA and/or JEG representative that will conduct the site walk would be greatly appreciated.

2. Thank you for the opportunity to participate in this procurement.

2110 GREENBRIAR DRIVE, SOUTHLAKE, TX 76092 (817) 481-9510

UNIFIED SERVICES OF TEXAS, INCORPORATED
CORPORATE MEMORANDUM

DATE: May 5, 1997

TO: Ernest Gonzales
NIX Electric Company, dba
Transformer Repair Service

FROM: Dan Hill Dan Hill

SUBJECT: Transport, Evaluate for Repair/Recycling & Disposal of Nineteen (19) Transformers

==========

1. Please find enclosed copies of the two (2) separate PCB analyses performed on a total of twenty-three (23) transformers located at the Power Facility Storage Area, NAS Fort Worth JRB, Texas. The analyses indicate that transformers number 10, "G" and "H" are above 50ppm and therefore will not be included in the shipment destined for your facility.

2. You are requested to be at the main gate, off highway 183 (White Settlement Road) at 9:00am Wednesday, May 7, 1997. A UST representative will meet you there to escort you onto the base and off again. A crane will be available to load your trailer.

3. Please advise me of the make, model and license number of your vehicle and trailer that will pick up the transformers. If known please include the drivers, name and Texas license number.

4. As discussed earlier today, the transformers will be transported off the base under UST manifest.

5. Should you have questions, please contact me at (817) 481-9510; facsimile (817) 488-1729.

2110 GREENBRIAR DRIVE, SOUTHLAKE, TX 76092 (817) 481-9510

TAB

4

Applicable Portions of the Draft Basewide Background Study Vol. I Jacobs Engineering Group, Inc.

395. 184

United States Air Force
Air Force Base Conversion Agency

DRAFT

NAS Fort Worth JRB, Texas
(Formerly Carswell AFB, Texas)

BASEWIDE BACKGROUND STUDY
VOLUME I

JANUARY 1997

By:

JACOBS ENGINEERING GROUP INC.
600 17th Street, Suite 1100N
Denver, CO 80202

EXECUTIVE SUMMARY

A basewide background study was conducted at the Naval Air Station Fort Worth Joint Reserve Base, Carswell Field, Texas (referred to as NAS Fort Worth) to establish background concentrations of inorganic constituents in various site media. Background concentrations were determined for 24 inorganic constituents in each of the following background populations:

- surface soil;
- subsurface soil;
- groundwater sampled via a low-volume sampling technique (to approximate filtered samples);
- groundwater sampled with a bailer (unfiltered samples);
- surface water; and
- sediment in the surface water drainages.

A total of 30 surface soil, 30 subsurface soil, 12 groundwater samples (one low-volume sample and one bailer sample per well), 8 surface water, and 8 stream sediment samples were collected to characterize these media for background concentrations.

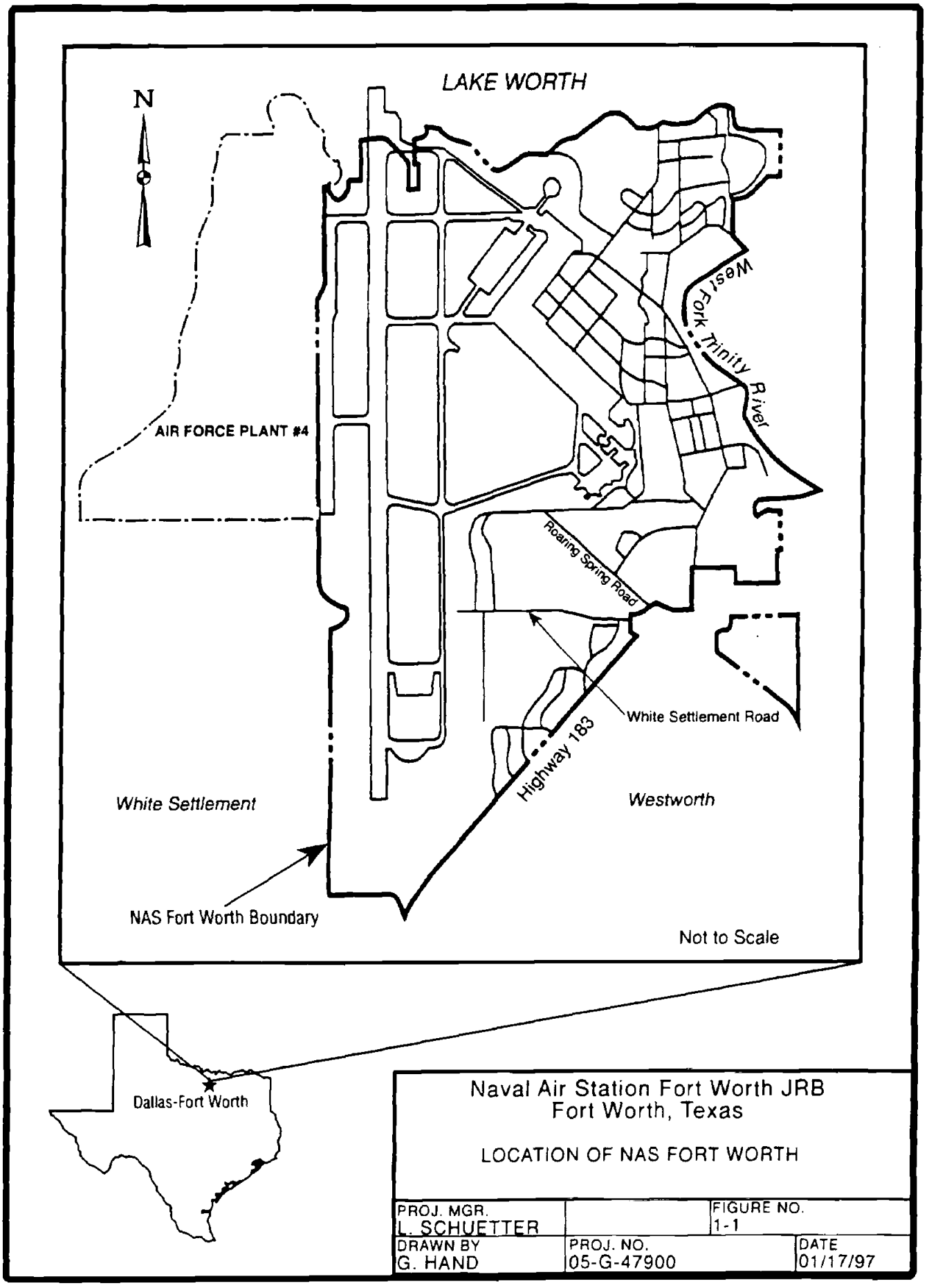
The Tolerance Interval (TI) method (U.S. Environmental Protection Agency [EPA] 1989, 1992) was used to estimate upper tolerance limits (UTLs) of the distribution of each constituent in the background data population. Table ES-1 presents the results of the NAS Fort Worth Background Study. The $UTL_{95,95}$ listed in the table is the value that we can say, with 95 percent confidence, will exceed 95 percent of the background data. Any site value greater than the UTL has only a 5 percent probability of being drawn from the background data population, and thus may indicate the presence of site-related contamination.

1.0 INTRODUCTION

This report describes field activities, summarizes analytical results, and presents background concentrations calculated for the basewide background study at the Naval Air Station (NAS) Fort Worth Joint Reserve Base (JRB), Carswell Field, Texas (referred to as NAS Fort Worth). Jacobs Engineering Group Inc. (Jacobs) completed this work under Contract F41624-94-D-8046, Delivery Order 0021, issued by the Air Force Center for Environmental Excellence. The project consisted of sampling soil, groundwater, surface water, and sediment, and calculating background concentrations for select metals in each of these media.

This report is organized into six sections. Section 1.0 introduces the basewide background study, the history of NAS Fort Worth, the physical setting of the station, project objectives, the general approach, and the rationale for the selection of sampling locations and the analytical suites. Section 2.0 describes the field sampling activities. Section 3.0 provides an overview of data quality. Section 4.0 presents the data analysis and statistical calculations of background concentrations for each of the media sampled. Section 5.0 summarizes the conclusions of this study. Section 6.0 is the list of references used to prepare this report. In addition to the six sections, this report includes the following seven appendices:

- Appendix A - Preliminary Analytical Results
- Appendix B - Chain of Custody Records
- Appendix C - Soil Probe Boring Logs
- Appendix D - Monitoring Well Boring Logs, Construction Details, Groundwater Sampling Data Sheets, and Development Records
- Appendix E - Surface Water Data Sheets
- Appendix F - Statistical Calculations Support Tables
- Appendix G - Photographs



Naval Air Station Fort Worth JRB
Fort Worth, Texas

LOCATION OF NAS FORT WORTH

PROJ. MGR. L. SCHUETTER		FIGURE NO. 1-1
DRAWN BY G. HAND	PROJ. NO. 05-G-47900	DATE 01/17/97

Fort Worth. Most of the land surrounding NAS Fort Worth is zoned for residential use, but also includes areas zoned for recreational, commercial, and industrial uses.

1.2.2 Geology

The following sections discuss the regional geology for NAS Fort Worth.

1.2.2.1 Regional Geology

The geology of west-central Tarrant County consists of Early Cretaceous marine sedimentary rocks underlain by undifferentiated Paleozoic rocks. Unconsolidated thin alluvial deposits of the Quaternary period overlie bedrock along major stream and river valleys.

Sediments were deposited in the area during most of the Paleozoic era. Late in the Paleozoic era the area was uplifted, and extensive erosion during the Jurassic period produced a surface upon which early Cretaceous marine sediments were deposited as part of an oscillating shoreline. These marine sediments now exist as a southeast-thickening wedge extending into the East Texas basin. From the late Cretaceous period through the Tertiary period, the sea withdrew toward the Gulf of Mexico, and the land surface was eroded and shaped by streams. During the Quaternary period, the streams deposited alluvial sediments. The older sediments are represented by terrace deposits cut by the alluvial valleys of present streams.

Major structural features in the vicinity of Tarrant County include the Mexia-Talco fault system about 80 miles to the east, the leading edge of the Ouachita overthrust about 30 miles to the east, and the south end of the axis of the Fort Worth basin, located just to the east of the site.

The generalized regional stratigraphic units in the vicinity of Tarrant County are presented in Table 1-1. The units are briefly described in the following paragraphs.

300 feet in thickness, is a fossiliferous limestone and shell coquinite, and consists of interbedded brown sandy clay, thinly bedded fossiliferous clay, fissile clay, and iron-stained limestone (Leggat 1957).

Rocks of the Trinity Group, consisting of the Paluxy, Glen Rose, and Twin Mountains Formations, underlie NAS Fort Worth. The Paluxy Formation consists of sandstone and siltstone interbedded with sandy to silty, calcareous, waxy clay, and shale (Nordstrom 1982). The sandstone is composed of fine- to coarse-grained, well-sorted, poorly consolidated, and cross-bedded white quartz. The thickness of the Paluxy Formation in Tarrant County is approximately 140 to 190 feet (Leggat 1957). Underlying the Paluxy Formation is the Glen Rose Formation consisting of sandstone, claystone, limestone, and anhydrite. In the vicinity of the Lake Worth, the Glen Rose Formation is approximately 250 feet thick.

Underlying the Glen Rose Formation is the Twin Mountains Formation. The Twin Mountains Formation grades upward from a chert and quartz conglomerate to a fine- to coarse-grained sandstone interbedded with shale and clay, and is approximately 250 feet thick in the vicinity of Lake Worth. Undifferentiated Paleozoic deposits underlie the Twin Mountains Formation and consist of shales, sandstones, and limestones 6,000 to 7,000 feet thick.

1.2.2.2 Geology of NAS Fort Worth

The geologic units of concern at NAS Fort Worth include, in stratigraphic order, the following:

- fill materials;
- alluvium;
- terrace deposits;
- Goodland Limestone;
- Walnut Formation; and
- Paluxy Formation.

the southeast under the flight line. A cross section presented in the Summary of Interim Remedial Investigation (Hargis + Associates 1989a) indicates that this channel has cut down through nearly the entire thickness of the Walnut Formation.

Coarse sand and gravel deposits occur immediately above bedrock in several areas at NAS Fort Worth. The greatest thickness of these coarse deposits is in the paleochannels where the gravels were deposited as channel lag on the scoured bedrock surface. Basal sand and gravel in the paleochannel in the Plant 4 East Parking Lot area reaches a thickness of at least 15 feet (Hargis + Associates 1989a). Basal sand and gravel in the southeastward extension of this paleochannel under the runways at NAS Fort Worth range up to at least 35 feet thick. Sand and gravel greater than 20 feet thick also occur in an area that trends eastward approximately aligned with White Settlement Road. These deposits probably coincide with the location of a former channel of what is now Farmers Branch (Radian 1990).

Goodland Limestone. The Goodland Limestone is present in the subsurface throughout Plant 4 and NAS Fort Worth, except (1) where erosion has removed it in the northwest part of Plant 4, (2) in the northern portion of NAS Fort Worth, and (3) in deeply eroded meander bends cut by former courses of the West Fork of the Trinity River beneath both Plant 4 and NAS Fort Worth. The top of the formation is highly weathered in places because it was exposed for a long period before overlying alluvium was deposited. The thickness of the formation on the site is variable, depending on the amount of erosion that has occurred. The thickest Goodland Limestone encountered near the site (just west of Plant 4 at well EPA-4) is 47 feet.

The Goodland Limestone consists of chalky white, fossiliferous, dense, thinly to massively bedded limestone interbedded with gray to yellow-brown stiff clay and marl. Extensive jointing is common in weathered portions of the formation; however, core samples from the Goodland Limestone indicate that joints are rare when

embayment. The top of the underlying Glen Rose Formation is defined as the first occurrence of a limestone unit.

Sandstones in the Paluxy Formation are porous, fine- to very fine-grained, and composed of moderately to well sorted, subangular to subrounded white quartz sand. The sandstones are poorly cemented (friable) to slightly indurated with sparry calcite cement (Caughey 1977). Traces of pyrite, iron oxides (limonite concretions), and glauconite occur in the sandstone, and these can be locally abundant. Thinner sandstone beds may contain pyrite nodules, traces of lignite, silicified wood, and carbonized plant fragments. Low-angle cross-bedding has been observed in cores from the Paluxy Formation and in outcrops along the Lake Worth shoreline northwest of Plant 4 where horizontal, fossiliferous limestone beds of the Walnut Formation truncate cross-bedded yellow-brown sandstone of the upper Paluxy Formation.

Bedding in the gray to green-gray or olive-green shales (mudrocks) and silty claystones of the Paluxy Formation may be horizontally laminated, massive, or burrowed (churned or bioturbated). The mudstones commonly contain carbonized plant fragments and thin beds of lignite.

The thicknesses of individual sandstone and shaley units in the Paluxy Formation vary across the site. In the upper part of the Paluxy Formation, differences in the individual sandy and clayey units can be subtle (i.e., silty claystone compared with very fine-grained sandstone), and facies changes occur across the site (claystone may grade into very fine-grained sandstone).

1.2.3 Hydrogeology

The hydrogeology in the vicinity of NAS Fort Worth consists of three main units:

1. a shallow (or water table) aquifer within the fill, alluvium, and weathered Goodland Limestone;
2. an aquitard composed of competent bedrock of the Goodland Limestone and Walnut Formation; and

Additional recharge also occurs as leakage from water-supply lines, fire-fighting pipe systems, cooling-water systems, sanitary sewers, and storm sewers.

Discharge from the shallow aquifer occurs primarily as seeps to Meandering Road Creek, baseflow to Farmers Branch, and discharge to the West Fork of the Trinity River. Discharge from the shallow groundwater also occurs as vertical leakage into the Paluxy Aquifer. Most of the vertical leakage occurs in the paleochannels where considerable portions of the Goodland Limestone and Walnut Formation are absent.

Slug tests completed during the Plant 4 Remedial Investigation (RI) Preliminary Assessment (PA)/Site Investigation (SI) to obtain estimates of hydraulic conductivity in easterly flowing upper zone groundwater, averaged 0.5×10^{-4} centimeters per second (cm/sec). These slug tests were completed on 13 wells, some of which were screened in the weathered portions of the Goodland Limestone (Rust Geotech 1995).

Hydraulic conductivities determined from slug tests ranged from 4.1×10^{-4} cm/sec to 7.98×10^{-3} cm/sec, while pump tests conducted in groundwater monitoring wells LF04-02 and LF04-03 averaged 2.8×10^{-1} cm/sec (Radian 1991). This value is within the typical range for clean sand and gravel deposits (U.S. Geological Survey 1989).

Goodland Limestone and Walnut Formation Aquitard. These two formations form an aquitard that restricts the vertical flow of groundwater between the shallow aquifer system and the Paluxy Aquifer. The entire section of Walnut Formation and at least a portion of the Goodland Limestone are present throughout most of NAS Fort Worth and the Plant 4 area. In the vicinity of NAS Fort Worth and Plant 4, the maximum thickness of the aquitard is approximately 30 feet, but is considerably thinner or absent in areas where paleochannels have incised into the Goodland Limestone and Walnut Formation. In highly incised areas, such as the window area, there is a potential for groundwater flow into the Paluxy Formation.

siltstone/claystone units cannot be correlated over large distances because of the variable distribution of the units and the uncertainty associated with the lithologic logs prepared on the basis of drill cuttings. Because of these observations, the Paluxy Aquifer is regarded as a single unconfined to semiconfined flow system consisting of a largely sandstone matrix with abundant layers of interbedded shale, siltstone, and claystone.

Recharge to the Paluxy Aquifer occurs largely as infiltration of precipitation falling on the outcrop in Wise, Parker, Hood, and Tarrant Counties. Recharge also occurs as infiltration from Lake Worth and Eagle Mountain Lake, both of which lie at least partially within the boundary of the outcrop. Additional minor amounts of recharge also occur as infiltration from streams that cross the outcrop. In the immediate vicinity of Plant 4, it is evident that small amounts of recharge are also derived from leakage of upper-zone Terrace Alluvium groundwater through the window area (where the Walnut Formation has been severely eroded) and leakage of surface water through the lower reaches of Meandering Road Creek. In both of these areas, most if not all of the Walnut Formation has been eroded reducing the capacity of this aquitard to impede the vertically downward flow of upper-zone groundwater and surface water.

1.2.4 Surface Water

The primary surface-water features in the vicinity of NAS Fort Worth include Lake Worth, Farmers Branch, and the West Fork of the Trinity River. Lake Worth is located along the northern boundary of the site, Farmers Branch flows eastward near the southern end of the site discharging into the West Fork of the Trinity River, and the West Fork of the Trinity River flows southeasterly from Lake Worth and borders the site on the east. Lake Worth was created by damming the West Fork of the Trinity River. Portions of NAS Fort Worth fall within the 100-year floodplain. These areas occur along portions of the West Fork of the Trinity River, Lake Worth, Farmers Branch, and Kings Branch.

1.2.6.1 Flora and Fauna

Because of the urban environmental setting, few natural terrestrial and aquatic communities exist at NAS Fort Worth. The richest ecological community in the immediate area exists in the riparian corridor along Meandering Road Creek, west of Plant 4. At NAS Fort Worth, limited terrestrial and aquatic communities exist along the shores of Lake Worth, the West Fork of the Trinity River, Kings Branch and Farmers Branch.

Aquatic species observed in the West Fork of the Trinity include catfish, sunfish, and numerous varieties of bass. Common birds observed in the area include herons, kestrels, kingfishers, seagulls, mourning doves, meadowlarks, grackles, and starlings.

1.2.6.2 Threatened and Endangered Species

The U.S. Fish and Wildlife Service (FWS) and the Texas Department of Parks and Wildlife (TDPW) have identified 12 bird, two reptile, and one sensitive plant species that are threatened and endangered species potentially occurring in Tarrant County. The two federal-listed candidate reptile species that could also inhabit Tarrant County are the Texas horned lizard, which lives on grassy hillsides, and the Texas garter snake, which inhabits prairie seeps and wet grassy swales.

However, no state- or federal-listed threatened or endangered species are known to live on NAS Fort Worth property. The closest sensitive habitat to the sites is the great blue heron rookeries to the north of NAS Fort Worth, across Lake Worth.

1.2.7 Cultural/Archaeological Resources

One historical structure listed in the National Register of Historic Places (NRHP) exists within the boundaries of NAS Fort Worth. No significant archaeological or prehistoric sites have been identified within the boundary of NAS Fort Worth. Fossils are present in outcrops at NAS Fort Worth, but have not been identified as a significant paleontological resource.

gray in color. This soil type is the predominant surface soil at NAS Fort Worth, and has been observed up to depths of 4 feet below ground surface. However, in some locations this soil type is not found on the surface because of erosional effects and construction activities.

Subsurface soils, Horizon B, are defined as the second encountered soil type below the organically rich surface soil. The subsurface soil is a sandy clay with varying amounts of fine subrounded limestone clasts, reddish brown to strong brown. The thickness of this unit has been found to be from 5 to 15 feet across the base. Local differences in depositional environments provide for a wide variety of soil types at the base. However, Horizon B is found to be predominant from below Horizon A to within proximity of the groundwater capillary fringe in general. Sandy soils which tend to be saturated, are found below the reddish brown to brown sandy clays. The section of unsaturated sandy soils from the bottom of the Horizon B and the groundwater is generally thin and subject to saturation; therefore, it was not included in the background evaluation.

The Terrace Alluvium aquifer is found below the clay soils in coarser-grained sands and gravels at various depths ranging from a few feet to 37 feet below the ground surface. The depth to groundwater at the base is controlled by the depth of bedrock. The Terrace Alluvium is included in the background evaluation because of the widespread occurrence of Terrace Alluvium groundwater at NAS Fort Worth and the potential for environmental impacts to the groundwater.

The Farmer Branch Creek surface water and sediments were selected for background evaluation because the Farmers Branch is the only consistent upstream source flowing onto the base. Quarterly groundwater monitoring for the Air Force Plant 4 facility has shown that volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs) are present in the Farmers Branch at the base indicating the potential for environmental impact.

1.4.3 Background Study

The analytical results were used to calculate background concentrations for 24 inorganic constituents in each of six background populations. A total of 30 surface soil, 30 subsurface soil, 12 groundwater samples (one low-volume sample and one bailer sample per well), eight surface water, and eight stream sediment samples were collected to characterize these media for background concentrations. The Tolerance Interval (TI) method (U.S. Environmental Protection Agency [EPA] 1989, 1992) was used to estimate background concentrations in site media. The TI method is used to estimate the concentration of a given constituent in a given medium and is expressed as an appropriate upper tolerance limit (UTL) of the distribution of the constituent in the background data population.

Section 4.0 discusses the process by which the UTLs were developed and reports the results for each inorganic analyte by media.

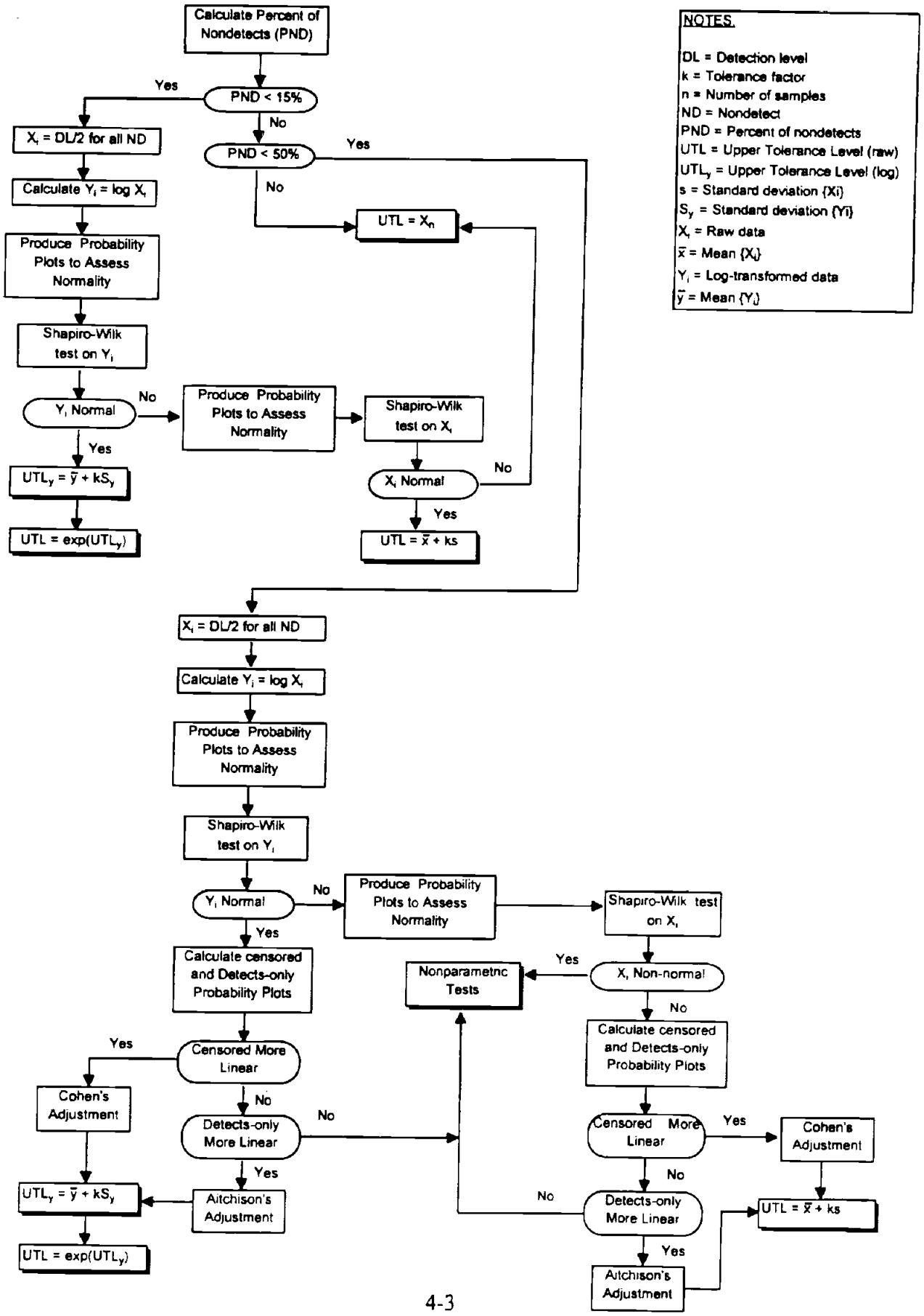
4.0 BACKGROUND CHARACTERIZATION

To assess whether site activities at NAS Fort Worth have affected the concentrations of inorganic constituents in site groundwater, surface water, sediment, and soils, it is necessary to compare the concentrations inorganic constituents in site media with their concentrations in background samples. The TI method was used to estimate reasonable background concentrations. According to the TI method (EPA 1989, 1992), the concentration of a given constituent in a given media is expressed as an appropriate UTL of the distribution of the constituent in the background data population. A UTL is generally expressed in terms of confidence and coverage levels, so that it can be said with a specified level of confidence that the UTL indicates the concentration of the constituent below which a specified proportion of the background data distribution will occur. Thus, a UTL with 95 percent confidence and 95 percent coverage ($UTL_{95,95}$) is the value that we can say, with 95 percent confidence, will exceed 95 percent of the background data. Any site value greater than the UTL has only a 5 percent probability of being drawn from the background data population, and thus may indicate the presence of site-related constituents.

UTLs (and other statistical properties) were determined for a total of 24 inorganic constituents in each of six background populations. The populations consisted of surface and subsurface soil; groundwater sampled via a low-stress technique (to approximate filtered samples), groundwater sampled with a bailer (unfiltered samples), surface water, and sediment within the surface water drainages.

A total of 30 surface soil, 30 subsurface soil, 12 groundwater samples (one low-stress and one bailer sample per well), 8 surface water, and 8 stream sediment samples were collected to characterize these media for background concentrations.

FIGURE 4-1
Naval Air Station Fort Worth Background Study
Flowchart of Data Analyses



4.2.2 Normality

The calculation of statistical parameters, and in particular the UTL, is affected significantly by the population distribution of the data set. Both formal and graphical statistical tests have been applied to assess normality. The general process is outlined in Figure 4-1.

To assess the population distribution of the data sets, each set was first addressed using a formal test for normality. Probability plots of the raw and log-transformed data were generated for some analytes to provide a graphical indication of whether the data distribution was normal or lognormal.

For the calculated statistical test of normality, it was first assumed that the data were lognormally distributed (EPA 1989, 1992). This assumption is based on the observation that environmental data are commonly distributed lognormally (i.e., logarithms of the observed data are distributed normally). This may be because environmental data are bounded by zero (i.e., negative constituent concentrations are not possible), so the data sets are often skewed to the right, which is characteristic of a lognormal distribution. Consequently, logarithms of the data were calculated before the tests for normality were performed.

Let x_i represent the raw data, and let $y_i = ln(x_i)$, where ln is the natural or Naperian logarithm. Let n be the statistical sample size (i.e., the number of data in the data set). If $n \leq 50$, then normality of the distribution of y_i was tested by the Shapiro-Wilk test (EPA 1989, 1992). If $n \geq 50$, then the alternate Shapiro-Francia test was applied (EPA 1992). In each case for the NAS Forth Worth AFB background groundwater data sets, the statistical sample size n was less than 50, and the Shapiro-Wilk test of normality was applied.

- mean;
- standard deviation;
- UTL; and
- potential outlier statistic.

The calculation of these various parameters depends in part on whether the data set has been judged to be normally or lognormally distributed.

The frequency of detection is a simple ratio of the number of values greater than the MDL to the total number of samples in the data set. The range of the background data set for a given constituent is reported as the minimum and maximum observed values in the data set. These values do not depend on the shape of the distribution.

The mean $\bar{x}$ was calculated as the arithmetic mean of the data set

$$\bar{x} = (\Sigma_i x_i)/ n.$$

The standard deviation s was calculated as the sample standard deviation of the data set

$$s = \{[n \Sigma_i x_i^2 - (\Sigma_i x_i)^2]/[n (n - 1)]\}^{1/2}.$$

The $UTL_{95,95}$ was calculated as

$$UTL_{95,95} = \bar{x} + k s.$$

where k is the tolerance factor for a one-sided normal (or lognormal) tolerance interval with a minimum of 95 percent coverage, a 95 percent probability, and n background observations.

For distributions that were determined to be lognormal rather than normal, the UTL was calculated in the same fashion except that $\bar{x}$ was replaced by $\bar{y}$ (the mean of the

> acceptable ... If the Censored Probability Plot has significant bends and curves ..., one might consider Aitchison's procedure instead.
>
> To test the assumptions of Aitchison's method, a Detects-Only Probability Plot may be constructed. [N]ondetects are completely ignored and a standard Probability Plot is constructed using only the detected measurements. ... Thus, ... Normal quantiles are computed only for the ordered detected values. ... If the Detects-Only Probability Plot is reasonably linear, then the assumptions underlying Aitchison's adjustment (i.e., that "nondetects" represent zero concentrations ...) are probably reasonable.

Cohen's Adjustment. If it was determined that Cohen's adjustment was appropriate, the sample mean $\bar{x}_d$ and sample variance s_d^2 for only the data greater than the detection limit were first calculated. Then two parameters h and γ were computed as

$$h = (n - l)/n$$

and

$$\gamma = s_d^2 / (\bar{x}_d - MDL)^2,$$

where l is the number of observations greater than the detection level, and MDL is the method detection limit. Based on the values of h and γ, a value λ was determined from a table in Appendix B of EPA (1989), and corrected values of the mean $\bar{x}$ and standard deviation s were calculated by

$$\bar{x} = \bar{x}_d - \lambda (\bar{x}_d - MDL)$$

and

$$s = [s_d^2 + \lambda (\bar{x}_d - MDL)^2]^{1/2}.$$

with the datum (such as a transcription error or failure to account for dilution) was any change made to the data set. The test for outliers merely identified those data that might be outliers and for which additional data review was warranted.

4.3 BACKGROUND CONCENTRATIONS

Results of the background study, including percent of samples below the detection limit, number of detects, minimum, maximum, mean, standard deviation, UTL, and outlier identification, are listed in Tables 4-1 through 4-6. Additionally, the tables identify the results of the Shapiro-Wilk test for normality, indicating the sample-size dependent critical value ($W_{(crit)}$) and the calculated test result for the log-transformed ($W_{(log)}$), and untransformed ($W_{(raw)}$) data. The following sections briefly explain the process by which background values were calculated for each media based on the Figure 4-1 flowchart for each analyte.

4.3.1 Soils

The Horizon A and Horizon B soils were evaluated separately.

4.3.1.1 Horizon A Soils

The following paragraphs briefly describe the process used to calculate each UTL. The analytes are grouped according to how the UTL was derived, based on the frequency of detection and the distribution of the data.

Calcium, Chromium, Cobalt, and Potassium. Calcium, chromium, cobalt, and potassium were detected in 30 of 30 samples. Based on the Shapiro-Wilk test, the null hypothesis of normality was accepted for the log-transformed data for each analyte (Table 4-1). The mean and standard deviation listed in Table 4-1 are for the

TABLE 4-2
Summary of Background Values for Subsurface Soil
Naval Air Station Fort Worth

Analyte	% Non detects	Detects / Total	W (crit)	W (log)	W (raw)	Minimum	Maximum	Mean	Standard Deviation	$UTL_{95,95}$	Outlier?
Aluminum	0.0%	30 / 30	0.927	0.960 Accept	0.955 Accept	3780	17700	9905	3277	17180	No
Antimony	80.0%	6 / 30	0.927	---- ----	---- ----	< 0.21	0.712	nc	nc	0.712	----
Arsenic	0.0%	30 / 30	0.927	0.963 Accept	0.942 Accept	1.42	5.31	3.0317	1.1266	5.533	No
Barium	0.0%	30 / 30	0.927	0.922 Reject	0.974 Accept	16.4	127	65.83	28.03	128.1	No
Beryllium	0.0%	30 / 30	0.927	0.966 Accept	0.969 Accept	0.208	1.07	0.5629	0.1776	0.957	No
Calcium	0.0%	30 / 30	0.927	0.733 Reject	0.853 Reject	751	347000	91395	76216	272000	Yes
Cadmium	33.3%	20 / 30	0.927	0.829 Reject	0.390 Reject	0.055	1.48	0.1754	0.2540	0.5891	Yes
Chromium	0.0%	30 / 30	0.927	0.937 Accept	0.847 Reject	5.77	17.90	9.494	2.766	16.31	No
Cobalt	10.0%	27 / 30	0.927	0.762 Reject	0.954 Accept	0.4395	5.5	3.181	1.356	6.191	No
Copper	0.0%	30 / 30	0.927	0.848 Reject	0.952 Accept	2.61	13.30	8.119	2.524	13.72	No
Iron	0.0%	30 / 30	0.927	0.936 Accept	0.941 Accept	3840	16900	9185	2720	15224	No
Lead	6.7%	28 / 30	0.927	0.746 Reject	0.949 Accept	0.073	14.3	5.280	3.325	12.66	No
Magnesium	0.0%	30 / 30	0.927	0.697 Reject	0.843 Reject	292	2420	1569	582.1	2420	No
Manganese	0.0%	30 / 30	0.927	0.904 Reject	0.964 Accept	28.7	317	169.6	82.03	351.7	No
Mercury	100.0%	0 / 30	0.927	---- ----	---- ----	< 0.03	< 0.035	nc	nc	ND at 0.035	----
Molybdenum	80.0%	6 / 30	0.927	---- ----	---- ----	< 0.638	1.930	nc	nc	1.930	----
Nickel	0.0%	30 / 30	0.927	0.959 Accept	0.837 Reject	4.17	22.1	9.166	3.662	19.76	No
Potassium	0.0%	30 / 30	0.927	0.909 Reject	0.977 Accept	271	1900	1000	322.8	1717	No
Selenium	80.0%	6 / 30	0.927	---- ----	---- ----	< 0.12	0.3130	nc	nc	0.3130	----
Silver	33.3%	20 / 30	0.927	0.862 Reject	0.847 Reject	<0.021	0.0928	0.0354	0.0273	0.1277	No
Sodium	10.0%	27 / 30	0.927	0.898 Reject	0.426 Reject	1.1	53200	4225	11762	53200	No
Thallium	13.3%	26 / 30	0.927	0.630 Reject	0.858 Reject	0.575	65.4	34.74	19.84	65.4	No
Vanadium	0.0%	30 / 30	0.927	0.980 Accept	0.926 Reject	9.7	37.8	20.33	6.245	37.39	No
Zinc	0.0%	30 / 30	0.927	0.851 Reject	0.963 Accept	5.9	31	18.70	5.663	31.27	No

Notes:

All units are in milligrams per kilogram (mg/kg).

---- = not applicable
nc = not calculated
ND = not detected
$UTL_{95,95}$ = Upper Tolerance Level (95% confidence and 95% coverage)
Outlier? = Result of test to determine if the maximum value is a potential outlier.
W (crit) = Shapiro-Wilk critical value
W (log) = calculated W using log-transformed data and result when compared to W (crit)
W (raw) = calculated W using raw data and result when compared to W (crit)

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TABLE 4-4
Summary of Background Values for Unfiltered Groundwater Samples
Naval Air Station Fort Worth

Analyte	% Non detects	Detects / Total	W (crit)	W (log)	W (raw)	Minimum	Maximum	Mean	Standard Deviation	$UTL_{95,95}$	Outlier?
Aluminum	0.0%	12 / 12	0.859	0.950 Accept	0.779 Reject	0.0699	2.45	0.8072	0.8586	11.07	No
Antimony	91.7%	1 / 12	0.859	---- ----	---- ----	< 0.002	0.0024	nc	nc	0.0024	----
Arsenic	91.7%	1 / 12	0.859	---- ----	---- ----	< 0.0049	0.0067	nc	nc	0.0067	----
Barium	0.0%	12 / 12	0.859	0.982 Accept	0.882 Accept	0.0358	0.513	0.1931	0.1362	1.133	No
Beryllium	66.7%	4 / 12	0.859	---- ----	---- ----	< 0.0003	0.0019	nc	nc	0.0019	----
Calcium	0.0%	12 / 12	0.859	0.916 Accept	0.806 Reject	102	881	406.6	300.8	2438	No
Cadmium	66.7%	4 / 12	0.859	---- ----	---- ----	< 0.0005	0.0016	nc	nc	0.0016	----
Chromium	58.3%	5 / 12	0.859	---- ----	---- ----	< 0.0053	0.0136	nc	nc	0.0136	----
Cobalt	91.7%	1 / 12	0.859	---- ----	---- ----	< 0.0089	0.01	nc	nc	0.01	----
Copper	50.0%	6 / 12	0.859	---- ----	---- ----	< 0.0008	0.0101	nc	nc	0.0101	----
Iron	0.0%	12 / 12	0.859	0.984 Accept	0.828 Reject	0.0768	2.64	0.7838	0.7026	7.234	No
Lead	100.0%	0 / 12	0.859	---- ----	---- ----	< 0.0016	< 0.0016	nc	nc	ND at 0.0016	----
Magnesium	0.0%	12 / 12	0.859	0.905 Accept	0.735 Reject	3.79	35.6	11.91	10.65	68.78	No
Manganese	0.0%	12 / 12	0.859	0.958 Accept	0.863 Accept	0.0393	2.17	0.7055	0.6592	10.57	No
Mercury	100.0%	0 / 12	0.859	---- ----	---- ----	< 0.0001	< 0.0001	nc	nc	ND at 0.0001	----
Molybdenum	100.0%	0 / 12	0.859	---- ----	---- ----	< 0.0144	< 0.0144	nc	nc	ND at 0.0144	----
Nickel	0.0%	12 / 12	0.859	0.92 Accept	0.78 Reject	0.0022	0.0203	0.0068	0.0055	0.0364	No
Potassium	50.0%	6 / 12	0.859	---- ----	---- ----	< 0.466	3.9	nc	nc	3.9	----
Selenium	16.7%	10 / 12	0.859	0.891 Accept	0.851 Reject	< 0.0011	0.0042	0.0018	0.0009	0.0072	No
Silver	91.7%	1 / 12	0.859	---- ----	---- ----	< 0.0002	0.0003	nc	nc	0.0003	----
Sodium	0.0%	12 / 12	0.859	0.960 Accept	0.630 Reject	1.96	91.5	20.24	23.68	176.2	No
Thallium	100.0%	0 / 12	0.859	---- ----	---- ----	< 0.0632	< 0.0632	nc	nc	ND at 0.0632	----
Vanadium	9.1%	10 / 11	0.859	0.943 Accept	0.920 Accept	0.00145	0.0247	0.0093	0.0066	0.0653	No
Zinc	9.1%	10 / 11	0.859	0.964 Accept	0.874 Accept	0.00195	0.0307	0.0107	0.0082	0.0682	No

Notes:

All units are in milligrams per liter (mg/L).

---- = not applicable
nc = not calculated
ND = not detected
$UTL_{95,95}$ = Upper Tolerance Level- (95% confidence and 95% coverage)
Outlier? = Result of test to determine if the maximum value is a potential outlier.

W (crit) = Shapiro-Wilk critical value
W (log) = calculated W using log-transformed data and result when compared to W (crit)
W (raw) = calculated W using raw data and result when compared to W (crit)

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TABLE 4-6
Summary of Background Values for Stream Sediment Samples
Naval Air Station Fort Worth

Analyte	% Non detects	Detects / Total	W (crit)	W (log)	W (raw)	Minimum	Maximum	Mean	Standard Deviation	$UTL_{95,95}$	Outlier?
Aluminum	0.0%	8 / 8	0.818	0.892 Accept	0.924 Accept	2280	9240	5540	2679	28767	No
Antimony	87.5%	1 / 8	0.818	---- ----	---- ----	< 0.244	0.33	nc	nc	0.33	----
Arsenic	0.0%	8 / 8	0.818	0.951 Accept	0.925 Accept	2.85	5.27	3.7488	0.7848	7.018	No
Barium	0.0%	8 / 8	0.818	0.920 Accept	0.918 Accept	21.9	76.8	48.03	19.60	180.4	No
Beryllium	0.0%	8 / 8	0.818	0.912 Accept	0.912 Accept	0.194	0.557	0.3734	0.1336	1.189	No
Calcium	0.0%	8 / 8	0.818	0.877 Accept	0.928 Accept	75100	189000	139888	35825	337544	No
Cadmium	0.0%	8 / 8	0.818	0.859 Accept	0.866 Accept	0.152	0.292	0.2164	0.0588	0.5071	No
Chromium	0.0%	8 / 8	0.818	0.869 Accept	0.885 Accept	4.81	9.59	7.546	1.840	17.0	No
Cobalt	0.0%	8 / 8	0.818	0.882 Accept	0.872 Accept	1.59	3.43	2.51	0.7757	6.651	No
Copper	0.0%	8 / 8	0.818	0.961 Accept	0.953 Accept	4.28	11.7	7.428	2.627	22.18	No
Iron	0.0%	8 / 8	0.818	0.807 Reject	0.832 Accept	5030	8080	6923	1184	10696	No
Lead	0.0%	8 / 8	0.818	0.956 Accept	0.818 Reject	2.21	26.9	9.1	8.330	104.1	No
Magnesium	0.0%	8 / 8	0.818	0.912 Accept	0.938 Accept	1450	2140	1876	221.7	2772	No
Manganese	0.0%	8 / 8	0.818	0.840 Accept	0.743 Reject	143	362	198.4	71.16	491.3	Yes
Mercury	87.5%	1 / 8	0.818	---- ----	---- ----	< 0.037	0.0360	nc	nc	0.0360	----
Molybdenum	12.5%	7 / 8	0.818	0.894 Accept	0.963 Accept	0.4355	2.68	1.659	0.7692	9.693	No
Nickel	0.0%	8 / 8	0.818	0.937 Accept	0.958 Accept	5.55	12	9.0475	2.147	19.76	No
Potassium	0.0%	8 / 8	0.818	0.904 Accept	0.929 Accept	386	1300	788.4	340	3227	No
Selenium	87.5%	1 / 8	0.818	---- ----	---- ----	< 0.134	0.214	nc	nc	0.214	----
Silver	0.0%	8 / 8	0.818	0.965 Accept	0.888 Accept	0.0311	0.0929	0.0532	0.0188	0.144	No
Sodium	75.0%	2 / 8	0.818	---- ----	---- ----	< 2.44	6.07	nc	nc	6.07	----
Thallium	0.0%	8 / 8	0.818	0.912 Accept	0.936 Accept	22.2	43.4	33.41	7.443	69.74	No
Vanadium	0.0%	8 / 8	0.818	0.902 Accept	0.896 Accept	15.4	24.1	19.26	3.206	32.26	No
Zinc	0.0%	8 / 8	0.818	0.971 Accept	0.853 Accept	11.3	53.9	25.48	13.11	101.3	No

Notes:

All units are in milligrams per kilogram (mg/kg).

---- = not applicable

nc = not calculated

ND = not detected

$UTL_{95,95}$ = Upper Tolerance Level (95% confidence and 95% coverage)

Outlier? = Result of test to determine if the maximum value is a potential outlier.

W (crit) = Shapiro-Wilk critical value

W (log) = calculated W using log-transformed data and result when compared to W (crit)

W (raw) = calculated W using raw data and result when compared to W (crit)

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the UTL was calculated as exp(UTLy). No outliers were identified based on the formal test of the log-transformed data.

Antimony, Mercury, and Molybdenum. Antimony, mercury, and molybdenum were not detected in a large percentage of samples. Antimony and molybdenum were not detected in 80 percent of the samples, and mercury was not detected in 93.3 percent of samples. For these three analytes the minimum value is a nondetect at the lowest detection limit and the maximum value is the maximum detected value. Mean and standard deviation were not calculated because data were insufficient. The UTL was established as the highest detected value. No test for outliers was performed because of the high number of nondetects.

Beryllium Nickel, and Silver. Beryllium and nickel were detected in 30 of 30 samples, and silver was detected in 29 of 30 samples. Based on the Shapiro-Wilk test, the null hypothesis of normality was rejected for both the log-transformed and the raw data (Table 4-1). The mean and standard deviation listed in Table 4-1 are for the raw data. The UTL was established as the highest detected value. No outliers were identified based on the formal test of the log-transformed data.

Barium, Sodium, and Zinc. Barium and zinc were detected in 30 of 30 samples, and sodium was detected in 29 of 30 samples. Based on the Shapiro-Wilk test, the null hypothesis of normality was rejected for both the log-transformed and the raw data (Table 4-1). The mean and standard deviation listed in Table 4-1 are for the raw data. The UTL, which would normally be established as the highest detected value in this case, was found to be a potential outlier. The second highest value was therefore established as the UTL.

Selenium. Selenium was detected in 18 of 30 samples, so the frequency of nondetects was 40 percent. Based on the Shapiro-Wilk test, the null hypothesis of normality was rejected for both the log-transformed and the raw data (Table 4-1). The mean and standard deviation listed in Table 4-1 are for the raw data. Review of the data

Recommendations for Nonparametric Tests. The UTL was established as the highest or second highest value for several constituents either because the distributions were not clearly normal or lognormal, or because the percent of nondetects was between 50 and 90 percent. Although UTLs have been calculated for all such constituents, it is recommended that site-specific comparisons against UTLs for some constituents be supplemented by nonparametric tests such as the Wilcoxon rank-sum test or the Kruskal-Wallis test (Gilbert 1987; EPA 1992). Supplemental nonparametric tests are recommended for antimony, barium, beryllium, lead, manganese, molybdenum, nickel, silver, sodium, thallium, and zinc.

4.3.1.2 Horizon B Soils

Aluminum, Arsenic, Beryllium, Chromium, Iron, Nickel, and Vanadium. Aluminum, arsenic, beryllium, chromium, iron, nickel, and vanadium were detected in 30 of 30 samples. Based on the Shapiro-Wilk test, the null hypothesis of normality was accepted for the log-transformed data for all seven analytes (Table 4-2). The mean and standard deviation listed in Table 4-2 are for the raw data. Because the null hypothesis of log-normality was accepted, a UTLy based on the mean and standard deviation of the log-transformed data was calculated, and the UTL was calculated as exp(UTLy). No outliers were identified based on the formal test of the log-transformed data.

Barium, Copper, Manganese, Potassium, and Zinc. Barium, copper, manganese, potassium, and zinc were detected in 30 of 30 samples. Based on the Shapiro-Wilk test, the null hypothesis of normality was rejected for the log-transformed data but accepted for the raw data for these analytes (Table 4-2). The mean, standard deviation, and UTL listed in Table 4-2 are for the raw data. No outliers were identified based on the formal test of the log-transformed data.

Calcium. Calcium was detected in 30 of 30 samples. Based on the Shapiro-Wilk test, the null hypothesis of normality was rejected for both the log-transformed and raw

were not calculated for these analytes. As outlined in the flowchart (Figure 4-1), the UTL for analytes with greater than 90 percent nondetects is defined as the highest ranked value, or in this case nondetects at a given detection limit. Because none of these analytes were detected, no test for outliers was performed.

Cadmium and Silver. Cadmium and silver were detected in 20 of 30 samples for a frequency of nondetection of 33 percent. Based on the Shapiro-Wilk test, the null hypothesis of normality was rejected for both the log-transformed and the raw data (Table 4-2). The mean and standard deviation listed in Table 4-2 are for the raw data. Review of the data suggested that either the raw data or log-transformed data might be reasonably normal under Cohen's assumption that nondetects represent the presence of these analytes at levels too small to be quantified by the laboratory. Consequently, the censored and detects-only probability plots were prepared for both the raw data and log-transformed data. The most linear of the probability plots for both analytes was the censored data plot for log-transformed data. Therefore, Cohen's adjustment was applied to the log-transformed data.

Based on Cohen's adjustment, estimates were calculated for the mean, $\bar{y}$, and standard deviation, sy, of the log-transformed data. The UTLy was then calculated from these values, and the UTL was calculated as UTL = exp(UTLy).

Because Cohen's adjustment was applied to the log-transformed data, estimates of the mean and standard deviation of the log-transformed data were obtained by the Gilbert (1987) method described in Section 4.3.1.1 above.

Based on the formal test for outliers using the mean and standard deviation from the Cohen adjustment for log-transformed data, the highest cadmium concentration was identified as a potential outlier.

Recommendations for Nonparametric Tests. The UTL was established as the highest or second highest value for several constituents either because the distributions were

Antimony, Arsenic, Cadmium, Cobalt, Lead, Mercury, Molybdenum, and Thallium. Antimony, arsenic, cadmium, cobalt, lead, mercury, molybdenum, and thallium were not detected in any of the background samples. Therefore, the minimum and maximum values in Table 4-3 are reported as less than the minimum and maximum detection limits, respectively. Additionally, the minimum and maximum values are the same because all of the detection limits for each analyte were the same. Mean and standard deviations were not calculated for these analytes. As outlined in the flowchart (Figure 4-1), the UTL for analytes with greater than 50 percent nondetects is defined as the highest ranked value, or in this case, nondetects at a given detection limit.

Beryllium, Chromium, Copper, Nickel, and Silver. Beryllium, chromium, copper, and silver were each detected in one of 12 samples, while nickel was detected in three of 12 samples. For these five analytes the minimum value is a nondetect at the lowest detection limit and the maximum value is the highest detected value. Mean and standard deviation were not calculated because data were insufficient. The UTL was established as the highest detected value. No test for outliers was performed because of the high number of nondetects.

Aluminum, Potassium, Selenium, and Zinc. Aluminum and selenium were detected in nine of 12 samples, and potassium and zinc were detected in eight of 12 and seven of 11 samples, respectively. One of the zinc results was rejected during the data-validation process. Review of the data suggested that either the raw data or log-transformed data might be reasonably normal under Cohen's assumption that nondetects represent the presence of these analytes at levels too small to be quantified by the laboratory. Consequently, the censored and detects-only probability plots were prepared for both the raw data and log-transformed data. The most linear of the probability plots was the censored data plot for log-transformed data. Therefore, Cohen's adjustment was applied to these data.

not clearly normal or lognormal, or because the percent of nondetects was between 50 and 90 percent. Although UTLs have been calculated for all such constituents, it is recommended that site-specific comparisons against UTLs for some constituents be supplemented by nonparametric tests such as the Wilcoxon rank-sum test or the Kruskal-Wallis test (Gilbert 1987; EPA 1992). Supplemental nonparametric tests are recommended for magnesium, manganese, and nickel.

4.3.2.2 Total Metals in Groundwater

Aluminum, Barium, Calcium, Iron, Magnesium, Manganese, Nickel, and Sodium. Aluminum, barium, calcium, iron, magnesium, manganese, nickel, and sodium were detected in 12 of 12 samples. Based on the Shapiro-Wilk test, the null hypothesis of normality was accepted for the log-transformed data for all analytes (Table 4-4). The mean and standard deviation listed in Table 4-4 are for the raw data. Because the null hypothesis of log-normality was accepted, a UTLy was calculated using the mean and standard deviation of the log-transformed data, and the UTL was calculated as exp(UTLy). No outliers were identified by the formal test of the log-transformed data.

Selenium, Vanadium, and Zinc. Selenium was detected in 10 of 12 samples, and vanadium and zinc were detected in 10 of 11 samples. One vanadium and one zinc result was rejected during the validation process. The Shapiro-Wilk test, accepted the null hypothesis of normality for the log-transformed data for all three analytes (Table 4-4). The mean and standard deviation listed in Table 4-4 are for the raw data. Because the null hypothesis of log-normality was accepted, a UTLy was calculated using the mean and standard deviation of the log-transformed data, and the UTL was calculated as exp(UTLy). No outliers were identified based on the formal test of the log-transformed data.

Beryllium, Cadmium, Chromium, Copper, and Potassium. Beryllium and cadmium were detected in four of 12 samples, chromium was detected in five of 12 samples,

4.3.3 Surface Water

Aluminum, Barium, Calcium, Iron, Magnesium, Manganese, Potassium, and Sodium. Aluminum, barium, calcium, iron, magnesium, manganese, potassium, and sodium were detected in eight of eight samples. Based on the Shapiro-Wilk test, the null hypothesis of normality was accepted for the log-transformed data for these analytes (Table 4-5). The mean and standard deviation listed in Table 4-5 are for the raw data. Because the null hypothesis of log-normality was accepted, a UTLy based on the mean and standard deviation of the log-transformed data was calculated, and the UTL was calculated as exp(UTLy). The highest value detected for aluminum was the only result identified as a potential outlier based on the formal test of the log-transformed data.

Copper. Copper was detected in six of eight samples. The null hypothesis of normality was rejected for both the log-transformed and raw data. The minimum value is a nondetect at the lowest detection limit and the maximum is the maximum detected concentration. The UTL was established as the highest detected value. No outliers were identified by the formal test.

Vanadium. Vanadium was detected in six of eight samples. Based on the Shapiro-Wilk test, the null hypothesis of normality was accepted for the log-transformed data for these analytes (Table 4-5). The minimum value is a nondetect at the lowest detection limit and the maximum is the maximum detected concentration. Because the null hypothesis of log-normality was accepted, a UTLy based on the mean and standard deviation of the log-transformed data was calculated, and the UTL was calculated as exp(UTLy). No outliers were identified by the formal test.

Arsenic, Beryllium, Cobalt, Lead, and Molybdenum, and Thallium. Arsenic, beryllium, cobalt, lead, molybdenum, and thallium were not detected in any of the background samples. Therefore, the minimum and maximum values in Table 4-5 are reported as less than the minimum and maximum detection limits, respectively.

log-transformed data for these analytes (Table 4-6). The mean and standard deviation listed in Table 4-6 are for the raw data. Because the null hypothesis of log-normality was accepted, a UTLy was calculated on the mean and standard deviation of the log-transformed data, and the UTL was calculated as exp(UTLy). The highest value detected for manganese was the only result identified as a potential outlier by the formal test of the log-transformed data.

Molybdenum. Molybdenum was detected in seven of eight samples. The Shapiro-Wilk test accepted the null hypothesis of normality for the log-transformed data for these analytes (Table 4-6). The mean and standard deviation listed in Table 4-6 are for the raw data, and the UTL was estimated from the mean and standard deviation of the log-transformed data and calculated as exp(UTLy). The highest value detected for molybdenum was not identified as a potential outlier based on the formal test of the log-transformed data.

Iron. Iron was detected in eight of eight samples. Based on the Shapiro-Wilk test, the null hypothesis of normality was rejected for the log-transformed data but accepted for the raw data for these analytes (Table 4-6). The mean, standard deviation, and UTL listed in Table 4-6 are for the raw data. No outliers were identified based on the formal test of the raw data.

Mercury, Selenium, and Sodium. Mercury and selenium were detected in one of eight samples, and sodium was detected in two of eight samples. For these three analytes, the minimum value is a nondetect at the lowest detection limit and the maximum value is the maximum detected value. Mean and standard deviation were not calculated because data were insufficient. The UTL was established as the highest detected value. No test for outliers was performed because of the high number of nondetects.

Recommendations for Nonparametric Tests. The UTL was established as the highest or second highest value for several constituents either because the distributions were

TABLE 4-7
Organic Analytes Detected in Background Samples
Naval Air Station Fort Worth

MATRIX	SAMPLE_ID	LOCATION	VALUE	LAB_QUAL	JEG_QUAL	UNITS	NAME	DETECT	PQUANT	DILUTION
SURFACE SOIL	BJETA508-A	BJETA508	365.0000	F		MG/KG	BENZYL BUTYL PHTHALATE	256.0000	883.0000	1.00
SURFACE SOIL	BJETA530-A	BJETA530	219.0000	F		MG/KG	BIS(2-ETHYLHEXYL) PHTHALATE	105.0000	753.0000	1.00
SURFACE SOIL	BJETA514-A	BJETA514	2660.0000			MG/KG	DI-N-BUTYL PHTHALATE	134.0000	844.0000	1.00
SURFACE SOIL	BJETA511-A	BJETA511	702.0000	F		MG/KG	DI-N-BUTYL PHTHALATE	135.0000	854.0000	1.00
SURFACE SOIL	BJETA512-A	BJETA512	389.0000	F		MG/KG	DI-N-BUTYL PHTHALATE	138.0000	871.0000	1.00
SURFACE SOIL	BJETA530-A	BJETA530	175.0000	F		MG/KG	DI-N-BUTYL PHTHALATE	119.0000	753.0000	1.00
SURFACE SOIL	BJETA534-A	BJETA534	161.0000	F		MG/KG	DI-N-BUTYL PHTHALATE	132.0000	833.0000	1.00
SURFACE SOIL	BJETA532-A	BJETA532	147.0000	F		MG/KG	FLUORANTHENE	115.0000	761.0000	1.00
SURFACE SOIL	BJETA517-ARS	BJETA517	6.6500			µG/KG	METHYLENE CHLORIDE	3.0400	6.1100	1.00
SURFACE SOIL	BJETA527-A	BJETA527	6.4900			µG/KG	METHYLENE CHLORIDE	2.8500	5.7200	1.00
SURFACE SOIL	BJETA523-A	BJETA523	6.4500		e	µG/KG	METHYLENE CHLORIDE	3.1000	6.2300	1.00
SURFACE SOIL	BJETA524-A	BJETA524	5.1500	F	e	µG/KG	METHYLENE CHLORIDE	3.1600	6.3400	1.00
SURFACE SOIL	BJETA518-A	BJETA518	3.7700	F	e	µG/KG	METHYLENE CHLORIDE	2.9300	5.8800	1.00
SURFACE SOIL	BJETA509-A	BJETA509	3.7200	F	be	µG/KG	METHYLENE CHLORIDE	3.1400	6.3000	1.00
SURFACE SOIL	BJETA522-A	BJETA522	3.6500	F	e	µG/KG	METHYLENE CHLORIDE	2.9100	5.8400	1.00
SURFACE SOIL	BJETA519-A	BJETA519	3.2100	F	e	µG/KG	METHYLENE CHLORIDE	2.7800	5.5900	1.00
SURFACE SOIL	BJETA508-A	BJETA508	3.2000	F	be	µG/KG	METHYLENE CHLORIDE	3.0900	6.2100	1.00
SURFACE SOIL	BJETA504-A	BJETA504	3.1000	F	be	µG/KG	METHYLENE CHLORIDE	3.0600	6.1400	1.00
SURFACE SOIL	BJETA508-A	BJETA508	1.6000	F		µG/KG	TOLUENE	0.5020	6.2100	1.00
SURFACE SOIL	BJETA508-A	BJETA508	1.0900	F		µG/KG	TOLUENE	0.5020	6.2100	1.00
SURFACE SOIL	BJETA506-A	BJETA506	0.9510	F		µG/KG	TOLUENE	0.5030	6.2300	1.00
SURFACE SOIL	BJETA502-A	BJETA502	0.8020	F		µG/KG	TOLUENE	0.5180	6.4100	1.00
SURFACE SOIL	BJETA503-A	BJETA503	0.7830	F		µG/KG	TOLUENE	0.4980	6.1700	1.00
SURFACE SOIL	BJETA509-A	BJETA509	0.6980	F		µG/KG	TOLUENE	0.5090	6.3000	1.00
SURFACE SOIL	BJETA506-A	BJETA506	0.6850	F		µG/KG	TOLUENE	0.5030	6.2300	1.00
SURFACE SOIL	BJETA501-A	BJETA501	0.6540	F		µG/KG	TOLUENE	0.5070	6.2700	1.00
SURFACE SOIL	BJETA510-A	BJETA510	0.6520	F		µG/KG	TOLUENE	0.4920	6.0900	1.00
SUBSURFACE SOIL	BJETA503-B	BJETA503	8.3000	F		µG/KG	ACETONE	4.7600	108.0000	1.00
SUBSURFACE SOIL	BJETA526-B	BJETA526	8.0600	F		µG/KG	ACETONE	4.9600	111.0000	1.00
SUBSURFACE SOIL	BJETA521-B	BJETA521	6.3400	F		µG/KG	ACETONE	5.0900	114.0000	1.00
SUBSURFACE SOIL	BJETA510-B	BJETA510	6.0900	F		µG/KG	ACETONE	5.1700	115.0000	1.00
SUBSURFACE SOIL	BJETA525-B	BJETA525	5.7500	F		µG/KG	ACETONE	4.9500	110.0000	1.00
SUBSURFACE SOIL	BJETA518-B	BJETA518	5.1900	F		µG/KG	ACETONE	5.0500	113.0000	1.00
SUBSURFACE SOIL	BJETA513-B	BJETA513	2170.0000			MG/KG	DI-N-BUTYL PHTHALATE	126.0000	796.0000	1.00

TABLE 4-7
Organic Analytes Detected in Background Samples
Naval Air Station Fort Worth

MATRIX	SAMPLE_ID	LOCATION	VALUE	LAB_QUAL	JEG_QUAL	UNITS	NAME	DETECT	PQUANT	DILUTION
SEDIMENT	JEFB004-SE	JEFB004	146.0000	F		MG/KG	BENZO(B)FLUORANTHENE	144.0000	943.0000	1.00
SEDIMENT	JEFB002-SE	JEFB002	207.0000	F		MG/KG	BIS(2-ETHYLHEXYL) PHTHALATE	124.0000	884.0000	1.00
SEDIMENT	JEFB007-SE	JEFB007	179.0000	F		MG/KG	BIS(2-ETHYLHEXYL) PHTHALATE	136.0000	985.0000	1.00
SEDIMENT	JEFB003-SE	JEFB003	175.0000	F		MG/KG	BIS(2-ETHYLHEXYL) PHTHALATE	140.0000	1000.0000	1.00
SEDIMENT	JEFB005-SE	JEFB005	157.0000	F		MG/KG	BIS(2-ETHYLHEXYL) PHTHALATE	138.0000	989.0000	1.00
SEDIMENT	JEFB004-SE	JEFB004	138.0000	F		MG/KG	BIS(2-ETHYLHEXYL) PHTHALATE	132.0000	943.0000	1.00
SEDIMENT	JEFB001-SE	JEFB001	207.0000	F		MG/KG	FLUORANTHENE	126.0000	854.0000	1.00
SEDIMENT	JEFB004-SE	JEFB004	174.0000	F		MG/KG	FLUORANTHENE	139.0000	943.0000	1.00
SEDIMENT	JEFB001-SE	JEFB001	131.0000	F		MG/KG	PYRENE	117.0000	854.0000	1.00

Notes:

a = detection less than five times the ambient blank value
b = detection less than five times the trip blank value
e = detection less than five times the equipment blank value
F = detection greater than the detection limit (DETECT), but less than the practical quantitation limit (PQUANT)
Lab_qual = laboratory qualifier
JEG_qual = Jacobs qualifier

4.4.5 Sediment

Nine positive detections of organic chemicals from six individual samples were recorded. Of the organics detected, bis(2-ethylhexyl) phthalate is a common laboratory contaminant. Benzo(b)fluoranthene and pyrene were detected once, and fluoranthene was detected twice. All of the detections were "F" qualified by the laboratory as a value above the detection limit, but below the practical quantitation limit.

TAB

5

Applicable Portions of the Final Site Investigation/Site Characterization Technical Report Aerospace Museum Site NAS JRB Fort Worth, TX Law Environmental, Inc.

INSTALLATION RESTORATION PROGRAM (IRP)
FINAL SITE INVESTIGATION/
SITE CHARACTERIZATION TECHNICAL REPORT
FOR THE AEROSPACE MUSEUM SITE AND GROUNDS MAINTENANCE YARD

FOR

NAVAL AIR STATION FORT WORTH
JOINT RESERVE BASE, CARSWELL FIELD
FORT WORTH, TEXAS 76127-5000

JULY 1996

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2.0 PROJECT ACTIVITIES

The following sections describe the project objectives and the activities conducted as part of the Site Investigation/Site Characterization at the Aerospace Museum Site (AMS) and the Grounds Maintenance Yard (GMY). The activities include procedures associated with the selection of sampling locations, execution of field activities, and laboratory analysis of soils collected from two sites located at the Naval Air Station Fort Worth, Joint Reserve Base, Carswell Field. Results of the chemical data evaluation are also described in this section. All work was performed in accordance with the Sampling and Analysis Plan (LAW, 1995a) and Health and Safety Plan Addendum (LAW, 1995b).

2.1 PROJECT OBJECTIVES

The objective of the soil sampling and analysis program was to conduct an initial site characterization to determine the presence or absence of contamination in surface soils resulting from previous site activities or from past operations. Previous site activities at the Aerospace Museum Site included the storage and restoration of surplus aircraft used as museum pieces. Potential contaminants include lubricants, solvents, and aircraft paint. Forty-nine surface soil samples were collected from 0 to 2 feet at locations established on a grid layout of the site, as shown on the sample location map (Figure 2-1). Sampling locations occur at approximately 100-foot intervals.

Past operations at the Grounds Maintenance Yard include storage and maintenance of groundskeeping equipment, and storage of pesticides, solvents, and fuels. Potential contaminants include lubricants, fuels, solvents, pesticides, and herbicides. Twenty-eight surface soil samples were collected from 0 to 2 feet at locations established on a grid layout of the site, as shown on the sample location map (Figure 2-2). Sample locations occur at approximately 60-foot intervals, but locations were offset to include stained areas near the two maintenance buildings and former pesticide storage building, in the area of petroleum storage tanks, and at locations where obvious soil staining was observed. Stained areas and areas of potential releases were given preference for sampling.

Soil sampling locations were placed on a base map that was provided to LAW. The sampling locations presented on each map generated for this report were not surveyed and should be considered to be approximate locations.

2.2 FIELD ACTIVITIES

The Sampling and Analysis Plan (LAW, 1995a), describes the field activities and procedures to be used during the Site Investigation/Site Characterization at the Aerospace Museum Site and the Grounds Maintenance Yard. The following activities were performed during the field event:

- Determination of sampling locations
- Collection of surface soil samples and transport to laboratory
- Decontamination of sampling equipment

Surface soil samples were collected from 0 to 2 feet using stainless steel hand augers. Chain-of-custody records were prepared for each shipping container. Samples were sent by overnight courier to Law Environmental National Laboratories, located in Pensacola, Florida.

All sampling equipment was decontaminated before use using procedures specified in the Sampling and Analysis Plan. Decontamination water was collected for disposal as described in section 2.2.3.

All field activities were performed by LAW personnel. The following sections describe the chronology and methodology of the field activities, and field Quality Assurance/Quality Control (QA/QC) procedures.

2.2.1 Chronology of Field Work

The field activities for the Aerospace Museum Site and Grounds Maintenance Yard sampling episode were performed from October 22 to October 24, 1995. Surface soil was collected from

0 to 2 feet using stainless steel hand augers following a grid layout of the site. The soil was thoroughly mixed and placed in the appropriate containers as specified in the Sampling and Analysis Plan (LAW, 1995a). The properly labeled sample containers and chain-of-custody documents were placed in a shipping container for overnight shipment to the laboratory. Completed chain-of-custody forms are provided in Appendix A. The receiving laboratory did not indicate any problems with sample receipt or the condition of samples that would affect the quality of the data. Field sampling completeness was determined to be 100 percent.

2.2.2 Field Quality Assurance/Quality Control

Quality control parameters are monitored through the assessment of data collected for the evaluation of precision, accuracy, representativeness, and completeness. Field quality control activities consisted of the following:

- Collection of field duplicate samples to evaluate sampling precision
- Decontamination of field equipment and collection of equipment blanks
- Documentation of field information and measurements in hard bound field notebooks
- Review of field documentation, chain of custody records, and other field records

Daily meetings were conducted by the site manager for the purpose of reviewing the field procedures and quality control activities with the field team. Any corrective actions necessary were discussed, documented, and implemented immediately.

2.2.3 Investigation Derived Waste Management

Investigation derived waste (IDW) consisted of wash water and rinse water from the decontamination of field equipment. The wash water was collected and discharged to the local

wastewater treatment plant. The rinse water was stored in a 3,000-gallon polyethylene tank until the end of the sampling episode. A sample from the tank was collected and analyzed for volatiles, semi-volatiles, and metals. Based on the analytical results, LAW disposed of the water through a local hazardous waste transportation and disposal contractor.

2.3 LABORATORY ANALYSIS

The Law Environmental National Laboratories in Pensacola, Florida, provided sample shipping containers, chain-of-custody documents, chemical analysis, and laboratory quality assurance/quality control (QA/QC). The laboratory analyses were performed from October 27, 1995, to December 2, 1995. The analytical methods performed by the laboratory are summarized in Table 2-1.

The following sections describe the data quality objectives, analytical methodologies, analytical quality control program, and data quality evaluation.

2.3.1 Data Quality Objectives

The following sections discuss the evaluation criteria used to review the field and laboratory results, the formulas used to calculate quality control data, and the qualifiers applied to the sample results based on data evaluation.

2.3.1.1 Review of Field Records - Field records were evaluated for the following:

- Completeness of field records
- Identification of valid samples
- Completeness of the sampling effort
- Sample handling and shipping procedures
- Effectiveness of sampling procedures in preserving sample precision and accuracy

TABLE 2-1

ANALYTICAL TEST METHODS
Naval Air Station Fort Worth Joint Reserve Base
Fort Worth, Texas

MATRIX: SOIL	METHOD[a] (soil/water)
Volatile Organics	SW 8240/8260
Semi-Volatile Organics	SW 8270
Herbicides[b]	SW 8150
Pesticides/PCBs[c]	SW 8080
Total Metals	SW 6010
Arsenic	SW 7060
Lead	SW 7421
Selenium	SW 7740
Mercury	SW 7471/7470

[a] Test Methods for Evaluation of Solid Waste, SW-846 (Third Edition)
[b] Herbicides collected at Grounds Maintenance Yard only.
[c] Pesticides collected at Grounds Maintenance Yard only.

Note: (1) If the lead concentration detected on the inductively coupled plasma (ICP) is >5 x the instrument detection limit (IDL) on the ICP, the ICP value can be used. If the lead concentration detected on the ICP is <5 x the IDL on the ICP, then the Graphite Furnace Atomic Absorption(GFAA) analysis is required.

(2) Preparation methods for soil samples are SW 3550 for semi-volatiles and pesticides/PCBs, and SW 3050 for metals (except for arsenic). Preparation methods for water samples are SW 3520 for semi-volatiles and pesticides/PCBs, SW 3005 for metals by SW 6010, and SW 3020 for lead.

Field records were assessed for completeness and to determine whether field activities were carried out as planned. Samples were evaluated to determine their representativeness through the review of field QC results.

2.3.1.2 Review of Laboratory Data - Laboratory data were evaluated for the following:

- Chain of custody forms
- Sample integrity
- Applicability of the instruments/methods used
- Holding times
- Method calibration criteria
- Method blanks
- Verification of quantitation limits
- Laboratory sample preparation records
- Quality control results
- Corrective action for out-of-control QC results
- Calculations used for analyte quantitation and reporting
- Completeness of data

Laboratory reports containing sample results and QC information were reviewed by the laboratory QA coordinator and submitted to LAW. A case narrative was included in each data report to provide an assessment of the laboratory's QA activities. The data presented in the laboratory report was generated from the laboratory's information management system (LIMS) and was reviewed by the LAW project chemist during the data evaluation process. An electronic data deliverable (EDD) was also produced by the laboratory from the LIMS and submitted to LAW. The chemical data tables presented in this report were produced from the data base developed from the laboratory EDD. Additional processing of the information contained in the data base resulted in the generation of the positive results tables presented in Section 3. Data comparison to regulatory standards was achieved through visual review of the positive analytical results. Electronic files of the positive results were generated from the data base to transfer the data onto computer aided design and drafting (CADD) drawings.

Chemical data evaluation was performed according to LAW's standard operating procedures (SOPs) which were developed following the USEPA "National Functional Guidelines for Organic Data Review" (USEPA, 1990) and "Laboratory Data Validation: Functional Guidelines for Evaluating Inorganic Analyses" (USEPA, 1988). A standard format for the documentation of the results of data evaluation is included in the SOP. This documentation is maintained in the project file at LAW.

2.3.1.3 Formulas - The following formulas were used to calculate quality control data.

Accuracy - Accuracy is defined as the degree of agreement of a measurement with an accepted reference or true value. To determine the accuracy of an analytical method, a sample spiking program was conducted. The results of sample spiking was used to calculate the percent recovery (%R). The percent recovery is defined as follows:

$$\%R = \frac{X - T}{K} \times 100$$

where:

- %R = percent recovery
- X = analytical result of the spiked sample
- T = analytical result of the unspiked sample
- K = known amount of the spike in the sample

Surrogates, matrix spike and matrix spike duplicates (MS/MSD), and internal standards were analyzed to determine accuracy. The control limits were based on the mean percent recovery plus or minus 3 standard deviations of the mean using a population of 20 or more recovery values.

Precision - Precision is the measure of mutual agreement among individual measurements of the same property, under similar conditions. Precision between duplicate measurements is best expressed in terms of relative percent difference (RPD). Precision was assessed through the use of field duplicate samples and MS/MSD samples. An RPD for each sample pair was calculated using the following equation:

$$RPD = \frac{A - B}{(A + B)/2} \times 100$$

where:

A = replicate value 1

B = replicate value 2

RPD = relative percent difference

The laboratory established control limits were based on a population of ten or more RPD values. They were calculated by determining the mean RPD plus three times the standard deviation for the upper limit and zero as the lower limit.

Completeness - Completeness is a measure of the amount of valid data obtained from a measurement system compared to the amount that was expected to be obtained under normal conditions. The result is expressed as a percentage determined by analyte, by method. For this project, a completeness goal of 90 percent was established.

$$\text{Percent completeness} = \frac{\text{Number of valid measurements}}{\text{Total number of measurements}} \times 100$$

2.3.1.4 Data Qualifiers - Data qualifiers are used to flag sample results if accuracy or precision criteria have not met the QC requirements presented in Appendix A of the Sampling and

Analysis Plan (LAW, 1995a). Data qualification flags used for this project are presented in Table 2-2. Each data point reported is graded as usable as reported, usable with qualifications, or rejected. All data determined to be usable as reported or usable with qualifications are considered valid data for the purpose of calculating the data completeness for the project.

2.3.2 Analytical Methodologies

All soil samples collected at the Aerospace Museum Site were analyzed for volatile organic compounds, semi-volatile organic compounds, and total metals. The soil samples collected at the Grounds Maintenance Yard were analyzed for volatile organic compounds, semi-volatile organic compounds, pesticides/PCBs, chlorinated herbicides, and total metals. Soil samples were analyzed by the U.S. Environmental Protection Agency (USEPA) SW-846 methodologies listed in Table 2-1.

Quantitation limits were based on the method detection limits (MDLs) established by the laboratory using the required USEPA procedure specified in 40 CFR Part 136 Appendix B. The 1995 laboratory established detection and quantitation limits are presented in Appendix A of the Sampling and Analysis Plan (LAW, 1995a). Sample results detected below the practical quantitation limit (PQL) but above the MDL were reported and the data were flagged as estimated values using the qualifier "JQ."

2.3.3 Analytical Quality Control

The quality of the chemical data is assessed through the evaluation of both field and laboratory QC data. The QC parameters that were evaluated include: sample preservation and holding time requirements, batch method blank analysis, LCS analysis, internal standard recovery, MS/MSD analysis, surrogate analysis, field duplicate analysis, trip blank analysis, and equipment blank analysis.

TABLE 2-2

DATA QUALIFICATION FLAGS
Naval Air Station Fort Worth Joint Reserve Base
Fort Worth, Texas

FLAG	POSITIVE RESULTS	NEGATIVE RESULTS
FLAGS FOR DATA WITHIN ACCEPTANCE LIMITS (Usable as Reported)		
(no flag)	{Use datum without qualification}	{Use datum without qualification}
FLAGS FOR DATA WITHIN ACTION LIMITS (Usable With Qualification)		
J	Estimated quantitation based upon QC data	Estimated quantitation based upon QC data
JB	Estimated quantitation: possible biased high or false positive based upon blank data	(Not applicable)
JH	Estimated quantitation - possibly biased high based upon QC data	(Not applicable)
JL	Estimated quantitation - possibly biased low based upon QC data	Possible false negative based upon QC data
Jd	Estimated result due to dilution	Reporting limit raised due to dilution
JQ	Estimated quantitation; result below the PQL	(Not applicable)
FLAGS FOR DATA OUTSIDE OF ACTION LIMITS (Unusable)		
R	Datum rejected based upon QC data: do not use	Datum rejected based upon QC data: do not use
MISCELLANEOUS FLAGS		
t	Tentatively identified compound; identity not confirmed with standard and quantitation estimated (applicable to GC/MS data only)	(Not applicable)

Note that if the QC results suggest contradictory flags, the following hierarchy should be used to select the appropriate flag to assign:

R	> J, JH, JL, JB, Jd
JH + JL	= J
Jd	> JH, JL
Jd	> JB (where JB is due to laboratory method blank or field blanks)
JB	> Jd (where JB is due to laboratory system blank)
JB	> J
JH or JL	> J

Quality control limits are generated annually by the laboratory based on statistical analysis of historic data. The QC limits for laboratory control samples (LCS) recovery, surrogate recovery, and matrix spike/matrix spike duplicate (MS/MSD) recovery and precision were presented in Appendix A of the Sampling and Analysis Plan (LAW, 1995a).

2.3.3.1 Sample Handling - Samples were transported to the laboratory daily by overnight express shipment. Upon receipt of the shipment, the laboratory recorded the temperature of each cooler and checked the preservation of aqueous samples. Adjustment of sample pH was performed as needed and recorded. Samples were maintained at the laboratory at a temperature of 4 degrees Celsius until analysis. Holding times for extraction and analysis were strictly adhered to following the requirements of the Sampling and Analysis Plan.

2.3.3.2 Method Blanks - Method blanks consist of organic-free or deionized water that is carried through the analytical scheme like a sample. Positive method blank results indicate the presence of contamination associated with sample preparation or analysis. For most analyses, a method blank is analyzed for each extraction or analysis batch at a frequency of 1 per 20 or fewer samples. If an analyte of interest is detected above the quantitation limit in a method blank, the corrective action consists of reprocessing and reanalyzing the entire sample batch. For the common organic contaminants such as methylene chloride, acetone, toluene, 2-butanone, and phthalates, and the inorganic contaminants, aluminum, calcium, iron, magnesium, sodium and potassium, reanalyses were performed only if contaminants exceeded three times the quantitation limit.

2.3.3.3 Laboratory Control Samples - Laboratory control samples were analyzed with every batch of 20 or fewer samples. LCS samples were prepared for each method by the addition of known concentrations of all method analytes. LCS samples were carried through the complete sample preparation and analysis procedure, and recoveries of the spiked analytes were determined and compared to QC criteria. Batch acceptance was based on the successful recovery of all analytes of interest as specified in the Sampling and Analysis Plan, and

acceptable recovery of at least 80 percent of the total analyte list for each method. Failure to meet these criteria resulted in reprocessing and reanalyzing the entire sample batch.

2.3.3.4 Internal Standards - Internal standard results were evaluated for methods SW-8240 and SW-8270 according to method requirements. Failure to meet the internal standard recovery or retention time criteria resulted in reanalysis of the affected samples.

2.3.3.5 Matrix Spikes - The MS/MSD samples were designated prior to sampling to allow for the collection of additional aliquots of the sample in the field. At the laboratory, the sample aliquots were spiked with known concentrations of the analytes of interest, and the samples were prepared and analyzed with a batch of 20 or fewer samples. The spike recoveries and the precision between duplicate spikes were calculated and evaluated compared to QC criteria. This technique allows for the assessment of any effect of the matrix on the precision and accuracy of the sample data. No corrective action was required for MS/MSD recoveries that failed QC criteria as long as the associated LCS results were within control.

2.3.3.6 Surrogates - Surrogates are known amounts of selected compounds added to all field and QC samples prior to preparation and analysis. Surrogate recoveries were evaluated for methods SW-8240, SW-8270, SW-8150, and SW-8080. The recovery of surrogates may be used to determine the effect of the matrix on the accuracy of the sample data. Surrogate recovery failure required reanalysis of the affected sample.

2.3.3.7 Field Precision - Field duplicate samples were collected from eight locations during the soil sampling activities. The results of field duplicates were used to evaluate sampling precision. A relative percent difference (RPD) was calculated from the positive results of the sample and its duplicate, and the RPD values were compared to a precision goal of 30 percent. For sample values less than five times the quantitation limit, the precision is determined by calculating the difference between the concentrations reported in the sample and its duplicate. The criteria used to evaluate this result is the concentration equivalent to two times the PQL. Sample results for

those parameters with field precision greater than the criteria of 30 percent RPD or two times the PQL, as applicable, are qualified as estimated values.

2.3.3.8 Trip Blanks - Trip blanks were shipped with each cooler containing samples collected for analysis of volatile compounds. Trip blanks were prepared by the laboratory from organic-free water, and were handled, packaged, preserved, and shipped in a manner similar to actual field samples. Trip blanks were analyzed for volatile organics to detect contamination that may have resulted from cross-contamination or ambient sources of contamination during shipment and handling.

2.3.3.9 Equipment Blanks - Equipment blanks were collected during the sampling activities to evaluate the effectiveness of equipment decontamination procedures. One equipment blank was collected each day during the sampling event. Equipment blanks were analyzed for the same parameters as those requested on environmental samples.

2.3.3.10 Completeness - Completeness measures the amount of usable data resulting from a data collection activity. Completeness for the purpose of this project was defined as the amount of sample data points actually acquired and accepted as valid, divided by the number of sample data points planned to be acquired, expressed as a percentage. Valid data is defined as all data which was not rejected as a result of data quality evaluation. A completeness goal of 90 percent was expected to be achieved for this project.

2.3.4 Data Quality Evaluation

The parameters of precision, accuracy, representativeness, completeness, and comparability are indicators of data quality (USEPA, 1987). The field QC data and laboratory QC data were evaluated to ascertain the quality of the chemical data. The QC data were compared to the criteria presented in the Sampling and Analysis Plan (LAW, 1995a). If QC problems were encountered during the performance of sampling and analysis procedures, corrective action was immediately initiated, and the problem and its resolution are reported in the following section.

If QC problems affected the data reported for a field sample and corrective action did not resolve the problem, or holding time constraints did not allow for re-extraction/reanalysis, the data for that sample has been qualified following LAW's standard operating procedures for data evaluation. The following sections present the procedures used for evaluation of the field and laboratory data, and the results of the data quality evaluation.

2.3.4.1 Laboratory Methods and Detection Limit Requirements - The laboratory followed the analytical methods presented in the Sampling and Analysis Plan. All method detection limits provided in Appendix A of the plan were met. Sample results were quantitated below the Practical Quantitation Limit (PQL) in order to meet project required detection limits. Results reported below the PQL were qualified as estimated (JQ).

2.3.4.2 Calibration - Initial calibrations and continuing calibrations were evaluated according to method-specific calibration criteria. Failure to meet calibration criteria resulted in qualification of the associated sample data. Results associated with a high relative standard deviation in the initial calibration or a high percent difference in the continuing calibration were qualified as estimated (J). Low relative response factors resulted in the qualification of associated positive results as estimated (J) and the rejection (R) of associated nondetects. All calibrations met the required criteria with the exception of the following:

Volatiles Analyses

- The relative response factor of the continuing calibration was below the minimum response criterion for 2-chloroethyl vinyl ether for several analysis batches. Associated sample results were nondetect; therefore, the sample data for this compound were rejected (R).

- Several continuing calibrations exhibited high percent differences for chloroethane, 2-chloroethyl vinyl ether, vinyl acetate, acetone, 2-hexanone, and 2-butanone. Associated samples were qualified as estimated (J).

Semi-Volatiles Analyses

- The initial calibration performed on instrument BNA-1 on November 14, 1995, resulted in a percent relative standard deviation value greater than the method criteria for 4-chloroaniline. The initial calibration performed on instrument BNA-2 on November 6, 1995, resulted in a percent relative standard deviation value greater than the method criteria for 2,4-dinitrophenol. The sample results associated with an analytical batch for which a compound failed the criteria, were qualified as estimated (J).

- Several continuing calibrations resulted in percent difference values greater than the method criteria. The following compounds were affected: hexachlorocyclopentadiene, 2,4-dinitrophenol, 4-chloroaniline, bis(2-chloroisopropyl)ether, 3,3'-dichlorobenzidine, and 4,6-dinitro-2-methylphenol, 4-nitrophenol. The sample results associated with an analytical batch for which a compound failed the criteria, were qualified as estimated (J).

Herbicides Analyses

- The initial calibration performed on November 18, 1995, resulted in Dalapon outside the method criteria on the primary and secondary columns. Associated results were qualified as estimated (J). The initial calibration performed on November 25, 1995, resulted in Dichloroprop outside the method criteria on the primary column. Associated results were qualified as estimated (J).

2.3.4.3 Method Blanks - Method blanks were analyzed to determine the effect of laboratory contamination on sample results. The reported values of constituents in samples may be attributable to blank contamination if the concentrations were less than or equal to five times the blank concentration or, for certain common laboratory contaminants, ten times the blank concentration. Sample results attributable to blank contamination were qualified as estimated (JB). Method blank results were nondetect with the exception of the following:

Metals Analyses

- ICPSB3803 contained 0.400 mg/kg of iron. Associated positive sample results less than five times the blank concentration (2.00 mg/kg) were qualified as estimated (JB). However, all associated results were greater than five times the blank concentration, and qualification was not necessary.

- ICPSB3094 contained 6.80 mg/kg of aluminum, 34.1 mg/kg of potassium, and 23.1 mg/kg of sodium. Associated positive sample results less than five times the blank concentrations (34 mg/kg for aluminum, 170 mg/kg for potassium, and 116 mg/kg for sodium) were qualified as estimated (JB). Associated aluminum and potassium results were not qualified because concentrations were greater than five times the blank value.

- ICPSB3124 contained 0.700 mg/kg of copper. No associated samples contained positive results less than five times the blank concentration; therefore no data were qualified.

- ICPWB3107 contained 0.0190 mg/L of copper and 0.251 mg/L of sodium. No associated copper samples contained positive results less than five times the blank concentration; therefore no copper data were qualified. Associated positive sodium results less than five times the blank concentration (1.255 mg/L for sodium) were qualified as estimated (JB).

- FSB3121 contained 0.122 mg/kg of lead. No associated samples contained positive results less than five times the blank concentration; therefore no data were qualified.

Pesticides/PCB Analyses

- PPSB7423, PPSB7499, PPSB7459 contained 0.00215 mg/kg, 0.00269 mg/kg, and 0.0100 mg/kg of methoxychlor, respectively. With the exception of sample FDUP-07, associated samples did not contain positive results less than five times the blank concentration. Sample FDUP-07 was qualified as estimated (JB) for methoxychlor.

2.3.4.4 Laboratory Control Sample Results - Laboratory control samples (LCSs) were used to demonstrate method accuracy. The LCS analytes which were outside of control limits resulted

in the qualification of the associated sample results as estimated, biased high (JH) for high recoveries, or biased low (JL) for low recoveries. LCS recoveries less than 10% resulted in rejection (R) of nondetect sample results. The LCS results were within control limits with the exception of the following:

Metals Analyses

- ICPSL3094 had high recovery of potassium. Associated positive sample results were qualified as estimated biased high (JH) for that compound.
- ICPSL3092 had high recovery of potassium. No associated samples contained positive results; therefore, no data were qualified.

Semi-Volatiles Analyses

- SSL7468, SSL7476, SSL7450, and SSL7480 had low recovery of bis(2-chloroisopropyl)ether. Associated sample results were qualified as estimated biased low (JL) for that compound.
- SSL7421 had low recovery of bis(2-chloroisopropyl)ether, and no recovery of hexachlorocyclopentadiene. Associated sample results were qualified as estimated biased low (JL) for bis(2-chloroisopropyl)ether. Associated positive sample results were qualified estimated biased low (JL), and associated nondetect sample results were rejected (R) for hexachlorocyclopentadiene.
- SSL7498 had low recovery of 2,4-dimethylphenol and no recovery of hexachlorocyclopentadiene. Associated sample results were qualified as estimated biased low (JL) for 2,4-dimethylphenol. Associated positive sample results were qualified estimated biased low (JL), and associated nondetect sample results were rejected (R) for hexachlorocyclopentadiene.
- SSL7444 had low recovery of 2,4-dimethylphenol and bis(2-chloroisopropyl)ether, and no recovery of hexachlorocyclopentadiene. Associated sample results for were qualified as estimated biased low (JL) for 2,4-dimethylphenol and bis(2-chloroisopropyl)ether. Associated positive sample results were qualified estimated biased low (JL), and associated nondetect sample results were rejected (R) for hexachlorocyclopentadiene.

Pesticides/PCB Analyses

- PPSL7499 had high recovery of heptachlor. There were no positive results for associated samples; therefore, no data were qualified.

Herbicides Analyses

- HERBSL7430 had low recovery for secondary column results of MCPA, and low recovery for primary column results of dicamba. Associated sample results were qualified estimated biased low (JL) for dicamba. MCPA was not detected on the primary column; therefore, data was not qualified.

- HERBSL7501 had high recovery for results of MCPA and MCPP. There were no positive results for this analyte; therefore, no data were qualified.

2.3.4.5 MS/MSD Results - MS/MSD samples were analyzed to assess method accuracy and precision. The results of the analysis of MS/MSD samples are provided in Appendix B. The sample associated with an MS/MSD pair was qualified as estimated, biased high (JH) for high recoveries, or biased low (JL) for low recoveries. If only one sample of the matrix spike pair was outside of the QC range, the other sample was evaluated for whether its recovery was above or below the median of the control range. Bias was assigned only if both spikes exhibited a trend in the same direction. When RPD values exceeded the QC criteria for precision, the sample results were qualified as estimated (J) unless the result had already been qualified "JH" or "JL" based on spike recoveries. MS/MSD results were within QC ranges with the exception of the following:

Metals Analyses

- Sample OT3913SA was analyzed as an MS/MSD sample. Antimony, molybdenum, and selenium had low MS and MSD recoveries. The associated sample result was qualified estimated biased low (JL) for these metals. Manganese and nickel had MS and/or MSD recoveries outside QC criteria; however, because the sample concentration was greater than

four times the spike amount, the results were not qualified. Cadmium had low MS recovery, and the RPD was higher than the control limit. The result was qualified as estimated (JL) for cadmium. Chromium had high MS and MSD recoveries. The result was nondetect; therefore, no qualification was necessary.

- Sample OT3840SA was analyzed as an MS/MSD sample. Antimony and arsenic had low MS and MSD recoveries. The associated sample result was qualified estimated biased low (JL) for these metals. Manganese and nickel had MS and/or MSD recoveries outside QC criteria; however, because the sample concentration was greater than four times the spike amount, the results were not qualified. Barium, cobalt, copper, and silver had RPDs higher than the control limits. The sample result was qualified as estimated (J) for these metals. Beryllium had high MS and MSD recoveries, and the RPD was higher than the control limit. The result was nondetect; therefore, no qualification was required. Cadmium, molybdenum, and selenium had low MS and MSD recoveries, and the RPD was higher than the control limit. The result was qualified as estimated biased low (JL) for these metals. Thallium and zinc had low MSD recovery, and the RPD was higher than the control limit. The result was qualified as estimated (J) for thallium and zinc. Lead had high MS and MSD recoveries, and the RPD was higher than the control limit. The result was qualified as estimated biased high (JH) for lead.

- Sample OT3830SA was analyzed as an MS/MSD sample. Antimony, molybdenum, arsenic, and selenium had low MS and low MSD recoveries. The associated sample result was qualified as estimated biased low (JL) for these metals. Cadmium had low MS and MSD recoveries, and the RPD was higher than the control limit. The sample result was qualified as estimated biased low (JL) for cadmium. Manganese had low MSD recovery, and the RPD was higher than the control limit. The sample concentration for manganese was greater than four times the spike amount; therefore, the sample results were not qualified. Lead had high MS recovery, and the RPD was greater than the control limit. The result was qualified as estimated (J) for lead.

- Sample OT3850SA was analyzed as an MS/MSD sample. Antimony, cadmium, arsenic, and selenium had low MS and low MSD recoveries. The result was qualified as estimated biased low (JL) for these metals. Molybdenum had low MS recovery; therefore, the result was qualified (JL) estimated biased low. Manganese, lead, and nickel failed MS and/or MSD recoveries, and the RPD was higher that the control limit for manganese. The sample concentration for these metals was greater than four times the spike amount; therefore, the sample results were not qualified.

- Sample OT3820SA was analyzed as an MS/MSD sample. Antimony had low MS and MSD recoveries, and the RPD was higher than the control limit. The result was qualified as estimated biased low (JL) for antimony. Cadmium, molybdenum, arsenic, and selenium had low MS and MSD recoveries. The associated sample results were qualified as estimated biased low (JL) for these metals. Manganese failed MS recovery, and the RPD was higher that the control limit. The sample concentration was greater than four times the spike amount; therefore, the sample result was not qualified. Lead had high MS and MSD recoveries, and the RPD was greater than the control limit; however, the sample concentration was greater than four times the spike amount and the sample was not qualified.

- Sample OT3815SA was analyzed as an MS/MSD sample. Antimony cadmium, copper, and selenium had low MS and/or MSD recoveries. The results were qualified as estimated biased low (JL) for antimony, cadmium, copper, and selenium. Manganese and nickel failed MS and/or MSD recoveries. The sample concentration for manganese and nickel was greater than four times the spike amount; therefore, the results were not qualified. Chromium and arsenic had low MS and/or MSD recoveries, and the RPDs were greater than 20 percent. The sample results were qualified as estimated biased low (JL) for arsenic and estimated (J) for chromium.

- Sample OT3930SA was analyzed as an MS/MSD sample. Antimony, cadmium, molybdenum, arsenic and selenium had low MS and MSD recoveries, and the RPD was greater than 20 percent for antimony. The results were qualified as estimated biased low (JL) for these metals. Manganese had low MSD recoveries, and the RPD was greater than the control limit. The sample concentration for manganese was greater than four times the spike amount; therefore, the results were not qualified. Lead had RPD results greater than the control limit; therefore, results were qualified (J) as estimated.

- Sample OT3920SA was analyzed as an MS/MSD sample. Antimony, cadmium, and selenium had low MS and MSD recoveries, and the RPD was higher than the control limit for cadmium. The result was qualified as estimated biased low (JL) for antimony, cadmium, and selenium. Zinc had low MSD recovery, and the RPD was greater than 20 percent. The associated sample result was qualified as estimated (J) for zinc. Manganese and lead failed MS and MSD recoveries, and the RPD for manganese, lead, and nickel were higher than the control limit. The sample concentrations were greater than four times the spike amount; therefore, the sample result was not qualified. Barium, chromium, and copper had high MS and/or MSD recoveries, and the RPDs were greater than 20 percent for barium and chromium. Positive results were qualified as estimated biased high (JH) for these metals.

- Sample OT3822SA was analyzed as an MS/MSD sample. Antimony, cadmium, and molybdenum, arsenic, lead, and selenium had low MS and MSD recoveries, and the RPD was higher than the control limit for antimony and lead. The result was qualified as biased low (JL) for antimony, cadmium, molybdenum, arsenic, lead, and selenium. Manganese failed MS and MSD recoveries, and the RPD for manganese was higher than the control limit. The sample concentrations were greater than four times the spike amount; therefore, the sample result was not qualified. Chromium and zinc had low MS recoveries, and the RPD was higher than the control limit. The associated sample results were qualified as estimated (J) for chromium and zinc.

Volatiles Analyses

- Sample OT3840SA was analyzed as an MS/MSD sample. Tetrachloroethene had low MS and MSD recoveries. The associated sample was qualified as estimated biased low (JL) for tetrachloroethene.

Semi-Volatiles Analyses

- Sample OT3820SA was analyzed as an MS/MSD sample. Benzo(a)pyrene had an RPD greater than QC limits. The associated sample was qualified as estimated (J) for benzo(a)pyrene.

- Sample OT3920SA was analyzed as an MS/MSD sample. 2,4-dinitrotoluene had low MS and MSD recoveries. Pentachlorophenol had low MSD recovery, and the RPD was greater than the control limit. The associated sample result was qualified as estimated biased low (JL) for 2,4-dinitrotoluene and pentachlorophenol.

- Sample OT3840SA was analyzed as an MS/MSD sample. 2,4-Dinitrotoluene had low MS and MSD recoveries, and was qualified (JL). Pyrene had high MS and MSD recoveries and was qualified (JH).

2.3.4.6 Post Digestion Spikes - Post digestion spikes were analyzed to assess the effect of the sample matrix on the measurement system. Post digestion spike results were within QC ranges with the exception of the following:

Metals Analyses

- Samples OT3827SA, OT3840SA, OT3824SA, OT3903SA, OT3821SA, OT3841SA, OT3835SA, OT3833SA, OT3846SA, OT3848SA, OT3828SA, FDUP-05, OT3829SA, OT3826SA, OT3839SA, OT3849SA, OT3837SA, OT3838SA, OT3831SA, OT3819SA, OT3801SA, OT3818SA, OT3817SA, OT3808SA, OT3804SA, OT3904SA, OT3914SA, OT3921SA, OT3924SA, OT3919SA, and OT3923SA had post digestion spike values less than 85 percent for selenium. The associated sample results were qualified as estimated biased low (JL) for selenium.

- Sample OT3826SA had a post digestion spike value less than 85 percent for arsenic. The associated sample result was qualified as estimated biased low (JL) for arsenic.

- Samples OT3903SA, OT3823SA, OT3916SA, and Purge H20 had post digestion spike values greater than 115 percent for lead. The associated positive sample results were qualified as estimated biased high (JH) for lead.

- Sample OT3851SA had post digestion spike values greater than 115 percent for selenium. The associated sample results were nondetect; therefore, no data were qualified.

- Samples OT3912SA, OT3915SA, OT3926SA, OT3925SA, and FDUP-07 had post digestion spike values greater than 115 percent for arsenic. The associated positive sample results were qualified as estimated biased high (JH) for arsenic. Sample OT3912SA was not qualified for arsenic because results were nondetect.

2.3.4.7 Holding Times and Preservation - The holding times were met for all parameters for the soil samples. The trip blank collected October 24, 1995, was analyzed twice. The laboratory ran method SW-8240 within the holding time; however, method SW-8260 was requested. When the error was recognized, the laboratory reanalyzed the trip blank using method SW-8260, eight days outside of holding time. The results of the initial analysis satisified the data requirements for trip blank analysis, therefore, only the SW-8240 results were used. Project-required quantitation limits were met based on the laboratory reporting results below the PQL.

2.3.4.8 Surrogate and Internal Standard Analysis Results - Internal and surrogate standard recoveries were used to indicate acceptable extraction and analytical performance for each sample. Corrective actions initiated by the laboratory included re-extraction/reanalysis of samples exhibiting poor surrogate recovery and internal standard failures, unless failure was due to dilution. Sample results were qualified if corrective action was unsuccessful in improving the recoveries, or holding time constraints did not allow for re-extraction/reanalysis of a sample. Surrogate failures resulted in the qualification of sample results based on the observed bias. High surrogate recoveries resulted in qualification of associated positive sample results as estimated, biased high (JH). Low surrogate recoveries resulted in qualification of all associated positive and nondetect sample results as estimated, biased low (JL). If a sample required dilution and the surrogate recoveries were affected, data qualification for surrogate failure was considered unnecessary.

Internal standard failure resulted in the qualification of associated compounds as estimated (J). Extremely low recoveries (less than ten percent) resulted in rejection (R) of assocaited compounds. All surrogate and internal standards were within control limits with the exception of the following:

Semi-Volatiles Analyses

- Surrogate recoveries for 2-fluorophenol and phenol were outside of control limits for sample OT3801SA, due to a required 10 times dilution; therefore, no results were qualified.

- Samples OT3815SA, OT3802SA, OT3806SA, OT3813SA, OT3809SA, OT3904SA, and OT3901SA had low recoveries for one or both of the internal standards chrysene-d12 and perylene-d12. Sample OT3815SA also had low recovery for the internal standard phenanthrene-d10. All samples were reanalyzed with similar results. The analytes associated with the low internal standards were qualified as estimated (J) for the above samples.

- Surrogate recoveries for 2-fluorobiphenyl, phenol-d6, nitrobenzene-d5, and 2,4,6-tribromophenol were outside of control limits for sample OT3912SA, due to a required 50 times dilution; therefore, no results were qualified.

- Surrogate recoveries for 2-fluorophenol and phenol-d6 were outside of control limits for sample OT3801SA, due to a required 10 times dilution. No results were qualified.

- Samples OT3928SA, FDUP-07, OT3920SA, OT3926SA, OT3925SA, FDUP-08, and OT3914SA had low recoveries for the internal standard chrysene-d12 and perylene-d12. All samples were reanalyzed with similar results. Only OT3928SA improved upon reanalysis with only perylene-d12 remaining below the internal standard range. The analytes associated with the low internal standards were qualified as estimated (J) for the above samples.

- Samples OT3921SA and OT3924SA had low recoveries for one or both of the internal standards chrysene-d12 and perylene-d12. The samples were reanalyzed with similar results. The analytes associated with the low internal standards were qualified as estimated (J) for the above samples.

Pesticides/PCB Analyses

- Surrogate recoveries for DBC were low on one or both columns for several OT39 samples. The TCMX surrogate recoveries reported for these samples were within control limits; therefore, no results were qualified.

2.3.4.9 Field Duplicates - Field duplicate samples were analyzed to assess sampling precision for the analytes detected. The results of the field duplicate analyses and the corresponding RPDs are presented in Table 2-3 and Table 2-4. The RPD criterion for sample results greater than five times the quantitation limit was less than 30 percent. For sample results less than five times the quantitation limit, the difference between the two results should be less than two times the PQL. Sample results exceeding these criteria were qualified as estimated (J). All results for field duplicates met the criteria with the exception of the following:

TABLE 2-3

FIELD DUPLICATE SUMMARY TABLE
AEROSPACE MUSEUM SITE
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD (UNITS)	Quantitation Limits	Sample ID Sample Date Depth Notes	FDUP-01 22-OCT-95 0 0' - 2 0' Duplicate of OT3811SA		OT3811SA 22-OCT-95 0 0' - 2 0'		% RPD	DIFFERENCE	FDUP-02 22 OCT-95 0 0' - 2 0' Duplicate of OT3821SA	
Soil pH - SW9045/NONE (none)										
623-9045 pH units Soil			7.49		7.45		0 5		7 46	
PERCENT MOISTURE/D2216 (%)										
Percent Moisture			12 0		11.0		8 7		7 00	
METALS, TOTAL by ICP/SW 6010 (mg/kg)										
Aluminum	50 0		7620		8120		6 4		4040	
Antimony	25 0									
Barium	2 00		116		115		0 9		104	J
Beryllium	0 300		<2.57		0 570			2		
Calcium	10 0		140000	J	98100	J	35 2		224000	
Chromium	5 00		12 0	JQ	8 95			3.05		
Cobalt	5 00		3 07	JQ	4 64			1 57	1 21	JQ
Copper	5 00		9.39	JQ	7.00			2.39	3 03	JQ
Iron	5 00		7590		7440		2 0		4680	
Magnesium	25 0		2310		2190		5 3		2930	J
Manganese	1 00		479		457		4 7		423	
Molybdenum	5 00								1 51	JQ
Nickel	5.00		229	J	8.79	J		220 21	202	
Potassium	60 0		1540	JH	1530	JH	0 7		962	
Sodium	25 0		68 9	JB	61 3	JB		7 6	194	J
Vanadium	5 00		17.5		19.5			2	9 31	
Zinc	1 00		83 9	J	21.2	J	119 3		70 2	
ARSENIC, TOTAL by GFAA/SW 7060 (mg/kg)										
Arsenic	0 500		2 47		2 05			0 42	1 14	
LEAD, TOTAL by GFAA/SW 7421 (mg/kg)										
Lead	0 500		19.8		17.0		15 2		9 74	
SELENIUM, TOTAL by GFAA/SW 7740 (mg/kg)										
Selenium	0 500									
GC/MS for Volatile Organics - SW8240/NONE (mg/kg)										
Toluene	0 00500		0 00931		0 0115			0 00219	<0 00157	JQ
GC/MS for Semi-Volatile Organics (Capillary Column - SW8270/SW3550 (mg/kg)										
Chrysene	0 333		0 0131	JQ	< 371			0 3579		
Di-n-butylphthalate	0 333									
Fluoranthene	0 333		0 0212	JQ	0 0135	JQ		0 0077		
Phenanthrene	0 333									
Pyrene	0 333		0 0251	JQ	< 371			0 3459		
bis(2-Ethylhexyl)phthalate	0 333									

Data Qualification Flags/Notes:
J = Estimated quantitation based upon QC data
JB = Estimated quantitation possibly biased high or a false positive based upon blank data
JH = Estimated quantitation possibly biased high based upon QC data
JL = Estimated quantitation possibly biased low or a false negative based upon QC data
JQ = Estimated quantitation detected below the Practical Quantitation Limit (PQL)
R = Datum rejected based upon QC data do not use

*Note Percent RPD values greater than 30% are shown in boxes unless the sample or its duplicate is less than five times the PQL and the difference between the concentrations is less than two times the PQL
☐ Results exceeded RPD criteria Associated sample results were qualified as estimated values (J)

TABLE 2-3

FIELD DUPLICATE SUMMARY TABLE
AEROSPACE MUSEUM SITE
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD (UNITS)	Quantitation Limits	Sample ID Sample Date Depth Notes	OT3821SA 22-OCT-95 0.0' - 2.0'		% RPD	DIFFERENCE	FDUP-03 22-OCT-95 0.0' - 2.0' Duplicate of OT3831SA		OT3831SA 22-OCT-95 0.0' - 2.0'	
Soil pH - SW9045/NONE (none)										
623-9045 pH units Soil			7.57		1.5		7.41		7.37	
PERCENT MOISTURE/D2216 (%)										
Percent Moisture			6.00		15.4		19.0		17.0	
METALS, TOTAL by ICP/SW 6010 (mg/kg)										
Aluminum	50.0		4240		4.8		8380		8850	
Antimony	25.0									
Barium	2.00		69.5	J	39.8		116		106	
Beryllium	0.300						0.613		0.624	
Calcium	10.0		191000		15.9		90900		117000	
Chromium	5.00						7.27		8.74	
Cobalt	5.00		1.45	JQ		0.24	2.72	JQ	2.50	JQ
Copper	5.00		4.34	JQ		1.31	7.27		6.33	
Iron	5.00		4100		13.2		5970		6580	
Magnesium	25.0		2000	J	37.7		1630		1770	
Manganese	1.00		372		12.8		190		168	
Molybdenum	5.00		1.23	JQ		0.28	1.31	JQ	4.46	
Nickel	5.00		189		6.6		5.96		6.42	
Potassium	60.0		712		29.9		815		1060	
Sodium	25.0		46.1	J		147.9	56.0		98.6	
Vanadium	5.00		8.62			0.69	19.6		18.4	
Zinc	1.00		63.2		10.5		20.0		20.8	
ARSENIC, TOTAL by GFAA/SW 7060 (mg/kg)										
Arsenic	0.500		0.789			0.351	0.714		1.11	
LEAD, TOTAL by GFAA/SW 7421 (mg/kg)										
Lead	0.500		9.10		6.8		22.4		21.0	
SELENIUM, TOTAL by GFAA/SW 7740 (mg/kg)										
Selenium	0.500						<2.19	J	0.0993	JL
GC/MS for Volatile Organics - SW8240/NONE (mg/kg)										
Toluene	0.00500		00526			0.00369	0.00699		0.00328	JQ
GC/MS for Semi-Volatile Organics (Capillary Column - SW8270/SW3550 (mg/kg)										
Chrysene	0.333						<.411		<0.0237	JQ
Di-n-butylphthalate	0.333						0.0440	JQ	.193	
Fluoranthene	0.333									
Phenanthrene	0.333						0.0342	JQ	.193	
Pyrene	0.333									
bis(2-Ethylhexyl)phthalate	0.333									

Data Qualification Flags/Notes:
J = Estimated quantitation based upon QC data
JB = Estimated quantitation; possibly biased high or a false positive based upon blank data
JH = Estimated quantitation possibly biased high based upon QC data
JL = Estimated quantitation possibly biased low or a false negative based upon QC data
JQ = Estimated quantitation, detected below the Practical Quantitation Limit (PQL)
R = Datum rejected based upon QC data do not use

*Note: Percent RPD values greater than 30% are shown in boxes unless the sample or its duplicate is less than five times the PQL and the difference between the concentrations is less than two times the PQL
[ ] Results in boxes exceeded RPD criteria Associated sample results were qualified as estimated values (J)

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TABLE 2-3

FIELD DUPLICATE SUMMARY TABLE
AEROSPACE MUSEUM SITE
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD (UNITS)	Quantitation Limits	Sample ID Sample Date Depth Notes	% RPD	DIFFERENCE	FDUP-04 22-OCT-95 0.0' - 2.0' Duplicate of OT3842SA	OT3842SA 22-OCT-95 0.0' - 2.0'	% RPD
Soil pH - SW9045/NONE (none)							
623-9045 pH units Soil			0.5		7.52	7.58	0.8
PERCENT MOISTURE/D2216 (%)							
Percent Moisture			11.1		3.00 J	12.0	120.0
METALS, TOTAL by ICP/SW 6010 (mg/kg)							
Aluminum	50.0		5.5		7900 J	11600 J	37.9
Antimony	25.0				2.44 JQ	1.97 JQ	
Barium	2.00		9.0		78.2	103	27.4
Beryllium	0.300			0.011	0.610 J	1.58 JQ	
Calcium	10.0		25.1		92400	116000	22.6
Chromium	5.00			1.47	7.58	10.3 JQ	
Cobalt	5.00			0.22	2.79 JQ	3.94	
Copper	5.00			0.94	7.14	10.3 JQ	
Iron	5.00		9.7		7260 J	11800 J	47.6
Magnesium	25.0		8.2		2260	2660	16.3
Manganese	1.00		12.3		318 J	527 J	49.5
Molybdenum	5.00			3.15	1.31 JQ	1.97 JQ	
Nickel	5.00			0.46	7.93	60.8	
Potassium	60.0		26.1		1420 J	2190 J	42.7
Sodium	25.0			42.6	77.9 J	338 J	
Vanadium	5.00			1.2	18.2	21.0	
Zinc	1.00		3.9		18.3 J	37.6 J	69.1
ARSENIC, TOTAL by GFAA/SW 7060 (mg/kg)							
Arsenic	0.500			0.396	1.18	2.42	
LEAD, TOTAL by GFAA/SW 7421 (mg/kg)							
Lead	0.500		6.5		25.4	20.9	19.4
SELENIUM, TOTAL by GFAA/SW 7740 (mg/kg)							
Selenium	0.500			2.0907			
GC/MS for Volatile Organics - SW8240/NONE (mg/kg)							
Toluene	0.00500			0.00371	0.00304 JQ	0.00832	
GC/MS for Semi-Volatile Organics (Capillary Column - SW8270/SW3550 (mg/kg)							
Chrysene	0.333						
Di-n-butylphthalate	0.333			0.3873			
Fluoranthene	0.333			0.353	0.0236 JQ	< .374	
Phenanthrene	0.333						
Pyrene	0.333			0.3628			
bis(2-Ethylhexyl)phthalate	0.333						

Data Qualification Flags/Notes:
J = Estimated quantitation based upon QC data
JB = Estimated quantitation: possibly biased high or a false positive based upon blank data
JH = Estimated quantitation: possibly biased high based upon QC data
JL = Estimated quantitation: possibly biased low or a false negative based upon QC data
JQ = Estimated quantitation: detected below the Practical Quantitation Limit (PQL)
R = Datum rejected based upon QC data: do not use

*Note: Percent RPD values greater than 30% are shown in boxes unless the sample or its duplicate is less than five tim[illegible] PQL and the difference between the concentrations is less than two times the PQL
[illegible] in boxes exceeded RPD criteria. Associated sample results were qualified as estimated values (J)

TABLE 2-3

FIELD DUPLICATE SUMMARY TABLE
AEROSPACE MUSEUM SITE
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD (UNITS)	Quantitation Limits	Sample ID Sample Date Depth Notes	DIFFERENCE	FDUP-05 22-OCT-95 0 0' - 2 0' Duplicate of OT3848SA	OT3848SA 22-OCT-95 0 0' - 2 0'	% RPD	DIFFERENCE
Soil pH - SW9045/NONE (none)							
623-9045 pH units Soil				7 72	7 59	1 7	
PERCENT MOISTURE/D2216 (%)							
Percent Moisture				17 0	16 0	6 1	
METALS, TOTAL by ICP/SW 6010 (mg/kg)							
Aluminum	50 0			7970	10700	29 2	
Antimony	25 0		0 47	2 79 JQ	<22 7	156 2	
Barium	2 00			82 0	83 6	1 9	
Beryllium	0 300		0 97				
Calcium	10 0			138000	139000	0 7	
Chromium	5 00		2 72				
Cobalt	5 00		1 15	4 10	4 00 JQ	2 5	
Copper	5 00		3 16	13 1 JQ	17 3 JQ	27 6	
Iron	5 00			10900	13200	19 1	
Magnesium	25 0			2420	2800	14 6	
Manganese	1 00			512	479	6 7	
Molybdenum	5 00		0 66	1.80 JQ	2.91 JQ	47 1	
Nickel	5 00		52 87	219	242	10 0	
Potassium	60 0			1430	1770	21 3	
Sodium	25 0		260 1	95 0	103	8 1	
Vanadium	5 00		2 8	21 4	23 3	8 5	
Zinc	1 00			218	204	6 6	
ARSENIC, TOTAL by GFAA/SW 7060 (mg/kg)							
Arsenic	0 500		1 24	5 48 J	3 53 J	43 3	
LEAD, TOTAL by GFAA/SW 7421 (mg/kg)							
Lead	0 500			722	580	21 8	
SELENIUM, TOTAL by GFAA/SW 7740 (mg/kg)							
Selenium	0 500						
GC/MS for Volatile Organics - SW8240/NONE (mg/kg)							
Toluene	0 00500		0 00528	0 000615 JQ	0 00863	173 4	
GC/MS for Semi-Volatile Organics (Capillary Column - SW8270/SW3550 (mg/kg)							
Chrysene	0 333						
Di-n-butylphthalate	0 333						
Fluoranthene	0 333		0 3504	0 0688 JQ	0 0396 JQ	53 9	
Phenanthrene	0 333			0 0266 JQ	< 392	174 6	
Pyrene	0 333			0 0795 JQ	0 0549 JQ	36 6	
bis(2-Ethylhexyl)phthalate	0 333			< 397	0 136 JQ	97 9	

Data Qualification Flags/Notes:
J = Estimated quantitation based upon QC data
JB = Estimated quantitation possibly biased high or a false positive based upon blank data
JH = Estimated quantitation possibly biased high based upon QC data
JL = Estimated quantitation possibly biased low or a false negative based upon QC data
JQ = Estimated quantitation detected below the Practical Quantitation Limit (PQL)
R = Datum rejected based upon QC data do not use

PREPARED/DATE John Pecore / 2-23-96
CHECKED/DATE Sue D. Max / 2-23-96

*Note Percent RPD values greater than 30% are shown in boxes unless the sample or its duplicate is less than five times the PQL and the difference between the concentrations is less than two times the PQL
☐ Results in boxes exceeded RPD criteria Associated sample results were qualified as estimated values (J)

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TABLE 2-4

FIELD DUPLICATE SUMMARY TABLE
GROUNDS MAINTENANCE YARD
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD(UNITS)	Quantitation Limits	Sample ID Sample Date Depth Notes	FDUP-06 23-OCT-95 0 0' - 2 0' Duplicate of OT3911SA	OT3911SA 23-OCT-95 0 0' - 2 0'	RPD	DIFFERENCE
Soil pH - SW9045/NONE (none)						
623-9045 pH units Soil			7 69	7 6	0 4	
PERCENT MOISTURE/D2216 (%)						
Percent Moisture			18 0	21 0	15 4	
METALS, TOTAL by ICP/SW 6010 (mg/kg)						
Aluminum	50 0		6890	7000	1 6	
Antimony	25 0		177	183	3 3	
Barium	2 00		1 81 JQ	<2 88 J		1 1
Beryllium	0 300		176000	177000	0 6	
Calcium	10 0		<45 2 J	19 2 JQ		26
Chromium	5 00		2 89 JQ	3 16 JQ		0 27
Cobalt	5 00		9 03 JQ	9 59 JQ		0 56
Copper	5 00		6710	6830	1 8	
Iron	5 00		2200	2260	2 7	
Magnesium	25 0		477	493	3 3	
Manganese	1 00		2 17 JQ	2 30 JQ		0 13
Molybdenum	5 00		241	257	6 4	
Nickel	5 00		1880	1930	2 6	
Potassium	60		403	400	0 7	
Sodium	25 0		9 12	9 11		0 01
Vanadium	5 00		122	112	8 5	
Zinc	1 00					
ARSENIC, TOTAL by GFAA/SW 7060 (mg/kg)						
Arsenic	0 500		1 82	2 05		0 23
LEAD, TOTAL by GFAA/SW 7421 (mg/kg)						
Lead	0 500		17 5	20 2	14 3	
SELENIUM, TOTAL by GFAA/SW 7740 (mg/kg)						
Selenium	0 500					
Organochlorine Pesticides and PCBs - SW8080/SW3550 (mg/kg)						
4,4'-DDD	0 00333		0 00167 JQ	< 00413		0 00246
4,4'-DDE	0 00133					
4,4'-DDT	0 00333					
Chlordane	0 0166					
Methoxychlor	0 0166					
Chlorinated Herbicides - SW8150/METHOD (mg/kg)						
2,4,5-TP (Silvex)	0 00400		< 00488	0 00551		0 00063
GC/MS for Volatile Organics - SW8240/NONE (mg/kg)						
Toluene	0 00500		0 00631	0 0112		0 00063
GC/MS for Semi-Volatile Organics (Capillary Column - SW8270/SW3550 (mg/kg)						
2-Methylnaphthalene	0 333		0 159 JQ	< 419		0 00063
Acenaphthene	0 333		0 0343 JQ	< 419		0 00063
Benz(a)anthracene	0 333					
Benzo(a)pyrene	0 333					

TABLE 2 4

FIELD DUPLICATE SUMMARY TABLE
GROUNDS MAINTENANCE YARD
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD(UNITS)	Quantitation Limits	Sample ID Sample Date Depth Notes	FDUP07 24-OCT-95 0 0' - 2 0' Duplicate of OT3928SA	OT3928SA 24-OCT-95 0 0' - 2 0'	% RPD	DIFFERENCE
GC/MS for Semi-Volatile Organics (Capillary Column - SW8270/SW3550 (mg/kg) (Cont'd)						
Benzo(b)fluoranthene	0 333		< 373 J	0 0659 J		0 3071
Chrysene	0 333		< 373 J	0 0651 JQ		0 3079
Di-n-butylphthalate	0 333		0 0257 JQ	< 397		0 3713
Fluoranthene	0 333		0 0151 JQ	0 0873 JQ		0 0722
Fluorene	0 333					
Naphthalene	0 333					
Phenanthrene	0 333		< 373	0 0368 JQ		0 3362
Pyrene	0 333		0 0270 J	0 0961 JQ		0 0691

Data Qualification Flags/Notes:
J = Estimated quantation based upon QC data
JB = Estimated quantitation: possibly biased high or a false positive based upon blank data
JH = Estimated quantitation: possibly biased high based upon QC data
JL = Estimated quantitation: possibly biased low or a false negative based upon QC data
JQ = Estimated quantitation: detected below the Practical Quantitation Limit (PQL)
R = Datum rejected based upon QC data do not use

*Note Percent RPD values greater than 30% are shown in boxes unless the sample or its duplicate is less than five times the PQL and the difference between the concentrations is less than two times the PQL

☐ Results in boxes exceeded RPD criteria Associated sample results were qualified as estimated values (J)

PREPARED/DATE: John Pecore / 2-23-96
CHECKED/DATE: Sue D Max / 2-23-96

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Metals Analyses

- Sample OT3811SA and its duplicate FDUP-01 had an RPD greater than 30 percent for calcium and zinc, and nickel failed the difference criteria. The sample and FDUP-01 were qualified "J" for these metals.

- Sample OT3821SA and its duplicate FDUP-02 had an RPD greater than 30 percent for barium and magnesium, and sodium failed the difference criteria. The sample and FDUP-02 were qualified "J" for these metals.

- Sample OT3831SA and its duplicate FDUP-03 exceeded the difference criteria for selenium. FDUP-03 was qualified "J" for this metal. Sample OT3831SA was previously qualified "JL" for selenium based on low post digestion spike recovery.

- Sample OT3942SA and its duplicate FDUP-04 had an RPD greater than 30 percent for aluminum, iron, manganese, potassium, and zinc. Beryllium and sodium failed the difference criteria. The sample and FDUP-04 were qualified "J" for these metals.

- Sample OT3848SA and its duplicate FDUP-05 had an RPD greater than 30 percent for arsenic. The sample and FDUP-05 were qualified "J" for arsenic.

- Sample OT3911SA and its duplicate FDUP-06 exceeded the difference criteria for beryllium and chromium. The sample and FDUP-06 were qualified "J" for these metals.

- Sample OT3928SA and its duplicate FDUP-07 had an RPD greater than 30 percent for arsenic, iron, nickel, zinc and lead. Chromium failed the difference criteria. The sample and FDUP-07 were qualified "J" for these metals.

- Sample OT3925SA and its duplicate FDUP-08 had an RPD greater than 30 percent for zinc. The sample and FDUP-08 were qualified "J" for zinc.

Percent Moisture

- Sample OT3842SA and its duplicate FDUP-04 had an RPD greater than 30 percent for percent moisture. The sample and FDUP-04 were qualified "J" for percent moisture.

Volatiles Analyses

- Sample OT3925SA and its duplicate FDUP-08 failed difference criteria for toluene. The sample and FDUP-08 were qualified "J" for this constituent.

Pesticides/PCB Analyses

- Sample OT3928SA and its duplicate FDUP-07 failed difference criteria for 4,4'-DDD, 4,4'-DDE, 4,4'-DDT, and chlordane. The sample and FDUP-07 were qualified "J" for these constituents.

2.3.4.10 Field Blanks - Trip blanks were analyzed to assess sample contamination that may have occurred during shipping. Equipment blanks and ambient blanks were analyzed to assess sample contamination that may have occurred during sample collection. Table 2-5 presents the results of equipment blanks and ambient blanks. Table 2-6 presents the results of the trip blanks associated with two shipments of samples to be analyzed for volatile organics. Associated positive sample results may be attributable to blank contamination if the concentrations were less than or equal to five times the blank concentration or, for certain common laboratory contaminants, ten times the blank contamination. Sample results attributable to blank contamination were qualified as estimated (JB). Field blank results were nondetect with the exception of the following:

Metals Analyses - Equipment Blanks

- Equipment blank, EQB-1 collected on 10/22/95, contained 0.135 mg/L of aluminum, 0.250 mg/L of calcium, and 0.014 mg/L of zinc. All associated sample results for these metals were greater than five times blank concentrations; therefore, no results were qualified.

- Equipment blank, EQB-2 collected on 10/23/95, contained 0.120 mg/L of aluminum, 0.203 mg/L of calcium, and 0.013 mg/L of zinc. All associated sample results for these metals were greater than five times the blank concentration; therefore, no results were qualified.

TABLE 2-5

EQUIPMENT AND AMBIENT BLANK TABLE
AEROSPACE MUSEUM SITE AND GROUND MAINTENANCE YARD
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD (UNITS)	Quantitation Limits	Sample ID Sample Date Depth Notes	AMBL-1 23-OCT-95 0.0' - 0.0'	AMBL-2 24-OCT-95 0.0' - 0.0'	EQB-1 22-OCT-95 0.0' - 0.0'	EQB-2 23-OCT-95 0.0' - 0.0'	EQB-3 24-OCT-95 0.0' - 0.0'
METALS, TOTAL by ICP/SW 6010 (mg/L)							
Aluminum	0.500		-	-	0.135 JQ	0.120 JQ	0.0640 JQ
Antimony	0.250		-	-	<0.250	<0.250	<0.250
Barium	0.0200		-	-	<0.0200	<0.0200	<0.0200
Beryllium	0.00300		-	-	<0.00300	<0.00300	<0.00300
Cadmium	0.0100		-	-	<0.0100	<0.0100	<0.0100
Calcium	0.100		-	-	0.250	0.203	0.386
Chromium	0.0500		-	-	<0.0500	<0.0500	<0.0500
Cobalt	0.0500		-	-	<0.0500	<0.0500	<0.0500
Copper	0.0500		-	-	<0.0500	<0.0500	<0.0500
Iron	0.0500		-	-	<0.0500	<0.0500	<0.0500
Magnesium	0.250		-	-	<0.250	<0.250	<0.250
Manganese	0.0100		-	-	<0.0100	<0.0100	<0.0100
Molybdenum	0.0500		-	-	<0.0500	<0.0500	<0.0500
Nickel	0.0500		-	-	<0.0500	<0.0500	<0.0500
Potassium	0.600		-	-	<0.600	<0.600	<0.600
Silver	0.0500		-	-	<0.0500	<0.0500	<0.0500
Sodium	0.250		-	-	<0.250	<0.250	0.568 JB
Thallium	0.250		-	-	<0.250	<0.250	<0.250
Vanadium	0.0500		-	-	<0.0500	<0.0500	<0.0500
Zinc	0.0100		-	-	0.0140	0.0130	0.00600 JQ
ARSENIC, TOTAL BY GFAA/SW 7060 (mg/L)							
Arsenic	0.0500		-	-	<0.00500	<0.00500	<0.00500
LEAD, TOTAL BY GFAA/SW3005M/7421 (mg/L)							
Lead	0.00500		-	-	<0.00500	<0.00500	<0.00500
MERCURY, TOTAL BY CVAA/SW 7470 (mg/L)							
Mercury	0.000500		-	-	<0.000500	<0.000500	<0.000500
SELENIUM, TOTAL BY GFAA/SW 7740/METHOD (mg/L)							
Selenium	0.00500		-	-	<0.00500	<0.00500	<0.00500
THALLIUM, TOTAL BY GFAA/SW3020/7841 (mg/L)							
Thallium	0.00200		-	-	<0.00200	<0.00200	
ORGANOCHLORINE PESTICIDES AND PCBs - SW8080/SW3520 (ug/L)							
4,4'-DDD	0.100		-	-	-	<0.102	<0.110
4,4'-DDE	0.0400		-	-	-	<0.0408	<0.0440
4,4'-DDT	0.100		-	-	-	<0.102	<0.110
AR1016	1.00		-	-	-	<1.02	<1.10
AR1221	1.00		-	-	-	<1.02	<1.10
AR1232	1.00		-	-	-	<1.02	<1.10
AR1242	1.00		-	-	-	<1.02	<1.10
AR1248	1.00		-	-	-	<1.02	<1.10
AR1254	1.00		-	-	-	<1.02	<1.10
AR1260	1.00		-	-	-	<1.02	1.10
Aldrin	0.0400		-	-	-	<0.0408	<0.0440
Chlordane	0.500		-	-	-	<0.510	<0.550
Dieldrin	0.0200		-	-	-	<0.0204	<0.0220
Endosulfan I	0.0500		-	-	-	<0.0510	<0.0550
Endosulfan II	0.0400		-	-	-	<0.0408	<0.0440
Endosulfan sulfate	0.100		-	-	-	<0.102	<0.110
Endrin	0.0600		-	-	-	<0.0612	0.0660

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TABLE 2-5

EQUIPMENT AND AMBIENT BLANK TABLE
AEROSPACE MUSEUM SITE AND GROUND MAINTENANCE YARD
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD (UNITS)	Quantitation Limits	Sample ID Sample Date Depth Notes	AMBL-1 23-OCT-95 0.0' - 0.0'	AMBL-2 24-OCT-95 0.0' - 0.0'	EQB-1 22-OCT-95 0.0' - 0.0'	EQB-2 23-OCT-95 0.0' - 0.0'	EQB-3 24-OCT-95 0.0' - 0.0'
ORGANOCHLORINE PESTICIDES AND PCBs - SW8080/SW3520 (ug/L) cont'd.							
Endrin aldehyde	0.100		-	-	-	<0.102	<0.110
Heptachlor	0.0300		-	-	-	<0.0306	<0.0330
Heptachlor epoxide	0.0500		-	-	-	<0.0510	<0.0550
Methoxychlor	0.500		-	-	-	<0.510	<0.550
Toxaphene	2.00		-	-	-	<2.04	<2.20
alpha-BHC	0.0300		-	-	-	<0.0306	<0.0330
beta-BHC	0.0500		-	-	-	<0.0510	<0.0550
delta-BHC	0.0500		-	-	-	<0.0510	<0.0550
gamma-BHC (Lindane)	0.0400		-	-	-	<0.0408	<0.0440
% Surrogate Recovery (Control Limit)							
sur-Dibutylchlorendate %R 33-186	-		-	-	-	90.0	92.7
CHLORINATED HERBICIDES - SW8150/METHOD (ug/L)							
2,4,5-T	0.200		-	-	-	<0.210	<0.228
2,4,5-TP (Silvex)	0.200		-	-	-	<0.210	<0.228
2,4-D	2.00		-	-	-	<2.10	<2.28
2,4-DB	3.00		-	-	-	<3.15	<3.42
Dalapon	7.00		-	-	-	<7.35	<7.98
Dicamba	0.200		-	-	-	<0.210	<0.228
Dichloroprop	2.00		-	-	-	<2.10	<2.28
Dinoseb	0.700		-	-	-	<0.735	<0.798
MCPA	150		-	-	-	<158	<171
MCPP	150		-	-	-	<158	<171
% Surrogate Recovery (Control Limit)							
sur-DCAA %R 28-124	-		-	-	-	45.1	41.8
VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8240/NONE (ug/L)							
1,1,1-Trichloroethane	5.00		-	<5.00	-	-	<5.00
1,1,2,2-Tetrachloroethane	5.00		-	<5.00	-	-	<5.00
1,1,2-Trichloroethane	5.00		-	<5.00	-	-	<5.00
1,1-Dichloroethane	5.00		-	<5.00	-	-	<5.00
1,1-Dichloroethene	5.00		-	<5.00	-	-	<5.00
1,2-Dichloroethane	5.00		-	<5.00	-	-	<5.00
1,2-Dichloropropane	5.00		-	<5.00	-	-	<5.00
2-Butanone (MEK)	10.0		-	<10.0	-	-	<10.0
2-Chloroethyl vinyl ether	10.0		-	<10.0	-	-	<10.0
2-Hexanone	10.0		-	<10.0	-	-	<10.0
4-Methyl-2-pentanone	10.0		-	<10.0	-	-	<10.0
Acetone	10.0		-	<10.0	-	-	<10.0
Benzene	5.00		-	<5.00	-	-	<5.00
Bromodichloromethane	5.00		-	<5.00	-	-	<5.00
Bromoform	5.00		-	<5.00	-	-	<5.00
Bromomethane	10.0		-	<10.0	-	-	<10.0
Carbon disulfide	5.00		-	<5.00	-	-	<5.00
Carbon tetrachloride	5.00		-	<5.00	-	-	<5.00
Chlorobenzene	5.00		-	<5.00	-	-	<5.00
Chloroethane	10.0		-	<10.0	-	-	5.00
Chloroform	5.00		-	<5.00	-	-	10.0
Chloromethane	10.0		-	<10.0	-	-	5.00
Dibromochloromethane	5.00		-	<5.00	-	-	10.0
Ethylbenzene	5.00		-	<5.00	-	-	5.00
Methylene chloride	5.00		-	<5.00	-	-	5.00

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TABLE 2-5

EQUIPMENT AND AMBIENT BLANK TABLE
AEROSPACE MUSEUM SITE AND GROUND MAINTENANCE YARD
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD (UNITS)	Quantitation Limits	Sample ID Sample Date Depth Notes	AMBL-1 23-OCT-95 0.0' - 0.0'	AMBL-2 24-OCT-95 0.0' - 0.0'	EQB-1 22-OCT-95 0.0' - 0.0'	EQB-2 23-OCT-95 0.0' - 0.0'	EQB-3 24-OCT-95 0.0' - 0.0'
VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8260/NONE (µg/L) cont'd.							
Styrene	5.00		-	<5.00	-	-	<5.00
Tetrachloroethene	5.00		-	<5.00	-	-	<5.00
Toluene	5.00		-	<5.00	-	-	<5.00
Trichloroethene	5.00		-	<5.00	-	-	<5.00
Vinyl acetate	10.0		-	<10.0	-	-	<10.0
Vinyl chloride	10.0		-	<10.0	-	-	<10.0
Xylenes (total)	5.00		-	<5.00	-	-	<5.00
cis-1,2-Dichloroethene	5.00		-	<5.00	-	-	<5.00
cis-1,3-Dichloropropene	5.00		-	<5.00	-	-	<5.00
trans-1,2-Dichloroethene	5.00		-	<5.00	-	-	<5.00
trans-1,3-Dichloropropene	5.00		-	<5.00	-	-	<5.00
% Surrogate Recovery (Control Limit)							
sur-1,2-Dichloroethane-d4 %R 76-114			-	96.0	-	-	103.0
sur-Bromofluorobenzene %R 86-115			-	98.0	-	-	98.0
sur-Toluene-d8 %R 88-110			-	101.0	-	-	101.0
VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8260/NONE (µg/L)							
1,1,1-Trichloroethane	0.500		<0.500	-	<0.500	<0.500	-
1,1,2,2-Tetrachloroethane	0.500		<0.500	-	<0.500	<0.500	-
1,1,2-Trichloroethane	1.00		<1.00	-	<1.00	<1.00	-
1,1-Dichloroethane	0.500		<0.500	-	<0.500	<0.500	-
1,1-Dichloroethene	0.500		<0.500	-	<0.500	<0.500	-
1,2-Dichloroethane	1.00		<1.00	-	<1.00	<1.00	-
1,2-Dichloropropane	0.500		<0.500	-	<0.500	<0.500	-
2-Butanone	5.00		<5.00	-	<5.00	<5.00	-
2-Chloroethyl vinyl ether	5.00		<5.00	-	<5.00	<5.00	-
2-Hexanone	5.00		<5.00	-	<5.00	<5.00	-
4-Methyl-2-pentanone	5.00		<5.00	-	<5.00	<5.00	-
Acetone	5.00		<5.00	-	<5.00	<5.00	-
Benzene	0.500		<0.500	-	<0.500	<0.500	-
Bromodichloromethane	0.500		<0.500	-	<0.500	<0.500	-
Bromoform	1.00		<1.00	-	<1.00	<1.00	-
Bromomethane	2.00		<2.00	-	<2.00	<2.00	-
Carbon disulfide	1.00		<1.00	-	<1.00	<1.00	-
Carbon tetrachloride	0.500		<0.500	-	<0.500	<0.500	-
Chlorobenzene	0.500		<0.500	-	<0.500	<0.500	-
Chloroethane	2.00		<2.00	-	<2.00	<2.00	-
Chloroform	0.500		0.570	-	0.549	0.517	-
Chloromethane	2.00		<2.00	-	<2.00	<2.00	-
Dibromochloromethane	0.500		<0.500	-	<0.500	<0.500	-
Ethylbenzene	0.500		<0.500	-	<0.500	<0.500	-
Methylene chloride	2.00		<2.00	-	<2.00	<2.00	-
Styrene	0.500		<0.500	-	<0.500	<0.500	-
Tetrachloroethene	0.500		<0.500	-	<0.500	<0.500	-
Toluene	0.500		<0.500	-	<0.500	<0.500	-
Trichloroethene	0.500		<0.500	-	<0.500	<0.500	-
Vinyl acetate	5.00		<5.00	-	<5.00	<5.00	-
Vinyl chloride	2.00		<2.00	-	<2.00	<2.00	-
Xylenes (total)	1.00		<1.00	-	<1.00	<1.00	-
cis-1,2-Dichloroethene	0.500		<0.500	-	<0.500	<0.500	-
cis-1,3-Dichloropropene	0.500		<0.500	-	<0.500	<0.500	-
trans-1,2-Dichloroethene	0.500		<0.500	-	<0.500	<0.500	-
trans-1,3-Dichloropropene	0.500		<0.500	-	<0.500	<0.500	-

TABLE 2-5

EQUIPMENT AND AMBIENT BLANK TABLE
AEROSPACE MUSEUM SITE AND GROUND MAINTENANCE YARD
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD (UNITS)	Quantitation Limits	Sample ID / Sample Date / Depth / Notes	AMBL-1 23-OCT-95 0.0' - 0.0'	AMBL-2 24-OCT-95 0.0' - 0.0'	EQB-1 22-OCT-95 0.0' - 0.0'	EQB-2 23-OCT-95 0.0' - 0.0'	EQB-3 24-OCT-95 0.0' - 0.0'
% Surrogate Recovery (Control Limits)							
sur-1,2-Dichloroethane-d4 %R 76-114			96.0	-	94.0	94.0	-
sur-Bromofluorobenzene %R 86-115			97.0	-	96.0	95.0	-
sur-Toluene-d8 %R 88-110			99.0	-	100.0	99.0	-
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8270/SW3520 (ug/L)							
1,2,4-Trichlorobenzene	10.0		-	-	<10.0	<10.9	<11.8
1,2-Dichlorobenzene	10.0		-	-	<10.0	<10.9	<11.8
1,3-Dichlorobenzene	10.0		-	-	<10.0	<10.9	<11.8
1,4-Dichlorobenzene	10.0		-	-	<10.0	<10.9	<11.8
2,4,5-Trichlorophenol	20.0		-	-	<20.0	<21.7	<23.5
2,4,6-Trichlorophenol	10.0		-	-	<10.0	<10.9	<11.8
2,4-Dichlorophenol	10.0		-	-	<10.0	<10.9	<11.8
2,4-Dimethylphenol	10.0		-	-	<10.0	<10.9	<11.8 JL
2,4-Dinitrophenol	50.0		-	-	<50.0	<54.4	<58.8
2,4-Dinitrotoluene	10.0		-	-	<10.0	<10.9	<11.8
2,6-Dinitrotoluene	10.0		-	-	<10.0	<10.9	<11.8
2-Chloronaphthalene	10.0		-	-	<10.0	<10.9	<11.8
2-Chlorophenol	10.0		-	-	<10.0	<10.9	<11.8
2-Methylnaphthalene	10.0		-	-	<10.0	<10.9	<11.8
2-Methylphenol	10.0		-	-	<10.0	<10.9	<11.8
2-Nitroaniline	50.0		-	-	<50.0	<54.4	<58.8
2-Nitrophenol	10.0		-	-	<10.0	<10.9	<11.8
3,3'-Dichlorobenzidine	20.0		-	-	<20.0	<21.7	<23.5
3-Nitroaniline	50.0		-	-	<50.0	<54.4	<58.8
4,6-Dinitro-2-methylphenol	50.0		-	-	<50.0	<54.4	<58.8
4-Bromophenyl phenyl ether	10.0		-	-	<10.0	<10.9	<11.8
4-Chloro-3-methylphenol	10.0		-	-	<10.0	<10.9	<11.8
4-Chloroaniline	20.0		-	-	<20.0 J	<21.7 J	<23.5 J
4-Chlorophenyl phenyl ether	10.0		-	-	<10.0	<10.9	<11.8
4-Methylphenol	10.0		-	-	<10.0	<10.9	<11.8
4-Nitroaniline	50.0		-	-	<50.0	<54.4	<58.8
4-Nitrophenol	50.0		-	-	<50.0	<54.4	<58.8
Acenaphthene	10.0		-	-	<10.0	<10.9	<11.8
Acenaphthylene	10.0		-	-	<10.0	<10.9	<11.8
Anthracene	10.0		-	-	<10.0	<10.9	<11.8
Benz(a)anthracene	10.0		-	-	<10.0	<10.9	<11.8
Benzo(a)pyrene	10.0		-	-	<10.0	<10.9	<11.8
Benzo(b)fluoranthene	10.0		-	-	<10.0	<10.9	<11.8
Benzo(g,h,i)perylene	10.0		-	-	<10.0	<10.9	<11.8
Benzo(k)fluoranthene	10.0		-	-	<10.0	<10.9	<11.8
Benzoic acid	50.0		-	-	<50.0	<54.4	<58.8
Benzyl alcohol	20.0		-	-	<20.0	<21.7	<23.5
Butyl benzyl phthalate	10.0		-	-	<10.0	<10.9	<11.8
Chrysene	10.0		-	-	<10.0	<10.9	<11.8
Di-n-butylphthalate	10.0		-	-	<10.0	<10.9	<11.8
Di-n-octylphthalate	10.0		-	-	<10.0	<10.9	<11.8
Dibenz(a,h)anthracene	10.0		-	-	<10.0	<10.9	<11.8
Dibenzofuran	10.0		-	-	<10.0	<10.9	<11.8
Diethylphthalate	10.0		-	-	<10.0	<10.9	<11.8
Dimethylphthalate	10.0		-	-	<10.0	<10.9	<11.8
Fluoranthene	10.0		-	-	<10.0	<10.9	<11.8
Fluorene	10.0		-	-	<10.0	<10.9	<11.8
Hexachlorobenzene	10.0		-	-	<10.0	<10.9	<11.8
Hexachlorobutadiene	10.0		-	-	<10.0	<10.9	<11.8

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TABLE 2-5

EQUIPMENT AND AMBIENT BLANK TABLE
AEROSPACE MUSEUM SITE AND GROUND MAINTENANCE YARD
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD (UNITS)	Quantitation Limits	Sample ID Sample Date Depth Notes	AMBL-1 23-OCT-95 0.0' - 0.0'	AMBL-2 24-OCT-95 0.0' - 0.0'	EQB-1 22-OCT-95 0.0' - 0.0'	EQB-2 23-OCT-95 0.0' - 0.0'	EQB-3 24-OCT-95 0.0' - 0.0'
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8270/SW3520 (ug/L) cont'd.							
Hexachlorocyclopentadiene	10.0		-	-	<10.0 R	<10.9 R	<11.8 R
Hexachloroethane	10.0		-	-	<10.0	<10.9	<11.8
Indeno(1,2,3-cd)pyrene	10.0		-	-	<10.0	<10.9	<11.8
Isophorone	10.0		-	-	<10.0	<10.9	<11.8
Naphthalene	10.0		-	-	<10.0	<10.9	<11.8
Nitrobenzene	10.0		-	-	<10.0	<10.9	<11.8
Pentachlorophenol	30.0		-	-	<30.0	<32.6	<35.3
Phenanthrene	10.0		-	-	<10.0	<10.9	<11.8
Phenol	10.0		-	-	<10.0	<10.9	<11.8
Pyrene	10.0		-	-	<10.0	<10.9	<11.8
bis(2-Chloroethoxy)methane	10.0		-	-	<10.0	<10.9	<11.8
bis(2-Chloroethyl)ether	10.0		-	-	<10.0	<10.9	<11.8
bis(2-Chloroisopropyl)ether	10.0		-	-	<10.0	<10.9	<11.8
bis(2-Ethylhexyl)phthalate	10.0		-	-	<10.0 JL	<10.9 JL	<11.8 JL
n-Nitrosodipropylamine	10.0		-	-	<10.0	<10.9	<11.8
n-Nitrosodiphenylamine	10.0		-	-	<10.0	<10.9	<11.8
% Surrogate Recovery (Control Limit)							
sur-2,4,6-Tribromophenol %R 10-123			-	-	55.0	66.9	61.4
sur-2-Fluorobiphenyl %R 43-116			-	-	64.0	74.8	70.8
sur-2-Fluorophenol %R 21-100			-	-	58.0	63.2	67.0
sur-Nitrobenzene-d5 %R 35-114			-	-	65.0	72.8	74.7
sur-Phenol-d6 %R 10-94			-	-	61.0	69.9	71.0
sur-Terphenyl-d14 %R 38-141			-	-	65.0	68.8	78.7

Data Qualification Flags/Notes:
I = Estimated quantitation based upon QC data
JB = Estimated quantitation possibly biased high or a false positive based upon blank data
JH = Estimated quantitation possibly biased high based upon QC data
JL = Estimated quantitation possibly biased low or a false negative based upon QC data
JQ = Estimated quantitation detected below the Practical Quantitation Limit (PQL)
R = Datum rejected based upon QC data do not use

☐ Results in boxes are reported above PQL

PREPARED/DATE John Pecore / 2-23-96
CHECKED/DATE Sue D. Max / 2-23-96

TABLE 2 6

TRIP BLANK TABLE
AEROSPACE MUSEUM SITE AND GROUND MAINTENANCE YARD
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD (UNITS)	Quantitation Limits	Sample ID Sample Date Depth Notes	TB-102395 23-OCT-95 0 0' - 0 0'	TB-102495 24-OCT-95 0 0' - 0 0'
VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8260/NONE (ug/L)				
1,1,1-Trichloroethane	5 00		-	<5 00
1,1,2,2-Tetrachloroethane	5 00		-	<5 00
1,1,2-Trichloroethane	5 00		-	<5 00
1,1-Dichloroethane	5 00		-	<5 00
1,1-Dichloroethene	5 00		-	<5 00
1,2-Dichloroethane	5 00		-	<5 00
1,2-Dichloropropane	5.00		-	<5 00
2-Butanone (MEK)	10 0		-	<10 0
2-Chloroethyl vinyl ether	10 0		-	<10 0
2-Hexanone	10 0		-	<10 0
4-Methyl-2-pentanone	10 0		-	<10 0
Acetone	10 0		-	<10.0
Benzene	5 00		-	<5 00
Bromodichloromethane	5 00		-	<5 00
Bromoform	5 00		-	<5.00
Bromomethane	10.0		-	<10.0
Carbon disulfide	5 00		-	<5 00
Carbon tetrachloride	5 00		-	<5 00
Chlorobenzene	5 00		-	<5 00
Chloroethane	10 0		-	<10.0
Chloroform	5 00		-	<5 00
Chloromethane	10 0		-	<10.0
Dibromochloromethane	5 00		-	<5 00
Ethylbenzene	5 00		-	<5 00
Methylene chloride	5 00		-	<5 00
Styrene	5 00		-	<5 00
Tetrachloroethene	5 00		-	<5 00
Toluene	5 00		-	<5.00
Trichloroethene	5 00		-	<5.00
Vinyl acetate	10 0		-	<10 0
Vinyl chloride	10.0		-	<10 0
Xylenes (total)	5 00		-	<5 00
cis-1,2-Dichloroethene	5.00		-	<5 00
cis-1,3-Dichloropropene	5 00		-	<5 00
trans-1,2-Dichloroethene	5 00		-	<5 00
trans-1,3-Dichloropropene	5 00		-	<5.00
% Surrogate Recovery (Control Limit)				
sur-1,2-Dichloroethane-d4 %R 76-114			-	105 0
sur-Bromofluorobenzene %R 86-115			-	97 0
sur-Toluene-d8 %R 88-110			-	101.0
VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8260/NONE (ug/L)				
1,1,1-Trichloroethane	0 500		<0 500	-
1,1,2,2-Tetrachloroethane	0 500		<0 500	-
1,1,2-Trichloroethane	1 00		<1 00	-
1,1-Dichloroethane	0 500		<0 500	-
1,1-Dichloroethene	0 500		<0 500	-
1,2-Dichloroethane	1 00		<1 00	-
1,2-Dichloropropane	0 500		<0 500	-
2-Butanone	5 00		<5 00	-

TABLE 2-6

TRIP BLANK TABLE
AEROSPACE MUSEUM SITE AND GROUND MAINTENANCE YARD
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD (UNITS)	Quantitation Limits	Sample ID Sample Date Depth Notes	TB-102395 23-OCT-95 0.0' - 0.0'	TB-102495 24-OCT-95 0.0' - 0.0'
VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8260/NONE (ug/L) cont'd.				
2-Chloroethyl vinyl ether	5.00		<5.00	-
2-Hexanone	5.00		<5.00	-
4-Methyl-2-pentanone	5.00		<5.00	-
Acetone	5.00		<5.00	-
Benzene	0.500		<0.500	-
Bromodichloromethane	0.500		<0.500	-
Bromoform	1.00		<1.00	-
Bromomethane	2.00		<2.00	-
Carbon disulfide	1.00		<1.00	-
Carbon tetrachloride	0.500		<0.500	-
Chlorobenzene	0.500		<0.500	-
Chloroethane	2.00		<2.00	-
Chloroform	0.500		<0.500	-
Chloromethane	2.00		<2.00	-
Dibromochloromethane	0.500		<0.500	-
Ethylbenzene	0.500		<0.500	-
Methylene chloride	2.00		<2.00	-
Styrene	0.500		<0.500	-
Tetrachloroethene	0.500		<0.500	-
Toluene	0.500		<0.500	-
Trichloroethene	0.500		<0.500	-
Vinyl acetate	5.00		<5.00	-
Vinyl chloride	2.00		<2.00	-
Xylenes (total)	1.00		<1.00	-
cis-1,2-Dichloroethene	0.500		<0.500	-
cis-1,3-Dichloropropene	0.500		<0.500	-
trans-1,2-Dichloroethene	0.500		<0.500	-
trans-1,3-Dichloropropene	0.500		<0.500	-
% Surrogate Recovery (Control Limit)				
sur-1,2-Dichloroethane-d4 %R 76-114			91.0	-
sur-Bromofluorobenzene %R 86-115			95.0	-
sur-Toluene-d8 %R 88-110			100.0	-

Data Qualification Flags/Notes:
J = Estimated quantitation based upon QC data
JB = Estimated quantitation possibly biased high or a false positive based upon blank data
JH = Estimated quantitation possibly biased high based upon QC data
JL = Estimated quantitation possibly biased low or a false negative based upon QC data
JQ = Estimated quantitation detected below the Practical Quantitation Limit
R = Datum rejected based upon QC data do not use

PREPARED/DATE John Pecore / 2-23-96
CHECKED/DATE Sue D. Max / 2-23-96

- Equipment blank, EQB-3 collected on 10/24/95, contained 0.064 mg/L of aluminum, 0.386 mg/L of calcium, 0.568 mg/L of sodium, and 0.006 mg/L of zinc. Associated sample results for aluminum, calcium, and zinc were greater than five times the blank concentration; therefore, no results were qualified. All associated positive sample results less than five times the blank concentration for sodium (284 mg/kg) were qualified (JB) based on blank contamination.

Volatiles Analyses - Equipment Blanks

- Equipment blanks, EQB-1 and EQB-2, contained chloroform at concentrations of 0.549 μg/L and 0.517 μg/L, respectively. All associated sample results for chloroform were nondetect; therefore, no results were qualified.

Volatiles Analyses - Ambient Blank

- Ambient blank, AMBL-1 collected on 10/23/95, contained 0.570 μg/L of chloroform. All associated sample results for chloroform were nondetect; therefore, no results were qualified.

2.3.4.11 Interferences - The results for chlordane reported in samples OT3909SA and OT3916SA were rejected (R) due to interferences resulting from the detection of Aroclors in these samples.

2.3.4.12 Completeness - Field completeness is defined as the number of field samples collected divided by the number of field samples planned. Field completeness was 100 percent for the sampling event because all samples were collected as planned.

The overall completeness of sampling and analysis activities is defined as the amount of acceptable data actually acquired divided by the total sample data planned. This calculation combines the field completeness and the analytical completeness. The overall completeness for the sampling event was 100 percent for all analytes with the exception of:

- 2-chloroethyl vinyl ether completeness was 96 percent for the GMY and 71 percent for the AMS as a result of rejected data due to failure to meet calibration criteria.

- Hexachlorocyclopentadiene completeness was 86 percent for GMY based on spike recovery failure in the laboratory control spike.

- Chlordane completeness was 93 percent for the GMY.

All analytical parameters met the 90 percent completeness goal for this project except 2-chloroethyl vinyl ether at the AMS and hexachlorocyclopentadiene at the GMY.

3.0 ANALYTICAL RESULTS

The following sections present a summary of the analytical chemistry results of soil samples collected at the Aerospace Museum Site and the Grounds Maintenance Yard at the Naval Air Station Fort Worth, Joint Reserve Base, Carswell Field. The analytical data summary tables are presented in Appendix C. The positive analytical results for each site are presented in tables and figures in the following sections, along with a discussion of the constituents detected at the two sites.

3.1 AEROSPACE MUSEUM SITE

The following section discusses the chemical constituents detected in soil samples collected from the Aerospace Museum Site. Forty-nine soil samples, two background samples, and five field duplicate samples were collected. The positive analytical results are presented in Table 3-1. This table also indicates which results were reported at concentrations exceeding the TNRCC Medium Specific Concentration (MSC) value for organic constituents, or the maximum background concentration and MSC value, for metal constituents. Constituents for which MSC criteria apply are also depicted on the associated figures to aid in the interpretation of the data.

3.1.1 Background Levels

Site-specific background levels of metals are based on the results from samples collected from two background locations adjacent to the site, OT3850SA, located south of the site, and OT3851SA, located north of the site (Figure 2-1). Sample data were compared to the maximum values obtained from the background samples. The secondary background sample was used when the maximum background concentrations were greater than the concentrations reported at the site. This occurred for three metals, lead, nickel and zinc. Lead appeared elevated in both background samples, indicating that the background locations may not be representative of background conditions.

TABLE 3-1

POSITIVE ANALYTICAL RESULTS
Aerospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD (UNITS)	MSC	Sample ID Sample Date Depth Notes	OT3801SA 22-OCT-95 0.0' - 2.0'	OT3802SA 22-OCT-95 0.0' - 2.0'	OT3803SA 22-OCT-95 0.0' - 2.0'	OT3804SA 22-OCT-95 0.0' - 2.0'
SOIL pH - SW9045/NONE (none)						
623-9045 pH units Soil	-		7.84	7.73	7.37	7.74
PERCENT SOLID - D2216/NONE (percent)						
623-D2216 Moisture	-		6.00	4.00	17.0	21.0
METALS, TOTAL BY ICP/SW6010/SW3050 (mg/kg)						
Aluminum	NA		4190	2640	12900	7950
Antimony	0.6		2.08 JQ	1.72 JQ	<20.6	2.44 JQ
Barium	200		80.0	89.9	129	122
Beryllium	0.4		<2.40	<2.25	0.908	0.584
Cadmium	0.5		<0.800	<0.749	<0.825	<0.974
Calcium	NA		173000	209000	62700	77400
Chromium	10		40.8	7.49 JQ	12.0	9.25
Cobalt	NA		2.08 JQ	1.42 JQ	5.36	5.55
Copper	NA		24.8 JQ	6.74 JQ	8.66	8.28
Iron	NA		6880	3690	11400	11600
Magnesium	NA		1960	2090	2300	1740
Manganese	NA		370	389	574	526
Molybdenum	NA		1.52 JQ	<3.74	1.98 JQ	2.34
Nickel	10		214	198	11.0	10.4
Potassium	NA		966	614 JH	1880 JH	1450
Silver	51.1		3.36 JQ	<3.74	<4.12	<4.87
Sodium	NA		81.6	58.3 JB	155	94.4
Vanadium	NA		11.8	7.86	28.1	20.6
Zinc	NA		127	70.3	29.6	35.7
ARSENIC, TOTAL BY GFAA/SW 7060 (mg/kg)						
Arsenic	3.27		1.87	1.07	1.73	2.78
LEAD, TOTAL BY GFAA/SW 7421 (mg/kg)						
Lead	1.5		227	12.6	26.6	33.0
SELENIUM, TOTAL BY GFAA/SW 7740/METHOD (mg/kg)						
Selenium	5.0		<0.409 JL	<0.347	<0.456	0.0940 JL
VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8240/NONE (mg/kg)						
Methylene chloride	0.5		<0.00528	<0.00572	<0.00604	0.00628 JQ
Toluene	100		0.00375 JQ	0.0178	<0.00604	<0.00643
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8270/SW3550 (mg/kg)						
Acenaphthene	613		1.40 JQ	<0.347	<0.399	<0.417
Anthracene	3070		2.24 JQ	<0.347	<0.399	<0.417
Benz(a)anthracene	NA		3.60	0.0395 J	<0.399	<0.417
Benzo(a)pyrene	NA		2.37 JQ	<0.347 J	<0.399	<0.417
Benzo(b)fluoranthene	NA		4.81	0.0322 J	<0.399	<0.417
Benzo(g,h,i)perylene	NA		<3.51	<0.347 J	<0.399	<0.417
Benzo(k)fluoranthene	NA		<3.51	<0.347 J	<0.399	<0.417
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8270/SW3550 (mg/kg) cont'd.						
Butyl benzyl phthalate	NA		<3.51	<0.347 J	<0.399	<0.417
Chrysene	NA		3.32 JQ	0.0458 J	<0.399	<0.417
Di-n-butylphthalate	1020		<3.51	<0.347	<0.399	0.0266 JQ

TABLE 3-1

POSITIVE ANALYTICAL RESULTS
Aerospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD (UNITS)	MSC	Sample ID Sample Date Depth Notes	OT3801SA 22-OCT-95 0.0' - 2.0'	OT3802SA 22-OCT-95 0.0' - 2.0'	OT3803SA 22-OCT-95 0.0' - 2.0'	OT3804SA 22-OCT-95 0.0' - 2.0'
Dibenz(a,h)anthracene	NA		<0.51	<0.347 J	<0.399	<0.417
Dibenzofuran	NA		1.04 JQ	<0.347	<0.399	<0.417
Fluoranthene	409		7.89 JQ	0.0565 JQ	<0.399	0.103 JQ
Fluorene	409		1.06 JQ	<0.347	<0.399	<0.417
Indeno(1,2,3-cd)pyrene	NA		<0.51	<0.347 J	<0.399	<0.417
Naphthalene	409		1.09 JQ	<0.347	<0.399	<0.417
Phenanthrene	NA		10.1	0.0551 JQ	<0.399	<0.417
Pyrene	310		8.54	0.147 J	<0.399	<0.417
bis(2-Ethylhexyl)phthalate	2.04		<0.51	0.382 J	<0.399	0.121 JQ
Total PAHs			46.42	0.3761	ND	1.09 0.224

Data Qualification Flags/Notes:
MSC = Medium-Specific Concentration
NA = Not available
ND = Not Detected
PAH = Polynuclear Aromatic Hydrocarbon
J = Estimated quantation based upon QC data
JB = Estimated quantitation possibly biased high or a false positive based upon blank data
JH = Estimated quantitation possibly biased high based upon QC data
JL = Estimated quantitation possibly biased low or a false negative based upon QC data
JQ = Estimated quantitation detected below the Practical Quantitation Limit
R = Datum rejected based upon QC data do not use
☐ Results in boxes exceed background concentration and MSC value

TABLE 3-1

POSITIVE ANALYTICAL RESULTS
Aerospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD (UNITS)	MSC	Sample ID / Sample Date / Depth / Notes	OT3805SA 22-OCT-95 0.0' - 2.0'	OT3806SA 22-OCT-95 0.0' - 2.0'	OT3807SA 22-OCT-95 0.0' - 2.0'	OT3808SA 22-OCT-95 0.0' - 2.0'	OT3809SA 22-OCT-95 0.0' - 2.0'
SOIL pH - SW9045/NONE (none)							
623-9045 pH units Soil	-		7.32	7.54	7.50	7.55	7.42
PERCENT SOLID - D2216 /NONE (percent)							
623-D2216 Moisture	-		9.00	9.00	15.0	14.0	10.0
METALS, TOTAL BY ICP/SW6010/SW3050 (mg/kg)							
Aluminum	NA		7130	3320	7490	11700	6230
Antimony	0.6		<20.4	2.47 JQ	<22.6	<22.2	1.69 JQ
Barium	200		83.6	83.8	112	118	78.1
Beryllium	0.4		0.570	<2.24	0.724	0.799	<2.30
Cadmium	0.5		<0.814	0.972	<0.905	<0.888	0.843
Calcium	NA		114000	195000	55000	48700	140000
Chromium	10		11.3	18.7 JQ	10.9	10.4	13.0 JQ
Cobalt	NA		4.64	2.09 JQ	4.89	3.91 JQ	2.76 JQ
Copper	NA		7.73	15.7 JQ	7.87	9.15	6.89 JQ
Iron	NA		10500	4870	8710	7400	6680
Magnesium	NA		1880	2040	2200	2160	1990
Manganese	NA		353	435	422	291	351
Molybdenum	NA		2.04 JQ	<3.74	1.81 JQ	<4.44	2.22 JQ
Nickel	10		8.22	198	10.5	8.97	205
Potassium	NA		1520 JH	980 JH	1570 JH	1710	1370 JH
Silver	51.1		<4.07	<3.74	<4.52	<4.44	<3.83
Sodium	NA		79.7 JB	52.7 JB	277	134	62.5 JB
Vanadium	NA		21.4	9.42	25.6	21.0	17.2
Zinc	NA		26.6	83.0	27.1	25.4	81.2
ARSENIC, TOTAL BY GFAA/SW 7060 (mg/kg)							
Arsenic	3.27		1.77	1.61	1.65	3.00	1.95
LEAD, TOTAL BY GFAA/SW 7421 (mg/kg)							
Lead	1.5		21.0	26.3	49.4	25.4	19.1
SELENIUM, TOTAL BY GFAA/SW 7740/METHOD (mg/kg)							
Selenium	5.0		<0.366	<0.413	<0.355	<0.424 JL	<1.89
VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8240/NONE (mg/kg)							
Methylene chloride	0.5		<0.00561	<0.00578	<0.00593	<0.00584	<0.00579
Toluene	100		0.0129	<0.00578	0.00261 JQ	<0.00584	0.0149
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8270/SW3550 (mg/kg)							
Acenaphthene	613		<0.361	<0.361	<0.388	<0.384	<0.367
Anthracene	3070		<0.361	<0.361	<0.388	<0.384	<0.367
Benz(a)anthracene	NA		<0.361	<0.361	<0.388	<0.384	<0.367 J
Benzo(a)pyrene	NA		<0.361	0.0448 J	<0.388	<0.384	<0.367 J
Benzo(b)fluoranthene	NA		<0.361	0.0596 J	<0.388	<0.384	<0.367 J
Benzo(g,h,i)perylene	NA		<0.361	<0.361 J	<0.388	<0.384	<0.367 J
Benzo(k)fluoranthene	NA		<0.361	<0.361 J	<0.388	<0.384	<0.367 J
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8270/SW3550 (mg/kg) cont'd.							
Butyl benzyl phthalate	NA		<0.361	0.0383 JQ	<0.388	<0.384	<0.367 J
Chrysene	NA		<0.361	0.0365 JQ	<0.388	<0.384	<0.367 J
Di-n-butylphthalate	1020		<0.361	<0.361	<0.388	<0.384	[illegible]

TABLE 3-1

POSITIVE ANALYTICAL RESULTS
Aerospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD (UNITS)	MSC	Sample ID Sample Date Depth Notes	OT3805SA 22-OCT-95 0 0' - 2 0'	OT3806SA 22-OCT-95 0 0' - 2 0'	OT3807SA 22-OCT-95 0 0' - 2 0'	OT3808SA 22-OCT-95 0 0' - 2 0'	OT3809SA 22-OCT-95 0 0' - 2 0'
Dibenz(a,h)anthracene	NA		<0 361	<0 361 J	<0 388	<0 384	<0 367 J
Dibenzofuran	NA		<0 361	<0 361	<0 388	<0 384	<0 367
Fluoranthene	409		<0 361	0 0481 JQ	0 0113 JQ	<0 384	0 00970 JQ
Fluorene	409		<0 361	<0 361	<0 388	<0 384	<0 367
Indeno(1,2,3-cd)pyrene	NA		<0 361	<0 361 J	<0 388	<0 384	<0 367 J
Naphthalene	409		<0 361	<0 361	<0 388	<0 384	<0 367
Phenanthrene	NA		<0 361	0 0426 JQ	<0 388	<0 384	<0 367
Pyrene	310		<0 361	0.0604 JQ	<0 388	<0 384	<0 367
bis(2-Ethylhexyl)phthalate	2 04		<0 361	0 198 JQ	<0 388	<0 384	<0 367 J
Total PAHs			ND	0.292	0 0113	ND	0 031

Data Qualification Flags/Notes:
MSC = Medium-Specific Concentration
NA = Not available
ND = Not Detected
PAH = Polynuclear Aromatic Hydrocarbon
J = Estimated quantitation based upon QC data
JB = Estimated quantitation possibly biased high or a false positive based upon blank data
JH = Estimated quantitation possibly biased high based upon QC data
JL = Estimated quantitation possibly biased low or a false negative based upon QC data
JQ = Estimated quantitation detected below the Practical Quantitation Limit
R = Datum rejected based upon QC data do not use
[ ] Results in boxes exceed background concentration and MSC value

TABLE 3-1

POSITIVE ANALYTICAL RESULTS
Aerospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD (UNITS)	MSC	Sample ID Sample Date Depth Notes	OT3810SA 22-OCT-95 0.0' - 2.0'	OT3811SA 22-OCT-95 0.0' - 2.0'	FDUP-01 22-OCT-95 0.0' - 2.0' Duplicate of OT3811SA	OT3812SA 22-OCT-95 0.0' - 2.0'	OT3813SA 22-OCT-95 0.0' - 2.0'
SOIL pH - SW9045/NONE (none)							
623-9045 pH units Soil	-		7.33	7.45	7.49	7.29	7.23
PERCENT SOLID - D2216 /NONE (percent)							
623-D2216 Moisture	-		11.0	11.0	12.0	15.0	14.0
METALS, TOTAL BY ICP/SW6010/SW3050 (mg/kg)							
Aluminum	NA		8970	8120	7620	4740	7970
Antimony	0.6		<20.4	<20.4	<21.4	<21.5	<21.1
Barium	200		104	115	116	55.0	90.3
Beryllium	0.4		0.651	0.570	<2.56	0.344	0.506
Cadmium	0.5		<0.814	<0.814	<0.854	<0.859	<0.843
Calcium	NA		82300	98100 J	140000 J	58800	74300
Chromium	10		9.12	8.95	12.0 JQ	6.87	7.67
Cobalt	NA		7.49	4.64	3.07 JQ	3.01 JQ	3.37 JQ
Copper	NA		7.98	7.00	9.39 JQ	4.81	5.82
Iron	NA		10300	7440	7590	7030	7980
Magnesium	NA		2140	2190	2310	1280	1620
Manganese	NA		572	457	479	303	224
Molybdenum	NA		1.79 JQ	<4.07	<4.27	1.63 JQ	1.35 JQ
Nickel	10		9.28	8.79 J	229 J	6.36	8.43
Potassium	NA		1790 JH	1530 JH	1540 JH	1160 JH	1210 JH
Silver	51.1		<4.07	<4.07	<4.27	<4.30	<4.22
Sodium	NA		97.8 JB	61.3 JB	68.9 JB	110 JB	69.8 JB
Vanadium	NA		17.6	19.5	17.5	13.2	17.4
Zinc	NA		31.2	21.2 J	83.9 J	19.2	21.9
ARSENIC, TOTAL BY GFAA/SW 7060 (mg/kg)							
Arsenic	3.27		2.04	2.05	2.47	1.94	1.96
LEAD, TOTAL BY GFAA/SW 7421 (mg/kg)							
Lead	1.5		19.0	17.0	19.8	32.9	21.9
SELENIUM, TOTAL BY GFAA/SW 7740/METHOD (mg/kg)							
Selenium	5.0		<0.407	<0.416	<0.414	<0.439 JL	<0.418
VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8240/NONE (mg/kg)							
Methylene chloride	0.5		<0.00605	<0.00571	<0.00574	<0.00554	<0.00586
Toluene	100		0.00133 JQ	0.0115	0.00931	0.000739 JQ	<0.00586
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8270/SW3550 (mg/kg)							
Acenaphthene	613		<0.369	<0.371	<0.376	<0.386	<1.91
Anthracene	3070		<0.369	<0.371	<0.376	<0.386	<1.91
Benz(a)anthracene	NA		0.0440 JQ	<0.371	<0.376	<0.386	<1.91 J
Benzo(a)pyrene	NA		0.0300 JQ	<0.371	<0.376	<0.386	<1.91 J
Benzo(b)fluoranthene	NA		0.00669 JQ	<0.371	<0.376	<0.386	<1.91 J
Benzo(g,h,i)perylene	NA		<0.369	<0.371	<0.376	<0.386	<1.91 J
Benzo(k)fluoranthene	NA		<0.369	<0.371	<0.376	<0.386	<1.91 J
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8270/SW3550 (mg/kg) cont'd.							
Butyl benzyl phthalate	NA		<0.369	<0.371	<0.376	<0.386	<1.91 J
Chrysene	NA		0.0458 JQ	<0.371	0.0131 JQ	<0.386	<1.91 J
Di-n-butylphthalate	1020		<0.369	<0.371	<0.376	<0.386	<1.91

TABLE 3-1

POSITIVE ANALYTICAL RESULTS
Aerospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD (UNITS)	MSC	Sample ID Sample Date Depth Notes	OT38103A 22-OCT-95 0 0' - 2 0'	OT3811SA 22-OCT-95 0 0' - 2 0'	FDUP-01 22-OCT-95 0 0' - 2.0' Duplicate of OT3811SA	OT3812SA 22-OCT-95 0 0' - 2 0'	OT3813SA 22-OCT-95 0 0' - 2 0'
Dibenz(a,h)anthracene	NA		<0 369	<0 371	<0 376	<0 386	<1 93 J
Dibenzofuran	NA		<0 369	<0.371	<0 376	<0 386	<1 93
Fluoranthene	409		0 102 JQ	0 0135 JQ	0.0212 JQ	0 0137 JQ	<1 93
Fluorene	409		<0 369	<0 371	<0 376	<0 386	<1 93
Indeno(1,2,3-cd)pyrene	NA		<0 369	<0 371	<0 376	<0 386	<1 93 J
Naphthalene	409		<0 369	<0 371	<0 376	<0 386	<1 93
Phenanthrene	NA		0 0935 JQ	<0 371	<0 376	<0 386	<1 93
Pyrene	310		0.0864 JQ	<0 371	<0 376	<0 386	<1 93
bis(2-Ethylhexyl)phthalate	2 04		<0 369	<0 371	0 0251 JQ	0.0207 JQ	<1 93 J
Total PAHs			0.4084	0.0135	<0 376	<0 386	<1 93 J
					0.0594	0 0344	ND

Data Qualification Flags/Notes:
MSC = Medium-Specific Concentration
NA = Not available
ND = Not Detected
PAH = Polynuclear Aromatic Hydrocarbon
J = Estimated quantation based upon QC data
JB = Estimated quantitation possibly biased high or a false positive based upon blank data
JH = Estimated quantitation possibly biased high based upon QC data
JL = Estimated quantitation possibly biased low or a false negative based upon QC data
JQ = Estimated quantitation detected below the Practical Quantitation Limit
R = Datum rejected based upon QC data do not use
☐ Results in boxes exceed background concentration and MSC value

TABLE 3-1

POSITIVE ANALYTICAL RESULTS
Aerospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD (UNITS)	MSC	Sample ID Sample Date Depth Notes	OT3814SA 22-OCT-95 0.0' - 2.0'	OT3815SA 22-OCT-95 0.0' - 2.0'	OT3816SA 22-OCT-95 0.0' - 2.0'	OT3817SA 22-OCT-95 0.0' - 2.0'	OT3818SA 22-OCT-95 0.0' - 2.0'
SOIL pH - SW9045/NONE (none)							
623-9045 pH units Soil			7.46	7.56	7.35	8.18	7.65
PERCENT SOLID - D2216 /NONE (percent)							
623-D2216 Moisture			10.0	11.0	12.0	3.00	11.0
METALS, TOTAL BY ICP/SW6010/SW3050 (mg/kg)							
Aluminum	NA		6900	6770	4100	1210	9640
Antimony	0.6		1.87 JQ	<21.4 JL	<20.2	<19.1	<19.8
Barium	200		79.5	139	58.1	98.6	115
Beryllium	0.4		0.487	<2.57	0.242	<2.29	<2.37
Cadmium	0.5		<0.811	<0.858 JL	<0.806	<0.764	<0.791
Calcium	NA		82100	184000	85800	285000	118000
Chromium	10		14.6	19.7 J	4.84	<38.2	13.4 JQ
Cobalt	NA		3.73 JQ	4.12 JQ	2.74 JQ	0.993 JQ	3.56 JQ
Copper	NA		7.62	11.2 JL	6.13	3.82 JQ	6.33 JQ
Iron	NA		10200	8050	6000	2680	6940
Magnesium	NA		1500	2090	1320	2020	1880
Manganese	NA		255	631	290	355	428
Molybdenum	NA		1.78 JQ	<4.29	<4.03	<3.82	<3.96
Nickel	10		8.76	229	5.88	200	58.6
Potassium	NA		1330 JH	1200 JH	1080 JH	299	1100
Silver	51.1		0.568 JQ	<4.29	<4.03	<3.82	<3.96
Sodium	NA		60.7 JB	87.5 JB	43.4 JB	59.3	60.4
Vanadium	NA		20.4	23.7	13.3	3.29 JQ	17.6
Zinc	NA		25.5	79.5	25.3	61.3	33.4
ARSENIC, TOTAL BY GFAA/SW 7060 (mg/kg)							
Arsenic	3.27		2.16	1.88 JL	1.57	0.844	2.78
LEAD, TOTAL BY GFAA/SW 7421 (mg/kg)							
Lead	1.5		42.8	15.4	52.2	3.95	15.3
SELENIUM, TOTAL BY GFAA/SW 7740/METHOD (mg/kg)							
Selenium	5.0		<0.400	<0.420 JL	<0.427 JL	<0.371 JL	<0.429 JL
VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8240/NONE (mg/kg)							
Methylene chloride	0.5		<0.00554	<0.00563	<0.00586	<0.00512	<0.00568
Toluene	100		0.0128	0.00750	<0.00586	0.00203 JQ	<0.00568
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8270/SW3550 (mg/kg)							
Acenaphthene	613		0.0401 JQ	<0.374	<0.377	<0.342	<0.372
Anthracene	3070		<0.368	<0.374	<0.377	<0.342	<0.372
Benz(a)anthracene	NA		0.407	<0.374	<0.377	<0.342	<0.372
Benzo(a)pyrene	NA		0.471	<0.374	<0.377	<0.342	<0.372
Benzo(b)fluoranthene	NA		0.658	<0.374	<0.377	<0.342	<0.372
Benzo(g,h,i)perylene	NA		0.166 JQ	<0.374	<0.377	<0.342	<0.372
Benzo(k)fluoranthene	NA		0.359 JQ	<0.374	<0.377	<0.342	<0.372
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8270/SW3550 (mg/kg) cont'd.							
Butyl benzyl phthalate	NA		<0.368	<0.374	<0.377	<0.342	<0.372
Chrysene	NA		0.834	<0.374	<0.377	<0.342	<0.372
Di-n-butylphthalate	1020		<0.368	<0.374	<0.377	<0.342	<0.372

TABLE 3-1

POSITIVE ANALYTICAL RESULTS
Aerospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD (UNITS)	MSC	Sample ID Sample Date Depth Notes	OT3814SA 22-OCT-95 0.0' - 2.0'	OT3815SA 22-OCT-95 0.0' - 2.0'	OT3816SA 22-OCT-95 0.0' - 2.0'	OT3817SA 22-OCT-95 0.0' - 2.0'	OT3818SA 22-OCT-95 0.0' - 2.0'
Dibenz(a,h)anthracene	NA		0.0765 JQ	<0.374	<0.377	<0.342	<0.372
Dibenzofuran	NA		0.0328 JQ	<0.374	<0.377	<0.342	<0.372
Fluoranthene	409		1.26	<0.374	0.0294 JQ	<0.342	0.0209 JQ
Fluorene	409		0.0181 JQ	<0.374	<0.377	<0.342	<0.372
Indeno(1,2,3-cd)pyrene	NA		0.256 JQ	<0.374	<0.377	<0.342	<0.372
Naphthalene	409		0.0270 JQ	<0.374	<0.377	<0.342	<0.372
Phenanthrene	NA		1.13	<0.374	<0.377	<0.342	<0.372
Pyrene	310		1.25	<0.374	0.0319 JQ	<0.342	<0.372
bis(2-Ethylhexyl)phthalate	2.04		<0.368	<0.374	<0.377	<0.342	<0.372
Total PAHs			6.95	ND	0.0613	ND	0.0209

Data Qualification Flags/Notes:
MSC = Medium-Specific Concentration
NA = Not available
ND = Not Detected
PAH = Polynuclear Aromatic Hydrocarbon
J = Estimated quantitation based upon QC data
JB = Estimated quantitation possibly biased high or a false positive based upon blank data
JH = Estimated quantitation possibly biased high based upon QC data
JL = Estimated quantitation possibly biased low or a false negative based upon QC data
JQ = Estimated quantitation detected below the Practical Quantitation Limit
R = Datum rejected based upon QC data do not use
☐ Results in boxes exceed background concentration and MSC value

TABLE 3-1

POSITIVE ANALYTICAL RESULTS
Aerospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD (UNITS)	MSC	Sample ID Sample Date Depth Notes	OT3819SA 22-OCT-95 0.0' - 2.0'	OT3820SA 22-OCT-95 0.0' - 2.0'
SOIL pH - SW9045/NONE (none)				
623-9045 pH units Soil			7.54	7.27
PERCENT SOLID - D2216/NONE (percent)				
623-D2216 Moisture			18.0	14.0
METALS, TOTAL BY ICP/SW6010/SW3050 (mg/kg)				
Aluminum	NA		7710	14200
Antimony	0.6		2.08 JQ	1.95 JL
Barium	200		111	119
Beryllium	0.4		0.606	0.799
Cadmium	0.5		<0.865	<0.888 JL
Calcium	NA		61900	72600
Chromium	10		9.17	13.9
Cobalt	NA		4.24 JQ	4.35 JQ
Copper	NA		6.06	8.61
Iron	NA		8360	11900
Magnesium	NA		1460	2240
Manganese	NA		374	329
Molybdenum	NA		1.64 JQ	1.60 JL
Nickel	10		8.30	9.15
Potassium	NA		1250	2030
Silver	51.1		<4.32	<4.44
Sodium	NA		65.3	59.4
Vanadium	NA		20.6	21.8
Zinc	NA		16.6	27.8
ARSENIC, TOTAL BY GFAA/SW 7060 (mg/kg)				
Arsenic	3.27		1.42	2.21 JL
LEAD, TOTAL BY GFAA/SW 7421 (mg/kg)				
Lead	1.5		13.0	27.7
SELENIUM, TOTAL BY GFAA/SW 7740/METHOD (mg/kg)				
Selenium	5.0		0.108 JL	<0.430 JL
VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8240/NONE (mg/kg)				
Methylene chloride	0.5		<0.00628	<0.00569
Toluene	100		0.00115 JQ	0.000670 JQ
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8270/SW3550 (mg/kg)				
Acenaphthene	613		<0.401	<0.383
Anthracene	3070		<0.401	<0.383
Benz(a)anthracene	NA		<0.401	<0.383
Benzo(a)pyrene	NA		<0.401	<0.383 J
Benzo(b)fluoranthene	NA		<0.401	<0.383
Benzo(g,h,i)perylene	NA		<0.401	<0.383
Benzo(k)fluoranthene	NA		<0.401	<0.383
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8270/SW3550 (mg/kg) cont'd.				
Butyl benzyl phthalate	NA		<0.401	<0.383
Chrysene	NA		<0.401	<0.383
Di-n-butylphthalate	1020		<0.401	<0.383

TABLE 3-1

POSITIVE ANALYTICAL RESULTS
Aerospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD (UNITS)	MSC	Sample ID Sample Date Depth Notes	OT3819SA 22-OCT-95 0 0' - 2 0'	OT3820SA 22-OCT-95 0 0' - 2 0'
Dibenz(a,h)anthracene	NA		<0 401	<0 383
Dibenzofuran	NA		<0 401	<0 383
Fluoranthene	409		<0 401	<0 383
Fluorene	409		<0 401	<0 383
Indeno(1,2,3-cd)pyrene	NA		<0 401	<0 383
Naphthalene	409		<0 401	<0 383
Phenanthrene	NA		<0 401	<0 383
Pyrene	310		<0 401	<0 383
bis(2-Ethylhexyl)phthalate	2 04		<0 401	<0 383
Total PAHs			ND	ND

Data Qualification Flags/Notes:
MSC - Medium-Specific Concentration
NA - Not available
ND - Not Detected
PAH - Polynuclear Aromatic Hydrocarbon
J - Estimated quantitation based upon QC data
JB - Estimated quantitation possibly biased high or a false positive based upon blank data
JH - Estimated quantitation possibly biased high based upon QC data
JL - Estimated quantitation possibly biased low or a false negative based upon QC data
JQ - Estimated quantitation detected below the Practical Quantitation Limit
R - Datum rejected based upon QC data do not use
[ ] Results in boxes exceed background concentration and MSC value

TABLE 3-1

POSITIVE ANALYTICAL RESULTS
Aerospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD (UNITS)	MSC	Sample ID Sample Date Depth Notes	OT3821SA 22-OCT-95 0.0' - 2.0'	FDUP-02 22-OCT-95 0.0' - 2.0' Duplicate of OT3821SA	OT3822SA 22-OCT-95 0.0' - 2.0'	OT3823SA 22-OCT-95 0.0' - 2.0'	OT3824SA 22-OCT-95 0.0' - 2.0'	OT3825SA 22-OCT-95 0.0' - 2.0'
SOIL pH - SW9045/NONE (none)								
623-9045 pH units Soil			7.57	7.46	7.49	7.38	7.38	7.54
PERCENT SOLID - D2216/NONE (percent)								
623-D2216 Moisture			6.00	7.00	19.0	15.0	16.0	11.0
METALS, TOTAL BY ICP/SW6010/SW3050 (mg/kg)								
Aluminum	NA		4240	4040	12700	11000	20800	13200
Antimony	0.6		<18.1	<18.9	<21.5 JL	<20.7	<29.5	<21.4
Barium	200		69.5 J	104 J	148	132	176	107
Beryllium	0.4		<2.17	<2.27	0.964	0.746	1.18	1.72 JQ
Calcium	NA		191000	224000	33300	80000	56500	150000
Chromium	10		<36.2	<37.8	22.1 J	10.4	16.4	21.4 JQ
Cobalt	NA		1.45 JQ	1.21 JQ	5.69	4.23	4.96 JQ	2.23 JQ
Copper	NA		4.34 JQ	3.03 JQ	13.2	7.88	10.5	<42.9
Iron	NA		4100	4680	10500	9510	15600	11200
Magnesium	NA		2000 J	2930 J	2170	2100	3200	2200
Manganese	NA		372	423	678	429	421	325
Molybdenum	NA		1.23 JQ	1.51 JQ	2.19 JL	1.99 JQ	<5.90	2.49 JQ
Nickel	10		189	202	12.4	9.28	14.0	63.1
Potassium	NA		712	962	1880	1320	2740	1850
Silver	51.1		<3.62	<3.78	0.613 JQ	<4.14	<5.90	4.29
Sodium	NA		46.1 J	194 J	60.4	95.1	364	245
Vanadium	NA		8.62	9.31	18.8	22.1	23.6	20.3
Zinc	NA		63.2	70.2	35.0 J	22.0	36.5	37.2
ARSENIC, TOTAL BY GFAA/SW 7060 (mg/kg)								
Arsenic	3.27		0.789	1.14	1.44 JL	0.957	1.86 JH	1.32
LEAD, TOTAL BY GFAA/SW 7421 (mg/kg)								
Lead	1.5		9.10	9.74	36.2 JL	23.0 JH	62.2	16.6
MERCURY, TOTAL BY CVAA/SW 7471 (mg/kg)								
SELENIUM, TOTAL BY GFAA/SW 7740/METHOD (mg/kg)								
Selenium	5.0		<1.90 JL	<0.371	<0.448 JL	<2.20	<0.590	<0.404
VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8240/NONE (mg/kg)								
Toluene	100		<0.00526	0.00157 JQ	0.00506 JQ	<0.00584	<0.00574	0.00549
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8270/SW3550 (mg/kg)								
Di-n-butylphthalate	1020		<0.352	<0.355	<0.406	<0.390	<0.526	<0.374
Fluoranthene	409		<0.352	<0.355	0.0383 JQ	<0.390	<0.526	<0.374
Pyrene	310		<0.352	<0.355	0.0290 JQ	<0.390	<0.526	<0.374
Total PAHs			ND	ND	0.0673	ND	ND	ND

Data Qualification Flags/Notes:
MSC = Medium-Specific Concentration
NA = Not available
ND = Not Detected
PAH = Polynuclear Aromatic Hydrocarbon
J = Estimated quantitation based upon QC data
JB = Estimated quantitation, possibly biased high or a false positive based upon blank data
JH = Estimated quantitation, possibly biased high based upon QC data
JL = Estimated quantitation, possibly biased low or a false negative based upon QC data
JQ = Estimated quantitation, detected below the Practical Quantitation Limit
R = Datum rejected based upon QC data, do not use
[ ] Results in boxes exceed background concentration and MSC value

TABLE 3-1

POSITIVE ANALYTICAL RESULTS
Aerospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD (UNITS)	MSC	Sample ID Sample Date Depth Notes	OT3826SA 22-OCT-95 0.0' - 2.0'	OT3827SA 22-OCT-95 0.0' - 2.0'	OT3828SA 22-OCT-95 0.0' - 2.0'	OT3829SA 22-OCT-95 0.0' - 2.0'	OT3830SA 22-OCT-95 0.0' - 2.0'	OT3831SA 22-OCT-95 0.0' - 2.0'
SOIL pH - SW9045/NONE (pH)								
623-9045 pH units Soil	-		7.50	7.45	7.75	7.75	7.67	7.37
PERCENT SOLID - D2216/NONE (percent)								
623-D2216 Moisture	-		13.0	9.00	10.0	17.0	14.0	17.0
METALS, TOTAL BY ICP/SW6010/SW3050 (mg/kg)								
Aluminum	NA		7940	5460	6050	7260	12200	8850
Antimony	0.6		1.90 JQ	2.42 JQ	<19.6	<21.2	<22.0 JL	<22.3
Barium	200		89.3	59.8	63.3	136	107	106
Beryllium	0.4		<2.48	1.62 JQ	<2.39	<2.54	0.793	0.624
Calcium	NA		159000	284000	188000	222000	66000	11.7000
Chromium	10		<41.4	<40.4	<39.8	11.0 JQ	13.0	8.74
Cobalt	NA		2.40 JQ	3.15 JQ	2.27 JQ	4.58	3.52 JQ	2.50 JQ
Copper	NA		4.96 JQ	8.89 JQ	3.91 JQ	6.78 JQ	9.16	6.33
Iron	NA		7170	11000	7630	8100	8360	6580
Magnesium	NA		1810	2340	2340	2680	2650	1770
Manganese	NA		447	538	361	667	296	168
Molybdenum	NA		2.07 JQ	2.99 JQ	2.03 JQ	2.54 JQ	1.32 JL	<4.46
Nickel	10		218	218	206	224	9.34	6.42
Potassium	NA		955	1260	1210	1020	1710	1060
Silver	51.1		<4.14	<4.04	<3.91	<4.24	<4.40	<4.46
Sodium	NA		79.2	287	121	182	69.9	98.6
Vanadium	NA		19.7	20.4	15.2	28.5	17.1	18.4
Zinc	NA		72.9	77.3	70.9	75.0	24.0	20.8
ARSENIC, TOTAL BY GFAA/SW 7060 (mg/kg)								
Arsenic	3.27		1.16 JL	4.14	3.21	3.47	1.56 JL	1.11
LEAD, TOTAL BY GFAA/SW 7421 (mg/kg)								
Lead	1.5		16.3	16.2	14.2	19.3	16.0 J	21.0
MERCURY, TOTAL BY CVAA/SW 7471 (mg/kg)								
SELENIUM, TOTAL BY GFAA/SW 7740/METHOD (mg/kg)								
Selenium	5.0		<2.11 JL	<0.413	<1.89 JL	<2.25 JL	0.143 JL	0.0993 JL
VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8240/NONE (mg/kg)								
Toluene	100		<0.00566	0.000375 JQ	0.000366 JQ	0.00184 JQ	0.00163 JQ	0.00328 JQ
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8270/SW3550 (mg/kg)								
Di-n-butylphthalate	1020		<0.377	<0.366	<0.365	<0.400	<0.384	0.0237 JQ
Fluoranthene	409		<0.377	<0.366	<0.365	0.0427 JQ	<0.384	<0.397
Pyrene	310		<0.377	<0.366	<0.365	0.0479 JQ	<0.384	<0.397
Total PAHs			ND	ND	ND	0.0906	ND	ND

Data Qualification Flags/Notes:
MSC = Medium-Specific Concentration
NA = Not available
ND = Not Detected
PAH = Polynuclear Aromatic Hydrocarbon
J = Estimated quantation based upon QC data
JB = Estimated quantitation possibly biased high or a false positive based upon blank data
JH = Estimated quantitation possibly biased high based upon QC data
JL = Estimated quantitation possibly biased low or a false negative based upon QC data
JQ = Estimated quantitation; detected below the Practical Quantitation Limit
R = Datum rejected based upon QC data, do not use
[ ] Results in boxes exceed background concentration and MSC value

3517-3209.31 (3-1b)

TABLE 3-1

POSITIVE ANALYTICAL RESULTS
Aerospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD (UNITS)	MSC	Sample ID Sample Date Depth Notes	FDUP-03 22-OCT-95 0.0' - 2.0' Duplicate of OT3831SA	OT3832SA 22-OCT-95 0.0' - 2.0'	OT3833SA 22-OCT-95 0.0' - 2.0'	OT3834SA 22-OCT-95 0.0' - 2.0'	OT3835SA 22-OCT-95 0.0' - 2.0'
SOIL pH - SW9045/NONE (pH)							
623-9045 pH units Soil	-		7.41	7.54	7.41	7.47	7.50
PERCENT SOLID - D2216/NONE (percent)							
623-D2216 Moisture	-		19.0	15.0	11.0	15.0	9.00
METALS, TOTAL BY ICP/SW6010/SW3050 (mg/kg)							
Aluminum	NA		8380	12200	6320	10600	6460
Antimony	0.6		<21.9	<21.3	<20.2	<21.0	2.32 JQ
Barium	200		116	121	75.1	102	6730
Beryllium	0.4		0.613	0.682	<2.42	0.756	<2.24
Calcium	NA		90900	91300	100000	61400	142000
Chromium	10		7.27	9.72	<40.4	11.4	<37.4
Cobalt	NA		2.72 JQ	2.90 JQ	2.18 JQ	3.11 JQ	2.24 JQ
Copper	NA		7.27	6.14	5.66 JQ	8.06	6.73 JQ
Iron	NA		5970	8130	5860	9300	5400
Magnesium	NA		1630	1950	1930	2320	1800
Manganese	NA		190	317	221	261	303
Molybdenum	NA		1.31 JQ	2.13 JQ	1.78 JQ	2.86 JQ	1.42 JQ
Nickel	10		5.96	7.85	57.9	9.83	196
Potassium	NA		815	1390	1020	1410	628
Silver	51.1		<4.38	<4.26	<4.04	<4.20	<3.74
Sodium	NA		56.0	248	88.6	70.1	90.7
Vanadium	NA		19.6	21.7	12.4	21.1	17.7
Zinc	NA		20.0	22.0	33.7	20.0	65.7
ARSENIC, TOTAL BY GFAA/SW 7060 (mg/kg)							
Arsenic	3.27		0.714	1.58	0.663	1.27	0.685
LEAD, TOTAL BY GFAA/SW 7421 (mg/kg)							
Lead	1.5		22.4	36.0	14.4	21.9	14.2
MERCURY, TOTAL BY CVAA/SW 7471 (mg/kg)							
SELENIUM, TOTAL BY GFAA/SW 7740/METHOD (mg/kg)							
Selenium	5.0		<2.19 J	<0.442	<2.05 JL	<0.452	<1.96 JL
VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8240/NONE (mg/kg)							
Toluene	100		0.00699	0.000635 JQ	0.000569 JQ	0.000465 JQ	0.0104
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8270/SW3550 (mg/kg)							
Di-n-butylphthalate	1020		<0.411	<0.386	<0.370	<0.390	<0.366
Fluoranthene	409		0.0440 JQ	<0.386	<0.370	<0.390	<0.366
Pyrene	310		0.0342 JQ	<0.386	<0.370	<0.390	<0.366
Total PAHs			0.0782	ND	ND	ND	ND

Data Qualification Flags/Notes:
MSC = Medium-Specific Concentration
NA = Not available
ND = Not Detected
PAH = Polynuclear Aromatic Hydrocarbon
J = Estimated quantitation based upon QC data
JB = Estimated quantitation, possibly biased high or a false positive based upon blank data
JH = Estimated quantitation, possibly biased high based upon QC data
JL = Estimated quantitation, possibly biased low or a false negative based upon QC data
JQ = Estimated quantitation, detected below the Practical Quantitation Limit
R = Datum rejected based upon QC data, do not use
☐ Results in boxes exceed background concentration and MSC value

TABLE 3-1

POSITIVE ANALYTICAL RESULTS
Aerospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD (UNITS)	MSC	Sample ID Sample Date Depth Notes	OT3836SA 22-OCT-95 0.0' - 2.0'	OT3837SA 22-OCT-95 0.0' - 2.0'	OT3838SA 22-OCT-95 0.0' - 2.0'	OT3839SA 22-OCT-95 0.0' - 2.0'	OT3840SA 22-OCT-95 0.0' - 2.0'
SOIL pH - SW9045/NONE (none)							
623-9045 pH units Soil	-		7.67	7.71	7.18	7.58	7.26
PERCENT SOLID - D2216/NONE (percent)							
623-D2216 Moisture	-		10.0	13.0	11.0	11.0	10.0
METALS, TOTAL BY ICP/SW6010/SW3050 (mg/kg)							
Aluminum	NA		7090	9770	7480	10100	5120
Antimony	0.6		2.19 JQ	<21.6	<20.6	<21.0	1.98 JL
Barium	200		77.0	79.1	85.9	92.2	74.1 J
Beryllium	0.4		<2.43	0.605	<2.48	0.587	<2.47
Calcium	NA		149000	104000	182000	117000	165000
Chromium	10		<40.6	8.47	<41.3	8.39	14.8 JQ
Cobalt	NA		2.68 JQ	2.76 JQ	2.81 JQ	2.77 JQ	2.14 J
Copper	NA		6.49 JQ	7.17	4.13 JQ	4.70	14.8 J
Iron	NA		7980	10200	10400	8000	20000
Magnesium	NA		2150	2380	2270	2110	1880
Manganese	NA		408	283	368	231	476
Molybdenum	NA		3.00 JQ	<4.32	<4.13	<4.20	4.03 JL
Nickel	10		214	8.73	220	7.38	222
Potassium	NA		867	1790	1300	1090	1070
Silver	51.1		<4.06	<4.32	<4.13	<4.20	<4.12 J
Sodium	NA		112	88.8	129	79.5	426
Vanadium	NA		20.4	19.6	19.1	21.6	10.4
Zinc	NA		73.8	19.3	76.7	14.3	106 J
ARSENIC, TOTAL BY GFAA/SW 7060 (mg/kg)							
Arsenic	3.27		1.37	2.05	1.94	1.81	2.87 JL
LEAD, TOTAL BY GFAA/SW 7421 (mg/kg)							
Lead	1.5		22.4	11.0	14.9	11.2	1030
SELENIUM, TOTAL BY GFAA/SW 7740/METHOD (mg/kg)							
Selenium	5.0		<2.03	0.0864 JL	<0.429 JL	0.0829 JL	<0.424 JL
VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8240/NONE (mg/kg)							
Toluene	100		0.00703	0.000491 JQ	0.000812 JQ	0.000825 JQ	0.00125 JQ
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8270/SW3550 (mg/kg)							
Acenaphthene	613		<0.369	<0.378	<0.371	<0.372	<0.364
Anthracene	3070		<0.369	<0.378	<0.371	<0.372	<0.364
Benz(a)anthracene	NA		<0.369	<0.378	<0.371	<0.372	<0.364
Benzo(a)pyrene	NA		<0.369	<0.378	<0.371	<0.372	<0.364
Benzo(b)fluoranthene	NA		<0.369	<0.378	<0.371	<0.372	<0.364
Benzo(g,h,i)perylene	NA		<0.369	<0.378	<0.371	<0.372	<0.364
Benzo(k)fluoranthene	NA		<0.369	<0.378	<0.371	<0.372	<0.364
Chrysene	NA		<0.369	<0.378	<0.371	<0.372	<0.364
Di-n-butylphthalate	1020		<0.369	<0.378	<0.371	<0.372	<0.364
Dibenz(a,h)anthracene	NA		<0.369	<0.378	<0.371	<0.372	<0.364
Fluoranthene	409		<0.369	<0.378	<0.371	<0.372	<0.364
Fluorene	409		<0.369	<0.378	<0.371	<0.372	<0.364
Indeno(1,2,3-cd)pyrene	NA		<0.369	<0.378	<0.371	<0.372	<0.364
Phenanthrene	NA		<0.369	<0.378	<0.371	<0.372	<0.364

TABLE 3-1

POSITIVE ANALYTICAL RESULTS
Aerospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD (UNITS)	MSC	Sample ID Sample Date Depth Notes	OT3836SA 22-OCT-95 0 0' - 2 0'	OT3837SA 22-OCT-95 0 0' - 2 0'	OT3838SA 22-OCT-95 0 0' - 2 0'	OT3839SA 22-OCT-95 0 0' - 2 0'	OT3840SA 22-OCT-95 0 0' - 2 0'
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8270/SW3550 (mg/kg) cont'd.							
Pyrene	310		<0 369	<0 378	<0 371	<0 372	0 0732 JH
bis(2-Ethylhexyl)phthalate	2 04		<0 369	<0 378	<0 371	<0 372	<0 364
Total PAHs			ND	ND	ND	ND	0 0732

Data Qualification Flags/Notes:
MSC = Medium-Specific Concentration
NA = Not available
ND = Not Detected
PAH = Polynuclear Aromatic Hydrocarbon
J = Estimated quantation based upon QC data
JB = Estimated quantitation possibly biased high or a false positive based upon blank data
JH = Estimated quantitation possibly biased high based upon QC data
JL = Estimated quantitation possibly biased low or a false negative based upon QC data
JQ = Estimated quantitation detected below the Practical Quantitation Limit
R = Datum rejected based upon QC data do not use
☐ Results in boxes exceed MSC value (organics) and background concentration and MSC value (metals)

TABLE 3-1

POSITIVE ANALYTICAL RESULTS
Aerospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD (UNITS)	MSC*	Sample ID Sample Date Depth Notes	OT3841SA 22-OCT-95 0.0' - 2.0'	OT3842SA 22-OCT-95 0.0' - 2.0'	FDUP-04 22-OCT-95 0.0' - 2.0' Duplicate of OT3842SA	OT3843SA 22-OCT-95 0.0' - 2.0'	OT3844SA 22-OCT-95 0.0' - 2.0'
SOIL pH - SW9045/NONE (none)							
623-9045 pH units Soil	-		7.76	7.58	7.52	7.67	7.55
PERCENT SOLID - D2216 /NONE (percent)							
623-D2216 Moisture	-		9.00	12.0	3.00 J	11.0	10.0
METALS, TOTAL BY ICP/SW6010/SW3050 (mg/kg)							
Aluminum	NA		6050	11600 J	7900 J	8860	8120
Antimony	0.6		<18.1	1.97 JQ	2.44 JQ	<19.9	<20.7
Barium	200		58.0	103	78.2	94.8	81.2
Beryllium	0.4		<2.32	1.58 JQ	0.610 J	<2.39	1.66 JQ
Calcium	NA		157000	116000	92400	113000	186000
Chromium	10		<38.7	10.3 JQ	7.58	<39.8	8.29 JQ
Cobalt	NA		2.17 JQ	3.94	2.79 JQ	2.95 JQ	2.90 JQ
Copper	NA		6.19 JQ	10.3 JQ	7.14	11.2	3.32 JQ
Iron	NA		6530	11800 J	7260 J	9180	11200
Magnesium	NA		2100	2660	2260	2100	2510
Manganese	NA		323	527 J	318 J	403	455
Molybdenum	NA		1.39 JQ	1.97 JQ	1.31 JQ	1.91 JQ	2.40 JQ
Nickel	10		203	60.8	7.93	59.1	224
Potassium	NA		891	2190 J	1420 J	1250	1920
Silver	51.1		<3.62	<3.94	<4.36	<3.98	<4.14
Sodium	NA		109	338 J	77.9 J	101	288
Vanadium	NA		18.1	21.0	18.2	19.9	17.1
Zinc	NA		67.5	37.6 J	18.3 J	31.6	87.0
ARSENIC, TOTAL BY GFAA/SW 7060 (mg/kg)							
Arsenic	3.27		1.04	2.42	1.18	2.60	2.36
LEAD, TOTAL BY GFAA/SW 7421 (mg/kg)							
Lead	1.5		11.6	20.9	25.4	27.5	29.0
SELENIUM, TOTAL BY GFAA/SW 7740/METHOD (mg/kg)							
Selenium	5.0		<2.02 JL	<0.427	<2.11	<2.06	<0.421
VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8240/NONE (mg/kg)							
Toluene	100		0.0194	0.00832	0.00304 JQ	<0.00558	0.00873
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8270/SW3550 (mg/kg)							
Acenaphthene	613		<0.361	<0.374	<0.379	<0.371	<0.364
Anthracene	3070		<0.361	<0.374	<0.379	<0.371	<0.364
Benz(a)anthracene	NA		<0.361	<0.374	<0.379	<0.371	<0.364
Benzo(a)pyrene	NA		<0.361	<0.374	<0.379	<0.371	<0.364
Benzo(b)fluoranthene	NA		<0.361	<0.374	<0.379	<0.371	<0.364
Benzo(g,h,i)perylene	NA		<0.361	<0.374	<0.379	<0.371	<0.364
Benzo(k)fluoranthene	NA		<0.361	<0.374	<0.379	<0.371	<0.364
Chrysene	NA		<0.361	<0.374	<0.379	<0.371	<0.364
Di-n-butylphthalate	1020		<0.361	<0.374	<0.379	<0.371	<0.364
Dibenz(a,h)anthracene	NA		<0.361	<0.374	<0.379	<0.371	<0.364
Fluoranthene	409		<0.361	<0.374	0.0236 JQ	<0.371	0.0330 JQ
Fluorene	409		<0.361	<0.374	<0.379	<0.371	<0.364
Indeno(1,2,3-cd)pyrene	NA		<0.361	<0.374	<0.379	<0.371	<0.364
Phenanthrene	NA		<0.361	<0.374	<0.379	<0.371	<0.364

TABLE 3-1

POSITIVE ANALYTICAL RESULTS
Aerospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD (UNITS)	MSC*	Sample ID Sample Date Depth Notes	OT3841SA 22-OCT-95 0 0' - 2 0'	OT3842SA 22-OCT-95 0 0' - 2 0'	FDUP-04 22-OCT-95 0 0' - 2 0' Duplicate of OT3842SA	OT3843SA 22-OCT-95 0 0' - 2 0'	OT3844SA 22-OCT-95 0 0' - 2 0'
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8270/SW3550 (mg/kg) cont'd.							
Pyrene	310		<0 361	<0 374	<0 379	<0 371	0 0269 JQ
bis(2-Ethylhexyl)phthalate	2 04		<0 361	<0 374	<0 379	<0 371	<0 364
Total PAHs			ND	ND	0 0236	ND	0 0609

Data Qualification Flags/Notes:
MSC = Medium-Specific Concentration
NA = Not available
ND = Not Detected
PAH = Polynuclear Aromatic Hydrocarbon
J = Estimated quantation based upon QC data
JB = Estimated quantitation possibly biased high or a false positive based upon blank data
JH = Estimated quantitation possibly biased high based upon QC data
JL = Estimated quantitation possibly biased low or a false negative based upon QC data
JQ = Estimated quantitation detected below the Practical Quantitation Limit
R = Datum rejected based upon QC data do not use
☐ Results in boxes exceed MSC value (organics) and background concentration and MSC value (metals)

TABLE 3-1

POSITIVE ANALYTICAL RESULTS
Aerospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD (UNITS)	MSC	Sample ID / Sample Date / Depth / Notes	OT3845SA 22-OCT-95 0.0' - 2.0'	OT3846SA 22-OCT-95 0.0' - 2.0'	OT3847SA 22-OCT-95 0.0' - 2.0'	OT3848SA 22-OCT-95 0.0' - 2.0'	FDUP-05 22-OCT-95 0.0' - 2.0' Duplicate of OT3848SA
SOIL pH - SW9045/NONE (none)							
623-9045 pH units Soil			7.81	7.71	7.14	7.59	7.72
PERCENT SOLID - D2216 /NONE (percent)							
623-D2216 Moisture			16.0	10.0	13.0	16.0	17.0
METALS, TOTAL BY ICP/SW6010/SW3050 (mg/kg)							
Aluminum	NA		13000	6110	6300	10700	7970
Antimony	0.6		<22.9	2.49 JQ	<19.3	<22.7	2.79 JQ
Barium	200		88.9	82.4	77.9	83.6	82.0
Beryllium	0.4		0.733	<2.33	<2.31	<2.73	<2.46
Calcium	NA		121000	179000	109000	139000	138000
Chromium	10		10.8	<38.8	<38.6	<45.4	<41.0
Cobalt	NA		4.03 JQ	3.57 JQ	2.31 JQ	4.00 JQ	4.10
Copper	NA		8.79	6.99	9.25 JQ	17.3 JQ	13.1 JQ
Iron	NA		12700	7470	6230	13200	10900
Magnesium	NA		3150	2350	1920	2800	2420
Manganese	NA		364	474	318	479	512
Molybdenum	NA		2.20 JQ	1.79 JQ	1.46 JQ	2.91 JQ	1.80 JQ
Nickel	NA		9.71	206	154	242	219
Potassium	10		2490	1030	927	1770	1430
Silver	NA		<4.58	<3.88	<3.86	<4.54	<4.10
Sodium	51.1		273	110	78.9	103	95.0
Vanadium	NA		17.5	24.1	15.4	23.3	21.4
Zinc	NA		28.1	69.5	89.5	204	218
ARSENIC, TOTAL BY GFAA/SW 7060 (mg/kg)							
Arsenic	3.27		2.57	1.96	0.982 J	3.53 J	5.48 J
LEAD, TOTAL BY GFAA/SW 7421 (mg/kg)							
Lead	1.5		19.6	38.4	128	580	722
SELENIUM, TOTAL BY GFAA/SW 7740/METHOD (mg/kg)							
Selenium	5.0		<0.434	<1.90 JL	<2.18	<2.19 JL	<2.08 JL
VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8240/NONE (mg/kg)							
Toluene	100		0.00109 JQ	0.00110 JQ	0.00195 JQ	0.00863	0.000615 JQ
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8270/SW3550 (mg/kg)							
Acenaphthene	613		<0.394	<0.366	<0.379	<0.392	<0.397
Anthracene	3070		<0.394	<0.366	<0.379	<0.392	<0.397
Benz(a)anthracene	NA		<0.394	<0.366	0.0637 JQ	<0.392	<0.397
Benzo(a)pyrene	NA		<0.394	<0.366	<0.379	<0.392	<0.397
Benzo(b)fluoranthene	NA		<0.394	<0.366	0.0644 JQ	<0.392	<0.397
Benzo(g,h,i)perylene	NA		<0.394	<0.366	<0.379	<0.392	<0.397
Benzo(k)fluoranthene	NA		<0.394	<0.366	<0.379	<0.392	<0.397
Chrysene	NA		<0.394	<0.366	0.0705 JQ	<0.392	<0.397
Di-n-butylphthalate	NA		<0.394	<0.366	0.0254 JQ	<0.392	<0.397
Dibenz(a,h)anthracene	1020		<0.394	<0.366	<0.379	<0.392	<0.397
Fluoranthene	NA		<0.394	<0.366	0.130 JQ	0.0396 JQ	0.0588 JQ
Fluorene	409		<0.394	<0.366	<0.379	<0.392	<0.397
Indeno(1,2,3-cd)pyrene	409		<0.394	<0.366	<0.379	<0.392	<0.397
Phenanthrene	NA		<0.394	<0.366	0.0443 JQ	<0.392	0.0266 JQ

TABLE 3-1

POSITIVE ANALYTICAL RESULTS
Aerospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD (UNITS)	MSC	Sample ID Sample Date Depth Notes	OT3845SA 22-OCT-95 0 0' - 2 0'	OT3846SA 22-OCT-95 0 0' - 2 0'	OT3847SA 22-OCT-95 0 0' - 2 0'	OT3848SA 22-OCT-95 0 0' - 2 0'	FDUP-05 22-OCT-95 0 0' - 2 0' Duplicate of OT3848SA
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8270/SW3550 (mg/kg) cont'd.							
Pyrene	310		<0 394	<0 366	0 142	0.0549 JQ	0 0795 JQ
bis(2-Ethylhexyl)phthalate	2 04		<0 394	<0 366	<0.379	0 136 JQ	<0 397
Total PAHs			ND	ND	0 5149	0 0945	0 1749

Data Qualification Flags/Notes:
MSC = Medium-Specific Concentration
NA = Not available
ND = Not Detected
PAH = Polynuclear Aromatic Hydrocarbon
J = Estimated quantitation based upon QC data
JB = Estimated quantitation possibly biased high or a false positive based upon blank data
JH = Estimated quantitation possibly biased high based upon QC data
JL = Estimated quantitation possibly biased low or a false negative based upon QC data
JQ = Estimated quantitation detected below the Practical Quantitation Limit
R = Datum rejected based upon QC data do not use
☐ Results in boxes exceed MSC value (organics) and background concentration and MSC value (metals)

TABLE 3-1

POSITIVE ANALYTICAL RESULTS
Aerospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD (UNITS)	MSC	Sample ID Sample Date Depth Notes	OT3849SA 22-OCT-95 0.0' - 2.0'	OT3850SA 23-OCT-95 0.0' - 2.0' Background Sample	OT3851SA 23-OCT-95 0.0' - 2.0' Background Sample
SOIL pH - SW9045/NONE (none)					
623-9045 pH units Soil			7.76	7.70	7.33
PERCENT SOLID - D2216/NONE (percent)					
623-D2216 Moisture			4.00	12.0	6.00
METALS, TOTAL BY ICP/SW6010/SW3050 (mg/kg)					
Aluminum	NA		2550	5120	3650
Antimony	0.6		<18.1	1.99 JL	<18.0
Barium	200		28.9	57.2	53.1
Beryllium	0.4		<2.17	<2.60	0.216
Calcium	NA		180000	170000	75900
Chromium	10		<36.2	<43.4	10.8
Cobalt	NA		1.66 JQ	2.17 JQ	3.45 JQ
Copper	NA		<36.2	6.07 JQ	6.90
Iron	NA		4740	7040	5110
Magnesium	NA		1650	2000	1080
Manganese	NA		338	346	229
Molybdenum	NA		<3.62	1.91 JL	<3.60
Nickel	10		191	230	5.75
Potassium	NA		653	1160	967 JH
Silver	51.1		<3.62	<4.34	0.431 JQ
Sodium	NA		173	135	75.9 JB
Vanadium	NA		8.68	14.5	12.2
Zinc	NA		62.8	110	43.1
ARSENIC, TOTAL BY GFAA/SW 7060 (mg/kg)					
Arsenic	3.27		2.25	2.31 JL	1.69
LEAD, TOTAL BY GFAA/SW 7421 (mg/kg)					
Lead	1.5		13.9	52.3	96.3
SELENIUM, TOTAL BY GFAA/SW 7740/METHOD (mg/kg)					
Selenium	5.0		<0.386 JL	<0.424 JL	<0.400
VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8240/NONE (mg/kg)					
Toluene	100		0.00763	0.000918 JQ	0.0302
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8270/SW3550 (mg/kg)					
Acenaphthene	613		<0.345	<0.376	0.0605 JQ
Anthracene	3070		<0.345	<0.376	0.128 JQ
Benz(a)anthracene	NA		<0.345	<0.376	0.449
Benzo(a)pyrene	NA		<0.345	<0.376	0.479 J
Benzo(b)fluoranthene	NA		<0.345	<0.376	0.442 J
Benzo(g,h,i)perylene	NA		<0.345	<0.376	0.129 J
Benzo(k)fluoranthene	NA		<0.345	<0.376	0.593 J
Chrysene	NA		<0.345	<0.376	0.399
Di-n-butylphthalate	1020		<0.345	<0.376	0.0282 JQ
Dibenz(a,h)anthracene	NA		<0.345	<0.376	0.107 J
Fluoranthene	409		<0.345	<0.376	0.658
Fluorene	409		<0.345	<0.376	0.0442 JQ
Indeno(1,2,3-cd)pyrene	NA		<0.345	<0.376	0.264 J
Phenanthrene	NA		<0.345	<0.376	0.508

TABLE 3-1

POSITIVE ANALYTICAL RESULTS
Aerospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD (UNITS)	MSC	Sample ID Sample Date Depth Notes	OT3849SA 22-OCT-95 0 0' - 2 0'	OT3850SA 23-OCT-95 0 0' - 2.0' Background Sample	OT3851SA 23-OCT-95 0 0' - 2 0' Background Sample
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8270/SW3550 (mg/kg) cont'd.					
Pyrene	310		<0 345	<0 376	0 910
bis(2-Ethylhexyl)phthalate	2 04		<0 345	<0 376	0 237 JQ
Total PAHs			ND	ND	5.17

Data Qualification Flags/Notes:
MSC = Medium-Specific Concentration
NA = Not available
ND = Not Detected
PAH = Polynuclear Aromatic Hydrocarbon
J = Estimated quantitation based upon QC data
JB = Estimated quantitation possibly biased high or a false positive based upon blank data
JH = Estimated quantitation possibly biased high based upon QC data
JL = Estimated quantitation possibly biased low or a false negative based upon QC data
JQ = Estimated quantitation detected below the Practical Quantitation Limit
R = Datum rejected based upon QC data do not use
[ ] Results in boxes exceed MSC value (organics) and background concentration and MSC value (metals)

PREPARED/DATE John Pecore / 2-22-96
CHECKED/DATE Sue D Max / 2-22-96

A high degree of variability was observed between the concentrations reported for several metals in the two site-specific background samples. Based on this observation, the background concentrations used for data comparison in the following section may not be representative of basewide background concentrations.

3.1.2 Data Summary

The analytical results for the Aerospace Museum Site are discussed by chemical class below.

Volatile Organic Compounds - Methylene chloride and toluene were detected in soil samples collected at this site. Methylene chloride was detected in one soil sample, OT3804SA, however the result was less than the PQL. Toluene was detected in both background soil samples. Background sample OT3851SA contained 0.0302 mg/kg of toluene and OT3850SA contained toluene at a concentration less than the PQL. Toluene was detected in 44 of 51 samples analyzed as depicted in Figure 3-1, however, 27 results were reported at concentrations less than the PQL. The maximum concentration of toluene was 0.0302 mg/kg, reported in background sample OT3851SA. Toluene was reported throughout the site in concentrations ranging from nondetect to 0.0194 mg/kg at OT3841SA. The detection of toluene in background samples may be indicative of the presence of a source unrelated to the Aerospace Museum Site.

Semi-Volatile Organic Compounds - Semi-volatile constituents detected in soil samples included acenaphthene, anthracene, benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, butyl benzyl phthalate, chrysene, di-n-butylphthalate, dibenz(a,h)anthracene, dibenzofuran, fluoranthene, fluorene, indeno(1,2,3-cd)pyrene, naphthalene, phenanthrene, pyrene, and bis(2-ethylhexyl)phthalate. Semi-volatiles were not detected in background sample OT3850SA; however, background sample OT3851SA contained acenaphthene, anthracene, di-n-butylphthalate, fluorene, and bis(2-ethylhexyl)phthalate at concentrations below the PQL, and low concentrations of benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenz(a,h)anthracene, fluoranthene, indeno(1,2,3-cd)pyrene, phenanthrene, and pyrene.

Polynuclear aromatic hydrocarbons (PAHs) were detected in 20 soil samples out of 49 samples collected at the site as depicted in Figure 3-2. The highest concentrations of PAHs encountered were collected from the northern third of the site and included samples OT3801SA, OT3814SA, and background sample OT3851SA. Dibenzofuran was also detected in samples OT3801SA and OT3814SA. The maximum concentration of total PAHs reported was 46.42 mg/kg, at OT3801SA, collected adjacent to Farmer's Branch. A second area exhibiting lower levels of PAHs was identified in the vicinity of sample OT3847SA, on the south side of the site.

Phthalates were detected in several soil samples, however, butyl benzyl phthalate and di-n-butylphthalate were detected only at concentrations below the PQL. Bis(2-ethylhexyl)phthalate was detected in five samples, including background sample, OT3851SA. The maximum concentration reported was 1.09 mg/kg at OT3804SA, on the northwest edge of the site.

Metals - Metals detected in soil samples include aluminum, antimony, arsenic, barium, beryllium, cadmium, calcium, chromium, cobalt, copper, iron, lead, magnesium, manganese, molybdenum, nickel, potassium, selenium, silver, sodium, vanadium, and zinc. All of these metal constituents were detected at one or both background locations with the exception of selenium and cadmium. The following metals were detected at the site at concentrations greater than the background concentration:

- Aluminum results exceeded the maximum background concentration of 5,120 mg/kg at 40 of 49 sample locations. The maximum sample concentration reported was 20,800 mg/kg at OT3824SA.

- Antimony results exceeded the maximum background concentration of 1.99 mg/kg at 10 of 49 sample locations, as depicted in Figure 3-3. The maximum sample concentration reported was 2.79 mg/kg at OT3848SA. The remaining locations exceeding the background concentration are distributed across the site.

- Arsenic results exceeded the maximum background concentration of 2.31 mg/kg at 13 of 49 sample locations as depicted in Figure 3-4. The maximum sample concentration reported was 5.48 mg/kg at OT3848SA on the southwest edge of the site. The remaining locations exceeding the background concentration are distributed across the site.

- Barium results exceeded the maximum background concentration of 57.2 mg/kg at 47 of 49 sample locations as depicted in Figure 3-5. The maximum sample concentration reported was 6,730 mg/kg at OT3835SA. All other samples were reported with concentrations less than 200 mg/kg.

- Beryllium results exceeded the maximum background concentration of 0.216 mg/kg at 27 of 49 sample locations as depicted in Figure 3-6. The maximum sample concentration reported was 1.72 mg/kg at OT3825SA located on the eastern edge of the site. Additional locations exceeding the background concentration are distributed across the site.

- Cadmium was detected at two locations, OT3806SA and OT3809SA, at concentrations of 0.972 mg/kg and 0.843 mg/kg, respectively. These locations are depicted in Figure 3-7. Background samples were anlayzed for cadmium, but no cadmium was detected.

- Calcium results exceeded the maximum background concentration of 170,000 mg/kg at 13 of 49 sample locations. The maximum sample concentration reported was 285,000 mg/kg at OT3817SA. Additional locations exceeding the background concentration are distributed across the site.

- Chromium results exceeded the maximum background concentration of 10.8 mg/kg at 18 of 49 sample locations, as depicted in Figure 3-8. The maximum sample concentration reported was 40.8 mg/kg at OT3801SA located on the northeast edge of the site.

- Cobalt results exceeded the maximum background concentration of 3.45 mg/kg at 22 of 49 sample locations, however many of the results were less than the PQL. The maximum sample concentration reported was 7.49 mg/kg at OT3810SA located on the north side of the site.

- Copper results exceeded the maximum background concentration of 6.90 mg/kg at 27 of 49 sample locations. The maximum sample concentration reported was 24.8 mg/kg at OT3801SA located on the northeast edge of the site.

- Iron results exceeded the maximum background concentration of 7,040 mg/kg at 34 of 49 sample locations. The maximum sample concentration reported was 20,000 mg/kg at OT3840SA located on the southeast edge of the site.

- Lead results exceeded the maximum background concentration of 96.3 mg/kg at 4 of 49 sample locations. Lead exceeded the secondary background concentration of 52.3 mg/kg at one additional location, as depicted in Figure 3-9. The maximum sample concentration reported was 1,030 mg/kg at OT3840SA located on the southeast edge of the site. Two adjacent sample locations, OT3847SA and OT3848SA, were reported with concentrations of 128 mg/kg and 722 mg/kg, respectively. One additional location OT3801SA, on the northeast edge of the site, was reported with a lead concentration of 227 mg/kg.

- Magnesium results exceeded the maximum background concentration of 2,000 mg/kg at 30 of 49 sample locations. The maximum concentration reported was 3,200 mg/kg at OT3824SA located on the west edge of the site.

- Manganese results exceeded the maximum background concentration of 346 mg/kg at 32 of 49 sample locations. The maximum concentration reported was 678 mg/kg at OT3822SA located in the central portion of the site.

- Molybdenum results exceeded the maximum background concentration of 1.91 mg/kg at 20 of 40 sample locations, however many of the results were less than the PQL. The maximum concentration reported was 4.03 mg/kg at OT3840SA, located on the southeast edge of the site.

- Nickel results exceeded the maximum background concentration of 230 mg/kg at one location, OT3848SA, which was reported at 242 mg/kg. All results exceeded the secondary background concentration of 5.75 mg/kg, as depicted in Figure 3-10. Nickel concentrations across the site range from less than 10 mg/kg to 229 mg/kg.

- Potassium results exceeded the maximum background concentration of 1,160 mg/kg at 30 of 49 sample locations. The maximum concentration reported was 2,740 mg/kg at OT3824SA, located on the west edge of the site.

- Selenium was detected at six locations, with a maximum concentration of 0.143 mg/kg at OT3830SA, located in the central portion of the site. Background samples were analyzed for selenium, but no selenium was detected.

- Silver was not detected above the PQL at any sample location.

- Sodium results exceeded the maximum background concentration of 135 mg/kg at 13 of 49 sample locations. The maximum concentration reported was 426 mg/kg at OT3840SA, located on the southeast edge of the site.

- Vanadium results exceeded the maximum background concentration of 14.5 mg/kg at 39 of 49 sample locations. The maximum concentration reported was 28.5 mg/kg at OT3829SA, located on the east edge of the site.

- Zinc results exceeded the maximum background concentration of 110 mg/kg at 2 of 49 sample locations. Results exceeded the secondary background concentration of 43.1 mg/kg at 22 of 49 locations. The maximum concentration reported was 204 mg/kg at OT3848SA, located on the southwest edge of the site.

3.2 GROUNDS MAINTENANCE YARD

The following section discusses the chemical constituents detected in soil samples collected from the Grounds Maintenance Yard. Twenty-eight soil samples, two background samples, and three field duplicate samples were collected. The positive analytical results are presented in Table 3-2. This table also indicates which results were reported at concentrations exceeding the TNRCC MSC value for organic constituents, or the maximum background concentration and MSC value, for metal constituents. Constituents for which MSC criteria apply are also depicted on the associated figures to aid in the interpretation of the data.

3.2.1 Background Levels

Site-specific background levels of metals were determined from samples collected from two background locations adjacent to the site, OT3901SA, located to the south, and OT3902SA, located to the north (Figure 2-2). Sample data were compared to the maximum values obtained from the background samples. The secondary background sample was used when the maximum background concentrations were greater than the concentrations reported at the site. This occurred for four metals, beryllium, iron, nickel, and potassium. Both background samples

TABLE 3-2

POSITIVE ANALYTICAL RESULTS
Ground Maintenance Yard
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD (UNITS)	MSC	Sample ID Sample Date Depth Notes	OT3901SA 23-OCT-95 0.0' - 2.0' Background Sample	OT3902SA 23-OCT-95 0.0' - 2.0' Background Sample	OT3903SA 23-OCT-95 0.0' - 2.0'	OT3904SA 23-OCT-95 0.0' - 2.0'	OT3905SA 23-OCT-95 0.0' - 2.0'
SOIL pH - SW9045/NONE (pone)							
623-9045 pH units Soil	-		7.49	7.81	7.65	7.66	7.72
PERCENT SOLID - D2216 /NONE (percent)							
623-D2216 Moisture	-		13.0	16.0	20.[illegible]	17.0	16.0
METALS, TOTAL BY ICP/SW6010/SW3050 (mg/kg)							
Aluminum	NA		7850	9440	7090	4370	4300
Antimony	0.6		<19.8	<21.0	<23.0	<22.3	<22.7
Barium	200		95.3	122	121	170	118
Beryllium	0.4		0.634	[illegible].51	0.551	<2.68	<2.73
Calcium	NA		19000	106000	108000	234000	204000
Chromium	10		9.28	<41.9	2.85 JQ	14.3 JQ	32.7
Cobalt	NA		3.57 JQ	2.77 JQ	3.22 JQ	2.14 JQ	2.27 JQ
Copper	NA		9.[illegible]	5.87 JQ	8.91	8.03 JQ	19.1
Iron	NA		[illegible]800	7090	6680	4200	5410
Magnesium	NA		1790	2370	2390	2250	1420
Manganese	NA		333	334	315	384	340
Molybdenum	NA		1.43 JQ	1.59 JQ	<4.60	<4.46	1.91 JQ
Nickel	10		8.72	114	7.35	235	242
Potassium	NA		2170 JH	1480	1500	1100 JH	1010
Sodium	NA		52.0 JB	70.6	87.9	151	349
Vanadium	NA		15.4	17.4	9.93	6.87	9.64
Zinc	NA		20.4	44.2	17.3	78.5	99.0
ARSENIC, TOTAL BY GFAA/SW 7060 (mg/kg)							
Arsenic	3.27		2.23	1.82	1.95	1.47	1.61
LEAD, TOTAL BY GFAA/SW 7421 (mg/kg)							
Lead	1.5		12.4	10.1	15.5 JH	5.87	71.9
SELENIUM, TOTAL BY GFAA/SW 7740/METHOD (mg/kg)							
Selenium	5.0		<0.426 JL	<2.16	<2.35 JL	<2.18 JL	<0.454
ORGANOCHLORINE PESTICIDES AND PCBs - SW8080/SW3550 (mg/kg)							
4,4'-DDD	0.119		<0.00382	<0.00400	<0.00412	<0.00413	<0.00400
4,4'-DDE	0.0841		<0.00153	<0.00160	<0.00165	<0.00165	<0.00160
AR1254	0.05		<0.0382	<0.0400	<0.0412	<0.0413	<0.0400
Chlordane	0.2		<0.0191	<0.0200	<0.0206	<0.0206	<0.0200
Dieldrin	0.00179		<0.000764	<0.000800	<0.000824	0.000873	<0.000800
Methoxychlor	4.00		<0.0191	<0.0200	<0.0206	<0.0206	<0.0200
CHLORINATED HERBICIDES - SW8150/METHOD (mg/kg)							
2,4,5-TP (Silvex)	5.00		<0.00460	<0.00454	<0.00482	<0.00498	<0.00482
MCPP	NA		<3.45	<3.40	<3.62	<3.74	4.05
VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8240/NONE (mg/kg)							
Acetone	1020		<0.0118	<0.0117 J	<0.0124 J	<0.0121	<0.0119 J
Carbon disulfide	23.4		<0.00591	<0.00586	<0.00619	<0.00604	<0.00596
Methylene chloride	0.5		<0.00591	<0.00586	<0.00619	<0.00604	<0.00596
Toluene	100		0.00503 JQ	<0.00586	0.0140	<0.00604	0.0165

TABLE 3-2

POSITIVE ANALYTICAL RESULTS
Ground Maintenance Yard
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD (UNITS)	MSC	Sample ID Sample Date Depth Notes	OT3926SA 24-OCT-95 0 0' - 2 0'	OT3927SA 24-OCT-95 0 0' - 2 0'	OT3928SA 24-OCT-95 0 0' - 2 0'	FDUP07 24-OCT-95 0 0' - 2 0' Duplicate of OT3928SA	OT3929SA 24-OCT-95 0 0' - 2 0'	OT3930SA 24-OCT-95 0 0' - 2 0'
Toluene	100		<0 00592	<0 00620	0 00668	0 00159 JQ	<0 00628	0 00230 JQ
Xylenes (total)	1000		<0 00592	<0 00620	<0 00596	<0 00608	<0 00628	<0 00621
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8270/SW3550 (mg/kg)								
2-Methylnaphthalene	NA		<0 405	<0 407	<0.397	<0 373	<0 403	<0 406
Benz(a)anthracene	NA		<0 405 J	<0 407	0.0345 JQ	<0 373 J	<0.403	<0 406
Benzo(a)pyrene	NA		<0 405 J	<0.407	0 0433 J	<0 373 J	<0.403	<0 406
Benzo(b)fluoranthene	NA		<0 405 J	0.0375 JQ	0.0659 J	<0 373 J	0 0431 JQ	<0 406
Butyl benzyl phthalate	NA		<0 405 J	<0.407	<0.397	<0 373 J	<0.403	0 156 JQ
Chrysene	NA		<0 405 J	0.0343 JQ	0.0651 JQ	<0.373 J	0 0345 JQ	<0 406
Di-n-butylphthalate	1020		<0 405	<0 407	<0.397	0 0257 JQ	<0 403	<0 406
Dimethylphthalate	NA		<0 405	<0.407	<0.397	<0 373	<0 403	<0 406
Fluoranthene	409		<0 405	0.0167 JQ	0.0873 JQ	0.0151 JQ	<0 403	<0 406
Fluorene	409		<0.405	<0.407	<0.397	<0 373	<0 403	0 0137 JQ
Naphthalene	409		<0 405	<0.407	<0.397	<0 373	<0 403	<0 406
Phenanthrene	NA		<0.405	<0.407	0 0368 JQ	<0 373	<0 403	0 0265 JQ
Pyrene	310		0.0474 J	0.0240 JQ	0.0961 JQ	0.0270 J	<0 403	<0 406
bis(2-Ethylhexyl)phthalate	2 04		<0 405 J	<0.407	<0.397	<0.373 J	<0.403	0 309 JQ
Total PAHs			0.0474	0.1025	0.439	0.0421	0.0776	0.0402

Data Qualification Flags/Notes:
MSC = Medium-Specific Concentration
NA = Not available
J = Estimated quantitation based upon QC data
JB = Estimated quantitation possibly biased high or a false positive based upon blank data
JH = Estimated quantitation possibly biased high based upon QC data
JL = Estimated quantitation possibly biased low or a false negative based upon QC data
JQ = Estimated quantitation detected below the Practical Quantitation Limit
R = Datum rejected based upon QC data do not use
[ ] Results in boxes exceed MSC value (organics) and background concentration and MSC value (metals)

PREPARED/DATE John Pecore / 2-22-96
CHECKED/DATE Sue D. Max / 2-22-96

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appeared to contain high concentrations of aluminum and vanadium, indicating that the background locations may not be representative of background conditions.

A high degree of variability was observed between the concentrations reported for several metals in the two site-specific background samples. Based on this observation, the background concentrations used for data comparison in the following section may not be representative of basewide background concentrations.

3.2.2 Data Summary

The analytical results for the Grounds Maintenance Yard are discussed by chemical class below.

Volatile Organic Compounds - Acetone, 2-butanone (MEK), carbon disulfide, methylene chloride, tetrachloroethene, toluene, and xylenes were detected in soil samples collected at this site. With the exception of toluene, volatile constituents were not detected in the background samples. Background sample OT3901SA contained 0.00503 mg/kg toluene which was less than the PQL. Toluene was detected in 21 of 28 samples analyzed as depicted in Figure 3-11, however 14 results were reported at concentrations less than the PQL. The maximum concentration of toluene detected was 0.0336 mg/kg at OT3925SA. Other volatile constituents detected include the following:

- Acetone was detected at three locations, OT3912SA, OT3917SA, and OT3920SA with a maximum concentration of 0.107 mg/kg at OT3917SA. These locations are adjacent to the mower storage shed and concrete containment pad.

- 2-Butanone was detected at two locations, OT3917SA and OT3920SA with a maximum concentration of 0.0266 mg/kg at OT3917SA. These locations are adjacent to the mower storage shed and concrete containment pad.

- Carbon disulfide was detected at one location OT3908SA, on the east edge of the site, at a concentration of 0.00061 mg/kg.

- Methylene chloride was detected at five locations with a maximum concentration of 0.0271 mg/kg at OT3921SA, located in the central portion of the site.

- Tetrachloroethene was detected at two locations, OT3918SA and OT3930SA. The maximum sample concentration reported was 0.00358 mg/kg at OT3930SA, located adjacent to the office on the southwest edge of the site.

- Xylenes were detected at one location, OT3917SA, at a concentration of 0.00296 mg/kg, which was below the PQL. This location is adjacent to the mower storage shed.

Semi-Volatile Organic Compounds - Semi-volatile constituents detected in soil samples include 2-methylnaphthalene, acenaphthene, anthracene, benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, butyl benzyl phthalate, chrysene, di-n-butylphthalate, dimethylphthalate, dibenz(a,h)anthracene, fluoranthene, fluorene, indeno(1,2,3-cd)pyrene, naphthalene, phenanthrene, pyrene, and bis(2-ethylhexyl)phthalate. Semi-volatiles were not detected in the background surface soil samples with the exception of di-n-butylphthalate detected at 0.0276 mg/kg, which was below the PQL, in sample OT3901SA.

PAHs were detected at 15 of 28 sample locations as depicted in Figure 3-12. The highest concentrations of PAHs encountered were collected from samples collected adjacent to the concrete containment pad and along the east edge of the site. The maximum concentration of total PAHs reported was 41.01 mg/kg, at OT3905SA.

Phthalates were detected in several soil samples, however di-n-butylphthalate was detected only at concentrations below the PQL. Butyl benzyl phthalate was detected above the PQL in one sample, OT3916SA, at a concentration of 2.60 mg/kg. Bis(2-ethylhexyl)phthalate was detected above the PQL at two locations, OT3905SA and OT3918SA, at concentrations of 2.35 mg/kg and 0.494 mg/kg, respectively. OT3905SA is located on the east edge of the site.

Pesticide/PCBs - Pesticides and PCBs detected in soil samples include 4,4'-DDT, 4,4'-DDD, 4,4'-DDE, Aroclor 1254, chlordane, dieldrin, heptachlor epoxide, and methoxychlor. Pesticides and PCBs were not detected in either of the background soil samples. Pesticide/PCB constituents are depicted in Figure 3-13 and are discussed below:

- 4,4'-DDT was detected at two locations, OT3920SA and OT3928SA, at 0.0134 mg/kg and 0.176 mg/kg, respectively. These locations are near the concrete containment pad and the equipment bay.

- 4,4'-DDD was detected at four locations, OT3911SA, OT3920SA, OT3926SA, and OT3928SA. The maximum sample concentration reported was 0.0342 mg/kg at OT3928SA.

- 4,4'-DDE was detected at nine locations, with a maximum sample concentration of 0.143 mg/kg at OT3928SA.

- Aroclor 1254 was detected at two locations, OT3909SA and OT3916SA, at 0.161 mg/kg and 0.181 mg/kg, respectively. These locations are in the fenced electric substation.

- Chlordane was detected at 8 of 28 sample locations. The maximum sample concentration reported was 0.110 mg/kg at OT 3920SA, near the concrete containment pad.

- Dieldrin was detected at three locations, OT3904SA, OT3910SA, and OT3926SA. The maximum sample concentration reported was 0.00331 mg/kg at OT3926SA, near the west edge of the site.

- Heptachlor epoxide was detected at one location, OT3920SA, at a concentration of 0.00175 mg/kg, below the PQL.

- Methoxychlor was detected at one location, OT3928SA, at a concentration of 0.0129 mg/kg, however this result was qualified as an estimated value due to blank contamination.

Chlorinated Herbicides - Herbicides detected in soil samples include 2,4,5-TP (Silvex) and MCPP. Herbicides were not detected in either of the background soil samples. Silvex was detected in two samples, OT3911SA and OT3917SA, at 0.00551 mg/kg and 0.00510 mg/kg,

respectively. MCPP was detected in sample OT3905SA at 4.05 mg/kg. Figure 3-14 depicts the locations where herbicides were detected.

Metals - Metals detected in soil samples include aluminum, antimony, arsenic, barium, beryllium, calcium, chromium, cobalt, copper, iron, lead, magnesium, manganese, molybdenum, nickel, potassium, selenium, sodium, vanadium, and zinc. All of the metal constituents reported were detected at one or both background locations with the exception of antimony and selenium. Aluminum, arsenic, barium, calcium, iron, lead, magnesium, manganese, nickel, potassium, sodium, vanadium, and zinc were detected at concentrations above the PQL in both samples. The following metals were detected at concentrations greater than the maximum background concentration:

- Aluminum results exceeded the maximum background concentration of 9,440 mg/kg at 2 of 28 sample locations. The maximum sample concentration reported was 10,800 mg/kg at OT3922SA.

- Antimony was detected at 10 of 28 sample locations as depicted in Figure 3-15. The maximum sample concentration reported was 3.17 mg/kg at OT3922A. Antimony was not detected in either background sample.

- Arsenic results exceeded the maximum background concentration of 2.23 mg/kg at 6 of 28 sample locations as depicted in Figure 3-16. The maximum sample concentration reported was 169 mg/kg at OT3907SA on the east edge of the site. Additional locations exceeding the background concentration are distributed across the site.

- Barium results exceeded the maximum background concentration of 122 mg/kg at 20 of 28 sample locations. The maximum sample concentration reported was 183 mg/kg at OT3911SA.

- Beryllium results exceeded the maximum background concentration of 0.634 mg/kg at 2 of 28 sample locations. Detections of beryllium were reported at 8 of 28 locations, as depicted in Figure 3-17. The maximum sample concentration reported was 1.81 mg/kg at OT3911SA. Seven of eight detections were encountered on the south side of the site.

- Calcium results exceeded the maximum background concentration of 106,000 mg/kg at 25 of 28 sample locations. The maximum sample concentration reported was 296,000 mg/kg at OT3906SA. Additional locations exceeding the background concentration are distributed across the site.

- Chromium results exceeded the maximum background concentration of 9.28 mg/kg at 12 of 28 sample locations as depicted in Figure 3-18. The maximum sample concentration reported was 32.7 mg/kg at OT3905SA located on the east edge of the site.

- Cobalt results exceeded the maximum background concentration of 3.57 mg/kg at 3 of 28 sample locations, however all of the results were less than the PQL.

- Copper results exceeded the maximum background concentration of 9.04 mg/kg at 13 of 28 sample locations. The maximum sample concentration reported was 24.8 mg/kg at OT3906SA located on the east edge of the site. Many of the concentrations exceeding the background were reported below the PQL.

- No iron results exceeded the maximum background concentration of 10,800 mg/kg reported at OT3901SA. However, 6 of 28 sample locations exceeded the secondary background concentration of 7,090 mg/kg reported at OT3902SA. The highest sample concentration reported was 9,630 mg/kg at OT3928SA.

- Lead results exceeded the maximum background concentration of 12.4 mg/kg at 13 of 28 sample locations as depicted in Figure 3-19. The maximum sample concentration reported was 86.0 mg/kg at OT3928SA located on the west edge of the site between the trailers. Additional results exceeding background were identified at OT3920SA near the concrete containment pad, at OT3905SA and OT3907SA on the east edge of the site, and at other locations distributed across the site.

- Magnesium results exceeded the maximum background concentration of 2,370 mg/kg at 5 of 28 sample locations. The maximum concentration reported was 3,140 mg/kg at OT3929SA located near the office.

- Manganese results exceeded the maximum background concentration of 334 mg/kg at 10 of 28 sample locations. The maximum concentration reported was 493 mg/kg at OT3911SA located on the south side of the site.

- Molybdenum results exceeded the maximum background concentration of 1.59 mg/kg at 7 of 28 sample locations, however many of the results were less than the PQL. The maximum concentration reported was 2.31 mg/kg at OT3918SA, located on the south side of the site.

- Nickel results exceeded the maximum background concentration of 114 mg/kg reported at OT3902SA, at 19 of 28 sample locations. Nickel exceeded the secondary background concentration of 8.72 mg/kg at 22 of 28 sample locations, as depicted in Figure 3-20. The maximum concentration reported was 257 mg/kg at OT3911SA, located on the south side of the site. Other locations exceeding background are distributed across the site.

- One potassium result exceeded the maximum background concentration of 2,170 mg/kg reported at OT3901SA. Potassium exceeded the secondary background concentration of 1,480 mg/kg at 12 of 28 locations. The highest reported concentration was 2,290 mg/kg at OT3929SA.

- Selenium was detected at 12 locations, however several results were reported below the PQL. The maximum concentration reported was 0.617 mg/kg at OT3914SA, located in the central portion of the site. Selenium was not detected in either background sample.

- Sodium results exceeded the maximum background concentration of 70.6 mg/kg at 27 of 28 sample locations, however 17 samples were qualified as estimated due to blank contamination. The maximum concentration reported was 550 mg/kg at OT3917SA, located on the south side of the site.

- None of the vanadium results exceeded the maximum background concentration of 17.4 mg/kg at OT3902SA, located on the north side of the site.

- Zinc results exceeded the maximum background concentration of 44.2 mg/kg at 21 of 28 sample locations. The maximum concentration reported was 122 mg/kg at OT3911SA, located on the south side of the site.

4.0 REGULATORY COMPARISON

The positive analytical results from the site investigation were compared to the appropriate Texas Natural Resource Conservation Commission (TNRCC) regulatory standards. The selection of regulatory standards was based on LAW's understanding of current land use and probable future land use at the facility.

4.1 REGULATORY STANDARDS

The TNRCC published the final Risk Reduction Standards in the Texas Register and the regulation was made effective June 29, 1993, (TNRCC, 1993). The standards were written for the protection of human health and the environment from exposure to contaminant releases. Under the Standards, closure of a contaminated area may be attained by applying Risk Reduction Standard Number 1, 2, or 3. Risk Reduction Standard Number 1 involves closure or remediation to background, or to the practical quantitation limit (PQL), if the PQL is greater than background. Standard Number 2 involves closure or remediation to health-based cleanup levels or medium specific concentrations (MSCs). The TNRCC has published MSCs for soil and ground water, for both industrial and residential land use. If industrial soil MSCs are used, the responsible party must register specific information about the site in the registry of county deeds, and future owners of the facility are required to undertake responsibility for post-closure care. Risk Reduction Standard Number 3 includes a baseline risk assessment for the purpose of assessing the potential risk to human health and the environment under existing site-specific conditions.

The scope of this site investigation was developed to determine the presence of site contaminants that may potentially impact human health through direct contact with surface soil, or through contamination of ground water or surface water. The land use at the two sites investigated is currently, and is expected to continue to be, industrial. Therefore, the industrial MSCs for soil were used for both the Soil/Air and Ingestion Standard (SAI-Ind) and the Soil-to-Ground Water Cross-Media Protection Concentration (GWP-Ind). The lower of the two criteria for any

detected constituent was used to determine whether a reported concentration exceeded the MSC value under Standard Number 2.

4.2 COMPARISON OF RESULTS TO REGULATORY STANDARDS

Background data were obtained for each of the two sites investigated in order to perform a comparison of metals constituents detected at the sites to naturally occurring concentrations. For metals occurring at concentrations exceeding background levels, results were also compared to MSC values (Tables 3-1 and 3-2). Organic constituents were compared directly to MSC values. When sample duplicate results were reported, the highest concentration was used for comparison purposes. Any result qualified as estimated due to blank contamination (JB) was not included in the sample data used for comparison.

4.2.1 Aerospace Museum Site

Eight metals were reported at concentrations exceeding both the site-specific background concentrations, as discussed in Section 3.1, and MSC criteria. A site map depicting the concentrations of these metals is presented in Figure 4-1.

- Antimony was reported in one background sample at a concentration greater than the MSC value of 0.6 mg/kg. Ten samples were reported with antimony concentrations greater than background and the MSC criteria.
- Arsenic was reported at concentrations greater than the MSC value of 3.27 mg/kg in three samples.
- Barium was reported at a concentration greater than the MSC value of 200 mg/kg in one sample.
- Beryllium was reported at concentrations greater than the MSC value of 0.4 mg/kg in 25 samples.
- Cadmium was reported at concentrations greater than the MSC value of 0.5 mg/kg in two samples.

- Chromium was reported in one background sample at 10.8 mg/kg, greater than the MSC value of 10.0 mg/kg. Eighteen samples were reported with chromium concentrations greater than the background sample and MSC value.

- Lead was reported in five samples at concentrations exceeding the secondary background sample and the MSC value of 1.5 mg/kg.

- Nickel was reported in thirty-two samples at concentrations exceeding the secondary background sample and the MSC value of 10.0 mg/kg.

All volatile and semi-volatile organic constituents detected were compared directly to the appropriate MSC values. All sample results reported for organic constituents were less than the MSC values.

4.2.2 Grounds Maintenance Yard

Six metals were reported at concentrations exceeding both the site-specific background concentrations, as discussed in Section 3.2, and MSC values. A site map depicting the concentrations of these metals is presented in Figure 4-2.

- Antimony was detected in ten samples at concentrations exceeding the MSC value of 0.6 mg/kg. Background samples were nondetect.

- Arsenic was detected in three samples at concentrations exceeding the MSC value of 3.27 mg/kg.

- Beryllium was reported in eight samples at concentrations exceeding the secondary background sample and the MSC value of 0.4 mg/kg.

- Chromium was reported in nine samples at concentrations exceeding the MSC value of 10.0 mg/kg.

- Lead was reported in thirteen samples at concentrations exceeding the MSC value of 1.5 mg/kg.

- Nickel was reported in twenty-one samples at concentrations exceeding the secondary background sample and the MSC value of 10.0 mg/kg.

All organic constituents detected, including pesticides/PCBs, herbicides, volatile organics, and semi-volatile organics, were compared directly to the appropriate MSC criteria. The sample results reported for all organic constituents were less than the MSC criteria with the following exceptions: one sample contained bis(2-ethylhexyl)phthalate exceeding the MSC criterion of 2.04 mg/kg; one sample contained both 4,4'-DDT and 4,4'-DDE each exceeding the MSC criterion of 0.0841 mg/kg; one sample contained dieldrin exceeding the MSC criterion of 0.00179 mg/kg; and two samples contained Aroclor 1254 exceeding the MSC criterion of 0.05 mg/kg.

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 SUMMARY OF FINDINGS

A summary of findings based on the results of the soil analyses performed during the site investigations are presented in the following sections.

5.1.1 Aerospace Museum Site

Soil samples collected at the Aerospace Museum Site contained metals, volatile organic, and semi-volatile organic constituents. Toluene was detected in samples throughout the site, including background locations. The toluene results may be attributable to widespread ambient contamination or laboratory contamination; however, no contamination was detected in the associated field or laboratory QC blanks. Methylene chloride was detected at only one location at the site. All detections of volatile compounds were less than the MSC criteria.

Polynuclear aromatic hydrocarbon compounds were detected throughout the site, including the background sample collected north of the site. The highest concentrations encountered were in the northern area of the site adjacent to Farmers Branch. The presence of PAH constituents could be the result of surficial spills of petroleum products, oils, or lubricants previously documented at this site. None of the individual PAH constituents exceeded the MSC criteria.

Phthalates were detected at concentrations less than the MSC criteria. The presence of phthalates at low levels may be due to the prevalence of phthalate compounds in the environment, and thus may be unrelated to previous site activities.

Samples collected from four locations exhibited maximum concentrations for multiple metals. Chromium and copper concentrations were highest at location OT3801SA; aluminum, magnesium, and potassium concentrations were highest at location OT3824SA; iron, lead, molybdenum, and sodium concentrations were highest at location OT3840SA; and antimony,

arsenic, nickel, and zinc were highest at location OT3848SA. These four locations are near the site perimeter on the northeast, west, southwest, and southeast boundaries of the site. Locations OT3801SA and OT3840SA are adjacent to Farmers Branch, which flows along the northern and eastern boundary of the site, and eventually empties into the West Fork of the Trinity River.

Of the 22 metal constituents detected at the site, all 22 were reported at concentrations exceeding background levels at one or more locations. Of these, the following eight metals also exceeded MSC criteria: antimony, arsenic, barium, beryllium, cadmium, chromium, lead, and nickel. However, the background data collected during this investigation may not be representative of base-wide background concentrations, as discussed in section 3.0. As a result, the findings for metals detected at the site are inconclusive.

5.1.2 Grounds Maintenance Yard

Soil samples collected at the Grounds Maintenance Yard contained metals, volatile organics, semi-volatile organics, pesticides/PCBs, and chlorinated herbicides. Seven volatile constituents were detected, including acetone, 2-butanone (MEK), carbon disulfide, methylene chloride, tetrachloroethene, toluene, and xylenes. Toluene was detected in samples throughout the site, including the two background locations. The toluene results may be attributable to widespread ambient contamination or laboratory contamination; however, no contamination was detected in the associated field or laboratory QC blanks. Methylene chloride was detected at five locations, acetone was detected at three locations, 2-butanone and tetrachloroethene were detected at two locations, and carbon disulfide and xylenes were detected at one location. The presence of low levels of volatile constituents may be related to solvent usage for the purpose of cleaning the equipment stored at the site. All detections of volatile compounds were less than the MSC criteria.

Polynuclear aromatic hydrocarbon compounds were detected throughout the site. However, the highest concentrations occurred adjacent to the concrete containment pad and directly east (downgradient) of that location. The presence of PAH constituents could be the result of

surficial spills of petroleum products, oils, or lubricants associated with site activities. None of the individual PAH constituents exceeded the MSC criteria.

All phthalates detected were at concentrations less than the MSC criteria except for bis(2-ethylhexyl)phthalate. The highest concentration detected was at a location near the eastern site boundary. The source of this contamination is unknown; however, phthalates are commonly occurring environmental contaminants.

Pesticides were detected at the site in areas where mixing and handling of these substances likely occurred. Location OT3928SA, between the trailers on the west side of the site, exhibited the maximum concentrations of 4,4'-DDT, 4,4'-DDD, 4,4'-DDE, and methoxychlor. Location OT3920SA, adjacent to the concrete containment pad, exhibited the maximum concentration of chlordane at the site. In addition, heptachlor epoxide, 4,4'-DDT, and 4,4'-DDD were also detected adjacent to the pad. PCBs were detected at two locations in a drainage feature downgradient of the electric substation. Aroclor 1254 concentrations were greater than the MSC criteria at these locations. All pesticide concentrations were less than the MCS criteria with the exception of 4,4'-DDT, 4,4'-DDE, and dieldrin.

The chlorinated herbicides Silvex and MCPP were detected at three locations at the site, but at concentrations less than the MSC criteria. The presence of herbicides is consistent with the historic use of the maintenance yard.

Location OT3911SA, downgradient from both the concrete pads and the mower storage area, exhibited the maximum concentrations for five metals: barium, beryllium, manganese, nickel, and zinc. The presence of arsenic and lead at locations OT3928SA and OT3921SA, adjacent to and downgradient of the pesticide storage area, could be related to pesticides also found at these locations.

Of the 20 metal constituents detected at the site, 18 were reported at concentrations that exceeded background levels at one or more locations. Of these, the following six metals also

exceeded MSC criteria: antimony, arsenic, chromium, lead, and nickel. However, the background data collected during this investigation may not be representative of base-wide background concentrations, as discussed in Section 3.0. As a result, the findings for metals detected at the site are inconclusive.

5.2 RECOMMENDATIONS

Based on the results of the investigations performed at the Aerospace Museum Site and Grounds Maintenance Yard, LAW has prepared the following recommendations.

5.2.1 Aerospace Museum Site

- Polynuclear aromatic hydrocarbons detected in the northern area of the site adjacent to Farmers Branch have not been fully delineated. LAW recommends sampling of Farmers Branch sediments to determine whether PAH constituents pose a threat to surface water. Additional soil sampling may also be necessary to define the vertical extent of PAH contamination.

- Metals data from this investigation were inconclusive because the data from the two background samples do not appear to be representative of true background levels when compared to metals concentrations reported from the site. LAW recommends that the results of the planned base-wide background study be used to reevaluate this site for concentrations of metals.

5.2.2 Grounds Maintenance Yard

- Volatile organic compounds, PAH compounds, and bis(2-ethylhexyl)phthalate detected at the site have not been fully delineated. LAW recommends additional soil sampling to fully delineate the horizontal and vertical extent of these constituents.

- Pesticides/PCBs detected at the site have not been fully delineated. LAW recommends additional sampling to determine the horizontal and vertical extent of these constituents. PCBs may pose a risk due to off-site migration via surface drainage features. LAW recommends containment of run-off from the electric substation to reduce off-site migration, and removal of the PCB source and contaminated soils.

TABLE C-1

DATA SUMMARY TABLE
Aerospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD(UNITS)	Quantitation Limits	Sample ID Sample Date Depth Notes	OT3801SA 22-OCT-95 0.0' - 2.0'	OT3802SA 22-OCT-95 0.0' - 2.0'	OT3803SA 22-OCT-95 0.0' - 2.0'	OT3804SA 22-OCT-95 0.0' - 2.0'	OT3805SA 22-OCT-95 0.0' - 2.0'
SOIL pH - SW9045/NONE (pH)							
623-9045 pH units Soil			7.84	7.73	7.37	7.74	7.32
PERCENT SOLID - D2216 /NONE (percent)							
623-D2216 Moisture			6.00	4.00	17.0	21.0	9.00
METALS, TOTAL BY ICP/SW6010/SW3050 (mg/kg)							
Aluminum	50.0		4190	2640	12900	7950	7130
Antimony	25.0		2.08 JQ	1.72 JQ	<20.6	2.44 JQ	<20.4
Barium	2.00		80.0	89.9	129	122	83.6
Beryllium	0.300		<2.40	<2.25	0.908	0.584	0.570
Cadmium	1.00		<0.800	<0.749	<0.825	<0.974	<0.814
Calcium	10.0		173000	209000	62700	77400	114000
Chromium	5.00		40.8	7.49 JQ	12.0	9.25	11.3
Cobalt	5.00		2.08 JQ	1.42 JQ	5.36	5.55	4.64
Copper	5.00		24.8 JQ	6.74 JQ	8.66	8.28	7.73
Iron	5.00		6880	3690	11400	11600	10500
Magnesium	5.00		1960	2090	2300	1740	1880
Manganese	25.0		370	389	574	526	353
Molybdenum	1.00		1.52 JQ	<3.74	1.98 JQ	2.34	2.04 JQ
Nickel	5.00		214	198	11.0	10.4	8.22
Potassium	5.00		966	61.4 JH	1880 JH	1450	1520 JH
Silver	60.0		3.36 JQ	<3.74	<4.12	<4.87	<4.07
Sodium	5.00		81.8	58.3 JB	155	94.4	79.7 JB
Thallium	25.0		<20.0	<18.7	<20.6	<24.4	<20.4
Vanadium	25.0		11.8	7.86	28.1	20.6	21.4
Zinc	5.00		127	70.3	29.6	35.7	26.6
ARSENIC, TOTAL BY GFAA/SW 7060 (mg/kg)							
Arsenic	1.00		1.87	1.07	1.73	2.78	1.77
LEAD, TOTAL BY GFAA/SW 7421 (mg/kg)							
Lead	0.500		227	12.6	26.6	33.0	21.0
MERCURY, TOTAL BY CVAA/SW 7471 (mg/kg)							
Mercury	0.242		<0.226	<0.260	<0.265	<0.286	<0.229
SELENIUM, TOTAL BY GFAA/SW 7740/METHOD (mg/kg)							
Selenium	0.500		<0.409 JL	<0.347	<0.456	0.0940 JL	<0.366
VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8240/NONE (mg/kg)							
1,1,1-Trichloroethane	0.00500		<0.00528	<0.00572	<0.00604	<0.00643	<0.00561
1,1,2,2-Tetrachloroethane	0.00500		<0.00528	<0.00572	<0.00604	<0.00643	<0.00561
1,1,2-Trichloroethane	0.00500		<0.00528	<0.00572	<0.00604	<0.00643	<0.00561
1,1-Dichloroethane	0.00500		<0.00528	<0.00572	<0.00604	<0.00643	<0.00561
1,1-Dichloroethene	0.00500		<0.00528	<0.00572	<0.00604	<0.00643	<0.00561

TABLE C-1

DATA SUMMARY TABLE
Aerospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD(UNITS)	Quantitation Limits	Sample ID Sample Date Depth Notes	OT3801SA 22-OCT-95 0.0' - 2.0'	OT3802SA 22-OCT-95 0.0' - 2.0'	OT3803SA 22-OCT-95 0.0' - 2.0'	OT3804SA 22-OCT-95 0.0' - 2.0'	OT3805SA 22-OCT-95 0.0' - 2.0'
VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8240/NONE (mg/kg) cont'd.							
1,2-Dichloroethane	0.00500		<0.00528	<0.00572	<0.00604	<0.00643	<0.00561
1,2-Dichloropropane	0.00500		<0.00528	<0.00572	<0.00604	<0.00643	<0.00561
2-Butanone (MEK)	0.0100		<0.0106	<0.0114	<0.0121	<0.0129	<0.0112
2-Chloroethyl vinyl ether	0.0100		<0.0106 R	<0.0114 J	<0.0121 J	<0.0129 R	<0.0112 J
2-Hexanone	0.0100		<0.0106 J	<0.0114	<0.0121	<0.0129 J	<0.0112
4-Methyl-2-pentanone	0.0100		<0.0106	<0.0114	<0.0121	<0.0129	<0.0112
Acetone	0.0100		<0.0106 J	<0.0114	<0.0121	<0.0129 J	<0.0112
Benzene	0.00500		<0.00528	<0.00572	<0.00604	<0.00643	<0.00561
Bromodichloromethane	0.00500		<0.00528	<0.00572	<0.00604	<0.00643	<0.00561
Bromoform	0.00500		<0.00528	<0.00572	<0.00604	<0.00643	<0.00561
Bromomethane	0.0100		<0.0106	<0.0114	<0.0121	<0.0129	<0.0112
Carbon disulfide	0.00500		<0.00528	<0.00572	<0.00604	<0.00643	<0.00561
Carbon tetrachloride	0.00500		<0.00528	<0.00572	<0.00604	<0.00643	<0.00561
Chlorobenzene	0.00500		<0.00528	<0.00572	<0.00604	<0.00643	<0.00561
Chloroethane	0.0100		<0.0106 J	<0.0114 J	<0.0121 J	<0.0129 J	<0.0112 J
Chloroform	0.00500		<0.00528	<0.00572	<0.00604	<0.00643	<0.00561
Chloromethane	0.0100		<0.0106	<0.0114	<0.0121	<0.0129	<0.0112
Dibromochloromethane	0.00500		<0.00528	<0.00572	<0.00604	<0.00643	<0.00561
Ethylbenzene	0.00500		<0.00528	<0.00572	<0.00604	<0.00643	<0.00561
Methylene chloride	0.00500		<0.00528	<0.00572	<0.00604	0.00628 JQ	<0.00561
Styrene	0.00500		<0.00528	<0.00572	<0.00604	<0.00643	<0.00561
Tetrachloroethene	0.00500		<0.00528	<0.00572	<0.00604	<0.00643	<0.00561
Toluene	0.00500		0.00375 JQ	0.0178	<0.00604	<0.00643	0.0129
Trichloroethene	0.00500		<0.00528	<0.00572	<0.00604	<0.00643	<0.00561
Vinyl acetate	0.0100		<0.0106	<0.0114	<0.0121	<0.0129	<0.0112
Vinyl chloride	0.0100		<0.0106	<0.0114	<0.0121	<0.0129	<0.0112
Xylenes (total)	0.00500		<0.00528	<0.00572	<0.00604	<0.00643	<0.00561
cis-1,2-Dichloroethene	0.00500		<0.00528	<0.00572	<0.00604	<0.00643	<0.00561
cis-1,3-Dichloropropene	0.00500		<0.00528	<0.00572	<0.00604	<0.00643	<0.00561
trans-1,2-Dichloroethene	0.00500		<0.00528	<0.00572	<0.00604	<0.00643	<0.00561
trans-1,3-Dichloropropene	0.00500		<0.00528	<0.00572	<0.00604	<0.00643	<0.00561
% Surrogate Recovery (Control Limit)							
sur-1,2-Dichloroethane-d4 R% (70 - 121)	-		107.0	105.9	104.0	104.0	103.9
sur-Bromofluorobenzene R% (74 - 121)	-		90.0	87.9	91.9	93.0	93.0
sur-Toluene-d8 R% (81 - 117)	-		94.9	104.0	99.0	100.0	100.0
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8270/SW3550 (mg/kg)							
1,2,4-Trichlorobenzene	0.333		<3.51	<0.347	<0.399	<0.417	<0.361
1,2-Dichlorobenzene	0.333		<3.51	<0.347	<0.399	<0.417	<0.361
1,3-Dichlorobenzene	0.333		<3.51	<0.347	<0.399	<0.417	<0.361
1,4-Dichlorobenzene	0.333		<3.51	<0.347	<0.399	<0.417	<0.361
2,4,5-Trichlorophenol	0.667		<7.03	<0.693	<0.799	<0.834	<0.721
2,4,6-Trichlorophenol	0.333		<3.51	<0.347	<0.399	<0.417	<0.361
2,4-Dichlorophenol	0.333		<3.51	<0.347	<0.399	<0.417	<0.361
2,4-Dimethylphenol	0.333		<3.51	<0.347	<0.399	<0.417	<0.361
2,4-Dinitrophenol	1.67		<17.6	<1.73 J	<2.00 J	<2.09 J	<1.80 J

TABLE C-1

DATA SUMMARY TABLE
Aerospace Museum Site
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Fort Worth, Texas

PARAMETER/METHOD(UNITS)	Quantitation Limits	Sample ID Sample Date Depth Notes	OT3801SA 22-OCT-95 0.0' - 2.0'	OT3802SA 22-OCT-95 0.0' - 2.0'	OT3803SA 22-OCT-95 0.0' - 2.0'	OT3804SA 22-OCT-95 0.0' - 2.0'	OT3805SA 22-OCT-95 0.0' - 2.0'
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8270/SW3550 (mg/kg) cont'd.							
2,6-Dinitrotoluene	0.333		<3.51	<0.347	<0.399	<0.417	<0.361
2-Chloronaphthalene	0.333		<3.51	<0.347	<0.399	<0.417	<0.361
2-Chlorophenol	0.333		<3.51	<0.347	<0.399	<0.417	<0.361
2-Methylnaphthalene	0.333		<3.51	<0.347	<0.399	<0.417	<0.361
2-Methylphenol	0.333		<3.51	<0.347	<0.399	<0.417	<0.361
2-Nitroaniline	1.67		<17.6	<1.73	<2.00	<2.09	<1.80
2-Nitrophenol	0.333		<3.51	<0.347	<0.399	<0.417	<0.361
3,3'-Dichlorobenzidine	0.667		<7.03	<0.693 J	<0.799 J	<0.834	<0.721 J
3-Nitroaniline	1.67		<17.6	<1.73	<2.00	<2.09	<1.80
4,6-Dinitro-2-methylphenol	1.67		<17.6	<1.73	<2.00	<2.09	<1.80
4-Bromophenyl phenyl ether	0.333		<3.51	<0.347	<0.399	<0.417	<0.361
4-Chloro-3-methylphenol	0.333		<3.51	<0.347	<0.399	<0.417	<0.361
4-Chloroaniline	0.667		<7.03 J	<0.693	<0.799	<0.834 J	<0.721
4-Chlorophenyl phenyl ether	0.333		<3.51	<0.347	<0.399	<0.417	<0.361
4-Methylphenol	0.333		<3.51	<0.347	<0.399	<0.417	<0.361
4-Nitroaniline	1.67		<17.6	<1.73	<2.00	<2.09	<1.80
4-Nitrophenol	1.67		<17.6	<1.73	<2.00	<2.09	<1.80
Acenaphthene	0.333		1.40 JQ	<0.347	<0.399	<0.417	<0.361
Acenaphthylene	0.333		<3.51	<0.347	<0.399	<0.417	<0.361
Anthracene	0.333		2.24 JQ	<0.347	<0.399	<0.417	<0.361
Benz(a)anthracene	0.333		3.60	0.0395 J	<0.399	<0.417	<0.361
Benzo(a)pyrene	0.333		2.37 JQ	<0.347 J	<0.399	<0.417	<0.361
Benzo(b)fluoranthene	0.333		4.81	0.0322 J	<0.399	<0.417	<0.361
Benzo(g,h,i)perylene	0.333		<3.51	<0.347 J	<0.399	<0.417	<0.361
Benzo(k)fluoranthene	0.333		<3.51	<0.347 J	<0.399	<0.417	<0.361
Benzoic acid	1.67		<17.6	<1.73	<2.00	<2.09	<1.80
Benzyl alcohol	0.667		<7.03	<0.693	<0.799	<0.834	<0.721
Butyl benzyl phthalate	0.333		<3.51	<0.347 J	<0.399	<0.417	<0.361
Chrysene	0.333		3.32 JQ	0.0458 J	<0.399	<0.417	<0.361
Di-n-butylphthalate	0.333		<3.51	<0.347	<0.399	0.0266 JQ	<0.361
Di-n-octylphthalate	0.333		<3.51	<0.347 J	<0.399	<0.417	<0.361
Dibenz(a,h)anthracene	0.333		<3.51	<0.347 J	<0.399	<0.417	<0.361
Dibenzofuran	0.333		1.04 JQ	<0.347	<0.399	<0.417	<0.361
Diethylphthalate	0.333		<3.51	<0.347	<0.399	<0.417	<0.361
Dimethylphthalate	0.333		<3.51	<0.347	<0.399	<0.417	<0.361
Fluoranthene	0.333		7.89 JQ	0.0565 JQ	<0.399	0.103 JQ	<0.361
Fluorene	0.333		1.06 JQ	<0.347	<0.399	<0.417	<0.361
Hexachlorobenzene	0.333		<3.51	<0.347	<0.399	<0.417	<0.361
Hexachlorobutadiene	0.333		<3.51	<0.347	<0.399	<0.417	<0.361
Hexachlorocyclopentadiene	0.333		<3.51	<0.347 J	<0.399	<0.417 J	<0.361
Hexachloroethane	0.333		<3.51	<0.347	<0.399	<0.417	<0.361
Indeno(1,2,3-cd)pyrene	0.333		<3.51	<0.347 J	<0.399	<0.417	<0.361
Isophorone	0.333		<3.51	<0.347	<0.399	<0.417	<0.361
Naphthalene	0.333		1.09 JQ	<0.347	<0.399	<0.417	<0.361
Nitrobenzene	0.333		<3.51	<0.347	<0.399	<0.417	<0.361
Pentachlorophenol	1.00		<10.6	<1.04	<1.20	<1.25	<1.08
Phenanthrene	0.333		10.1	0.0551 JQ	<0.399	<0.417	<0.361

TABLE C-1

DATA SUMMARY TABLE
Aerospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD(UNITS)	Quantitation Limits	Sample ID Sample Date Depth Notes	OT3801SA 22-OCT-95 0.0' - 2.0'	OT3802SA 22-OCT-95 0.0' - 2.0'	OT3803SA 22-OCT-95 0.0' - 2.0'	OT3804SA 22-OCT-95 0.0' - 2.0'	OT3805SA 22-OCT-95 0.0' - 2.0'
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8270/SW3550 (mg/kg) cont'd.							
Phenol	0.333		<3.51	<0.347	<0.399	<0.417	<0.361
Pyrene	0.333		8.54	0.147 J	<0.399	0.121 JQ	<0.361
bis(2-Chloroethoxy)methane	0.333		<3.51	<0.347	<0.399	<0.417	<0.361
bis(2-Chloroethyl)ether	0.333		<3.51	<0.347	<0.399	<0.417	<0.361
bis(2-Chloroisopropyl)ether	0.333		<3.51 JL	<0.347 JL	<0.399 JL	<0.417 JL	<0.361 JL
bis(2-Ethylhexyl)phthalate	0.333		<3.51	0.382 J	<0.399	1.09	<0.361
n-Nitrosodi-n-propylamine	0.333		<3.51	<0.347	<0.399	<0.417	<0.361
n-Nitrosodiphenylamine	0.333		<3.51	<0.347	<0.399	<0.417	<0.361
% Surrogate Recovery (Control Limit)							
sur-2,4,6-Tribromophenol R% (19 - 122)	-		22.1	78.1	65.9	55.0	66.0
sur-2-Fluorobiphenyl R% (30 - 115)	-		63.1	76.9	79.9	65.0	67.0
sur-2-Fluorophenol R% (25 - 121)	-		23.0	61.0	66.9	46.0	56.9
sur-Nitrobenzene-d5 R% (23 - 120)	-		23.0	66.0	64.2	52.0	54.8
sur-Phenol-d6 R% (24 - 113)	-		22.1	64.0	63.9	61.0	56.0
sur-Terphenyl-d14 R% (18 - 137)	-		69.1	122.8	85.0	94.0	75.1

Data Qualification Flags/Notes:
J = Estimated quantation based upon QC data
JB = Estimated quantitation: possibly biased high or a false positive based upon blank data
JH = Estimated quantitation: possibly biased high based upon QC data
JL = Estimated quantitation: possibly biased low or a false negative based upon QC data
JQ = Estimated quantitation: detected below the Practical Quantitation Limit
R = Datum rejected based upon QC data do not use

TABLE C-1

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Aerospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD(UNITS)	Quantitation Limits	Sample ID Sample Date Depth Notes	OT3806SA 22-OCT-95 0.0' - 2.0'	OT3807SA 22-OCT-95 0.0' - 2.0'	OT3808SA 22-OCT-95 0.0' - 2.0'	OT3809SA 22-OCT-95 0.0' - 2.0'	OT3810SA 22-OCT-95 0.0' - 2.0'	OT3811SA 22-OCT-95 0.0' - 2.0'
SOIL pH - SW9045/NONE (pesu)								
623-9045 pH units Soil	-		7.54	7.50	7.55	7.42	7.33	7.45
PERCENT SOLID - D2216 /NONE (percent)								
623-D2216 Moisture	-		9.00	15.0	14.0	10.0	11.0	11.0
METALS, TOTAL BY ICP/SW6010/SW3050 (mg/kg)								
Aluminum	50.0		3320	7490	11700	6230	8970	8120
Antimony	25.0		2.47 JQ	<22.6	<22.2	1.69 JQ	<20.4	<20.4
Barium	2.00		83.8	112	118	78.1	104	115
Beryllium	0.300		<2.24	0.724	0.799	<2.30	0.651	0.570
Cadmium	1.00		0.972	<0.905	<0.888	0.843	<0.814	<0.814
Calcium	10.0		195000	55000	48700	140000	82300	98100 J
Chromium	5.00		18.7 JQ	10.9	10.4	13.0 JQ	9.12	8.95
Cobalt	5.00		2.09 JQ	4.89	3.91 JQ	2.76 JQ	7.49	4.64
Copper	5.00		15.7 JQ	7.87	9.15	6.89 JQ	7.98	7.00
Iron	5.00		4870	8710	7400	6680	10300	7440
Magnesium	25.0		2040	2200	2160	1990	2140	2190
Manganese	1.00		435	422	291	351	572	457
Molybdenum	5.00		<3.74	1.81 JQ	<4.44	2.22 JQ	1.79 JQ	<4.07
Nickel	5.00		198	10.5	8.97	205	9.28	8.79 J
Potassium	60.0		980 JH	1570 JH	1710	1370 JH	1790 JH	1530 JH
Silver	5.00		<3.74	<4.52	<4.44	<3.83	<4.07	<4.07
Sodium	25.0		52.7 JB	277	134	62.5 JB	97.8 JB	61.3 JB
Thallium	25.0		<18.7	<22.6	<22.2	<19.2	<20.4	<20.4
Vanadium	5.00		9.42	25.6	21.0	17.2	17.6	19.5
Zinc	1.00		83.0	27.1	25.4	81.2	31.2	21.2 J
ARSENIC, TOTAL BY GFAA/SW 7060 (mg/kg)								
Arsenic	0.500		1.61	1.65	3.00	1.95	2.04	2.05
LEAD, TOTAL BY GFAA/SW 7421 (mg/kg)								
Lead	0.500		26.3	49.4	25.4	19.1	19.0	17.0
MERCURY, TOTAL BY CVAA/SW 7471 (mg/kg)								
Mercury	0.242		<0.249	<0.273	<0.266	<0.204	<0.249	<0.264
SELENIUM, TOTAL BY GFAA/SW 7740/METHOD (mg/kg)								
Selenium	0.500		<0.413	<0.355	<0.424 JL	<1.89	<0.407	<0.416
VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8240/NONE (mg/kg)								
1,1,1-Trichloroethane	0.00500		<0.00578	<0.00593	<0.00584	<0.00579	<0.00605	<0.00571
1,1,2,2-Tetrachloroethane	0.00500		<0.00578	<0.00593	<0.00584	<0.00579	<0.00605	<0.00571
1,1,2-Trichloroethane	0.00500		<0.00578	<0.00593	<0.00584	<0.00579	<0.00605	<0.00571
1,1-Dichloroethane	0.00500		<0.00578	<0.00593	<0.00584	<0.00579	<0.00605	<0.00571
1,1-Dichloroethene	0.00500		<0.00578	<0.00593	<0.00584	<0.00579	<0.00605	<0.00571

TABLE C-1

DATA SUMMARY TABLE
Aerospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD(UNITS)	Quantitation Limits	Sample ID Sample Date Depth Notes	OT3806SA 22-OCT-95 0.0' - 2.0'	OT3807SA 22-OCT-95 0.0' - 2.0'	OT3808SA 22-OCT-95 0.0' - 2.0'	OT3809SA 22-OCT-95 0.0' - 2.0'	OT3810SA 22-OCT-95 0.0' - 2.0'	OT3811SA 22-OCT-95 0.0' - 2.0'
VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8240/NONE (mg/kg) cont'd.								
1,2-Dichloroethane	0.00500		<0.00578	<0.00593	<0.00584	<0.00579	<0.00605	<0.00571
1,2-Dichloropropane	0.00500		<0.00578	<0.00593	<0.00584	<0.00579	<0.00605	<0.00571
2-Butanone (MEK)	0.0100		<0.0116	<0.0119	<0.0117	<0.0116	<0.0121	<0.0114
2-Chloroethyl vinyl ether	0.0100		<0.0116 J	<0.0119 J	<0.0117 R	<0.0116 J	<0.0121 J	<0.0114 J
2-Hexanone	0.0100		<0.0116	<0.0119	<0.0117 J	<0.0116	<0.0121	<0.0114
4-Methyl-2-pentanone	0.0100		<0.0116	<0.0119	<0.0117	<0.0116	<0.0121	<0.0114
Acetone	0.0100		<0.0116	<0.0119	<0.0117 J	<0.0116	<0.0121	<0.0114
Benzene	0.00500		<0.00578	<0.00593	<0.00584	<0.00579	<0.00605	<0.00571
Bromodichloromethane	0.00500		<0.00578	<0.00593	<0.00584	<0.00579	<0.00605	<0.00571
Bromoform	0.00500		<0.00578	<0.00593	<0.00584	<0.00579	<0.00605	<0.00571
Bromomethane	0.0100		<0.0116	<0.0119	<0.0117	<0.0116	<0.0121	<0.0114
Carbon disulfide	0.00500		<0.00578	<0.00593	<0.00584	<0.00579	<0.00605	<0.00571
Carbon tetrachloride	0.00500		<0.00578	<0.00593	<0.00584	<0.00579	<0.00605	<0.00571
Chlorobenzene	0.00500		<0.00578	<0.00593	<0.00584	<0.00579	<0.00605	<0.00571
Chloroethane	0.0100		<0.0116 J	<0.0119 J	<0.0117 J	<0.0116 J	<0.0121 J	<0.0114 J
Chloroform	0.00500		<0.00578	<0.00593	<0.00584	<0.00579	<0.00605	<0.00571
Chloromethane	0.0100		<0.0116	<0.0119	<0.0117	<0.0116	<0.0121	<0.0114
Dibromochloromethane	0.00500		<0.00578	<0.00593	<0.00584	<0.00579	<0.00605	<0.00571
Ethylbenzene	0.00500		<0.00578	<0.00593	<0.00584	<0.00579	<0.00605	<0.00571
Methylene chloride	0.00500		<0.00578	<0.00593	<0.00584	<0.00579	<0.00605	<0.00571
Styrene	0.00500		<0.00578	<0.00593	<0.00584	<0.00579	<0.00605	<0.00571
Tetrachloroethene	0.00500		<0.00578	<0.00593	<0.00584	<0.00579	<0.00605	<0.00571
Toluene	0.00500		<0.00578	0.00261 JQ	<0.00584	0.0149	0.00133 JQ	0.0115
Trichloroethene	0.00500		<0.00578	<0.00593	<0.00584	<0.00579	<0.00605	<0.00571
Vinyl acetate	0.0100		<0.0116	<0.0119	<0.0117	<0.0116	<0.0121	<0.0114
Vinyl chloride	0.0100		<0.0116	<0.0119	<0.0117	<0.0116	<0.0121	<0.0114
Xylenes (total)	0.00500		<0.00578	<0.00593	<0.00584	<0.00579	<0.00605	<0.00571
cis-1,2-Dichloroethene	0.00500		<0.00578	<0.00593	<0.00584	<0.00579	<0.00605	<0.00571
cis-1,3-Dichloropropene	0.00500		<0.00578	<0.00593	<0.00584	<0.00579	<0.00605	<0.00571
trans-1,2-Dichloroethene	0.00500		<0.00578	<0.00593	<0.00584	<0.00579	<0.00605	<0.00571
trans-1,3-Dichloropropene	0.00500		<0.00578	<0.00593	<0.00584	<0.00579	<0.00605	<0.00571
% Surrogate Recovery (Control Limit)								
sur-1,2-Dichloroethane-d4 R% (70 - 121)	-		104.0	101.0	103.9	110.0	105.0	107.0
sur-Bromofluorobenzene R% (74 - 121)	-		92.0	92.9	92.0	92.1	88.9	87.0
sur-Toluene-d8 R% (81 - 117)	-		105.0	101.0	96.9	98.1	99.0	101.1
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8270/SW3550 (mg/kg)								
1,2,4-Trichlorobenzene	0.333		<0.361	<0.388	<0.384	<0.367	<0.369	<0.371
1,2-Dichlorobenzene	0.333		<0.361	<0.388	<0.384	<0.367	<0.369	<0.371
1,3-Dichlorobenzene	0.333		<0.361	<0.388	<0.384	<0.367	<0.369	<0.371
1,4-Dichlorobenzene	0.333		<0.361	<0.388	<0.384	<0.367	<0.369	<0.371
2,4,5-Trichlorophenol	0.667		<0.723	<0.777	<0.769	<0.734	<0.739	<0.743
2,4,6-Trichlorophenol	0.333		<0.361	<0.388	<0.384	<0.367	<0.369	<0.371
2,4-Dichlorophenol	0.333		<0.361	<0.388	<0.384	<0.367	<0.369	<0.371
2,4-Dimethylphenol	0.333		<0.361	<0.388	<0.384	<0.367	<0.369	<0.371
2,4-Dinitrophenol	1.67		<1.81 J	<1.94 J	<1.92 J	<1.84 J	<1.85 J	<1.86 J

TABLE C-1

DATA SUMMARY TABLE
Areospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD(UNITS)	Quantitation Limits	Sample ID Sample Date Depth Notes	OT3806SA 22-OCT-95 0.0' - 2.0'	OT3807SA 22-OCT-95 0.0' - 2.0'	OT3808SA 22-OCT-95 0.0' - 2.0'	OT3809SA 22-OCT-95 0.0' - 2.0'	OT3810SA 22-OCT-95 0.0' - 2.0'	OT3811SA 22-OCT-95 0.0' - 2.0'
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8270/SW3550 (mg/kg) cont'd.								
2,6-Dinitrotoluene	0.333		<0.361	<0.388	<0.384	<0.367	<0.369	<0.371
2-Chloronaphthalene	0.333		<0.361	<0.388	<0.384	<0.367	<0.369	<0.371
2-Chlorophenol	0.333		<0.361	<0.388	<0.384	<0.367	<0.369	<0.371
2-Methylnaphthalene	0.333		<0.361	<0.388	<0.384	<0.367	<0.369	<0.371
2-Methylphenol	0.333		<0.361	<0.388	<0.384	<0.367	<0.369	<0.371
2-Nitroaniline	1.67		<1.81	<1.94	<1.92	<1.84	<1.85	<1.86
2-Nitrophenol	0.333		<0.361	<0.388	<0.384	<0.367	<0.369	<0.371
3,3'-Dichlorobenzidine	0.667		<0.723 J	<0.777 J	<0.769	<0.734 J	<0.739 J	<0.743 J
3-Nitroaniline	1.67		<1.81	<1.94	<1.92	<1.84	<1.85	<1.86
4,6-Dinitro-2-methylphenol	1.67		<1.81	<1.94	<1.92	<1.84 J	<1.85 J	<1.86
4-Bromophenyl phenyl ether	0.333		<0.361	<0.388	<0.384	<0.367	<0.369	<0.371
4-Chloro-3-methylphenol	0.333		<0.361	<0.388	<0.384	<0.367	<0.369	<0.371
4-Chloroaniline	0.667		<0.723	<0.777	<0.769 J	<0.734	<0.739	<0.743
4-Chlorophenyl phenyl ether	0.333		<0.361	<0.388	<0.384	<0.367	<0.369	<0.371
4-Methylphenol	0.333		<0.361	<0.388	<0.384	<0.367	<0.369	<0.371
4-Nitroaniline	1.67		<1.81	<1.94	<1.92	<1.84	<1.85	<1.86
4-Nitrophenol	1.67		<1.81	<1.94	<1.92	<1.84	<1.85	<1.86
Acenaphthene	0.333		<0.361	<0.388	<0.384	<0.367	<0.369	<0.371
Acenaphthylene	0.333		<0.361	<0.388	<0.384	<0.367	<0.369	<0.371
Anthracene	0.333		<0.361	<0.388	<0.384	<0.367	<0.369	<0.371
Benz(a)anthracene	0.333		<0.361	<0.388	<0.384	<0.367 J	0.0440 JQ	<0.371
Benzo(a)pyrene	0.333		0.0448 J	<0.388	<0.384	<0.367 J	0.0300 JQ	<0.371
Benzo(b)fluoranthene	0.333		0.0596 J	<0.388	<0.384	<0.367 J	0.00669 JQ	<0.371
Benzo(g,h,i)perylene	0.333		<0.361 J	<0.388	<0.384	<0.367 J	<0.369	<0.371
Benzo(k)fluoranthene	0.333		<0.361 J	<0.388	<0.384	<0.367 J	<0.369	<0.371
Benzoic acid	1.67		<1.81	<1.94	<1.92	<1.84	<1.85	<1.86
Benzyl alcohol	0.667		<0.723	<0.777	<0.769	<0.734	<0.739	<0.743
Butyl benzyl phthalate	0.333		0.0383 JQ	<0.388	<0.384	<0.367 J	<0.369	<0.371
Chrysene	0.333		0.0365 JQ	<0.388	<0.384	<0.367 J	0.0458 JQ	<0.371
Di-n-butylphthalate	0.333		<0.361	<0.388	<0.384	0.0213 JQ	<0.369	<0.371
Di-n-octylphthalate	0.333		<0.361 J	<0.388	<0.384	<0.367 J	<0.369	<0.371
Dibenz(a,h)anthracene	0.333		<0.361 J	<0.388	<0.384	<0.367 J	<0.369	<0.371
Dibenzofuran	0.333		<0.361	<0.388	<0.384	<0.367	<0.369	<0.371
Diethylphthalate	0.333		<0.361	<0.388	<0.384	<0.367	<0.369	<0.371
Dimethylphthalate	0.333		<0.361	<0.388	<0.384	<0.367	<0.369	<0.371
Fluoranthene	0.333		0.0481 JQ	0.0113 JQ	<0.384	0.00970 JQ	0.102 JQ	0.0135 JQ
Fluorene	0.333		<0.361	<0.388	<0.384	<0.367	<0.369	<0.371
Hexachlorobenzene	0.333		<0.361	<0.388	<0.384	<0.367	<0.369	<0.371
Hexachlorobutadiene	0.333		<0.361	<0.388	<0.384	<0.367	<0.369	<0.371
Hexachlorocyclopentadiene	0.333		<0.361 J	<0.388	<0.384 J	<0.367 J	<0.369 J	<0.371
Hexachloroethane	0.333		<0.361	<0.388	<0.384	<0.367	<0.369	<0.371
Indeno(1,2,3-cd)pyrene	0.333		<0.361 J	<0.388	<0.384	<0.367 J	<0.369	<0.371
Isophorone	0.333		<0.361	<0.388	<0.384	<0.367	<0.369	<0.371
Naphthalene	0.333		<0.361	<0.388	<0.384	<0.367	<0.369	<0.371
Nitrobenzene	0.333		<0.361	<0.388	<0.384	<0.367	<0.369	<0.371
Pentachlorophenol	1.00		<1.08	<1.16	<1.15	<1.10	<1.11	<1.11
Phenanthrene	0.333		0.0426 JQ	<0.388	<0.384	<0.367	0.0935 JQ	<0.371

TABLE C-1

DATA SUMMARY TABLE
Aerospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD(UNITS)	Quantitation Limits	Sample ID / Sample Date / Depth / Notes	OT3806SA 22-OCT-95 0.0' - 2.0'	OT3807SA 22-OCT-95 0.0' - 2.0'	OT3808SA 22-OCT-95 0.0' - 2.0'	OT3809SA 22-OCT-95 0.0' - 2.0'	OT3810SA 22-OCT-95 0.0' - 2.0'	OT3811SA 22-OCT-95 0.0' - 2.0'
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8270/SW3550 (mg/kg) cont'd.								
Phenol	0.333		<0.361	<0.388	<0.384	<0.367	<0.369	<0.371
Pyrene	0.333		0.0604 JQ	<0.388	<0.384	<0.367 J	0.0864 JQ	<0.371
bis(2-Chloroethoxy)methane	0.333		<0.361	<0.388	<0.384	<0.367	<0.369	<0.371
bis(2-Chloroethyl)ether	0.333		<0.361	<0.388	<0.384	<0.367	<0.369	<0.371
bis(2-Chloroisopropyl)ether	0.333		<0.361 JL	<0.388 JL	<0.384 JL	<0.367 JL	<0.369 JL	<0.371 JL
bis(2-Ethylhexyl)phthalate	0.333		0.198 JQ	<0.388	<0.384	<0.367 J	<0.369	<0.371
n-Nitrosodi-n-propylamine	0.333		<0.361	<0.388	<0.384	<0.367	<0.369	<0.371
n-Nitrosodiphenylamine	0.333		<0.361	<0.388	<0.384	<0.367	<0.369	<0.371
% Surrogate Recovery (Control Limit)								
sur-2,4,6-Tribromophenol R% (19 - 122)	-		92.1	71.0	51.0	51.9	50.0	65.0
sur-2-Fluorobiphenyl R% (30 - 115)	-		88.1	72.9	59.1	65.1	75.1	78.2
sur-2-Fluorophenol R% (25 - 121)	-		76.9	64.1	42.0	55.0	57.0	61.9
sur-Nitrobenzene-d5 R% (23 - 120)	-		82.0	63.1	46.1	53.1	56.1	65.0
sur-Phenol-d6 R% (24 - 113)	-		83.9	60.0	51.0	51.0	57.0	61.0
sur-Terphenyl-d14 R% (18 - 137)	-		115.2	82.0	85.2	95.9	87.0	81.1

Data Qualification Flags/Notes:
J = Estimated quantation based upon QC data
JB = Estimated quantitation: possibly biased high or a false positive based upon blank data
JH = Estimated quantitation: possibly biased high based upon QC data
JL = Estimated quantitation: possibly biased low or a false negative based upon QC data
JQ = Estimated quantitation: detected below the Practical Quantitation Limit
R = Datum rejected based upon QC data: do not use

TABLE C-1

DATA SUMMARY TABLE
Areospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD(UNITS)	Quantitation Limits	Sample ID Sample Date Depth Notes	FDUP-01 22-OCT-95 0.0' - 2.0' Duplicate of OT3811SA	OT3812SA 22-OCT-95 0.0' - 2.0'	OT3813SA 22-OCT-95 0.0' - 2.0'	OT3814SA 22-OCT-95 0.0' - 2.0'	OT3815SA 22-OCT-95 0.0' - 2.0'
SOIL pH - SW9045/NONE (none)							
623-9045 pH units Soil	-		7.49	7.29	7.23	7.46	7.56
PERCENT SOLID - D2216 /NONE (percent)							
623-D2216 Moisture	-		12.0	15.0	14.0	10.0	11.0
METALS, TOTAL BY ICP/SW6010/SW3050 (mg/kg)							
Aluminum	50.0		7620	4740	7970	6900	6770
Antimony	25.0		<21.4	<21.5	<21.1	1.87 JQ	<21.4 JL
Barium	2.00		116	55.0	90.3	79.5	139
Beryllium	0.300		<2.56	0.344	0.506	0.487	<2.57
Cadmium	1.00		<0.854	<0.859	<0.843	<0.811	<0.858 JL
Calcium	10.0		140000 J	58800	74300	82100	184000
Chromium	5.00		12.0 JQ	6.87	7.67	14.6	19.7 J
Cobalt	5.00		3.07 JQ	3.01 JQ	3.37 JQ	3.73 JQ	4.12 JQ
Copper	5.00		9.39 JQ	4.81	5.82	7.62	11.2 JL
Iron	5.00		7590	7030	7980	10200	8050
Magnesium	25.0		2310	1280	1620	1500	2090
Manganese	1.00		479	303	224	255	631
Molybdenum	5.00		<4.27	1.63 JQ	1.35 JQ	1.78 JQ	<4.29
Nickel	5.00		229 J	6.36	8.43	8.76	229
Potassium	60.0		1540 JH	1160 JH	1210 JH	1330 JH	1200 JH
Silver	5.00		<4.27	<4.30	<4.22	0.568 JQ	<4.29
Sodium	25.0		68.9 JB	110 JB	69.8 JB	60.7 JB	87.5 JB
Thallium	25.0		<21.4	<21.5	<21.1	<20.3	<21.4
Vanadium	5.00		17.5	13.2	17.4	20.4	23.7
Zinc	1.00		83.9 J	19.2	21.9	25.5	79.5
ARSENIC, TOTAL BY GFAA/SW 7060 (mg/kg)							
Arsenic	0.500		2.47	1.94	1.96	2.16	1.88 JL
LEAD, TOTAL BY GFAA/SW 7421 (mg/kg)							
Lead	0.500		19.8	32.9	21.9	42.8	15.4
MERCURY, TOTAL BY CVAA/SW 7471 (mg/kg)							
Mercury	0.242		<0.261	<0.234	<0.250	<0.211	<0.199
SELENIUM, TOTAL BY GFAA/SW 7740/METHOD (mg/kg)							
Selenium	0.500		<0.414	<0.439 JL	<0.418	<0.400	<0.420 JL
VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8240/NONE (mg/kg)							
1,1,1-Trichloroethane	0.00500		<0.00574	<0.00554	<0.00586	<0.00554	<0.00563
1,1,2,2-Tetrachloroethane	0.00500		<0.00574	<0.00554	<0.00586	<0.00554	<0.00563
1,1,2-Trichloroethane	0.00500		<0.00574	<0.00554	<0.00586	<0.00554	<0.00563
1,1-Dichloroethane	0.00500		<0.00574	<0.00554	<0.00586	<0.00554	<0.00563
1,1-Dichloroethene	0.00500		<0.00574	<0.00554	<0.00586	<0.00554	<0.00563

TABLE C-1

DATA SUMMARY TABLE
Aerospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD(UNITS)	Quantitation Limits	Sample ID	FDUP-01	OT3812SA	OT3813SA	OT3814SA	OT3815SA
		Sample Date	22-OCT-95	22-OCT-95	22-OCT-95	22-OCT-95	22-OCT-95
		Depth	0.0' - 2.0'	0.0' - 2.0'	0.0' - 2.0'	0.0' - 2.0'	0.0' - 2.0'
		Notes	Duplicate of OT3811SA				
VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8240/NONE (mg/kg) cont'd.							
1,2-Dichloroethane	0.00500		<0.00574	<0.00554	<0.00586	<0.00554	<0.00563
1,2-Dichloropropane	0.00500		<0.00574	<0.00554	<0.00586	<0.00554	<0.00563
2-Butanone (MEK)	0.0100		<0.0115	<0.0111	<0.0117	<0.0111	<0.0113
2-Chloroethyl vinyl ether	0.0100		<0.0115 J	<0.0111 J	<0.0117 J	<0.0111 J	<0.0113 J
2-Hexanone	0.0100		<0.0115	<0.0111	<0.0117	<0.0111	<0.0113
4-Methyl-2-pentanone	0.0100		<0.0115	<0.0111	<0.0117	<0.0111	<0.0113
Acetone	0.0100		<0.0115	<0.0111	<0.0117	<0.0111	<0.0113
Benzene	0.00500		<0.00574	<0.00554	<0.00586	<0.00554	<0.00563
Bromodichloromethane	0.00500		<0.00574	<0.00554	<0.00586	<0.00554	<0.00563
Bromoform	0.00500		<0.00574	<0.00554	<0.00586	<0.00554	<0.00563
Bromomethane	0.0100		<0.0115	<0.0111	<0.0117	<0.0111	<0.0113
Carbon disulfide	0.00500		<0.00574	<0.00554	<0.00586	<0.00554	<0.00563
Carbon tetrachloride	0.00500		<0.00574	<0.00554	<0.00586	<0.00554	<0.00563
Chlorobenzene	0.00500		<0.00574	<0.00554	<0.00586	<0.00554	<0.00563
Chloroethane	0.0100		<0.0115 J	<0.0111 J	<0.0117 J	<0.0111 J	<0.0113 J
Chloroform	0.00500		<0.00574	<0.00554	<0.00586	<0.00554	<0.00563
Chloromethane	0.0100		<0.0115	<0.0111	<0.0117	<0.0111	<0.0113
Dibromochloromethane	0.00500		<0.00574	<0.00554	<0.00586	<0.00554	<0.00563
Ethylbenzene	0.00500		<0.00574	<0.00554	<0.00586	<0.00554	<0.00563
Methylene chloride	0.00500		<0.00574	<0.00554	<0.00586	<0.00554	<0.00563
Styrene	0.00500		<0.00574	<0.00554	<0.00586	<0.00554	<0.00563
Tetrachloroethene	0.00500		<0.00574	<0.00554	<0.00586	<0.00554	<0.00563
Toluene	0.00500		0.00931	0.000739 JQ	<0.00586	0.0128	0.00750
Trichloroethene	0.00500		<0.00574	<0.00554	<0.00586	<0.00554	<0.00563
Vinyl acetate	0.0100		<0.0115	<0.0111	<0.0117	<0.0111	<0.0113
Vinyl chloride	0.0100		<0.0115	<0.0111	<0.0117	<0.0111	<0.0113
Xylenes (total)	0.00500		<0.00574	<0.00554	<0.00586	<0.00554	<0.00563
cis-1,2-Dichloroethene	0.00500		<0.00574	<0.00554	<0.00586	<0.00554	<0.00563
cis-1,3-Dichloropropene	0.00500		<0.00574	<0.00554	<0.00586	<0.00554	<0.00563
trans-1,2-Dichloroethene	0.00500		<0.00574	<0.00554	<0.00586	<0.00554	<0.00563
trans-1,3-Dichloropropene	0.00500		<0.00574	<0.00554	<0.00586	<0.00554	<0.00563
% Surrogate Recovery (Control Limit)							
sur-1,2-Dichloroethane-d4 R% (70 - 121)	-		105.9	107.0	106.2	105.1	101.1
sur-Bromofluorobenzene R% (74 - 121)	-		84.0	89.0	92.1	85.9	87.0
sur-Toluene-d8 R% (81 - 117)	-		97.9	105.1	102.1	94.9	98.9
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8270/SW3550 (mg/kg)							
1,2,4-Trichlorobenzene	0.333		<0.376	<0.386	<1.93	<0.368	<0.374
1,2-Dichlorobenzene	0.333		<0.376	<0.386	<1.93	<0.368	<0.374
1,3-Dichlorobenzene	0.333		<0.376	<0.386	<1.93	<0.368	<0.374
1,4-Dichlorobenzene	0.333		<0.376	<0.386	<1.93	<0.368	<0.374
2,4,5-Trichlorophenol	0.667		<0.752	<0.773	<3.87	<0.736	<0.747
2,4,6-Trichlorophenol	0.333		<0.376	<0.386	<1.93	<0.368	<0.374
2,4-Dichlorophenol	0.333		<0.376	<0.386	<1.93	<0.368	<0.374
2,4-Dimethylphenol	0.333		<0.376	<0.386	<1.93	<0.368	<0.374
2,4-Dinitrophenol	1.67		<1.88 J	<1.93 J	<9.67 J	<1.84 J	<1.87 J

TABLE C-1

DATA SUMMARY TABLE
Aerospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD(UNITS)	Quantitation Limits	Sample ID Sample Date Depth Notes	FDUP-01 22-OCT-95 0.0' - 2.0' Duplicate of OT3811SA	OT3812SA 22-OCT-95 0.0' - 2.0'	OT3813SA 22-OCT-95 0.0' - 2.0'	OT3814SA 22-OCT-95 0.0' - 2.0'	OT3815SA 22-OCT-95 0.0' - 2.0'
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8270/SW3550 (mg/kg) cont'd.							
2,6-Dinitrotoluene	0.333		<0.376	<0.386	<1.93	<0.368	<0.374
2-Chloronaphthalene	0.333		<0.376	<0.386	<1.93	<0.368	<0.374
2-Chlorophenol	0.333		<0.376	<0.386	<1.93	<0.368	<0.374
2-Methylnaphthalene	0.333		<0.376	<0.386	<1.93	<0.368	<0.374
2-Methylphenol	0.333		<0.376	<0.386	<1.93	<0.368	<0.374
2-Nitroaniline	1.67		<1.88	<1.93	<9.67	<1.84	<1.87
2-Nitrophenol	0.333		<0.376	<0.386	<1.93	<0.368	<0.374
3,3'-Dichlorobenzidine	0.667		<0.752 J	<0.773 J	<3.87 J	<0.736 J	<0.747 J
3-Nitroaniline	1.67		<1.88	<1.93	<9.67	<1.84	<1.87
4,6-Dinitro-2-methylphenol	1.67		<1.88	<1.93 J	<9.67 J	<1.84 J	<1.87 J
4-Bromophenyl phenyl ether	0.333		<0.376	<0.386	<1.93	<0.368	<0.374
4-Chloro-3-methylphenol	0.333		<0.376	<0.386	<1.93	<0.368	<0.374
4-Chloroaniline	0.667		<0.752	<0.773	<3.87	<0.736	<0.747
4-Chlorophenyl phenyl ether	0.333		<0.376	<0.386	<1.93	<0.368	<0.374
4-Methylphenol	0.333		<0.376	<0.386	<1.93	<0.368	<0.374
4-Nitroaniline	1.67		<1.88	<1.93	<9.67	<1.84	<1.87
4-Nitrophenol	1.67		<1.88	<1.93	<9.67	<1.84	<1.87
Acenaphthene	0.333		<0.376	<0.386	<1.93	0.0401 JQ	<0.374
Acenaphthylene	0.333		<0.376	<0.386	<1.93	<0.368	<0.374
Anthracene	0.333		<0.376	<0.386	<1.93	<0.368	<0.374
Benz(a)anthracene	0.333		<0.376	<0.386	<1.93 J	0.407	<0.374
Benzo(a)pyrene	0.333		<0.376	<0.386	<1.93 J	0.471	<0.374
Benzo(b)fluoranthene	0.333		<0.376	<0.386	<1.93 J	0.658	<0.374
Benzo(g,h,i)perylene	0.333		<0.376	<0.386	<1.93 J	0.166 JQ	<0.374
Benzo(k)fluoranthene	0.333		<0.376	<0.386	<1.93 J	0.359 JQ	<0.374
Benzoic acid	1.67		<1.88	<1.93	<9.67	<1.84	<1.87
Benzyl alcohol	0.667		<0.752	<0.773	<3.87	<0.736	<0.747
Butyl benzyl phthalate	0.333		<0.376	<0.386	<1.93 J	<0.368	<0.374
Chrysene	0.333		0.0131 JQ	<0.386	<1.93 J	0.834	<0.374
Di-n-butylphthalate	0.333		<0.376	<0.386	<1.93	<0.368	<0.374
Di-n-octylphthalate	0.333		<0.376	<0.386	<1.93 J	<0.368	<0.374
Dibenz(a,h)anthracene	0.333		<0.376	<0.386	<1.93 J	0.0765 JQ	<0.374
Dibenzofuran	0.333		<0.376	<0.386	<1.93	0.0328 JQ	<0.374
Diethylphthalate	0.333		<0.376	<0.386	<1.93	<0.368	<0.374
Dimethylphthalate	0.333		<0.376	<0.386	<1.93	<0.368	<0.374
Fluoranthene	0.333		0.0212 JQ	0.0137 JQ	<1.93	1.26	<0.374
Fluorene	0.333		<0.376	<0.386	<1.93	0.0181 JQ	<0.374
Hexachlorobenzene	0.333		<0.376	<0.386	<1.93	<0.368	<0.374
Hexachlorobutadiene	0.333		<0.376	<0.386	<1.93	<0.368	<0.374
Hexachlorocyclopentadiene	0.333		<0.376	<0.386 J	<1.93 J	<0.368 J	<0.374 J
Hexachloroethane	0.333		<0.376	<0.386	<1.93	<0.368	<0.374
Indeno(1,2,3-cd)pyrene	0.333		<0.376	<0.386	<1.93 J	0.256 JQ	<0.374
Isophorone	0.333		<0.376	<0.386	<1.93	<0.368	<0.374
Naphthalene	0.333		<0.376	<0.386	<1.93	0.0270 JQ	<0.374
Nitrobenzene	0.333		<0.376	<0.386	<1.93	<0.368	<0.374
Pentachlorophenol	1.00		<1.13	<1.16	<5.80	<1.10	<1.12
Phenanthrene	0.333		<0.376	<0.386	<1.93	1.13	<0.374

TABLE C-1

DATA SUMMARY TABLE
Aerospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD(UNITS)	Quantitation Limits	Sample ID:	FDUP-01	OT3812SA	OT3813SA	OT3814SA	OT3815SA
		Sample Date:	22-OCT-95	22-OCT-95	22-OCT-95	22-OCT-95	22-OCT-95
		Depth	0.0' - 2.0'	0.0' - 2.0'	0.0' - 2.0'	0.0' - 2.0'	0.0' - 2.0'
		Notes:	Duplicate of OT3811SA				
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8270/SW3550 (mg/kg) cont'd.							
Phenol	0.333		<0.376	<0.386	<1.93	<0.368	<0.374
Pyrene	0.333		0.0251 JQ	0.0207 JQ	<1.93 J	1.25	<0.374
bis(2-Chloroethoxy)methane	0.333		<0.376	<0.386	<1.93	<0.368	<0.374
bis(2-Chloroethyl)ether	0.333		<0.376	<0.386	<1.93	<0.368	<0.374
bis(2-Chloroisopropyl)ether	0.333		<0.376 JL	<0.386 JL	<1.93 JL	<0.368 JL	<0.374 JL
bis(2-Ethylhexyl)phthalate	0.333		<0.376	<0.386	<1.93 J	<0.368	<0.374
n-Nitrosodi-n-propylamine	0.333		<0.376	<0.386	<1.93	<0.368	<0.374
n-Nitrosodiphenylamine	0.333		<0.376	<0.386	<1.93	<0.368	<0.374
% Surrogate Recovery (Control Limit)							
sur-2,4,6-Tribromophenol R% (19 - 122)	-		59.0	54.1	51.0	55.1	56.1
sur-2-Fluorobiphenyl R% (30 - 115)	-		69.9	70.2	70.0	75.0	81.2
sur-2-Fluorophenol R% (25 - 121)	-		58.0	61.1	49.0	59.1	65.0
sur-Nitrobenzene-d5 R% (23 - 120)	-		63.0	56.0	56.8	59.0	70.2
sur-Phenol-d6 R% (24 - 113)	-		56.9	55.1	70.0	56.0	60.0
sur-Terphenyl-d14 R% (18 - 137)	-		91.0	87.0	111.9	89.9	85.0

Data Qualification Flags/Notes:
J = Estimated quantation based upon QC data
JB = Estimated quantitation: possibly biased high or a false positive based upon blank data
JH = Estimated quantitation: possibly biased high based upon QC data
JL = Estimated quantitation: possibly biased low or a false negative based upon QC data
JQ = Estimated quantitation: detected below the Practical Quantitation Limit
R = Datum rejected based upon QC data do not use

TABLE C-1

DATA SUMMARY TABLE
Aerospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD(UNITS)	Quantitation Limits	Sample ID Sample Date Depth Notes	OT3816SA 22-OCT-95 0.0' - 2.0'	OT3817SA 22-OCT-95 0.0' - 2.0'	OT3818SA 22-OCT-95 0.0' - 2.0'	OT3819SA 22-OCT-95 0.0' - 2.0'	OT3820SA 22-OCT-95 0.0' - 2.0'
SOIL pH - SW9045/NONE (none)							
623-9045 pH units Soil	-		7.35	8.18	7.65	7.54	7.27
PERCENT SOLID - D2216 /NONE (percent)							
623-D2216 Moisture	-		12.0	3.00	11.0	18.0	14.0
METALS, TOTAL BY ICP/SW6010/SW3050 (mg/kg)							
Aluminum	50.0		4100	1210	9640	7710	14200
Antimony	25.0		<20.2	<19.1	<19.8	2.08 JQ	1.95 JL
Barium	2.00		58.1	98.6	115	111	119
Beryllium	0.300		0.242	<2.29	<2.37	0.606	0.799
Cadmium	1.00		<0.806	<0.764	<0.791	<0.865	<0.888 JL
Calcium	10.0		85800	285000	118000	61900	72600
Chromium	5.00		4.84	<38.2	13.4 JQ	9.17	13.9
Cobalt	5.00		2.74 JQ	0.993 JQ	3.56 JQ	4.24 JQ	4.35 JQ
Copper	5.00		6.13	3.82 JQ	6.33 JQ	6.06	8.61
Iron	5.00		6000	2680	6940	8360	11900
Magnesium	25.0		1320	2020	1880	1460	2240
Manganese	1.00		290	355	428	374	329
Molybdenum	5.00		<4.03	<3.82	<3.96	1.64 JQ	1.60 JL
Nickel	5.00		5.88	200	58.6	8.30	9.15
Potassium	60.0		1080 JH	299	1300	1250	2030
Silver	5.00		<4.03	<3.82	<3.96	<4.32	<4.44
Sodium	25.0		43.4 JB	59.3	60.4	65.3	59.4
Thallium	25.0		<20.2	<19.1	<19.8	<21.6	<22.2
Vanadium	5.00		13.3	3.29 JQ	17.6	20.6	21.8
Zinc	1.00		25.3	61.3	33.4	16.6	27.8
ARSENIC, TOTAL BY GFAA/SW 7060 (mg/kg)							
Arsenic	0.500		1.57	0.844	2.78	1.42	2.21 JL
LEAD, TOTAL BY GFAA/SW 7421 (mg/kg)							
Lead	0.500		52.2	3.95	15.3	13.0	27.7
MERCURY, TOTAL BY CVAA/SW 7471 (mg/kg)							
Mercury	0.242		<0.264	<0.240	<0.231	<0.274	<0.252
SELENIUM, TOTAL BY GFAA/SW 7740/METHOD (mg/kg)							
Selenium	0.500		<0.427 JL	<0.371 JL	<0.429 JL	0.108 JL	<0.430 JL
VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8240/NONE (mg/kg)							
1,1,1-Trichloroethane	0.00500		<0.00586	<0.00512	<0.00568	<0.00628	<0.00569
1,1,2,2-Tetrachloroethane	0.00500		<0.00586	<0.00512	<0.00568	<0.00628	<0.00569
1,1,2-Trichloroethane	0.00500		<0.00586	<0.00512	<0.00568	<0.00628	<0.00569
1,1-Dichloroethane	0.00500		<0.00586	<0.00512	<0.00568	<0.00628	<0.00569
1,1-Dichloroethene	0.00500		<0.00586	<0.00512	<0.00568	<0.00628	<0.00569

TABLE C-1

DATA SUMMARY TABLE
Aerospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD(UNITS)	Quantitation Limits	Sample ID Sample Date Depth Notes	OT3816SA 22-OCT-95 0.0' - 2.0'	OT3817SA 22-OCT-95 0.0' - 2.0'	OT3818SA 22-OCT-95 0.0' - 2.0'	OT3819SA 22-OCT-95 0.0' - 2.0'	OT3820SA 22-OCT-95 0.0' - 2.0'
VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8240/NONE (mg/kg) cont'd.							
1,2-Dichloroethane	0.00500		<0.00586	<0.00512	<0.00568	<0.00628	<0.00569
1,2-Dichloropropane	0.00500		<0.00586	<0.00512	<0.00568	<0.00628	<0.00569
2-Butanone (MEK)	0.0100		<0.0117	<0.0102	<0.0114	<0.0126	<0.0114
2-Chloroethyl vinyl ether	0.0100		<0.0117 J	<0.0102 R	<0.0114 R	<0.0126 R	<0.0114 R
2-Hexanone	0.0100		<0.0117	<0.0102 J	<0.0114 J	<0.0126 J	<0.0114 J
4-Methyl-2-pentanone	0.0100		<0.0117	<0.0102	<0.0114	<0.0126	<0.0114
Acetone	0.0100		<0.0117	<0.0102 J	<0.0114 J	<0.0126 J	<0.0114 J
Benzene	0.00500		<0.00586	<0.00512	<0.00568	<0.00628	<0.00569
Bromodichloromethane	0.00500		<0.00586	<0.00512	<0.00568	<0.00628	<0.00569
Bromoform	0.00500		<0.00586	<0.00512	<0.00568	<0.00628	<0.00569
Bromomethane	0.0100		<0.0117	<0.0102	<0.0114	<0.0126	<0.0114
Carbon disulfide	0.00500		<0.00586	<0.00512	<0.00568	<0.00628	<0.00569
Carbon tetrachloride	0.00500		<0.00586	<0.00512	<0.00568	<0.00628	<0.00569
Chlorobenzene	0.00500		<0.00586	<0.00512	<0.00568	<0.00628	<0.00569
Chloroethane	0.0100		<0.0117 J	<0.0102 J	<0.0114 J	<0.0126 J	<0.0114 J
Chloroform	0.00500		<0.00586	<0.00512	<0.00568	<0.00628	<0.00569
Chloromethane	0.0100		<0.0117	<0.0102	<0.0114	<0.0126	<0.0114
Dibromochloromethane	0.00500		<0.00586	<0.00512	<0.00568	<0.00628	<0.00569
Ethylbenzene	0.00500		<0.00586	<0.00512	<0.00568	<0.00628	<0.00569
Methylene chloride	0.00500		<0.00586	<0.00512	<0.00568	<0.00628	<0.00569
Styrene	0.00500		<0.00586	<0.00512	<0.00568	<0.00628	<0.00569
Tetrachloroethene	0.00500		<0.00586	<0.00512	<0.00568	<0.00628	<0.00569
Toluene	0.00500		<0.00586	0.00203 JQ	<0.00568	0.00115 JQ	0.000670 JQ
Trichloroethene	0.00500		<0.00586	<0.00512	<0.00568	<0.00628	<0.00569
Vinyl acetate	0.0100		<0.0117	<0.0102	<0.0114	<0.0126	<0.0114
Vinyl chloride	0.0100		<0.0117	<0.0102	<0.0114	<0.0126	<0.0114
Xylenes (total)	0.00500		<0.00586	<0.00512	<0.00568	<0.00628	<0.00569
cis-1,2-Dichloroethene	0.00500		<0.00586	<0.00512	<0.00568	<0.00628	<0.00569
cis-1,3-Dichloropropene	0.00500		<0.00586	<0.00512	<0.00568	<0.00628	<0.00569
trans-1,2-Dichloroethene	0.00500		<0.00586	<0.00512	<0.00568	<0.00628	<0.00569
trans-1,3-Dichloropropene	0.00500		<0.00586	<0.00512	<0.00568	<0.00628	<0.00569
% Surrogate Recovery (Control Limit)							
sur-1,2-Dichloroethane-d4 R% (70 - 121)	-		109.9	105.1	104.0	104.0	101.1
sur-Bromofluorobenzene R% (74 - 121)	-		92.0	94.1	91.0	86.0	85.1
sur-Toluene-d8 R% (81 - 117)	-		100.0	100.0	98.1	98.9	98.1
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8270/SW3550 (mg/kg)							
1,2,4-Trichlorobenzene	0.333		<0.377	<0.342	<0.372	<0.401	<0.383
1,2-Dichlorobenzene	0.333		<0.377	<0.342	<0.372	<0.401	<0.383
1,3-Dichlorobenzene	0.333		<0.377	<0.342	<0.372	<0.401	<0.383
1,4-Dichlorobenzene	0.333		<0.377	<0.342	<0.372	<0.401	<0.383
2,4,5-Trichlorophenol	0.667		<0.755	<0.683	<0.744	<0.803	<0.765
2,4,6-Trichlorophenol	0.333		<0.377	<0.342	<0.372	<0.401	<0.383
2,4-Dichlorophenol	0.333		<0.377	<0.342	<0.372	<0.401	<0.383
2,4-Dimethylphenol	0.333		<0.377	<0.342	<0.372	<0.401	<0.383
2,4-Dinitrophenol	1.67		<1.89 J	<1.71 J	<1.86 J	<2.01 J	<1.91 J

TABLE C-1

DATA SUMMARY TABLE
Aerospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD(UNITS)	Quantitation Limits	Sample ID Sample Date Depth Notes	OT3816SA 22-OCT-95 0.0' - 2.0'	OT3817SA 22-OCT-95 0.0' - 2.0'	OT3818SA 22-OCT-95 0.0' - 2.0'	OT3819SA 22-OCT-95 0.0' - 2.0'	OT3820SA 22-OCT-95 0.0' - 2.0'
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8270/SW3550 (mg/kg) cont'd.							
2,6-Dinitrotoluene	0.333		<0.377	<0.342	<0.372	<0.401	<0.383
2-Chloronaphthalene	0.333		<0.377	<0.342	<0.372	<0.401	<0.383
2-Chlorophenol	0.333		<0.377	<0.342	<0.372	<0.401	<0.383
2-Methylnaphthalene	0.333		<0.377	<0.342	<0.372	<0.401	<0.383
2-Methylphenol	0.333		<0.377	<0.342	<0.372	<0.401	<0.383
2-Nitroaniline	1.67		<1.89	<1.71	<1.86	<2.01	<1.91
2-Nitrophenol	0.333		<0.377	<0.342	<0.372	<0.401	<0.383
3,3'-Dichlorobenzidine	0.667		<0.755 J	<0.683	<0.744	<0.803	<0.765
3-Nitroaniline	1.67		<1.89	<1.71	<1.86	<2.01	<1.91
4,6-Dinitro-2-methylphenol	1.67		<1.89 J	<1.71	<1.86	<2.01	<1.91
4-Bromophenyl phenyl ether	0.333		<0.377	<0.342	<0.372	<0.401	<0.383
4-Chloro-3-methylphenol	0.333		<0.377	<0.342	<0.372	<0.401	<0.383
4-Chloroaniline	0.667		<0.755	<0.683 J	<0.744 J	<0.803 J	<0.765 J
4-Chlorophenyl phenyl ether	0.333		<0.377	<0.342	<0.372	<0.401	<0.383
4-Methylphenol	0.333		<0.377	<0.342	<0.372	<0.401	<0.383
4-Nitroaniline	1.67		<1.89	<1.71	<1.86	<2.01	<1.91
4-Nitrophenol	1.67		<1.89	<1.71	<1.86	<2.01	<1.91
Acenaphthene	0.333		<0.377	<0.342	<0.372	<0.401	<0.383
Acenaphthylene	0.333		<0.377	<0.342	<0.372	<0.401	<0.383
Anthracene	0.333		<0.377	<0.342	<0.372	<0.401	<0.383
Benz(a)anthracene	0.333		<0.377	<0.342	<0.372	<0.401	<0.383
Benzo(a)pyrene	0.333		<0.377	<0.342	<0.372	<0.401	<0.383
Benzo(b)fluoranthene	0.333		<0.377	<0.342	<0.372	<0.401	<0.383 J
Benzo(g,h,i)perylene	0.333		<0.377	<0.342	<0.372	<0.401	<0.383
Benzo(k)fluoranthene	0.333		<0.377	<0.342	<0.372	<0.401	<0.383
Benzoic acid	1.67		<0.377	<0.342	<0.372	<0.401	<0.383
Benzyl alcohol	0.667		<1.89	<1.71	<1.86	<2.01	<1.91
Butyl benzyl phthalate	0.333		<0.755	<0.683	<0.744	<0.803	<0.765
Chrysene	0.333		<0.377	<0.342	<0.372	<0.401	<0.383
Di-n-butylphthalate	0.333		<0.377	<0.342	<0.372	<0.401	<0.383
Di-n-octylphthalate	0.333		<0.377	<0.342	<0.372	<0.401	<0.383
Dibenz(a,h)anthracene	0.333		<0.377	<0.342	<0.372	<0.401	<0.383
Dibenzofuran	0.333		<0.377	<0.342	<0.372	<0.401	<0.383
Diethylphthalate	0.333		<0.377	<0.342	<0.372	<0.401	<0.383
Dimethylphthalate	0.333		<0.377	<0.342	<0.372	<0.401	<0.383
Fluoranthene	0.333		<0.377	<0.342	<0.372	<0.401	<0.383
Fluorene	0.333		0.0294 JQ	<0.342	0.0209 JQ	<0.401	<0.383
Hexachlorobenzene	0.333		<0.377	<0.342	<0.372	<0.401	<0.383
Hexachlorobutadiene	0.333		<0.377	<0.342	<0.372	<0.401	<0.383
Hexachlorocyclopentadiene	0.333		<0.377	<0.342	<0.372	<0.401	<0.383
Hexachloroethane	0.333		<0.377 J	<0.342 J	<0.372 J	<0.401 J	<0.383 J
Indeno(1,2,3-cd)pyrene	0.333		<0.377	<0.342	<0.372	<0.401	<0.383
Isophorone	0.333		<0.377	<0.342	<0.372	<0.401	<0.383
Naphthalene	0.333		<0.377	<0.342	<0.372	<0.401	<0.383
Nitrobenzene	0.333		<0.377	<0.342	<0.372	<0.401	<0.383
Pentachlorophenol	0.333		<0.377	<0.342	<0.372	<0.401	<0.383
Phenanthrene	1.00		<1.13	<1.02	<1.12	<1.20	<1.15
	0.333		<0.377	<0.342	<0.372	<0.401	<0.383

TABLE C-1

DATA SUMMARY TABLE
Aerospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD(UNITS)	Quantitation Limits	Sample ID Sample Date Depth Notes	OT3816SA 22-OCT-95 0.0' - 2.0'	OT3817SA 22-OCT-95 0.0' - 2.0'	OT3818SA 22-OCT-95 0.0' - 2.0'	OT3819SA 22-OCT-95 0.0' - 2.0'	OT3820SA 22-OCT-95 0.0' - 2.0'
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8270/SW3550 (mg/kg) cont'd.							
Phenol	0.333		<0.377	<0.342	<0.372	<0.401	<0.383
Pyrene	0.333		0.0319 JQ	<0.342	<0.372	<0.401	<0.383
bis(2-Chloroethoxy)methane	0.333		<0.377	<0.342	<0.372	<0.401	<0.383
bis(2-Chloroethyl)ether	0.333		<0.377	<0.342	<0.372	<0.401	<0.383
bis(2-Chloroisopropyl)ether	0.333		<0.377 JL	<0.342 JL	<0.372 JL	<0.401 JL	<0.383 JL
bis(2-Ethylhexyl)phthalate	0.333		<0.377	<0.342	<0.372	<0.401	<0.383
n-Nitrosodi-n-propylamine	0.333		<0.377	<0.342	<0.372	<0.401	<0.383
n-Nitrosodiphenylamine	0.333		<0.377	<0.342	<0.372	<0.401	<0.383
% Surrogate Recovery (Control Limit)							
sur-2,4,6-Tribromophenol R% (19 - 122)	-		57.1	63.1	59.0	63.0	62.0
sur-2-Fluorobiphenyl R% (30 - 115)	-		78.0	67.8	62.9	66.1	65.8
sur-2-Fluorophenol R% (25 - 121)	-		62.0	51.0	50.0	53.0	51.0
sur-Nitrobenzene-d5 R% (23 - 120)	-		59.9	55.8	53.0	60.1	59.0
sur-Phenol-d6 R% (24 - 113)	-		54.1	64.1	63.1	64.0	63.9
sur-Terphenyl-d14 R% (18 - 137)	-		91.0	98.8	89.0	84.0	71.8

Data Qualification Flags/Notes:
J = Estimated quantitation based upon QC data
JB = Estimated quantitation: possibly biased high or a false positive based upon blank data
JH = Estimated quantitation: possibly biased high based upon QC data
JL = Estimated quantitation: possibly biased low or a false negative based upon QC data
JQ = Estimated quantitation: detected below the Practical Quantitation Limit
R = Datum rejected based upon QC data: do not use

TABLE C-1

DATA SUMMARY TABLE
Aerospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD(UNITS)	Quantitation Limits	Sample ID Sample Date Depth Notes	OT3821SA 22-OCT-95 0.0' - 2.0'	FDUP-02 22-OCT-95 0.0' - 2.0' Duplicate of OT3821SA	OT3822SA 22-OCT-95 0.0' - 2.0'	OT3823SA 22-OCT-95 0.0' - 2.0'
SOIL pH - SW9045/NONE (pH)						
623-9045 pH units Soil	-		7.57	7.46	7.49	7.38
PERCENT SOLID - D2216/NONE (percent)						
623-D2216 Moisture	-		6.00	7.00	19.0	15.0
METALS, TOTAL BY ICP/SW6010/SW3050 (mg/kg)						
Aluminum	50.0		4240	4040	12700	11000
Antimony	25.0		<18.1	<18.9	<21.5 JL	<20.7
Barium	2.00		69.5 J	104 J	148	132
Beryllium	0.300		<2.17	<2.27	0.964	0.746
Cadmium	1.00		<0.724	<0.757	<0.860 JL	<0.829
Calcium	10.0		191000	224000	33300	80000
Chromium	5.00		<36.2	<37.8	22.1 J	10.4
Cobalt	5.00		1.45 JQ	1.21 JQ	5.69	4.23
Copper	5.00		4.34 JQ	3.03 JQ	13.2	7.88
Iron	5.00		4100	4680	10500	9510
Magnesium	25.0		2000 J	2930 J	2170	2100
Manganese	1.00		372	423	678	429
Molybdenum	5.00		1.23 JQ	1.51 JQ	2.19 JL	1.99 JQ
Nickel	5.00		189	202	12.4	9.28
Potassium	60.0		712	962	1880	1320
Silver	5.00		<3.62	<3.78	0.613 JQ	<4.14
Sodium	25.0		46.1 J	194 J	60.4	95.1
Thallium	25.0		<18.1	<18.9	<21.5	<20.7
Vanadium	5.00		8.62	9.31	18.8	22.1
Zinc	1.00		63.2	70.2	35.0 J	22.0
ARSENIC, TOTAL BY GFAA/SW 7060 (mg/kg)						
Arsenic	0.500		0.789	1.14	1.44 JL	0.957
LEAD, TOTAL BY GFAA/SW 7421 (mg/kg)						
Lead	0.500		9.10	9.74	36.2 JL	23.0 JH
MERCURY, TOTAL BY CVAA/SW 7471 (mg/kg)						
Mercury	0.242		<0.210	<0.252	<0.249	<0.277
SELENIUM, TOTAL BY GFAA/SW 7740/METHOD (mg/kg)						
Selenium	0.500		<1.90 JL	<0.371	<0.448 JL	<2.20
VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8240/NONE (mg/kg)						
1,1,1-Trichloroethane	0.00500		<0.00526	<0.00614	<0.00608	<0.00584
1,1,2,2-Tetrachloroethane	0.00500		<0.00526	<0.00614	<0.00608	<0.00584
1,1,2-Trichloroethane	0.00500		<0.00526	<0.00614	<0.00608	<0.00584
1,1-Dichloroethane	0.00500		<0.00526	<0.00614	<0.00608	<0.00584
1,1-Dichloroethene	0.00500		<0.00526	<0.00614	<0.00608	<0.00584
1,2-Dichloroethane	0.00500		<0.00526	<0.00614	<0.00608	<0.00584
1,2-Dichloropropane	0.00500		<0.00526	<0.00614	<0.00608	<0.00584
2-Butanone (MEK)	0.0100		<0.0105 J	<0.0123 J	<0.0122 J	<0.0117 J
2-Chloroethyl vinyl ether	0.0100		<0.0105	<0.0123	<0.0122	<0.0117
2-Hexanone	0.0100		<0.0105	<0.0123	<0.0122	<0.0117

TABLE C-1

DATA SUMMARY TABLE
Aerospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD(UNITS)	Quantitation Limits	Sample ID:	OT3821SA	FDUP-02	OT3822SA	OT3823SA
		Sample Date:	22-OCT-95	22-OCT-95	22-OCT-95	22-OCT-95
		Depth:	0.0' - 2.0'	0.0' - 2.0'	0.0' - 2.0'	0.0' - 2.0'
		Notes:		Duplicate of OT3821SA		
VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8240/NONE (mg/kg) cont'd.						
4-Methyl-2-pentanone	0.0100		<0.0105	<0.0123	<0.0122	<0.0117
Acetone	0.0100		<0.0105 J	<0.0123 J	<0.0122 J	<0.0117 J
Benzene	0.00500		<0.00526	<0.00614	<0.00608	<0.00584
Bromodichloromethane	0.00500		<0.00526	<0.00614	<0.00608	<0.00584
Bromoform	0.00500		<0.00526	<0.00614	<0.00608	<0.00584
Bromomethane	0.0100		<0.0105	<0.0123	<0.0122	<0.0117
Carbon disulfide	0.00500		<0.00526	<0.00614	<0.00608	<0.00584
Carbon tetrachloride	0.00500		<0.00526	<0.00614	<0.00608	<0.00584
Chlorobenzene	0.00500		<0.00526	<0.00614	<0.00608	<0.00584
Chloroethane	0.0100		<0.0105 J	<0.0123 J	<0.0122 J	<0.0117 J
Chloroform	0.00500		<0.00526	<0.00614	<0.00608	<0.00584
Chloromethane	0.0100		<0.0105	<0.0123	<0.0122	<0.0117
Dibromochloromethane	0.00500		<0.00526	<0.00614	<0.00608	<0.00584
Ethylbenzene	0.00500		<0.00526	<0.00614	<0.00608	<0.00584
Methylene chloride	0.00500		<0.00526	<0.00614	<0.00608	<0.00584
Styrene	0.00500		<0.00526	<0.00614	<0.00608	<0.00584
Tetrachloroethene	0.00500		<0.00526	<0.00614	<0.00608	<0.00584
Toluene	0.00500		<0.00526	0.00157 JQ	0.00506 JQ	<0.00584
Trichloroethene	0.00500		<0.00526	<0.00614	<0.00608	<0.00584
Vinyl acetate	0.0100		<0.0105	<0.0123	<0.0122	<0.0117
Vinyl chloride	0.0100		<0.0105	<0.0123	<0.0122	<0.0117
Xylenes (total)	0.00500		<0.00526	<0.00614	<0.00608	<0.00584
cis-1,2-Dichloroethene	0.00500		<0.00526	<0.00614	<0.00608	<0.00584
cis-1,3-Dichloropropene	0.00500		<0.00526	<0.00614	<0.00608	<0.00584
trans-1,2-Dichloroethene	0.00500		<0.00526	<0.00614	<0.00608	<0.00584
trans-1,3-Dichloropropene	0.00500		<0.00526	<0.00614	<0.00608	<0.00584
% Surrogate Recovery (Control Limit)						
sur-1,2-Dichloroethane-d4 R% (70 - 121)	-		110.1	106.0	106.9	110.1
sur-Bromofluorobenzene R% (74 - 121)	-		95.1	89.1	94.9	91.1
sur-Toluene-d8 R% (81 - 117)	-		100.0	96.1	103.9	97.1
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8270/SW3550 (mg/kg)						
1,2,4-Trichlorobenzene	0.333		<0.352	<0.355	<0.406	<0.390
1,2-Dichlorobenzene	0.333		<0.352	<0.355	<0.406	<0.390
1,3-Dichlorobenzene	0.333		<0.352	<0.355	<0.406	<0.390
1,4-Dichlorobenzene	0.333		<0.352	<0.355	<0.406	<0.390
2,4,5-Trichlorophenol	0.667		<0.704	<0.710	<0.812	<0.781
2,4,6-Trichlorophenol	0.333		<0.352	<0.355	<0.406	<0.390
2,4-Dichlorophenol	0.333		<0.352	<0.355	<0.406	<0.390
2,4-Dimethylphenol	0.333		<0.352	<0.355	<0.406	<0.390
2,4-Dinitrophenol	1.67		<1.76 J	<1.77 J	<2.03	<1.95
2,4-Dinitrotoluene	0.333		<0.352	<0.355	<0.406	<0.390
2,6-Dinitrotoluene	0.333		<0.352	<0.355	<0.406	<0.390
2-Chloronaphthalene	0.333		<0.352	<0.355	<0.406	<0.390
2-Chlorophenol	0.333		<0.352	<0.355	<0.406	<0.390
2-Methylnaphthalene	0.333		<0.352	<0.355	<0.406	<0.390
2-Methylphenol	0.333		<0.352	<0.355	<0.406	<0.390
2-Nitroaniline	1.67		<1.76	<1.77	<2.03	<1.95
2-Nitrophenol	0.333		<0.352	<0.355	<0.406	<0.390

TABLE C-1

DATA SUMMARY TABLE
Aerospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD(UNITS)	Quantitation Limits	Sample ID Sample Date Depth Notes	OT3821SA 22-OCT-95 0.0' - 2.0'	FDUP-02 22-OCT-95 0.0' - 2.0' Duplicate of OT3821SA	OT3822SA 22-OCT-95 0.0' - 2.0'	OT3823SA 22-OCT-95 0.0' - 2.0'
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8270/SW3550 (mg/kg) cont'd.						
3,3'-Dichlorobenzidine	0.667		<0.704	<0.710	<0.812	<0.781
3-Nitroaniline	1.67		<1.76	<1.77	<2.03	<1.95
4,6-Dinitro-2-methylphenol	1.67		<1.76	<1.77 J	<2.03	<1.95
4-Bromophenyl phenyl ether	0.333		<0.352	<0.355	<0.406	<0.390
4-Chloro-3-methylphenol	0.333		<0.352	<0.355	<0.406	<0.390
4-Chloroaniline	0.667		<0.704 J	<0.710 J	<0.812 J	<0.781 J
4-Chlorophenyl phenyl ether	0.333		<0.352	<0.355	<0.406	<0.390
4-Methylphenol	0.333		<0.352	<0.355	<0.406	<0.390
4-Nitroaniline	1.67		<1.76	<1.77	<2.03	<1.95
4-Nitrophenol	1.67		<1.76	<1.77	<2.03 J	<1.95 J
Acenaphthene	0.333		<0.352	<0.355	<0.406	<0.390
Acenaphthylene	0.333		<0.352	<0.355	<0.406	<0.390
Anthracene	0.333		<0.352	<0.355	<0.406	<0.390
Benz(a)anthracene	0.333		<0.352	<0.355	<0.406	<0.390
Benzo(a)pyrene	0.333		<0.352	<0.355	<0.406	<0.390
Benzo(b)fluoranthene	0.333		<0.352	<0.355	<0.406	<0.390
Benzo(g,h,i)perylene	0.333		<0.352	<0.355	<0.406	<0.390
Benzo(k)fluoranthene	0.333		<0.352	<0.355	<0.406	<0.390
Benzoic acid	1.67		<1.76	<1.77	<2.03	<1.95
Benzyl alcohol	0.667		<0.704	<0.710	<0.812	<0.781
Butyl benzyl phthalate	0.333		<0.352	<0.355	<0.406	<0.390
Chrysene	0.333		<0.352	<0.355	<0.406	<0.390
Di-n-butylphthalate	0.333		<0.352	<0.355	<0.406	<0.390
Di-n-octylphthalate	0.333		<0.352	<0.355	<0.406	<0.390
Dibenz(a,h)anthracene	0.333		<0.352	<0.355	<0.406	<0.390
Dibenzofuran	0.333		<0.352	<0.355	<0.406	<0.390
Diethylphthalate	0.333		<0.352	<0.355	<0.406	<0.390
Dimethylphthalate	0.333		<0.352	<0.355	<0.406	<0.390
Fluoranthene	0.333		<0.352	<0.355	0.0383 JQ	<0.390
Fluorene	0.333		<0.352	<0.355	<0.406	<0.390
Hexachlorobenzene	0.333		<0.352	<0.355	<0.406	<0.390
Hexachlorobutadiene	0.333		<0.352	<0.355	<0.406	<0.390
Hexachlorocyclopentadiene	0.333		<0.352	<0.355 J	<0.406 J	<0.390 J
Hexachloroethane	0.333		<0.352	<0.355	<0.406	<0.390
Indeno(1,2,3-cd)pyrene	0.333		<0.352	<0.355	<0.406	<0.390
Isophorone	0.333		<0.352	<0.355	<0.406	<0.390
Naphthalene	0.333		<0.352	<0.355	<0.406	<0.390
Nitrobenzene	0.333		<0.352	<0.355	<0.406	<0.390
Pentachlorophenol	1.00		<1.06	<1.06	<1.22	<1.17
Phenanthrene	0.333		<0.352	<0.355	<0.406	<0.390
Phenol	0.333		<0.352	<0.355	<0.406	<0.390
Pyrene	0.333		<0.352	<0.355	0.0290 JQ	<0.390

TABLE C-1

DATA SUMMARY TABLE
Aerospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD(UNITS)	Quantitation Limits	Sample ID Sample Date Depth Notes	OT3821SA 22-OCT-95 0.0' - 2.0'	FDUP-02 22-OCT-95 0.0' - 2.0' Duplicate of OT3821SA	OT3822SA 22-OCT-95 0.0' - 2.0'	OT3823SA 22-OCT-95 0.0' - 2.0'
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8270/SW3550 (mg/kg) cont'd.						
bis(2-Chloroethoxy)methane	0.333		<0.352	<0.355	<0.406	<0.390
bis(2-Chloroethyl)ether	0.333		<0.352	<0.355	<0.406	<0.390
bis(2-Chloroisopropyl)ether	0.333		<0.352 JL	<0.355 JL	<0.406 JL	<0.390 JL
bis(2-Ethylhexyl)phthalate	0.333		<0.352	<0.355	<0.406	<0.390
n-Nitrosodi-n-propylamine	0.333		<0.352	<0.355	<0.406	<0.390
n-Nitrosodiphenylamine	0.333		<0.352	<0.355	<0.406	<0.390
% Surrogate Recovery (Control Limit)						
sur-2,4,6-Tribromophenol R% (19 - 122)	-		60.0	43.0	63.1	57.0
sur-2-Fluorobiphenyl R% (30 - 115)	-		59.1	54.9	67.0	67.2
sur-2-Fluorophenol R% (25 - 121)	-		45.1	43.0	51.1	51.9
sur-Nitrobenzene-d5 R% (23 - 120)	-		44.9	36.1	54.9	56.2
sur-Phenol-d6 R% (24 - 113)	-		57.0	42.1	56.0	57.0
sur-Terphenyl-d14 R% (18 - 137)	-		100.9	100.8	67.0	69.0

Data Qualification Flags/Notes:
J = Estimated quantitation based upon QC data
JB = Estimated quantitation: possibly biased high or a false positive based upon blank data
JH = Estimated quantitation: possibly biased high based upon QC data
JL = Estimated quantitation: possibly biased low or a false negative based upon QC data
JQ = Estimated quantitation: detected below the Practical Quantitation Limit
R = Datum rejected based upon QC data: do not use

TABLE C-1

DATA SUMMARY TABLE
Aerospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD(UNITS)	Quantitation Limits	Sample ID Sample Date Depth Notes	OT3824SA 22-OCT-95 0.0' - 2.0'	OT3825SA 22-OCT-95 0.0' - 2.0'	OT3826SA 22-OCT-95 0.0' - 2.0'	OT3827SA 22-OCT-95 0.0' - 2.0'	OT3828SA 22-OCT-95 0.0' - 2.0'
SOIL pH - SW9045/NONE (pspu)							
623-9045 pH units Soil	-		7.38	7.54	7.50	7.45	7.75
PERCENT SOLID - D2216 /NONE (percent)							
623-D2216 Moisture	-		16.0	11.0	13.0	9.00	10.0
METALS, TOTAL BY ICP/SW6010/SW3050 (mg/kg)							
Aluminum	50.0		20800	13200	7940	5460	6050
Antimony	25.0		<29.5	<21.4	1.90 JQ	2.42 JQ	<19.6
Barium	2.00		176	107	89.3	59.8	63.3
Beryllium	0.300		1.18	1.72 JQ	<2.48	1.62 JQ	<2.39
Cadmium	1.00		<1.18	<0.858	<0.827	<0.808	<0.782
Calcium	10.0		56500	150000	159000	284000	188000
Chromium	5.00		16.4	21.4 JQ	<41.4	<40.4	<39.8
Cobalt	5.00		4.96 JQ	2.23 JQ	2.40 JQ	3.15 JQ	2.27 JQ
Copper	5.00		10.5	<42.9	4.96 JQ	8.89 JQ	3.91 JQ
Iron	5.00		15600	11200	7170	11000	7630
Magnesium	5.00		3200	2200	1810	2340	2340
Manganese	25.0		421	325	447	538	361
Molybdenum	1.00		<5.90	2.49 JQ	2.07 JQ	2.99 JQ	2.03 JQ
Nickel	5.00		14.0	63.1	218	218	206
Potassium	5.00		2740	1850	955	1260	1210
Silver	60.0		<5.90	<4.29	<4.14	<4.04	<3.91
Sodium	5.00		364	245	79.2	287	121
Thallium	25.0		<29.5	<21.4	<20.7	<20.2	<19.6
Vanadium	25.0		23.6	20.3	19.7	20.4	15.2
Zinc	5.00		36.5	37.2	72.9	77.3	70.9
ARSENIC, TOTAL BY GFAA/SW 7060 (mg/kg)							
Arsenic	1.00		1.86 JH	1.32	1.16 JL	4.14	3.21
LEAD, TOTAL BY GFAA/SW 7421 (mg/kg)							
Lead	0.500		62.2	16.6	16.3	16.2	14.2
MERCURY, TOTAL BY CVAA/SW 7471 (mg/kg)							
Mercury	0.242		<0.344	<0.256	<0.257	<0.241	<0.263
SELENIUM, TOTAL BY GFAA/SW 7740/METHOD (mg/kg)							
Selenium	0.500		<0.590	<0.404	<2.11 JL	<0.413	<1.89 JL
VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8240/NONE (mg/kg)							
1,1,1-Trichloroethane	0.00500		<0.00574	<0.00540	<0.00566	<0.00540	<0.00552
1,1,2,2-Tetrachloroethane	0.00500		<0.00574	<0.00540	<0.00566	<0.00540	<0.00552
1,1,2-Trichloroethane	0.00500		<0.00574	<0.00540	<0.00566	<0.00540	<0.00552
1,1-Dichloroethane	0.00500		<0.00574	<0.00540	<0.00566	<0.00540	<0.00552
1,1-Dichloroethene	0.00500		<0.00574	<0.00540	<0.00566	<0.00540	<0.00552
1,2-Dichloroethane	0.00500		<0.00574	<0.00540	<0.00566	<0.00540	<0.00552
1,2-Dichloropropane	0.00500		<0.00574	<0.00540	<0.00566	<0.00540	<0.00552
2-Butanone (MEK)	0.0100		<0.0115 J	<0.0108 J	<0.0113 J	<0.0108 J	<0.0110 J
2-Chloroethyl vinyl ether	0.0100		<0.0115	<0.0108	<0.0113	<0.0108	<0.0110
2-Hexanone	0.0100		<0.0115	<0.0108	<0.0113	<0.0108	<0.0110

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TABLE C-1

DATA SUMMARY TABLE
Aerospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD(UNITS)	Quantitation Limits	Sample ID Sample Date Depth Notes	OT3824SA 22-OCT-95 0.0' - 2.0'	OT3825SA 22-OCT-95 0.0' - 2.0'	OT3826SA 22-OCT-95 0.0' - 2.0'	OT3827SA 22-OCT-95 0.0' - 2.0'	OT3828SA 22-OCT-95 0.0' - 2.0'
VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8240/NONE (mg/kg) cont'd.							
4-Methyl-2-pentanone	0.0100		<0.0115	<0.0108	<0.0113	<0.0108	<0.0110
Acetone	0.0100		<0.0115 J	<0.0108 J	<0.0113 J	<0.0108 J	<0.0110 J
Benzene	0.00500		<0.00574	<0.00540	<0.00566	<0.00540	<0.00552
Bromodichloromethane	0.00500		<0.00574	<0.00540	<0.00566	<0.00540	<0.00552
Bromoform	0.00500		<0.00574	<0.00540	<0.00566	<0.00540	<0.00552
Bromomethane	0.0100		<0.0115	<0.0108	<0.0113	<0.0108	<0.0110
Carbon disulfide	0.00500		<0.00574	<0.00540	<0.00566	<0.00540	<0.00552
Carbon tetrachloride	0.00500		<0.00574	<0.00540	<0.00566	<0.00540	<0.00552
Chlorobenzene	0.00500		<0.00574	<0.00540	<0.00566	<0.00540	<0.00552
Chloroethane	0.0100		<0.0115 J	<0.0108 J	<0.0113 J	<0.0108 J	<0.0110 J
Chloroform	0.00500		<0.00574	<0.00540	<0.00566	<0.00540	<0.00552
Chloromethane	0.0100		<0.0115	<0.0108	<0.0113	<0.0108	<0.0110
Dibromochloromethane	0.00500		<0.00574	<0.00540	<0.00566	<0.00540	<0.00552
Ethylbenzene	0.00500		<0.00574	<0.00540	<0.00566	<0.00540	<0.00552
Methylene chloride	0.00500		<0.00574	<0.00540	<0.00566	<0.00540	<0.00552
Styrene	0.00500		<0.00574	<0.00540	<0.00566	<0.00540	<0.00552
Tetrachloroethene	0.00500		<0.00574	<0.00540	<0.00566	<0.00540	<0.00552
Toluene	0.00500		<0.00574	0.00549	<0.00566	0.000375 JQ	0.000366 JQ
Trichloroethene	0.00500		<0.00574	<0.00540	<0.00566	<0.00540	<0.00552
Vinyl acetate	0.0100		<0.0115	<0.0108	<0.0113	<0.0108	<0.0110
Vinyl chloride	0.0100		<0.0115	<0.0108	<0.0113	<0.0108	<0.0110
Xylenes (total)	0.00500		<0.00574	<0.00540	<0.00566	<0.00540	<0.00552
cis-1,2-Dichloroethene	0.00500		<0.00574	<0.00540	<0.00566	<0.00540	<0.00552
cis-1,3-Dichloropropene	0.00500		<0.00574	<0.00540	<0.00566	<0.00540	<0.00552
trans-1,2-Dichloroethene	0.00500		<0.00574	<0.00540	<0.00566	<0.00540	<0.00552
trans-1,3-Dichloropropene	0.00500		<0.00574	<0.00540	<0.00566	<0.00540	<0.00552
% Surrogate Recovery (Control Limit)							
sur-1,2-Dichloroethane-d4 R% (70 - 121)	-		105.1	103.0	109.0	108.0	109.1
sur-Bromofluorobenzene R% (74 - 121)	-		92.0	75.9	89.9	95.0	96.0
sur-Toluene-d8 R% (81 - 117)	-		94.1	93.0	100.0	96.1	99.1
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8270/SW3550 (mg/kg)							
1,2,4-Trichlorobenzene	0.333		<0.526	<0.374	<0.377	<0.366	<0.365
1,2-Dichlorobenzene	0.333		<0.526	<0.374	<0.377	<0.366	<0.365
1,3-Dichlorobenzene	0.333		<0.526	<0.374	<0.377	<0.366	<0.365
1,4-Dichlorobenzene	0.333		<0.526	<0.374	<0.377	<0.366	<0.365
2,4,5-Trichlorophenol	0.667		<1.05	<0.749	<0.754	<0.731	<0.731
2,4,6-Trichlorophenol	0.333		<0.526	<0.374	<0.377	<0.366	<0.365
2,4-Dichlorophenol	0.333		<0.526	<0.374	<0.377	<0.366	<0.365
2,4-Dimethylphenol	0.333		<0.526	<0.374	<0.377	<0.366	<0.365
2,4-Dinitrophenol	1.67		<2.63	<1.87 J	<1.89 J	<1.83 J	<1.83 J
2,4-Dinitrotoluene	0.333		<0.526	<0.374	<0.377	<0.366	<0.365
2,6-Dinitrotoluene	0.333		<0.526	<0.374	<0.377	<0.366	<0.365
2-Chloronaphthalene	0.333		<0.526	<0.374	<0.377	<0.366	<0.365
2-Chlorophenol	0.333		<0.526	<0.374	<0.377	<0.366	<0.365
2-Methylnaphthalene	0.333		<0.526	<0.374	<0.377	<0.366	<0.365
2-Methylphenol	0.333		<0.526	<0.374	<0.377	<0.366	<0.365
2-Nitroaniline	1.67		<2.63	<1.87	<1.89	<1.83	<1.83
2-Nitrophenol	0.333		<0.526	<0.374	<0.377	<0.366	<0.365

TABLE C-1

DATA SUMMARY TABLE
Aerospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD(UNITS)	Quantitation Limits	Sample ID Sample Date Depth Notes	OT3824SA 22-OCT-95 0.0' - 2.0'	OT3825SA 22-OCT-95 0.0' - 2.0'	OT3826SA 22-OCT-95 0.0' - 2.0'	OT3827SA 22-OCT-95 0.0' - 2.0'	OT3828SA 22-OCT-95 0.0' - 2.0'
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8270/SW3550 (mg/kg) cont'd.							
3,3'-Dichlorobenzidine	0.667		<1.05	<0.749	<0.754	<0.731	<0.731
3-Nitroaniline	1.67		<2.63	<1.87	<1.89	<1.83	<1.83
4,6-Dinitro-2-methylphenol	1.67		<2.63	<1.87 J	<1.89	<1.83 J	<1.83
4-Bromophenyl phenyl ether	0.333		<0.526	<0.374	<0.377	<0.366	<0.365
4-Chloro-3-methylphenol	0.333		<0.526	<0.374	<0.377	<0.366	<0.365
4-Chloroaniline	0.667		<1.05 J	<0.749 J	<0.754 J	<0.731 J	<0.731 J
4-Chlorophenyl phenyl ether	0.333		<0.526	<0.374	<0.377	<0.366	<0.365
4-Methylphenol	0.333		<0.526	<0.374	<0.377	<0.366	<0.365
4-Nitroaniline	1.67		<2.63	<1.87	<1.89	<1.83	<1.83
4-Nitrophenol	1.67		<2.63	<1.87	<1.89 J	<1.83	<1.83
Acenaphthene	0.333		<0.526	<0.374	<0.377	<0.366	<0.365
Acenaphthylene	0.333		<0.526	<0.374	<0.377	<0.366	<0.365
Anthracene	0.333		<0.526	<0.374	<0.377	<0.366	<0.365
Benz(a)anthracene	0.333		<0.526	<0.374	<0.377	<0.366	<0.365
Benzo(a)pyrene	0.333		<0.526	<0.374	<0.377	<0.366	<0.365
Benzo(b)fluoranthene	0.333		<0.526	<0.374	<0.377	<0.366	<0.365
Benzo(g,h,i)perylene	0.333		<0.526	<0.374	<0.377	<0.366	<0.365
Benzo(k)fluoranthene	0.333		<0.526	<0.374	<0.377	<0.366	<0.365
Benzoic acid	1.67		<2.63	<1.87	<1.89	<1.83	<1.83
Benzyl alcohol	0.667		<1.05	<0.749	<0.754	<0.731	<0.731
Butyl benzyl phthalate	0.333		<0.526	<0.374	<0.377	<0.366	<0.365
Chrysene	0.333		<0.526	<0.374	<0.377	<0.366	<0.365
Di-n-butylphthalate	0.333		<0.526	<0.374	<0.377	<0.366	<0.365
Di-n-octylphthalate	0.333		<0.526	<0.374	<0.377	<0.366	<0.365
Dibenz(a,h)anthracene	0.333		<0.526	<0.374	<0.377	<0.366	<0.365
Dibenzofuran	0.333		<0.526	<0.374	<0.377	<0.366	<0.365
Diethylphthalate	0.333		<0.526	<0.374	<0.377	<0.366	<0.365
Dimethylphthalate	0.333		<0.526	<0.374	<0.377	<0.366	<0.365
Fluoranthene	0.333		<0.526	<0.374	<0.377	<0.366	<0.365
Fluorene	0.333		<0.526	<0.374	<0.377	<0.366	<0.365
Hexachlorobenzene	0.333		<0.526	<0.374	<0.377	<0.366	<0.365
Hexachlorobutadiene	0.333		<0.526	<0.374	<0.377	<0.366	<0.365
Hexachlorocyclopentadiene	0.333		<0.526	<0.374	<0.377	<0.366	<0.365
Hexachloroethane	0.333		<0.526	<0.374 J	<0.377	<0.366 J	<0.365
Indeno(1,2,3-cd)pyrene	0.333		<0.526	<0.374	<0.377	<0.366	<0.365
Isophorone	0.333		<0.526	<0.374	<0.377	<0.366	<0.365
Naphthalene	0.333		<0.526	<0.374	<0.377	<0.366	<0.365
Nitrobenzene	0.333		<0.526	<0.374	<0.377	<0.366	<0.365
Pentachlorophenol	1.00		<1.58	<1.12	<1.13	<1.10	<1.10
Phenanthrene	0.333		<0.526	<0.374	<0.377	<0.366	<0.365
Phenol	0.333		<0.526	<0.374	<0.377	<0.366	<0.365
Pyrene	0.333		<0.526	<0.374	<0.377	<0.366	<0.365

TABLE C-1

DATA SUMMARY TABLE
Aerospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD(UNITS)	Quantitation Limits	Sample ID Sample Date Depth Notes	OT3824SA 22-OCT-95 0.0' - 2.0'	OT3825SA 22-OCT-95 0.0' - 2.0'	OT3826SA 22-OCT-95 0.0' - 2.0'	OT3827SA 22-OCT-95 0.0' - 2.0'	OT3828SA 22-OCT-95 0.0' - 2.0'
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8270/SW3550 (mg/kg) cont'd.							
bis(2-Chloroethoxy)methane	0.333		<0.526	<0.374	<0.377	<0.366	<0.365
bis(2-Chloroethyl)ether	0.333		<0.526	<0.374	<0.377	<0.366	<0.365
bis(2-Chloroisopropyl)ether	0.333		<0.526 JL	<0.374 JL	<0.377 JL	<0.366 JL	<0.365 JL
bis(2-Ethylhexyl)phthalate	0.333		<0.526	<0.374	<0.377	<0.366	<0.365
n-Nitrosodi-n-propylamine	0.333		<0.526	<0.374	<0.377	<0.366	<0.365
n-Nitrosodiphenylamine	0.333		<0.526	<0.374	<0.377	<0.366	<0.365
% Surrogate Recovery (Control Limit)							
sur-2,4,6-Tribromophenol R% (19 - 122)	-		67.0	68.0	65.0	74.9	48.0
sur-2-Fluorobiphenyl R% (30 - 115)	-		73.0	70.1	67.9	73.0	60.0
sur-2-Fluorophenol R% (25 - 121)	-		58.0	58.0	57.1	63.0	49.1
sur-Nitrobenzene-d5 R% (23 - 120)	-		58.0	65.0	63.9	68.9	52.1
sur-Phenol-d6 R% (24 - 113)	-		58.0	58.9	61.0	64.8	56.9
sur-Terphenyl-d14 R% (18 - 137)	-		77.9	106.1	76.1	113.9	87.1

Data Qualification Flags/Notes:
J = Estimated quantation based upon QC data
JB = Estimated quantitation: possibly biased high or a false positive based upon blank data
JH = Estimated quantitation: possibly biased high based upon QC data
JL = Estimated quantitation: possibly biased low or a false negative based upon QC data
JQ = Estimated quantitation: detected below the Practical Quantitation Limit
R = Datum rejected based upon QC data: do not use

TABLE C-1

DATA SUMMARY TABLE
Aerospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD(UNITS)	Quantitation Limits	Sample ID: Sample Date: Depth: Notes:	OT3829SA 22-OCT-95 0.0' - 2.0'	OT3830SA 22-OCT-95 0.0' - 2.0'	OT3831SA 22-OCT-95 0.0' - 2.0'	FDUP-03 22-OCT-95 0.0' - 2.0' Duplicate of OT3831SA
SOIL pH - SW9045/NONE (pesu)						
623-9045 pH units Soil			7.75	7.67	7.37	7.41
PERCENT SOLID - D2216 /NONE (percent)						
623-D2216 Moisture			17.0	14.0	17.0	19.0
METALS, TOTAL BY ICP/SW6010/SW3050 (mg/kg)						
Aluminum	50.0		7260	12200	8850	8380
Antimony	25.0		<21.2	<22.0 JL	<22.3	<21.9
Barium	2.00		136	107	106	116
Beryllium	0.300		<2.54	0.793	0.624	0.613
Cadmium	1.00		<0.848	<0.881 JL	<0.892	<0.876
Calcium	10.0		222000	66000	117000	90900
Chromium	5.00		11.0 JQ	13.0	8.74	7.27
Cobalt	5.00		4.58	3.52 JQ	2.50 JQ	2.72 JQ
Copper	5.00		6.78 JQ	9.16	6.33	7.27
Iron	5.00		8100	8360	6580	5970
Magnesium	5.00		2680	2650	1770	1630
Manganese	25.0		667	296	168	190
Molybdenum	1.00		2.54 JQ	1.32 JL	<4.46	1.31 JQ
Nickel	5.00		224	9.34	6.42	5.96
Potassium	5.00		1020	1710	1060	815
Silver	60.0		<4.24	<4.40	<4.46	<4.38
Sodium	5.00		182	69.9	98.6	56.0
Thallium	25.0		<21.2	<22.0	<22.3	<21.9
Vanadium	25.0		28.5	17.1	18.4	19.6
Zinc	5.00		75.0	24.0	20.8	20.0
ARSENIC, TOTAL BY GFAA/SW 7060 (mg/kg)						
Arsenic	1.00		3.47	1.56 JL	1.11	0.714
LEAD, TOTAL BY GFAA/SW 7421 (mg/kg)						
Lead	0.500		19.3	16.0 J	21.0	22.4
MERCURY, TOTAL BY CVAA/SW 7471 (mg/kg)						
Mercury	0.242		<0.270	<0.228	<0.277	<0.286
SELENIUM, TOTAL BY GFAA/SW 7740/METHOD (mg/kg)						
Selenium	0.500		<2.25 JL	0.143 JL	0.0993 JL	<2.19 J
VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8240/NONE (mg/kg)						
1,1,1-Trichloroethane	0.00500		<0.00594	<0.00574	<0.00587	<0.00606
1,1,2,2-Tetrachloroethane	0.00500		<0.00594	<0.00574	<0.00587	<0.00606
1,1,2-Trichloroethane	0.00500		<0.00594	<0.00574	<0.00587	<0.00606
1,1-Dichloroethane	0.00500		<0.00594	<0.00574	<0.00587	<0.00606
1,1-Dichloroethene	0.00500		<0.00594	<0.00574	<0.00587	<0.00606
1,2-Dichloroethane	0.00500		<0.00594	<0.00574	<0.00587	<0.00606
1,2-Dichloropropane	0.00500		<0.00594	<0.00574	<0.00587	<0.00606
2-Butanone (MEK)	0.0100		<0.0119 J	<0.0115	<0.0117	<0.0121 J
2-Chloroethyl vinyl ether	0.0100		<0.0119	<0.0115 R	<0.0117 R	<0.0121
2-Hexanone	0.0100		<0.0119	<0.0115 J	<0.0117 J	<0.0121

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TABLE C-1

DATA SUMMARY TABLE
Aerospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD(UNITS)	Quantitation Limits	Sample ID Sample Date Depth Notes	OT3829SA 22-OCT-95 0.0' - 2.0'	OT3830SA 22-OCT-95 0.0' - 2.0'	OT3831SA 22-OCT-95 0.0' - 2.0'	FDUP-03 22-OCT-95 0.0' - 2.0' Duplicate of OT3831SA
VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8240/NONE (mg/kg) cont'd.						
4-Methyl-2-pentanone	0.0100		<0.0119	<0.0115	<0.0117	<0.0121
Acetone	0.0100		<0.0119 J	<0.0115 J	<0.0117 J	<0.0121 J
Benzene	0.00500		<0.00594	<0.00574	<0.00587	<0.00606
Bromodichloromethane	0.00500		<0.00594	<0.00574	<0.00587	<0.00606
Bromoform	0.00500		<0.00594	<0.00574	<0.00587	<0.00606
Bromomethane	0.0100		<0.0119	<0.0115	<0.0117	<0.0121
Carbon disulfide	0.00500		<0.00594	<0.00574	<0.00587	<0.00606
Carbon tetrachloride	0.00500		<0.00594	<0.00574	<0.00587	<0.00606
Chlorobenzene	0.00500		<0.00594	<0.00574	<0.00587	<0.00606
Chloroethane	0.0100		<0.0119 J	<0.0115 J	<0.0117 J	<0.0121 J
Chloroform	0.00500		<0.00594	<0.00574	<0.00587	<0.00606
Chloromethane	0.0100		<0.0119	<0.0115	<0.0117	<0.0121
Dibromochloromethane	0.00500		<0.00594	<0.00574	<0.00587	<0.00606
Ethylbenzene	0.00500		<0.00594	<0.00574	<0.00587	<0.00606
Methylene chloride	0.00500		<0.00594	<0.00574	<0.00587	<0.00606
Styrene	0.00500		<0.00594	<0.00574	<0.00587	<0.00606
Tetrachloroethene	0.00500		<0.00594	<0.00574	<0.00587	<0.00606
Toluene	0.00500		0.00184 JQ	0.00163 JQ	0.00328 JQ	0.00699
Trichloroethene	0.00500		<0.00594	<0.00574	<0.00587	<0.00606
Vinyl acetate	0.0100		<0.0119	<0.0115	<0.0117	<0.0121
Vinyl chloride	0.0100		<0.0119	<0.0115	<0.0117	<0.0121
Xylenes (total)	0.00500		<0.00594	<0.00574	<0.00587	<0.00606
cis-1,2-Dichloroethene	0.00500		<0.00594	<0.00574	<0.00587	<0.00606
cis-1,3-Dichloropropene	0.00500		<0.00594	<0.00574	<0.00587	<0.00606
trans-1,2-Dichloroethene	0.00500		<0.00594	<0.00574	<0.00587	<0.00606
trans-1,3-Dichloropropene	0.00500		<0.00594	<0.00574	<0.00587	<0.00606
% Surrogate Recovery (Control Limit)						
sur-1,2-Dichloroethane-d4 R% (70 - 121)	-		110.1	100.9	104.9	114.9
sur-Bromofluorobenzene R% (74 - 121)	-		85.0	82.9	88.1	88.9
sur-Toluene-d8 R% (81 - 117)	-		97.0	99.0	98.0	98.8
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8270/SW3550 (mg/kg)						
1,2,4-Trichlorobenzene	0.333		<0.400	<0.384	<0.397	<0.411
1,2-Dichlorobenzene	0.333		<0.400	<0.384	<0.397	<0.411
1,3-Dichlorobenzene	0.333		<0.400	<0.384	<0.397	<0.411
1,4-Dichlorobenzene	0.333		<0.400	<0.384	<0.397	<0.411
2,4,5-Trichlorophenol	0.667		<0.799	<0.769	<0.794	<0.822
2,4,6-Trichlorophenol	0.333		<0.400	<0.384	<0.397	<0.411
2,4-Dichlorophenol	0.333		<0.400	<0.384	<0.397	<0.411
2,4-Dimethylphenol	0.333		<0.400	<0.384	<0.397	<0.411
2,4-Dinitrophenol	1.67		<2.00 J	<1.92	<1.98 J	<2.06 J
2,4-Dinitrotoluene	0.333		<0.400	<0.384	<0.397	<0.411
2,6-Dinitrotoluene	0.333		<0.400	<0.384	<0.397	<0.411
2-Chloronaphthalene	0.333		<0.400	<0.384	<0.397	<0.411
2-Chlorophenol	0.333		<0.400	<0.384	<0.397	<0.411
2-Methylnaphthalene	0.333		<0.400	<0.384	<0.397	<0.411
2-Methylphenol	0.333		<0.400	<0.384	<0.397	<0.411
2-Nitroaniline	1.67		<2.00	<1.92	<1.98	<2.06
2-Nitrophenol	0.333		<0.400	<0.384	<0.397	<0.411

TABLE C-1

DATA SUMMARY TABLE
Aerospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD(UNITS)	Quantitation Limits	Sample ID / Sample Date / Depth / Notes	OT3829SA 22-OCT-95 0.0' - 2.0'	OT3830SA 22-OCT-95 0.0' - 2.0'	OT3831SA 22-OCT-95 0.0' - 2.0'	FDUP-03 22-OCT-95 0.0' - 2.0' Duplicate of OT3831SA
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8270/SW3550 (mg/kg) cont'd.						
3,3'-Dichlorobenzidine	0.667		<0.799	<0.769	<0.794	<0.822
3-Nitroaniline	1.67		<2.00	<1.92	<1.98	<2.06
4,6-Dinitro-2-methylphenol	1.67		<2.00	<1.92	<1.98	<2.06
4-Bromophenyl phenyl ether	0.333		<0.400	<0.384	<0.397	<0.411
4-Chloro-3-methylphenol	0.333		<0.400	<0.384	<0.397	<0.411
4-Chloroaniline	0.667		<0.799 J	<0.769 J	<0.794 J	<0.822 J
4-Chlorophenyl phenyl ether	0.333		<0.400	<0.384	<0.397	<0.411
4-Methylphenol	0.333		<0.400	<0.384	<0.397	<0.411
4-Nitroaniline	1.67		<2.00	<1.92	<1.98	<2.06
4-Nitrophenol	1.67		<2.00	<1.92	<1.98	<2.06 J
Acenaphthene	0.333		<0.400	<0.384	<0.397	<0.411
Acenaphthylene	0.333		<0.400	<0.384	<0.397	<0.411
Anthracene	0.333		<0.400	<0.384	<0.397	<0.411
Benz(a)anthracene	0.333		<0.400	<0.384	<0.397	<0.411
Benzo(a)pyrene	0.333		<0.400	<0.384	<0.397	<0.411
Benzo(b)fluoranthene	0.333		<0.400	<0.384	<0.397	<0.411
Benzo(g,h,i)perylene	0.333		<0.400	<0.384	<0.397	<0.411
Benzo(k)fluoranthene	0.333		<0.400	<0.384	<0.397	<0.411
Benzoic acid	0.333		<0.400	<0.384	<0.397	<0.411
Benzyl alcohol	1.67		<2.00	<1.92	<1.98	<2.06
Butyl benzyl phthalate	0.667		<0.799	<0.769	<0.794	<0.822
Chrysene	0.333		<0.400	<0.384	<0.397	<0.411
Di-n-butylphthalate	0.333		<0.400	<0.384	<0.397	<0.411
Di-n-octylphthalate	0.333		<0.400	<0.384	0.0237 JQ	<0.411
Dibenz(a,h)anthracene	0.333		<0.400	<0.384	<0.397	<0.411
Dibenzofuran	0.333		<0.400	<0.384	<0.397	<0.411
Diethylphthalate	0.333		<0.400	<0.384	<0.397	<0.411
Dimethylphthalate	0.333		<0.400	<0.384	<0.397	<0.411
Fluoranthene	0.333		<0.400	<0.384	<0.397	<0.411
Fluorene	0.333		0.0427 JQ	<0.384	<0.397	0.0440 JQ
Hexachlorobenzene	0.333		<0.400	<0.384	<0.397	<0.411
Hexachlorobutadiene	0.333		<0.400	<0.384	<0.397	<0.411
Hexachlorocyclopentadiene	0.333		<0.400	<0.384	<0.397	<0.411
Hexachloroethane	0.333		<0.400	<0.384	<0.397 J	<0.411
Indeno(1,2,3-cd)pyrene	0.333		<0.400	<0.384	<0.397	<0.411
Isophorone	0.333		<0.400	<0.384	<0.397	<0.411
Naphthalene	0.333		<0.400	<0.384	<0.397	<0.411
Nitrobenzene	0.333		<0.400	<0.384	<0.397	<0.411
Pentachlorophenol	0.333		<0.400	<0.384	<0.397	<0.411
Phenanthrene	1.00		<1.20	<1.15	<1.19	<1.23
Phenol	0.333		<0.400	<0.384	<0.397	<0.411
Pyrene	0.333		<0.400	<0.384	<0.397	<0.411
	0.333		0.0479 JQ	<0.384	<0.397	0.0342 JQ

TABLE C-1

DATA SUMMARY TABLE
Aerospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD(UNITS)	Quantitation Limits	Sample ID Sample Date Depth Notes	OT3829SA 22-OCT-95 0.0' - 2.0'	OT3830SA 22-OCT-95 0.0' - 2.0'	OT3831SA 22-OCT-95 0.0' - 2.0'	FDUP-03 22-OCT-95 0.0' - 2.0' Duplicate of OT3831SA
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8270/SW3550 (mg/kg) cont'd.						
bis(2-Chloroethoxy)methane	0.333		<0.400	<0.384	<0.397	<0.411
bis(2-Chloroethyl)ether	0.333		<0.400	<0.384	<0.397	<0.411
bis(2-Chloroisopropyl)ether	0.333		<0.400 JL	<0.384 JL	<0.397 JL	<0.411 JL
bis(2-Ethylhexyl)phthalate	0.333		<0.400	<0.384	<0.397	<0.411
n-Nitrosodi-n-propylamine	0.333		<0.400	<0.384	<0.397	<0.411
n-Nitrosodiphenylamine	0.333		<0.400	<0.384	<0.397	<0.411
% Surrogate Recovery (Control Limit)						
sur-2,4,6-Tribromophenol R% (19 - 122)	-		62.9	71.9	55.0	60.0
sur-2-Fluorobiphenyl R% (30 - 115)	-		70.0	68.0	68.0	65.9
sur-2-Fluorophenol R% (25 - 121)	-		51.1	53.0	52.9	52.0
sur-Nitrobenzene-d5 R% (23 - 120)	-		56.0	64.1	66.0	59.1
sur-Phenol-d6 R% (24 - 113)	-		55.1	60.0	67.1	55.9
sur-Terphenyl-d14 R% (18 - 137)	-		83.0	80.2	70.0	74.0

Data Qualification Flags/Notes:
J = Estimated quantation based upon QC data
JB = Estimated quantitation: possibly biased high or a false positive based upon blank data
JH = Estimated quantitation: possibly biased high based upon QC data
JL = Estimated quantitation: possibly biased low or a false negative based upon QC data
JQ = Estimated quantitation: detected below the Practical Quantitation Limit
R = Datum rejected based upon QC data: do not use

TABLE C-1

DATA SUMMARY TABLE
Aerospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD(UNITS)	Quantitation Limits	Sample ID Sample Date Depth Notes	OT3832SA 22-OCT-95 0.0' - 2.0'	OT3833SA 22-OCT-95 0.0' - 2.0'	OT3834SA 22-OCT-95 0.0' - 2.0'	OT3835SA 22-OCT-95 0.0' - 2.0'
SOIL pH - SW9045/NONE (pH)						
623-9045 pH units Soil	-		7.54	7.41	7.47	7.50
PERCENT SOLID - D2216 /NONE (percent)						
623-D2216 Moisture	-		15.0	11.0	15.0	9.00
METALS, TOTAL BY ICP/SW6010/SW3050 (mg/kg)						
Aluminum	50.0		12200	6320	10600	6460
Antimony	25.0		<21.3	<20.2	<21.0	2.32 JQ
Barium	2.00		121	75.1	102	6730
Beryllium	0.300		0.682	<2.42	0.756	<2.24
Cadmium	1.00		<0.853	<0.808	<0.840	<0.748
Calcium	10.0		91300	100000	61400	142000
Chromium	5.00		9.72	<40.4	11.4	<37.4
Cobalt	5.00		2.90 JQ	2.18 JQ	3.11 JQ	2.24 JQ
Copper	5.00		6.14	5.66 JQ	8.06	6.73 JQ
Iron	5.00		8130	5860	9300	5400
Magnesium	25.0		1950	1930	2320	1800
Manganese	1.00		317	221	261	303
Molybdenum	5.00		2.13 JQ	1.78 JQ	2.86 JQ	1.42 JQ
Nickel	5.00		7.85	57.9	9.83	196
Potassium	60.0		1390	1020	1410	628
Silver	5.00		<4.26	<4.04	<4.20	<3.74
Sodium	25.0		248	88.6	70.1	90.7
Thallium	25.0		<21.3	<20.2	<21.0	<18.7
Vanadium	5.00		21.7	12.4	21.1	17.7
Zinc	1.00		22.0	33.7	20.0	65.7
ARSENIC, TOTAL BY GFAA/SW 7060 (mg/kg)						
Arsenic	0.500		1.58	0.663	1.27	0.685
LEAD, TOTAL BY GFAA/SW 7421 (mg/kg)						
Lead	0.500		36.0	14.4	21.9	14.2
MERCURY, TOTAL BY CVAA/SW 7471 (mg/kg)						
Mercury	0.242		<0.287	<0.243	<0.272	<0.224
SELENIUM, TOTAL BY GFAA/SW 7740/METHOD (mg/kg)						
Selenium	0.500		<0.442	<2.05 JL	<0.452	<1.96 JL
VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8240/NONE (mg/kg)						
1,1,1-Trichloroethane	0.00500		<0.00580	<0.00560	<0.00586	<0.00540
1,1,2,2-Tetrachloroethane	0.00500		<0.00580	<0.00560	<0.00586	<0.00540
1,1,2-Trichloroethane	0.00500		<0.00580	<0.00560	<0.00586	<0.00540
1,1-Dichloroethane	0.00500		<0.00580	<0.00560	<0.00586	<0.00540
1,1-Dichloroethene	0.00500		<0.00580	<0.00560	<0.00586	<0.00540
1,2-Dichloroethane	0.00500		<0.00580	<0.00560	<0.00586	<0.00540
1,2-Dichloropropane	0.00500		<0.00580	<0.00560	<0.00586	<0.00540
2-Butanone (MEK)	0.0100		<0.0116 J	<0.0112 J	<0.0117 J	<0.0108 J
2-Chloroethyl vinyl ether	0.0100		<0.0116	<0.0112	<0.0117	<0.0108
2-Hexanone	0.0100		<0.0116	<0.0112	<0.0117	<0.0108

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TABLE C-1

DATA SUMMARY TABLE
Aerospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD(UNITS)	Quantitation Limits	Sample ID Sample Date Depth Notes	OT3832SA 22-OCT-95 0.0' - 2.0'	OT3833SA 22-OCT-95 0.0' - 2.0'	OT3834SA 22-OCT-95 0.0' - 2.0'	OT3835SA 22-OCT-95 0.0' - 2.0'
VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8240/NONE (mg/kg) cont'd.						
4-Methyl-2-pentanone	0.0100		<0.0116	<0.0112	<0.0117	<0.0108
Acetone	0.0100		<0.0116 J	<0.0112 J	<0.0117 J	<0.0108 J
Benzene	0.00500		<0.00580	<0.00560	<0.00586	<0.00540
Bromodichloromethane	0.00500		<0.00580	<0.00560	<0.00586	<0.00540
Bromoform	0.00500		<0.00580	<0.00560	<0.00586	<0.00540
Bromomethane	0.0100		<0.0116	<0.0112	<0.0117	<0.0108
Carbon disulfide	0.00500		<0.00580	<0.00560	<0.00586	<0.00540
Carbon tetrachloride	0.00500		<0.00580	<0.00560	<0.00586	<0.00540
Chlorobenzene	0.00500		<0.00580	<0.00560	<0.00586	<0.00540
Chloroethane	0.0100		<0.0116 J	<0.0112 J	<0.0117 J	<0.0108 J
Chloroform	0.00500		<0.00580	<0.00560	<0.00586	<0.00540
Chloromethane	0.0100		<0.0116	<0.0112	<0.0117	<0.0108
Dibromochloromethane	0.00500		<0.00580	<0.00560	<0.00586	<0.00540
Ethylbenzene	0.00500		<0.00580	<0.00560	<0.00586	<0.00540
Methylene chloride	0.00500		<0.00580	<0.00560	<0.00586	<0.00540
Styrene	0.00500		<0.00580	<0.00560	<0.00586	<0.00540
Tetrachloroethene	0.00500		<0.00580	<0.00560	<0.00586	<0.00540
Toluene	0.00500		0.000635 JQ	0.000569 JQ	0.000465 JQ	0.0104
Trichloroethene	0.00500		<0.00580	<0.00560	<0.00586	<0.00540
Vinyl acetate	0.0100		<0.0116	<0.0112	<0.0117	<0.0108
Vinyl chloride	0.0100		<0.0116	<0.0112	<0.0117	<0.0108
Xylenes (total)	0.00500		<0.00580	<0.00560	<0.00586	<0.00540
cis-1,2-Dichloroethene	0.00500		<0.00580	<0.00560	<0.00586	<0.00540
cis-1,3-Dichloropropene	0.00500		<0.00580	<0.00560	<0.00586	<0.00540
trans-1,2-Dichloroethene	0.00500		<0.00580	<0.00560	<0.00586	<0.00540
trans-1,3-Dichloropropene	0.00500		<0.00580	<0.00560	<0.00586	<0.00540
% Surrogate Recovery (Control Limit)						
sur-1,2-Dichloroethane-d4 R% (70 - 121)	-		104.0	108.0	111.9	108.9
sur-Bromofluorobenzene R% (74 - 121)	-		82.9	87.0	88.9	86.0
sur-Toluene-d8 R% (81 - 117)	-		95.0	98.0	96.9	98.0
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8270/SW3550 (mg/kg)						
1,2,4-Trichlorobenzene	0.333		<0.386	<0.370	<0.390	<0.366
1,2-Dichlorobenzene	0.333		<0.386	<0.370	<0.390	<0.366
1,3-Dichlorobenzene	0.333		<0.386	<0.370	<0.390	<0.366
1,4-Dichlorobenzene	0.333		<0.386	<0.370	<0.390	<0.366
2,4,5-Trichlorophenol	0.667		<0.773	<0.740	<0.781	<0.731
2,4,6-Trichlorophenol	0.333		<0.386	<0.370	<0.390	<0.366
2,4-Dichlorophenol	0.333		<0.386	<0.370	<0.390	<0.366
2,4-Dimethylphenol	0.333		<0.386	<0.370	<0.390	<0.366
2,4-Dinitrophenol	1.67		<1.93 J	<1.85 J	<1.95 J	<1.83 J
2,4-Dinitrotoluene	0.333		<0.386	<0.370	<0.390	<0.366
2,6-Dinitrotoluene	0.333		<0.386	<0.370	<0.390	<0.366
2-Chloronaphthalene	0.333		<0.386	<0.370	<0.390	<0.366
2-Chlorophenol	0.333		<0.386	<0.370	<0.390	<0.366
2-Methylnaphthalene	0.333		<0.386	<0.370	<0.390	<0.366
2-Methylphenol	0.333		<0.386	<0.370	<0.390	<0.366
2-Nitroaniline	1.67		<1.93	<1.85	<1.95	<1.83
2-Nitrophenol	0.333		<0.386	<0.370	<0.390	<0.366

TABLE C-1

DATA SUMMARY TABLE
Aerospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD(UNITS)	Quantitation Limits	Sample ID / Sample Date / Depth / Notes	OT3832SA 22-OCT-95 0.0' - 2.0'	OT3833SA 22-OCT-95 0.0' - 2.0'	OT3834SA 22-OCT-95 0.0' - 2.0'	OT3835SA 22-OCT-95 0.0' - 2.0'
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8270/SW3550 (mg/kg) cont'd.						
3,3'-Dichlorobenzidine	0.667		<0.773	<0.740	<0.781	<0.731
3-Nitroaniline	1.67		<1.93	<1.85	<1.95	<1.83
4,6-Dinitro-2-methylphenol	1.67		<1.93 J	<1.85	<1.95	<1.83
4-Bromophenyl phenyl ether	0.333		<0.386	<0.370	<0.390	<0.366
4-Chloro-3-methylphenol	0.333		<0.386	<0.370	<0.390	<0.366
4-Chloroaniline	0.667		<0.773 J	<0.740 J	<0.781 J	<0.731 J
4-Chlorophenyl phenyl ether	0.333		<0.386	<0.370	<0.390	<0.366
4-Methylphenol	0.333		<0.386	<0.370	<0.390	<0.366
4-Nitroaniline	1.67		<1.93	<1.85	<1.95	<1.83
4-Nitrophenol	1.67		<1.93	<1.85 J	<1.95 J	<1.83 J
Acenaphthene	0.333		<0.386	<0.370	<0.390	<0.366
Acenaphthylene	0.333		<0.386	<0.370	<0.390	<0.366
Anthracene	0.333		<0.386	<0.370	<0.390	<0.366
Benz(a)anthracene	0.333		<0.386	<0.370	<0.390	<0.366
Benzo(a)pyrene	0.333		<0.386	<0.370	<0.390	<0.366
Benzo(b)fluoranthene	0.333		<0.386	<0.370	<0.390	<0.366
Benzo(g,h,i)perylene	0.333		<0.386	<0.370	<0.390	<0.366
Benzo(k)fluoranthene	0.333		<0.386	<0.370	<0.390	<0.366
Benzoic acid	1.67		<1.93	<1.85	<1.95	<1.83
Benzyl alcohol	0.667		<0.773	<0.740	<0.781	<0.731
Butyl benzyl phthalate	0.333		<0.386	<0.370	<0.390	<0.366
Chrysene	0.333		<0.386	<0.370	<0.390	<0.366
Di-n-butylphthalate	0.333		<0.386	<0.370	<0.390	<0.366
Di-n-octylphthalate	0.333		<0.386	<0.370	<0.390	<0.366
Dibenz(a,h)anthracene	0.333		<0.386	<0.370	<0.390	<0.366
Dibenzofuran	0.333		<0.386	<0.370	<0.390	<0.366
Diethylphthalate	0.333		<0.386	<0.370	<0.390	<0.366
Dimethylphthalate	0.333		<0.386	<0.370	<0.390	<0.366
Fluoranthene	0.333		<0.386	<0.370	<0.390	<0.366
Fluorene	0.333		<0.386	<0.370	<0.390	<0.366
Hexachlorobenzene	0.333		<0.386	<0.370	<0.390	<0.366
Hexachlorobutadiene	0.333		<0.386	<0.370	<0.390	<0.366
Hexachlorocyclopentadiene	0.333		<0.386	<0.370	<0.390	<0.366
Hexachloroethane	0.333		<0.386 J	<0.370	<0.390	<0.366
Indeno(1,2,3-cd)pyrene	0.333		<0.386	<0.370	<0.390	<0.366
Isophorone	0.333		<0.386	<0.370	<0.390	<0.366
Naphthalene	0.333		<0.386	<0.370	<0.390	<0.366
Nitrobenzene	0.333		<0.386	<0.370	<0.390	<0.366
Pentachlorophenol	0.333		<0.386	<0.370	<0.390	<0.366
Phenanthrene	1.00		<1.16	<1.11	<1.17	<1.10
Phenol	0.333		<0.386	<0.370	<0.390	<0.366
Pyrene	0.333		<0.386	<0.370	<0.390	<0.366

TABLE C-1

DATA SUMMARY TABLE
Aerospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD(UNITS)	Quantitation Limits	Sample ID Sample Date Depth Notes	OT3832SA 22-OCT-95 0.0' - 2.0'	OT3833SA 22-OCT-95 0.0' - 2.0'	OT3834SA 22-OCT-95 0.0' - 2.0'	OT3835SA 22-OCT-95 0.0' - 2.0'
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8270/SW3550 (mg/kg) cont'd.						
bis(2-Chloroethoxy)methane	0.333		<0.386	<0.370	<0.390	<0.366
bis(2-Chloroethyl)ether	0.333		<0.386	<0.370	<0.390	<0.366
bis(2-Chloroisopropyl)ether	0.333		<0.386 JL	<0.370 JL	<0.390 JL	<0.366 JL
bis(2-Ethylhexyl)phthalate	0.333		<0.386	<0.370	<0.390	<0.366
n-Nitrosodi-n-propylamine	0.333		<0.386	<0.370	<0.390	<0.366
n-Nitrosodiphenylamine	0.333		<0.386	<0.370	<0.390	<0.366
% Surrogate Recovery (Control Limit)						
sur-2,4,6-Tribromophenol R% (19 - 122)	-		70.1	60.0	52.0	60.0
sur-2-Fluorobiphenyl R% (30 - 115)	-		71.0	65.1	61.0	62.0
sur-2-Fluorophenol R% (25 - 121)	-		60.1	50.1	45.9	49.1
sur-Nitrobenzene-d5 R% (23 - 120)	-		66.1	58.1	52.1	54.9
sur-Phenol-d6 R% (24 - 113)	-		59.1	55.0	50.0	52.0
sur-Terphenyl-d14 R% (18 - 137)	-		111.1	74.1	67.9	68.0

Data Qualification Flags/Notes:
J = Estimated quantation based upon QC data
JB = Estimated quantitation: possibly biased high or a false positive based upon blank data
JH = Estimated quantitation: possibly biased high based upon QC data
JL = Estimated quantitation: possibly biased low or a false negative based upon QC data
JQ = Estimated quantitation: detected below the Practical Quantitation Limit
R = Datum rejected based upon QC data: do not use

TABLE C-1

DATA SUMMARY TABLE
Areospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD(UNITS)	Quantitation Limits	Sample ID Sample Date Depth Notes	OT3836SA 22-OCT-95 0.0' - 2.0'	OT3837SA 22-OCT-95 0.0' - 2.0'	OT3838SA 22-OCT-95 0.0' - 2.0'	OT3839SA 22-OCT-95 0.0' - 2.0'	OT3840SA 22-OCT-95 0.0' - 2.0'
SOIL pH - SW9045/NONE (pesu)							
623-9045 pH units Soil	-		7.67	7.71	7.18	7.58	7.26
PERCENT SOLID - D2216 /NONE (percent)							
623-D2216 Moisture	-		10.0	13.0	11.0	11.0	10.0
METALS, TOTAL BY ICP/SW6010/SW3050 (mg/kg)							
Aluminum	50.0		7090	9770	7480	10100	5120
Antimony	25.0		2.19 JQ	<21.6	<20.6	<21.0	1.98 JL
Barium	2.00		77.0	79.1	85.9	92.2	74.1 J
Beryllium	0.300		<2.43	0.605	<2.48	0.587	<2.47
Cadmium	1.00		<0.811	<0.864	<0.826	<0.839	<0.823 JL
Calcium	10.0		149000	104000	182000	117000	165000
Chromium	5.00		<40.6	8.47	<41.3	8.39	14.8 JQ
Cobalt	5.00		2.68 JQ	2.76 JQ	2.81 JQ	2.77 JQ	2.14 J
Copper	5.00		6.49 JQ	7.17	4.13 JQ	4.70	14.8 J
Iron	5.00		7980	10200	10400	8000	20000
Magnesium	25.0		2150	2380	2270	2110	1880
Manganese	1.00		408	283	368	231	476
Molybdenum	5.00		3.00 JQ	<4.32	<4.13	<4.20	4.03 JL
Nickel	5.00		214	8.73	220	7.38	222
Potassium	60.0		867	1790	1300	1090	1070
Silver	5.00		<4.06	<4.32	<4.13	<4.20	<4.12 J
Sodium	25.0		112	88.8	129	79.5	426
Thallium	25.0		<20.3	<21.6	<20.6	<21.0	<20.6 J
Vanadium	5.00		20.4	19.6	19.1	21.6	10.4
Zinc	1.00		73.8	19.3	76.7	14.3	106 J
ARSENIC, TOTAL BY GFAA/SW 7060 (mg/kg)							
Arsenic	0.500		1.37	2.05	1.94	1.81	2.87 JL
LEAD, TOTAL BY GFAA/SW 7421 (mg/kg)							
Lead	0.500		22.4	11.0	14.9	11.2	1030
MERCURY, TOTAL BY CVAA/SW 7471 (mg/kg)							
Mercury	0.223		<0.255	<0.223	<0.215	<0.265	<0.218
SELENIUM, TOTAL BY GFAA/SW 7740/METHOD (mg/kg)							
Selenium	0.500		<2.03	0.0864 JL	<0.429 JL	0.0829 JL	<0.424 JL
VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8240/NONE (mg/kg)							
1,1,1-Trichloroethane	0.00500		<0.00550	<0.00563	<0.00556	<0.00536	<0.00574
1,1,2,2-Tetrachloroethane	0.00500		<0.00550	<0.00563	<0.00556	<0.00536	<0.00574
1,1,2-Trichloroethane	0.00500		<0.00550	<0.00563	<0.00556	<0.00536	<0.00574
1,1-Dichloroethane	0.00500		<0.00550	<0.00563	<0.00556	<0.00536	<0.00574
1,1-Dichloroethene	0.00500		<0.00550	<0.00563	<0.00556	<0.00536	<0.00574
1,2-Dichloroethane	0.00500		<0.00550	<0.00563	<0.00556	<0.00536	<0.00574
1,2-Dichloropropane	0.00500		<0.00550	<0.00563	<0.00556	<0.00536	<0.00574
2-Butanone (MEK)	0.00500		<0.00550	<0.00563	<0.00556	<0.00536	<0.00574
2-Chloroethyl vinyl ether	0.0100		<0.0110 J	<0.0113	<0.0111	<0.0107	<0.0115 J
2-Hexanone	0.0100		<0.0110	<0.0113 R	<0.0111 R	<0.0107 R	<0.0115
	0.0100		<0.0110	<0.0113 J	<0.0111 J	<0.0107 J	<0.0115

TABLE C-1

DATA SUMMARY TABLE
Aerospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD(UNITS)	Quantitation Limits	Sample ID:	OT3836SA	OT3837SA	OT3838SA	OT3839SA	OT3840SA
		Sample Date:	22-OCT-95	22-OCT-95	22-OCT-95	22-OCT-95	22-OCT-95
		Depth:	0.0' - 2.0'	0.0' - 2.0'	0.0' - 2.0'	0.0' - 2.0'	0.0' - 2.0'
		Notes:					
VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8240/NONE (mg/kg) cont'd.							
4-Methyl-2-pentanone	0.0100		<0.0110	<0.0113	<0.0111	<0.0107	<0.0115
Acetone	0.0100		<0.0110 J	<0.0113 J	<0.0111 J	<0.0107 J	<0.0115 J
Benzene	0.00500		<0.00550	<0.00563	<0.00556	<0.00536	<0.00574
Bromodichloromethane	0.00500		<0.00550	<0.00563	<0.00556	<0.00536	<0.00574
Bromoform	0.00500		<0.00550	<0.00563	<0.00556	<0.00536	<0.00574
Bromomethane	0.0100		<0.0110	<0.0113	<0.0111	<0.0107	<0.0115
Carbon disulfide	0.00500		<0.00550	<0.00563	<0.00556	<0.00536	<0.00574
Carbon tetrachloride	0.00500		<0.00550	<0.00563	<0.00556	<0.00536	<0.00574
Chlorobenzene	0.00500		<0.00550	<0.00563	<0.00556	<0.00536	<0.00574
Chloroethane	0.0100		<0.0110 J	<0.0113 J	<0.0111 J	<0.0107 J	<0.0115 J
Chloroform	0.00500		<0.00550	<0.00563	<0.00556	<0.00536	<0.00574
Chloromethane	0.0100		<0.0110	<0.0113	<0.0111	<0.0107	<0.0115
Dibromochloromethane	0.00500		<0.00550	<0.00563	<0.00556	<0.00536	<0.00574
Ethylbenzene	0.00500		<0.00550	<0.00563	<0.00556	<0.00536	<0.00574
Methylene chloride	0.00500		<0.00550	<0.00563	<0.00556	<0.00536	<0.00574
Styrene	0.00500		<0.00550	<0.00563	<0.00556	<0.00536	<0.00574
Tetrachloroethene	0.00500		<0.00550	<0.00563	<0.00556	<0.00536	<0.00574 JL
Toluene	0.00500		0.00703	0.000491 JQ	0.000812 JQ	0.000825 JQ	0.00125 JQ
Trichloroethene	0.00500		<0.00550	<0.00563	<0.00556	<0.00536	<0.00574
Vinyl acetate	0.0100		<0.0110	<0.0113	<0.0111	<0.0107	<0.0115
Vinyl chloride	0.0100		<0.0110	<0.0113	<0.0111	<0.0107	<0.0115
Xylenes (total)	0.00500		<0.00550	<0.00563	<0.00556	<0.00536	<0.00574
cis-1,2-Dichloroethene	0.00500		<0.00550	<0.00563	<0.00556	<0.00536	<0.00574
cis-1,3-Dichloropropene	0.00500		<0.00550	<0.00563	<0.00556	<0.00536	<0.00574
trans-1,2-Dichloroethene	0.00500		<0.00550	<0.00563	<0.00556	<0.00536	<0.00574
trans-1,3-Dichloropropene	0.00500		<0.00550	<0.00563	<0.00556	<0.00536	<0.00574
% Surrogate Recovery (Control Limit)							
sur-1,2-Dichloroethane-d4 R% (70 - 121)	-		108.9	103.9	103.9	103.0	101.0
sur-Bromofluorobenzene R% (74 - 121)	-		82.0	86.0	89.9	85.1	76.0
sur-Toluene-d8 R% (81 - 117)	-		94.9	98.9	98.0	97.9	86.9
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8270/SW3550 (mg/kg)							
1,2,4-Trichlorobenzene	0.333		<0.369	<0.378	<0.371	<0.372	<0.364
1,2-Dichlorobenzene	0.333		<0.369	<0.378	<0.371	<0.372	<0.364
1,3-Dichlorobenzene	0.333		<0.369	<0.378	<0.371	<0.372	<0.364
1,4-Dichlorobenzene	0.333		<0.369	<0.378	<0.371	<0.372	<0.364
2,4,5-Trichlorophenol	0.667		<0.739	<0.755	<0.741	<0.744	<0.729
2,4,6-Trichlorophenol	0.333		<0.369	<0.378	<0.371	<0.372	<0.364
2,4-Dichlorophenol	0.333		<0.369	<0.378	<0.371	<0.372	<0.364
2,4-Dimethylphenol	0.333		<0.369	<0.378	<0.371	<0.372	<0.364
2,4-Dinitrophenol	1.67		<1.85 J	<1.89	<1.85	<1.86	<1.82 J
2,4-Dinitrotoluene	0.333		<0.369	<0.378	<0.371	<0.372	<0.364 JL
2,6-Dinitrotoluene	0.333		<0.369	<0.378	<0.371	<0.372	<0.364
2-Chloronaphthalene	0.333		<0.369	<0.378	<0.371	<0.372	<0.364
2-Chlorophenol	0.333		<0.369	<0.378	<0.371	<0.372	<0.364
2-Methylnaphthalene	0.333		<0.369	<0.378	<0.371	<0.372	<0.364
2-Methylphenol	0.333		<0.369	<0.378	<0.371	<0.372	<0.364
2-Nitroaniline	1.67		<1.85	<1.89	<1.85	<1.86	<1.82
2-Nitrophenol	0.333		<0.369	<0.378	<0.371	<0.372	364
3,3'-Dichlorober	0.667		<0.739	<0.755	<0.741	<0.744 J	729

TABLE C-1

DATA SUMMARY TABLE
Aerospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD(UNITS)	Quantitation Limits	Sample ID Sample Date Depth Notes	OT3836SA 22-OCT-95 0.0' - 2.0'	OT3837SA 22-OCT-95 0.0' - 2.0'	OT3838SA 22-OCT-95 0.0' - 2.0'	OT3839SA 22-OCT-95 0.0' - 2.0'	OT3840SA 22-OCT-95 0.0' - 2.0'
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8270/SW3550 (mg/kg) cont'd.							
3-Nitroaniline	1.67		<1.85	<1.89	<1.85	<1.86	<1.82
4,6-Dinitro-2-methylphenol	1.67		<1.85	<1.89	<1.85	<1.86	<1.82 J
4-Bromophenyl phenyl ether	0.333		<0.369	<0.378	<0.371	<0.372	<0.364
4-Chloro-3-methylphenol	0.333		<0.369	<0.378	<0.371	<0.372	<0.364
4-Chloroaniline	0.667		<0.739 J	<0.755 J	<0.741 J	<0.744 J	<0.729 J
4-Chlorophenyl phenyl ether	0.333		<0.369	<0.378	<0.371	<0.372	<0.364
4-Methylphenol	0.333		<0.369	<0.378	<0.371	<0.372	<0.364
4-Nitroaniline	1.67		<1.85	<1.89	<1.85	<1.86	<1.82
4-Nitrophenol	1.67		<1.85	<1.89	<1.85	<1.86	<1.82
Acenaphthene	0.333		<0.369	<0.378	<0.371	<0.372	<0.364
Acenaphthylene	0.333		<0.369	<0.378	<0.371	<0.372	<0.364
Anthracene	0.333		<0.369	<0.378	<0.371	<0.372	<0.364
Benz(a)anthracene	0.333		<0.369	<0.378	<0.371	<0.372	<0.364
Benzo(a)pyrene	0.333		<0.369	<0.378	<0.371	<0.372	<0.364
Benzo(b)fluoranthene	0.333		<0.369	<0.378	<0.371	<0.372	<0.364
Benzo(g,h,i)perylene	0.333		<0.369	<0.378	<0.371	<0.372	<0.364
Benzo(k)fluoranthene	0.333		<0.369	<0.378	<0.371	<0.372	<0.364
Benzoic acid	1.67		<1.85	<1.89	<1.85	<1.86	<1.82
Benzyl alcohol	0.667		<0.739	<0.755	<0.741	<0.744	<0.729
Butyl benzyl phthalate	0.333		<0.369	<0.378	<0.371	<0.372	<0.364
Chrysene	0.333		<0.369	<0.378	<0.371	<0.372	<0.364
Di-n-butylphthalate	0.333		<0.369	<0.378	<0.371	<0.372	<0.364
Di-n-octylphthalate	0.333		<0.369	<0.378	<0.371	<0.372	<0.364
Dibenz(a,h)anthracene	0.333		<0.369	<0.378	<0.371	<0.372	<0.364
Dibenzofuran	0.333		<0.369	<0.378	<0.371	<0.372	<0.364
Diethylphthalate	0.333		<0.369	<0.378	<0.371	<0.372	<0.364
Dimethylphthalate	0.333		<0.369	<0.378	<0.371	<0.372	<0.364
Fluoranthene	0.333		<0.369	<0.378	<0.371	<0.372	<0.364
Fluorene	0.333		<0.369	<0.378	<0.371	<0.372	<0.364
Hexachlorobenzene	0.333		<0.369	<0.378	<0.371	<0.372	<0.364
Hexachlorobutadiene	0.333		<0.369	<0.378	<0.371	<0.372	<0.364
Hexachlorocyclopentadiene	0.333		<0.369	<0.378	<0.371	<0.372	<0.364
Hexachloroethane	0.333		<0.369	<0.378	<0.371	<0.372	<0.364 J
Indeno(1,2,3-cd)pyrene	0.333		<0.369	<0.378	<0.371	<0.372	<0.364
Isophorone	0.333		<0.369	<0.378	<0.371	<0.372	<0.364
Naphthalene	0.333		<0.369	<0.378	<0.371	<0.372	<0.364
Nitrobenzene	0.333		<0.369	<0.378	<0.371	<0.372	<0.364
Pentachlorophenol	1.00		<1.11	<1.13	<1.11	<1.12	<1.09
Phenanthrene	0.333		<0.369	<0.378	<0.371	<0.372	<0.364
Phenol	0.333		<0.369	<0.378	<0.371	<0.372	<0.364
Pyrene	0.333		<0.369	<0.378	<0.371	<0.372	0.0732 JH

TABLE C-1

DATA SUMMARY TABLE
Aerospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD(UNITS)	Quantitation Limits	Sample ID Sample Date Depth Notes	OT3836SA 22-OCT-95 0.0' - 2.0'	OT3837SA 22-OCT-95 0.0' - 2.0'	OT3838SA 22-OCT-95 0.0' - 2.0'	OT3839SA 22-OCT-95 0.0' - 2.0'	OT3840SA 22-OCT-95 0.0' - 2.0'
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8270/SW3550 (mg/kg) cont'd.							
bis(2-Chloroethoxy)methane	0.333		<0.369	<0.378	<0.371	<0.372	<0.364
bis(2-Chloroethyl)ether	0.333		<0.369	<0.378	<0.371	<0.372	<0.364
bis(2-Chloroisopropyl)ether	0.333		<0.369 JL	<0.378 JL	<0.371 JL	<0.372 JL	<0.364 JL
bis(2-Ethylhexyl)phthalate	0.333		<0.369	<0.378	<0.371	<0.372	<0.364
n-Nitrosodi-n-propylamine	0.333		<0.369	<0.378	<0.371	<0.372	<0.364
n-Nitrosodiphenylamine	0.333		<0.369	<0.378	<0.371	<0.372	<0.364
% Surrogate Recovery (Control Limit)							
sur-2,4,6-Tribromophenol R% (19 - 122)	-		52.0	67.0	73.0	72.0	68.0
sur-2-Fluorobiphenyl R% (30 - 115)	-		64.0	63.1	70.9	76.1	64.0
sur-2-Fluorophenol R% (25 - 121)	-		52.0	48.1	53.1	53.0	53.0
sur-Nitrobenzene-d5 R% (23 - 120)	-		58.0	57.0	62.0	68.0	57.1
sur-Phenol-d6 R% (24 - 113)	-		62.1	54.1	59.9	60.9	55.9
sur-Terphenyl-d14 R% (18 - 137)	-		87.0	81.2	103.0	78.0	113.2

Data Qualification Flags/Notes:
J = Estimated quantitation based upon QC data
JB = Estimated quantitation: possibly biased high or a false positive based upon blank data
JH = Estimated quantitation: possibly biased high based upon QC data
JL = Estimated quantitation: possibly biased low or a false negative based upon QC data
JQ = Estimated quantitation: detected below the Practical Quantitation Limit
R = Datum rejected based upon QC data: do not use.

TABLE C-1

DATA SUMMARY TABLE
Aerospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD(UNITS)	Quantitation Limits	Sample ID Sample Date Depth Notes	OT3841SA 22-OCT-95 0.0' - 2.0'	OT3842SA 22-OCT-95 0.0' - 2.0'	FDUP-04 22-OCT-95 0.0' - 2.0' Duplicate of OT3842SA	OT3843SA 22-OCT-95 0.0' - 2.0'
SOIL pH - SW9045/NONE (pH)						
623-9045 pH units Soil	-		7.76	7.58	7.52	7.67
PERCENT SOLID - D2216 /NONE (percent)						
623-D2216 Moisture	-		9.00	12.0	3.00 J	11.0
METALS, TOTAL BY ICP/SW6010/SW3050 (mg/kg)						
Aluminum	50.0		6050	11600 J	7900 J	8860
Antimony	25.0		<18.1	1.97 JQ	2.44 JQ	<19.9
Barium	2.00		58.0	103	78.2	94.8
Beryllium	0.300		<2.32	1.58 JQ	0.610	<2.39
Cadmium	1.00		<0.724	<0.789	<0.871	<0.797
Calcium	10.0		157000	116000	92400	113000
Chromium	5.00		<38.7	10.3 JQ	7.58	<39.8
Cobalt	5.00		2.17 JQ	3.94	2.79 JQ	2.95 JQ
Copper	5.00		6.19 JQ	10.3 JQ	7.14	11.2
Iron	5.00		6530	11800 J	7260 J	9180
Magnesium	25.0		2100	2660	2260	2100
Manganese	1.00		323	527 J	318 J	403
Molybdenum	5.00		1.39 JQ	1.97 JQ	1.31 JQ	1.91 JQ
Nickel	5.00		203	60.8	7.93	59.1
Potassium	60.0		891	2190 J	1420 J	1250
Silver	5.00		<3.62	<3.94	<4.36	<3.98
Sodium	25.0		109	338	77.9	101
Thallium	25.0		<18.1	<19.7	<21.8	<19.9
Vanadium	5.00		18.1	21.0	18.2	19.9
Zinc	1.00		67.5	37.6 J	18.3 J	31.6
ARSENIC, TOTAL BY GFAA/SW 7060 (mg/kg)						
Arsenic	0.500		1.04	2.42	1.18	2.60
LEAD, TOTAL BY GFAA/SW 7421 (mg/kg)						
Lead	0.500		11.6	20.9	25.4	27.5
MERCURY, TOTAL BY CVAA/SW 7471 (mg/kg)						
Mercury	0.223		<0.237	<0.269	<0.234	<0.228
SELENIUM, TOTAL BY GFAA/SW 7740/METHOD (mg/kg)						
Selenium	0.500		<2.02 JL	<0.427	<2.11	<2.06
VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8240/NONE (mg/kg)						
1,1,1-Trichloroethane	0.00500		<0.00540	<0.00529	<0.00571	<0.00558
1,1,2,2-Tetrachloroethane	0.00500		<0.00540	<0.00529	<0.00571	<0.00558
1,1,2-Trichloroethane	0.00500		<0.00540	<0.00529	<0.00571	<0.00558
1,1-Dichloroethane	0.00500		<0.00540	<0.00529	<0.00571	<0.00558
1,1-Dichloroethene	0.00500		<0.00540	<0.00529	<0.00571	<0.00558
1,2-Dichloroethane	0.00500		<0.00540	<0.00529	<0.00571	<0.00558
1,2-Dichloropropane	0.00500		<0.00540	<0.00529	<0.00571	<0.00558
2-Butanone (MEK)	0.0100		<0.0108 J	<0.0106 J	<0.0114 J	<0.0112 J
2-Chloroethyl vinyl ether	0.0100		<0.0108	<0.0106	<0.0114	<0.0112
2-Hexanone	0.0100		<0.0108	<0.0106	<0.0114	<0.0112

TABLE C-1

DATA SUMMARY TABLE
Aerospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD(UNITS)	Quantitation Limits	Sample ID Sample Date : Depth : Notes :	OT3841SA 22-OCT-95 0.0' - 2.0'	OT3842SA 22-OCT-95 0.0' - 2.0'	FDUP-04 22-OCT-95 0.0' - 2.0' Duplicate of OT3842SA	OT3843SA 22-OCT-95 0.0' - 2.0'
VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8240/NONE (mg/kg) cont'd.						
4-Methyl-2-pentanone	0.0100		<0.0108	<0.0106	<0.0114	<0.0112
Acetone	0.0100		<0.0108 J	<0.0106 J	<0.0114 J	<0.0112 J
Benzene	0.00500		<0.00540	<0.00529	<0.00571	<0.00558
Bromodichloromethane	0.00500		<0.00540	<0.00529	<0.00571	<0.00558
Bromoform	0.00500		<0.00540	<0.00529	<0.00571	<0.00558
Bromomethane	0.0100		<0.0108	<0.0106	<0.0114	<0.0112
Carbon disulfide	0.00500		<0.00540	<0.00529	<0.00571	<0.00558
Carbon tetrachloride	0.00500		<0.00540	<0.00529	<0.00571	<0.00558
Chlorobenzene	0.00500		<0.00540	<0.00529	<0.00571	<0.00558
Chloroethane	0.0100		<0.0108 J	<0.0106 J	<0.0114 J	<0.0112 J
Chloroform	0.00500		<0.00540	<0.00529	<0.00571	<0.00558
Chloromethane	0.0100		<0.0108	<0.0106	<0.0114	<0.0112
Dibromochloromethane	0.00500		<0.00540	<0.00529	<0.00571	<0.00558
Ethylbenzene	0.00500		<0.00540	<0.00529	<0.00571	<0.00558
Methylene chloride	0.00500		<0.00540	<0.00529	<0.00571	<0.00558
Styrene	0.00500		<0.00540	<0.00529	<0.00571	<0.00558
Tetrachloroethene	0.00500		<0.00540	<0.00529	<0.00571	<0.00558
Toluene	0.00500		0.0194	0.00832	0.00304 JQ	<0.00558
Trichloroethene	0.00500		<0.00540	<0.00529	<0.00571	<0.00558
Vinyl acetate	0.0100		<0.0108	<0.0106	<0.0114	<0.0112
Vinyl chloride	0.0100		<0.0108	<0.0106	<0.0114	<0.0112
Xylenes (total)	0.00500		<0.00540	<0.00529	<0.00571	<0.00558
cis-1,2-Dichloroethene	0.00500		<0.00540	<0.00529	<0.00571	<0.00558
cis-1,3-Dichloropropene	0.00500		<0.00540	<0.00529	<0.00571	<0.00558
trans-1,2-Dichloroethene	0.00500		<0.00540	<0.00529	<0.00571	<0.00558
trans-1,3-Dichloropropene	0.00500		<0.00540	<0.00529	<0.00571	<0.00558
% Surrogate Recovery (Control Limit)						
sur-1,2-Dichloroethane-d4 R% (70 - 121)	-		107.9	104.0	106.0	111.1
sur-Bromofluorobenzene R% (74 - 121)	-		81.0	79.0	81.1	84.0
sur-Toluene-d8 R% (81 - 117)	-		98.0	94.0	98.9	98.0
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8270/SW3550 (mg/kg)						
1,2,4-Trichlorobenzene	0.333		<0.361	<0.374	<0.379	<0.371
1,2-Dichlorobenzene	0.333		<0.361	<0.374	<0.379	<0.371
1,3-Dichlorobenzene	0.333		<0.361	<0.374	<0.379	<0.371
1,4-Dichlorobenzene	0.333		<0.361	<0.374	<0.379	<0.371
2,4,5-Trichlorophenol	0.667		<0.722	<0.748	<0.758	<0.743
2,4,6-Trichlorophenol	0.333		<0.361	<0.374	<0.379	<0.371
2,4-Dichlorophenol	0.333		<0.361	<0.374	<0.379	<0.371
2,4-Dimethylphenol	0.333		<0.361	<0.374	<0.379	<0.371
2,4-Dinitrophenol	1.67		<1.80 J	<1.87 J	<1.90 J	<1.86 J
2,4-Dinitrotoluene	0.333		<0.361	<0.374	<0.379	<0.371
2,6-Dinitrotoluene	0.333		<0.361	<0.374	<0.379	<0.371
2-Chloronaphthalene	0.333		<0.361	<0.374	<0.379	<0.371
2-Chlorophenol	0.333		<0.361	<0.374	<0.379	<0.371
2-Methylnaphthalene	0.333		<0.361	<0.374	<0.379	<0.371
2-Methylphenol	0.333		<0.361	<0.374	<0.379	<0.371
2-Nitroaniline	1.67		<1.80	<1.87	<1.90	<1.86
2-Nitrophenol	0.333		<0.361	<0.374	<0.379	<0.371
3,3'-Dichlorober	0.667		<0.722	<0.748	<0.758	<0.743

TABLE C-1

DATA SUMMARY TABLE
Aerospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD(UNITS)	Quantitation Limits	Sample ID Sample Date Depth Notes	OT3841SA 22-OCT-95 0.0' - 2.0'	OT3842SA 22-OCT-95 0.0' - 2.0'	FDUP-04 22-OCT-95 0.0' - 2.0' Duplicate of OT3842SA	OT3843SA 22-OCT-95 0.0' - 2.0'
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8270/SW3550 (mg/kg) cont'd.						
3-Nitroaniline	1.67		<1.80	<1.87	<1.90	<1.86
4,6-Dinitro-2-methylphenol	1.67		<1.80	<1.87 J	<1.90	<1.86
4-Bromophenyl phenyl ether	0.333		<0.361	<0.374	<0.379	<0.371
4-Chloro-3-methylphenol	0.333		<0.361	<0.374	<0.379	<0.371
4-Chloroaniline	0.667		<0.722 J	<0.748 J	<0.758 J	<0.743 J
4-Chlorophenyl phenyl ether	0.333		<0.361	<0.374	<0.379	<0.371
4-Methylphenol	0.333		<0.361	<0.374	<0.379	<0.371
4-Nitroaniline	1.67		<1.80	<1.87	<1.90	<1.86
4-Nitrophenol	1.67		<1.80 J	<1.87	<1.90 J	<1.86
Acenaphthene	0.333		<0.361	<0.374	<0.379	<0.371
Acenaphthylene	0.333		<0.361	<0.374	<0.379	<0.371
Anthracene	0.333		<0.361	<0.374	<0.379	<0.371
Benz(a)anthracene	0.333		<0.361	<0.374	<0.379	<0.371
Benzo(a)pyrene	0.333		<0.361	<0.374	<0.379	<0.371
Benzo(b)fluoranthene	0.333		<0.361	<0.374	<0.379	<0.371
Benzo(g,h,i)perylene	0.333		<0.361	<0.374	<0.379	<0.371
Benzo(k)fluoranthene	0.333		<0.361	<0.374	<0.379	<0.371
Benzoic acid	1.67		<1.80	<1.87	<1.90	<1.86
Benzyl alcohol	0.667		<0.722	<0.748	<0.758	<0.743
Butyl benzyl phthalate	0.333		<0.361	<0.374	<0.379	<0.371
Chrysene	0.333		<0.361	<0.374	<0.379	<0.371
Di-n-butylphthalate	0.333		<0.361	<0.374	<0.379	<0.371
Di-n-octylphthalate	0.333		<0.361	<0.374	<0.379	<0.371
Dibenz(a,h)anthracene	0.333		<0.361	<0.374	<0.379	<0.371
Dibenzofuran	0.333		<0.361	<0.374	<0.379	<0.371
Diethylphthalate	0.333		<0.361	<0.374	<0.379	<0.371
Dimethylphthalate	0.333		<0.361	<0.374	<0.379	<0.371
Fluoranthene	0.333		<0.361	<0.374	<0.379	<0.371
Fluorene	0.333		<0.361	<0.374	0.0236 JQ	<0.371
Hexachlorobenzene	0.333		<0.361	<0.374	<0.379	<0.371
Hexachlorobutadiene	0.333		<0.361	<0.374	<0.379	<0.371
Hexachlorocyclopentadiene	0.333		<0.361	<0.374	<0.379	<0.371
Hexachloroethane	0.333		<0.361	<0.374 J	<0.379	<0.371
Indeno(1,2,3-cd)pyrene	0.333		<0.361	<0.374	<0.379	<0.371
Isophorone	0.333		<0.361	<0.374	<0.379	<0.371
Naphthalene	0.333		<0.361	<0.374	<0.379	<0.371
Nitrobenzene	0.333		<0.361	<0.374	<0.379	<0.371
Pentachlorophenol	0.333		<0.361	<0.374	<0.379	<0.371
Phenanthrene	1.00		<1.08	<1.12	<1.14	<1.11
Phenol	0.333		<0.361	<0.374	<0.379	<0.371
Pyrene	0.333		<0.361	<0.374	<0.379	<0.371

TABLE C-1

DATA SUMMARY TABLE
Aerospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD(UNITS)	Quantitation Limits	Sample ID Sample Date Depth Notes	OT3841SA 22-OCT-95 0.0' - 2.0'	OT3842SA 22-OCT-95 0.0' - 2.0'	FDUP-04 22-OCT-95 0.0' - 2.0' Duplicate of OT3842SA	OT3843SA 22-OCT-95 0.0' - 2.0'
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8270/SW3550 (mg/kg) cont'd.						
bis(2-Chloroethoxy)methane	0.333		<0.361	<0.374	<0.379	<0.371
bis(2-Chloroethyl)ether	0.333		<0.361	<0.374	<0.379	<0.371
bis(2-Chloroisopropyl)ether	0.333		<0.361 JL	<0.374 JL	<0.379 JL	<0.371 JL
bis(2-Ethylhexyl)phthalate	0.333		<0.361	<0.374	<0.379	<0.371
n-Nitrosodi-n-propylamine	0.333		<0.361	<0.374	<0.379	<0.371
n-Nitrosodiphenylamine	0.333		<0.361	<0.374	<0.379	<0.371
% Surrogate Recovery (Control Limit)						
sur-2,4,6-Tribromophenol R% (19 - 122)	-		60.9	69.0	61.1	53.0
sur-2-Fluorobiphenyl R% (30 - 115)	-		60.9	70.1	63.9	64.2
sur-2-Fluorophenol R% (25 - 121)	-		48.0	62.0	51.1	52.1
sur-Nitrobenzene-d5 R% (23 - 120)	-		52.9	70.1	55.9	56.1
sur-Phenol-d6 R% (24 - 113)	-		52.0	64.0	54.0	60.0
sur-Terphenyl-d14 R% (18 - 137)	-		69.0	108.0	69.9	87.1

Data Qualification Flags/Notes:
J = Estimated quantation based upon QC data
JB = Estimated quantitation: possibly biased high or a false positive based upon blank data
JH = Estimated quantitation: possibly biased high based upon QC data
JL = Estimated quantitation: possibly biased low or a false negative based upon QC data
JQ = Estimated quantitation: detected below the Practical Quantitation Limit
R = Datum rejected based upon QC data: do not use

TABLE C-1

DATA SUMMARY TABLE
Aerospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD(UNITS)	Quantitation Limits	Sample ID: Sample Date: Depth: Notes:	OT3844SA 22-OCT-95 0.0' - 2.0'	OT3845SA 22-OCT-95 0.0' - 2.0'	OT3846SA 22-OCT-95 0.0' - 2.0'	OT3847SA 22-OCT-95 0.0' - 2.0'	OT3848SA 22-OCT-95 0.0' - 2.0'
SOIL pH - SW9045/NONE (none)							
623-9045 pH units Soil	-		7.55	7.81	7.71	7.14	7.59
PERCENT SOLID - D2216 /NONE (percent)							
623-D2216 Moisture	-		10.0	16.0	10.0	13.0	16.0
METALS, TOTAL BY ICP/SW6010/SW3050 (mg/kg)							
Aluminum	50.0		8120	13000	6110	6300	10700
Antimony	25.0		<20.7	<22.9	2.49 JQ	<19.3	<22.7
Barium	2.00		81.2	88.9	82.4	77.9	83.6
Beryllium	0.300		1.66 JQ	0.733	<2.33	<2.31	<2.73
Cadmium	1.00		<0.829	<0.916	<0.777	<0.771	<0.909
Calcium	10.0		186000	121000	179000	109000	139000
Chromium	5.00		8.29 JQ	10.8	<38.8	<38.6	<45.4
Cobalt	5.00		2.90 JQ	4.03 JQ	3.57 JQ	2.31 JQ	4.00 JQ
Copper	5.00		3.32 JQ	8.79	6.99	9.25 JQ	17.3 JQ
Iron	5.00		11200	12700	7470	6230	13200
Magnesium	25.0		2510	3150	2350	1920	2800
Manganese	1.00		455	364	474	318	479
Molybdenum	5.00		2.40 JQ	2.20 JQ	1.79 JQ	1.46 JQ	2.91 JQ
Nickel	5.00		224	9.71	206	154	242
Potassium	60.0		1920	2490	1030	927	1770
Silver	5.00		<4.14	<4.58	<3.88	<3.86	<4.54
Sodium	25.0		288	273	110	78.9	103
Thallium	25.0		<20.7	<22.9	<19.4	<19.3	<22.7
Vanadium	5.00		17.1	17.5	24.1	15.4	23.3
Zinc	1.00		87.0	28.1	69.5	89.5	204
ARSENIC, TOTAL BY GFAA/SW 7060 (mg/kg)							
Arsenic	0.500		2.36	2.57	1.96	0.982 J	3.53 J
LEAD, TOTAL BY GFAA/SW 7421 (mg/kg)							
Lead	0.500		29.0	19.6	38.4	128	580
MERCURY, TOTAL BY CVAA/SW 7471 (mg/kg)							
Mercury	0.223		<0.262	<0.278	<0.256	<0.229	<0.285
SELENIUM, TOTAL BY GFAA/SW 7740/METHOD (mg/kg)							
Selenium	0.500		<0.421	<0.434	<1.90 JL	<2.18	<2.19 JL
VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8240/NONE (mg/kg)							
1,1,1-Trichloroethane	0.00500		<0.00542	<0.00590	<0.00552	<0.00571	<0.00594
1,1,2,2-Tetrachloroethane	0.00500		<0.00542	<0.00590	<0.00552	<0.00571	<0.00594
1,1,2-Trichloroethane	0.00500		<0.00542	<0.00590	<0.00552	<0.00571	<0.00594
1,1-Dichloroethane	0.00500		<0.00542	<0.00590	<0.00552	<0.00571	<0.00594
1,1-Dichloroethene	0.00500		<0.00542	<0.00590	<0.00552	<0.00571	<0.00594
1,2-Dichloroethane	0.00500		<0.00542	<0.00590	<0.00552	<0.00571	<0.00594
1,2-Dichloropropane	0.00500		<0.00542	<0.00590	<0.00552	<0.00571	<0.00594
2-Butanone (MEK)	0.00500		<0.00542	<0.00590	<0.00552	<0.00571	<0.00594
2-Chloroethyl vinyl ether	0.0100		<0.0108 J	<0.0118 J	<0.0110 J	<0.0114 J	<0.0119 J
2-Hexanone	0.0100		<0.0108	<0.0118	<0.0110	<0.0114	<0.0119
	0.0100		<0.0108	<0.0118	<0.0110	<0.0114	<0.0119

TABLE C-1

DATA SUMMARY TABLE
Aerospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD(UNITS)	Quantitation Limits	Sample ID Sample Date Depth Notes	OT3844SA 22-OCT-95 0.0' - 2.0'	OT3845SA 22-OCT-95 0.0' - 2.0'	OT3846SA 22-OCT-95 0.0' - 2.0'	OT3847SA 22-OCT-95 0.0' - 2.0'	OT3848SA 22-OCT-95 0.0' - 2.0'
VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8240/NONE (mg/kg) cont'd.							
4-Methyl-2-pentanone	0.0100		<0.0108	<0.0118	<0.0110	<0.0114	<0.0119
Acetone	0.0100		<0.0108 J	<0.0118 J	<0.0110 J	<0.0114 J	<0.0119 J
Benzene	0.00500		<0.00542	<0.00590	<0.00552	<0.00571	<0.00594
Bromodichloromethane	0.00500		<0.00542	<0.00590	<0.00552	<0.00571	<0.00594
Bromoform	0.00500		<0.00542	<0.00590	<0.00552	<0.00571	<0.00594
Bromomethane	0.0100		<0.0108	<0.0118	<0.0110	<0.0114	<0.0119
Carbon disulfide	0.00500		<0.00542	<0.00590	<0.00552	<0.00571	<0.00594
Carbon tetrachloride	0.00500		<0.00542	<0.00590	<0.00552	<0.00571	<0.00594
Chlorobenzene	0.00500		<0.00542	<0.00590	<0.00552	<0.00571	<0.00594
Chloroethane	0.0100		<0.0108 J	<0.0118 J	<0.0110 J	<0.0114 J	<0.0119 J
Chloroform	0.00500		<0.00542	<0.00590	<0.00552	<0.00571	<0.00594
Chloromethane	0.0100		<0.0108	<0.0118	<0.0110	<0.0114	<0.0119
Dibromochloromethane	0.00500		<0.00542	<0.00590	<0.00552	<0.00571	<0.00594
Ethylbenzene	0.00500		<0.00542	<0.00590	<0.00552	<0.00571	<0.00594
Methylene chloride	0.00500		<0.00542	<0.00590	<0.00552	<0.00571	<0.00594
Styrene	0.00500		<0.00542	<0.00590	<0.00552	<0.00571	<0.00594
Tetrachloroethene	0.00500		<0.00542	<0.00590	<0.00552	<0.00571	<0.00594
Toluene	0.00500		0.00873	0.00109 JQ	0.00110 JQ	0.00195 JQ	0.00863
Trichloroethene	0.00500		<0.00542	<0.00590	<0.00552	<0.00571	<0.00594
Vinyl acetate	0.0100		<0.0108	<0.0118	<0.0110	<0.0114	<0.0119
Vinyl chloride	0.0100		<0.0108	<0.0118	<0.0110	<0.0114	<0.0119
Xylenes (total)	0.00500		<0.00542	<0.00590	<0.00552	<0.00571	<0.00594
cis-1,2-Dichloroethene	0.00500		<0.00542	<0.00590	<0.00552	<0.00571	<0.00594
cis-1,3-Dichloropropene	0.00500		<0.00542	<0.00590	<0.00552	<0.00571	<0.00594
trans-1,2-Dichloroethene	0.00500		<0.00542	<0.00590	<0.00552	<0.00571	<0.00594
trans-1,3-Dichloropropene	0.00500		<0.00542	<0.00590	<0.00552	<0.00571	<0.00594
% Surrogate Recovery (Control Limit)							
sur-1,2-Dichloroethane-d4 R% (70 - 121)	-		105.0	106.9	110.8	108.1	106.9
sur-Bromofluorobenzene R% (74 - 121)	-		80.1	84.9	89.0	84.9	84.0
sur-Toluene-d8 R% (81 - 117)	-		94.1	94.9	98.0	98.1	92.9
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8270/SW3550 (mg/kg)							
1,2,4-Trichlorobenzene	0.333		<0.364	<0.394	<0.366	<0.379	<0.392
1,2-Dichlorobenzene	0.333		<0.364	<0.394	<0.366	<0.379	<0.392
1,3-Dichlorobenzene	0.333		<0.364	<0.394	<0.366	<0.379	<0.392
1,4-Dichlorobenzene	0.333		<0.364	<0.394	<0.366	<0.379	<0.392
2,4,5-Trichlorophenol	0.667		<0.729	<0.788	<0.733	<0.758	<0.784
2,4,6-Trichlorophenol	0.333		<0.364	<0.394	<0.366	<0.379	<0.392
2,4-Dichlorophenol	0.333		<0.364	<0.394	<0.366	<0.379	<0.392
2,4-Dimethylphenol	0.333		<0.364	<0.394	<0.366	<0.379	<0.392
2,4-Dinitrophenol	1.67		<1.82	<1.97 J	<1.83 J	<1.90 J	<1.96 J
2,4-Dinitrotoluene	0.333		<0.364	<0.394	<0.366	<0.379	<0.392
2,6-Dinitrotoluene	0.333		<0.364	<0.394	<0.366	<0.379	<0.392
2-Chloronaphthalene	0.333		<0.364	<0.394	<0.366	<0.379	<0.392
2-Chlorophenol	0.333		<0.364	<0.394	<0.366	<0.379	<0.392
2-Methylnaphthalene	0.333		<0.364	<0.394	<0.366	<0.379	<0.392
2-Methylphenol	0.333		<0.364	<0.394	<0.366	<0.379	<0.392
2-Nitroaniline	1.67		<1.82	<1.97	<1.83	<1.90	<1.96
2-Nitrophenol	0.333		<0.364	<0.394	<0.366	<0.379	392
3,3'-Dichloroben	0.667		<0.729	<0.788	<0.733	<0.758	84

TABLE C-1

DATA SUMMARY TABLE
Areospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD(UNITS)	Quantitation Limits	Sample ID Sample Date Depth Notes	OT3844SA 22-OCT-95 0.0' - 2.0'	OT3845SA 22-OCT-95 0.0' - 2.0'	OT3846SA 22-OCT-95 0.0' - 2.0'	OT3847SA 22-OCT-95 0.0' - 2.0'	OT3848SA 22-OCT-95 0.0' - 2.0'
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8270/SW3550 (mg/kg) cont'd.							
3-Nitroaniline	1.67		<1.82	<1.97	<1.83	<1.90	<1.96
4,6-Dinitro-2-methylphenol	1.67		<1.82	<1.97 J	<1.83	<1.90	<1.96
4-Bromophenyl phenyl ether	0.333		<0.364	<0.394	<0.366	<0.379	<0.392
4-Chloro-3-methylphenol	0.333		<0.364	<0.394	<0.366	<0.379	<0.392
4-Chloroaniline	0.667		<0.729 J	<0.788 J	<0.733 J	<0.758 J	<0.784 J
4-Chlorophenyl phenyl ether	0.333		<0.364	<0.394	<0.366	<0.379	<0.392
4-Methylphenol	0.333		<0.364	<0.394	<0.366	<0.379	<0.392
4-Nitroaniline	1.67		<1.82	<1.97	<1.83	<1.90	<1.96
4-Nitrophenol	1.67		<1.82	<1.97	<1.83 J	<1.90	<1.96
Acenaphthene	0.333		<0.364	<0.394	<0.366	<0.379	<0.392
Acenaphthylene	0.333		<0.364	<0.394	<0.366	<0.379	<0.392
Anthracene	0.333		<0.364	<0.394	<0.366	<0.379	<0.392
Benz(a)anthracene	0.333		<0.364	<0.394	<0.366	0.0637 JQ	<0.392
Benzo(a)pyrene	0.333		<0.364	<0.394	<0.366	<0.379	<0.392
Benzo(b)fluoranthene	0.333		<0.364	<0.394	<0.366	0.0644 JQ	<0.392
Benzo(g,h,i)perylene	0.333		<0.364	<0.394	<0.366	<0.379	<0.392
Benzo(k)fluoranthene	0.333		<0.364	<0.394	<0.366	<0.379	<0.392
Benzoic acid	1.67		<1.82	<1.97	<1.83	<1.90	<1.96
Benzyl alcohol	0.667		<0.729	<0.788	<0.733	<0.758	<0.784
Butyl benzyl phthalate	0.333		<0.364	<0.394	<0.366	<0.379	<0.392
Chrysene	0.333		<0.364	<0.394	<0.366	0.0705 JQ	<0.392
Di-n-butylphthalate	0.333		<0.364	<0.394	<0.366	0.0254 JQ	<0.392
Di-n-octylphthalate	0.333		<0.364	<0.394	<0.366	<0.379	<0.392
Dibenz(a,h)anthracene	0.333		<0.364	<0.394	<0.366	<0.379	<0.392
Dibenzofuran	0.333		<0.364	<0.394	<0.366	<0.379	<0.392
Diethylphthalate	0.333		<0.364	<0.394	<0.366	<0.379	<0.392
Dimethylphthalate	0.333		<0.364	<0.394	<0.366	<0.379	<0.392
Fluoranthene	0.333		0.0340 JQ	<0.394	<0.366	0.130 JQ	0.0396 JQ
Fluorene	0.333		<0.364	<0.394	<0.366	<0.379	<0.392
Hexachlorobenzene	0.333		<0.364	<0.394	<0.366	<0.379	<0.392
Hexachlorobutadiene	0.333		<0.364	<0.394	<0.366	<0.379	<0.392
Hexachlorocyclopentadiene	0.333		<0.364	<0.394 J	<0.366	<0.379	<0.392
Hexachloroethane	0.333		<0.364	<0.394	<0.366	<0.379	<0.392
Indeno(1,2,3-cd)pyrene	0.333		<0.364	<0.394	<0.366	<0.379	<0.392
Isophorone	0.333		<0.364	<0.394	<0.366	<0.379	<0.392
Naphthalene	0.333		<0.364	<0.394	<0.366	<0.379	<0.392
Nitrobenzene	0.333		<0.364	<0.394	<0.366	<0.379	<0.392
Pentachlorophenol	1.00		<1.09	<1.18	<1.10	<1.14	<1.18
Phenanthrene	0.333		<0.364	<0.394	<0.366	0.0443 JQ	<0.392
Phenol	0.333		<0.364	<0.394	<0.366	<0.379	<0.392
Pyrene	0.333		0.0269 JQ	<0.394	<0.366	0.142	0.0549 JQ

TABLE C-1

DATA SUMMARY TABLE
Aerospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD(UNITS)	Quantitation Limits	Sample ID Sample Date Depth Notes	OT3844SA 22-OCT-95 0.0' - 2.0'	OT3845SA 22-OCT-95 0.0' - 2.0'	OT3846SA 22-OCT-95 0.0' - 2.0'	OT3847SA 22-OCT-95 0.0' - 2.0'	OT3848SA 22-OCT-95 0.0' - 2.0'
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8270/SW3550 (ug/kg) cont'd.							
bis(2-Chloroethoxy)methane	0.333		<0.364	<0.394	<0.366	<0.379	<0.392
bis(2-Chloroethyl)ether	0.333		<0.364	<0.394	<0.366	<0.379	<0.392
bis(2-Chloroisopropyl)ether	0.333		<0.364 JL	<0.394 JL	<0.366 JL	<0.379 JL	<0.392 JL
bis(2-Ethylhexyl)phthalate	0.333		<0.364	<0.394	<0.366	<0.379	0.136 JQ
n-Nitrosodi-n-propylamine	0.333		<0.364	<0.394	<0.366	<0.379	<0.392
n-Nitrosodiphenylamine	0.333		<0.364	<0.394	<0.366	<0.379	<0.392
% Surrogate Recovery (Control Limit)							
sur-2,4,6-Tribromophenol R% (19 - 122)	-		51.9	60.1	58.0	60.0	65.0
sur-2-Fluorobiphenyl R% (30 - 115)	-		59.1	65.0	64.9	59.9	65.1
sur-2-Fluorophenol R% (25 - 121)	-		45.9	55.0	54.0	49.1	49.0
sur-Nitrobenzene-d5 R% (23 - 120)	-		48.1	61.9	58.0	50.1	52.0
sur-Phenol-d6 R% (24 - 113)	-		47.0	56.0	56.9	60.0	56.0
sur-Terphenyl-d14 R% (18 - 137)	-		62.1	100.0	72.8	86.0	91.1

Data Qualification Flags/Notes:
J = Estimated quantitation based upon QC data
JB = Estimated quantitation: possibly biased high or a false positive based upon blank data
JH = Estimated quantitation: possibly biased high based upon QC data
JL = Estimated quantitation: possibly biased low or a false negative based upon QC data
JQ = Estimated quantitation: detected below the Practical Quantitation Limit
R = Datum rejected based upon QC data, do not use

TABLE C-1

DATA SUMMARY TABLE
Aerospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD(UNITS)	Quantitation Limits	Sample ID Sample Date Depth Notes	FDUP-05 22-OCT-95 0.0' - 2.0' Duplicate of OT3848SA	OT3849SA 22-OCT-95 0.0' - 2.0'	OT3850SA 23-OCT-95 0.0' - 2.0' Background Sample	OT3851SA 23-OCT-95 0.0' - 2.0' Background Sample
SOIL pH - SW9045/NONE (none)						
623-9045 pH units Soil			7.72	7.76	7.70	7.33
PERCENT SOLID - D2216/NONE (percent)						
623-D2216 Moisture			17.0	4.00	12.0	6.00
METALS, TOTAL BY ICP/SW6010/SW3050 (mg/kg)						
Aluminum	50.0		7970	2550	5120	3650
Antimony	25.0		2.79 JQ	<18.1	1.99 JL	<18.0
Barium	2.00		82.0	28.9	57.2	53.1
Beryllium	0.300		<2.46	<2.17	<2.60	0.216
Cadmium	1.00		<0.820	<0.723	<0.867 JL	<0.719
Calcium	10.0		138000	180000	170000	75900
Chromium	5.00		<41.0	<36.2	<43.4	10.8
Cobalt	5.00		4.10	1.66 JQ	2.17 JQ	3.45 JQ
Copper	5.00		13.1 JQ	<36.2	6.07 JQ	6.90
Iron	5.00		10900	4740	7040	5110
Magnesium	5.00		2420	1650	2000	1080
Manganese	25.0		512	338	346	229
Molybdenum	1.00		1.80 JQ	<3.62	1.91 JL	<3.60
Nickel	5.00		219	191	230	5.75
Potassium	5.00		1430	653	1160	967 JH
Silver	60.0		<4.10	<3.62	<4.34	0.431 JQ
Sodium	5.00		95.0	173	135	75.9 JB
Thallium	25.0		<20.5	<18.1	<21.7	<18.0
Vanadium	25.0		21.4	8.68	14.5	12.2
Zinc	5.00		218	62.8	110	43.1
ARSENIC, TOTAL BY GFAA/SW 7060 (mg/kg)						
Arsenic	1.00		5.48 J	2.25	2.31 JL	1.69
LEAD, TOTAL BY GFAA/SW 7421 (mg/kg)						
Lead	0.500		722	13.9	52.3	96.3
MERCURY, TOTAL BY CVAA/SW 7471 (mg/kg)						
Mercury	0.223		<0.241	<0.213	<0.234	<0.246
SELENIUM, TOTAL BY GFAA/SW 7740/METHOD (mg/kg)						
Selenium	0.500		<2.08 JL	<0.386 JL	<0.424 JL	<0.400
VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8240/NONE (mg/kg)						
1,1,1-Trichloroethane	0.00500		<0.00598	<0.00562	<0.00558	<0.00532
1,1,2,2-Tetrachloroethane	0.00500		<0.00598	<0.00562	<0.00558	<0.00532
1,1,2-Trichloroethane	0.00500		<0.00598	<0.00562	<0.00558	<0.00532
1,1-Dichloroethane	0.00500		<0.00598	<0.00562	<0.00558	<0.00532
1,1-Dichloroethene	0.00500		<0.00598	<0.00562	<0.00558	<0.00532
1,2-Dichloroethane	0.00500		<0.00598	<0.00562	<0.00558	<0.00532
1,2-Dichloropropane	0.00500		<0.00598	<0.00562	<0.00558	<0.00532
2-Butanone (MEK)	0.0100		<0.0120 J	<0.0112	<0.0112	<0.0106
2-Chloroethyl vinyl ether	0.0100		<0.0120	<0.0112 R	<0.0112 R	<0.0106 J
2-Hexanone	0.0100		<0.0120	<0.0112 J	<0.0112 J	<0.0106

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TABLE C-1

DATA SUMMARY TABLE
Aerospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD(UNITS)	Quantitation Limits	Sample ID :	FDUP-05	OT3849SA	OT3850SA	OT3851SA
		Sample Date :	22-OCT-95	22-OCT-95	23-OCT-95	23-OCT-95
		Depth :	0.0' - 2.0'	0.0' - 2.0'	0.0' - 2.0'	0.0' - 2.0'
		Notes	Duplicate of OT3848SA		Background Sample	Background Sample
VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8240/NONE (mg/kg) cont'd.						
4-Methyl-2-pentanone	0.0100		<0.0120	<0.0112	<0.0112	<0.0106
Acetone	0.0100		<0.0120 J	<0.0112 J	<0.0112 J	<0.0106
Benzene	0.00500		<0.00598	<0.00562	<0.00558	<0.00532
Bromodichloromethane	0.00500		<0.00598	<0.00562	<0.00558	<0.00532
Bromoform	0.00500		<0.00598	<0.00562	<0.00558	<0.00532
Bromomethane	0.0100		<0.0120	<0.0112	<0.0112	<0.0106
Carbon disulfide	0.00500		<0.00598	<0.00562	<0.00558	<0.00532
Carbon tetrachloride	0.00500		<0.00598	<0.00562	<0.00558	<0.00532
Chlorobenzene	0.00500		<0.00598	<0.00562	<0.00558	<0.00532
Chloroethane	0.0100		<0.0120 J	<0.0112 J	<0.0112 J	<0.0106 J
Chloroform	0.00500		<0.00598	<0.00562	<0.00558	<0.00532
Chloromethane	0.0100		<0.0120	<0.0112	<0.0112	<0.0106
Dibromochloromethane	0.00500		<0.00598	<0.00562	<0.00558	<0.00532
Ethylbenzene	0.00500		<0.00598	<0.00562	<0.00558	<0.00532
Methylene chloride	0.00500		<0.00598	<0.00562	<0.00558	<0.00532
Styrene	0.00500		<0.00598	<0.00562	<0.00558	<0.00532
Tetrachloroethene	0.00500		<0.00598	<0.00562	<0.00558	<0.00532
Toluene	0.00500		0.000615 JQ	0.00763	0.000918 JQ	0.0302
Trichloroethene	0.00500		<0.00598	<0.00562	<0.00558	<0.00532
Vinyl acetate	0.0100		<0.0120	<0.0112	<0.0112	<0.0106
Vinyl chloride	0.0100		<0.0120	<0.0112	<0.0112	<0.0106
Xylenes (total)	0.00500		<0.00598	<0.00562	<0.00558	<0.00532
cis-1,2-Dichloroethene	0.00500		<0.00598	<0.00562	<0.00558	<0.00532
cis-1,3-Dichloropropene	0.00500		<0.00598	<0.00562	<0.00558	<0.00532
trans-1,2-Dichloroethene	0.00500		<0.00598	<0.00562	<0.00558	<0.00532
trans-1,3-Dichloropropene	0.00500		<0.00598	<0.00562	<0.00558	<0.00532
% Surrogate Recovery (Control Limit)						
sur-1,2-Dichloroethane-d4 R% (70 - 121)	-		112.9	105.2	100.0	101.9
sur-Bromofluorobenzene R% (74 - 121)	-		96.0	83.1	80.0	86.9
sur-Toluene-d8 R% (81 - 117)	-		98.0	98.0	93.0	100.0
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8270/SW3550 (mg/kg)						
1,2,4-Trichlorobenzene	0.333		<0.397	<0.345	<0.376	<0.354
1,2-Dichlorobenzene	0.333		<0.397	<0.345	<0.376	<0.354
1,3-Dichlorobenzene	0.333		<0.397	<0.345	<0.376	<0.354
1,4-Dichlorobenzene	0.333		<0.397	<0.345	<0.376	<0.354
2,4,5-Trichlorophenol	0.667		<0.795	<0.690	<0.753	<0.708
2,4,6-Trichlorophenol	0.333		<0.397	<0.345	<0.376	<0.354
2,4-Dichlorophenol	0.333		<0.397	<0.345	<0.376	<0.354
2,4-Dimethylphenol	0.333		<0.397	<0.345	<0.376	<0.354
2,4-Dinitrophenol	1.67		<1.99 J	<1.73	<1.88	<1.77 J
2,4-Dinitrotoluene	0.333		<0.397	<0.345	<0.376	<0.354
2,6-Dinitrotoluene	0.333		<0.397	<0.345	<0.376	<0.354
2-Chloronaphthalene	0.333		<0.397	<0.345	<0.376	<0.354
2-Chlorophenol	0.333		<0.397	<0.345	<0.376	<0.354
2-Methylnaphthalene	0.333		<0.397	<0.345	<0.376	<0.354
2-Methylphenol	0.333		<0.397	<0.345	<0.376	<0.354
2-Nitroaniline	1.67		<1.99	<1.73	<1.88	<1.77
2-Nitrophenol	0.333		<0.397	<0.345	<0.376	<0.354
3,3'-Dichlorob	0.667		<0.795	<0.690 J	<0.753	<0.708

TABLE C-1

DATA SUMMARY TABLE
Aerospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD(UNITS)	Quantitation Limits	Sample ID Sample Date Depth Notes	FDUP-05 22-OCT-95 0.0' - 2.0' Duplicate of OT3848SA	OT3849SA 22-OCT-95 0.0' - 2.0'	OT3850SA 23-OCT-95 0.0' - 2.0' Background Sample	OT3851SA 23-OCT-95 0.0' - 2.0' Background Sample
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8270/SW3550 (ug/kg) cont'd.						
3-Nitroaniline	1.67		<1.99	<1.73	<1.88	<1.77
4,6-Dinitro-2-methylphenol	1.67		<1.99	<1.73	<1.88	<1.77
4-Bromophenyl phenyl ether	0.333		<0.397	<0.345	<0.376	<0.354
4-Chloro-3-methylphenol	0.333		<0.397	<0.345	<0.376	<0.354
4-Chloroaniline	0.667		<0.795 J	<0.690 J	<0.753 J	<0.708
4-Chlorophenyl phenyl ether	0.333		<0.397	<0.345	<0.376	<0.354
4-Methylphenol	0.333		<0.397	<0.345	<0.376	<0.354
4-Nitroaniline	1.67		<1.99	<1.73	<1.88	<1.77
4-Nitrophenol	1.67		<1.99	<1.73	<1.88	<1.77
Acenaphthene	0.333		<0.397	<0.345	<0.376	0.0605 JQ
Acenaphthylene	0.333		<0.397	<0.345	<0.376	<0.354
Anthracene	0.333		<0.397	<0.345	<0.376	0.128 JQ
Benz(a)anthracene	0.333		<0.397	<0.345	<0.376	0.449
Benzo(a)pyrene	0.333		<0.397	<0.345	<0.376	0.479 J
Benzo(b)fluoranthene	0.333		<0.397	<0.345	<0.376	0.442 J
Benzo(g,h,i)perylene	0.333		<0.397	<0.345	<0.376	0.129 J
Benzo(k)fluoranthene	0.333		<0.397	<0.345	<0.376	0.593 J
Benzoic acid	1.67		<1.99	<1.73	<1.88	<1.77
Benzyl alcohol	0.667		<0.795	<0.690	<0.753	<0.708
Butyl benzyl phthalate	0.333		<0.397	<0.345	<0.376	<0.354
Chrysene	0.333		<0.397	<0.345	<0.376	0.399
Di-n-butylphthalate	0.333		<0.397	<0.345	<0.376	0.0282 JQ
Di-n-octylphthalate	0.333		<0.397	<0.345	<0.376	<0.354 J
Dibenz(a,h)anthracene	0.333		<0.397	<0.345	<0.376	0.107 J
Dibenzofuran	0.333		<0.397	<0.345	<0.376	<0.354
Diethylphthalate	0.333		<0.397	<0.345	<0.376	<0.354
Dimethylphthalate	0.333		<0.397	<0.345	<0.376	<0.354
Fluoranthene	0.333		0.0688 JQ	<0.345	<0.376	0.658
Fluorene	0.333		<0.397	<0.345	<0.376	0.0442 JQ
Hexachlorobenzene	0.333		<0.397	<0.345	<0.376	<0.354
Hexachlorobutadiene	0.333		<0.397	<0.345	<0.376	<0.354
Hexachlorocyclopentadiene	0.333		<0.397	<0.345	<0.376	<0.354 J
Hexachloroethane	0.333		<0.397	<0.345	<0.376	<0.354
Indeno(1,2,3-cd)pyrene	0.333		<0.397	<0.345	<0.376	0.264 J
Isophorone	0.333		<0.397	<0.345	<0.376	<0.354
Naphthalene	0.333		<0.397	<0.345	<0.376	<0.354
Nitrobenzene	0.333		<0.397	<0.345	<0.376	<0.354
Pentachlorophenol	0.333		<0.397	<0.345	<0.376	<0.354
Phenanthrene	1.00		<1.19	<1.04	<1.13	<1.06
Phenol	0.333		0.0266 JQ	<0.345	<0.376	0.508
Pyrene	0.333		<0.397	<0.345	<0.376	<0.354
	0.333		0.0795 JQ	<0.345	<0.376	0.910

TABLE C-1

DATA SUMMARY TABLE
Aerospace Museum Site
Naval Air Station Fort Worth Joint Reserve Base, Carswell Field
Fort Worth, Texas

PARAMETER/METHOD(UNITS)	Quantitation Limits	Sample ID / Sample Date / Depth / Notes	FDUP-05 22-OCT-95 0.0' - 2.0' Duplicate of OT3848SA	OT3849SA 22-OCT-95 0.0' - 2.0'	OT3850SA 23-OCT-95 0.0' - 2.0' Background Sample	OT3851SA 23-OCT-95 0.0' - 2.0' Background Sample
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS - SW8270/SW3550 (mg/kg) cont'd.						
bis(2-Chloroethoxy)methane	0.333		<0.397	<0.345	<0.376	<0.354
bis(2-Chloroethyl)ether	0.333		<0.397	<0.345	<0.376	<0.354
bis(2-Chloroisopropyl)ether	0.333		<0.397 JL	<0.345 JL	<0.376 JL	<0.354 JL
bis(2-Ethylhexyl)phthalate	0.333		<0.397	<0.345	<0.376	0.237 JQ
n-Nitrosodi-n-propylamine	0.333		<0.397	<0.345	<0.376	<0.354
n-Nitrosodiphenylamine	0.333		<0.397	<0.345	<0.376	<0.354
% Surrogate Recovery (Control Limit)						
sur-2,4,6-Tribromophenol R% (19 - 122)	-		64.9	65.1	70.0	75.0
sur-2-Fluorobiphenyl R% (30 - 115)	-		66.0	62.0	60.9	70.9
sur-2-Fluorophenol R% (25 - 121)	-		50.0	43.1	45.0	58.9
sur-Nitrobenzene-d5 R% (23 - 120)	-		53.1	51.0	52.1	61.9
sur-Phenol-d6 R% (24 - 113)	-		56.0	51.0	51.1	62.0
sur-Terphenyl-d14 R% (18 - 137)	-		88.2	75.1	87.0	113.0

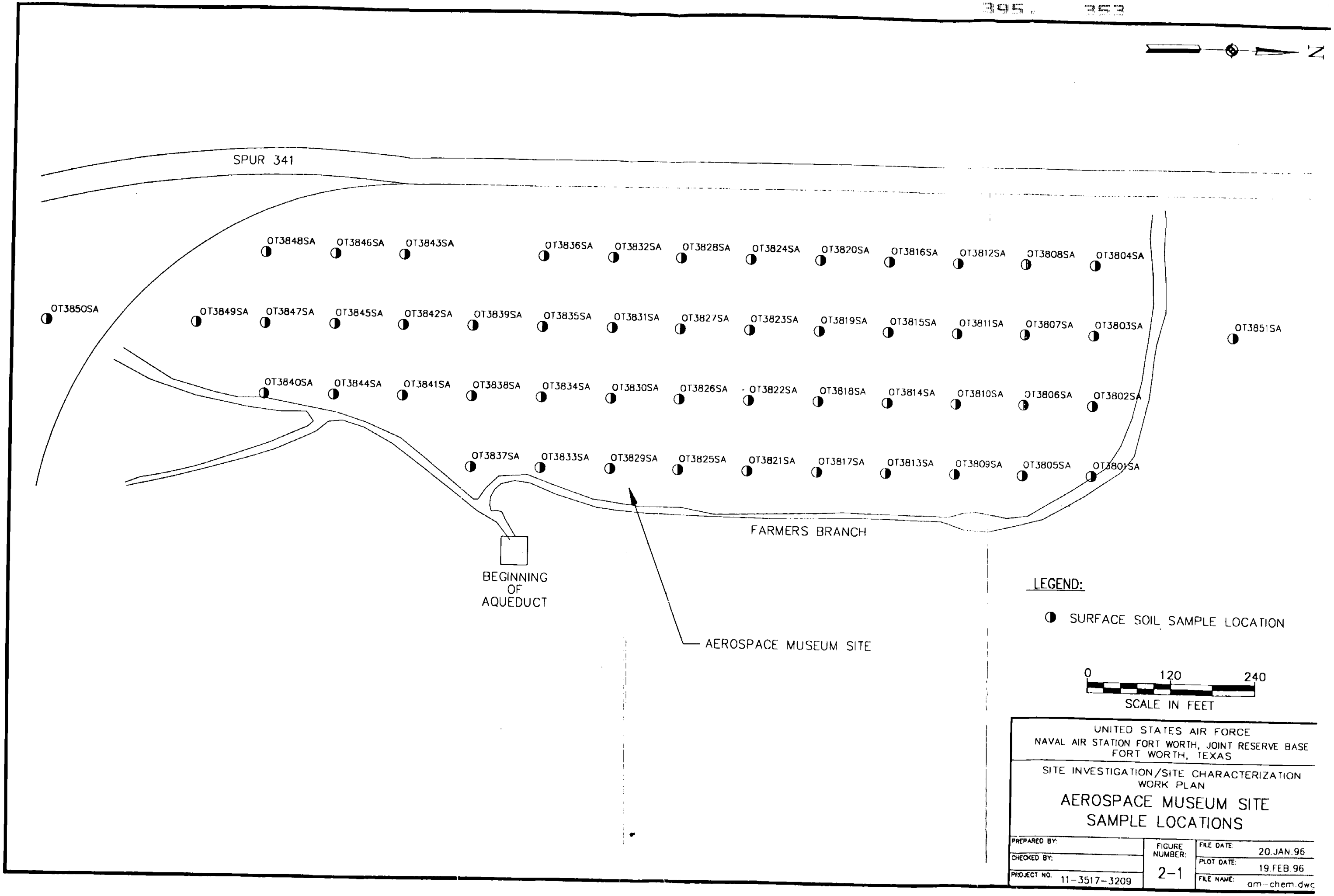
Data Qualification Flags/Notes:
J = Estimated quantation based upon QC data
JB = Estimated quantitation: possibly biased high or a false positive based upon blank data
JH = Estimated quantitation: possibly biased high based upon QC data
JL = Estimated quantitation: possibly biased low or a false negative based upon QC data
JQ = Estimated quantitation detected below the Practical Quantitation Limit
R = Datum rejected based upon QC data: do not use

PREPARED/DATE: John Pecora/2-22-96
CHECKED/DATE: Sue Max/2-22-96

TAB

6

Figures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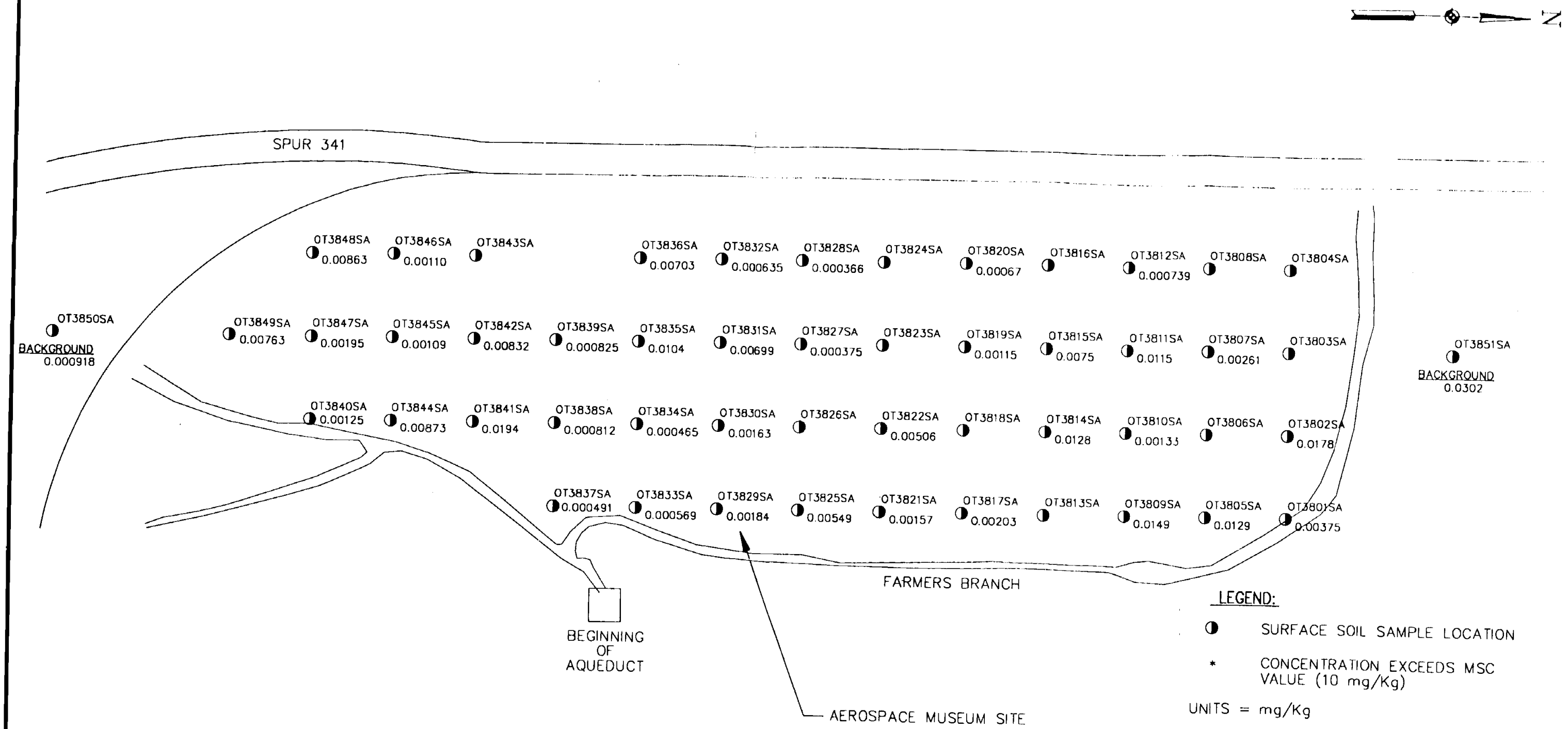
OT3833SA
OT3829SA
OT3825SA
OT3821SA
OT3817SA
OT3813SA
OT3809SA
OT3805SA
OT3801SA
FARMERS BRANCH
BEGINNING OF AQUEDUCT
AEROSPACE MUSEUM SITE
LEGEND:
SURFACE SOIL SAMPLE LOCATION
0
120
240
SCALE IN FEET
UNITED STATES AIR FORCE
NAVAL AIR STATION FORT WORTH, JOINT RESERVE BASE
FORT WORTH, TEXAS
SITE INVESTIGATION/SITE CHARACTERIZATION WORK PLAN
AEROSPACE MUSEUM SITE
SAMPLE LOCATIONS
PREPARED BY:
CHECKED BY:
PROJECT NO. 11-3517-3209
FIGURE NUMBER: 2-1
FILE DATE: 20.JAN.96
PLOT DATE: 19.FEB.96
FILE NAME: am-chem.dwg



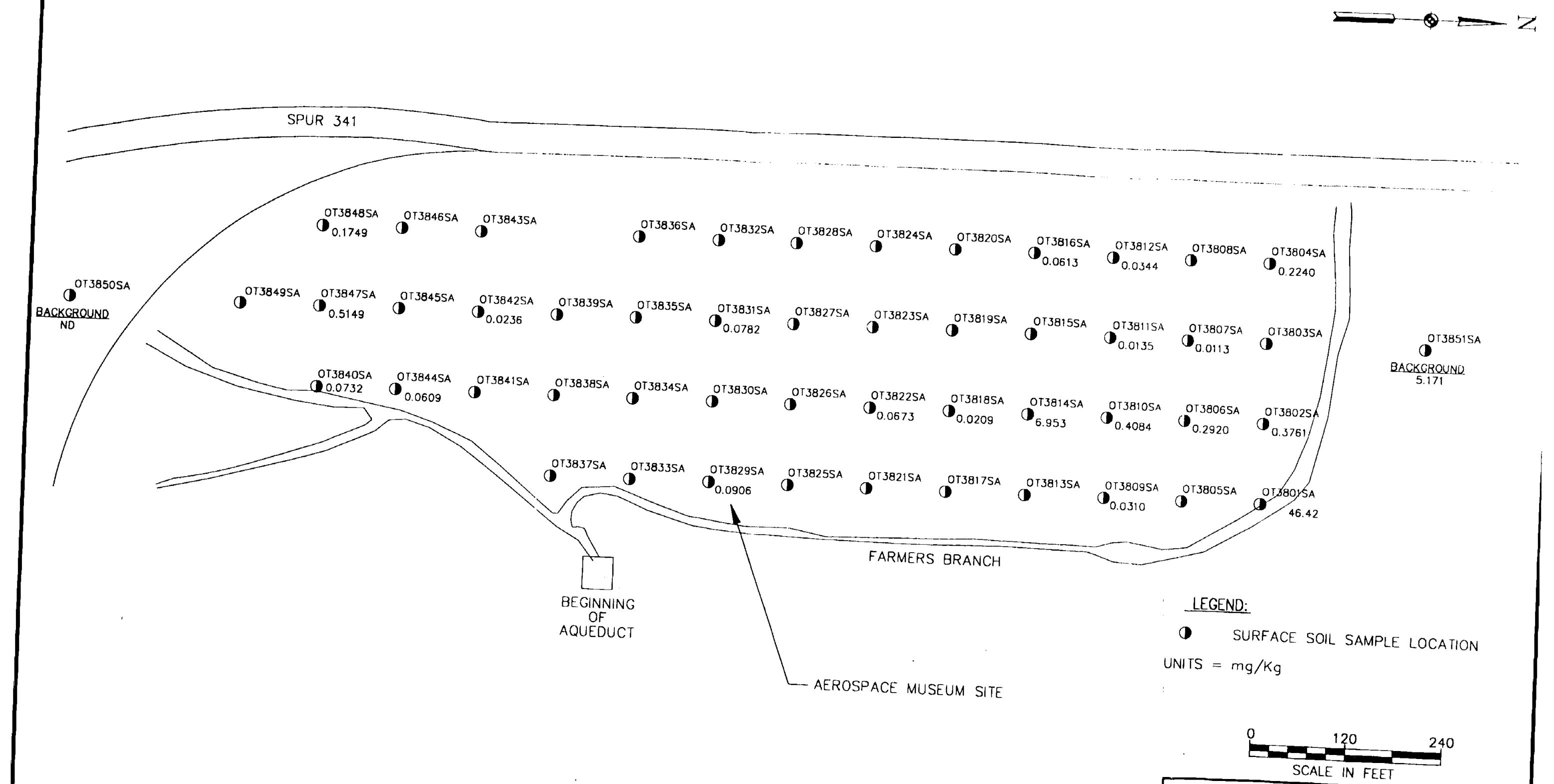
UNITED STATES AIR FORCE
NAVAL AIR STATION FORT WORTH JOINT RESERVE BASE
FORT WORTH, TEXAS

SITE CHARACTERIZATION REPORT

TOLUENE CONCENTRATIONS

AEROSPACE MUSEUM SITE

PREPARED BY:	FIGURE NUMBER: 3-1	FILE DATE: 20.JAN.96
CHECKED BY:		PLOT DATE: 21.FEB.96
PROJECT NO. 11-3517-3209		FILE NAME: AM-TOLU.dwg



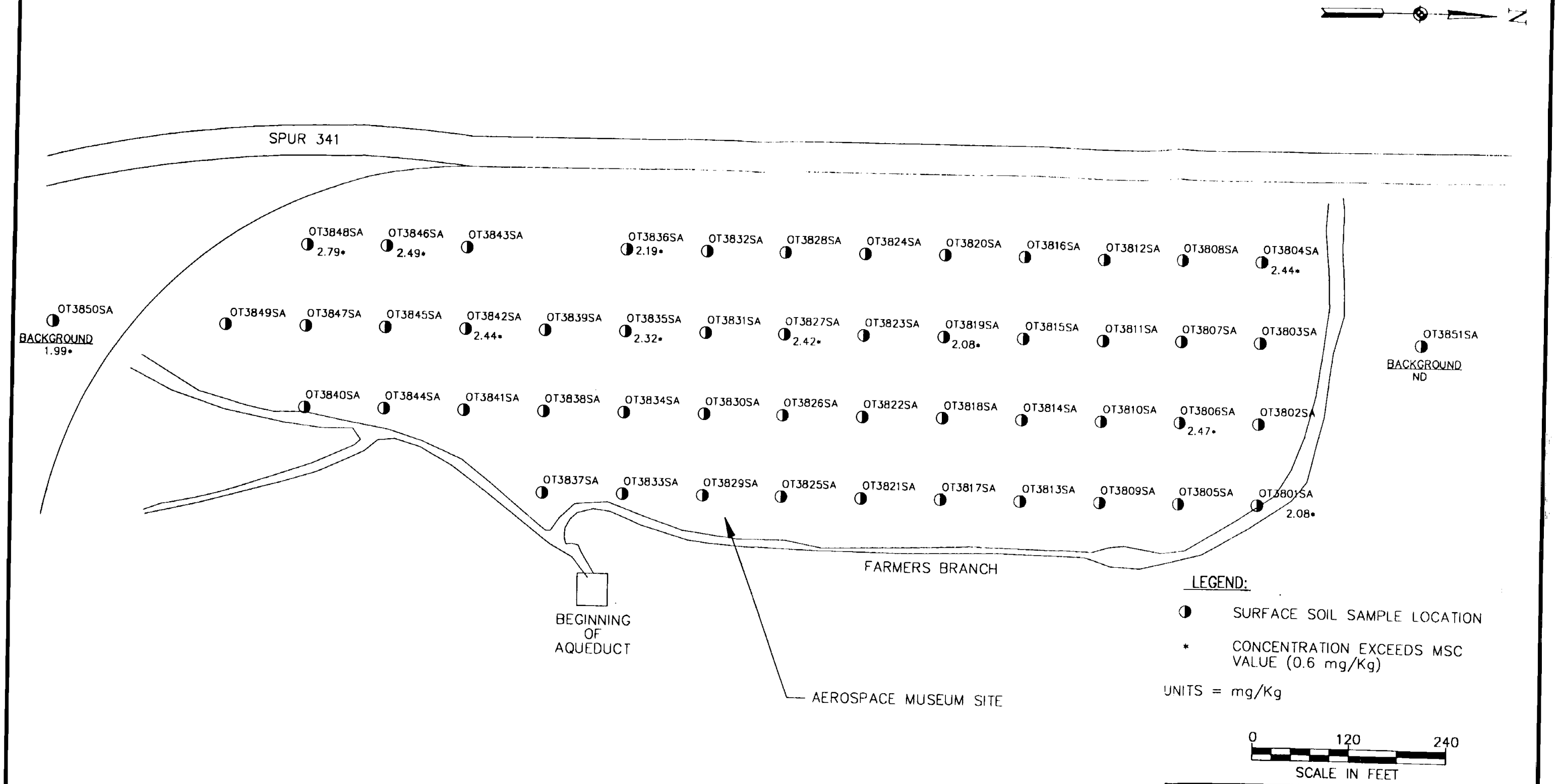
UNITED STATES AIR FORCE
NAVAL AIR STATION FORT WORTH JOINT RESERVE BASE
FORT WORTH, TEXAS

SITE CHARACTERIZATION REPORT

TOTAL PAH CONCENTRATIONS

AEROSPACE MUSEUM SITE

PREPARED BY:	FIGURE NUMBER: 3-2	FILE DATE: 20.JAN.96
CHECKED BY:		PLOT DATE: 19.FEB.96
PROJECT NO. 11-3517-3209		FILE NAME: AM-PAH.dwg



UNITED STATES AIR FORCE
NAVAL AIR STATION FORT WORTH JOINT RESERVE BASE
FORT WORTH, TEXAS

SITE CHARACTERIZATION REPORT

ANTIMONY CONCENTRATIONS GREATER THAN BACKGROUND

AEROSPACE MUSEUM SITE

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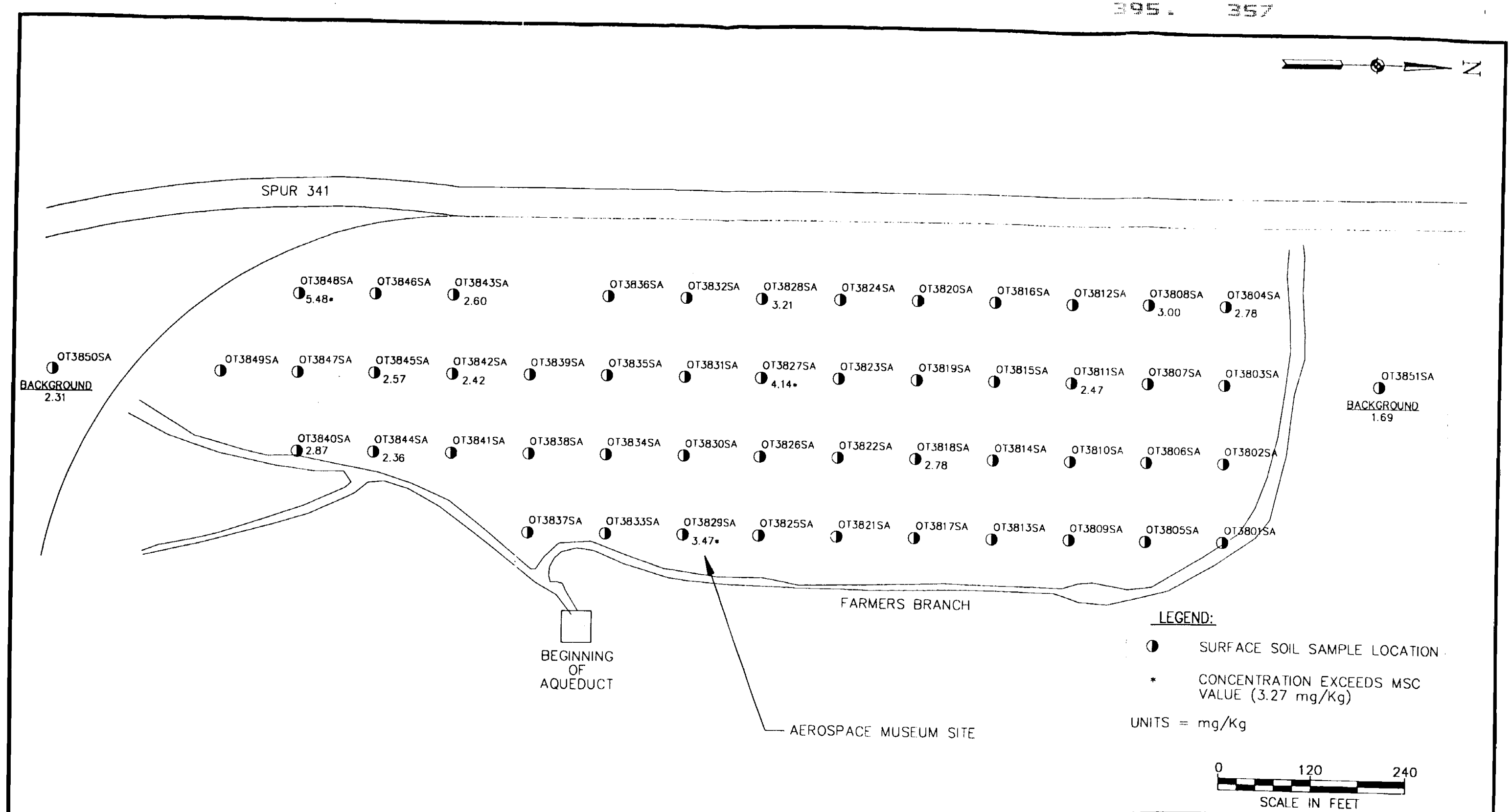
CHECKED BY:		PLOT DATE: 19.FEB.96
PROJECT NO. 11-3517-3209		FILE NAME: AM-ANT.dwg



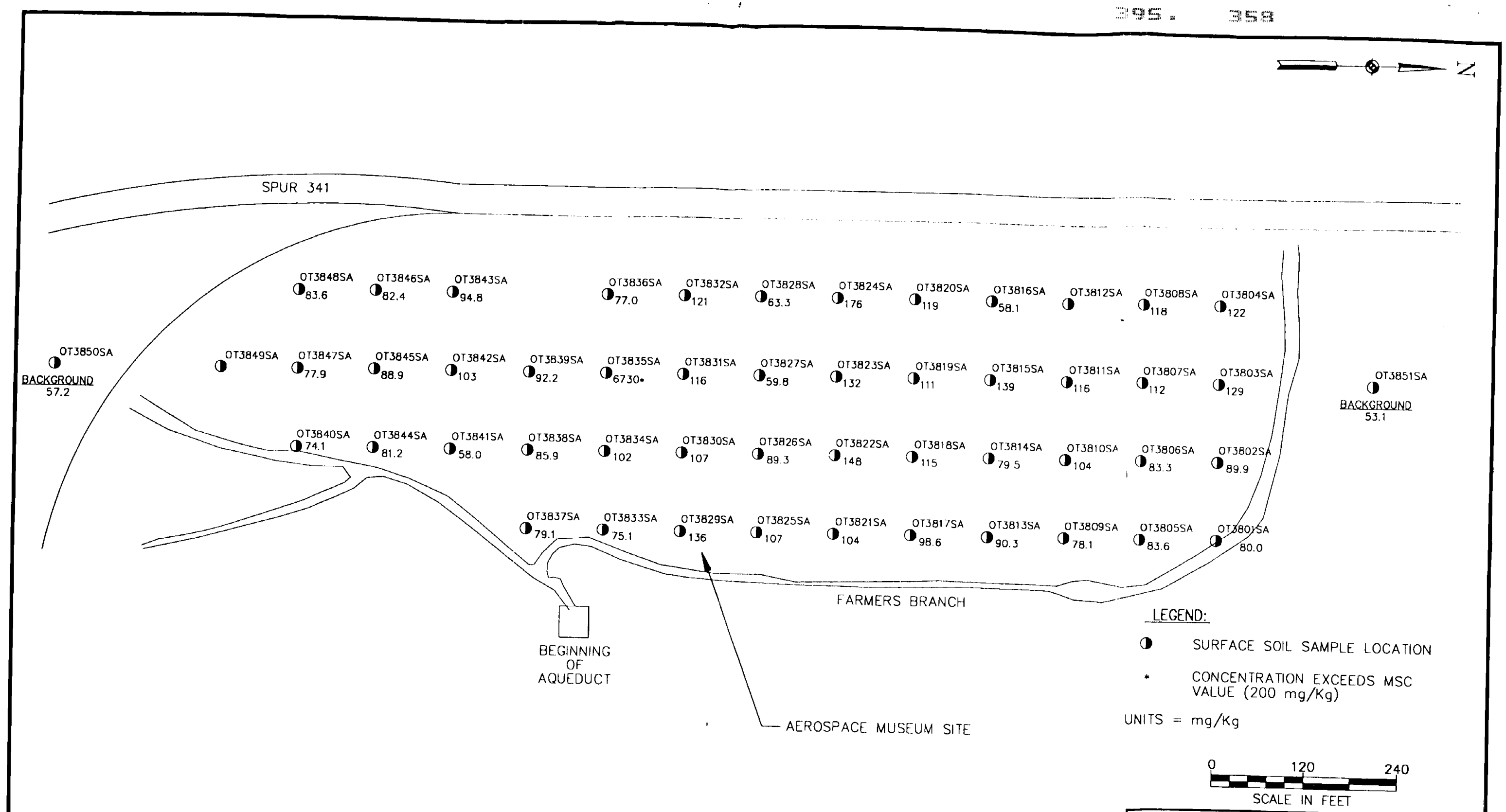
UNITED STATES AIR FORCE
NAVAL AIR STATION FORT WORTH JOINT RESERVE BASE
FORT WORTH, TEXAS

SITE CHARACTERIZATION REPORT

ARSENIC CONCENTRATIONS GREATER THAN BACKGROUND

AEROSPACE MUSEUM SITE

PREPARED BY:	FIGURE NUMBER: 3-4	FILE DATE: 20.JAN.96
CHECKED BY:		PLOT DATE: 19.FEB.96
PROJECT NO. 11-3517-3209		FILE NAME: AM-ARSEN.dwg



UNITED STATES AIR FORCE
NAVAL AIR STATION FORT WORTH JOINT RESERVE BASE
FORT WORTH, TEXAS

SITE CHARACTERIZATION REPORT

BARIUM CONCENTRATIONS GREATER THAN BACKGROUND

AEROSPACE MUSEUM SITE

PREPARED BY:	FIGURE NUMBER: 3-5	FILE DATE: 20.JAN.96
CHECKED BY:		PLOT DATE: 19.FEB.96
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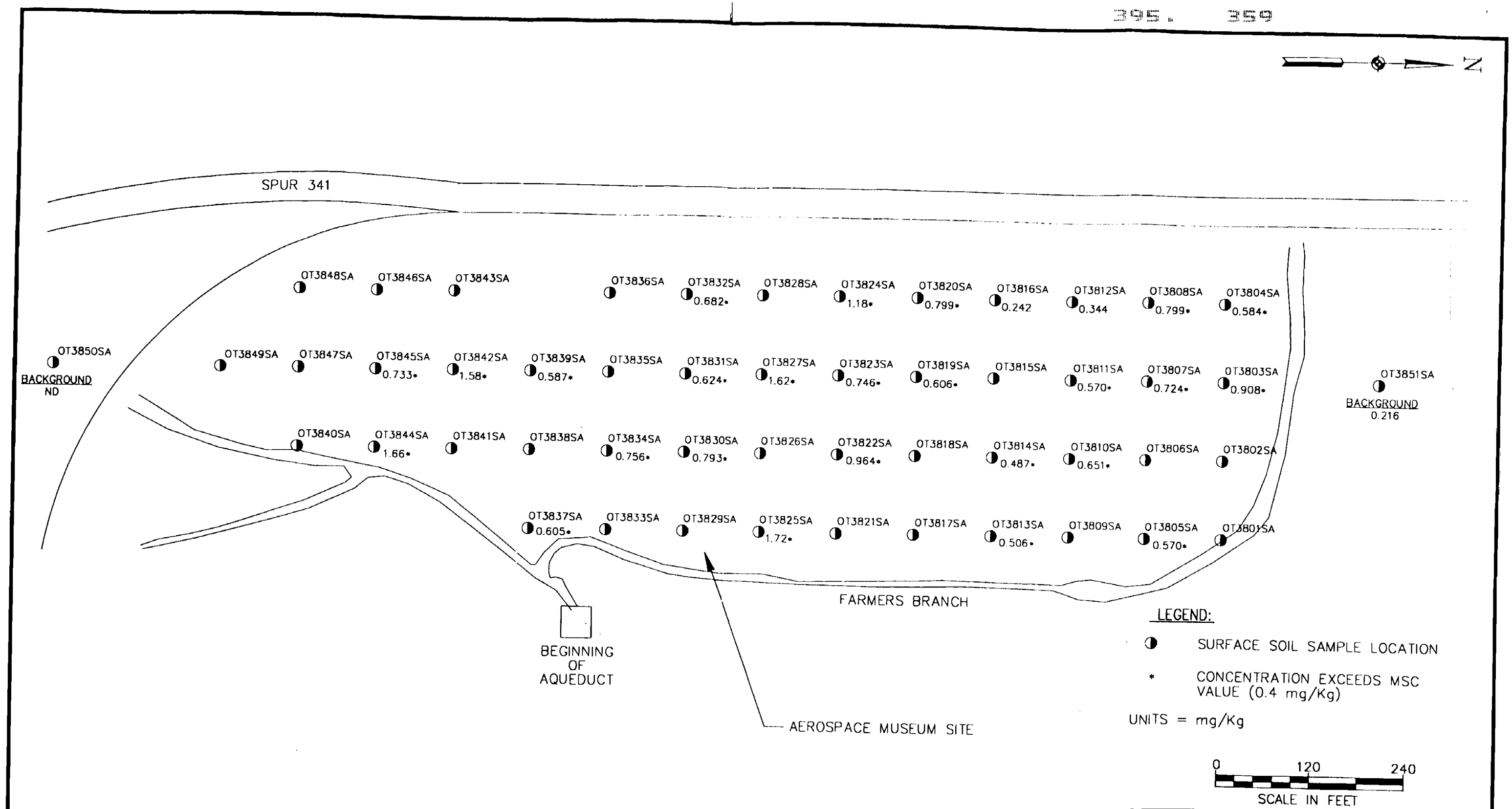


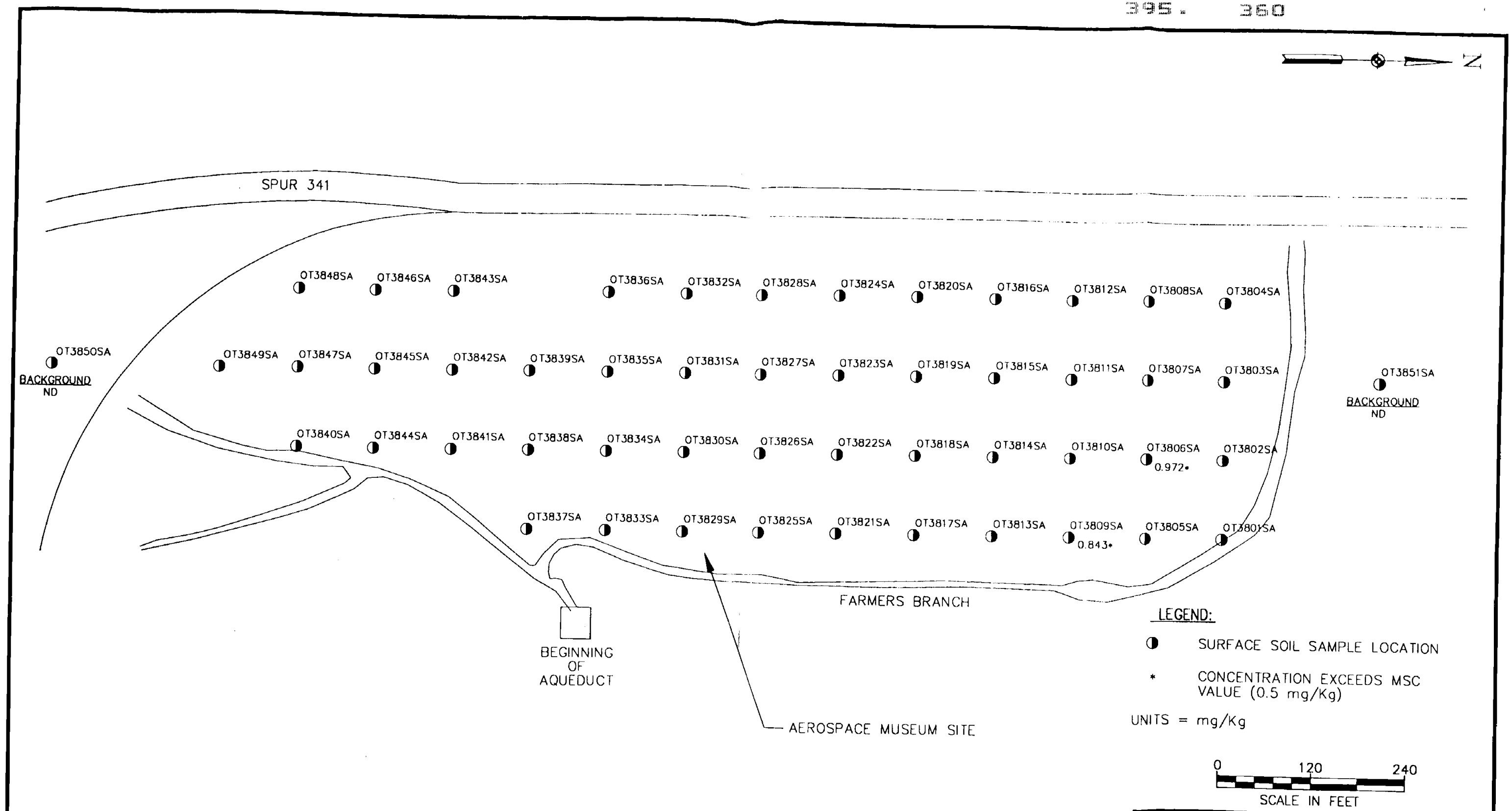
UNITED STATES AIR FORCE
NAVAL AIR STATION FORT WORTH JOINT RESERVE BASE
FORT WORTH, TEXAS

SITE CHARACTERIZATION REPORT

BERYLLIUM CONCENTRATIONS GREATER THAN BACKGROUND

AEROSPACE MUSEUM SITE

PREPARED BY:	FIGURE NUMBER: 3-6	FILE DATE: 20.JAN.96
CHECKED BY:		PLOT DATE: 19.FEB.96
PROJECT NO. 11-3517-3209		FILE NAME: AM-BERY.dwg



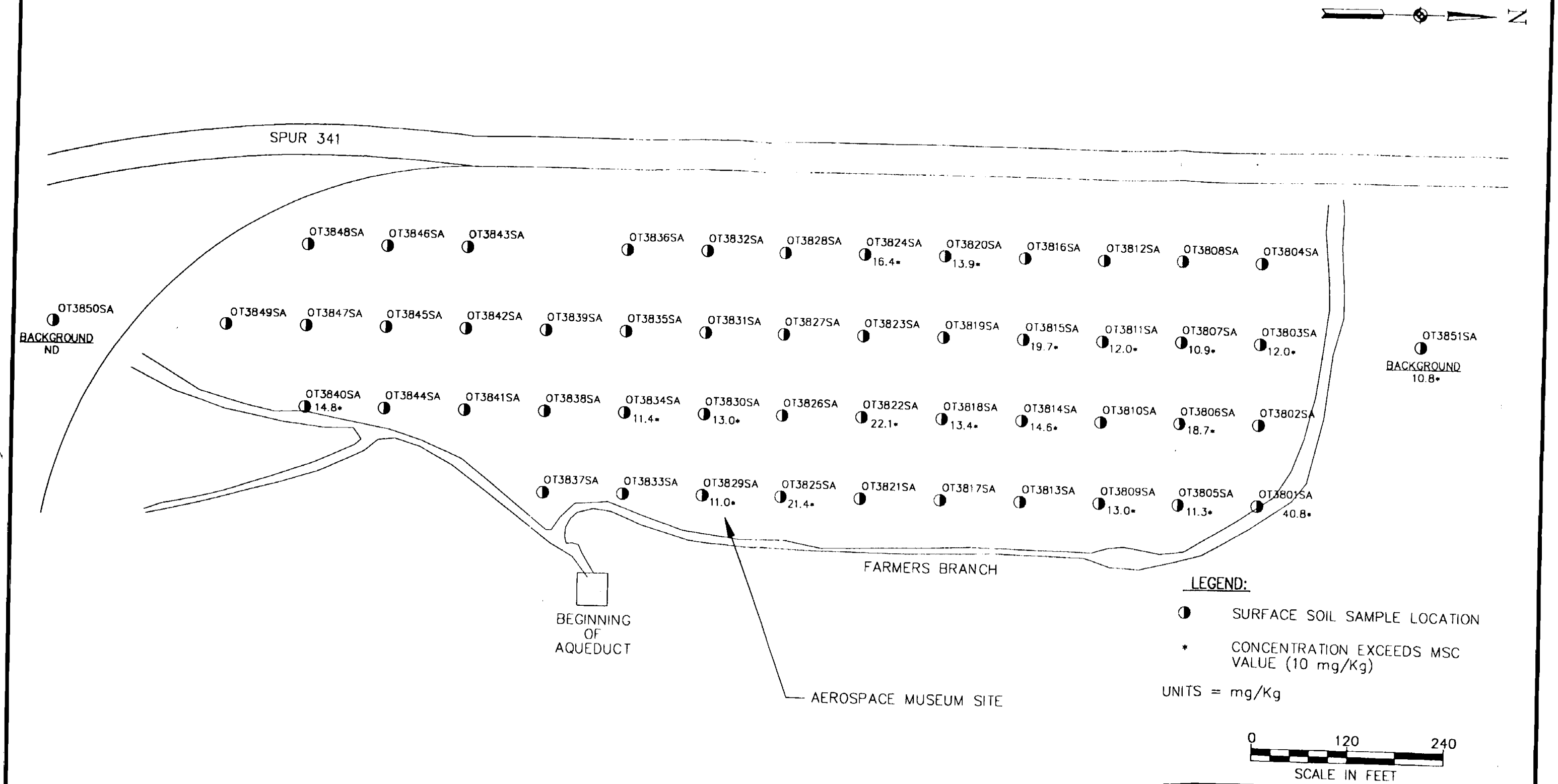
UNITED STATES AIR FORCE
NAVAL AIR STATION FORT WORTH JOINT RESERVE BASE
FORT WORTH, TEXAS

SITE CHARACTERIZATION REPORT

CADMIUM CONCENTRATIONS GREATER THAN BACKGROUND

AEROSPACE MUSEUM SITE

PREPARED BY:	FIGURE NUMBER: 3-7	FILE DATE: 20.JAN.96
CHECKED BY:		PLOT DATE: 19.FEB.96
PROJECT NO. 11-3517-3209		FILE NAME: AM-CAD.dwg



UNITED STATES AIR FORCE
NAVAL AIR STATION FORT WORTH JOINT RESERVE BASE
FORT WORTH, TEXAS

SITE CHARACTERIZATION REPORT

CHROMIUM CONCENTRATIONS GREATER THAN BACKGROUND

AEROSPACE MUSEUM SITE

PREPARED BY:	FIGURE NUMBER: 3-8	FILE DATE: 20.JAN.96
CHECKED BY:		PLOT DATE: 19.FEB.96
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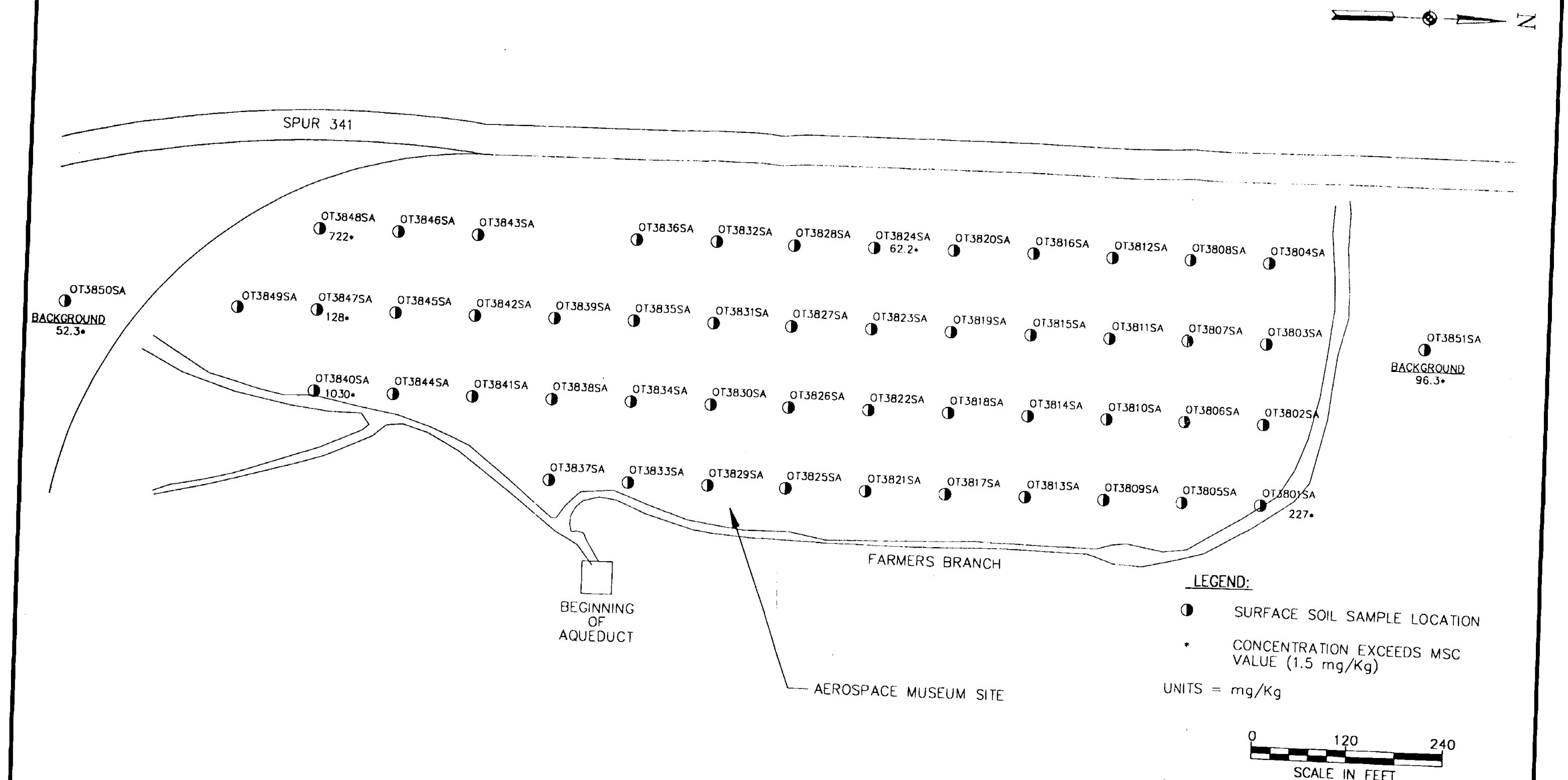


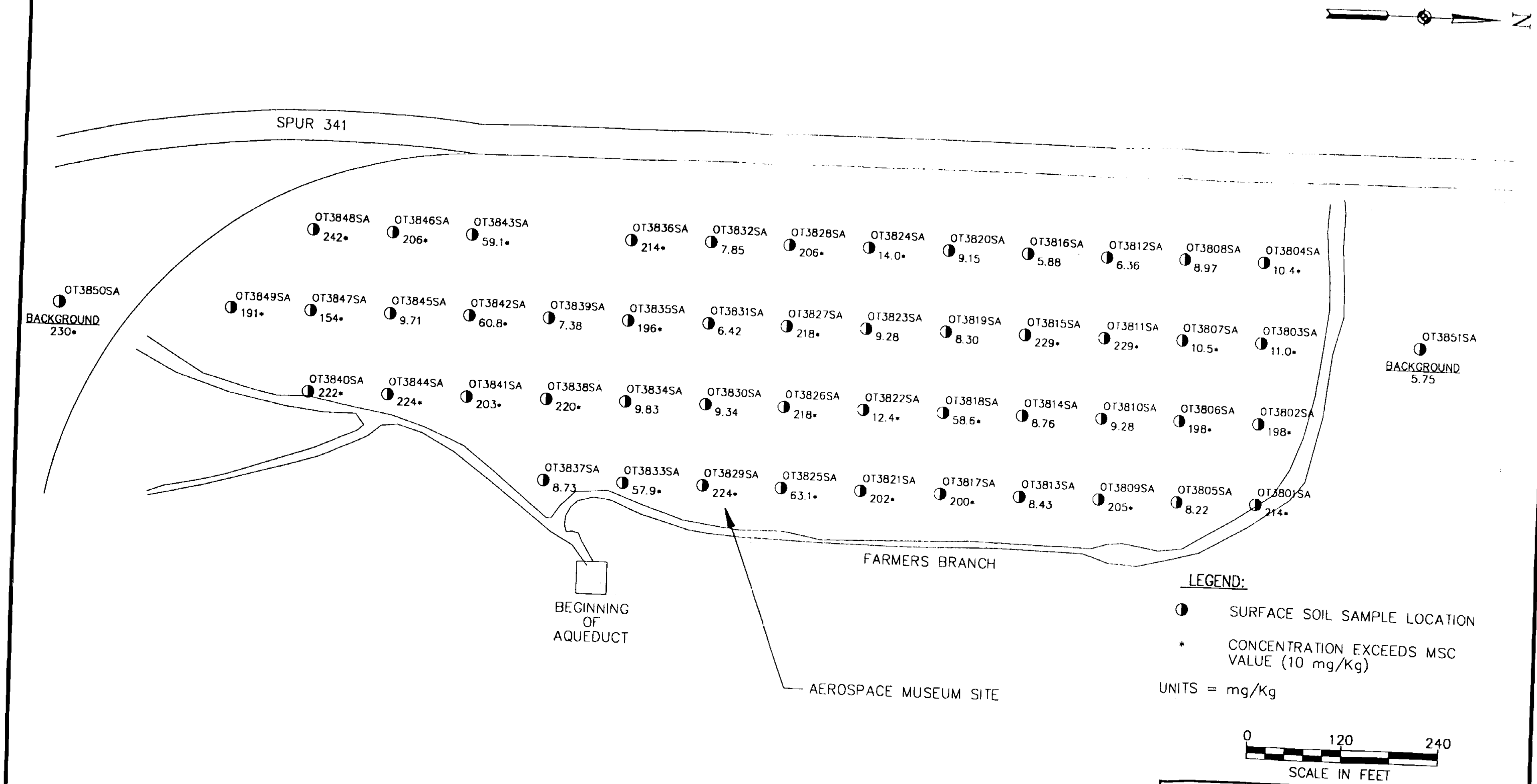
UNITED STATES AIR FORCE
NAVAL AIR STATION FORT WORTH JOINT RESERVE BASE
FORT WORTH, TEXAS

SITE CHARACTERIZATION REPORT

LEAD CONCENTRATIONS GREATER THAN BACKGROUND

AEROSPACE MUSEUM SITE

PREPARED BY:	FIGURE NUMBER: 3-9	FILE DATE: 20.JAN.96
CHECKED BY:		PLOT DATE: 19.FEB.96
PROJECT NO. 11-3517-3209		FILE NAME: AM-LEAD.dwg



UNITED STATES AIR FORCE
NAVAL AIR STATION FORT WORTH JOINT RESERVE BASE
FORT WORTH, TEXAS

SITE CHARACTERIZATION REPORT

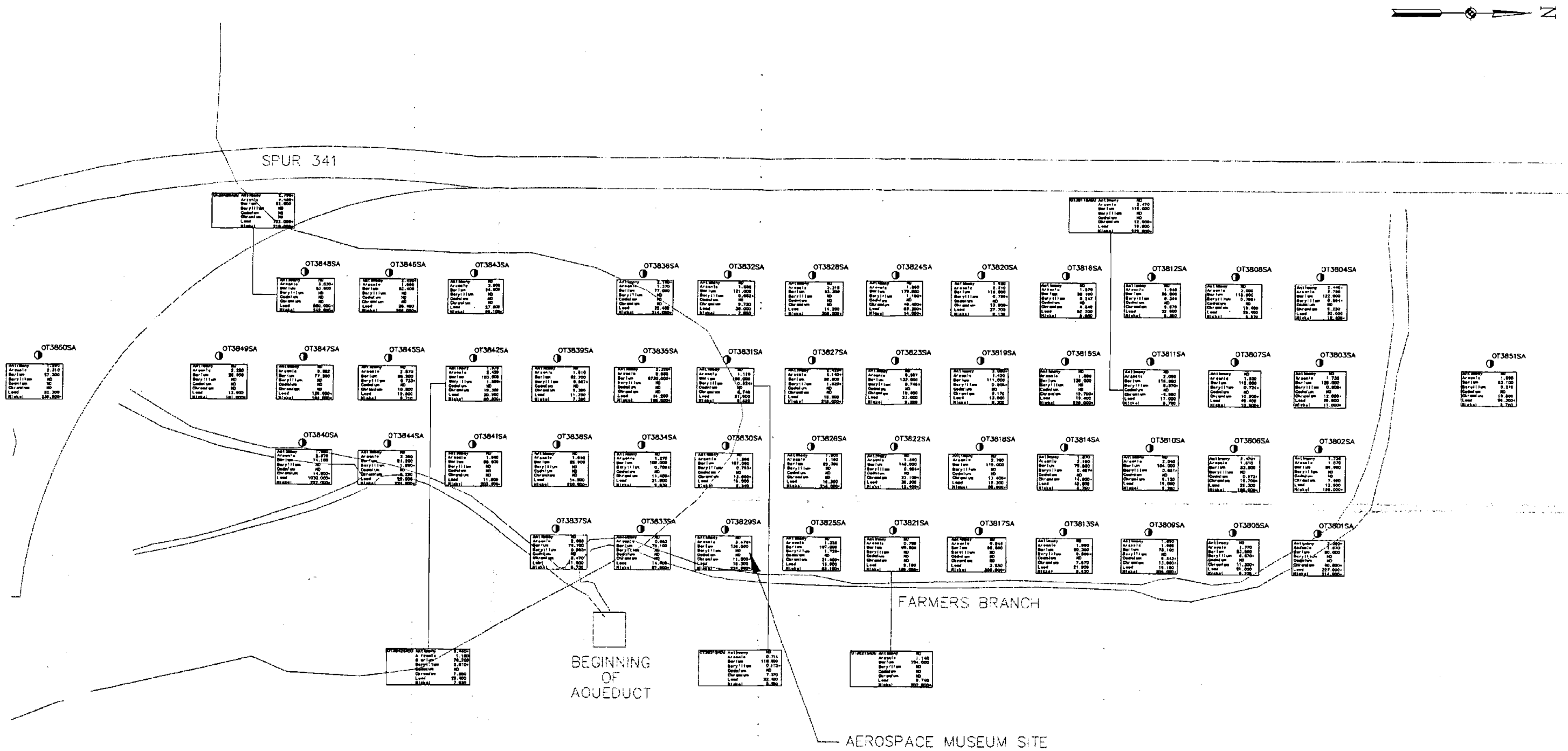
NICKEL CONCENTRATIONS GREATER THAN BACKGROUND

AEROSPACE MUSEUM SITE

PREPARED BY:	FIGURE NUMBER: 3-10	FILE DATE:	20.JAN.96
CHECKED BY:		PLOT DATE:	19.FEB 96
PROJECT NO. 11-3517-3209		FILE NAME:	AM-NICK.dwg

TAB

7



0 120 240

SCALE IN FEET

LEGEND:

◑ SURFACE SOIL SAMPLE LOCATION

UNITS = mg/Kg

ND = NOT DETECTED

MSC = MEDIUM-SPECIFIC CONCENTRATION

* RESULT EXCEEDS BOTH BACKGROUND CONCENTRATION AND MSC VALUE

UNITED STATES AIR FORCE
NAVAL AIR STATION FORT WORTH JOINT RESERVE BASE
FORT WORTH, TEXAS

SITE CHARACTERIZATION REPORT

METAL CONSTITUENTS EXCEEDING BACKGROUND CONCENTRATIONS AND MSC VALUES

AEROSPACE MUSEUM SITE

PREPARED BY:	FIGURE NUMBER: 4-1	FILE DATE: 20.JAN.96
CHECKED BY:		PLOT DATE: 21.FEB.96
PROJECT NO. 11-3517-3209		FILE NAME: AM-CHEM1.dwg

FINAL PAGE

ADMINISTRATIVE RECORD

FINAL PAGE

FINAL PAGE

ADMINISTRATIVE RECORD

FINAL PAGE