

W 03025-STL

0053044



Original received 2/15/00

*Dayes*

**ANALYTICAL REPORT**

PROJECT NO. D&D

B00-013

Lot #: FOA170121

SDG #: W03025

Joan Kessner

Bechtel Hanford, Inc.  
3350 George Washington Way  
Richland, WA 99352

**RECEIVED**  
APR 25 2000

**EDMC**

SEVERN TRENT LABORATORIES, INC.

MARTI WARD  
Project Manager

April 1, 2000

*da*

Quanterra Incorporated  
13715 Rider Trail North  
Earth City, Missouri 63045

314 298-8566 Telephone  
314 298-8757 Fax

**CASE NARRATIVE**

Bechtel Hanford Incorporated  
3350 George Washington Way  
Richland, Washington 99352

February 11, 2000

Attention: Joan Kessner

Quote Number	:	33811
SDG	:	W03025
Number of Samples	:	two (2)
Sample Matrix	:	Solid
Data Deliverable	:	Summary
Date SDG Closed	:	January 28, 2000

**II. Introduction**

On January 14, 2000, two (2) "solid" samples were received by Quanterra, Richland and transferred to Quanterra, St. Louis for chemical analysis. The samples were received within temperature criteria. See the attached Sample Summary for a listing of Client Ids and their associated Lab numbers.

**III. Analytical Results/ Methodology**

The analytical results for this report are presented by analytical test. Each set of data includes sample identification information, analytical results and the appropriate detection limits.

Analyses requested: ICP Metals - 6010 Super Trace - Lead  
Mercury - 7471 - CV

Deviation from Request: None

**V. Definitions**

The following codes are used to denote laboratory quality control samples and can be found in the data summary section of this report:

- QCBLK- Quality Control Blank, Method Blank
- QCLCS- Quality Control Laboratory Control Sample, Blank Spike



Bechtel Hanford Incorporated

February 11, 2000

Quote Number: 33811

SDG: W03025

Page 2

MS- Matrix Spike.

MSD- Matrix Spike Duplicate.

V. Comments

General:

The term "Detection Limit" used in the analytical data reports refers to either the lab's standard reporting limits or contractually required reporting limits, whichever is applicable.

Please refer to the attached cross-reference table for the standard preparation methods used at Quanterra, St. Louis.

Metals:

A Laboratory Control Sample, Method Blank, Matrix Spike and Matrix Spike Duplicate were analyzed with each preparation batch per the protocol for this analysis.

The temperature of the water bath for the Mercury analysis for batch 0033237 was 85degrees C, which is less than the 90-95 degrees stated in the SOP. A nonconformance was initiated (F00050) noting this deviation from protocol. The QC samples associated with this batch were prepped under the same conditions and all met criteria. The data is unaffected by the temperature non-conformance.

I certify that this Summary is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature.

Reviewed and approved:



Marti Ward

St. Louis Project Manager



# Nonconformance Memo

NCM #: <b>F00050</b> NCM Initiated By: <b>Clay, Kay</b> Date Opened: <b>02/08/00</b> Date Closed: <b>02/10/00</b>	Classification: <b>Anomaly</b> Status: <b>CLOSED</b> Production Area: <b>Metals</b> Tests: <b>None</b> Lot #'s (Sample #'s): <b>F0A050214 (1,2); F0A060175 (1,10,11,2,3,4,5,6,7,8,9); F0A070135 (1,2,3,4,5,6,7); F0A100101 (1); F0A130228 (1,2,3,4,5,6); F0A170121 (1,2); F0A200167 (1,3,4,5,6,7,8); F0A200257 (1,2,3)</b> QC Batch: <b>0033237, 0036128</b>
Nonconformance Subcategory: <b>Other (describe in detail) Other (explanation required)</b>	

### Problem Description / Root Cause

Name	Date	Description
Clay, Kay	02/08/00	The SOP for the Mercury digestions states the water bath temperature should be 90-95 degrees C for both methods 7470 and 7471. Due to a malfunction of the water bath the samples were digested at 85 degrees C.

### Corrective Action

Name	Date	Corrective Action
Ed Kao	02/08/00	Will use another water bath.
Kleszczewski, Jim	02/10/00	QC analyzed in same manner. Results unaffected.

### Quality Assurance Verification

Verified By	Due Date	Status	Notes:
Kleszczewski, Jim	N/A	Verified/completed	

### Client Notification Summary

Client	Project Manager	Date Notified	Response Date	How Notified
DAMES & MOORE	Martino, Ron	02/08/00	02/08/00	by narrative
	<u>Response</u>	<u>Response Details</u>		
	Process "as-is"			

No. 500050 Initiated by Clay Kay Date Opened 02/09/00 Date Closed 02/11/00	Classification: <b>Anomaly</b> Status: <b>CLOSED</b> Production Area: <b>Metals</b> Tests: <b>None</b> Lot #'s (Sample #'s): <b>FOA050214 (1,2); FOA060175 (1,10,11,2,3,4,5,6,7,8,9); FOA070135 (1,2,3,4,5,6,7); FOA100101 (1); FOA130228 (1,2,3,4,5,6); FOA170121 (1,2); FOA200167 (1,3,4,5,6,7,8); FOA200257 (1,2,3)</b> QC Batch: <b>0033237, 0036128</b>
Nonconformance Other (describe in detail) Subcategory Other (explanation required)	

**Approval History**

<u>Name</u>	<u>Date Approved:</u>	<u>Position</u>
Clay Kay	02/08/00	Chemist
Ed Kapp	02/08/00	Group Leader
Martino, Ron	02/08/00	Project Manager
Powell, John	02/09/00	Project Manager
Ward, Mart	02/09/00	Project Manager
Kleszczewski, Jim	02/10/00	Quality Assurance

St. Louis

810300

QUANTERRA INCORPORATE  
CLIENT ANALYSIS SUMMA  
Quanterra St. Louis

Run Date: 1/17/00  
Time: 10:24  
Unit ID: PACEM

CLIENT: 127642 BECHTEL HANFORD  
PROJECT MANAGER: MARTI WARD  
PROJECT #: D&D  
REPORT TO: Joan Kessner  
PROJECT NUMBER: MRC-SBB-A-19981  
SITE: B00-013  
AMOUNT REC'D: 60MG  
STORAGE LOC: T25  
LCL COMMENTS: SAMPLE CONTROL: RECEIPT DATE TO EQUAL QU SAMPLING TIME  
MATRIX: SOLID  
SAMPLE ID: B0XBH  
DC PACKAGE: Special Report - see checklist  
SAMPLE COMMENTS:

QUOTE/SAR #: 33811  
LAB ID: P0A170121-001  
WORK ORDER: D7H60  
RECEIVING DATE: 1/14/00  
SAMPLING DATE: 1/12/00  
ANALYTICAL DUE DATE: 2/02/00M  
REPORT DUE DATE: 2/02/00  
PRIORITY: 18  
RECEIVING TIME: 9:42  
SDG# : W03025

Beginning Depth: .00 Ending Depth: .00

\*\*\*\*\* ANALYSIS \*\*\*\*\*

	WRK LOC	REQUEST DATE	EXTRACTION EXP DATE	ANALYSIS EXP DATE
Inductively Coupled Plasma (6010B Trace) METALS, TOTAL - Soils MT6010_S PB (A-46-QM-01) D7H60 Protocol: A QC Program: STANDARD TEST SET	06	1/17/00	0/00/00	7/10/00
Mercury (7471A, Cold Vapor) - Solids METALS, TOTAL (Method Exclusive) - Solids M7471_S HG (A-70-09-01) D7H60 Protocol: A QC Program: STANDARD TEST SET	06	1/17/00	0/00/00	2/09/00

QUANTERRA INCORPORATED  
CLIENT ANALYSIS SUMMARY  
Quanterra - St. Louis

Run Date: 1/17/00  
Time: 10:24:13  
User ID: PACEM

CLIENT: 127642 BECHTEL HANFORD, INC.  
PROJECT MANAGER: MARTI WARD  
PROJECT #: D&D  
REPORT TO: Joan Kessner  
P.O. NUMBER: MRC-SBB-A-19981

QUOTE/SAR #: 33811  
LAB ID: F-0A170121-001-D  
WORK ORDER: D7H60 MSD  
RECEIVING DATE: 1/14/00  
SAMPLING DATE: 1/12/00  
ANALYTICAL DUE DATE: 2/02/00N  
REPORT DUE DATE: 2/02/00  
PRIORITY: 18  
RECEIVING TIME: 9:42

SITE: B00-013  
AMOUNT REC'D: 60ML  
STORAGE LOC: T2B  
SAMPLE COMMENTS: SAMPLE CONTROL: RECEIPT DATE TO EQUAL QU SAMPLING TIME  
MATRIX: SOLID  
SAMPLE ID: BOXBH9  
QC PACKAGE: Special Report - see checklist  
SAMPLE COMMENTS:

SDG# : W03025

Beginning Depth: .00 Ending Depth: .00

\*\*\*\*\* ANALYSIS \*\*\*\*\*

WRK LOC	REQUEST DATE	EXTRACTION EXP DATE	ANALYSIS EXP DATE
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Inductively Coupled Plasma (6010B Trace)	06	1/17/00	0/00/00	7/10/00
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METALS, TOTAL - Soils

MT6010\_S PB

(A-46-QM-01) D7H60

Protocol: A QC Program: STANDARD TEST SET

Mercury (7471A, Cold Vapor) - Solids	06	1/17/00	0/00/00	2/09/00
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METALS, TOTAL (Method Exclusive) - Solids

M7471\_S HG

(A-70-O9-01) D7H60

Protocol: A QC Program: STANDARD TEST SET

PSL20300  
Page 1

QUANTERRA INCORPORATED  
CLIENT ANALYSIS SUMMARY  
Quanterra - St. Louis

Run Date: 1/17/00  
Time: 10:24:13  
User Id: PACEM

CLIENT: 127642 BECHTEL HANFORD, INC  
PROJECT MANAGER: MARTI WARD  
PROJECT #: D&D  
REPORT TO: Joan Kessner  
P.O. NUMBER: MRC-SBB-A-19981  
SITE: B00-013  
AMOUNT REC'D: 60ML  
STORAGE LOC: T2B  
LOT COMMENTS: SAMPLE CONTROL: RECEIPT DATE TO EQUAL QU SAMPLING TIME  
MATRIX: SOLID  
SAMPLE ID: BOXBH9  
QC PACKAGE: Special Report - see checklist  
SAMPLE COMMENTS:

QUOTE/SAR #: 33811  
LAB ID: F-0A170121-001-S  
WORK ORDER: D7H60 MS  
RECEIVING DATE: 1/14/00  
SAMPLING DATE: 1/12/00  
ANALYTICAL DUE DATE: 2/02/00N  
REPORT DUE DATE: 2/02/00  
PRIORITY: 18  
RECEIVING TIME: 9:42  
SDG# : W03025

Beginning Depth: .00 Ending Depth: .00

\*\*\*\*\* ANALYSIS \*\*\*\*\*

WRK LOC	REQUEST DATE	EXTRACTION EXP DATE	ANALYSIS EXP DATE
------------	-----------------	------------------------	----------------------

Inductively Coupled Plasma (6010B Trace) METALS, TOTAL - Soils	06	1/17/00	0/00/00	7/10/00
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MT6010\_S PB  
(A-46-QM-01) D7H60 Protocol: A QC Program: STANDARD TEST SET

Mercury (7471A, Cold Vapor) - Solids METALS, TOTAL (Method Exclusive) - Solids	06	1/17/00	0/00/00	2/09/00
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M7471\_S HG  
(A-70-09-01) D7H60 Protocol: A QC Program: STANDARD TEST SET

PSL20300  
Page 1

QUANTERRA INCORPORATED  
CLIENT ANALYSIS SUMMARY  
Quanterra - St. Louis

Run Date: 1/17/00  
Time: 10:24:13  
User Id.: PACEM

CLIENT: 127642 BECHTEL HANFORD, INC.  
PROJECT MANAGER: MARTI WARD  
PROJECT #: D&D  
REPORT TO: Joan Kessner  
P.O. NUMBER: MRC-SBB-A-19981  
SITE: B00-013  
AMOUNT REC'D: 60ML  
STORAGE LOC: T2B

QUOTE/SAR #: 33811  
LAB ID: F-0A170121-002  
WORK ORDER: D7H6F  
RECEIVING DATE: 1/14/00  
SAMPLING DATE: 1/12/00  
ANALYTICAL DUE DATE: 2/02/00N  
REPORT DUE DATE: 2/02/00  
PRIORITY: 18  
RECEIVING TIME: 9:42

LOT COMMENTS: SAMPLE CONTROL: RECEIPT DATE TO EQUAL QU SAMPLING TIME: 10:18  
MATRIX: SOLID  
SAMPLE ID: BOXBJ0  
QC PACKAGE: Special Report - see checklist  
SAMPLE COMMENTS:

SDG# : W03025

Beginning Depth: .00 Ending Depth: .00

\*\*\*\*\* ANALYSIS \*\*\*\*\*

WRK LOC	REQUEST DATE	EXTRACTION EXP DATE	ANALYSIS EXP DATE
------------	-----------------	------------------------	----------------------

Inductively Coupled Plasma (6010B Trace) 06 METALS, TOTAL - Soils MT6010_S PB (A-46-QM-01) D7H6F	1/17/00	0/00/00	7/10/00
---	---------	---------	---------

Protocol: A QC Program: STANDARD TEST SET

Mercury (7471A, Cold Vapor) - Solids 06 METALS, TOTAL (Method Exclusive) - Solids M7471_S HG (A-70-09-01) D7H6F	1/17/00	0/00/00	2/09/00
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Protocol: A QC Program: STANDARD TEST SET

Data is Incomplete without Case Narrative

CUR# 020642

TEMP 30

AIRBORNE 4012595 112

ST. LOUIS

Bechtel Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			B00-013-150 Page 1 of 1	
Collector Fahlberg / <b>Nelson</b>	Company Contact J Adler	Telephone No. 373-4316	Project Coordinator TRENT, SI	Price Code 9L	Data Turnaround 21 Days	
Project Designation 105-FDR Phase III Below-grade Areas Sampling and Analy	Sampling Location 105F	SAF No. B00-013	Air Quality <input type="checkbox"/>			
Ice Chest No. <b>ERC 99 033</b>	Field Logbook No. EL 1424	COA R105F2280C	Method of Shipment <b>Gov. vehicle</b>			
Shipped To Quanterra Incorporated	Offsite Property No. <b>N/A</b>	BRI of Lading/Air Bill No. <b>N/A</b>				

POSSIBLE SAMPLE HAZARDS/REMARKS	Preservation	None	None							
	Type of Container	u3	u3							
	No. of Container(s)	1	1							
	Special Handling and/or Storage	Volume	60mL	120mL						

SDG Due 2-4-00  
**W03025** = **JOA140138**  
 ICP Metals - 5010A (Supertrace) (Lead); Mercury - 7471 - (CV)  
 See item (1) in Special Instructions  
**0.521**  
**100% Full**

Sample No.	Matrix *	Sample Date	Sample Time							
BOXBH9	Other Solid	1/12/00	1003	X	X	DTF 4N				
<b>30XB30</b>		1/12/00	1018	X	X	DTF 4X				<b>202/60mL C</b>

CHAIN OF POSSESSION		Sign/Print Names		SPECIAL INSTRUCTIONS		Matrix *
Relinquished By <b>R. Nelson</b>	Date/Time <b>1/12/00</b>	Received By <b>Ref #18</b>	Date/Time	(1) Gamma Spectroscopy (Cobalt-60); Gamma Spec - Add-on (Barium-133); Isotope Photomics; Selenium-89,90 - Total Sr; Technetium-99; Americium-241; Nickel-63; Carbon-14		<ul style="list-style-type: none"> <li>S-Soil</li> <li>SS-Gelatin</li> <li>SO-Soil</li> <li>S-Stage</li> <li>W - Water</li> <li>C-Cl</li> <li>A-Air</li> <li>DL-Dross Liquids</li> <li>T-Tissue</li> <li>W-Wipe</li> <li>L-Liquid</li> <li>V-Vegetation</li> <li>X-Other</li> </ul>
Relinquished By <b>Ref 18</b>	Date/Time <b>1/13/00/1030</b>	Received By <b>Ref C3</b>	Date/Time			
Relinquished By <b>R. J. 3C</b>	Date/Time <b>1/14/00/0900</b>	Received By <b>R. Thoren</b>	Date/Time <b>1/14/00/0900</b>			
Relinquished By <b>R. Thoren</b>	Date/Time <b>1/14/00/0900</b>	Received By <b>W. H. H. H.</b>	Date/Time <b>1-14-00</b>			
Relinquished By <b>S. H. H. H.</b>	Date/Time <b>1-14-00/0900</b>	Received By <b>M. H. H. H.</b>	Date/Time <b>01-15-00 900</b>			

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

# ERC Radiological Counting Facility Analysis Report

RCF Number RCF7039

Sample Date & Time 1/12/00 1018

Project ID: 105F

SAF Number: B00-013

Date Analyzed 1/13/00 7:57:3

Sample ID: B0XBH0

### Gamma Energy Analysis

Nuclide	Activity (pCi/g)	Error (pCi/g)	MDC (pCi/g)
K-40	< 1.1E+02		1.1E+02
Co-60	< 1.5E+01		1.5E+01
Cs-137	< 2.0E+01		2.0E+01
Eu-152	< 5.2E+01		5.2E+01
Eu-154	< 3.0E+01		3.0E+01
Eu-155	< 7.1E+01		7.1E+01
Th-232D	< 5.1E+01		5.1E+01
Th-234	< 2.3E+02		2.3E+02
U-235	< 1.5E+02		1.5E+02
U-238D	1.4E+02	+/- 5.2E+01	5.2E+01
U-238	< 3.4E+03		3.4E+03
Am-241	< 4.0E+01		4.0E+01

Total GEA (pCi/g)	1.4E+02	+/-	5.2E+01
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	Activity (pCi/g)	Error (pCi/g)
Gross Alpha**	1.3E+00	+/- 7.1E-01
Gross Beta	1.3E+01	+/- 1.4E+00

Alpha MDC (pCi/g)
6.5E-01
Beta MDC (pCi/g)
7.0E+00

### Definitions:

All errors reported as 2 standard deviations.  
 N/R = no result or analysis not requested. <MDC = Less than detection limit.  
 All GEA results reported as "<" list the Minimum Detectable Concentration (MDC) value for that radionuclide.  
 Rounding error may result in the reported total GEA activity differing from the sum of the > MDC GEA values in the second significant digit.

### For soils and natural samples, the following applies:

The analysis of U-238 is based on the activity of Pa-234m.  
 The analysis of Np-237 is based on the activity of Pa-233.  
 U-238dau is the activity of Pb-214 and Bi-214, short lived daughter products of U-238. Equilibrium between parent and daughter products probably does not exist in disturbed materials.  
 Th-232dau is the activity of Ac-228, Pb-212, and Tl-208, short lived daughter products of Th-232. Equilibrium between parent and daughter products may not exist in disturbed materials.  
 Other samples, not containing natural materials, may have inapplicable results for the Th, U, transuramics and daughter products. The results must then be balanced for the gross alpha analysis.  
 \*\*The gross alpha results are not corrected for mass absorption  
 # No peaks for this radionuclide were visible above background in the spectrum. The result was reported as less than MDC.

Analyst



T.J. Sauer

1/13/00

Report To  
 S. Trent  
 D. St. John

Fax  
 372-9487

Report Printed: Thursday, January 13, 2000

Figure 1

### SAMPLE CHECK-IN LIST

Date/Time Received: 1-14 0945 SG#: W03025  
 Work Order Number: JOA140138 SAF #: B00-013  
 Shipping Container ID: ERC 99033 Chain of Custody #: B00-013-150

1. Custody Seals on shipping container intact? Yes [] No []
2. Custody Seals dated and signed? Yes [] No []
3. Chain-of-Custody record present? Yes [] No []
4. Cooler temperature 40
5. Vermiculite/packing materials is Wet [] Dry []
6. Number of samples in shipping container: 4
7. Sample holding times exceeded? Yes [] No []

8. Samples have: <input checked="" type="checkbox"/> tape <input checked="" type="checkbox"/> custody seals	<input type="checkbox"/> hazard labels <input type="checkbox"/> appropriate sample labels
9. Samples are: <input checked="" type="checkbox"/> in good condition <input type="checkbox"/> broken	<input type="checkbox"/> leaking <input type="checkbox"/> have air bubbles

10. Where any anomalies identified in sample receipt? Yes [] No []
11. Description of anomalies (include sample numbers): \_\_\_\_\_

Sample Custodian/Laboratory: Wadell et al Date: 14-00 0945  
 Telephoned To: \_\_\_\_\_ On \_\_\_\_\_ By \_\_\_\_\_

**Client Sample Screening Results**

14-Jan-00

② 1/14/00

CLIENT CODE	ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
BHI	B0XBH9D7F4N	SOLID	1/14/2000 11:09:00 AM	QUAD22C	1/14/2000 12:09:11 PM	B0XBH9D7F4N	30	17	0.456666667	101	2.373333333
	D7F4N			Bag: 1.14E+02	1/14/2000 1:48:53 AM	BKG	600	66	0.11	596	0.993333333
				Units: 8	Alp: (Dpm) 3.12E+00		(pCV) 1.23E+01	± 5.1E+00		CAT	4.1E+00 Lab
					Bet: Alp: 4.88E+00		Liq: 1.93E+01	± 2.9E+00			5.2E+00 Lab
BHI	B0XB10D7F4X	SOLID	1/14/2000 11:09:00 AM	QUAD22D	1/14/2000 12:09:11 PM	B0XB10D7F4X	30	16	0.428333333	113	2.376666667
	D7F4X			Bag: 8.13E+01	1/14/2000 1:48:53 AM	BKG	600	63	0.105	834	1.39
				Units: 8	Alp: (Dpm) 2.49E+00		(pCV) 1.38E+01	± 7.0E+00		CAT	3.6E+00 Lab
					Bet: Alp: 4.89E+00		Liq: 2.71E+01	± 4.2E+00			3.7E+00 Lab



Environmental Services

Condition Upon Receipt Variance Report  
St. Louis Laboratory

Login No.: 020642  
FA70121  
W03025

Client: BECHTEL MANFORD  
Project No: 33811  
Shipper/No: AIRBORNE 401 2915112  
Condition/Variance (Check all that apply):

Date: 01-15-00 Time: 900  
Initiated by: M. PACE  
RFA/COC Numbers: 800-013-150

- |  |  |
|--|--|
| 1. <input type="checkbox"/> Sample received broken/leaking.                          | 8. <input type="checkbox"/> Sample ID on container does not match sample ID on paperwork. Explain: _____ |
| 2. <input type="checkbox"/> Sample received without proper preservative.             |  |
| <input type="checkbox"/> Cooler temperature not within 4C ± 2C                       |  |
| Record temperature: _____  |  |
| <input type="checkbox"/> pH _____  | 9. <input type="checkbox"/> All coolers on airbill not received with shipment.                           |
| <input type="checkbox"/> other: _____  | 10. <input type="checkbox"/> Other (explain below): _____  |
| 3. <input type="checkbox"/> Sample received in improper container.                   |  |
| 4. <input type="checkbox"/> Sample received without proper paperwork. Explain: _____ |  |
| 5. <input type="checkbox"/> Paperwork received without sample.                       |  |
| 6. <input type="checkbox"/> No sample ID on sample container.                        |  |
| 7. <input type="checkbox"/> Custody tape disturbed/broken/missing.                   |  |

No variances were noted during sample receipt. Cooler Temperature Upon Receipt: 30

Temperature Variance Does Not Affect the Following Analyses: \_\_\_\_\_

Notes: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Corrective Action:

- Client's Name: \_\_\_\_\_ Informed verbally on: \_\_\_\_\_ By: \_\_\_\_\_
- Client's Name: \_\_\_\_\_ Informed in writing on: \_\_\_\_\_ By: \_\_\_\_\_
- Sample(s) processed "as is".
- Comments: \_\_\_\_\_ If released, notify: \_\_\_\_\_
- Sample(s) on hold until: \_\_\_\_\_

Sample Control Supervisor Review: (or designate) M. Pace Date: 01-15-00  
Project Management Review: M. Ward Date: 1-15-00

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

SL-ADMIN-0004, Revised 12/12/98

# SAMPLE SUMMARY

FOA170121

WO #	SAMPLE#	CLIENT	SAMPLE ID	DATE	TIME
D7H60	001	BOXBH9		01/12/00	10:00
D7H6F	002	BOXBJ0		01/12/00	10:10

## NOTE (S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

15  
3A  
Nlyes

# METHODS SUMMARY

FOIA704

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Inductively Coupled Plasma (ICP) Metals	SW846 6010B	SW846 3050B
Mercury in Solid Waste (Manual Cold-Vapor)	SW846 7471A	SW846 7471A
Trace Inductively Coupled Plasma (ICP) Metals	SW846 6010B	SW846 3050B

## References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

BECHTEL HANFORD, INC.

Client Sample ID: B0XBH9

TOTAL Metals

Lot-Sample #...: FOA170121-001

Date Sampled...: 01/12/00

% Moisture.....:

Date Received...: 01/14/00

Matrix..... SOL

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WO ORDER #
Prep Batch #...: 0033237						
Mercury	0.030 B	0.033	mg/kg	SW846 7471A	02/04/00	D7H60104
		Dilution Factor: 1		MDL.....: 0.0070		
Prep Batch #...: 0035257						
Chromium	16.3	1.0	mg/kg	SW846 6010B	02/04-02/09/00	D7H60107
		Dilution Factor: 1		MDL.....: 0.30		
Lead	9.5	0.30	mg/kg	SW846 6010B	02/04-02/09/00	D7H60101
		Dilution Factor: 1		MDL.....: 0.15		

NOTE (S) :

B Estimated result. Result is less than RL.

Results and reporting limits have been adjusted for dry weight.

MATRIX SPIKE SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: FOA170121  
 Date Sampled...: 01/12/00

Date Received...: 01/14/00

Matrix.....: SOLID

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
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MS Lot-Sample #: FOA170121-001 Prep Batch #...: 0033237

Mercury

0.030	0.167	0.205	mg/kg	105		SW846 7471A	02/04/00	D7H60105
0.030	0.167	0.208	mg/kg	107	1.6	SW846 7471A	02/04/00	D7H60106

Dilution Factor: 1

MS Lot-Sample #: FOA170121-001 Prep Batch #...: 0035257

Chromium

16.3	20.0	35.3	mg/kg	95		SW846 6010B	02/04-02/09/00	D7H60108
16.3	20.0	34.6	mg/kg	91	1.9	SW846 6010B	02/04-02/09/00	D7H60109

Dilution Factor: 1

Lead

9.5	50.0	54.7	mg/kg	90		SW846 6010B	02/04-02/09/00	D7H60102
9.5	50.0	55.1	mg/kg	91	0.83	SW846 6010B	02/04-02/09/00	D7H60103

Dilution Factor: 1

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

BECHTEL HANFORD, INC.

Client Sample ID: B0XBJ0

TOTAL Metals

Lot-Sample #...: FOA170121-002

Matrix.....: SOLID

Date Sampled...: 01/12/00

Date Received...: 01/14/00

Moisture.....:

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0033237						
Mercury	0.092	0.033	mg/kg	SW846 7471A	02/04/00	D7H6F102
		Dilution Factor: 1		MDL.....: 0.0070		
Prep Batch #...: 0035257						
Chromium	21.9	1.0	mg/kg	SW846 6010B	02/04-02/09/00	D7H6F103
		Dilution Factor: 1		MDL.....: 0.30		
Lead	22.8	0.30	mg/kg	SW846 6010B	02/04-02/09/00	D7H6F101
		Dilution Factor: 1		MDL.....: 0.15		