



DEPARTMENT OF THE ARMY
BASE REALIGNMENT AND CLOSURE
ATLANTA FIELD OFFICE
BRAC ENVIRONMENTAL COORDINATOR
HAMILTON ARMY AIRFIELD
1 BURMA ROAD
NOVATO, CALIFORNIA 94949



May 5, 2004

DAIM-BO-A-HA

Subject: Forwarding addendum to the final *Construction Report and Supplemental Construction Report for Building 41 Demolition and Soil Removal, Spoils Pile F Removal, and Revetments 6 and 7 Removal, Hamilton Army Airfield.*

Ms. Naomi Feger
Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

Dear Ms. Feger,

The Army is pleased to provide the addendum to the final *Construction Report and Supplemental Construction Report for Building 41 Demolition and Soil Removal, Spoils Pile F Removal, and Revetments 6 and 7 Removal, Hamilton Army Airfield*, for your files.

In 2002, remedial activities occurred at Building 41, Spoils Pile F, and Revetments 6 and 7 to remove soil with contamination above the preliminary cleanup goals. After reviewing analytical data from that event, it was agreed that some additional samples are needed to determine if the actions are complete. The additional samples were collected in November and December 2003 in accordance with the *Work Plan, Miscellaneous Site Investigations, Hamilton Army Airfield (USACE 2004)* and Addendum.

The results of the recent sampling event are contained in the enclosed addendum. Please insert this addendum into your copy of the *Construction Report and Supplemental Construction Report for Building 41 Demolition and Soil Removal, Spoils Pile F Removal, and Revetments 6 and 7 Removal, Hamilton Army Airfield (Shaw 2003)*.

Based on the data collected, the Army recommends no further excavation or investigation at these sites. The Army does recommend that residual total DDTs adjacent to Spoil Pile F be addressed as an area-wide issue in accordance with the *Main Airfield Parcel Record of Decision/Remedial Action Plan (Dept. of Army, RWQCB, DTSC 2003)*. I request your concurrence with these recommendations by June 8, 2004.

If you have any questions, please contact me at (415) 883-6386.

Sincerely,

A handwritten signature in black ink, appearing to read "Edward Keller". The signature is fluid and cursive, with a long horizontal stroke at the end.

Edward Keller, P.E.
BRAC Environmental Coordinator
Hamilton Army Airfield

Enclosure

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Addendum to the
Construction Report and Supplemental Construction Report for Building 41 Demolition and Soil Removal, Spoils Pile F Removal, and
Revetments 6 & 7 Removal
Hamilton Army Airfield, Novato, CA 94949
May 2004**

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Distribution List
Addendum to the
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Revetments 6 & 7 Removal
Hamilton Army Airfield, Novato, CA 94949
May 2004

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ADDENDUM to
Final Construction Report and Supplemental Construction
Report for Building 41 Demolition and Soil Removal, Spoils
Pile F Removal, and Revetments 6 and 7 Removal
Hamilton Army Airfield
NOVATO, CALIFORNIA



Prepared by:



US Army Corps
of Engineers ®
Sacramento District
Environmental Design Section

Prepared for:



Department of the Army
Base Realignment and Closure

May 2004

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Appendix A: Analytical Data Tables

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ACRONYMS

B41	Building 41
bgs	below ground surface
BRAC	Base Realignment and Closure program
DoD	Department of Defense
DTSC	State of California Department of Toxic Substances Control
HAAF	Hamilton Army Airfield
mg/kg	milligrams per kilogram
PDD	Perimeter Drainage Ditch
Rev	Revetment
RWQCB	Regional Water Quality Control Board
SPF	Spoils Pile F
Total DDTs	Sum of DDD, DDE, and DDT concentrations
USACE	U.S. Army Corps of Engineers

**REPORT ADDENDUM to
Final Construction Report And Supplemental Construction Report For
Building 41 Demolition And Soil Removal, Spoils Pile F Removal, And
Revetments 6 And 7 Removal
HAMILTON ARMY AIRFIELD**

1.0 INTRODUCTION

The former Hamilton Army Airfield (HAAF) in Novato, California (see Figure 1-1) has been owned and operated by various branches of the Department of Defense (DoD) from 1932 to September 30, 2003. The Army is responsible for environmental remediation at HAAF as the DoD owner of the property at the time of closure under the Base Realignment and Closure Act (BRAC) of 1988. The activities performed at HAAF by the Army since 1988 are intended to advance the environmental closure and transfer of the HAAF property. Remedial actions were conducted by Shaw Environmental, Incorporated, under contract to USACE, Sacramento District, at Building 41, Spoils Pile F, and Revetments 6 and 7 in 2002 to remove man-made features and soil with contamination above the established cleanup goals. The remedial actions included demolishing Building 41, excavating contaminated soil in the Building 41 area and the associated Perimeter Drainage Ditch (PDD), excavation of contaminated soil at the former Spoils Pile F, demolition and excavation of concrete revetments and associated contaminated soil and asphalt, and confirmation and waste characterization sampling and analysis as described in *Construction Report and Supplemental Construction Report for Building 41 Demolition and Soil Removal, Spoils Pile F Removal, and Revetments 6 and 7 Removal, Hamilton Army Airfield* (Shaw 2003).

The waste profiling samples from the above effort for Revetment 6 and 7 raised a question regarding mercury at these sites. It was also agreed between the Army and the regulatory agencies that several additional confirmation samples would be collected at the Building 41 area and the associated Perimeter Drainage Ditch (PDD) and at the Spoils Pile F sites. The confirmation samples would be analyzed for Total DDTs (defined as the sum of 4,4'-DDD, 4,4'-DDE, and 4,4'-DDT). An investigation was performed in November 2003 and January 2004 by the U.S. Army Corps of Engineers (USACE), Sacramento District, Environmental Design Section, Environmental Engineering Branch at these sites. The USACE conducted additional sampling and analysis to identify the extent of constituents of concern at these sites based upon sample results from the remedial actions. The site locations within HAAF are illustrated in Figure 1-2. The results of this sampling are presented as an addendum to the previous report so that all information on these sites will be in one document. The sampling was conducted in

accordance with the *Work Plan, Miscellaneous Site Investigations, Hamilton Army Airfield* (USACE 2004) and the Work Plan Addendum. The investigation was designed to collect the data necessary to determine if the soil at the sites contains residual contamination that requires further action. The decisions are based upon the agreements and action goals in the *Record of Decision/ Remedial Action Plan (ROD/RAP)* (Army, DTSC, RWQCB 2003) and the USFWS *Biological Opinion* (USFWS 2003).

This report presents a summary of the fieldwork, the results of the investigation, and conclusions.

2.0 SAMPLING STRATEGY AND ASSOCIATED FIELD ACTIVITIES

2.1 Building 41 for Total DDTs

Sampling and analysis was performed to determine if Total DDT concentrations exceed the ROD/RAP action goal. The Building 41 area will be excavated to allow for a planned future wetlands, and soil with Total DDTs greater than the action goal must be mitigated. Samples were collected along the length of the perimeter drainage ditch (PDD) near Building 41 and near the inflow from the PDD to the Building 41 sump as illustrated in Figure 2-1.

Eight (8) samples were collected with a Geoprobe direct push sampling rig from five locations at various depths and analyzed for Total DDTs by Method 8081A. Samples were collected along the PDD at 1.5 feet below the concrete liner. Others were collected at the surface and 7.5 to 8 feet below the ground surface at the Building 41 inlet. All samples were collected as specified in the work plan, except HAAF-B41PD-684-8.5FT. This sample was collected below the top of the groundwater aquifer, and represents a composite boring from 8.5 to 10 ft. All sediments consisted of silty clays.

2.2 Spoils Pile F for Total DDTs

Sampling and analysis was performed to determine if Total DDT concentrations exceed the ROD/RAP action goal. It was agreed to collect several additional confirmation samples along the eastern edge of the previous excavation and near a previous sample that had a Total DDT concentration above the removal action goal for that effort. The excavation was not backfilled following the removal activities. In accordance with the ROD/RAP, the Army must remove soil containing Total DDTs greater than 1 mg/kg. Soil greater than the action goal but less than 1 mg/kg must be mitigated prior to wetlands restoration. Figure 2-2 illustrates these additional sample locations along the perimeter.

Three samples were collected one foot below the original ground surface at the wall of the previous excavation (one foot lower in depth than specified in the work plan) and one surface sample was collected closer to the center, about 20 ft west of boring SPF-1400 (as specified in the work plan). All were analyzed for Total DDTs by Method 8081A. Sediments consisted of silty clays. All three samples collected along the wall of the previous excavation had results above the removal action goal.

Additional samples were collected above (0 ft) and below (2 ft) the three samples along the wall of the previous excavation. All samples at the surface had results above the ROD/RAP action goal. All samples at 2 feet had results below the removal action goal. Stepout surface samples were collected five feet east of the original borings along the wall of the previous excavation.

All three stepout samples had results above the removal action goal. Further stepouts to the east are limited by the presence of the levee and associated gravel road.

2.3 Revetments 6 and 7 for Mercury

Composite soil samples were collected from each excavation area within Revetments 6 and 7 to determine if mercury concentrations exceed the action goal. Mercury was detected above the cleanup goal in one of three waste characterization samples from Revetment 6 and one of two characterization samples from Revetment 7 during the remedial action. The Army had agreed to collect additional confirmation samples for mercury to ensure that soil with mercury above the action goal does not remain at the revetments. This sampling event fulfills that agreement. Figures 2-3a and 2-3b illustrate the sample locations.

Three composite samples were collected from 0 to 3 inches below ground surface (bgs) at each revetment and analyzed for mercury using Method 7471A. Each composite consisted of at least 4 discrete samples homogenized with a stainless steel spoon in a stainless steel bowl. All samples were collected as specified in the work plan. Sediments consisted of silty clays with scattered remnants of road base.

3.0 RESULTS

Analytical results are listed in Appendix A by site. Laboratory data packages are included in Appendix B.

3.1 Data Quality

The data were validated using the procedures specified in the Quality Assurance Project Plan section of the work plan. All data are considered usable to meet the project objectives. All estimated values in this dataset, designated with a “J” qualifier, are solely due to concentrations below the reporting limit, but above the detection limit, where accuracy is lower than required.

3.2 Building 41

Samples were analyzed for Total DDTs by Method 8081A. Data tables with all results are included in Appendix A and on Figure 2-1. Table 3-1 lists results that are greater than the action goal of 0.024 mg/kg. No results exceeded the 1.0 mg/kg concentration requiring excavation and off-site disposal.

Table 3-1. Building 41 Results Exceeding Action Goal

Sample Identification Number	Analyte	Concentration (mg/kg)
HAAF-B41PD-680	Total DDTs	0.27
HAAF-B41PD-682-8FT	Total DDTs	0.47
HAAF-B41PD-684-8.5FT	Total DDTs	0.71

3.3 Spoils Pile F

Samples were analyzed for Total DDTs by Method 8081A. All results are included in Appendix A and on Figure 2-2. Table 3-2 lists results that are greater than the action goal of 0.024 mg/kg. No results exceeded the 1.0 mg/kg concentration requiring excavation and off-site disposal.

Table 3-2. Spoils Pile F Total DDT Results Exceeding Action Goal

Boring ID	Depth (ft)	Sample Identification Number	Concentration (mg/kg)
SPF-1400	0	SPF-1400-0FT	0.027
	1	HAAF-SPF-701	0.12
SPF-1401	0	SPF-1401-0FT	0.29
	1	HAAF-SPF-702	0.21
SPF-1402	0	SPF-1402-0FT	0.26
	1	HAAF-SPF-703	0.1
SPF-1403	0	SPF-1403-0FT	0.038
SPF-1404	0	SPF-1404-0FT	0.32
SPF-1405	0	SPF-1405-0FT	0.45

3.3 Revetments 6 and 7

Composite samples were analyzed for mercury. All results are included in Appendix A and on Figures 2-3a and 2-3b. No results were greater than the associated action goal.

4.0 CONCLUSIONS

Conclusions were based upon the decision rules in the Data Quality Objectives section of the work plan. Both Building 41 and Spoils Pile F samples contained multiple samples with Total DDT concentrations that exceeded the action goal; however, no sample concentrations exceeded the concentration requiring excavation with off-site disposal.

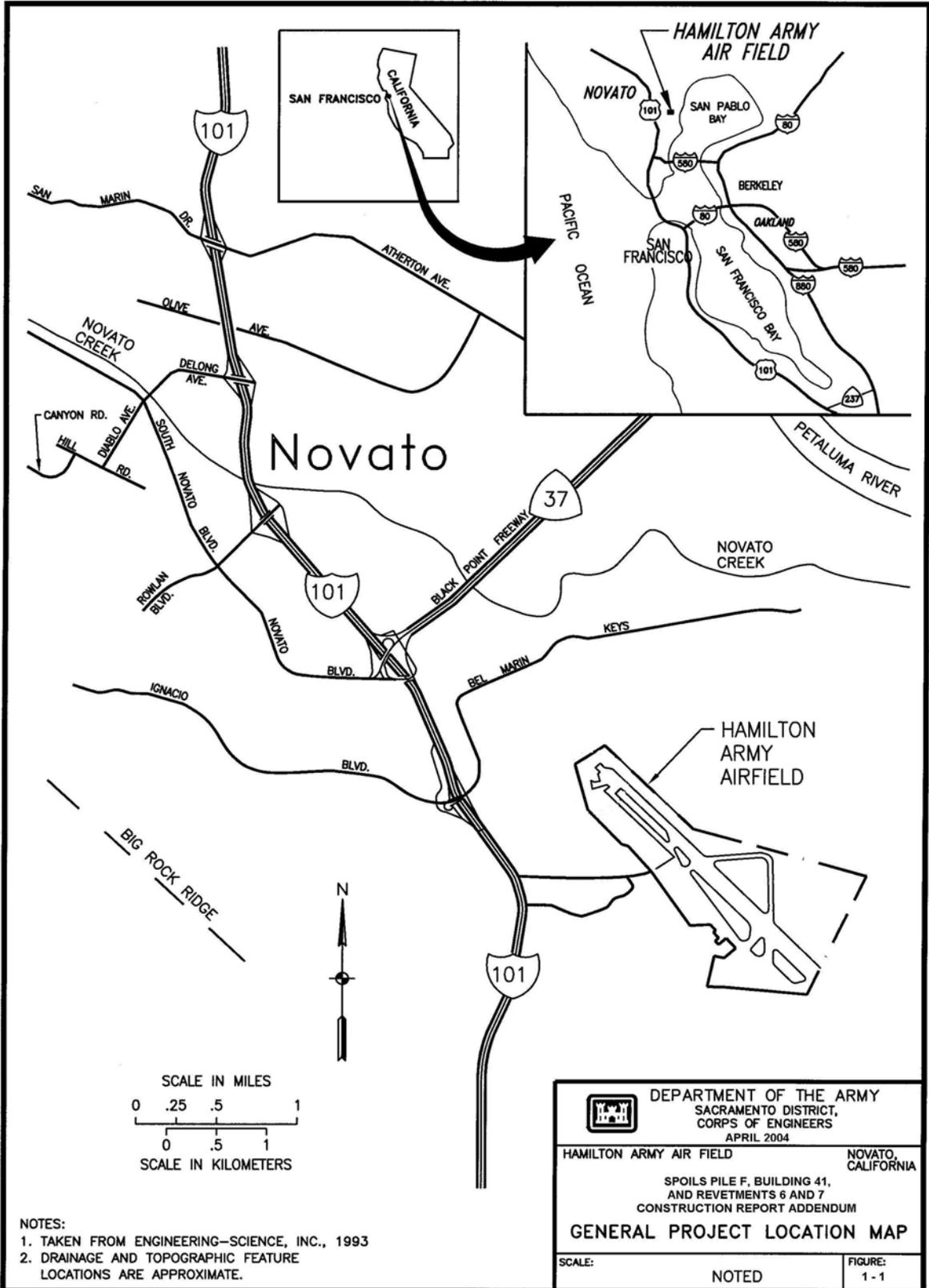
Mercury concentrations from the composite samples within Revetments 6 and 7 excavations were all less than the action goal.

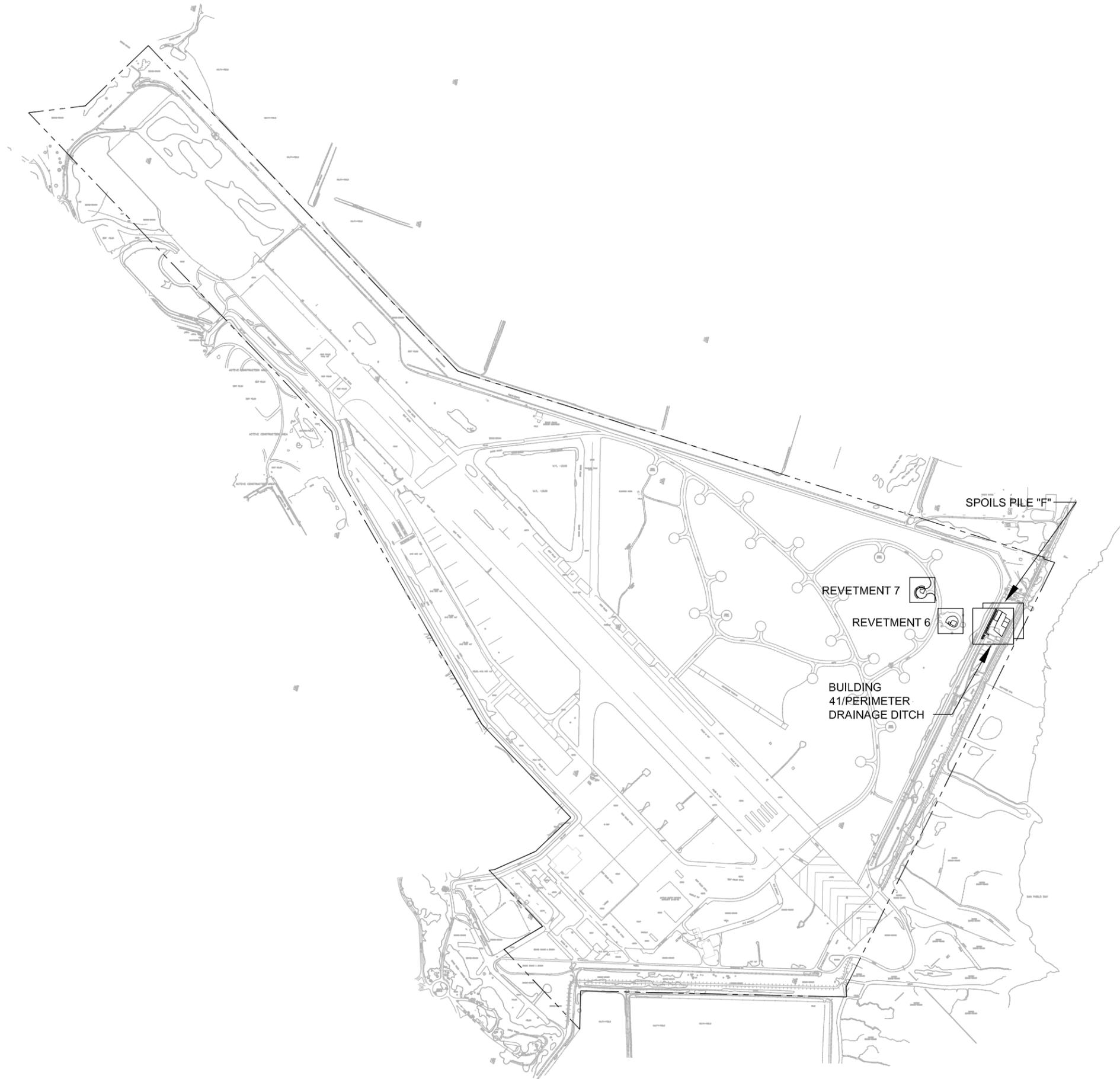
5.0 REFERENCES

- Department of the Army (Army), California State Environmental Protection Agency, Department of Toxic Substances Control (DTSC), and San Francisco Bay Regional Water Quality Control Board (RWQCB) 2003. *Main Airfield Parcel Record of Decision/Remedial Action Plan, Hamilton Army Airfield*, Public Comment Final, August 2003.
- Shaw [Environmental] 2003. *Construction Report and Supplemental Construction Report for Building 41 Demolition and Soil Removal, Spoils Pile F Removal, and Revetments 6 and 7 Removal, Hamilton Army Airfield*, Final, May 2003.
- USACE 2004. *Work Plan, Miscellaneous Site Investigations, Hamilton Army Airfield*, Final, January 2004.
- U.S. Environmental Protection Agency (EPA) 1996. *Test Methods for Evaluating Solid Waste Physical/Chemical Methods, Third Edition*, December 1996.
- U.S. Fish and Wildlife Service Biological Opinion and amending letter, August 2003 and September 2003.

FIGURES

C:\DATA\ACAD2000\PROJECTS\K-EMERICK\HGS\re00.DWG, 01/21/03, 1:1.





LEGEND
 ASSOCIATED FIGURE
 BOUNDARY



U.S. ARMY
 CORPS OF ENGINEERS
 SACRAMENTO, CALIFORNIA

FIGURE 1-2

**BUILDING 41, SPOILS
 PILE "F", AND
 REVETMENTS 6 & 7
 LOCATION MAP**

BRAC PROPERTY
 HAMILTON ARMY AIRFIELD

LEGEND

-  HISTORICAL EXCAVATION BOUNDARY
-  HISTORICAL SAMPLE LOCATION AND SAMPLE NUMBER

HB41L609

-  SAMPLE LOCATION

ALL UNITS IN MG/KG DRY WEIGHT

BOLDED VALUES ARE GREATER THAN THE ROD/RAP ACTION GOAL



GRAPHIC SCALE

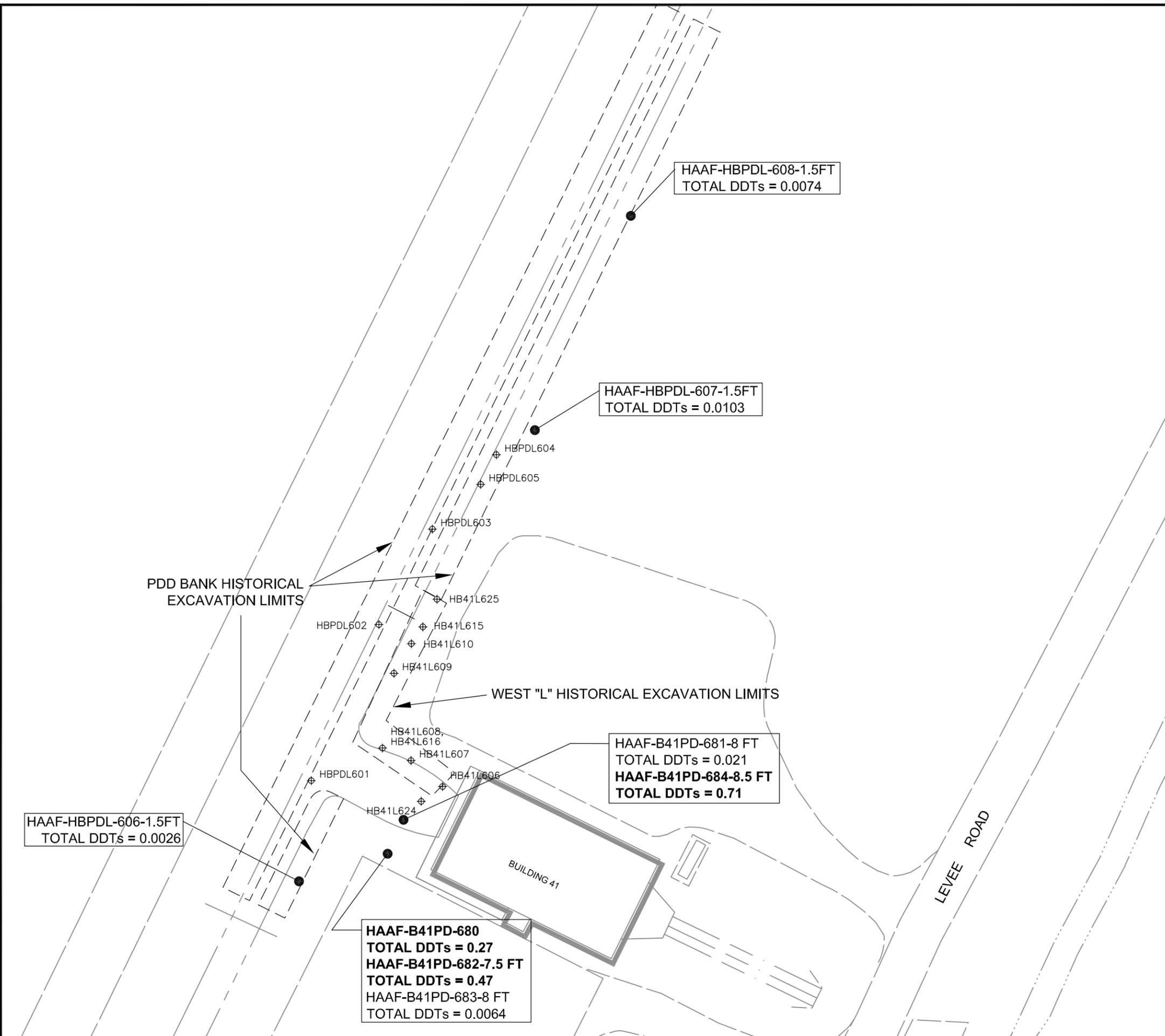


U.S. ARMY
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SACRAMENTO, CALIFORNIA

FIGURE 2-1

BUILDING 41/PERIMETER DRAINAGE DITCH SAMPLE LOCATIONS AND RESULTS

BRAC PROPERTY
HAMILTON ARMY AIRFIELD

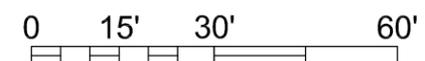


LEGEND

-  HISTORICAL EXCAVATION BOUNDARY
 -  HBSFL602 HISTORICAL SAMPLE LOCATION WITH SAMPLE NUMBER - ALL APPROXIMATELY ONE FOOT BELOW ORIGINAL GROUND SURFACE
 -  RECENT SAMPLE LOCATIONS (JANUARY & APRIL 2004)
 - BGS BELOW GROUND SURFACE
 - J ESTIMATED CONCENTRATIONS
- ALL UNITS IN MG/KG DRY WEIGHT
- NO CONCENTRATIONS EXCEED THE ROD/RAP ACTION GOAL



GRAPHIC SCALE

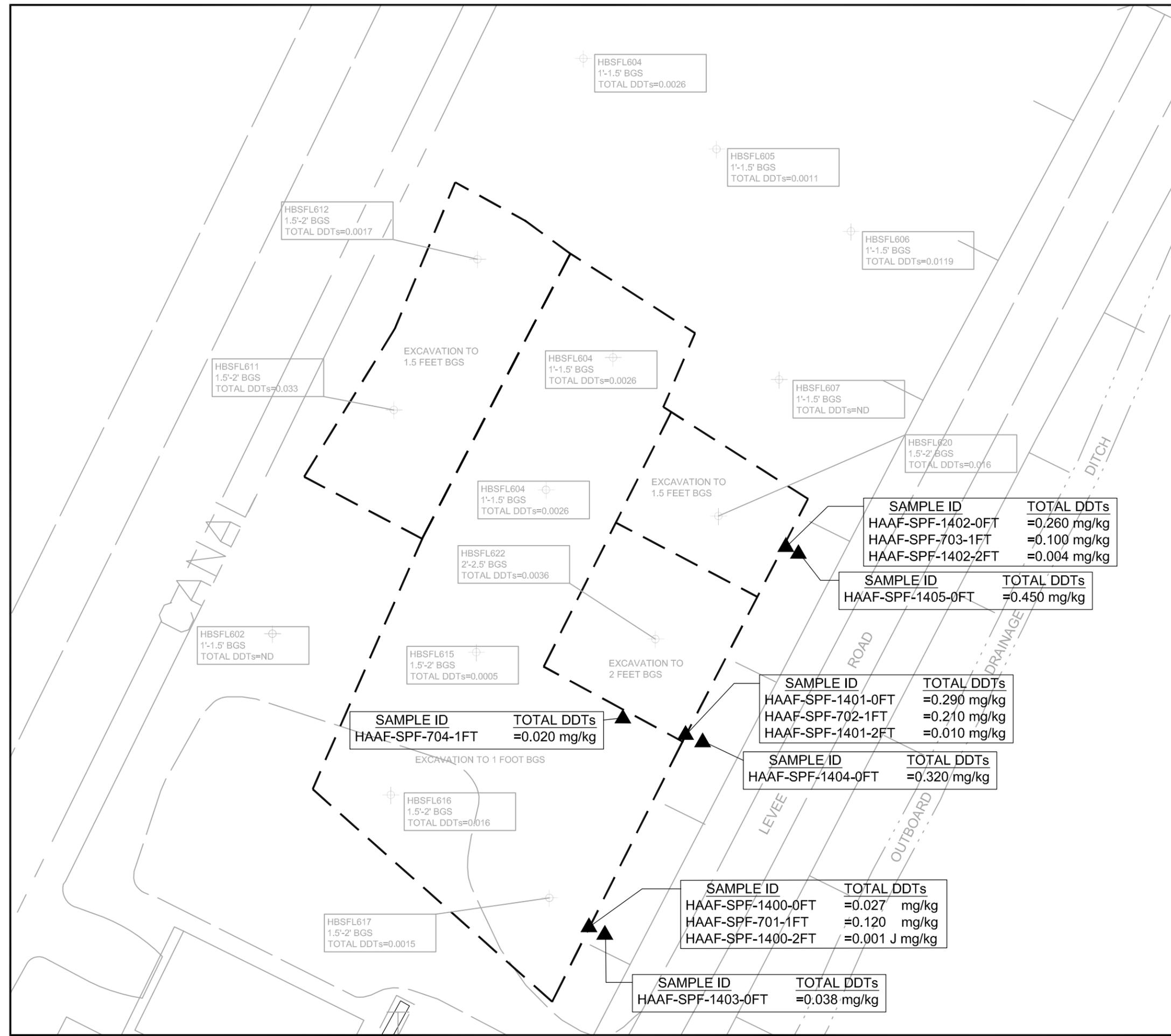


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FIGURE 2-2

SPOILS PILE F TOTAL DDT SAMPLE LOCATIONS AND RESULTS

BRAC PROPERTY
HAMILTON ARMY AIRFIELD



REVETMENT 6

LEGEND

-  EXCAVATION BOUNDARY
- BGS BELOW GROUND SURFACE
-  OVEREXCAVATION BOUNDARY
- ALL CONCENTRATIONS IN MG/KG DRY WEIGHT

HAAF-REV6-723 COMPOSITE
MERCURY = 0.0551 J MG/KG
(GENERATED BY 10 DISCRETE
SAMPLE LOCATIONS)

HAAF-REV6-725 COMPOSITE
MERCURY = 0.105 MG/KG
(GENERATED BY 4 DISCRETE
SAMPLE LOCATIONS)

REVETMENT 6
EXCAVATION LIMITS

HAAF-REV6-724 COMPOSITE
MERCURY = 0.145 MG/KG
(GENERATED BY 4 DISCRETE
SAMPLE LOCATIONS)

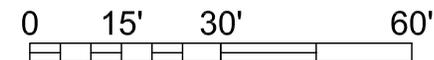
OVEREXCAVATION
TO 2 FEET BGS

OVEREXCAVATION
TO 8 FEET BGS

INITIAL EXCAVATION
TO 1 FOOT BGS



GRAPHIC SCALE



U.S. ARMY
CORPS OF ENGINEERS
SACRAMENTO, CALIFORNIA

FIGURE 2-3a

REVETMENT 6
SAMPLE LOCATIONS
AND RESULTS

BRAC PROPERTY
HAMILTON ARMY AIRFIELD

REVETMENT 7

LEGEND

 OVEREXCAVATION BOUNDARY

 BELOW GROUND SURFACE

ALL CONCENTRATIONS IN MG/KG DRY WEIGHT

HAAF-REV7-727 COMPOSITE
MERCURY = 0.165 MG/KG
(GENERATED BY 4 DISCRETE
SAMPLE LOCATIONS)

EXCAVATION TO
2 FEET BGS

HAAF-REV7-728 COMPOSITE
MERCURY = 0.241 MG/KG
(GENERATED BY 4 DISCRETE
SAMPLE LOCATIONS)

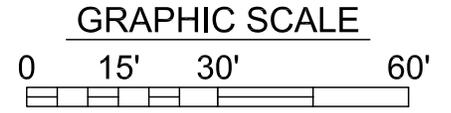
EXCAVATION TO
2.5 FEET BGS

HAAF-REV7-726 COMPOSITE
MERCURY = 0.102 MG/KG
(GENERATED BY 4 DISCRETE
SAMPLE LOCATIONS)

EXCAVATION TO
1 FOOT BGS

CONCRETE REMOVAL AREA

REVETMENT 7
PERIMETER



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FIGURE 2-3b

**REVETMENT 7
SAMPLE LOCATIONS
AND RESULTS**

BRAC PROPERTY
HAMILTON ARMY AIRFIELD

APPENDIX A
ANALYTICAL DATA TABLES

**Table A-1:
Building 41
Analytical Results, January 2004
Hamilton Army Airfield**

	Sample #	HAAF-B41PD-680	HAAF-B41PD-681-8FT	HAAF-B41PD-682-8FT	HAAF-B41PD-683-8FT	HAAF-B41PD-684-8.5FT
Analyte	Method	Results are in mg/kg (dry weight)				
4,4'-DDD	8081A	0.17	0.015	0.45	0.0064	0.26
4,4'-DDE	8081A	0.023	0.0034	0.019	ND < 0.0026	0.12
4,4'-DDT	8081A	0.077	0.0023	ND < 0.0026	ND < 0.0026	0.33
TOTAL DDTS	8081A	0.27	0.021	0.47	0.0064	0.71

ND < RL= Not detected above reporting limit

J = estimated value

Bolded values are greater than the action goal.

**Table A-1:
Building 41
Analytical Results, January 2004
Hamilton Army Airfield**

	Sample #	HAAF-HBPD-606-1.5	HAAF-HBPD-607-1.5	HAAF-HBPD-608-1.5
Analyte	Method	Results are in mg/kg (dry weight)		
4,4'-DDD	8081A	0.0008 J	0.0026	0.002
4,4'-DDE	8081A	0.0007 J	0.0029	0.0017
4,4'-DDT	8081A	0.0011	0.0048	0.0037
TOTAL DDTs	8081A	0.0026	0.0103	0.0074

ND < RL= Not detected above reporting limit

J = estimated value

Bolded values are greater than the action goal.

**Table A-2:
Spoils Pile F
Analytical Results, January 2004
Hamilton Army Airfield**

	Sample #	HAAF-SPF-701 (1FT)	HAAF-SPF-702 (1FT)	HAAF-SPF-703 (1FT)	HAAF-SPF-704 (1FT)
Analyte	Method	Results are in mg/kg (dry weight)			
4,4'-DDD	8081A	0.049	0.022	0.032	0.0084
4,4'-DDE	8081A	0.029	0.05	0.02	0.0054
4,4'-DDT	8081A	0.043	0.14	0.051	0.006
TOTAL DDTS	8081A	0.12	0.21	0.1	0.02

Bolded values are greater than the action goal.

**Table A-2:
Spoils Pile F
Analytical Results, January 2004
Hamilton Army Airfield**

	Sample #	HAAF-SPF-1400-0FT	HAAF-SPF-1400-2FT	HAAF-SPF-1401-0FT	HAAF-SPF-1401-2FT
Analyte	Method	Results are in mg/kg (dry weight)			
4,4'-DDD	8081A	0.0039	0.0026	0.061	ND <0.0025
4,4'-DDE	8081A	0.0053	0.0026	0.055	0.0041
4,4'-DDT	8081A	0.018	0.001 J	0.17	0.0062
TOTAL DDTS	8081A	0.027	0.001 J	0.29	0.01

Bolded values are greater than the action goal.

**Table A-2:
Spoils Pile F
Analytical Results, January 2004
Hamilton Army Airfield**

	Sample #	HAAF-SPF-1402-0FT	HAAF-SPF-1402-2FT	HAAF-SPF-1403-0FT	HAAF-SPF-1404-0FT
Analyte	Method	Results are in mg/kg (dry weight)			
4,4'-DDD	8081A	0.16 J+	ND <0.0027	ND <0.0026	0.0053
4,4'-DDE	8081A	0.025	0.0017 J	0.002 J	0.0083
4,4'-DDT	8081A	0.079	0.0025 J	0.0027	0.024
TOTAL DDTS	8081A	0.26	0.0042	0.0047	0.038

Bolded values are greater than the action goal.

**Table A-3:
Revetments 6&7
Analytical Results, January 2004
Hamilton Army Airfield**

	Sample #	HAAF-REV6-723	HAAF-REV6-724	HAAF-REV6-725	HAAF-REV7-726	HAAF-REV7-727	HAAF-REV7-728
Analyte	Method	Results are in mg/kg (dry weight)					
MERCURY	7471A	0.0551 J	0.145	0.105	0.102	0.165	0.241

J = estimated value

APPENDIX B

Analytical Report Forms

CHAIN OF CUSTODY RECORD

US ARMY CORPS OF ENGINEERS
SACRAMENTO DISTRICT
 Environmental Engineering Branch
 SPK-ED-E
 1325 J Street
 Sacramento, California
 95814-2922

Project Name: BUILDING 41
Project Location: HAMILTON AAF
Project Coordinator: CARLTON FONG
Phone: 916-557-7553 **FAX:**
Sampler: BRUCE VAN ETTEN / T. CUMMETT **Phone:** 916-557-6742

Laboratory: APCL
Address: 13760 MAGNOLIA
 CHINO, CA 91710
Contact: ERIC WENDLAND
Phone: 909-590-1828

SAMPLE IDENTIFICATION		GRAB	COMP	DATE 2003	TIME	ANALYSIS REQUESTED →	6260	MSMSD	TURN AROUND TIME (DAYS)	MATRIX CODE	NUMBER OF				PRESERVATIVE CODE
Field	Laboratory										PLASTIC	GLASS	VOA	SLEEVE	
HAAF-HBPD-606-1.5		✓		11/19	1600	✓				S	1				
HAAF-HBPD-607-1.5		✓		11/19	1618	✓				S	1				
HAAF-HBPD-608-1.5		✓		11/19	1630	✓				S	1				

COMMENTS/SPECIAL INSTRUCTIONS:

CHECKED BY: TC

PRESERVATIVE CODES:
 C = HCl N = HNO₃ S = H₂SO₄

SAMPLE DISPOSAL:
 Hold Dispose Return

MATRIX CODES:
 W = Water SI = Sludge SP = Solid Product
 S = Soil A = Air LP = Liquid Product
 Sd = Sediment

SHIPPING:
 Fed Ex Courier Hand Deliver
 Airbill Number: 8386 0625 3639

RELINQUISHED BY: [Signature] **DATE/TIME:** 11/20/03 1200

RECEIVED BY: [Signature] **DATE/TIME:** 11/13/03 0930

Sample Receiving Checklist

APCL ServiceID: **6260** Client Name/Project: Hamilton

1. Sample Arrival

Date/Time Received 11/21/03 0930 Date/Time Opened 11/21/03 0930 By (name): ERIC
Custody Transfer: Client Golden State UPS US Mail FedEx APCL Empl: _____

2. Chain-of-Custody (CoC)

With Samples? Faxed? Client has Copy? Signed, dated? By: _____
 Project ID? Analyses Clear? Hold Samples? #on Hold _____ # Received _____
 CoC/Docs Zip-Locked under lid? Compos.#: _____ #Samples OK? _____
 Discrepancies? Client notified? Response (attach docs): _____

3. Shipping Container/Cooler

Cooler Used? # of 1 Cooled by: Ice Blue Ice Dry Ice None
Temp °C 4.7
(Cooler temperature measured from temp blank if present, otherwise measured from the cooler).
Cooler Custody Seal? Absent Intact Tampered?

4. Sample Preservation

pH <2 pH >12
If Not, pH = _____ Preserved by: Client APCL Third Party _____

5. Holding-time Requirements

pH 24hr BACT 6/24hr Cr^{VI} 24hr NO₃⁻ 48hr BOD 48hr
 Cl₂ ASAP Turbidity 48hr DO ASAP Fe(II) ASAP
 HT Expired? Client notified?

6. Sample Container Condition

Intact? Broken? Documented? Number: _____
Type: plastic glass Tube: brass/SS Tedlar Bag
 Quantity OK? Leaking? Anomaly?
 Caps tight? Air Bubbles? Anomaly?
Labels: Unique ID? Date/Time Preserved?

7. Turn Around Time

RUSH TAT: 5 Std (7-10 days) Not Marked

8. Sample Matrix

Drinking H₂O Other Liq Soil Wipe Polymer Air Other: _____
 Ground H₂O Sludge Filter Oil/Petro Paint W. Water Extract Unknown

9. Pre-Login Check List Completed & OK?

ALL OK? (if not, attach docs) Client Contact? (Name: _____) Date/Time: _____
Received/Checked by: _____ Printed: 21 Nov 2003 7:29 a.m.

*HT: Samples must be analyzed for results to reflect total concentrations. Results generated outside required of holding times are considered minimal values and may be used to define waste as hazardous but not as non-hazardous.

Applied P & Ch Laboratory

13760 Magnolia Ave. Chino CA 91710

Tel: (909) 590-1828 Fax: (909) 590-1498

Submitted to:

U.S. Army Corps of Engineers

Attention: Peck Ha

1325 J Street

Sacramento CA 95814-2922

Tel: (916)557-7646 Fax: (916)557-5307

APCL Analytical Report

Service ID #: 801-036260

Received: 11/21/03

Collected by: BV/TC

Extracted: 11/24/03

Collected on: 11/19/03

Tested: 11/21-25/03

Reported: 12/01/03

Sample Description: Soil from Hamilton AAF

Project Description: Building 41

Analysis of Soil Samples

Component Analyzed	Method	Unit	PQL	Analysis Result		
				HAAF-HBPDL-606-1.5 03-06260-1	HAAF-HBPDL-607-1.5 03-06260-2	HAAF-HBPDL-608-1.5 03-06260-3
MOISTURE, PERCENT	D2216	%Moisture	0.5	37.0	37.5	37.3
ORGANOCHLORINE PESTICIDES						
Dilution Factor				1	1	1
4,4'-DDD	SW8081A	µg/kg	0.7	0.8J	2.6	2.0
4,4'-DDE	SW8081A	µg/kg	0.7	0.7J	2.9	1.7
4,4'-DDT	SW8081A	µg/kg	0.7	1.1	4.8	3.7
TOTAL DDTs	SW8081A	µg/kg	0.7	2.6	10.3	7.4

PQL: Practical Quantitation Limit.

MDL: Method Detection Limit.

CRDL: Contract Required Detection Limit

N.D.: Not Detected or less than the practical quantitation limit.

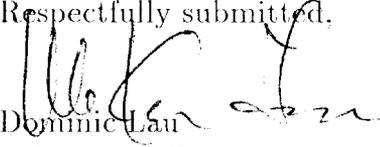
"-": Analysis is not required.

J: Reported between PQL and MDL.

† All results are reported on dry basis for soil samples.

Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

Respectfully submitted,


 Dominic Lau
 Laboratory Director
 Applied P & Ch Laboratory

EMAX Laboratories, Inc.

SDG Login Review Sheet

Due Date: 2/7/04

Date: 1/23/04

Client Code: US_0401_ ✓

Client: USACE
Project: HAAF, Misc.S.I.

EMAX PM: Richard

SDG: 04A097 ✓

*OK
RMB
1/23/04*

Send Report To: Attn: John Yaremchuk ✓

Company: USACE
Address: 1325 J Street
Sacramento CA 95814
NA

Lwks ID	Control #	Sample ID	Matrix	Coll Date	Time	Date Rcvd	Lwks Method	Analysis
EM86315	A097-01	HAAF-B35-760-V ✓	SOIL ✓	1/13/04 ✓	10:21 ✓	1/17/04 ✓	PESTS	Pesticides Organochlorine ✓
EM86316	A097-02	HAAF-B35-761-V ✓	SOIL ✓	1/13/04 ✓	10:22 ✓	1/17/04 ✓	PESTS	Pesticides Organochlorine ✓
EM86317	A097-03	HAAF-B35-762-V ✓	SOIL ✓	1/13/04 ✓	9:58 ✓	1/17/04 ✓	PESTS	Pesticides Organochlorine ✓
EM86318	A097-04	HAAF-B41PD-680 ✓	SOIL ✓	1/13/04 ✓	9:05 ✓	1/17/04 ✓	PESTS	Pesticides Organochlorine ✓
EM86319	A097-05	HAAF-B41PD-681-8ft ✓	SOIL ✓	1/13/04 ✓	9:20 ✓	1/17/04 ✓	PESTS	Pesticides Organochlorine ✓
EM86320	A097-06	HAAF-B41PD-682-8ft ✓	SOIL ✓	1/13/04 ✓	9:10 ✓	1/17/04 ✓	PESTS	Pesticides Organochlorine ✓
EM86321	A097-07	HAAF-B41PD-683-8ft ✓	SOIL ✓	1/13/04 ✓	9:11 ✓	1/17/04 ✓	PESTS	Pesticides Organochlorine ✓
EM86322	A097-08	HAAF-B41PD-684-8.5ft ✓	SOIL ✓	1/13/04 ✓	9:24 ✓	1/17/04 ✓	PESTS	Pesticides Organochlorine ✓
EM86323	A097-09	HAAF-FITB-729 ✓	SOIL ✓	1/15/04 ✓	9:10 ✓	1/17/04 ✓	MTLS	Metals by ICP ✓
EM86324	A097-10	HAAF-FITB-730 ✓	SOIL ✓	1/15/04 ✓	9:14 ✓	1/17/04 ✓	MTLS	Metals by ICP ✓
EM86325	A097-11	HAAF-SR-766 ✓	SOIL ✓	1/13/04 ✓	16:57 ✓	1/17/04 ✓	MTLS	Metals by ICP ✓
	A097-11	HAAF-SR-766 ✓	SOIL ✓	1/13/04 ✓	16:57 ✓	1/17/04 ✓	SVSIMS	Semivolatile Organics SIM ✓
EM86326	A097-12	HAAF-SR-768 ✓	SOIL ✓	1/13/04 ✓	15:05 ✓	1/17/04 ✓	MTLS	Metals by ICP ✓
	A097-12	HAAF-SR-768 ✓	SOIL ✓	1/13/04 ✓	15:05 ✓	1/17/04 ✓	SVSIMS	Semivolatile Organics SIM ✓
EM86327	A097-13	HAAF-SR-769 ✓	SOIL ✓	1/13/04 ✓	15:11 ✓	1/17/04 ✓	MTLS	Metals by ICP ✓
	A097-13	HAAF-SR-769 ✓	SOIL ✓	1/13/04 ✓	15:11 ✓	1/17/04 ✓	SVSIMS	Semivolatile Organics SIM ✓
EM86328	A097-14	HAAF-SR-770 ✓	SOIL ✓	1/13/04 ✓	15:29 ✓	1/17/04 ✓	MTLS	Metals by ICP ✓
	A097-14	HAAF-SR-770 ✓	SOIL ✓	1/13/04 ✓	15:29 ✓	1/17/04 ✓	SVSIMS	Semivolatile Organics SIM ✓
EM86329	A097-15	HAAF-SRW-757-V ✓	SOIL ✓	1/14/04 ✓	17:47 ✓	1/17/04 ✓	PESTS	Pesticides Organochlorine ✓
EM86330	A097-16	HAAF-SRW-758-V ✓	SOIL ✓	1/14/04 ✓	17:26 ✓	1/17/04 ✓	PESTS	Pesticides Organochlorine ✓
EM86331	A097-17	HAAF-SRW-759-V ✓	SOIL ✓	1/14/04 ✓	17:10 ✓	1/17/04 ✓	PESTS	Pesticides Organochlorine ✓
EM86332	A097-18	HAAF-TR-747 ✓	SOIL ✓	1/15/04 ✓	11:03 ✓	1/17/04 ✓	MTLS	Metals by ICP ✓
EM86333	A097-19	HAAF-TR-748 ✓	SOIL ✓	1/15/04 ✓	11:11 ✓	1/17/04 ✓	MTLS	Metals by ICP ✓
EM86334	A097-20	HAAF-TR-749 ✓	SOIL ✓	1/15/04 ✓	11:22 ✓	1/17/04 ✓	MTLS	Metals by ICP ✓
EM86335	A097-21	HAAF-TR-750 ✓	SOIL ✓	1/15/04 ✓	11:28 ✓	1/17/04 ✓	MTLS	Metals by ICP ✓
EM86336	A097-22	HAAF-TR-751 ✓	SOIL ✓	1/15/04 ✓	11:34 ✓	1/17/04 ✓	MTLS	Metals by ICP ✓
EM86337	A097-23	HAAF-TR-D-505 ✓	SOIL ✓	1/15/04 ✓	11:11 ✓	1/17/04 ✓	MTLS	Metals by ICP ✓
EM86338	A097-24	HAAF-UPDD-763-V ✓	SOIL ✓	1/14/04 ✓	16:22 ✓	1/17/04 ✓	PESTS	Pesticides Organochlorine ✓
EM86339	A097-25	HAAF-UPDD-764-V ✓	SOIL ✓	1/14/04 ✓	14:35 ✓	1/17/04 ✓	PESTS	Pesticides Organochlorine ✓
EM86340	A097-26	HAAF-UPDD-765-V ✓	SOIL ✓	1/14/04 ✓	15:23 ✓	1/17/04 ✓	PESTS	Pesticides Organochlorine ✓
EM86341	A097-27	HAAF-UPDD-D-506-V ✓	SOIL ✓	1/14/04 ✓	0:00 ✓	1/17/04 ✓	PESTS	Pesticides Organochlorine ✓
EM86342	A097-28	HAAF-IDW-1-W ✓	WATER ✓	1/16/04 ✓	14:00 ✓	1/17/04 ✓	MTLW	Metals by ICP ✓
	A097-28	HAAF-IDW-1-W ✓	WATER ✓	1/16/04 ✓	14:00 ✓	1/17/04 ✓	PESTW	Pesticides Organochlorine ✓
	A097-28	HAAF-IDW-1-W ✓	WATER ✓	1/16/04 ✓	14:00 ✓	1/17/04 ✓	SVSIMW	Semivolatile Organics SIM ✓



USEPA Contract Laboratory Program
Generic Chain of Custody

US_0401-
C2/

Reference Case

Client No: **04A097**
SDG No: **04A097**

L

Date Shipped: 1/16/2004
Carrier Name: FedEx
Airbill: 840946764285
Shipped to: EMAX Laboratories
1835 W. 205th Street
Torrance CA 90501
(310) 618-8889

Chain of Custody Record

Relinquished By	(Date / Time)	Sampler Signature Received By	(Date / Time)
1 <i>Teresa M. Roberson</i>	1-17-04 11:15	<i>[Signature]</i>	1-17-04 11:15
2			
3			
4			

For Lab Use Only

Lab Contract No:
Unit Price:
Transfer To:
Lab Contract No:
Unit Price:

FOR LAB USE ONLY
Sample Condition On Receipt

SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME
1	HAAF-B35-760- Soil/Sediment	/G	8081A (21)	111 (1)	HAAF-B35-760-V	10:21
2	HAAF-B35-761- Soil/Sediment	/G	8081A (21)	111 (1)	HAAF-B35-761-V	10:22
3	HAAF-B35-762- Soil/Sediment	/G	8081A (21)	111 (1)	HAAF-B35-762-V	9:58
4	HAAF-B41PD-6 Soil/Sediment	/G	8081A (21)	111 (1)	HAAF-B41PD-680	9:05
5	HAAF-B41PD-6 Soil/Sediment	/G	8081A (21)	111 (1)	HAAF-B41PD-681-8ft	9:20
6	HAAF-B41PD-6 Soil/Sediment	/G	8081A (21)	111 (1)	HAAF-B41PD-682-8ft	9:10
7	HAAF-B41PD-6 Soil/Sediment	/G	8081A (21)	100 (1)	HAAF-B41PD-683-8ft	9:11
8	HAAF-B41PD-6 Soil/Sediment	/G	8081A (21)	101 (1)	HAAF-B41PD-684-8.5ft	9:24
9	HAAF-FITB-729 Soil/Sediment	/G	SW 6010B (21)	(1)	HAAF-FITB-729	9:10
10	HAAF-FITB-730 Soil/Sediment	/G	SW 6010B (21)	(1)	HAAF-FITB-730	9:14

Shipment for Case Complete? <input type="checkbox"/>	Sample(s) to be used for laboratory QC: HAAF-SPF-704, HAAF-SR-740	Additional Sampler Signature(s):	Cooler Temperature Upon Receipt: 3.4°C	Chain of Custody Seal Number:
Analysis Key: 8081A = DDD,DDE,DDT, 8270C SIM = PAH, SW 6010B = Sb, As, Cd, Cr, Cu, Pb, Ni, Zn, SW 7471 = Hg	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Custody Seal Intact? <input checked="" type="checkbox"/>	Shipment Iced? <input checked="" type="checkbox"/>

TR Number: Non-EPA-360645727-011604-0001

PR provides preliminary results. Requests for preliminary results will increase analytical costs.
Send Copy to: Sample Management Office, 2000 Edmund Halley Dr., Reston, VA. 20191-3400 Phone 703/264-9348 Fax 703/264-9222

LABORATORY COPY

SAMPLE RECEIPT FORM 1

Type of Delivery	Delivered By/Airbill	ECN	02A097
<input type="checkbox"/> EMAX Courier		Recipient	Jon Lung
<input type="checkbox"/> Client Delivery		Date	1-17-04
<input checked="" type="checkbox"/> Third Party FEDEX	840946764285	Time	1115

COC Inspection

<input checked="" type="checkbox"/> Client Name	<input type="checkbox"/> Sampler Name	<input checked="" type="checkbox"/> Sampling Date/Time/Location
<input type="checkbox"/> Address	<input type="checkbox"/> Courier Signature/Date/Time	<input type="checkbox"/> Analysis Required
<input type="checkbox"/> Client PM/FC	<input type="checkbox"/> TAT	<input checked="" type="checkbox"/> Matrix
<input checked="" type="checkbox"/> Tel #/Fax #	<input checked="" type="checkbox"/> Sample ID	<input checked="" type="checkbox"/> Preservative (if any)
Safety Issues <input type="checkbox"/> None	<input type="checkbox"/> High Concentrations expected	<input type="checkbox"/> Superfund Site Samples
Comments: <input type="checkbox"/> Rad Screening Required		

Packaging Inspection

Container <input checked="" type="checkbox"/> Cooler	<input type="checkbox"/> Box	<input type="checkbox"/>	<input type="checkbox"/>
Condition <input type="checkbox"/> Custody Seal	<input type="checkbox"/> Intact	<input type="checkbox"/> Damaged	<input type="checkbox"/>
Packaging <input checked="" type="checkbox"/> Bubble Pack	<input type="checkbox"/> Styrofoam	<input checked="" type="checkbox"/> Sufficient	<input checked="" type="checkbox"/> Plastic bag
Temperatures <input checked="" type="checkbox"/> Cooler 3.4°C	<input checked="" type="checkbox"/> Cooler 2 _____	<input type="checkbox"/> Cooler 3 _____	<input type="checkbox"/> Cooler 4 _____
<input type="checkbox"/> Cooler 5 _____	<input type="checkbox"/> Cooler 6 _____	<input type="checkbox"/> Cooler 7 _____	<input type="checkbox"/> Cooler 8 _____
<input type="checkbox"/> Cooler 9 _____	<input type="checkbox"/> Cooler 10 _____	<input type="checkbox"/> Cooler 11 _____	<input type="checkbox"/> Cooler 12 _____

Comments:

LSCID	Client ID	Discrepancy	Corrective Action
A097-24	HAAF-VP00-763-V	DATE = TIME ON LABEL READS 1/14/04, 1622 (NO	USE date & Time from label ↓
-27	HAAF-VP00-506-V	DATE = TIME ON COC	
-28	HAAF-10W-1-W	DATE = TIME ON LABEL READS 1/16/04, 1400, ALL ANALYSIS ARE RESTD ON EACH CONTAINER (WATER)	

LSCID : Lab Sample Container ID

REVIEWS

Sample Labeling [Signature] SRF [Signature] PM [Signature]

Date 01-17-04 Date 1/21/04 Date 1/21/04

SW3550B/8081A
PESTICIDES

```

=====
Client      : USACE                               Date Collected: 01/13/04
Project     : HAAF, MISC.S.I.                   Date Received: 01/17/04
Batch No.   : 04A097                           Date Extracted: 01/23/04 13:00
Sample ID   : HAAF-B41PD-681-8FT               Date Analyzed: 01/29/04 14:24
Lab Samp ID: A097-05                           Dilution Factor: 1
Lab File ID: SA27106A                          Matrix          : SOIL
Ext Btch ID: CPA018S                           % Moisture     : 12.0
Calib. Ref.: SA27097A                          Instrument ID  : GCT008
=====

```

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
4,4'-DDE	.0014J .0034)	.0023	.001 .001
4,4'-DDD	.013 .015)	.0023	.0011 .0011
4,4'-DDT	(.0023) .0023J	.0023	.00072 .00072
TOTAL DDT	.017 .021)	.0023	.00072 .00072

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	(96) 93	50-130
DECACHLOROBIPHENYL	83 (85)	50-150

RL : Reporting limit
Left of | is related to first column ; Right of | related to second column
() included the reported column

SW3550B/8081A
PESTICIDES

```

=====
Client      : USACE                               Date Collected: 01/13/04
Project     : HAAF, MISC.S.I.                   Date Received: 01/17/04
Batch No.   : 04A097                             Date Extracted: 01/23/04 13:00
Sample ID   : HAAF-B41PD-683-8FT                Date Analyzed: 01/28/04 12:53
Lab Samp ID: A097-07                             Dilution Factor: 1
Lab File ID: SA27047A                           Matrix          : SOIL
Ext Btch ID: CPA018S                            % Moisture      : 21.8
Calib. Ref.: SA27043A                           Instrument ID   : GCT008
=====

```

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
4,4'-DDE	(ND) ND	.0026	.0012 .0012
4,4'-DDD	.0017J (.0064)	.0026	.0012 .0012
4,4'-DDT	(ND) ND	.0026	.00081 .00081
TOTAL DDT	.0017J (.0064)	.0026	.00081 .00081

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	94 (95)	50-130
DECACHLOROBIPHENYL	(91) 72	50-150

RL : Reporting limit
Left of | is related to first column ; Right of | related to second column
() included the reported column

SW3550B/8081A
PESTICIDES

```

=====
Client      : USACE                               Date Collected: 01/13/04
Project     : HAAF, MISC.S.I.                   Date Received: 01/17/04
Batch No.   : 04A097                             Date Extracted: 01/23/04 13:00
Sample ID:  HAAF-B41PD-680DL                    Date Analyzed: 01/29/04 07:11
Lab Samp ID: A097-04T                           Dilution Factor: 10
Lab File ID: SA27089A                           Matrix          : SOIL
Ext Btch ID: CPA018S                             % Moisture     : 7.5
Calib. Ref.: SA27080A                           Instrument ID  : GCT008
=====

```

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
4,4'-DDE	.027 .034)	.022	.0099 .0099
4,4'-DDD	.16 .17)	.022	.01 .01
4,4'-DDT	(.077) .073	.022	.0069 .0069
TOTAL DDT	(.27) .27	.022	.0069 .0069

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	92 (102)	50-130
DECACHLOROBIPHENYL	46* (94)	50-150

RL : Reporting limit
Left of | is related to first column ; Right of | related to second column
() included the reported column

SW3550B/8081A
PESTICIDES

```

=====
Client      : USACE                               Date Collected: 01/13/04
Project     : HAAF, MISC.S.I.                   Date Received: 01/17/04
Batch No.   : 04A097                             Date Extracted: 01/23/04 13:00
Sample ID:  HAAF-B41PD-682-8FTDL                Date Analyzed: 01/29/04 07:36
Lab Samp ID: A097-06T                           Dilution Factor: 20
Lab File ID: SA27090A                           Matrix          : SOIL
Ext Btch ID: CPA018S                             % Moisture     : 22.5
Calib. Ref.: SA27080A                           Instrument ID  : GCT008
=====

```

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
4,4'-DDE	(ND) .031J	.052	.024 .024
4,4'-DDD	(.45) .44	.052	.025 .025
4,4'-DDT	.029J (ND)	.052	.016 .016
TOTAL DDT	(.49) .47	.052	.016 .016

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	81 (114)	50-130
DECACHLOROBIPHENYL	(53) 45*	50-150

RL : Reporting limit
Left of | is related to first column ; Right of | related to second column
() included the reported column

SW3550B/8081A
PESTICIDES

```

=====
Client      : USACE                               Date Collected: 01/13/04
Project     : HAAF, MISC.S.I.                   Date Received: 01/17/04
Batch No.   : 04A097                             Date Extracted: 01/23/04 13:00
Sample ID   : HAAF-B41PD-684-8.5FTDL           Date Analyzed: 01/29/04 08:27
Lab Samp ID : A097-08T                           Dilution Factor: 50
Lab File ID : SA27092A                           Matrix          : SOIL
Ext Btch ID : CPA018S                             % Moisture     : 4.2
Calib. Ref. : SA27080A                           Instrument ID  : GCT008
=====

```

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
4,4'-DDE	.088J .13)	.1	.048 .048
4,4'-DDD	(.26) .26	.1	.051 .051
4,4'-DDT	(.33) .29	.1	.033 .033
TOTAL DDT	(.68) .67	.1	.033 .033

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	DO DO	50-130
DECACHLOROBIPHENYL	DO DO	50-150

RL : Reporting limit
Left of | is related to first column ; Right of | related to second column
() included the reported column



**USEPA Contract Laboratory Program
Generic Chain of Custody**

C3

Reference Case

Client No: 04A096
SDG No: 04A096

L

Date Shipped: 1/16/2004		Chain of Custody Record		Sampler Signature:	
Carrier Name: FedEx	Relinquished By (Date / Time)	Received By (Date / Time)			
Airbill: 840946764285	Teresa M Rodgers 1/16/04	[Signature]			
Shipped to: EMAX Laboratories 1835 W. 205th Street Torrance CA 90501 (310) 618-8889	2	1-17-04 11:55			
	3				
	4				

SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	FOR LAB USE ONLY Sample Condition On Receipt
11	HAAF-REV7-72 Soil/Sediment	/G	SW 7471 (21)	(1)	HAAF-REV7-728	S: 1/12/2004 13:05	
12	HAAF-SPF-701 Soil/Sediment/ Teresa Rodgers	/G	8081A (21)	111 (1)	HAAF-SPF-701	S: 1/15/2004 11:52	
13	HAAF-SPF-702 Soil/Sediment/ Teresa Rodgers	/G	8081A (21)	111 (1)	HAAF-SPF-702	S: 1/15/2004 11:53	
14	HAAF-SPF-703 Soil/Sediment/ Teresa Rodgers	/G	8081A (21)	111 (1)	HAAF-SPF-703	S: 1/15/2004 11:55	
15	HAAF-SPF-704 Soil/Sediment	/G	8081A (21)	111 (1)	HAAF-SPF-704	S: 1/15/2004 11:58	
16	HAAF-SR-738 Soil/Sediment	/G	8270C SIM (21), SW (Not preserved) 6010B (21)	(2)	HAAF-SR-738	S: 1/13/2004 16:02	
17	HAAF-SR-739 Soil/Sediment	/G	8270C SIM (21), SW (2) 6010B (21)	(2)	HAAF-SR-739	S: 1/13/2004 15:46	
18	HAAF-SR-740 Soil/Sediment	/G	8270C SIM (21), SW (2) 6010B (21)	(2)	HAAF-SR-740	S: 1/13/2004 15:36	
19	HAAF-SR-741 Soil/Sediment	/G	8270C SIM (21), SW (Not preserved) 6010B (21)	(2)	HAAF-SR-741	S: 1/13/2004 16:45	
20	HAAF-SR-742 Soil/Sediment	/G	8270C SIM (21), SW (2) 6010B (21)	(2)	HAAF-SR-742	S: 1/13/2004 16:48	

Shipment for Case Complete? N	Sample(s) to be used for laboratory QC: HAAF-SPF-704, HAAF-SR-740	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key: 8081A = DDD,DDE,DDT, 8270C SIM = Sb, As, Cd, Cr, Cu, Pb, Ni, Zn, SW 7471 = Hg	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Cooler Temperature Upon Receipt: 3.4°C
			Custody Seal Intact? <input checked="" type="checkbox"/> Shipment Iced? <input checked="" type="checkbox"/>

SW3550B/8081A
PESTICIDES

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=====
Client      : USACE                               Date Collected: 01/15/04
Project     : HAAF, MISC.S.I.                   Date Received: 01/17/04
Batch No.   : 04A096                             Date Extracted: 01/23/04 13:00
Sample ID   : HAAF-SPF-701                       Date Analyzed: 01/28/04 05:01
Lab Samp ID: A096-12                             Dilution Factor: 1
Lab File ID: SA27032A                           Matrix          : SOIL
Ext Btch ID: CPA018S                             % Moisture     : 28.8
Calib. Ref.: SA27027A                           Instrument ID  : GCT008
=====

```

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
4,4'-DDE	(.029) .029	.0028	.0013 .0013
4,4'-DDD	(.049) .045	.0028	.0014 .0014
4,4'-DDT	(.043) .04	.0028	.00089 .00089
TOTAL DDT	(.12) .11	.0028	.00089 .00089

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	96 (100)	50-130
DECACHLOROBIPHENYL	73 (83)	50-150

RL : Reporting limit
Left of | is related to first column ; Right of | related to second column
() included the reported column

SW3550B/8081A
PESTICIDES

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=====
Client      : USACE                               Date Collected: 01/15/04
Project     : HAAF, MISC.S.I.                   Date Received: 01/17/04
Batch No.   : 04A096                             Date Extracted: 01/23/04 13:00
Sample ID   : HAAF-SPF-703                       Date Analyzed: 01/28/04 05:51
Lab Samp ID : A096-14                             Dilution Factor: 1
Lab File ID : SA27034A                           Matrix          : SOIL
Ext Btch ID : CPA018S                             % Moisture      : 25.1
Calib. Ref. : SA27027A                           Instrument ID   : GCT008
=====

```

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
4,4'-DDE	.018 .02	.0027	.0012 .0012
4,4'-DDD	(.032) .028	.0027	.0013 .0013
4,4'-DDT	.048 .051	.0027	.00085 .00085
TOTAL DDT	.098 .099	.0027	.00085 .00085

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	(102) 94	50-130
DECACHLOROBIPHENYL	78 (79)	50-150

RL : Reporting limit
Left of | is related to first column ; Right of | related to second column
() included the reported column

SW3550B/8081A
PESTICIDES

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=====
Client      : USACE                               Date Collected: 01/15/04
Project     : HAAF, MISC.S.I.                   Date Received: 01/17/04
Batch No.   : 04A096                             Date Extracted: 01/23/04 13:00
Sample ID   : HAAF-SPF-704                       Date Analyzed: 01/28/04 06:17
Lab Samp ID: A096-15                             Dilution Factor: 1
Lab File ID: SA27035A                           Matrix          : SOIL
Ext Btch ID: CPA018S                            % Moisture     : 39.7
Calib. Ref.: SA27027A                           Instrument ID  : GCT008
=====

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PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
4,4'-DDE	.0039 (.0054)	.0033	.0015 .0015
4,4'-DDD	(.0084) .0035	.0033	.0016 .0016
4,4'-DDT	.0059 (.006)	.0033	.0011 .0011
TOTAL DDT	(.018) .015	.0033	.0011 .0011

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	(107) 101	50-130
DECACHLOROBIPHENYL	(86) 83	50-150

RL : Reporting limit
Left of | is related to first column ; Right of | related to second column
() included the reported column

SW3550B/8081A
PESTICIDES

```

=====
Client      : USACE                               Date Collected: 01/15/04
Project     : HAAF, MISC.S.I.                   Date Received: 01/17/04
Batch No.   : 04A096                             Date Extracted: 01/23/04 13:00
Sample ID   : HAAF-SPF-702DL                    Date Analyzed: 01/29/04 05:30
Lab Samp ID: A096-13T                           Dilution Factor: 4
Lab File ID: SA27085A                           Matrix          : SOIL
Ext Btch ID: CPA018S                            % Moisture     : 24.0
Calib. Ref.: SA27080A                           Instrument ID  : GCT008
=====
  
```

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
4,4'-DDE	.047 (.053)	.011	.0048 .0048
4,4'-DDD	(.022) .013	.011	.0051 .0051
4,4'-DDT	(.14) .13	.011	.0033 .0033
TOTAL DDT	(.21) .2	.011	.0033 .0033

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	105 (112)	50-130
DECACHLOROBIPHENYL	97 (105)	50-150

RL : Reporting limit
 Left of | is related to first column ; Right of | related to second column
 () included the reported column

SW3550B/8081A
PESTICIDES

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=====
Client      : USACE                               Date Collected: NA
Project     : HAAF, MISC.S.I.                   Date Received: 01/23/04
Batch No.   : 04A096                             Date Extracted: 01/23/04 13:00
Sample ID   : MBLK1S                             Date Analyzed: 01/29/04 00:02
Lab Samp ID: CPA018SB                           Dilution Factor: 1
Lab File ID: SA27072A                           Matrix          : SOIL
Ext Btch ID: CPA018S                             % Moisture      : NA
Calib. Ref.: SA27058A                           Instrument ID   : GCT008
=====

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PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
4,4'-DDE	(ND) ND	.002	.00092 .00092
4,4'-DDD	(ND) ND	.002	.00097 .00097
4,4'-DDT	(ND) ND	.002	.00063 .00063
TOTAL DDT	(ND) ND	.002	.00063 .00063

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	(97) 96	50-130
DECACHLOROBIPHENYL	86 (90)	50-150

RL : Reporting limit
Left of | is related to first column ; Right of | related to second column
() included the reported column

EMAX QUALITY CONTROL DATA
LCS ANALYSIS

CLIENT: USACE
 PROJECT: HRAF, MISC.S.I.I.
 BATCH NO.: 04A096
 METHOD: SW3550B/8081A
 =====

MATRIX: SOIL
 DILUTION FACTOR: 1
 SAMPLE ID: MBLK1S
 LAB SAMP ID: CPA018SB
 LAB FILE ID: SA27072A
 DATE EXTRACTED: 01/23/04 13:00
 DATE ANALYZED: 01/29/04 00:02
 PREP. BATCH: CPA018S
 CALIB. REF: SA27058A
 % MOISTURE: NA
 DATE COLLECTED: NA
 DATE RECEIVED: 01/23/04

ACCESSION:

PARAMETER	BINK RSLT (mg/kg)	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	% REC	BS % REC	QC LIMIT (%)
4,4'-DDT	(ND) ND	.0133	.00969 (.0107)	73	(80)	40-160

SURROGATE PARAMETER	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	% REC	BS % REC	QC LIMIT (%)
Tetrachloro-m-xylene	.0133	.01 (.0101)	(75) 75	(82) 83	50-130
Decachlorobiphenyl	.0266	.0218 (.0222)	(82) 83	(82) 83	50-150

SW3550B/8081A
PESTICIDES

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=====
Client      : USACE                      Date Collected: 04/14/04
Project    : HAAF, MISC.S.I.           Date Received: 04/15/04
Batch No.  : 04D090                    Date Extracted: 04/16/04 12:00
Sample ID  : SPF-1400-OFT              Date Analyzed: 04/19/04 16:20
Lab Samp ID: D090-01                   Dilution Factor: 1
Lab File ID: WD19011A                  Matrix          : SOIL
Ext Btch ID: CPD013W                   % Moisture      : 6.5
Calib. Ref.: WD19003A                   Instrument ID   : GCT016
=====

```

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
4,4'-DDE	.0049 (.0053)	.0021	.00098 .00098
4,4'-DDD	(.0039) .0031	.0021	.001 .001
4,4'-DDT	.016 (.018)	.0021	.00068 .00068
TOTAL DDT	(.027) .024	.0021	.00068 .00068

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	97 (100)	50-130
DECACHLOROBIPHENYL	(68) 67	50-150

RL : Reporting limit
Left of | is related to first column ; Right of | related to second column
Final result indicated by ()

SW3550B/8081A
PESTICIDES

```

=====
Client      : USACE                      Date Collected: 04/14/04
Project    : HAAF, MISC.S.I.           Date Received: 04/15/04
Batch No.  : 04D090                    Date Extracted: 04/16/04 12:00
Sample ID  : SPF-1401-OFTDL            Date Analyzed: 04/19/04 16:45
Lab Samp ID: D090-02T                  Dilution Factor: 5
Lab File ID: WD19012A                  Matrix          : SOIL
Ext Btch ID: CPD013W                   % Moisture      : 6.4
Calib. Ref.: WD19003A                  Instrument ID   : GCT016
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```

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
4,4'-DDE	(.055) .053	.011	.0049 .0049
4,4'-DDD	(.061) .052	.011	.0052 .0052
4,4'-DDT	.16 (.17)	.011	.0034 .0034
TOTAL DDT	(.29) .27	.011	.0034 .0034

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	95 (106)	50-130
DECACHLOROBIPHENYL	76 (87)	50-150

RL : Reporting limit
 Left of | is related to first column ; Right of | related to second column
 Final result indicated by ()

SW3550B/8081A
PESTICIDES

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=====
Client      : USACE                      Date Collected: 04/14/04
Project    : HAAF, MISC.S.I.           Date Received: 04/15/04
Batch No.  : 04D090                    Date Extracted: 04/16/04 12:00
Sample ID  : SPF-1402-OFTDL            Date Analyzed: 04/19/04 17:10
Lab Samp ID: D090-03T                  Dilution Factor: 6
Lab File ID: WD19013A                  Matrix          : SOIL
Ext Btch ID: CPD013W                   % Moisture      : 6.6
Calib. Ref.: WD19003A                  Instrument ID   : GCT016
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PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
4,4'-DDE	.023 (.025)	.013	.0059 .0059
4,4'-DDD	(.16) .14	.013	.0062 .0062
4,4'-DDT	.056 (.079)	.013	.0041 .0041
TOTAL DDT	(.26) .22	.013	.0041 .0041

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	83 (119)	50-130
DECACHLOROBIPHENYL	(62) 38*	50-150

RL : Reporting limit
 Left of | is related to first column ; Right of | related to second column
 Final result indicated by ()

SW3550B/8081A
PESTICIDES

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=====
Client      : USACE                      Date Collected: 04/14/04
Project     : HAAF, MISC.S.I.           Date Received: 04/15/04
Batch No.   : 04D090                    Date Extracted: 04/16/04 12:00
Sample ID:  SPF-1403-OFT                Date Analyzed: 04/19/04 17:36
Lab Samp ID: D090-04                    Dilution Factor: 1
Lab File ID: WD19014A                   Matrix          : SOIL
Ext Btch ID: CPD013W                    % Moisture     : 10.8
Calib. Ref.: WD19003A                   Instrument ID  : GCT016
=====
  
```

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
4,4'-DDE	.007 (.0083)	.0022	.001
4,4'-DDD	(.0053) .0047	.0022	.0011
4,4'-DDT	.021 (.024)	.0022	.00071
TOTAL DDT	(.038) .033	.0022	.00071

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	(107) 77	50-130
DECACHLOROBIPHENYL	63 (65)	50-150

RL : Reporting limit
 Left of | is related to first column ; Right of | related to second column
 Final result indicated by ()

SW3550B/8081A
PESTICIDES

```

=====
Client      : USACE                      Date Collected: 04/14/04
Project     : HAAF, MISC.S.I.           Date Received: 04/15/04
Batch No.   : 04D090                   Date Extracted: 04/16/04 12:00
Sample ID   : SPF-1404-OFTDL           Date Analyzed: 04/19/04 18:01
Lab Samp ID: D090-05T                  Dilution Factor: 6
Lab File ID: WD19015A                  Matrix          : SOIL
Ext Btch ID: CPD013W                   % Moisture      : 7.2
Calib. Ref.: WD19003A                  Instrument ID   : GCT016
=====

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PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
4,4'-DDE	(.07) .07	.013	.0059 .0059
4,4'-DDD	(.029) .016	.013	.0063 .0063
4,4'-DDT	(.22) .21	.013	.0041 .0041
TOTAL DDT	(.32) .3	.013	.0041 .0041

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	92 (95)	50-130
DECACHLOROBIPHENYL	(73) 73	50-150

RL : Reporting limit
Left of | is related to first column ; Right of | related to second column
Final result indicated by ()

SW3550B/8081A
PESTICIDES

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=====
Client      : USACE                      Date Collected: 04/14/04
Project    : HAAF, MISC.S.I.           Date Received: 04/15/04
Batch No.  : 04D090                    Date Extracted: 04/16/04 12:00
Sample ID  : SPF-1405-OFTDL           Date Analyzed: 04/19/04 18:27
Lab Samp ID: D090-06T                 Dilution Factor: 6
Lab File ID: WD19016A                 Matrix          : SOIL
Ext Btch ID: CPD013W                  % Moisture     : 15.3
Calib. Ref.: WD19003A                 Instrument ID   : GCT016
=====
  
```

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
4,4'-DDE	(.14) .13	.014	.0065 .0065
4,4'-DDD	(.028) .028	.014	.0069 .0069
4,4'-DDT	(.28) .27	.014	.0045 .0045
TOTAL DDT	(.45) .43	.014	.0045 .0045

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	93 (105)	50-130
DECACHLOROBIPHENYL	58 (60)	50-150

RL : Reporting limit
 Left of | is related to first column ; Right of | related to second column
 Final result indicated by ()

SW3550B/8081A
PESTICIDES

```

=====
Client      : USACE                      Date Collected: 04/14/04
Project    : HAAF, MISC.S.I.           Date Received: 04/15/04
Batch No.  : 04D090                    Date Extracted: 04/16/04 12:00
Sample ID  : SPF-1400-2FT              Date Analyzed: 04/19/04 18:52
Lab Samp ID: D090-07                   Dilution Factor: 1
Lab File ID: WD19017A                  Matrix          : SOIL
Ext Btch ID: CPD013W                   % Moisture     : 23.6
Calib. Ref.: WD19003A                  Instrument ID   : GCT016
=====

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PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
4,4'-DDE	(ND) .0023J	.0026	.0012 .0012
4,4'-DDD	(ND) ND	.0026	.0013 .0013
4,4'-DDT	.00086J (.001J)	.0026	.00083 .00083
TOTAL DDT	.00086J (.001J)	.0026	.00083 .00083

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	(81) 75	50-130
DECACHLOROBIPHENYL	(60) 58	50-150

RL : Reporting limit
Left of | is related to first column ; Right of | related to second column
Final result indicated by ()

SW3550B/8081A
PESTICIDES

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=====
Client      : USACE                      Date Collected: 04/14/04
Project     : HAAF, MISC.S.I.           Date Received: 04/15/04
Batch No.   : 04D090                    Date Extracted: 04/16/04 12:00
Sample ID   : SPF-1401-2FT              Date Analyzed: 04/19/04 19:17
Lab Samp ID : D090-08                    Dilution Factor: 1
Lab File ID : WD19018A                   Matrix          : SOIL
Ext Btch ID : CPD013W                     % Moisture      : 20.0
Calib. Ref.: WD19003A                     Instrument ID   : GCT016
=====

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PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
4,4'-DDE	.0035 (.0041)	.0025	.0011 .0011
4,4'-DDD	(ND) ND	.0025	.0012 .0012
4,4'-DDT	.0051 (.0062)	.0025	.00079 .00079
TOTAL DDT	.0086 (.010)	.0025	.00079 .00079

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	(95) 83	50-130
DECACHLOROBIPHENYL	64 (65)	50-150

RL : Reporting limit
Left of | is related to first column ; Right of | related to second column
Final result indicated by ()

SW3550B/8081A
PESTICIDES

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=====
Client      : USACE                      Date Collected: 04/14/04
Project    : HAAF, MISC.S.I.           Date Received: 04/15/04
Batch No.  : 04D090                    Date Extracted: 04/16/04 12:00
Sample ID  : SPF-1402-2FT              Date Analyzed: 04/19/04 21:49
Lab Samp ID: D090-09                   Dilution Factor: 1
Lab File ID: WD19024A                  Matrix          : SOIL
Ext Btch ID: CPD013W                   % Moisture      : 24.8
Calib. Ref.: WD19021A                  Instrument ID   : GCT016
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PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
4,4'-DDE	.0015J .0017J)	.0027	.0012 .0012
4,4'-DDD	(ND) ND	.0027	.0013 .0013
4,4'-DDT	(.0025J) .0023J	.0027	.00084 .00084
TOTAL DDT	.0038 .0042)	.0027	.00084 .00084

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	79 (96)	50-130
DECACHLOROBIPHENYL	65 (66)	50-150

RL : Reporting limit
 Left of | is related to first column ; Right of | related to second column
 Final result indicated by ()

SW3550B/8081A
PESTICIDES

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=====
Client      : USACE                      Date Collected: 04/14/04
Project    : HAAF, MISC.S.I.           Date Received: 04/15/04
Batch No.  : 04D090                    Date Extracted: 04/16/04 12:00
Sample ID  : SPF-1402-A-2FT           Date Analyzed: 04/19/04 22:15
Lab Samp ID: D090-10                  Dilution Factor: 1
Lab File ID: WD19025A                 Matrix          : SOIL
Ext Btch ID: CPD013W                  % Moisture      : 24.1
Calib. Ref.: WD19021A                 Instrument ID   : GCT016
=====

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PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
4,4'-DDE	.0018J (.002J)	.0026	.0012 .0012
4,4'-DDD	(ND) ND	.0026	.0013 .0013
4,4'-DDT	.0021J (.0027)	.0026	.00084 .00084
TOTAL DDT	.0039 (.0047)	.0026	.00084 .00084

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	86 (89)	50-130
DECACHLOROBIPHENYL	(63) 63	50-150

RL : Reporting limit
Left of | is related to first column ; Right of | related to second column
Final result indicated by ()



**USEPA Contract Laboratory Program
Generic Chain of Custody**

US_0401-

C3

Reference Case

Client No: **04A096**
SDG No: **04A096**

L

Date Shipped: 1/16/2004
Carrier Name: FedEx
Airbill: 840946764285
Shipped to: EMAX Laboratories
1835 W. 205th Street
Torrance CA 90501
(310) 618-8889

Chain of Custody Record

Relinquished By	(Date / Time)	Received By	(Date / Time)
<i>Kevin M. Rodgers</i>	1/16/04	<i>[Signature]</i>	1-17-04 11:15
2			
3			
4			

For Lab Use Only

Lab Contract No: _____
Unit Price: _____
Transfer To: _____
Lab Contract No: _____
Unit Price: _____

FOR LAB USE ONLY
Sample Condition On Receipt

SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME
1	HAAF-FITB-731 Soil/Sediment	/G	SW 6010B (21)	(1)	HAAF-FITB-731	S: 1/15/2004 9:27
2	HAAF-FITB-732 Soil/Sediment	/G	SW 6010B (21)	(1)	HAAF-FITB-732	S: 1/15/2004 9:39
3	HAAF-FITB-733 Soil/Sediment	/G	SW 6010B (21)	(1)	HAAF-FITB-733	S: 1/15/2004 9:45
4	HAAF-FITB-D-5 Soil/Sediment	/G	SW 6010B (21)	(1)	HAAF-FITB-D-504	S: 1/15/2004 9:39
5	HAAF-REV6-72 Soil/Sediment	/G	SW 7471 (21)	(1)	HAAF-REV6-723	S: 1/12/2004 12:30
6	HAAF-REV6-72 Soil/Sediment	/G	SW 7471 (21)	(1)	HAAF-REV6-724	S: 1/12/2004 12:35
7	HAAF-REV6-72 Soil/Sediment	/G	SW 7471 (21)	(1)	HAAF-REV6-725	S: 1/12/2004 12:40
8	HAAF-REV6-D- Soil/Sediment	/G	SW 7471 (21)	(1)	HAAF-REV6-D-503	S: 1/12/2004 12:35
9	HAAF-REV7-72 Soil/Sediment	/G	SW 7471 (21)	(1)	HAAF-REV7-726	S: 1/12/2004 13:00
10	HAAF-REV7-72 Soil/Sediment	/G	SW 7471 (21)	(1)	HAAF-REV7-727	S: 1/12/2004 13:03

Shipment for Case Complete? N	Sample(s) to be used for laboratory QC: HAAF-SPF-704, HAAF-SR-740	Additional Sampler Signature(s):	Cooler Temperature Upon Receipt: 3.4°C	Chain of Custody Seal Number:
	Concentration: L = Low, M = Low/Medium, H = High 8081A = DDD,DDE,DDT, 8270C SIM = PAH, SW 6010B = Sb, As, Cd, Cr, Cu, Pb, Ni, Zn, SW 7471 = Hg	Type/Designate: Composite = C, Grab = G		Custody Seal Intact? <input checked="" type="checkbox"/> Shipment Iced? <input checked="" type="checkbox"/>

TR Number: Non-EPA-360645727-011604-0001

PR provides preliminary results. Requests for preliminary results will increase analytical costs.
Send Copy to: Sample Management Office, 2000 Edmund Halley Dr., Reston, VA. 20191-3400 Phone 703/264-9348 Fax 703/264-9222

LABORATORY COPY



**USEPA Contract Laboratory Program
Generic Chain of Custody**

C3

Reference Case

Client No: 04A096
SDG No: 04A096

L

Date Shipped: 1/16/2004		Chain of Custody Record		Sampler Signature:	
Carrier Name: FedEx	Relinquished By (Date / Time)	Received By (Date / Time)			
Airbill: 840946764285	Teresa M Rodgers 1/16/04	[Signature]			
Shipped to: EMAX Laboratories 1835 W. 205th Street Torrance CA 90501 (310) 618-8889	2	1-17-04 11:15			
	3				
	4				

SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	FOR LAB USE ONLY Sample Condition On Receipt
11	HAAF-REV7-72 Soil/Sediment	/G	SW 7471 (21)	(1)	HAAF-REV7-728	S: 1/12/2004 13:05	
12	HAAF-SPF-701 Soil/Sediment/ Teresa Rodgers	/G	8081A (21)	111 (1)	HAAF-SPF-701	S: 1/15/2004 11:52	
13	HAAF-SPF-702 Soil/Sediment/ Teresa Rodgers	/G	8081A (21)	111 (1)	HAAF-SPF-702	S: 1/15/2004 11:53	
14	HAAF-SPF-703 Soil/Sediment/ Teresa Rodgers	/G	8081A (21)	111 (1)	HAAF-SPF-703	S: 1/15/2004 11:55	
15	HAAF-SPF-704 Soil/Sediment	/G	8081A (21)	111 (1)	HAAF-SPF-704	S: 1/15/2004 11:58	
16	HAAF-SR-738 Soil/Sediment	/G	8270C SIM (21), SW 6010B (21)	(2)	HAAF-SR-738	S: 1/13/2004 16:02	
17	HAAF-SR-739 Soil/Sediment	/G	8270C SIM (21), SW 6010B (21)	(2)	HAAF-SR-739	S: 1/13/2004 15:46	
18	HAAF-SR-740 Soil/Sediment	/G	8270C SIM (21), SW 6010B (21)	(2)	HAAF-SR-740	S: 1/13/2004 15:36	
19	HAAF-SR-741 Soil/Sediment	/G	8270C SIM (21), SW 6010B (21)	(2)	HAAF-SR-741	S: 1/13/2004 16:45	
20	HAAF-SR-742 Soil/Sediment	/G	8270C SIM (21), SW 6010B (21)	(2)	HAAF-SR-742	S: 1/13/2004 16:48	

Shipment for Case Complete? N	Sample(s) to be used for laboratory QC: HAAF-SPF-704, HAAF-SR-740	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key: 8081A = DDD,DDE,DDT, 8270C SIM = Sb, As, Cd, Cr, Cu, Pb, Ni, Zn, SW 7471 = Hg	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Cooler Temperature Upon Receipt: 3.4°C
			Custody Seal Intact? <input checked="" type="checkbox"/> Shipment Iced? <input checked="" type="checkbox"/>

METHOD 7471A
MERCURY BY COLD VAPOR

Client : USACE
Project : HAAF, MISC.S.I.
Batch No. : 04A096

Matrix : SOIL
Instrument ID : TI047

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/kg)	DLF	MOIST	RL (mg/kg)	MDL (mg/kg)	Analysis DATETIME	Extraction DATETIME	L/FID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1S	HGA016SB	ND	1	NA	.05	.025	01/22/0415:48	01/22/0412:30	M47A015010	M47A015008	HGA016S	NA	01/22/04
LCS1S	HGA016SL	.82	1	NA	.05	.025	01/22/0415:50	01/22/0412:30	M47A015011	M47A015008	HGA016S	NA	01/22/04
LCD1S	HGA016SC	.82	1	NA	.05	.025	01/22/0415:52	01/22/0412:30	M47A015012	M47A015008	HGA016S	NA	01/22/04
HAAF-REV6-D-503AS	A096-08A	.624	1	28.9	.0703	.0352	01/22/0415:54	01/22/0412:30	M47A015013	M47A015008	HGA016S	01/12/04	01/17/04
HAAF-REV6-D-503	A096-08	.157	1	28.9	.0703	.0352	01/22/0415:57	01/22/0412:30	M47A015014	M47A015008	HGA016S	01/12/04	01/17/04
HAAF-REV6-D-503DL	A096-08T	ND	5	28.9	.352	.176	01/22/0415:59	01/22/0412:30	M47A015015	M47A015008	HGA016S	01/12/04	01/17/04
HAAF-REV6-D-503MS	A096-08M	1.27	1	28.9	.0703	.0352	01/22/0416:01	01/22/0412:30	M47A015016	M47A015008	HGA016S	01/12/04	01/17/04
HAAF-REV6-D-503MSD	A096-08S	1.27	1	28.9	.0703	.0352	01/22/0416:04	01/22/0412:30	M47A015017	M47A015008	HGA016S	01/12/04	01/17/04
HAAF-REV6-723	A096-05	.0551J	1	13.2	.0576	.0288	01/22/0416:15	01/22/0412:30	M47A015022	M47A015020	HGA016S	01/12/04	01/17/04
HAAF-REV6-724	A096-06	.145	1	27.8	.0693	.0346	01/22/0416:17	01/22/0412:30	M47A015023	M47A015020	HGA016S	01/12/04	01/17/04
HAAF-REV6-725	A096-07	.105	1	24.0	.0658	.0329	01/22/0416:19	01/22/0412:30	M47A015024	M47A015020	HGA016S	01/12/04	01/17/04
HAAF-REV7-726	A096-09	.102	1	18.7	.0615	.0308	01/22/0416:21	01/22/0412:30	M47A015025	M47A015020	HGA016S	01/12/04	01/17/04
HAAF-REV7-727	A096-10	.165	1	29.0	.0704	.0352	01/22/0416:24	01/22/0412:30	M47A015026	M47A015020	HGA016S	01/12/04	01/17/04
HAAF-REV7-728	A096-11	.241	1	28.8	.0702	.0351	01/22/0416:26	01/22/0412:30	M47A015027	M47A015020	HGA016S	01/12/04	01/17/04

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: USACE
PROJECT: HAAF, MISC.S.I.
SDG NO.: 04A096
METHOD: METHOD 7471A

MATRIX: SOIL
DILTN FACTR: 1 1 NA
SAMPLE ID: MELK1S
CONTROL NO.: HGA016SB HGA016SL HGA016SC
LAB FILE ID: M47A015010 M47A015011 M47A015012
DATE TIME EXTRACTD: 01/22/0412:30 01/22/0412:30 01/22/0412:30
DATE TIME ANALYZD: 01/22/0415:48 01/22/0415:50 01/22/0415:52
PREP. BATCH: HGA016S HGA016S HGA016S
CALIB. REF: M47A015008 M47A015008 M47A015008

ACCESSION:

PARAMETER	BLNK RSLT mg/kg	SPIKE AMT mg/kg	BS RSLT mg/kg	BS % REC	SPIKE AMT mg/kg	BSD RSLT mg/kg	BSD % REC	RPD %	QC LIMIT %	MAX RPD %
Mercury	ND	.833	.82	98	.833	.82	98	0	80-120	20

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: USACE
PROJECT: HAAF, MISC.S.I.
SDG NO.: 04A096
METHOD: METHOD 7471A

MATRIX: SOIL
DILTN FACTR: 1
SAMPLE ID: HAAF-REV6-D-503
CONTROL NO.: A096-08
LAB FILE ID: M47A015014
DATE TIME EXTRACTD: 01/22/0412:30
DATE TIME ANALYZD: 01/22/0415:57
PREP. BATCH: HGA016S
CALIB. REF: M47A015008

% MOISTURE: 28.9
A096-08S
M47A015017
DATE COLLECTED: 01/12/04
DATE RECEIVED: 01/17/04
HGA016S
M47A015008

ACCESSION:

PARAMETER	SAMPL RSLT mg/kg	SPIKE AMT mg/kg	MS RSLT mg/kg	MS % REC	SPIKE AMT mg/kg	MSD RSLT mg/kg	MSD % REC	RPD %	QC LIMIT	MAX RPD %
Mercury	.157	1.17	1.27	95	1.17	1.27	95	0	80-120	20

EMAX QUALITY CONTROL DATA
ANALYTICAL SPIKE ANALYSIS

CLIENT: USACE
 PROJECT: HRAF, MISC.S.I.
 SDG NO.: 04A096
 METHOD: METHOD 7471A
 =====

MATRIX: SOIL
 DILTN FACTR: 1
 SAMPLE ID: HRAF-REV6-D-503
 CONTROL NO.: A096-08
 LAB FILE ID: M47A015014
 DATE TIME EXTRACTD: 01/22/04 12:30
 DATE TIME ANALYZD: 01/22/04 15:57
 PREP. BATCH: HGA016S
 CALIB. REF: M47A015008

HAAP-REV6-D-503
 A096-08A
 M47A015013
 DATE COLLECTED: 01/12/04
 DATE RECEIVED: 01/17/04
 % MOISTURE: 28.9

PARAMETER	SAMPL RSLT (mg/kg)	SPIKE AMT (mg/kg)	AS RSLT (mg/kg)	% REC	AS REC	QC LIMIT (%)
Mercury	.157	.468	.624	100	100	85-115

ACCESSION: