W02921-QES

Quanterra
Environmental Services

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

RECEIVED
FEB 14 2000
EDMC

December 6, 1999

Attention: Joan Kessner

Project Number	:	550.267
SDG	:	W02921
Number of Samples	:	Two (2)
Sample Matrix	:	Soil
Data Deliverable	:	Summary
Date SDG Closed	:	October 20, 1999

II. Introduction

On October 6, 1999, and October 7, 1999, two (2) "soil" samples were received by Quanterra, Richland and transferred to Quanterra, St. Louis for chemical analysis. The samples were received 3 degrees C. Upon receipt, the samples were given the following laboratory ID numbers to correspond with the specific client ID:

St. Louis ID	BHI ID	SAF ID	Matrix	Date of Receipt
22327-001	B0WKV0	B99-078	SOIL	06-OCT-99
22340-001	B0WKT9	B99-078	SOIL	07-OCT-99

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 - 6010A
Mercury - 7471
Chromium Hex - 7196
VOA - 8260A + add ons
pH - 9045
Nitrate/Nitrite - 353.1
Anions - 300.0
Sulfides - 9030

Ammonia - 350.1
Cyanide - 6010
BNA - 8270A - TCL
TPH - WTPH
PCB - 8082

Deviation from Request: BNA analysis was done using method 8270C.

The add-on compounds for the Volatile analysis (1-Propanol and Ethanol) can not be seen on the GC/MS as a TIC due to the fact that the major ions for these compounds are below the scan range of the instrument. No results for these compounds are reported.

IV. 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
MS- Matrix Spike.
DUP- Matrix Duplicate
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.

There are no comments or non-conformances associated with this data.

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

The recovery of the Chloride matrix spike (127%) was greater than 125% for sample B0WKV0 (22327-001).

The recoveries of the Hexavalent Chromium matrix spike (147.8%) and the matrix spike duplicate (155.9%) were also greater than 125% for sample B0WKV0 (22327-001).

There were no other comments or non-conformances associated with the remainder of the wet chemistry parameters.

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

Sample B0WKT9 (22340-001) was run at 5.0 grams. It was over-calibration for acetone and the internal standard areas were very low. The dilution has acetone within the calibration range, but it does not match the undiluted run very. Both runs are being reported. The sample was soil mixed with other solid material (chunks of bark or wood chips.)

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

Method 3545 (ASE) was used as the extraction method instead of our standard method.

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

There were no comments or non-conformances associated with this analysis.

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

There were no comments or non-conformances associated with this analysis.

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

Quanterra St. Louis

Sample Preparation Methods

"Quanterra Standard" Preparation Method Used Unless Otherwise Noted

Organic Preparation Methods	Matrix	Analysis	SW846 Reference
Separatory Funnel Liquid-Liquid *(Quanterra Standard)*	Liquid	Pesticides, PCBs, Semivolatiles, TPH (Diesel Range Organics), Herbicides, TCLP (Semivolatiles, Pesticides, Herbicides), Phenols, PAHs,	3510C
Continuous Liquid-Liquid	Liquid	Pesticides, Semivolatiles	3520C
Ultrasonic *(Quanterra Standard)*	Solid	Pesticides, PCBs, Semivolatiles, Herbicides, PAHs	3550B
Pressurized Fluid Extraction	Solid	Pesticides, PCBs, Semivolatiles, PAHs	3545
Waste Dilution *(Quanterra Standard)*	Solvent/Oil	Pesticides, PCBs, Semivolatiles, TPH, Herbicides, TCLP (Semivolatiles, Pesticides, Herbicides)	3580A
Purge and Trap *(Quanterra Standard)*	All	Volatiles, Gasoline Range Organics	5030B
Toxicity Characteristic Leaching Procedure *(Quanterra Standard)*	All	Pesticides, Semivolatiles, Herbicides, Volatiles, Metals	1311
Inorganic Preparation Methods	**Matrix**	**Analysis**	**SW846 Reference**
Acid Digestion *(Quanterra Standard)*	Liquid	ICP or FLAA Metals	3010A
Acid Digestion – Total Recoverable	Liquid	ICP or FLAA Metals	3005A
Acid Digestion *(Quanterra Standard)*	Liquid	GFAA Metals	3020A
Acid Digestion *(Quanterra Standard)*	Solid	ICP, FLAA, or GFAA Metals	3050B

W02921

Quanterra October 08, 1999 04:21 pm
Account: 10722 Project: 550.267 Quanterra-Richland QAS No. 550.267 Rev. 0
Master Sample Login: 22327

oject Manager: M. Ward

Reviewed by and Date: Shirla Lawrier final

mple Header Template:

mple No. / #	Client ID / Container Type	C-Matrix / Analysis	Date: Collected / Class	Preservative	Received / Anal. Due Date	Due / Hold Date	Shipper / Site	Rad Category	Rad Sample No. / (Container Numbers:% Filled)
ta:									
2327-001	B0WKV0	Soil	05-OCT-99 07:45		06-OCT-99 12:30	05-NOV-99	FED X'	3*	R9315-001
	B99-078 // VOA = TCL Plus 1 Propanol and Ethanol.								
1	AN - Amber Glass-500ml	ANIONS/300.0/Q4	P	COLD	N/A	N/A	S7L		(465778:100)
1		BNA/8270C/Q4	S	COLD	29-OCT-99	19-OCT-99	S7L		(465779:99)
1		CL/300.0/Q4	C	COLD	29-OCT-99	02-NOV-99	S7L		(465778:100)
1		CN/9010/Q4	S	COLD	29-OCT-99	19-OCT-99	S7L		(465778:100)
1		FL/300.0/Q4	C	COLD	29-OCT-99	02-NOV-99	S7L		(465778:100)
1		NH3/350.1/Q4	S	COLD	29-OCT-99	02-NOV-99	S7L		(465778:100)
1		NO2/300.0/Q4	C	COLD	29-OCT-99	07-OCT-99	S7L		(465778:100)
1		NO3/300.0/Q4	C	COLD	29-OCT-99	07-OCT-99	S7L		(465778:100)
1		NO3/353.1/Q4	S	COLD	29-OCT-99	02-NOV-99	S7L		(465778:100)
1		OPHOS/300.0/Q4	C	COLD	29-OCT-99	07-OCT-99	S7L		(465778:100)
1		PCB/8082/Q4	S	COLD	29-OCT-99	19-OCT-99	S7L		(465779:99)
1		S/9030/Q4	S	COLD	29-OCT-99	12-OCT-99	S7L		(465778:100)
1		SO4/300.0/Q4	C	COLD	29-OCT-99	02-NOV-99	S7L		(465778:100)
1		TPH/8015/Q4	S	COLD	29-OCT-99	19-OCT-99	S7L		(465779:99)
1	AN - Amber Glass-60ML	CR6/7196/Q4	S	COLD	29-OCT-99	06-OCT-99	S7L		(465775:100)
1		HG/7471/Q4	S	COLD	29-OCT-99	02-NOV-99	S7L		(465775:100)
1		ICAPT/6010A/Q4	S	COLD	29-OCT-99	02-APR-00	S7L		(465775:100)
1		PH/9045/Q4	S	COLD	29-OCT-99	19-OCT-99	S7L		(465777:98)
1		PM/IT/Q4	S	COLD	29-OCT-99	02-APR-00	S7L		(465775:100)
1		RAD/CSCREEN/Q4	S	COLD	29-OCT-99	03-APR-00	V9		(465776:99)
1		VOA/8260/Q4	S	COLD	29-OCT-99	19-OCT-99	V9		(465776:99)
2327-001DUP	B0WKV0	Soil	05-OCT-99 07:45		06-OCT-99 12:30	05-NOV-99	FED X'	3*	R9315-001
	B99-078								
1	AN - Amber Glass-500ml	ANIONS/300.0/Q4	P	COLD	N/A	N/A	S7L		(465778:100)
1		CL/300.0/Q4	C	COLD	29-OCT-99	02-NOV-99	S7L		(465778:100)
1		CN/9010/Q4	S	COLD	29-OCT-99	19-OCT-99	S7L		(465778:100)
1		FL/300.0/Q4	C	COLD	29-OCT-99	02-NOV-99	S7L		(465778:100)
1		NH3/350.1/Q4	S	COLD	29-OCT-99	02-NOV-99	S7L		(465778:100)
1		NO2/300.0/Q4	C	COLD	29-OCT-99	07-OCT-99	S7L		(465778:100)
1		NO3/300.0/Q4	C	COLD	29-OCT-99	07-OCT-99	S7L		(465778:100)
1		NO3/353.1/Q4	S	COLD	29-OCT-99	02-NOV-99	S7L		(465778:100)
1		OPHOS/300.0/Q4	C	COLD	29-OCT-99	07-OCT-99	S7L		(465778:100)
1		S/9030/Q4	S	COLD	29-OCT-99	12-OCT-99	S7L		(465778:100)
1		SO4/300.0/Q4	C	COLD	29-OCT-99	02-NOV-99	S7L		(465778:100)
1	AN - Amber Glass-60ML	PH/9045/Q4	S	COLD	29-OCT-99	19-OCT-99	S7L		(465777:98)

3*=Sample has not been rad screened.

H900006A

Quanterra October 08, 1999 04:21 pm
Account: 10722 Project: 550.267 Quanterra-Richland QAS No. 550.267 Rev. 0
Master Sample Login: 22327

:oject Manager: M. Ward

Reviewed by and Date:_____

ımple Header Template: _____

ımple No. / #	Client ID / Container Type	C-Matrix / Analysis	Date: Collected / Class	Received / Preservative	Due / Anal. Due Date	Shipper / Hold Date	Site	Rad Category	Rad Sample No. / (Container Numbers:% Filled)
2327-001MS	B0WKV0	Soil	05-OCT-99 07:45	06-OCT-99 12:30	05-NOV-99	FED X'		3*	R9315-001
B99-078									
1	AN - Amber Glass-500ml	ANIONS/300.0/Q4	P	COLD	N/A	N/A	S7L		(465778:100)
1		BNA/8270C/Q4	S	COLD	29-OCT-99	19-OCT-99	S7L		(465779:99)
1		CL/300.0/Q4	C	COLD	29-OCT-99	02-NOV-99	S7L		(465778:100)
1		CN/9010/Q4	S	COLD	29-OCT-99	19-OCT-99	S7L		(465778:100)
1		FL/300.0/Q4	C	COLD	29-OCT-99	02-NOV-99	S7L		(465778:100)
1		NH3/350.1/Q4	S	COLD	29-OCT-99	02-NOV-99	S7L		(465778:100)
1		NO2/300.0/Q4	C	COLD	29-OCT-99	07-OCT-99	S7L		(465778:100)
1		NO3/300.0/Q4	C	COLD	29-OCT-99	07-OCT-99	S7L		(465778:100)
1		NO3/353.1/Q4	S	COLD	29-OCT-99	02-NOV-99	S7L		(465778:100)
1		OPHOS/300.0/Q4	C	COLD	29-OCT-99	07-OCT-99	S7L		(465778:100)
1		PCB/8082/Q4	S	COLD	29-OCT-99	19-OCT-99	S7L		(465779:99)
1		S/9030/Q4	S	COLD	29-OCT-99	12-OCT-99	S7L		(465778:100)
1		SO4/300.0/Q4	C	COLD	29-OCT-99	02-NOV-99	S7L		(465778:100)
1		TPH/8015/Q4	S	COLD	29-OCT-99	19-OCT-99	S7L		(465779:99)
1	AN - Amber Glass-60ML	CR6/7196/Q4	S	COLD	29-OCT-99	06-OCT-99	S7L		(465775:100)
1		HG/7471/Q4	S	COLD	29-OCT-99	02-NOV-99	S7L		(465775:100)
1		ICAPT/6010A/Q4	S	COLD	29-OCT-99	02-APR-00	S7L		(465775:100)
1		VOA/8260/Q4	S	COLD	29-OCT-99	19-OCT-99	V9		(465776:99)
2327-001MSD	B0WKV0	Soil	05-OCT-99 07:45	06-OCT-99 12:30	05-NOV-99	FED X'		3*	R9315-001
B99-078									
1	AN - Amber Glass-500ml	BNA/8270C/Q4	S	COLD	29-OCT-99	19-OCT-99	S7L		(465779:99)
1		PCB/8082/Q4	S	COLD	29-OCT-99	19-OCT-99	S7L		(465779:99)
1		TPH/8015/Q4	S	COLD	29-OCT-99	19-OCT-99	S7L		(465779:99)
1	AN - Amber Glass-60ML	CR6/7196/Q4	S	COLD	29-OCT-99	06-OCT-99	S7L		(465775:100)
1		HG/7471/Q4	S	COLD	29-OCT-99	02-NOV-99	S7L		(465775:100)
1		ICAPT/6010A/Q4	S	COLD	29-OCT-99	02-APR-00	S7L		(465775:100)
1		VOA/8260/Q4	S	COLD	29-OCT-99	19-OCT-99	V9		(465776:99)

000007

3*=Sample has not been rad screened.

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B99-078-132	Page 1 of 1

temp 3°

Collector: Bowers/Trice	Company Contact: Chris Cearlock — Telephone No.: 372-9574	Project Coordinator: TRENT, SJ	Price Code: 8N — Data Turnaround: 45 Days
Project Designation: 200 Area Source characterization - 200-CW-1 OU	Sampling Location: 200 Bpond	SAF No.: B99-078	
Ice Chest No.: SML-579	Field Logbook No.: EL-1511	Method of Shipment: Fed Ex	
Shipped To: Quanterra Incorporated St Louis	Offsite Property No.: A990288	Bill of Lading/Air Bill No.: 4235795301 20	
		COA: B20CW1 67/C	

POSSIBLE SAMPLE HAZARDS/REMARKS	Preservation	Cool 4C	Cool 4C	None	None	Cool 4C	Cool 4C	None			
	Type of Container	aG	aG	aG	aG	aG	aG	aG			
	No. of Container(s)	1	1	1	1	1	1	1			
Special Handling and/or Storage	Volume	60mL	60mL	60mL	60mL	500mL	~~600mL~~ 500 8 20 10-4-99	1000mL			
W02921 SAMPLE ANALYSIS		See item (1) in Special Instructions. 100% bull	VOA - 8260A (TCL); VOA - 8260A (Add-On) (1-Propanol, Ethanol) 100%	Isotopic Uranium ~~100%~~	pH (Soil) - 9045 100%	See item (2) in Special Instructions. 100%	Semi-VOA - 8270A (TCL); TPH-Diesel Range - WTPH-D; PCBs - 8082 100%	See item (3) in Special Instructions.			

Sample No.	Matrix *	Sample Date	Sample Time										
B0WKV0	Soil	10/5/99	0745	X	X		X	X	X			Bow861	

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: Chris	Date/Time: 10/5/99 1330	Received By: Ref #13	Date/Time: 10/5/99 1330
Relinquished By: Ref 13	Date/Time:	Received By: R. Nielson / R. Nielson	Date/Time: 10/6/99 1230
Relinquished By: R. Nielson / R. Nielson	Date/Time: 10/6/99 1430	Received By: Fed Ex	Date/Time:
Relinquished By: Fed ex smd 10-8-99	Date/Time:	Received By: [signature]	Date/Time: 10/7/99 0930

SPECIAL INSTRUCTIONS
See chain of custody comments on SAF B99-078.

(1) ICP Metals - 6010A (Supertrace) {Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver}; ICP Metals - 6010A (Supertrace Add-On) {Beryllium, Copper, Nickel, Vanadium, Zinc}; Mercury - 7471 - (CV); Chromium Hex - 7196
(2) NO2/NO3 - 353.1; IC Anions - 300.0 {Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Phosphate, Sulfate}; Sulfides - 9030; Ammonia - 350.1; Total Cyanide - 9010
(3) Gamma Spectroscopy {Americium-241, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Strontium-89,90 -- Total Sr; Total Uranium (Uranium); Isotopic Plutonium; Isotopic Thorium {Thorium-232}; Americium-241

COLLECTOR UNAVAILABLE TO SIGN COC

Matrix *: Soil, Water, Vapor, Other Solid, Other Liquid

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

800000

SHIPMENT PACKING SLIP INFORMATION (1 of 1)

1. Environmental samples, ~0.5 kg for soils and ~4 liters for water. Samples with naturally occurring radioactive thorium-232 (Th-232) and decay products containing excepted package-limited quantities of material.

2. U.S. DOT Exemption - Surface Shipment

   This package conforms to the conditions and limitations specified in 49 CFR 173.421 for radioactive material, excepted package-limited quantity of material, UN2910.

3. IATA Exemption - Air Cargo Only -

   UN 2910, Radioactive material, excepted package, limited quantity of material.

4. This package conforms to all packaging requirements of the U.S. Department of Transportation (DOT) and the International Air Transport Association (IATA) rules for the shipment of radioactive materials.

   The samples are packaged in a strong, tight package that will not leak during normal transport conditions; the radiation levels on exterior surfaces do not exceed 0.5 mrem/hr; and removable surface contamination on exterior surfaces do not exceed applicable limits of 49 CFR 173.443(a).

   No other labeling is required.

5. Technical Contacts

   S. Cohen & Associates, Inc.
   Mr. Joseph Stinson
   1000 Monticello Court
   Montgomery, AL 36117
   Phone: (334) 272-2234

   or

   S. Cohen & Associates, Inc.
   Mr. Jean-Claude Dehmel
   1355 Beverly Road (Suite 250)
   McLean, VA 22101
   Phone: (703) 893-6600 or (703) 264-1117

ERC Radiological Counting Facility Analysis Report

RCF Number RCF6592

Sample Date & Time 10/5/99 0913

Project ID: 200-CW-1 **SAF Number:** B99-078

Date Analyzed 10/5/99 13:29

Sample ID: B0W8C1

Gamma Energy Analysis

Nuclide	Activity (pCi/g)	Error (pCi/g)	MDA (pCi/g)
Not Requested			

BØNKVØ

Total GEA (pCi/g)	N/A	+/-	N/A

	Activity (pCi/g)		Error (pCi/g)
Gross Alpha**	6.1E+00	+/-	1.3E+00
Gross Beta	8.5E+01	+/-	4.0E+00

Alpha MDA (pCi/g)
2.5E+00
Beta MDA (pCi/g)
4.7E+01

Definitions:

All errors reported at 2 standard deviations.
N/R = no result or analysis not requested.
<MDA = Less than detection limit.

For soils and natural samples, the following applies:

**The gross alpha results are not corrected for mass absorbtion

Analysist T. J. Snider 10/5/99

Report To Dave St. John

Fax 372-9487

Report Printed: Tuesday, October 05, 1999

Quanterra
Environmental Services

019880

Login No.: 22327

Condition Upon Receipt Variance Report
St. Louis Laboratory

AU2921

Client: Bechtel Hanford Date: 10/7/99 Time: 0930

Project No: 530.267 Initiated by: [signature]

Shipper/No: AHE AS FED 423579530120 RFA/COC Numbers: _____

Condition/Variance (Check all that apply):

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

☒ No variances were noted during sample receipt. Cooler Temperature Upon Receipt: 3°

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:

☐ Sample(s) on hold until: _____ If released, notify: _____

Sample Control Supervisor Review: [signature] (or designate) Date: 10/7/99

Project Management Review: Sheila Lawrence Date: 10/8/99

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

SL-ADMIN-0004, Revised 6/29/99

000011

W02921

Quanterra October 11, 1999 10:59 am
Account: 10722 Project: 550.267 Quanterra-Richland QAS No. 550.267 Rev. 0
Master Sample Login: 22340

Project Manager: M. Ward

Reviewed by and Date: Shirley Louvier final 10-11-99

Sample Header Template: SMT

Sample No. / Comments / #	Client ID / Container Type	C-Matrix / Analysis	Date: Collected / Class	Received / Preservative	Due / Anal. Due Date	Shipper / Hold Date	Site	Rad Category / (Container Numbers:% Filled)	Rad Sample No.
Data:									
22340-001	B0WKT9	Soil	06-OCT-99 08:40	07-OCT-99 08:40	08-NOV-99	FED	X'	3*	Sample not Screened
	B99-078 // VOA = TCL Plus 1 Propanol and Ethanol.								
1	AN - Amber Glass-500ml	ANIONS/300.0/Q4	P	COLD	N/A	N/A	S7D	(466037:100)	
1		BNA/8270C/Q4	S	COLD	01-NOV-99	20-OCT-99	S7D	(466038:99)	
1		CL/300.0/Q4	C	COLD	01-NOV-99	03-NOV-99	S7D	(466037:100)	
1		CN/9010/Q4	S	COLD	01-NOV-99	20-OCT-99	S7D	(466037:100)	
1		FL/300.0/Q4	C	COLD	01-NOV-99	03-NOV-99	S7D	(466037:100)	
1		NH3/350.1/Q4	S	COLD	01-NOV-99	03-NOV-99	S7D	(466037:100)	
1		NO2/300.0/Q4	C	COLD	01-NOV-99	08-OCT-99	S7D	(466037:100)	
1		NO3/300.0/Q4	C	COLD	01-NOV-99	08-OCT-99	S7D	(466037:100)	
1		NO3/353.1/Q4	S	COLD	01-NOV-99	03-NOV-99	S7D	(466037:100)	
1		OPHOS/300.0/Q4	C	COLD	01-NOV-99	08-OCT-99	S7D	(466037:100)	
1		PCB/8082/Q4	S	COLD	01-NOV-99	20-OCT-99	S7D	(466038:99)	
1		S/9030/Q4	S	COLD	01-NOV-99	13-OCT-99	S7D	(466037:100)	
1		SO4/300.0/Q4	C	COLD	01-NOV-99	03-NOV-99	S7D	(466037:100)	
1		TPH/8015/Q4	S	COLD	01-NOV-99	20-OCT-99	S7D	(466038:99)	
1	AN - Amber Glass-60ML	CR6/7196/Q4	S	COLD	01-NOV-99	07-OCT-99	S7D	(466034:100)	
1		HG/7471/Q4	S	COLD	01-NOV-99	03-NOV-99	S7D	(466034:100)	
1		ICAPT/6010A/Q4	S	COLD	01-NOV-99	03-APR-00	S7D	(466034:100)	
1		PH/9045/Q4	S	COLD	01-NOV-99	20-OCT-99	S7D	(466036:98)	
1		PM/IT/Q4	S	COLD	01-NOV-99	03-APR-00	S7D	(466034:100)	
1		RAD/CSCREEN/Q4	S	COLD	01-NOV-99	04-APR-00	V9	(466035:99)	
1		VOA/8260/Q4	S	COLD	01-NOV-99	20-OCT-99	V9	(466035:99)	

000012

3*=Sample has not been rad screened.

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B99-078-131	Page 1 of 1

Collector Bowers/Trice	Company Contact Chris Cearlock	Telephone No. 372-9574	Project Coordinator TRENT, SJ
Price Code 8N	Data Turnaround 45 Days		
Project Designation 200 Area Source characterization - 200-CW-1 OU	Sampling Location 200 Bpond		SAF No. B99-078
Ice Chest No. 2071	Field Logbook No. EL-1511		Method of Shipment Federal Express
Shipped To Quanterra Incorporated St Louis	Offsite Property No. A990291		Bill of Lading/Air Bill No. 423579530201
			COA B20CW1 671C

POSSIBLE SAMPLE HAZARDS/REMARKS											
	Preservation	Cool 4C	Cool 4C	None	None	None	Cool 4C	Cool 4C	None		
	Type of Container	aG	aG	aG	aG	aG	aG	aG	aG		
	No. of Container(s)	1	1	1	1	1	1	1	1		
Special Handling and/or Storage	Volume	60mL	60mL	60mL	60mL	60mL	500mL	~~600~~ 500 mL DBB 10-1-99	1000mL		
SAMPLE ANALYSIS		See item (1) in Special Instructions.	VOA - 8260A (TCL); VOA - 8260A (Add-On) {1-Propanol, Ethanol}	Isotopic Uranium	Neptunium-237	pH (Soil) - 9045	See item (2) in Special Instructions.	Semi-VOA - 8270A (TCL); TPH-Diesel Range - WTPH-D; PCBs - 8082	See item (3) in Special Instructions.		
		100% Full	100% Full			100% Full	100% Full	100% Full			
Sample No.	Matrix *	Sample Date	Sample Time								
B0WKT9	Soil	10/6/99	0840	X	X			X	X	X		BOW 8C2

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By	Date/Time	Received By	Date/Time
Chris	10/6/99 1320	Ref 2C	10/6/99 1320
Relinquished By	Date/Time	Received By	Date/Time
Ref #2C	10/7/99 0840	Kyle Nielson / R. Nielson	10/7/99 0840
Relinquished By	Date/Time	Received By	Date/Time
Kyle Nielson / R. Nielson	10/7/99 1430	FedEx	
Relinquished By	Date/Time	Received By	Date/Time
		[illegible]	10/8/99 0830

SPECIAL INSTRUCTIONS

See chain of custody comments on SAF B99-078.

(1) ICP Metals - 6010A (Supertrace) {Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver}; ICP Metals - 6010A (Supertrace Add-On) {Beryllium, Copper, Nickel, Vanadium, Zinc}; Mercury - 7471 - (CV); Chromium Hex - 7196

(2) NO2/NO3 - 353.1; IC Anions - 300.0 {Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Phosphate, Sulfate}; Sulfides - 9030; Ammonia - 350.1; Total Cyanide - 9010

(3) Gamma Spectroscopy {Americium-241, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Strontium-89,90 -- Total Sr; Total Uranium {Uranium}; Isotopic Plutonium; Isotopic Thorium {Thorium-232}; Americium-241

Collector unavailable to relinquish samples.

Matrix *
Soil
Water
Vapor
Other Solid
Other Liquid

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

00013

ERC Radiological Counting Facility Analysis Report

RCF Number RCF6593

Sample Date & Time 10/6/99 0840

Project ID: 200CW-1 **SAF Number:** B99-078 **Date Analyzed** 10/6/99 14:12

Sample ID: B0W8C2

Gamma Energy Analysis

Nuclide	Activity (pCi/g)	Error (pCi/g)	MDA (pCi/g)
Not Requested			
Total GEA (pCi/g)	N/A	+/- N/A	

TOTAL ACTIVITY < 2000 pCi/gm BASED ON ALPHA AND BETA DATA

B0W8T9

	Activity (pCi/g)		Error (pCi/g)
Gross Alpha**	2.1E+01	+/-	3.8E+00
Gross Beta	3.5E+02	+/-	1.2E+01

Alpha MDA (pCi/g)
8.2E+00
Beta MDA (pCi/g)
1.9E+02

Definitions:

All errors reported at 2 standard deviations.
N/R = no result or analysis not requested.
<MDA = Less than detection limit.

For soils and natural samples, the following applies:

**The gross alpha results are not corrected for mass absorbtion

Analysist T. J. Snider 10/6/99

Report To Dave St. John

Fax 372-9487

Report Printed: Wednesday, October 06, 1999

Quanterra
Environmental Services

019903

Login No.: 22340
W02921

Condition Upon Receipt Variance Report
St. Louis Laboratory

Client: Bechtel Hanford
Date: 10/8/99 Time: 0930
Project No: 550.267
Initiated by: [illegible]
Shipper/No: Fed X
RFA/COC Numbers: 399-078-131

Condition/Variance (Check all that apply):

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

☒ No variances were noted during sample receipt. Cooler Temperature Upon Receipt: 3°

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: _____

☐ Sample(s) on hold until: _____ If released, notify: _____

Sample Control Supervisor Review: (or designee) [signature] Date: 10/8/99

Project Management Review: Sheila Lawrence Date: 10-11-99

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

SL-ADMIN-0004, Revised 6/29/99

Bechtel Hanford Inc.
3350 George Washington Way
MSIN H9-03
Richland, WA 99352-1613

Project: Bechtel Hanford Inc.

Category: Volatiles
Method: SW846 8260A
Matrix: SOLID

Client ID: B0WKV0

Sample Date : 10/05/99
Receipt Date : 10/06/99
Report Date : 12/02/99

Quanterra ID : 22327-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	BLK209198-1	10/15/99	10/15/99	10	UG/KG	U	10	1
Bromomethane	74-83-9	BLK209198-1	10/15/99	10/15/99	10	UG/KG	U	10	1
Vinyl Chloride	75-01-4	BLK209198-1	10/15/99	10/15/99	10	UG/KG	U	10	1
Chloroethane	75-00-3	BLK209198-1	10/15/99	10/15/99	10	UG/KG	U	10	1
Methylene Chloride	75-09-2	BLK209198-1	10/15/99	10/15/99	7	UG/KG	B	5	1
Acetone	67-64-1	BLK209198-1	10/15/99	10/15/99	13	UG/KG	BJ	21	1
Carbon Disulfide	75-15-0	BLK209198-1	10/15/99	10/15/99	5	UG/KG	U	5	1
1,1-Dichloroethene	75-35-4	BLK209198-1	10/15/99	10/15/99	5	UG/KG	U	5	1
1,1-Dichloroethane	75-34-3	BLK209198-1	10/15/99	10/15/99	5	UG/KG	U	5	1
1,2-Dichloroethene (total)	540-59-0	BLK209198-1	10/15/99	10/15/99	5	UG/KG	U	5	1
Chloroform	67-66-3	BLK209198-1	10/15/99	10/15/99	5	UG/KG	U	5	1
1,2-Dichloroethane	107-06-2	BLK209198-1	10/15/99	10/15/99	5	UG/KG	U	5	1
2-Butanone (MEK)	78-93-3	BLK209198-1	10/15/99	10/15/99	21	UG/KG	U	21	1
1,1,1-Trichloroethane	71-55-6	BLK209198-1	10/15/99	10/15/99	5	UG/KG	U	5	1
Carbon Tetrachloride	56-23-5	BLK209198-1	10/15/99	10/15/99	5	UG/KG	U	5	1
Bromodichloromethane	75-27-4	BLK209198-1	10/15/99	10/15/99	5	UG/KG	U	5	1
1,2-Dichloropropane	78-87-5	BLK209198-1	10/15/99	10/15/99	5	UG/KG	U	5	1
cis-1,3-Dichloropropene	10061-01-5	BLK209198-1	10/15/99	10/15/99	5	UG/KG	U	5	1
Trichloroethene	79-01-6	BLK209198-1	10/15/99	10/15/99	5	UG/KG	U	5	1
Dibromochloromethane	124-48-1	BLK209198-1	10/15/99	10/15/99	5	UG/KG	U	5	1
1,1,2-Trichloroethane	79-00-5	BLK209198-1	10/15/99	10/15/99	5	UG/KG	U	5	1
Benzene	71-43-2	BLK209198-1	10/15/99	10/15/99	5	UG/KG	U	5	1
trans-1,3-Dichloropropene	10061-02-6	BLK209198-1	10/15/99	10/15/99	5	UG/KG	U	5	1
Bromoform	75-25-2	BLK209198-1	10/15/99	10/15/99	5	UG/KG	U	5	1
4-Methyl-2-Pentanone (MIBK)	108-10-1	BLK209198-1	10/15/99	10/15/99	21	UG/KG	U	21	1
2-Hexanone	591-78-6	BLK209198-1	10/15/99	10/15/99	21	UG/KG	U	21	1
Tetrachloroethene	127-18-4	BLK209198-1	10/15/99	10/15/99	5	UG/KG	U	5	1
Toluene	108-88-3	BLK209198-1	10/15/99	10/15/99	5	UG/KG	U	5	1
1,1,2,2-Tetrachloroethane	79-34-5	BLK209198-1	10/15/99	10/15/99	5	UG/KG	U	5	1
Chlorobenzene	108-90-7	BLK209198-1	10/15/99	10/15/99	5	UG/KG	U	5	1
EthylBenzene	100-41-4	BLK209198-1	10/15/99	10/15/99	5	UG/KG	U	5	1
Styrene	100-42-5	BLK209198-1	10/15/99	10/15/99	5	UG/KG	U	5	1
Xylene (total)	1330-20-7	BLK209198-1	10/15/99	10/15/99	5	UG/KG	U	5	1
Unknown	TIC-2	BLK209198-1	10/15/99	10/15/99	5.5	UG/KG	J		1
Bromofluorobenzene	460-00-4	BLK209198-1	10/15/99	10/15/99	84	%REC			1
Dibromofluoromethane	1868-53-7	BLK209198-1	10/15/99	10/15/99	102	%REC			1
Toluene-d8	2037-26-5	BLK209198-1	10/15/99	10/15/99	98	%REC			1

Data is incomplete without Case Narrative

Bechtel Hanford Inc.
3350 George Washington Way
MSIN H9-03
Richland, WA 99352-1613

Project: Bechtel Hanford Inc.

Category: Volatiles
Method: SW846 8260A
Matrix: SOLID

Client ID: B0WKV0

Sample Date : 10/05/99
Receipt Date : 10/06/99
Report Date : 12/02/99

Quanterra ID : 22327-001MS

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
1,1-Dichloroethene	75-35-4	BLK209198-1	10/15/99	10/15/99	86	%REC			1
Trichloroethene	79-01-6	BLK209198-1	10/15/99	10/15/99	93	%REC			1
Benzene	71-43-2	BLK209198-1	10/15/99	10/15/99	105	%REC			1
Toluene	108-88-3	BLK209198-1	10/15/99	10/15/99	103	%REC			1
Chlorobenzene	108-90-7	BLK209198-1	10/15/99	10/15/99	99	%REC			1
Bromofluorobenzene	460-00-4	BLK209198-1	10/15/99	10/15/99	82	%REC			1
Dibromofluoromethane	1868-53-7	BLK209198-1	10/15/99	10/15/99	107	%REC			1
Toluene-d8	2037-26-5	BLK209198-1	10/15/99	10/15/99	101	%REC			1

Data is incomplete without Case Narrative

Bechtel Hanford Inc.
3350 George Washington Way
MSIN H9-03
Richland, WA 99352-1613

Project: Bechtel Hanford Inc.

Category: Volatiles
Method: SW846 8260A
Matrix: SOLID

Sample Date : 10/05/99
Receipt Date : 10/06/99
Report Date : 12/02/99

Client ID: B0WKV0

Quanterra ID : 22327-001MSD

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
1,1-Dichloroethene	75-35-4	BLK209198-1	10/15/99	10/15/99	85	%REC			1
Trichloroethene	79-01-6	BLK209198-1	10/15/99	10/15/99	91	%REC			1
Benzene	71-43-2	BLK209198-1	10/15/99	10/15/99	104	%REC			1
Toluene	108-88-3	BLK209198-1	10/15/99	10/15/99	102	%REC			1
Chlorobenzene	108-90-7	BLK209198-1	10/15/99	10/15/99	101	%REC			1
Bromofluorobenzene	460-00-4	BLK209198-1	10/15/99	10/15/99	84	%REC			1
Dibromofluoromethane	1868-53-7	BLK209198-1	10/15/99	10/15/99	102	%REC			1
Toluene-d8	2037-26-5	BLK209198-1	10/15/99	10/15/99	103	%REC			1

Data is incomplete without Case Narrative

Bechtel Hanford Inc.
3350 George Washington Way
MSIN H9-03
Richland, WA 99352-1613

Project: Bechtel Hanford Inc.

Category: Volatiles
Method: SW846 8260A
Matrix: SOLID

Sample Date : 10/06/99
Receipt Date : 10/07/99
Report Date : 12/02/99

Client ID: B0WXT9

Quanterra ID : 22340-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	BLK209198-1	10/15/99	10/15/99	16	UG/KG	U	16	1
Bromomethane	74-83-9	BLK209198-1	10/15/99	10/15/99	16	UG/KG	U	16	1
Vinyl Chloride	75-01-4	BLK209198-1	10/15/99	10/15/99	16	UG/KG	U	16	1
Chloroethane	75-00-3	BLK209198-1	10/15/99	10/15/99	16	UG/KG	U	16	1
Methylene Chloride	75-09-2	BLK209198-1	10/15/99	10/15/99	29	UG/KG	B	8	1
Acetone	67-64-1	BLK209198-1	10/15/99	10/15/99	960	UG/KG	BE	32	1
Carbon Disulfide	75-15-0	BLK209198-1	10/15/99	10/15/99	8	UG/KG	U	8	1
1,1-Dichloroethene	75-35-4	BLK209198-1	10/15/99	10/15/99	8	UG/KG	U	8	1
1,1-Dichloroethane	75-34-3	BLK209198-1	10/15/99	10/15/99	8	UG/KG	U	8	1
1,2-Dichloroethene (total)	540-59-0	BLK209198-1	10/15/99	10/15/99	8	UG/KG	U	8	1
Chloroform	67-66-3	BLK209198-1	10/15/99	10/15/99	8	UG/KG	U	8	1
1,2-Dichloroethane	107-06-2	BLK209198-1	10/15/99	10/15/99	8	UG/KG	U	8	1
2-Butanone (MEK)	78-93-3	BLK209198-1	10/15/99	10/15/99	260	UG/KG		32	1
1,1,1-Trichloroethane	71-55-6	BLK209198-1	10/15/99	10/15/99	8	UG/KG	U	8	1
Carbon Tetrachloride	56-23-5	BLK209198-1	10/15/99	10/15/99	8	UG/KG	U	8	1
Bromodichloromethane	75-27-4	BLK209198-1	10/15/99	10/15/99	8	UG/KG	U	8	1
1,2-Dichloropropane	78-87-5	BLK209198-1	10/15/99	10/15/99	8	UG/KG	U	8	1
cis-1,3-Dichloropropene	10061-01-5	BLK209198-1	10/15/99	10/15/99	8	UG/KG	U	8	1
Trichloroethene	79-01-6	BLK209198-1	10/15/99	10/15/99	8	UG/KG	U	8	1
Dibromochloromethane	124-48-1	BLK209198-1	10/15/99	10/15/99	8	UG/KG	U	8	1
1,1,2-Trichloroethane	79-00-5	BLK209198-1	10/15/99	10/15/99	8	UG/KG	U	8	1
Benzene	71-43-2	BLK209198-1	10/15/99	10/15/99	8	UG/KG	U	8	1
trans-1,3-Dichloropropene	10061-02-6	BLK209198-1	10/15/99	10/15/99	8	UG/KG	U	8	1
Bromoform	75-25-2	BLK209198-1	10/15/99	10/15/99	8	UG/KG	U	8	1
4-Methyl-2-Pentanone (MIBK)	108-10-1	BLK209198-1	10/15/99	10/15/99	32	UG/KG	U	32	1
2-Hexanone	591-78-6	BLK209198-1	10/15/99	10/15/99	32	UG/KG	U	32	1
Tetrachloroethene	127-18-4	BLK209198-1	10/15/99	10/15/99	8	UG/KG	U	8	1
Toluene	108-88-3	BLK209198-1	10/15/99	10/15/99	8	UG/KG	U	8	1
1,1,2,2-Tetrachloroethane	79-34-5	BLK209198-1	10/15/99	10/15/99	8	UG/KG	U	8	1
Chlorobenzene	108-90-7	BLK209198-1	10/15/99	10/15/99	8	UG/KG	U	8	1
EthylBenzene	100-41-4	BLK209198-1	10/15/99	10/15/99	8	UG/KG	U	8	1
Styrene	100-42-5	BLK209198-1	10/15/99	10/15/99	8	UG/KG	U	8	1
Xylene (total)	1330-20-7	BLK209198-1	10/15/99	10/15/99	8	UG/KG	U	8	1
Unknown-1	TIC-32	BLK209198-1	10/15/99	10/15/99	63	UG/KG	J		1
Unknown-2	TIC-33	BLK209198-1	10/15/99	10/15/99	25	UG/KG	J		1
Bromofluorobenzene	460-00-4	BLK209198-1	10/15/99	10/15/99	91	%REC			1
Dibromofluoromethane	1868-53-7	BLK209198-1	10/15/99	10/15/99	131	%REC			1
Toluene-d8	2037-26-5	BLK209198-1	10/15/99	10/15/99	111	%REC			1

Data is incomplete without Case Narrative

Bechtel Hanford Inc.
3350 George Washington Way
MSIN H9-03
Richland, WA 99352-1613

Project: Bechtel Hanford Inc.

Category: Volatiles
Method: SW846 8260A
Matrix: SOLID

Sample Date : 10/06/99
Receipt Date : 10/07/99
Report Date : 12/02/99

Client ID: B0WKT9

Quanterra ID : 22340-001DL

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	BLK209528-1	10/20/99	10/20/99	80	UG/KG	U	80	5
Bromomethane	74-83-9	BLK209528-1	10/20/99	10/20/99	80	UG/KG	U	80	5
Vinyl Chloride	75-01-4	BLK209528-1	10/20/99	10/20/99	80	UG/KG	U	80	5
Chloroethane	75-00-3	BLK209528-1	10/20/99	10/20/99	80	UG/KG	U	80	5
Methylene Chloride	75-09-2	BLK209528-1	10/20/99	10/20/99	31	UG/KG	DJ	40	5
Acetone	67-64-1	BLK209528-1	10/20/99	10/20/99	290	UG/KG	D	160	5
Carbon Disulfide	75-15-0	BLK209528-1	10/20/99	10/20/99	40	UG/KG	U	40	5
1,1-Dichloroethene	75-35-4	BLK209528-1	10/20/99	10/20/99	40	UG/KG	U	40	5
1,1-Dichloroethane	75-34-3	BLK209528-1	10/20/99	10/20/99	40	UG/KG	U	40	5
1,2-Dichloroethene (total)	540-59-0	BLK209528-1	10/20/99	10/20/99	40	UG/KG	U	40	5
Chloroform	67-66-3	BLK209528-1	10/20/99	10/20/99	40	UG/KG	U	40	5
1,2-Dichloroethane	107-06-2	BLK209528-1	10/20/99	10/20/99	40	UG/KG	U	40	5
2-Butanone (MEK)	78-93-3	BLK209528-1	10/20/99	10/20/99	160	UG/KG	U	160	5
1,1,1-Trichloroethane	71-55-6	BLK209528-1	10/20/99	10/20/99	40	UG/KG	U	40	5
Carbon Tetrachloride	56-23-5	BLK209528-1	10/20/99	10/20/99	40	UG/KG	U	40	5
Bromodichloromethane	75-27-4	BLK209528-1	10/20/99	10/20/99	40	UG/KG	U	40	5
1,2-Dichloropropane	78-87-5	BLK209528-1	10/20/99	10/20/99	40	UG/KG	U	40	5
cis-1,3-Dichloropropene	10061-01-5	BLK209528-1	10/20/99	10/20/99	40	UG/KG	U	40	5
Trichloroethene	79-01-6	BLK209528-1	10/20/99	10/20/99	40	UG/KG	U	40	5
Dibromochloromethane	124-48-1	BLK209528-1	10/20/99	10/20/99	40	UG/KG	U	40	5
1,1,2-Trichloroethane	79-00-5	BLK209528-1	10/20/99	10/20/99	40	UG/KG	U	40	5
Benzene	71-43-2	BLK209528-1	10/20/99	10/20/99	40	UG/KG	U	40	5
trans-1,3-Dichloropropene	10061-02-6	BLK209528-1	10/20/99	10/20/99	40	UG/KG	U	40	5
Bromoform	75-25-2	BLK209528-1	10/20/99	10/20/99	40	UG/KG	U	40	5
4-Methyl-2-Pentanone (MIBK)	108-10-1	BLK209528-1	10/20/99	10/20/99	160	UG/KG	U	160	5
2-Hexanone	591-78-6	BLK209528-1	10/20/99	10/20/99	160	UG/KG	U	160	5
Tetrachloroethene	127-18-4	BLK209528-1	10/20/99	10/20/99	40	UG/KG	U	40	5
Toluene	108-88-3	BLK209528-1	10/20/99	10/20/99	40	UG/KG	U	40	5
1,1,2,2-Tetrachloroethane	79-34-5	BLK209528-1	10/20/99	10/20/99	40	UG/KG	U	40	5
Chlorobenzene	108-90-7	BLK209528-1	10/20/99	10/20/99	40	UG/KG	U	40	5
EthylBenzene	100-41-4	BLK209528-1	10/20/99	10/20/99	40	UG/KG	U	40	5
Styrene	100-42-5	BLK209528-1	10/20/99	10/20/99	40	UG/KG	U	40	5
Xylene (total)	1330-20-7	BLK209528-1	10/20/99	10/20/99	40	UG/KG	U	40	5
Bromofluorobenzene	460-00-4	BLK209528-1	10/20/99	10/20/99	95	%REC			5
Dibromofluoromethane	1868-53-7	BLK209528-1	10/20/99	10/20/99	93	%REC			5
Toluene-d8	2037-26-5	BLK209528-1	10/20/99	10/20/99	101	%REC			5

Data is incomplete without Case Narrative

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0WKV0

Lab Name: QUANTERRA MO Contract: 550.267

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02921

Matrix: (soil/water) SOIL Lab Sample ID: 22327-001

Sample wt/vol: 5.0 (g/mL) G Lab File ID: ESMP9970

Level: (low/med) LOW Date Received: 10/06/99

% Moisture: not dec. 5 Date Analyzed: 10/15/99

GC Column: RTX-502.2 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(mL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	7	B
67-64-1	Acetone	13	JB
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	21	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Chlorodibromomethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-pentanone	21	U
591-78-6	2-Hexanone	21	U
127-18-4	Tetrachloroethene	5	U
108-88-3	Toluene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylenes (total)	5	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B0WKV0

Lab Name: QUANTERRA MO Contract: 550.267

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02921

Matrix: (soil/water) SOIL Lab Sample ID: 22327-001

Sample wt/vol: 5.0 (g/mL) G Lab File ID: ESMP9970

Level: (low/med) LOW Date Received: 10/06/99

% Moisture: not dec. 5 Date Analyzed: 10/15/99

GC Column: RTX-502.2 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(mL) Soil Aliquot Volume: _____(uL)

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	23.39	5.470	J
2.				
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0WKT9

Lab Name: QUANTERRA MO Contract: 550.267

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02921

Matrix: (soil/water) SOIL Lab Sample ID: 22340-001

Sample wt/vol: 5.0 (g/mL) G Lab File ID: ESMP9975

Level: (low/med) LOW Date Received: 10/07/99

% Moisture: not dec. 37 Date Analyzed: 10/15/99

GC Column: RTX-502.2 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(mL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	16	U
74-83-9	Bromomethane	16	U
75-01-4	Vinyl Chloride	16	U
75-00-3	Chloroethane	16	U
75-09-2	Methylene Chloride	29	B
67-64-1	Acetone	960	EB
75-15-0	Carbon Disulfide	8	U
75-35-4	1,1-Dichloroethene	8	U
75-34-3	1,1-Dichloroethane	8	U
540-59-0	1,2-Dichloroethene (total)	8	U
67-66-3	Chloroform	8	U
107-06-2	1,2-Dichloroethane	8	U
78-93-3	2-Butanone	260	
71-55-6	1,1,1-Trichloroethane	8	U
56-23-5	Carbon Tetrachloride	8	U
75-27-4	Bromodichloromethane	8	U
78-87-5	1,2-Dichloropropane	8	U
10061-01-5	cis-1,3-Dichloropropene	8	U
79-01-6	Trichloroethene	8	U
124-48-1	Chlorodibromomethane	8	U
79-00-5	1,1,2-Trichloroethane	8	U
71-43-2	Benzene	8	U
10061-02-6	trans-1,3-Dichloropropene	8	U
75-25-2	Bromoform	8	U
108-10-1	4-Methyl-2-pentanone	32	U
591-78-6	2-Hexanone	32	U
127-18-4	Tetrachloroethene	8	U
108-88-3	Toluene	8	U
79-34-5	1,1,2,2-Tetrachloroethane	8	U
108-90-7	Chlorobenzene	8	U
100-41-4	Ethylbenzene	8	U
100-42-5	Styrene	8	U
1330-20-7	Xylenes (total)	8	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B0WKT9

Lab Name: QUANTERRA MO Contract: 550.267

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02921

Matrix: (soil/water) SOIL Lab Sample ID: 22340-001

Sample wt/vol: 5.0 (g/mL) G Lab File ID: ESMP9975

Level: (low/med) LOW Date Received: 10/07/99

% Moisture: not dec. 37 Date Analyzed: 10/15/99

GC Column: RTX-502.2 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(mL) Soil Aliquot Volume: _____(uL)

Number TICs found: 2

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	24.49	62.57	J
2.	UNKNOWN	25.25	24.94	J
3.				
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0WKT9DL

Lab Name: QUANTERRA MO Contract: 550.267

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02921

Matrix: (soil/water) SOIL Lab Sample ID: 22340-001DL

Sample wt/vol: 1.0 (g/mL) G Lab File ID: ESMP0033

Level: (low/med) LOW Date Received: 10/07/99

% Moisture: not dec. 37 Date Analyzed: 10/20/99

GC Column: RTX-502.2 ID: 0.53 (mm) Dilution Factor: 5.0

Soil Extract Volume:_____(mL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	80	U
74-83-9	Bromomethane	80	U
75-01-4	Vinyl Chloride	80	U
75-00-3	Chloroethane	80	U
75-09-2	Methylene Chloride	31	DJ
67-64-1	Acetone	290	D
75-15-0	Carbon Disulfide	40	U
75-35-4	1,1-Dichloroethene	40	U
75-34-3	1,1-Dichloroethane	40	U
540-59-0	1,2-Dichloroethene (total)	40	U
67-66-3	Chloroform	40	U
107-06-2	1,2-Dichloroethane	40	U
78-93-3	2-Butanone	160	U
71-55-6	1,1,1-Trichloroethane	40	U
56-23-5	Carbon Tetrachloride	40	U
75-27-4	Bromodichloromethane	40	U
78-87-5	1,2-Dichloropropane	40	U
10061-01-5	cis-1,3-Dichloropropene	40	U
79-01-6	Trichloroethene	40	U
124-48-1	Chlorodibromomethane	40	U
79-00-5	1,1,2-Trichloroethane	40	U
71-43-2	Benzene	40	U
10061-02-6	trans-1,3-Dichloropropene	40	U
75-25-2	Bromoform	40	U
108-10-1	4-Methyl-2-pentanone	160	U
591-78-6	2-Hexanone	160	U
127-18-4	Tetrachloroethene	40	U
108-88-3	Toluene	40	U
79-34-5	1,1,2,2-Tetrachloroethane	40	U
108-90-7	Chlorobenzene	40	U
100-41-4	Ethylbenzene	40	U
100-42-5	Styrene	40	U
1330-20-7	Xylenes (total)	40	U

Bechtel Hanford Inc.
3350 George Washington Way
MSIN H9-03
Richland, WA 99352-1613

Project: Bechtel Hanford Inc.

Category: Semivolatile
Method: SW-846 8270C
Matrix: SOLID

Sample Date : 10/05/99
Receipt Date : 10/06/99
Report Date : 12/03/99

Client ID: B0WKV0

Quanterra ID : 22327-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Phenol	108-95-2	BLK209012-1	10/13/99	10/16/99	350	UG/KG	U	350	1
bis(2-Chloroethyl)Ether	111-44-4	BLK209012-1	10/13/99	10/16/99	350	UG/KG	U	350	1
2-Chlorophenol	95-57-8	BLK209012-1	10/13/99	10/16/99	350	UG/KG	U	350	1
1,3-Dichlorobenzene	541-73-1	BLK209012-1	10/13/99	10/16/99	350	UG/KG	U	350	1
1,4-Dichlorobenzene	106-46-7	BLK209012-1	10/13/99	10/16/99	350	UG/KG	U	350	1
1,2-Dichlorobenzene	95-50-1	BLK209012-1	10/13/99	10/16/99	350	UG/KG	U	350	1
2-Methylphenol	95-48-7	BLK209012-1	10/13/99	10/16/99	350	UG/KG	U	350	1
2,2'-oxybis (1-Chloropropane)	108-60-1	BLK209012-1	10/13/99	10/16/99	350	UG/KG	U	350	1
N-nitroso-di-n-propylamine	621-64-7	BLK209012-1	10/13/99	10/16/99	350	UG/KG	U	350	1
4-Methylphenol	106-44-5	BLK209012-1	10/13/99	10/16/99	350	UG/KG	U	350	1
Hexachloroethane	67-72-1	BLK209012-1	10/13/99	10/16/99	350	UG/KG	U	350	1
Nitrobenzene	98-95-3	BLK209012-1	10/13/99	10/16/99	350	UG/KG	U	350	1
Isophorone	78-59-1	BLK209012-1	10/13/99	10/16/99	350	UG/KG	U	350	1
2-Nitrophenol	88-75-5	BLK209012-1	10/13/99	10/16/99	350	UG/KG	U	350	1
2,4-Dimethylphenol	105-67-9	BLK209012-1	10/13/99	10/16/99	350	UG/KG	U	350	1
bis(2-Chloroethoxy)Methane	111-91-1	BLK209012-1	10/13/99	10/16/99	350	UG/KG	U	350	1
2,4-Dichlorophenol	120-83-2	BLK209012-1	10/13/99	10/16/99	350	UG/KG	U	350	1
1,2,4-Trichlorobenzene	120-82-1	BLK209012-1	10/13/99	10/16/99	350	UG/KG	U	350	1
Naphthalene	91-20-3	BLK209012-1	10/13/99	10/16/99	350	UG/KG	U	350	1
4-Chloroaniline	106-47-8	BLK209012-1	10/13/99	10/16/99	350	UG/KG	U	350	1
Hexachlorobutadiene	87-68-3	BLK209012-1	10/13/99	10/16/99	350	UG/KG	U	350	1
4-Chloro-3-Methylphenol	59-50-7	BLK209012-1	10/13/99	10/16/99	350	UG/KG	U	350	1
2-Methylnaphthalene	91-57-6	BLK209012-1	10/13/99	10/16/99	350	UG/KG	U	350	1
Hexachlorocyclopentadiene	77-47-4	BLK209012-1	10/13/99	10/16/99	1800	UG/KG	U	1800	1
2,4,6-Trichlorophenol	88-06-2	BLK209012-1	10/13/99	10/16/99	350	UG/KG	U	350	1
2,4,5-Trichlorophenol	95-95-4	BLK209012-1	10/13/99	10/16/99	350	UG/KG	U	350	1
2-Chloronaphthalene	91-58-7	BLK209012-1	10/13/99	10/16/99	350	UG/KG	U	350	1
2-Nitroaniline	88-74-4	BLK209012-1	10/13/99	10/16/99	1800	UG/KG	U	1800	1
Acenaphthylene	208-96-8	BLK209012-1	10/13/99	10/16/99	350	UG/KG	U	350	1
2,6-Dinitrotoluene	606-20-2	BLK209012-1	10/13/99	10/16/99	350	UG/KG	U	350	1
3-Nitroaniline	99-09-2	BLK209012-1	10/13/99	10/16/99	1800	UG/KG	U	1800	1
Acenaphthene	83-32-9	BLK209012-1	10/13/99	10/16/99	350	UG/KG	U	350	1
2,4-Dinitrophenol	51-28-5	BLK209012-1	10/13/99	10/16/99	1800	UG/KG	U	1800	1
Dibenzofuran	132-64-9	BLK209012-1	10/13/99	10/16/99	350	UG/KG	U	350	1
4-Nitrophenol	100-02-7	BLK209012-1	10/13/99	10/16/99	1800	UG/KG	U	1800	1
2,4-Dinitrotoluene	121-14-2	BLK209012-1	10/13/99	10/16/99	350	UG/KG	U	350	1
Fluorene	86-73-7	BLK209012-1	10/13/99	10/16/99	350	UG/KG	U	350	1
DimethylPhthalate	131-11-3	BLK209012-1	10/13/99	10/16/99	350	UG/KG	U	350	1
Diethylphthalate	84-66-2	BLK209012-1	10/13/99	10/16/99	350	UG/KG	U	350	1
4-Chlorophenyl-PhenylEther	7005-72-3	BLK209012-1	10/13/99	10/16/99	350	UG/KG	U	350	1
4-Nitroaniline	100-01-6	BLK209012-1	10/13/99	10/16/99	1800	UG/KG	U	1800	1
4,6-Dinitro-2-Methylphenol	534-52-1	BLK209012-1	10/13/99	10/16/99	1800	UG/KG	U	1800	1
n-Nitrosodiphenylamine	86-30-6	BLK209012-1	10/13/99	10/16/99	350	UG/KG	U	350	1
4-Bromophenyl-Phenyl Ether	101-55-3	BLK209012-1	10/13/99	10/16/99	350	UG/KG	U	350	1
Hexachlorobenzene	118-74-1	BLK209012-1	10/13/99	10/16/99	350	UG/KG	U	350	1
Pentachlorophenol	87-86-5	BLK209012-1	10/13/99	10/16/99	1800	UG/KG	U	1800	1
Phenanthrene	85-01-8	BLK209012-1	10/13/99	10/16/99	350	UG/KG	U	350	1
Anthracene	120-12-7	BLK209012-1	10/13/99	10/16/99	350	UG/KG	U	350	1
Di-N-Butylphthalate	84-74-2	BLK209012-1	10/13/99	10/16/99	350	UG/KG	U	350	1
Fluoranthene	206-44-0	BLK209012-1	10/13/99	10/16/99	350	UG/KG	U	350	1
Pyrene	129-00-0	BLK209012-1	10/13/99	10/16/99	350	UG/KG	U	350	1
ButylBenzylPhthalate	85-68-7	BLK209012-1	10/13/99	10/16/99	350	UG/KG	U	350	1
Benzo(a)Anthracene	56-55-3	BLK209012-1	10/13/99	10/16/99	350	UG/KG	U	350	1
3,3'-Dichlorobenzidine	91-94-1	BLK209012-1	10/13/99	10/16/99	1800	UG/KG	U	1800	1
Chrysene	218-01-9	BLK209012-1	10/13/99	10/16/99	350	UG/KG	U	350	1
bis(2-Ethylhexyl)Phthalate	117-81-7	BLK209012-1	10/13/99	10/16/99	350	UG/KG	U	350	1
di-N-OctylPhthalate	117-84-0	BLK209012-1	10/13/99	10/16/99	350	UG/KG	U	350	1
Benzo(b)Fluoranthene	205-99-2	BLK209012-1	10/13/99	10/16/99	350	UG/KG	U	350	1
Benzo(k)Fluoranthene	207-08-9	BLK209012-1	10/13/99	10/16/99	350	UG/KG	U	350	1
Benzo(a)Pyrene	50-32-8	BLK209012-1	10/13/99	10/16/99	350	UG/KG	U	350	1

Data is incomplete without Case Narrative

Bechtel Hanford Inc.
3350 George Washington Way
MSIN H9-03
Richland, WA 99352-1613

Project: Bechtel Hanford Inc.

Category: Semivolatile
Method: SW-846 8270C
Matrix: SOLID

Sample Date : 10/05/99
Receipt Date : 10/06/99
Report Date : 12/03/99

Client ID: B0WKV0

Quanterra ID : 22327-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Indeno(1,2,3-CD)Pyrene	193-39-5	BLK209012-1	10/13/99	10/16/99	350	UG/KG	U	350	1
Dibenz(a,h)Anthracene	53-70-3	BLK209012-1	10/13/99	10/16/99	350	UG/KG	U	350	1
Carbazole	86-74-8	BLK209012-1	10/13/99	10/16/99	350	UG/KG	U	350	1
Benzo(g,h,i)Perylene	191-24-2	BLK209012-1	10/13/99	10/16/99	350	UG/KG	U	350	1
2-Fluorophenol	367-12-4	BLK209012-1	10/13/99	10/16/99	67	%REC			1
Phenol-d5	4165-62-2	BLK209012-1	10/13/99	10/16/99	78	%REC			1
Nitrobenzene-d5	4165-60-0	BLK209012-1	10/13/99	10/16/99	70	%REC			1
2-Fluorobiphenyl	321-60-8	BLK209012-1	10/13/99	10/16/99	70	%REC			1
2,4,6-Tribromophenol	118-79-6	BLK209012-1	10/13/99	10/16/99	81	%REC			1
Terphenyl-d14	1718-51-0	BLK209012-1	10/13/99	10/16/99	64	%REC			1

Data is incomplete without Case Narrative

Bechtel Hanford Inc.
3350 George Washington Way
MSIN H9-03
Richland, WA 99352-1613

Project: Bechtel Hanford Inc.

Category: Semivolatile
Method: SW-846 8270C
Matrix: SOLID

Client ID: B0WKV0

Sample Date : 10/05/99
Receipt Date : 10/06/99
Report Date : 12/02/99

Quanterra ID : 22327-001MS

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Phenol	108-95-2	BLK209012-1	10/13/99	10/16/99	49	%REC			1
2-Chlorophenol	95-57-8	BLK209012-1	10/13/99	10/16/99	49	%REC			1
1,4-Dichlorobenzene	106-46-7	BLK209012-1	10/13/99	10/16/99	47	%REC			1
N-nitroso-di-n-propylamine	621-64-7	BLK209012-1	10/13/99	10/16/99	54	%REC			1
1,2,4-Trichlorobenzene	120-82-1	BLK209012-1	10/13/99	10/16/99	52	%REC			1
4-Chloro-3-Methylphenol	59-50-7	BLK209012-1	10/13/99	10/16/99	60	%REC			1
Acenaphthylene	208-96-8	BLK209012-1	10/13/99	10/16/99	58	%REC			1
4-Nitrophenol	100-02-7	BLK209012-1	10/13/99	10/16/99	58	%REC			1
2,4-Dinitrotoluene	121-14-2	BLK209012-1	10/13/99	10/16/99	64	%REC			1
Pentachlorophenol	87-86-5	BLK209012-1	10/13/99	10/16/99	68	%REC			1
Pyrene	129-00-0	BLK209012-1	10/13/99	10/16/99	77	%REC			1
2-Fluorophenol	367-12-4	BLK209012-1	10/13/99	10/16/99	46	%REC			1
Phenol-d5	4165-62-2	BLK209012-1	10/13/99	10/16/99	59	%REC			1
Nitrobenzene-d5	4165-60-0	BLK209012-1	10/13/99	10/16/99	52	%REC			1
2-Fluorobiphenyl	321-60-8	BLK209012-1	10/13/99	10/16/99	54	%REC			1
2,4,6-Tribromophenol	118-79-6	BLK209012-1	10/13/99	10/16/99	68	%REC			1
Terphenyl-d14	1718-51-0	BLK209012-1	10/13/99	10/16/99	60	%REC			1

Data is incomplete without Case Narrative

Bechtel Hanford Inc.
3350 George Washington Way
MSIN H9-03
Richland, WA 99352-1613

Project: Bechtel Hanford Inc.

Category: Semivolatile
Method: SW-846 8270C
Matrix: SOLID

Client ID: B0WKV0

Sample Date : 10/05/99
Receipt Date : 10/06/99
Report Date : 12/03/99

Quanterra ID : 22327-001MSD

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Phenol	108-95-2	BLK209012-1	10/13/99	10/16/99	58	%REC			1
2-Chlorophenol	95-57-8	BLK209012-1	10/13/99	10/16/99	59	%REC			1
1,4-Dichlorobenzene	106-46-7	BLK209012-1	10/13/99	10/16/99	59	%REC			1
N-nitroso-di-n-propylamine	621-64-7	BLK209012-1	10/13/99	10/16/99	69	%REC			1
1,2,4-Trichlorobenzene	120-82-1	BLK209012-1	10/13/99	10/16/99	63	%REC			1
4-Chloro-3-Methylphenol	59-50-7	BLK209012-1	10/13/99	10/16/99	77	%REC			1
Acenaphthylene	208-96-8	BLK209012-1	10/13/99	10/16/99	69	%REC			1
4-Nitrophenol	100-02-7	BLK209012-1	10/13/99	10/16/99	82	%REC			1
2,4-Dinitrotoluene	121-14-2	BLK209012-1	10/13/99	10/16/99	82	%REC			1
Pentachlorophenol	87-86-5	BLK209012-1	10/13/99	10/16/99	83	%REC			1
Pyrene	129-00-0	BLK209012-1	10/13/99	10/16/99	80	%REC			1
2-Fluorophenol	367-12-4	BLK209012-1	10/13/99	10/16/99	58	%REC			1
Phenol-d5	4165-62-2	BLK209012-1	10/13/99	10/16/99	69	%REC			1
Nitrobenzene-d5	4165-60-0	BLK209012-1	10/13/99	10/16/99	63	%REC			1
2-Fluorobiphenyl	321-60-8	BLK209012-1	10/13/99	10/16/99	62	%REC			1
2,4,6-Tribromophenol	118-79-6	BLK209012-1	10/13/99	10/16/99	76	%REC			1
Terphenyl-d14	1718-51-0	BLK209012-1	10/13/99	10/16/99	62	%REC			1

Data is incomplete without Case Narrative

Bechtel Hanford Inc.
3350 George Washington Way
MSIN H9-03
Richland, WA 99352-1613

Project: Bechtel Hanford Inc.

Category: Semivolatile
Method: SW-846 8270C
Matrix: SOLID

Client ID: B0WKT9

Sample Date : 10/06/99
Receipt Date : 10/07/99
Report Date : 12/03/99

Quanterra ID : 22340-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Phenol	108-95-2	BLK209247-1	10/18/99	10/20/99	520	UG/KG	U	520	1
bis(2-Chloroethyl)Ether	111-44-4	BLK209247-1	10/18/99	10/20/99	520	UG/KG	U	520	1
2-Chlorophenol	95-57-8	BLK209247-1	10/18/99	10/20/99	520	UG/KG	U	520	1
1,3-Dichlorobenzene	541-73-1	BLK209247-1	10/18/99	10/20/99	520	UG/KG	U	520	1
1,4-Dichlorobenzene	106-46-7	BLK209247-1	10/18/99	10/20/99	520	UG/KG	U	520	1
1,2-Dichlorobenzene	95-50-1	BLK209247-1	10/18/99	10/20/99	520	UG/KG	U	520	1
2-Methylphenol	95-48-7	BLK209247-1	10/18/99	10/20/99	520	UG/KG	U	520	1
2,2'-oxybis (1-Chloropropane)	108-60-1	BLK209247-1	10/18/99	10/20/99	520	UG/KG	U	520	1
N-nitroso-di-n-propylamine	621-64-7	BLK209247-1	10/18/99	10/20/99	520	UG/KG	U	520	1
4-Methylphenol	106-44-5	BLK209247-1	10/18/99	10/20/99	520	UG/KG	U	520	1
Hexachloroethane	67-72-1	BLK209247-1	10/18/99	10/20/99	520	UG/KG	U	520	1
Nitrobenzene	98-95-3	BLK209247-1	10/18/99	10/20/99	520	UG/KG	U	520	1
Isophorone	78-59-1	BLK209247-1	10/18/99	10/20/99	520	UG/KG	U	520	1
2-Nitrophenol	88-75-5	BLK209247-1	10/18/99	10/20/99	520	UG/KG	U	520	1
2,4-Dimethylphenol	105-67-9	BLK209247-1	10/18/99	10/20/99	520	UG/KG	U	520	1
bis(2-Chloroethoxy)Methane	111-91-1	BLK209247-1	10/18/99	10/20/99	520	UG/KG	U	520	1
2,4-Dichlorophenol	120-83-2	BLK209247-1	10/18/99	10/20/99	520	UG/KG	U	520	1
1,2,4-Trichlorobenzene	120-82-1	BLK209247-1	10/18/99	10/20/99	520	UG/KG	U	520	1
Naphthalene	91-20-3	BLK209247-1	10/18/99	10/20/99	520	UG/KG	U	520	1
4-Chloroaniline	106-47-8	BLK209247-1	10/18/99	10/20/99	520	UG/KG	U	520	1
Hexachlorobutadiene	87-68-3	BLK209247-1	10/18/99	10/20/99	520	UG/KG	U	520	1
4-Chloro-3-Methylphenol	59-50-7	BLK209247-1	10/18/99	10/20/99	520	UG/KG	U	520	1
2-Methylnaphthalene	91-57-6	BLK209247-1	10/18/99	10/20/99	520	UG/KG	U	520	1
Hexachlorocyclopentadiene	77-47-4	BLK209247-1	10/18/99	10/20/99	2600	UG/KG	U	2600	1
2,4,6-Trichlorophenol	88-06-2	BLK209247-1	10/18/99	10/20/99	520	UG/KG	U	520	1
2,4,5-Trichlorophenol	95-95-4	BLK209247-1	10/18/99	10/20/99	520	UG/KG	U	520	1
2-Chloronaphthalene	91-58-7	BLK209247-1	10/18/99	10/20/99	520	UG/KG	U	520	1
2-Nitroaniline	88-74-4	BLK209247-1	10/18/99	10/20/99	2600	UG/KG	U	2600	1
Acenaphthylene	208-96-8	BLK209247-1	10/18/99	10/20/99	520	UG/KG	U	520	1
2,6-Dinitrotoluene	606-20-2	BLK209247-1	10/18/99	10/20/99	520	UG/KG	U	520	1
3-Nitroaniline	99-09-2	BLK209247-1	10/18/99	10/20/99	2600	UG/KG	U	2600	1
Acenaphthene	83-32-9	BLK209247-1	10/18/99	10/20/99	520	UG/KG	U	520	1
2,4-Dinitrophenol	51-28-5	BLK209247-1	10/18/99	10/20/99	2600	UG/KG	U	2600	1
Dibenzofuran	132-64-9	BLK209247-1	10/18/99	10/20/99	520	UG/KG	U	520	1
4-Nitrophenol	100-02-7	BLK209247-1	10/18/99	10/20/99	2600	UG/KG	U	2600	1
2,4-Dinitrotoluene	121-14-2	BLK209247-1	10/18/99	10/20/99	520	UG/KG	U	520	1
Fluorene	86-73-7	BLK209247-1	10/18/99	10/20/99	520	UG/KG	U	520	1
DimethylPhthalate	131-11-3	BLK209247-1	10/18/99	10/20/99	520	UG/KG	U	520	1
Diethylphthalate	84-66-2	BLK209247-1	10/18/99	10/20/99	520	UG/KG	U	520	1
4-Chlorophenyl-PhenylEther	7005-72-3	BLK209247-1	10/18/99	10/20/99	520	UG/KG	U	520	1
4-Nitroaniline	100-01-6	BLK209247-1	10/18/99	10/20/99	2600	UG/KG	U	2600	1
4,6-Dinitro-2-Methylphenol	534-52-1	BLK209247-1	10/18/99	10/20/99	2600	UG/KG	U	2600	1
n-Nitrosodiphenylamine	86-30-6	BLK209247-1	10/18/99	10/20/99	520	UG/KG	U	520	1
4-Bromophenyl-Phenyl Ether	101-55-3	BLK209247-1	10/18/99	10/20/99	520	UG/KG	U	520	1
Hexachlorobenzene	118-74-1	BLK209247-1	10/18/99	10/20/99	520	UG/KG	U	520	1
Pentachlorophenol	87-86-5	BLK209247-1	10/18/99	10/20/99	2600	UG/KG	U	2600	1
Phenanthrene	85-01-8	BLK209247-1	10/18/99	10/20/99	520	UG/KG	U	520	1
Anthracene	120-12-7	BLK209247-1	10/18/99	10/20/99	520	UG/KG	U	520	1
Di-N-Butylphthalate	84-74-2	BLK209247-1	10/18/99	10/20/99	520	UG/KG	U	520	1
Fluoranthene	206-44-0	BLK209247-1	10/18/99	10/20/99	520	UG/KG	U	520	1
Pyrene	129-00-0	BLK209247-1	10/18/99	10/20/99	520	UG/KG	U	520	1
ButylBenzylPhthalate	85-68-7	BLK209247-1	10/18/99	10/20/99	520	UG/KG	U	520	1
Benzo(a)Anthracene	56-55-3	BLK209247-1	10/18/99	10/20/99	520	UG/KG	U	520	1
3,3'-Dichlorobenzidine	91-94-1	BLK209247-1	10/18/99	10/20/99	2600	UG/KG	U	2600	1
Chrysene	218-01-9	BLK209247-1	10/18/99	10/20/99	520	UG/KG	U	520	1
bis(2-Ethylhexyl)Phthalate	117-81-7	BLK209247-1	10/18/99	10/20/99	520	UG/KG	U	520	1
di-N-OctylPhthalate	117-84-0	BLK209247-1	10/18/99	10/20/99	520	UG/KG	U	520	1
Benzo(b)Fluoranthene	205-99-2	BLK209247-1	10/18/99	10/20/99	520	UG/KG	U	520	1
Benzo(k)Fluoranthene	207-08-9	BLK209247-1	10/18/99	10/20/99	520	UG/KG	U	520	1
Benzo(a)Pyrene	50-32-8	BLK209247-1	10/18/99	10/20/99	520	UG/KG	U	520	1

Data is incomplete without Case Narrative

Bechtel Hanford Inc.
3350 George Washington Way
MSIN H9-03
Richland, WA 99352-1613

Project: Bechtel Hanford Inc.

Category: Semivolatile
Method: SW-846 8270C
Matrix: SOLID

Client ID: B0WKT9

Sample Date : 10/06/99
Receipt Date : 10/07/99
Report Date : 12/03/99

Quanterra ID : 22340-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Indeno(1,2,3-CD)Pyrene	193-39-5	BLK209247-1	10/18/99	10/20/99	520	UG/KG	U	520	1
Dibenz(a,h)Anthracene	53-70-3	BLK209247-1	10/18/99	10/20/99	520	UG/KG	U	520	1
Carbazole	86-74-8	BLK209247-1	10/18/99	10/20/99	520	UG/KG	U	520	1
Benzo(g,h,i)Perylene	191-24-2	BLK209247-1	10/18/99	10/20/99	520	UG/KG	U	520	1
2-Fluorophenol	367-12-4	BLK209247-1	10/18/99	10/20/99	64	%REC			1
Phenol-d5	4165-62-2	BLK209247-1	10/18/99	10/20/99	80	%REC			1
Nitrobenzene-d5	4165-60-0	BLK209247-1	10/18/99	10/20/99	65	%REC			1
2-Fluorobiphenyl	321-60-8	BLK209247-1	10/18/99	10/20/99	64	%REC			1
2,4,6-Tribromophenol	118-79-6	BLK209247-1	10/18/99	10/20/99	87	%REC			1
Terphenyl-d14	1718-51-0	BLK209247-1	10/18/99	10/20/99	74	%REC			1

Data is incomplete without Case Narrative

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0WKV0

Lab Name: QUANTERRA Contract: 550.267

Lab Code: ITSL Case No.: SAS No.: SDG No.: W02921

Matrix: (soil/water) SOIL Lab Sample ID: 22327-001

Sample wt/vol: 30.0 (g/mL) G Lab File ID: KSMP3288

Level: (low/med) LOW Date Received: 10/06/99

% Moisture: not dec. 5 dec._____ Date Extracted:10/13/99

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 10/16/99

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
108-95-2	Phenol	350	U
111-44-4	Bis(2-chloroethyl)ether	350	U
95-57-8	2-Chlorophenol	350	U
541-73-1	1,3-Dichlorobenzene	350	U
106-46-7	1,4-Dichlorobenzene	350	U
95-50-1	1,2-Dichlorobenzene	350	U
95-48-7	2-Methylphenol	350	U
108-60-1	2,2-oxybis(1-Chloropropane)	350	U
621-64-7	N-Nitrosodinpropylamine	350	U
106-44-5	4-Methylphenol	350	U
67-72-1	Hexachloroethane	350	U
98-95-3	Nitrobenzene	350	U
78-59-1	Isophorone	350	U
88-75-5	2-Nitrophenol	350	U
105-67-9	2,4-Dimethylphenol	350	U
111-91-1	Bis(2-chloroethoxy)methane	350	U
120-83-2	2,4-Dichlorophenol	350	U
120-82-1	1,2,4-Trichlorobenzene	350	U
91-20-3	Naphthalene	350	U
106-47-8	4-Chloroaniline	350	U
87-68-3	Hexachlorobutadiene	350	U
59-50-7	4-Chloro-3-Methylphenol	350	U
91-57-6	2-Methylnaphthalene	350	U
77-47-4	Hexachlorocyclopentadiene	1800	U
88-06-2	2,4,6-Trichlorophenol	350	U
95-95-4	2,4,5-Trichlorophenol	350	U
91-58-7	2-Chloronaphthalene	350	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0WKV0

Lab Name: QUANTERRA Contract: 550.267

Lab Code: ITSL Case No.: SAS No.: SDG No.: W02921

Matrix: (soil/water) SOIL Lab Sample ID: 22327-001

Sample wt/vol: 30.0 (g/mL) G Lab File ID: KSMP3288

Level: (low/med) LOW Date Received: 10/06/99

% Moisture: not dec. 5 dec._____ Date Extracted:10/13/99

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 10/16/99

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
88-74-4	2-Nitroaniline	1800	U
208-96-8	Acenaphthylene	350	U
606-20-2	2,6-Dinitrotoluene	350	U
99-09-2	3-Nitroaniline	1800	U
83-32-9	Acenaphthene	350	U
51-28-5	2,4-Dinitrophenol	1800	U
132-64-9	Dibenzofuran	350	U
100-02-7	4-Nitrophenol	1800	U
121-14-2	2,4-Dinitrotoluene	350	U
86-73-7	Fluorene	350	U
131-11-3	Dimethylphthalate	350	U
84-66-2	Diethylphthalate	350	U
7005-72-3	4-Chlorophenyl-phenylether	350	U
100-01-6	4-Nitroaniline	1800	U
534-52-1	4,6-Dinitro-2-methylphenol	1800	U
86-30-6	N-Nitrosodiphenylamine (1)	350	U
101-55-3	4-Bromophenyl-phenylether	350	U
118-74-1	Hexachlorobenzene	350	U
87-86-5	Pentachlorophenol	1800	U
85-01-8	Phenanthrene	350	U
120-12-7	Anthracene	350	U
84-74-2	Di-n-Butylphthalate	350	U
206-44-0	Fluoranthene	350	U
129-00-0	Pyrene	350	U
85-68-7	Butylbenzylphthalate	350	U
56-55-3	Benzo(a)Anthracene	350	U
91-94-1	3,3'-Dichlorobenzidine	1800	U

(1) - Cannot be separated from Diphenylamine

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0WKV0

Lab Name: QUANTERRA Contract: 550.267

Lab Code: ITSL Case No.: SAS No.: SDG No.: W02921

Matrix: (soil/water) SOIL Lab Sample ID: 22327-001

Sample wt/vol: 30.0 (g/mL) G Lab File ID: KSMP3288

Level: (low/med) LOW Date Received: 10/06/99

% Moisture: not dec. 5 dec._____ Date Extracted:10/13/99

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 10/16/99

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
218-01-9	Chrysene	350	U
117-81-7	bis(2-ethylhexyl)Phthalate	350	U
117-84-0	Di-n-octylphthalate	350	U
205-99-2	Benzo(b)fluoranthene	350	U
207-08-9	Benzo(k)fluoranthene	350	U
50-32-8	Benzo(a)pyrene	350	U
193-39-5	Indeno(1,2,3-cd)pyrene	350	U
53-70-3	Dibenzo(a,h)anthracene	350	U
86-74-8	Carbazole	350	U
191-24-2	Benzo(g,h,i)perylene	350	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B0WKV0

Lab Name: QUANTERRA Contract: 550.267

Lab Code: ITSL Case No.: SAS No.: SDG No.: W02921

Matrix: (soil/water) SOIL Lab Sample ID: 22327-001

Sample wt/vol: 30.0 (g/mL) G Lab File ID: KSMP3288

Level: (low/med) LOW Date Received: 10/06/99

% Moisture: not dec. 5 dec._____ Date Extracted:10/13/99

Final Volume: 1000 Date Analyzed: 10/16/99

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0WKT9

Lab Name: QUANTERRA Contract: 550.267

Lab Code: ITSL Case No.: SAS No.: SDG No.: W02921

Matrix: (soil/water) SOIL Lab Sample ID: 22340-001

Sample wt/vol: 30.4 (g/mL) G Lab File ID: JSMP3509

Level: (low/med) LOW Date Received: 10/07/99

% Moisture: not dec. 37 dec._____ Date Extracted:10/18/99

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 10/20/99

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
108-95-2	Phenol	520	U
111-44-4	Bis(2-chloroethyl)ether	520	U
95-57-8	2-Chlorophenol	520	U
541-73-1	1,3-Dichlorobenzene	520	U
106-46-7	1,4-Dichlorobenzene	520	U
95-50-1	1,2-Dichlorobenzene	520	U
95-48-7	2-Methylphenol	520	U
108-60-1	2,2-oxybis(1-Chloropropane)	520	U
621-64-7	N-Nitrosodinpropylamine	520	U
106-44-5	4-Methylphenol	520	U
67-72-1	Hexachloroethane	520	U
98-95-3	Nitrobenzene	520	U
78-59-1	Isophorone	520	U
88-75-5	2-Nitrophenol	520	U
105-67-9	2,4-Dimethyphenol	520	U
111-91-1	Bis(2-chloroethoxy)methane	520	U
120-83-2	2,4-Dichlorophenol	520	U
120-82-1	1,2,4-Trichlorobenzene	520	U
91-20-3	Naphthalene	520	U
106-47-8	4-Chloroaniline	520	U
87-68-3	Hexachlorobutadiene	520	U
59-50-7	4-Chloro-3-Methylphenol	520	U
91-57-6	2-Methylnaphthalene	520	U
77-47-4	Hexachlorocyclopentadiene	2600	U
88-06-2	2,4,6-Trichlorophenol	520	U
95-95-4	2,4,5-Trichlorphenol	520	U
91-58-7	2-Chloronaphthalene	520	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0WKT9

Lab Name: QUANTERRA Contract: 550.267

Lab Code: ITSL Case No.: SAS No.: SDG No.: W02921

Matrix: (soil/water) SOIL Lab Sample ID: 22340-001

Sample wt/vol: 30.4 (g/mL) G Lab File ID: JSMP3509

Level: (low/med) LOW Date Received: 10/07/99

% Moisture: not dec. 37 dec._____ Date Extracted:10/18/99

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 10/20/99

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
88-74-4	2-Nitroaniline	2600	U
208-96-8	Acenaphthylene	520	U
606-20-2	2,6-Dinitrotoluene	520	U
99-09-2	3-Nitroaniline	2600	U
83-32-9	Acenaphthene	520	U
51-28-5	2,4-Dinitrophenol	2600	U
132-64-9	Dibenzofuran	520	U
100-02-7	4-Nitrophenol	2600	U
121-14-2	2,4-Dinitrotoluene	520	U
86-73-7	Fluorene	520	U
131-11-3	Dimethylphthalate	520	U
84-66-2	Diethylphthalate	520	U
7005-72-3	4-Chlorophenyl-phenylether	520	U
100-01-6	4-Nitroaniline	2600	U
534-52-1	4,6-Dinitro-2-methylphenol	2600	U
86-30-6	N-Nitrosodiphenylamine (1)	520	U
101-55-3	4-Bromophenyl-phenylether	520	U
118-74-1	Hexachlorobenzene	520	U
87-86-5	Pentachlorophenol	2600	U
85-01-8	Phenanthrene	520	U
120-12-7	Anthracene	520	U
84-74-2	Di-n-Butylphthalate	520	U
206-44-0	Fluoranthene	520	U
129-00-0	Pyrene	520	U
85-68-7	Butylbenzylphthalate	520	U
56-55-3	Benzo(a)Anthracene	520	U
91-94-1	3,3'-Dichlorobenzidine	2600	U

(1) - Cannot be separated from Diphenylamine

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0WKT9

Lab Name: QUANTERRA Contract: 550.267

Lab Code: ITSL Case No.: SAS No.: SDG No.: W02921

Matrix: (soil/water) SOIL Lab Sample ID: 22340-001

Sample wt/vol: 30.4 (g/mL) G Lab File ID: JSMP3509

Level: (low/med) LOW Date Received: 10/07/99

% Moisture: not dec. 37 dec._____ Date Extracted:10/18/99

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 10/20/99

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
218-01-9	Chrysene	520	U
117-81-7	bis(2-ethylhexyl)Phthalate	520	U
117-84-0	Di-n-octylphthalate	520	U
205-99-2	Benzo(b)fluoranthene	520	U
207-08-9	Benzo(k)fluoranthene	520	U
50-32-8	Benzo(a)pyrene	520	U
193-39-5	Indeno(1,2,3-cd)pyrene	520	U
53-70-3	Dibenzo(a,h)anthracene	520	U
86-74-8	Carbazole	520	U
191-24-2	Benzo(g,h,i)perylene	520	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B0WKT9

Lab Name: QUANTERRA Contract: 550.267

Lab Code: ITSL Case No.: SAS No.: SDG No.: W02921

Matrix: (soil/water) SOIL Lab Sample ID: 22340-001

Sample wt/vol: 30.4 (g/mL) G Lab File ID: JSMP3509

Level: (low/med) LOW Date Received: 10/07/99

% Moisture: not dec. 37 dec._____ Date Extracted:10/18/99

Final Volume: 1000 Date Analyzed: 10/20/99

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
3.				
4.				
5.				
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29.				
30.				

Bechtel Hanford Inc.
3350 George Washington Way
MSIN H9-03
Richland, WA 99352-1613

Project: Bechtel Hanford Inc.

Category: PCB's
Method: SW-846 8082A
Matrix: SOLID

Sample Date : 10/05/99
Receipt Date : 10/06/99
Report Date : 12/02/99

Client ID: B0WKV0

Quanterra ID : 22327-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aroclor-1016	12674-11-2	BLK209248-1	10/18/99	10/19/99	34	UG/KG	U	34	1
Aroclor-1221	11104-28-2	BLK209248-1	10/18/99	10/19/99	34	UG/KG	U	34	1
Aroclor-1232	11141-16-5	BLK209248-1	10/18/99	10/19/99	34	UG/KG	U	34	1
Aroclor-1242	53469-21-9	BLK209248-1	10/18/99	10/19/99	34	UG/KG	U	34	1
Aroclor-1248	12672-29-6	BLK209248-1	10/18/99	10/19/99	34	UG/KG	U	34	1
Aroclor-1254	11097-69-1	BLK209248-1	10/18/99	10/19/99	34	UG/KG	U	34	1
Aroclor-1260	11096-82-5	BLK209248-1	10/18/99	10/19/99	34	UG/KG	U	34	1
TCMX	877-09-8	BLK209248-1	10/18/99	10/19/99	100	%REC			1
DCB	2051-24-3	BLK209248-1	10/18/99	10/19/99	108	%REC			1

Data is incomplete without Case Narrative

Bechtel Hanford Inc.
3350 George Washington Way
MSIN H9-03
Richland, WA 99352-1613

Project: Bechtel Hanford Inc.

Category: PCB's
Method: SW-846 8082A
Matrix: SOLID

Client ID: B0WKV0

Sample Date : 10/05/99
Receipt Date : 10/06/99
Report Date : 12/02/99

Quanterra ID : 22327-001MS

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aroclor-1016	12674-11-2	BLK209248-1	10/18/99	10/19/99	103	%REC			1
Aroclor-1260	11096-82-5	BLK209248-1	10/18/99	10/19/99	120	%REC			1
TCMX	877-09-8	BLK209248-1	10/18/99	10/19/99	98	%REC			1
DCB	2051-24-3	BLK209248-1	10/18/99	10/19/99	108	%REC			1

Data is incomplete without Case Narrative

Bechtel Hanford Inc.
3350 George Washington Way
MSIN H9-03
Richland, WA 99352-1613

Project: Bechtel Hanford Inc.

Category: PCB's
Method: SW-846 8082A
Matrix: SOLID

Sample Date : 10/05/99
Receipt Date : 10/06/99
Report Date : 12/02/99

Client ID: B0WKV0

Quanterra ID : 22327-001MSD

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aroclor-1016	12674-11-2	BLK209248-1	10/18/99	10/19/99	101	%REC			1
Aroclor-1260	11096-82-5	BLK209248-1	10/18/99	10/19/99	114	%REC			1
TCMX	877-09-8	BLK209248-1	10/18/99	10/19/99	97	%REC			1
DCB	2051-24-3	BLK209248-1	10/18/99	10/19/99	109	%REC			1

Data is incomplete without Case Narrative

Bechtel Hanford Inc.
3350 George Washington Way
MSIN H9-03
Richland, WA 99352-1613

Project: Bechtel Hanford Inc.

Category: PCB's
Method: SW-846 8082A
Matrix: SOLID

Client ID: B0WKT9

Sample Date : 10/06/99
Receipt Date : 10/07/99
Report Date : 12/02/99

Quanterra ID : 22340-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aroclor-1016	12674-11-2	BLK209248-1	10/18/99	10/19/99	53	UG/KG	U	53	1
Aroclor-1221	11104-28-2	BLK209248-1	10/18/99	10/19/99	53	UG/KG	U	53	1
Aroclor-1232	11141-16-5	BLK209248-1	10/18/99	10/19/99	53	UG/KG	U	53	1
Aroclor-1242	53469-21-9	BLK209248-1	10/18/99	10/19/99	53	UG/KG	U	53	1
Aroclor-1248	12672-29-6	BLK209248-1	10/18/99	10/19/99	53	UG/KG	U	53	1
Aroclor-1254	11097-69-1	BLK209248-1	10/18/99	10/19/99	53	UG/KG	U	53	1
Aroclor-1260	11096-82-5	BLK209248-1	10/18/99	10/19/99	53	UG/KG	U	53	1
TCMX	877-09-8	BLK209248-1	10/18/99	10/19/99	976	%REC	*		1
DCB	2051-24-3	BLK209248-1	10/18/99	10/19/99	78	%REC			1

Data is incomplete without Case Narrative

FORM 1 Quanterra-Richland SAMPLE NO.

PCB ORGANICS ANALYSIS DATA SHEET

B0WKV0

Lab Name: QUANTERRA, ST. LOUIS MO Contract: 550.267

Lab Code: Case No.: SAS No.: SDG No.: W02921

Matrix: (soil/water) SOIL Lab Sample ID: 22327-001

Sample wt/vol: 15.3 (g/mL) G Lab File ID: DB__543

% Moisture: 5 decanted: (Y/N) N Date Received: 10/06/99

Extraction: (SepF/Cont/Sonc) OTHER Date Extracted:10/18/99

Concentrated Extract Volume: 5(mL) Date Analyzed: 10/19/99

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2------	Aroclor-1016	34	U
11104-28-2------	Aroclor-1221	34	U
1114-16-5-------	Aroclor-1232	34	U
53469-21-9------	Aroclor-1242	34	U
12672-29-6------	Aroclor-1248	34	U
11097-69-1------	Aroclor-1254	34	U
11096-82-5------	Aroclor-1260	34	U
37324-23-5------	Aroclor-1262	34	U
11100-14-4------	Aroclor-1268	34	U

FORM 1 Quanterra-Richland SAMPLE NO.

PCB ORGANICS ANALYSIS DATA SHEET

B0WKT9

Lab Name: QUANTERRA, ST. LOUIS MO Contract: 550.267

Lab Code: Case No.: SAS No.: SDG No.: W02921

Matrix: (soil/water) SOIL Lab Sample ID: 22340-001

Sample wt/vol: 15.1 (g/mL) G Lab File ID: DB__546

% Moisture: 37 decanted: (Y/N) N Date Received: 10/07/99

Extraction: (SepF/Cont/Sonc) OTHER Date Extracted:10/18/99

Concentrated Extract Volume: 5(mL) Date Analyzed: 10/19/99

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2------	Aroclor-1016	53	U
11104-28-2------	Aroclor-1221	53	U
1114-16-5-------	Aroclor-1232	53	U
53469-21-9------	Aroclor-1242	53	U
12672-29-6------	Aroclor-1248	53	U
11097-69-1------	Aroclor-1254	53	U
11096-82-5------	Aroclor-1260	53	U
37324-23-5------	Aroclor-1262	53	U
11100-14-4------	Aroclor-1268	53	U

Bechtel Hanford Inc.
3350 George Washington Way
MSIN H9-03
Richland, WA 99352-1613

Project: Bechtel Hanford Inc.

Category: TPH
Method: EPA 8015
Matrix: SOLID

Client ID: B0WKV0

Sample Date : 10/05/99
Receipt Date : 10/06/99
Report Date : 12/02/99

Quanterra ID : 22327-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Diesel	68334-30-5	BLK209286-1	10/19/99	10/22/99	26	MG/KG	U	26	1
Waste Oil	TPH/OILH	BLK209286-1	10/19/99	10/22/99	26	MG/KG	U	26	1
Miscellaneous Oil	MO-002	BLK209286-1	10/19/99	10/22/99	26	MG/KG	U	26	1
o-Terphenyl	84-15-1	BLK209286-1	10/19/99	10/22/99	101	%REC			1

Data is incomplete without Case Narrative

Bechtel Hanford Inc.
3350 George Washington Way
MSIN H9-03
Richland, WA 99352-1613

Project: Bechtel Hanford Inc.

Category: TPH
Method: EPA 8015
Matrix: SOLID

Client ID: B0WKV0

Sample Date : 10/05/99
Receipt Date : 10/06/99
Report Date : 12/02/99

Quanterra ID : 22327-001MS

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Diesel	68334-30-5	BLK209286-1	10/19/99	10/22/99	100	%REC			1
o-Terphenyl	84-15-1	BLK209286-1	10/19/99	10/22/99	130	%REC			1

Data is incomplete without Case Narrative

Bechtel Hanford Inc.
3350 George Washington Way
MSIN H9-03
Richland, WA 99352-1613

Project: Bechtel Hanford Inc.

Category: TPH
Method: EPA 8015
Matrix: SOLID

Client ID: B0WKV0

Sample Date : 10/05/99
Receipt Date : 10/06/99
Report Date : 12/02/99

Quanterra ID : 22327-001MSD

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Diesel	68334-30-5	BLK209286-1	10/19/99	10/22/99	92	%REC			1
o-Terphenyl	84-15-1	BLK209286-1	10/19/99	10/22/99	112	%REC			1

Data is incomplete without Case Narrative

Bechtel Hanford Inc.
3350 George Washington Way
MSIN H9-03
Richland, WA 99352-1613

Project: Bechtel Hanford Inc.

Category: TPH
Method: EPA 8015
Matrix: SOLID

Sample Date : 10/06/99
Receipt Date : 10/07/99
Report Date : 12/02/99

Client ID: B0WKT9

Quanterra ID : 22340-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Diesel	68334-30-5	BLK209286-1	10/19/99	10/22/99	40	MG/KG	U	40	1
Waste Oil	TPH/OILH	BLK209286-1	10/19/99	10/22/99	180	MG/KG		40	1
Miscellaneous Oil	MO-002	BLK209286-1	10/19/99	10/22/99	40	MG/KG	U	40	1
o-Terphenyl	84-15-1	BLK209286-1	10/19/99	10/22/99	102	%REC			1

Data is incomplete without Case Narrative

FORM 1 Quanterra-Richland SAMPLE NO.

TPH ORGANICS ANALYSIS DATA SHEET

B0WKV0

Lab Name: Contract: 550.267

Lab Code: Case No.: SAS No.: SDG No.: W02921

Matrix: (soil/water) SOIL Lab Sample ID: 22327-001

Sample wt/vol: 20.0 (g/mL) G Lab File ID: FA__398

% Moisture: 5 decanted: (Y/N) N Date Received: 10/06/99

Extraction: (SepF/Cont/Sonc) OTHER Date Extracted:10/19/99

Concentrated Extract Volume: 5(ml) Date Analyzed: 10/22/99

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___ Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) MG/KG	Q
	----------Diesel	26	U
	----------Waste Oil	26	U
	----------Miscellaneous	26	U

FORM 1 Quanterra-Richland SAMPLE NO.

TPH ORGANICS ANALYSIS DATA SHEET

B0WKT9

Lab Name: Contract: 550.267

Lab Code: Case No.: SAS No.: SDG No.: W02921

Matrix: (soil/water) SOIL Lab Sample ID: 22340-001

Sample wt/vol: 20.2 (g/mL) G Lab File ID: FA__401

% Moisture: 37 decanted: (Y/N) N Date Received: 10/07/99

Extraction: (SepF/Cont/Sonc) OTHER Date Extracted:10/19/99

Concentrated Extract Volume: 5(ml) Date Analyzed: 10/22/99

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___ Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) MG/KG	Q
	----------Diesel	40	U
	----------Waste Oil	180	
	----------Miscellaneous	40	U

FORM I TPH

Bechtel Hanford Inc.
3350 George Washington Way
MSIN H9-03
Richland, WA 99352-1613

Project: Bechtel Hanford Inc.

Category: ICAP Metals
Method: EPA 6010
Matrix: SOLID

Client ID: B0WKV0

Sample Date : 10/05/99
Receipt Date : 10/06/99
Report Date : 12/02/99

Quanterra ID : 22327-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Arsenic	7440-38-2	BLK209103-1	10/14/99	10/14/99	3.7	MG/KG		1.0	1
Barium	7440-39-3	BLK209103-1	10/14/99	10/14/99	80.0	MG/KG		20.0	1
Beryllium	7440-41-7	BLK209103-1	10/14/99	10/14/99	0.26	MG/KG	B	0.50	1
Cadmium	7440-43-9	BLK209103-1	10/14/99	10/14/99	0.20	MG/KG	B	0.50	1
Chromium	7440-47-3	BLK209103-1	10/14/99	10/14/99	8.6	MG/KG		1.0	1
Copper	7440-50-8	BLK209103-1	10/14/99	10/14/99	12.5	MG/KG		2.5	1
Lead	7439-92-1	BLK209103-1	10/14/99	10/14/99	6.1	MG/KG		0.30	1
Nickel	7440-02-0	BLK209103-1	10/14/99	10/14/99	9.0	MG/KG		4.0	1
Selenium	7782-49-2	BLK209103-1	10/14/99	10/14/99	0.29	MG/KG	U	0.50	1
Silver	7440-22-4	BLK209103-1	10/14/99	10/14/99	0.09	MG/KG	U	1.0	1
Vanadium	7440-62-2	BLK209103-1	10/14/99	10/14/99	56.1	MG/KG		5.0	1
Zinc	7440-66-6	BLK209103-1	10/14/99	10/14/99	46.4	MG/KG		2.0	1

Data is incomplete without Case Narrative

Bechtel Hanford Inc.
3350 George Washington Way
MSIN H9-03
Richland, WA 99352-1613

Project: Bechtel Hanford Inc.

Category: ICAP Metals
Method: EPA 6010
Matrix: SOLID

Sample Date : 10/05/99
Receipt Date : 10/06/99
Report Date : 12/02/99

Client ID: B0WKV0

Quanterra ID : 22327-001MS

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Arsenic	7440-38-2	BLK209103-1	10/14/99	10/14/99	101	%REC			1
Barium	7440-39-3	BLK209103-1	10/14/99	10/14/99	100	%REC			1
Beryllium	7440-41-7	BLK209103-1	10/14/99	10/14/99	104	%REC			1
Cadmium	7440-43-9	BLK209103-1	10/14/99	10/14/99	95	%REC			1
Chromium	7440-47-3	BLK209103-1	10/14/99	10/14/99	102	%REC			1
Copper	7440-50-8	BLK209103-1	10/14/99	10/14/99	111	%REC			1
Lead	7439-92-1	BLK209103-1	10/14/99	10/14/99	96	%REC			1
Nickel	7440-02-0	BLK209103-1	10/14/99	10/14/99	98	%REC			1
Selenium	7782-49-2	BLK209103-1	10/14/99	10/14/99	96	%REC			1
Silver	7440-22-4	BLK209103-1	10/14/99	10/14/99	97	%REC			1
Vanadium	7440-62-2	BLK209103-1	10/14/99	10/14/99	106	%REC			1
Zinc	7440-66-6	BLK209103-1	10/14/99	10/14/99	99	%REC			1

Data is incomplete without Case Narrative

Bechtel Hanford Inc.
3350 George Washington Way
MSIN H9-03
Richland, WA 99352-1613

Project: Bechtel Hanford Inc.

Category: ICAP Metals
Method: EPA 6010
Matrix: SOLID

Client ID: B0WKV0

Sample Date : 10/05/99
Receipt Date : 10/06/99
Report Date : 12/02/99

Quanterra ID : 22327-001MSD

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Arsenic	7440-38-2	BLK209103-1	10/14/99	10/14/99	93	%REC			1
Barium	7440-39-3	BLK209103-1	10/14/99	10/14/99	92	%REC			1
Beryllium	7440-41-7	BLK209103-1	10/14/99	10/14/99	98	%REC			1
Cadmium	7440-43-9	BLK209103-1	10/14/99	10/14/99	86	%REC			1
Chromium	7440-47-3	BLK209103-1	10/14/99	10/14/99	89	%REC			1
Copper	7440-50-8	BLK209103-1	10/14/99	10/14/99	96	%REC			1
Lead	7439-92-1	BLK209103-1	10/14/99	10/14/99	87	%REC			1
Nickel	7440-02-0	BLK209103-1	10/14/99	10/14/99	89	%REC			1
Selenium	7782-49-2	BLK209103-1	10/14/99	10/14/99	89	%REC			1
Silver	7440-22-4	BLK209103-1	10/14/99	10/14/99	92	%REC			1
Vanadium	7440-62-2	BLK209103-1	10/14/99	10/14/99	90	%REC			1
Zinc	7440-66-6	BLK209103-1	10/14/99	10/14/99	86	%REC			1

Data is incomplete without Case Narrative

Bechtel Hanford Inc.
3350 George Washington Way
MSIN H9-03
Richland, WA 99352-1613

Project: Bechtel Hanford Inc.

Category: ICAP Metals
Method: EPA 6010
Matrix: SOLID

Sample Date : 10/06/99
Receipt Date : 10/07/99
Report Date : 12/02/99

Client ID: B0WKT9

Quanterra ID : 22340-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Arsenic	7440-38-2	BLK209103-1	10/14/99	10/14/99	6.7	MG/KG		1.0	1
Barium	7440-39-3	BLK209103-1	10/14/99	10/14/99	90.1	MG/KG		20.0	1
Beryllium	7440-41-7	BLK209103-1	10/14/99	10/14/99	0.35	MG/KG	B	0.50	1
Cadmium	7440-43-9	BLK209103-1	10/14/99	10/14/99	17.1	MG/KG		0.50	1
Chromium	7440-47-3	BLK209103-1	10/14/99	10/14/99	24.5	MG/KG		1.0	1
Copper	7440-50-8	BLK209103-1	10/14/99	10/14/99	70.3	MG/KG		2.5	1
Lead	7439-92-1	BLK209103-1	10/14/99	10/14/99	198	MG/KG		0.30	1
Nickel	7440-02-0	BLK209103-1	10/14/99	10/14/99	15.2	MG/KG		4.0	1
Selenium	7782-49-2	BLK209103-1	10/14/99	10/14/99	1.1	MG/KG		0.50	1
Silver	7440-22-4	BLK209103-1	10/14/99	10/14/99	9.4	MG/KG		1.0	1
Vanadium	7440-62-2	BLK209103-1	10/14/99	10/14/99	51.3	MG/KG		5.0	1
Zinc	7440-66-6	BLK209103-1	10/14/99	10/14/99	242	MG/KG		2.0	1

Data is incomplete without Case Narrative

Bechtel Hanford Inc.
3350 George Washington Way
MSIN H9-03
Richland, WA 99352-1613

Project: Bechtel Hanford Inc.

Category: Mercury
Method: EPA 7471
Matrix: SOLID

Sample Date : 10/05/99
Receipt Date : 10/06/99
Report Date : 12/02/99

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
B0WKV0	22327-001	Mercury	7439-97-6	BLK210049-1	10/27/99	10/27/99	0.07	MG/KG		0.035	1
B0WKV0	22327-001MS	Mercury	7439-97-6	BLK210049-1	10/27/99	10/27/99	91	%REC			1
B0WKV0	22327-001MSD	Mercury	7439-97-6	BLK210049-1	10/27/99	10/27/99	91	%REC			1
B0WKT9	22340-001	Mercury	7439-97-6	BLK210049-1	10/27/99	10/27/99	9.6	MG/KG		0.52	10
NA	LCS210049-1	Mercury	7439-97-6	BLK210049-1	10/27/99	10/27/99	109	%REC			2
NA	BLK210049-1	Mercury	7439-97-6	BLK210049-1	10/27/99	10/27/99	0.017	MG/KG	U	0.033	1

Data is incomplete without Case Narrative

U.S. EPA - CLP

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: QUANTERRA_MO_____ Contract: 550.267___

Lab Code: ITMO__ Case No.: _____ SAS No.: _____ SDG No.: W02921_____

SOW No.: SW846

EPA Sample No.	Lab Sample ID
B0WKT9	22340-001
B0WKV0	22327-001
B0WKV0SD	22327-001SD
B0WKV0S	22327-001S

Were ICP interelement corrections applied ? Yes/No YES

Were ICP background corrections applied ? Yes/No YES

If yes - were raw data generated before application of background corrections ? Yes/No NO_

Comments:

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: _____ Name: _____

Date: _____ Title: _____

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0WKT9

Lab Name: QUANTERRA_MO Contract: 550.267
Lab Code: ITMO Case No.: SAS No.: SDG No.: W02921
Matrix (soil/water): SOIL Lab Sample ID: 22340-001
Level (low/med): LOW Date Received: 10/07/99
% Solids: 62.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	6.7			P
7440-39-3	Barium	90.1			P
7440-41-7	Beryllium	0.35	B		P
7440-43-9	Cadmium	17.1			P
7440-47-3	Chromium	24.5			P
7440-50-8	Copper	70.3			P
7439-92-1	Lead	198			P
7439-97-6	Mercury	9.6			CV
7440-02-0	Nickel	15.2			P
7782-49-2	Selenium	1.1			P
7440-22-4	Silver	9.4			P
7440-62-2	Vanadium	51.3			P
7440-66-6	Zinc	242			P

Color Before: Clarity Before: Texture:
Color After: Clarity After: Artifacts:

Comments:

FORM I - IN

SW-846

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0WKV0

Lab Name: QUANTERRA_MO Contract: 550.267
Lab Code: ITMO Case No.: SAS No.: SDG No.: W02921
Matrix (soil/water): SOIL Lab Sample ID: 22327-001
Level (low/med): LOW Date Received: 10/06/99
% Solids: 95.1

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	3.7			P
7440-39-3	Barium	80.0			P
7440-41-7	Beryllium	0.26	B		P
7440-43-9	Cadmium	0.20	B		P
7440-47-3	Chromium	8.6			P
7440-50-8	Copper	12.5			P
7439-92-1	Lead	6.1			P
7439-97-6	Mercury	0.07			CV
7440-02-0	Nickel	9.0			P
7782-49-2	Selenium	0.29	U		P
7440-22-4	Silver	0.09	U		P
7440-62-2	Vanadium	56.1			P
7440-66-6	Zinc	46.4			P

Color Before: Clarity Before: Texture:
Color After: Clarity After: Artifacts:

Comments:

FORM I - IN

SW-846

Bechtel Hanford Inc.
3350 George Washington Way
MSIN H9-03
Richland, WA 99352-1613

Project: Bechtel Hanford Inc.

Category: AMMONIA
Method: EPA 350.1
Matrix: SOLID

Sample Date : 10/05/99
Receipt Date : 10/06/99
Report Date : 12/03/99

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
B0WKV0	22327-001	Ammonia	NH3-N	QCBLK209438-1	10/20/99	10/20/99	0.53	MG/KG	U	0.53	1
B0WKV0	22327-001DUP	Ammonia	NH3-N	QCBLK209438-1	10/20/99	10/20/99	0.52	MG/KG	U	0.52	1
B0WKV0	22327-001MS	Ammonia	NH3-N	QCBLK209438-1	10/20/99	10/20/99	86	%REC			1
B0WKT9	22340-001	Ammonia	NH3-N	QCBLK209438-1	10/20/99	10/20/99	2.64	MG/KG		0.78	1
NA	QCBLK209438-1	Ammonia	NH3-N	QCBLK209438-1	10/20/99	10/20/99	0.50	MG/KG	U	0.50	1
NA	QCLCS209438-1	Ammonia	NH3-N	QCBLK209438-1	10/20/99	10/20/99	103	%REC			1

Data is incomplete without Case Narrative

Bechtel Hanford Inc.
3350 George Washington Way
MSIN H9-03
Richland, WA 99352-1613

Project: Bechtel Hanford Inc.

Category: CYANIDE
Method: EPA 9010
Matrix: SOLID

Sample Date : 10/05/99
Receipt Date : 10/06/99
Report Date : 12/03/99

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
B0WKV0	22327-001	Cyanide	57-12-5	QCBLK208753-1	10/10/99	10/10/99	0.26	MG/KG	U	0.26	1
B0WKV0	22327-001DUP	Cyanide	57-12-5	QCBLK208753-1	10/10/99	10/10/99	0.26	MG/KG	U	0.26	1
B0WKV0	22327-001MS	Cyanide	57-12-5	QCBLK208753-1	10/10/99	10/10/99	95	%REC			1
B0WKT9	22340-001	Cyanide	57-12-5	QCBLK208753-1	10/10/99	10/10/99	0.39	MG/KG	U	0.39	1

Data is incomplete without Case Narrative

Bechtel Hanford Inc.
3350 George Washington Way
MSIN H9-03
Richland, WA 99352-1613

Project: Bechtel Hanford Inc.

Category: Cyanide
Method: EPA 9010
Matrix: SOLID

Sample Date : NA
Receipt Date : NA
Report Date : 12/03/99

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
NA	QCBLK208753-1	Cyanide	57-12-5	QCBLK208753-1	10/10/99	10/10/99	0.25	MG/KG	U	0.25	1
NA	QCLCS208753-1	Cyanide	57-12-5	QCBLK208753-1	10/10/99	10/10/99	98	%REC			1

Data is incomplete without Case Narrative

Bechtel Hanford Inc.
3350 George Washington Way
MSIN H9-03
Richland, WA 99352-1613

Project: Bechtel Hanford Inc.

Category: Anions
Method: EPA 300.0
Matrix: SOLID

Sample Date : 10/05/99
Receipt Date : 10/06/99
Report Date : 12/03/99

Client ID: B0WKV0

Quanterra ID : 22327-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Fluoride	16984-48-8	QCBLK210707-1	11/02/99	11/02/99	1.35	MG/KG		1.05	1
Chloride	16887-00-6	QCBLK210707-1	11/02/99	11/02/99	6.77	MG/KG		2.10	1
Nitrite	NO2-N	QCBLK210707-1	11/02/99	11/02/99	0.21	MG/KG	U	0.21	1
Nitrate	NO3-N	QCBLK210707-1	11/02/99	11/02/99	4.51	MG/KG		0.21	1
O-phosphate-P	14265-44-2	QCBLK210707-1	11/02/99	11/02/99	5.24	MG/KG	U	5.24	1
Sulfate	14808-79-8	QCBLK210707-1	11/02/99	11/02/99	75.5	MG/KG		5.24	1

Data is incomplete without Case Narrative

Bechtel Hanford Inc.
3350 George Washington Way
MSIN H9-03
Richland, WA 99352-1613

Project: Bechtel Hanford Inc.

Category: Anions
Method: EPA 300.0
Matrix: SOLID

Sample Date : 10/05/99
Receipt Date : 10/06/99
Report Date : 12/03/99

Client ID: B0WKV0

Quanterra ID : 22327-001DUP

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Fluoride	16984-48-8	QCBLK210707-1	11/02/99	11/02/99	1.57	MG/KG		1.05	1
Chloride	16887-00-6	QCBLK210707-1	11/02/99	11/02/99	6.24	MG/KG		2.10	1
Nitrite	NO2-N	QCBLK210707-1	11/02/99	11/02/99	0.21	MG/KG	U	0.21	1
Nitrate	NO3-N	QCBLK210707-1	11/02/99	11/02/99	4.44	MG/KG		0.21	1
O-phosphate-P	14265-44-2	QCBLK210707-1	11/02/99	11/02/99	5.25	MG/KG	U	5.25	1
Sulfate	14808-79-8	QCBLK210707-1	11/02/99	11/02/99	78.4	MG/KG		5.25	1

Data is incomplete without Case Narrative

Bechtel Hanford Inc.
3350 George Washington Way
MSIN H9-03
Richland, WA 99352-1613

Project: Bechtel Hanford Inc.

Category: Anions
Method: EPA 300.0
Matrix: SOLID

Sample Date : 10/05/99
Receipt Date : 10/06/99
Report Date : 12/03/99

Client ID: B0WKV0

Quanterra ID : 22327-001MS

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Fluoride	16984-48-8	QCBLK210707-1	11/02/99	11/02/99	93	%REC			1
Chloride	16887-00-6	QCBLK210707-1	11/02/99	11/02/99	127	%REC			10
Nitrite	NO2-N	QCBLK210707-1	11/02/99	11/02/99	119	%REC			10
Nitrate	NO3-N	QCBLK210707-1	11/02/99	11/02/99	119	%REC			10
O-phosphate-P	14265-44-2	QCBLK210707-1	11/02/99	11/02/99	97	%REC			1
Sulfate	14808-79-8	QCBLK210707-1	11/02/99	11/02/99	111	%REC			10

Data is incomplete without Case Narrative

Bechtel Hanford Inc.
3350 George Washington Way
MSIN H9-03
Richland, WA 99352-1613

Project: Bechtel Hanford Inc.

Category: Anions
Method: EPA 300.0
Matrix: SOLID

Client ID: B0WKT9

Sample Date : 10/06/99
Receipt Date : 10/07/99
Report Date : 12/03/99

Quanterra ID : 22340-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Fluoride	16984-48-8	QCBLK210707-1	11/02/99	11/02/99	2.30	MG/KG		1.56	1
Chloride	16887-00-6	QCBLK210707-1	11/02/99	11/02/99	102	MG/KG		31.3	10
Nitrite	NO2-N	QCBLK210707-1	11/02/99	11/02/99	0.31	MG/KG	U	0.31	1
Nitrate	NO3-N	QCBLK210707-1	11/02/99	11/02/99	6.81	MG/KG		0.31	1
O-phosphate-P	14265-44-2	QCBLK210707-1	11/02/99	11/02/99	7.82	MG/KG	U	7.82	1
Sulfate	14808-79-8	QCBLK210707-1	11/02/99	11/02/99	1950	MG/KG		78.2	10

Data is incomplete without Case Narrative

Bechtel Hanford Inc.
3350 George Washington Way
MSIN H9-03
Richland, WA 99352-1613

Project: Bechtel Hanford Inc.

Category: Hexavalent Chromium
Method: SW846 7196
Matrix: SOLID

Sample Date : 10/05/99
Receipt Date : 10/06/99
Report Date : 12/03/99

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
B0WKV0	22327-001	Hexavalent Chro	18540-29-9	QCBLK209721-1	10/23/99	10/23/99	0.10	UG/G	U	0.10	1
B0WKV0	22327-001MS	Hexavalent Chro	18540-29-9	QCBLK209721-1	10/23/99	10/23/99	148	%REC			1
B0WKV0	22327-001MSD	Hexavalent Chro	18540-29-9	QCBLK209721-1	10/23/99	10/23/99	156	%REC			1
B0WKT9	22340-001	Hexavalent Chro	18540-29-9	QCBLK209721-1	10/23/99	10/23/99	0.16	UG/G	U	0.16	1
NA	QCBLK209721-1	Hexavalent Chro	18540-29-9	QCBLK209721-1	10/23/99	10/23/99	0.10	UG/G	U	0.10	1
NA	QCLCS209721-1	Hexavalent Chro	18540-29-9	QCBLK209721-1	10/23/99	10/23/99	104	%REC			1

Data is incomplete without Case Narrative

Bechtel Hanford Inc.
3350 George Washington Way
MSIN H9-03
Richland, WA 99352-1613

Project: Bechtel Hanford Inc.

Category: NO3-NO2
Method: EPA 353.1
Matrix: SOLID

Sample Date : 10/05/99
Receipt Date : 10/06/99
Report Date : 12/03/99

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
B0WKV0	22327-001	Nitrate/Nitrite	NO2+NO3-N	QCBLK210217-1	10/29/99	10/29/99	3.81	MG/KG		0.52	1
B0WKV0	22327-001DUP	Nitrate/Nitrite	NO2+NO3-N	QCBLK210217-1	10/29/99	10/29/99	4.00	MG/KG		0.52	1
B0WKV0	22327-001MS	Nitrate/Nitrite	NO2+NO3-N	QCBLK210217-1	10/29/99	10/29/99	79	%REC			1
B0WKT9	22340-001	Nitrate/Nitrite	NO2+NO3-N	QCBLK210217-1	10/29/99	10/29/99	0.79	MG/KG	U	0.79	1
NA	QCBLK210217-1	Nitrate/Nitrite	NO2+NO3-N	QCBLK210217-1	10/29/99	10/29/99	0.50	MG/KG	U	0.50	1
NA	QCLCS210217-1	Nitrate/Nitrite	NO2+NO3-N	QCBLK210217-1	10/29/99	10/29/99	112	%REC			1

Data is incomplete without Case Narrative

Bechtel Hanford Inc.
3350 George Washington Way
MSIN H9-03
Richland, WA 99352-1613

Project: Bechtel Hanford Inc.

Category: pH
Method: EPA 9045
Matrix: SOLID

Sample Date : 10/05/99
Receipt Date : 10/06/99
Report Date : 12/03/99

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
B0WKV0	22327-001	pH	PH	QCBLK209596-1	10/21/99	10/21/99	8.65	PH			1
B0WKV0	22327-001DUP	pH	PH	QCBLK209596-1	10/21/99	10/21/99	8.70	PH			1
B0WKT9	22340-001	pH	PH	QCBLK209596-1	10/21/99	10/21/99	7.45	PH			1

Sample 22327-001 analysis time : 16:53
Sample 22327-001DUP analysis time : 16:57
Sample 22340-001 analysis time : 17:12
Sample QCBLK209596-1 analysis time : 16:47

Data is incomplete without Case Narrative

Bechtel Hanford Inc.
3350 George Washington Way
MSIN H9-03
Richland, WA 99352-1613

Project: Bechtel Hanford Inc.

Category: SULFIDE
Method: EPA 9030
Matrix: SOLID

Sample Date : 10/05/99
Receipt Date : 10/06/99
Report Date : 12/03/99

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
B0WKV0	22327-001	Sulfide	18496-25-8	QCBLK211533-1	11/12/99	11/12/99	11.3	UG/G	U	11.3	1
B0WKV0	22327-001DUP	Sulfide	18496-25-8	QCBLK211533-1	11/12/99	11/12/99	11.1	UG/G	U	11.1	1
B0WKV0	22327-001MS	Sulfide	18496-25-8	QCBLK211533-1	11/12/99	11/12/99	76	%REC			1
B0WKT9	22340-001	Sulfide	18496-25-8	QCBLK211533-1	11/12/99	11/12/99	17.6	UG/G	U	17.6	1
NA	QCBLK211533-1	Sulfide	18496-25-8	QCBLK211533-1	11/12/99	11/12/99	10.8	UG/G	U	10.8	1
	QCLCS211533-1	Sulfide	18496-25-8	QCBLK211533-1	11/12/99	11/12/99	95	%REC			1

Data is incomplete without Case Narrative

Quanterra
2800 George Washington Way
Richland, Washington 99352-1613

509 375-3131 Telephone
509 375-5590 Fax

CERTIFICATE OF ANALYSIS

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

January 4, 2000

Attention: Joan Kessner

SAF Number	:	B99-078
Date SDG Closed	:	October 20, 1999
Number of Samples	:	Two (2)
Sample Type	:	Soil
SDG Number	:	W02921
Data Deliverable	:	Summary

I. Introduction

Between October 6, 1999 and October 7, 1999, two soil samples were received at the Quanterra Richland Laboratory (QRL) for radiochemical analysis. Upon receipt, the samples were assigned the following laboratory ID numbers to correspond with the Bechtel Hanford, Inc. (BHI) specific IDs:

QESRL ID#	BHI ID#	MATRIX	DATE OF RECEIPT
9D3C6W10	B0WKV0	SOIL	10/6/99
9D3DJV10	B0WKT9	SOIL	10/7/99

II. Analytical Results/Methodology

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information, analytical results and the appropriate associated statistical errors.

The requested analyses were:

Alpha Spectroscopy
Plutonium-238, -239/40 by method RICH-RC-5010
Americium-241 by method RICH-RC-5080
Thorium-232 by method RICH-RC-5011
Neptunium-237 by method RICH-RC-5009
Uranium-234, -235, -238 by method RICH-RC-5079
Gamma Spectroscopy

Gamma Scan by method RICH-RC-5017
Gas Proportional Counting
Total Strontium by method RICH-RC-5006
Total Uranium
Total Uranium by method RICH-RC-5058

III. Quality Control

The analytical results for each analysis performed under SDG W02921 include a minimum of one Laboratory Control Sample (LCS), one method (reagent) blank, and one duplicate sample analysis. Any exceptions have been noted in the "Comments" section.

QC and sample results are reported in the same units.

IV. Comments

Alpha Spectroscopy
Plutonium-238, -239/40 by method RICH-RC-5010:
The LCS, batch blank, samples and sample duplicate (B0WKV0) results are within contractual requirements.

Americium-241 by method RICH-RC-5080:
The LCS, batch blank, samples and sample duplicate (B0WKV0) results are within contractual requirements.

Thorium-232 by method RICH-RC-5011:
The LCS, batch blank, samples and sample duplicate (B0WKT9) results are within contractual requirements.

Neptunium-237 by method RICH-RC-5009:
The LCS, batch blank, samples and sample duplicate (B0WKT9) results are within contractual requirements.

Uranium-234, -235, -238 by method RICH-RC-5079:
The LCS, batch blank, samples and sample duplicate (B0WKT9) results are within contractual requirements.

Gamma Spectroscopy

Gamma Scan by method RICH-RC-5017:

For sample B0WKT9, the achieved MDAs for Cs137, Eu152, Eu154, Eu155, Ra226 and Ra228 do not meet the CRDL due to sample matrix. A reanalysis or recount was not performed due to the elevated level of Cs137 activity detected. The data are accepted for reporting with the MDAs achieved. Except as noted, the LCS, batch blank, samples and sample duplicate (B0WKV0) results are within contractual requirements.

Gas Proportional Counting

Total Strontium by method RICH-RC-5006:

The original data (paperwork) for this analytical batch was mis-filed. The calculation file was reprinted with the result upload log. A copy of the preparation lab logbook is included in the hardcopy file, however, the internal COC cannot be regenerated. Except as noted, the LCS, batch blank, samples and sample duplicate (B0WKV0) results are within contractual requirements.

Total Uranium

Total Uranium by method RICH-RC-5058:

The LCS, batch blank, samples, sample duplicate (B0WKV0) and sample matrix spike (B0WKT9) results are within contractual requirements.

I certify that this Certificate of Analysis 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:

Jackie Waddell

Jackie Waddell
Project Manager

Quanterra

SAMPLE RESULTS

LAB NAME:	**QUANTERRA, Richland**	**SDG: /RPT GRP:**	W02921 / 9404
LAB SAMPLE ID:	9D3C6W10	**MATRIX:**	SOIL
CLIENT ID:	B0WKV0	**DATE RECEIVED:**	10/6/99 3:15:00 PM

ANALYTE	RESULT	Q	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA/IDL	REPORT UNIT	YIELD	METHOD NUMBER
TOTAL-URANIUM	1.15E+00		0.0E+00	1.9E-01	7.29E-05	ug/g		RICHRC5015
AM-241	3.47E-01	J	8.3E-02	1.0E-01	2.92E-02	pCi/g	84.71%	RICHRC5080
PU-238	4.92E-02	J	3.5E-02	3.6E-02	1.67E-02	pCi/g	66.62%	RICHRC5010
PU239/40	1.06E+00		1.6E-01	2.5E-01	2.47E-02	pCi/g	66.62%	RICHRC5010
TH-228	9.26E-01	J	2.7E-01	3.6E-01	1.68E-01	pCi/g	27.88%	RICHRC5011
TH-230	4.75E-01	J	1.9E-01	2.2E-01	8.40E-02	pCi/g	27.88%	RICHRC5011
TH-232	7.15E-01	J	2.3E-01	2.9E-01	7.40E-02	pCi/g	27.88%	RICHRC5011
U-234	7.65E-01	J	1.3E-01	1.9E-01	2.99E-02	pCi/g	78.01%	RICHRC5079
U-235	4.15E-02	J	3.0E-02	3.1E-02	2.42E-02	pCi/g	78.01%	RICHRC5079
U-238	5.91E-01	J	1.1E-01	1.5E-01	2.64E-02	pCi/g	78.01%	RICHRC5079
AM-241	2.71E-01		5.7E-02	5.7E-02	3.61E-02	pCi/g		RICHRC5017
CO-60	-5.08E-05	U	1.1E-02	1.1E-02	1.85E-02	pCi/g		RICHRC5017
CS-137	3.44E+00		3.5E-01	3.5E-01	1.97E-02	pCi/g		RICHRC5017
EU-152	6.00E-04	U	4.1E-02	4.1E-02	6.36E-02	pCi/g		RICHRC5017
EU-154	-8.97E-03	U	3.4E-02	3.4E-02	5.87E-02	pCi/g		RICHRC5017
EU-155	1.84E-02	U	3.2E-02	3.2E-02	5.38E-02	pCi/g		RICHRC5017
STRONTIUM	6.17E-02	U	6.0E-02	6.2E-02	1.21E-01	pCi/g	75.00%	RICHRC5006

Number of Results: 17

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SAMPLE RESULTS

LAB NAME:	**QUANTERRA, Richland**	**SDG: /RPT GRP:**	W02921 / 9404
LAB SAMPLE ID:	9D3DJV10	**MATRIX:**	SOIL
CLIENT ID:	B0WKT9	**DATE RECEIVED:**	10/7/99 2:25:00 PM

ANALYTE	RESULT	Q	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA/IDL	REPORT UNIT	YIELD	METHOD NUMBER
TOTAL-URANIUM	9.29E+00		0.0E+00	2.2E+00	7.29E-05	ug/g		RICHRC5015
AM-241	1.01E+01		4.3E-01	1.8E+00	1.86E-02	pCi/g	88.00%	RICHRC5080
PU-238	9.54E-01	J	1.4E-01	2.2E-01	1.35E-02	pCi/g	83.34%	RICHRC5010
PU239/40	4.60E+01		9.6E-01	8.0E+00	1.35E-02	pCi/g	83.34%	RICHRC5010
NP-237	6.71E-02	J	3.4E-02	3.7E-02	1.14E-02	pCi/g	100.00%	RICHRC5009
TH-228	9.31E-01	J	2.1E-01	3.1E-01	1.06E-01	pCi/g	52.27%	RICHRC5011
TH-230	8.07E-01	J	1.8E-01	2.7E-01	2.80E-02	pCi/g	52.27%	RICHRC5011
TH-232	8.59E-01	J	1.9E-01	2.8E-01	2.80E-02	pCi/g	52.27%	RICHRC5011
U-234	5.17E+00		3.4E-01	9.8E-01	4.17E-02	pCi/g	73.63%	RICHRC5079
U-235	5.78E-01	J	1.2E-01	1.5E-01	2.86E-02	pCi/g	73.63%	RICHRC5079
U-238	4.18E+00		3.1E-01	8.1E-01	2.62E-02	pCi/g	73.63%	RICHRC5079
AM-241	1.27E+01		1.4E+00	1.4E+00	6.11E-01	pCi/g		RICHRC5017
CO-60	3.17E-02	U	1.7E-02	1.7E-02	3.28E-02	pCi/g		RICHRC5017
CS-137	1.07E+03		1.1E+02	1.1E+02	2.05E-01	pCi/g		RICHRC5017
EU-152	2.34E-02	U	5.3E-01	5.3E-01	8.67E-01	pCi/g		RICHRC5017
EU-154	2.63E-01	U	9.9E-02	9.9E-02	1.35E-01	pCi/g		RICHRC5017
EU-155	4.83E-01	U	3.4E-01	3.4E-01	5.43E-01	pCi/g		RICHRC5017
STRONTIUM	2.98E+00		1.1E+00	1.3E+00	1.65E+00	pCi/g	82.60%	RICHRC5006

Number of Results: 18

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DUPLICATE RESULTS

LAB NAME:	**QUANTERRA, Richland**	**SDG: /RPT GRP:**	W02921 / 9404
LAB SAMPLE ID:	D3C6W19R	**MATRIX:**	SOIL
CLIENT ID:	B0WKV0 DUP	**DATE RECEIVED:**	10/6/99 3:15:00 PM
ORIG LAB SAMPLE ID:	9D3C6W10		

ANALYTE	DUP RESULT	Q	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA/ IDL	REPORT UNIT	YIELD	METHOD NUMBER	ORIG RESULT	RPD
STRONTIUM	8.99E-02	U	6.4E-02	6.9E-02	1.23E-01	pCi/g	74.90%	RICHRC5006	6.17E-02	37.17%

Number of Results: 1

Result = IDL When Not Detecte

(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result < RDL.

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DUPLICATE RESULTS

LAB NAME:	QUANTERRA, Richland	**SDG: /RPT GRP:**	W02921 / 9404
LAB SAMPLE ID:	D3C6W1AR	**MATRIX:**	SOIL
CLIENT ID:	B0WKV0 DUP	**DATE RECEIVED:**	10/6/99 3:15:00 PM
ORIG LAB SAMPLE ID:	9D3C6W10		

ANALYTE	DUP RESULT	Q	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA/ IDL	REPORT UNIT	YIELD	METHOD NUMBER	ORIG RESULT	RPD
AM-241	2.29E-01		4.6E-02	4.6E-02	4.27E-02	pCi/g		RICHRC5017	2.71E-01	16.76%
CO-60	1.15E-02	U	1.2E-02	1.2E-02	2.28E-02	pCi/g		RICHRC5017	-5.08E-05	201.78%
CS-137	3.71E+00		3.8E-01	3.8E-01	2.41E-02	pCi/g		RICHRC5017	3.44E+00	7.53%
EU-152	-4.98E-02	U	4.4E-02	4.4E-02	7.17E-02	pCi/g		RICHRC5017	6.00E-04	204.88%
EU-154	2.47E-02	U	4.0E-02	4.0E-02	7.21E-02	pCi/g		RICHRC5017	-8.97E-03	427.42%
EU-155	2.70E-02	U	3.6E-02	3.6E-02	6.16E-02	pCi/g		RICHRC5017	1.84E-02	37.96%

Number of Results: 6

Result = IDL When Not Detecte

(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result < RDL.

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DUPLICATE RESULTS

LAB NAME:	**QUANTERRA, Richland**	**SDG: /RPT GRP:**	W02921 / 9404
LAB SAMPLE ID:	D3C6W1CR	**MATRIX:**	SOIL
CLIENT ID:	B0WKV0 DUP	**DATE RECEIVED:**	10/6/99 3:15:00 PM
ORIG LAB SAMPLE ID:	9D3C6W10		

ANALYTE	DUP RESULT	Q	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA/ IDL	REPORT UNIT	YIELD	METHOD NUMBER	ORIG RESULT	RPD
AM-241	4.09E-01	J	8.8E-02	1.1E-01	1.92E-02	pCi/g	86.47%	RICHRC5080	3.47E-01	16.53%

Number of Results: 1

Result = IDL When Not Detecte

(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result < RDL.

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DUPLICATE RESULTS

LAB NAME:	**QUANTERRA, Richland**	**SDG: /RPT GRP:**	W02921 / 9404
LAB SAMPLE ID:	D3C6W1DR	**MATRIX:**	SOIL
CLIENT ID:	B0WKV0 DUP	**DATE RECEIVED:**	10/6/99 3:15:00 PM
ORIG LAB SAMPLE ID:	9D3C6W10		

ANALYTE	DUP RESULT	Q	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA/ IDL	REPORT UNIT	YIELD	METHOD NUMBER	ORIG RESULT	RPD
PU-238	4.59E-02	J	3.5E-02	3.6E-02	1.78E-02	pCi/g	52.31%	RICHRC5010	4.92E-02	7.08%
PU239/40	1.14E+00		1.7E-01	2.7E-01	1.77E-02	pCi/g	52.31%	RICHRC5010	1.06E+00	7.47%

Number of Results: 2

Result = IDL When Not Detecte

(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result < RDL.

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DUPLICATE RESULTS

LAB NAME:	**QUANTERRA, Richland**	**SDG: /RPT GRP:**	W02921 / 9404
LAB SAMPLE ID:	D3C6W1ER	**MATRIX:**	SOIL
CLIENT ID:	B0WKV0 DUP	**DATE RECEIVED:**	10/6/99 3:15:00 PM
ORIG LAB SAMPLE ID:	9D3C6W10		

ANALYTE	DUP RESULT	Q	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA/ IDL	REPORT UNIT	YIELD	METHOD NUMBER	ORIG RESULT	RPD
TOTAL-URANIUM	1.63E+00		0.0E+00	2.6E-01	7.29E-05	ug/g		RICHRC5015	1.15E+00	34.13%

Number of Results: 1

Result = IDL When Not Detecte

(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result < RDL.

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DUPLICATE RESULTS

LAB NAME:	**QUANTERRA, Richland**	**SDG: /RPT GRP:**	W02921 / 9404
LAB SAMPLE ID:	D3DJV1CR	**MATRIX:**	SOIL
CLIENT ID:	B0WKT9 DUP	**DATE RECEIVED:**	10/7/99 2:25:00 PM
ORIG LAB SAMPLE ID:	9D3DJV10		

ANALYTE	DUP RESULT	Q	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA/ IDL	REPORT UNIT	YIELD	METHOD NUMBER	ORIG RESULT	RPD
U-234	3.97E+00		2.8E-01	7.4E-01	3.13E-02	pCi/g	82.41%	RICHRC5079	5.17E+00	26.12%
U-235	1.73E-01	J	5.8E-02	6.6E-02	2.75E-02	pCi/g	82.41%	RICHRC5079	5.78E-01	107.63%
U-238	2.83E+00		2.4E-01	5.4E-01	4.52E-02	pCi/g	82.41%	RICHRC5079	4.18E+00	38.59%

Number of Results: 3

Result = IDL When Not Detecte

(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result < RDL.

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DUPLICATE RESULTS

LAB NAME:	**QUANTERRA, Richland**	**SDG: /RPT GRP:**	W02921 / 9404
LAB SAMPLE ID:	D3DJV1DR	**MATRIX:**	SOIL
CLIENT ID:	B0WKT9 DUP	**DATE RECEIVED:**	10/7/99 2:25:00 PM
ORIG LAB SAMPLE ID:	9D3DJV10		

ANALYTE	DUP RESULT	Q	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA/ IDL	REPORT UNIT	YIELD	METHOD NUMBER	ORIG RESULT	RPD
TH-228	6.42E-01	J	2.0E-01	2.6E-01	1.33E-01	pCi/g	36.36%	RICHRC5011	9.31E-01	36.74%
TH-230	7.13E-01	J	2.0E-01	2.7E-01	5.75E-02	pCi/g	36.36%	RICHRC5011	8.07E-01	12.32%
TH-232	6.28E-01	J	1.9E-01	2.4E-01	5.75E-02	pCi/g	36.36%	RICHRC5011	8.59E-01	31.10%

Number of Results: 3

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DUPLICATE RESULTS

LAB NAME:	**QUANTERRA, Richland**	**SDG: /RPT GRP:**	W02921 / 9404
LAB SAMPLE ID:	D3DJV1ER	**MATRIX:**	SOIL
CLIENT ID:	B0WKT9 DUP	**DATE RECEIVED:**	10/7/99 2:25:00 PM
ORIG LAB SAMPLE ID:	9D3DJV10		

ANALYTE	DUP RESULT	Q	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA/ IDL	REPORT UNIT	YIELD	METHOD NUMBER	ORIG RESULT	RPD
NP-237	1.45E-01	J	4.9E-02	5.9E-02	1.63E-02	pCi/g	100.00%	RICHRC5009	6.71E-02	73.76%

Number of Results: 1

Result = IDL When Not Detecte

(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result < RDL.

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BLANK RESULTS

LAB NAME:	**QUANTERRA, Richland**	**SDG /RPT GRP:**	W02921 / 9404
LAB SAMPLE ID:	D40R311B	**MATRIX:**	SOIL

ANALYTE	RESULT	Q	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA/IDL	REPORT UNIT	YIELD	METHOD NUMBER
STRONTIUM	2.11E-02	U	4.4E-02	4.5E-02	9.89E-02	pCi/g	95.20%	RICHRC5006

Number of Results: 1

Result = IDL When Not Detected

(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result < RDL

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BLANK RESULTS

LAB NAME:	QUANTERRA, Richland	**SDG /RPT GRP:**	W02921 / 9404
LAB SAMPLE ID:	D40R411B	**MATRIX:**	SOIL

ANALYTE	RESULT	Q	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA/IDL	REPORT UNIT	YIELD	METHOD NUMBER
AM-241	7.32E-03	U	1.2E-02	1.2E-02	1.75E-02	pCi/g		RICHRC5017
CO-60	3.93E-04	U	6.2E-03	6.2E-03	1.10E-02	pCi/g		RICHRC5017
CS-137	-6.41E-03	U	6.3E-03	6.3E-03	1.01E-02	pCi/g		RICHRC5017
EU-152	-9.34E-04	U	1.8E-02	1.8E-02	3.07E-02	pCi/g		RICHRC5017
EU-154	-4.15E-03	U	1.8E-02	1.8E-02	3.09E-02	pCi/g		RICHRC5017
EU-155	3.06E-03	U	1.5E-02	1.5E-02	2.50E-02	pCi/g		RICHRC5017

Number of Results: 6

Result = IDL When Not Detected

(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result < RDL

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BLANK RESULTS

LAB NAME:	*QUANTERRA, Richland*	***SDG /RPT GRP:***	W02921 / 9404
LAB SAMPLE ID:	D40R513B	**MATRIX:**	SOIL

ANALYTE	RESULT	Q	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA/IDL	REPORT UNIT	YIELD	METHOD NUMBER
AM-241	5.07E-03	U	1.1E-02	1.1E-02	2.22E-02	pCi/g	74.54%	RICHRC5080

Number of Results: 1

Result = IDL When Not Detected

(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result < RDL

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BLANK RESULTS

LAB NAME:	QUANTERRA, Richland	SDG /RPT GRP:	W02921 / 9404
LAB SAMPLE ID:	D40R613B	MATRIX:	SOIL

ANALYTE	RESULT	Q	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA/IDL	REPORT UNIT	YIELD	METHOD NUMBER
PU-238	-3.89E-03	U	2.9E-03	3.0E-03	4.30E-02	pCi/g	60.82%	RICHRC5010
PU239/40	6.93E-03	U	1.4E-02	1.4E-02	1.88E-02	pCi/g	60.82%	RICHRC5010

Number of Results: 2

Result = IDL When Not Detected

(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result < RDL

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BLANK RESULTS

LAB NAME:	**QUANTERRA, Richland**	**SDG /RPT GRP:**	W02921 / 9404
LAB SAMPLE ID:	D40R711B	**MATRIX:**	SOIL

ANALYTE	RESULT	Q	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA/IDL	REPORT UNIT	YIELD	METHOD NUMBER
TOTAL-URANIUM	0.00E+00	U	0.0E+00	0.0E+00	7.29E-05	ug/g		RICHRC5015

Number of Results: 1

Result = IDL When Not Detected

(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result < RDL

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BLANK RESULTS

LAB NAME: QUANTERRA, Richland **SDG /RPT GRP:** W02921 / 9404

LAB SAMPLE ID: D40R811B **MATRIX:** SOIL

ANALYTE	RESULT	Q	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA/IDL	REPORT UNIT	YIELD	METHOD NUMBER
U-234	8.82E-03	U	1.5E-02	1.5E-02	2.95E-02	pCi/g	110.67%	RICHRC5079
U-235	2.50E-03	U	8.5E-03	8.5E-03	2.35E-02	pCi/g	110.67%	RICHRC5079
U-238	4.96E-04	U	8.6E-03	8.6E-03	2.95E-02	pCi/g	110.67%	RICHRC5079

Number of Results: 3

Result = IDL When Not Detected

(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result < RDL

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Quanterra

BLANK RESULTS

LAB NAME:	QUANTERRA, Richland	**SDG /RPT GRP:**	W02921 / 9404
LAB SAMPLE ID:	D40R911B	**MATRIX:**	SOIL

ANALYTE	RESULT	Q	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA/IDL	REPORT UNIT	YIELD	METHOD NUMBER
TH-228	2.56E-03	U	1.2E-02	1.2E-02	3.60E-02	pCi/g	92.72%	RICHRC5011
TH-230	1.02E-02	U	1.6E-02	1.6E-02	2.54E-02	pCi/g	92.72%	RICHRC5011
TH-232	-4.44E-04	U	8.9E-04	9.0E-04	2.24E-02	pCi/g	92.72%	RICHRC5011

Number of Results: 3

Result = IDL When Not Detected

(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result < RDL

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Quanterra

BLANK RESULTS

LAB NAME:	QUANTERRA, Richland	SDG /RPT GRP:	W02921 / 9404
LAB SAMPLE ID:	D40RA11B	MATRIX:	SOIL

ANALYTE	RESULT	Q	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA/IDL	REPORT UNIT	YIELD	METHOD NUMBER
NP-237	6.99E-03	U	1.1E-02	1.1E-02	1.98E-02	pCi/g	100.00%	RICHRC5009

Number of Results: 1

Result = IDL When Not Detected

(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result < RDL

Quanterra Analytical Services, Inc

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Quanterra

LABORATORY CONTROL SAMPLE

LAB NAME:	QUANTERRA, Richland	**SDG: /RPT GRP:**	W02921 / 9404
LAB SAMPLE ID:	D40R312S	**MATRIX:**	SOIL

ANALYTE	RESULT	Q	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA/ IDL	REPORT UNIT	YIELD	EXPECTED	RECOVERY
STRONTIUM	1.15E+00		1.4E-01	3.3E-01	1.01E-01	pCi/g	95.60%	1.13E+00	101.51%

Number of Results: 1

Result = IDL When Not Detecte

(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result < RDL.

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LABORATORY CONTROL SAMPLE

LAB NAME:	**QUANTERRA, Richland**	**SDG: /RPT GRP:**	W02921 / 9404
LAB SAMPLE ID:	D40R412S	**MATRIX:**	SOIL

ANALYTE	RESULT	Q	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA/ IDL	REPORT UNIT	YIELD	EXPECTED	RECOVERY
CS-137	3.30E-01		5.1E-02	5.1E-02	3.95E-02	pCi/g		3.09E-01	106.78%

Number of Results: 1

Result = IDL When Not Detecte

(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result < RDL.

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Quanterra

LABORATORY CONTROL SAMPLE

LAB NAME:	**QUANTERRA, Richland**	**SDG: /RPT GRP:**	W02921 / 9404
LAB SAMPLE ID:	D40R514S	**MATRIX:**	SOIL

ANALYTE	RESULT	Q	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA/ IDL	REPORT UNIT	YIELD	EXPECTED	RECOVERY
AM-241	2.30E+00		2.1E-01	4.5E-01	2.20E-02	pCi/g	87.11%	2.26E+00	101.82%

Number of Results: 1

Result = IDL When Not Detecte

(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result < RDL.

Quanterra Analytical Services, Inc

rptChemRadLcs; v3.41

Quanterra

LABORATORY CONTROL SAMPLE

LAB NAME:	**QUANTERRA, Richland**	**SDG: /RPT GRP:**	W02921 / 9404
LAB SAMPLE ID:	D40R614S	**MATRIX:**	SOIL

ANALYTE	RESULT	Q	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA/ IDL	REPORT UNIT	YIELD	EXPECTED	RECOVERY
PU239/40	3.41E+00		3.4E-01	7.3E-01	3.35E-02	pCi/g	49.78%	3.40E+00	100.50%

Number of Results: 1

Quanterra

LABORATORY CONTROL SAMPLE

LAB NAME:	QUANTERRA, Richland	**SDG: /RPT GRP:**	W02921 / 9404
LAB SAMPLE ID:	D40R712S	**MATRIX:**	SOIL

ANALYTE	RESULT	Q	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA/ IDL	REPORT UNIT	YIELD	EXPECTED	RECOVERY
TOTAL-URANIUM	2.04E-01	J	0.0E+00	3.3E-02	7.29E-05	ug/g		2.02E-01	100.89%

Number of Results: 1

Result = IDL When Not Detecte

(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result < RDL.

Quanterra Analytical Services, Inc

rptChemRadLcs; v3.41

Quanterra

LABORATORY CONTROL SAMPLE

LAB NAME:	**QUANTERRA, Richland**	**SDG: /RPT GRP:**	W02921 / 9404
LAB SAMPLE ID:	D40R812S	**MATRIX:**	SOIL

ANALYTE	RESULT	Q	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA/ IDL	REPORT UNIT	YIELD	EXPECTED	RECOVERY
U-234	7.32E-01	J	1.2E-01	1.7E-01	2.33E-02	pCi/g	87.48%	8.70E-01	84.19%
U-235	4.60E-02	J	3.0E-02	3.1E-02	2.13E-02	pCi/g	87.48%	3.97E-02	115.83%
U-238	7.16E-01	J	1.2E-01	1.7E-01	3.00E-02	pCi/g	87.48%	9.11E-01	78.64%

Number of Results: 3

Quanterra

LABORATORY CONTROL SAMPLE

LAB NAME:	**QUANTERRA, Richland**	**SDG: /RPT GRP:**	W02921 / 9404
LAB SAMPLE ID:	D40R912S	**MATRIX:**	SOIL

ANALYTE	RESULT	Q	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA/ IDL	REPORT UNIT	YIELD	EXPECTED	RECOVERY
TH-230	9.28E-01	J	1.5E-01	2.7E-01	2.49E-02	pCi/g	91.62%	1.14E+00	81.22%

Number of Results: 1

Result = IDL When Not Detecte

(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result < RDL.

Quanterra Analytical Services, Inc

rptChemRadLcs; v3.41

Quanterra

LABORATORY CONTROL SAMPLE

LAB NAME:	**QUANTERRA, Richland**	**SDG: /RPT GRP:**	W02921 / 9404
LAB SAMPLE ID:	D40RA12S	**MATRIX:**	SOIL

ANALYTE	RESULT	Q	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA/ IDL	REPORT UNIT	YIELD	EXPECTED	RECOVERY
NP-237	7.09E-01	J	1.1E-01	2.0E-01	2.08E-02	pCi/g	100.00%	9.08E-01	78.10%

Number of Results: 1

Result = IDL When Not Detecte

(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result < RDL.

Quanterra Analytical Services, Inc

rptChemRadLcs; v3.41

Quanterra

MATRIX SPIKE RESULTS

LAB NAME:	QUANTERRA, Richland	**SDG: /RPT GRP:**	W02921 / 9404
LAB SAMPLE ID:	D3DJV1AW	**MATRIX:**	SOIL

ANALYTE	SPIKE RESULT*	Q	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA/IDL	REPORT UNIT	SAMPLE RESULT	EXPECTED	RECOVERY
TOTAL-URANIUM	1.01E+01		0.0E+00	1.6E+00	7.29E-05	ug/g	9.29E+00	8.78E-01	1155.41%

Number of Results: 1

*Spike Result Corrected For Sample Result

Result = IDL When Not Detecte

(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result < RDL.

Quanterra Analytical Services, Inc

rptChemRadMatrixSpike; v3.41

Quanterra

MATRIX SPIKE RESULTS

LAB NAME:	**QUANTERRA, Richland**	**SDG: /RPT GRP:**	W02921	/	9404
LAB SAMPLE ID:	D3DJV1FW	**MATRIX:**	SOIL		

ANALYTE	SPIKE RESULT*	Q	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA/IDL	REPORT UNIT	SAMPLE RESULT	EXPECTED	RECOVERY
NP-237	5.85E-01	J	8.9E-02	1.9E-01	1.54E-02	pCi/g	6.71E-02	8.87E-01	65.93%

Number of Results: 1

*Spike Result Corrected For Sample Result

Result = IDL When Not Detecte

(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result < RDL.

Quanterra Analytical Services, Inc

rptChemRadMatrixSpike; v3.41

Quanterra

Data Review Checklist
RADIOCHEMISTRY

Lot Number:	J9J060252 J9J070236
Client ID:	Bechtel 127642
Due Date:	11-19-99
QC Batch Number: 929 4481	SDG Number: WQ 2921
Method Test Parameter:	Am 241
Matrix:	Soil

Review Item	Yes (√)	No (√)	N/A (√)	2nd Level Review (√)
A. Calibration 1. Is the calibration documentation included where applicable?			✓	
B. Sample Analysis 1. Are the sample yields within acceptance criteria?	✓			
2. Were all sample holding times met?	✓			
3. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓			
C. QC Samples 1. Is the blank yield within acceptance criteria?	✓			
2. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓			
3. Does the blank result meet the Contract criteria?	✓			
4. Is the blank result < the Contract Detection Limit?	✓			
5. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓	
6. Is the LCS result within acceptance criteria?	✓			
7. Is the LCS yield within acceptance criteria?	✓			
8. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓			
9. Do the MS/MSD results and yields meet acceptance criteria?			✓	
10. Do the duplicate sample results and yields meet acceptance criteria?	✓			
D. Other 1. Are all Nonconformances included and noted?			✓	
2. Are all required forms filled out?	✓			
3. Was the correct methodology used?	✓			
4. Was transcription checked?	✓			
5. Were all calculations checked at a minimum frequency?	✓			
6. Were units checked?	✓			

Comments on any "No" response: _____

First Level Review: Jackie Waddell Date: 12/22/99

Second Level Review: [signature] Date: 12/23/99

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0033

Quanterra

Data Review Checklist
RADIOCHEMISTRY

Lot Number:	J9J070236
Client ID:	PGW
Due Date:	11/22/99
QC Batch Number:	9299487 SDG Number: 2421
Method Test Parameter:	SW- NP
Matrix:	Soil

Review Item	Yes (√)	No (√)	N/A (√)	2nd Level Review (√)
A. Calibration 1. Is the calibration documentation included where applicable?			✓	✓
B. Sample Analysis 1. Are the sample yields within acceptance criteria?			✓	
2. Were all sample holding times met?	✓			
3. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓			
C. QC Samples 1. Is the blank yield within acceptance criteria?			✓	
2. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓			
3. Does the blank result meet the Contract criteria?	✓			
4. Is the blank result < the Contract Detection Limit?	✓			
5. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓	
6. Is the LCS result within acceptance criteria?	✓			
7. Is the LCS yield within acceptance criteria?			✓	
8. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓			
9. Do the MS/MSD results and yields meet acceptance criteria?	✓			
10. Do the duplicate sample results and yields meet acceptance criteria?	✓			
D. Other 1. Are all Nonconformances included and noted?			✓	
2. Are all required forms filled out?	✓			
3. Was the correct methodology used?	✓			
4. Was transcription checked?	✓			
5. Were all calculations checked at a minimum frequency?	✓			
6. Were units checked?	✓			

Comments on any "No" response: _____

First Level Review: Pam Kenitzer Date: 11-22-99

Second Level Review: Jackie Waddell Date: 12/22/99

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Quanterra

Data Review Checklist
RADIOCHEMISTRY

Lot Number: J9J060252 J9J070236				
Client ID: Bechtel 127642				
Due Date: 11-19-99				
QC Batch Number: 9294482 SDG Number: W02921				
Method Test Parameter: Plutonium				
Matrix: Soil				
Review Item	Yes (√)	No (√)	N/A (√)	2nd Level Review (√)
A. Calibration 1. Is the calibration documentation included where applicable?			✓	✓
B. Sample Analysis 1. Are the sample yields within acceptance criteria?	✓			✓
2. Were all sample holding times met?	✓			✓
3. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓			✓
C. QC Samples 1. Is the blank yield within acceptance criteria?	✓			✓
2. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓			✓
3. Does the blank result meet the Contract criteria?	✓			✓
4. Is the blank result < the Contract Detection Limit?	✓			✓
5. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓	✓
6. Is the LCS result within acceptance criteria?	✓			✓
7. Is the LCS yield within acceptance criteria?	✓			✓
8. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓			✓
9. Do the MS/MSD results and yields meet acceptance criteria?			✓	✓
10. Do the duplicate sample results and yields meet acceptance criteria?	✓			✓
D. Other 1. Are all Nonconformances included and noted?			✓	✓
2. Are all required forms filled out?	✓			✓
3. Was the correct methodology used?	✓			✓
4. Was transcription checked?	✓			✓
5. Were all calculations checked at a minimum frequency?	✓			✓
6. Were units checked?	✓			✓

Comments on any "No" response: _____

First Level Review: Jackie Waddell Date: 12/22/99

Second Level Review: [illegible] Date: 12/23/99

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Quanterra

Data Review Checklist
RADIOCHEMISTRY

Lot Number: J9J060252 J9J070236				
Client ID: 127642				
Due Date: 11-22-99				
QC Batch Number: 9294485			SDG Number: W02921	
Method Test Parameter: Thorium				
Matrix: Soil				
Review Item	Yes (√)	No (√)	N/A (√)	2nd Level Review (√)
A. Calibration 1. Is the calibration documentation included where applicable?			✓	✓
B. Sample Analysis 1. Are the sample yields within acceptance criteria?	✓			✓
2. Were all sample holding times met?	✓			✓
3. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓			✓
C. QC Samples 1. Is the blank yield within acceptance criteria?	✓			✓
2. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓			✓
3. Does the blank result meet the Contract criteria?	✓			✓
4. Is the blank result < the Contract Detection Limit?	✓			✓
5. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓	✓
6. Is the LCS result within acceptance criteria?	✓			✓
7. Is the LCS yield within acceptance criteria?	✓			✓
8. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓			✓
9. Do the MS/MSD results and yields meet acceptance criteria?			✓	✓
10. Do the duplicate sample results and yields meet acceptance criteria?	✓			✓
D. Other 1. Are all Nonconformances included and noted?			✓	✓
2. Are all required forms filled out?	✓			✓
3. Was the correct methodology used?	✓			✓
4. Was transcription checked?	✓			✓
5. Were all calculations checked at a minimum frequency?	✓			✓
6. Were units checked?	✓			✓

Comments on any "No" response: _____

First Level Review: Pam Kenitzer Date: 12-1-99

Second Level Review: Jackie Waddell Date: 12/22/99

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Quanterra

Data Review Checklist
RADIOCHEMISTRY

Lot Number: J9J060252 J9J070236				
Client ID: 127642 BH7				
Due Date: 11-22-99				
QC Batch Number: 9294484			SDG Number: W02921	
Method Test Parameter: UISO				
Matrix: Soil				
Review Item	Yes (√)	No (√)	N/A (√)	2nd Level Review (√)
A. Calibration 1. Is the calibration documentation included where applicable?			✓	✓
B. Sample Analysis 1. Are the sample yields within acceptance criteria?	✓			✓
2. Were all sample holding times met?	✓			✓
3. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓			✓
C. QC Samples 1. Is the blank yield within acceptance criteria?	✓			✓
2. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓			✓
3. Does the blank result meet the Contract criteria?	✓			✓
4. Is the blank result < the Contract Detection Limit?	✓			✓
5. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓	✓
6. Is the LCS result within acceptance criteria?	✓			✓
7. Is the LCS yield within acceptance criteria?	✓			✓
8. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓			✓
9. Do the MS/MSD results and yields meet acceptance criteria?			✓	✓
10. Do the duplicate sample results and yields meet acceptance criteria?	✓			✓
D. Other 1. Are all Nonconformances included and noted?			✓	✓
2. Are all required forms filled out?	✓			✓
3. Was the correct methodology used?	✓			✓
4. Was transcription checked?	✓			✓
5. Were all calculations checked at a minimum frequency?	✓			✓
6. Were units checked?	✓			✓

Comments on any "No" response: _____

First Level Review: Pam Kentzer Date: 12-1-99

Second Level Review: Jackie Waddell Date: 12/22/99

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Data Review Checklist
RADIOCHEMISTRY

Lot Number: J9J060252				
Client ID: BHI				
Due Date: 11/12/99				
QC Batch Number: 9294480		SDG Number: W02921		
Method Test Parameter: γ				
Matrix: soil, solid				
Review Item	Yes (√)	No (√)	N/A (√)	2nd Level Review (√)
A. Calibration 1. Is the calibration documentation included where applicable?			✓	
B. Sample Analysis 1. Are the sample yields within acceptance criteria?			✓	
2. Were all sample holding times met?	✓			
3. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓	NCM ✓		
C. QC Samples 1. Is the blank yield within acceptance criteria?			✓	
2. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓			
3. Does the blank result meet the Contract criteria?	✓			
4. Is the blank result ≤ the Contract Detection Limit?	✓			
5. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓	
6. Is the LCS result within acceptance criteria?	✓			
7. Is the LCS yield within acceptance criteria?			✓	
8. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓			
9. Do the MS/MSD results and yields meet acceptance criteria?			✓	
10. Do the duplicate sample results and yields meet acceptance criteria?	✓			
D. Other 1. Are all Nonconformances included and noted?	✓			
2. Are all required forms filled out?	✓			
3. Was the correct methodology used?	✓			
4. Was transcription checked?	✓			
5. Were all calculations checked at a minimum frequency?	✓			
6. Were units checked?	✓			

Comments on any "No" response: MDA not met on Eu 152, 154, 155 – Cs too high for recount NCM J00715 & CS137, Razzee, Razz8

First Level Review: Pam Konitzer Date: 11-5-99

Second Level Review: Jackie Waddell Date: 11/10/99

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Quanterra

Clouseau

Nonconformance Memo

NCM #:	J00715	Classification:	**Anomaly**
NCM Initiated By:	Pam Kenitzer	Status:	**CLOSED**
Date Opened:	11/05/99	Production Area:	Environmental - Prep
Date Closed:	12/27/99	Tests:	Gamma by GER-7D
		Lot #'s (Sample #'s):	J9J070236 (1)
		QC Batch:	9294480
Nonconformance:	MDA not met		
Subcategory:	Data accepted		

Problem Description / Root Cause

Name	Date	Description
Pam Kenitzer	11/05/99	MDA not met on Eu isotopes. The Cs137 is too high to count longer or a larger size. Data accepted.

Corrective Action

Name	Date	Corrective Action
Jackie Waddell	12/27/99	Note in case narrative. Cs137 result >MDA and CRDL. Data accepted.
Jackie Waddell	12/27/99	Note in case narrative. Cs137 result >MDA and CRDL. Data accepted.

Quality Assurance Verification

Verified By	Due Date	Status	Notes:
Jodie Carnes	N/A	Verified/completed	

Client Notification Summary

Client	Project Manager	Date Notified	Response Date	How Notified
BECHTEL HANFORD, INC.	Doug Swenson	12/27/99	12/27/99	by narrative

Response	Response Details
No response saved	

Approval History

Name	Date Approved:	Position
Pam Kenitzer	11/05/99	Group Leader
Dale OConnell	11/11/99	Group Leader
Jackie Waddell	12/27/99	Project Manager
Jodie Carnes	12/27/99	Quality Assurance

Quanterra

Data Review Checklist
RADIOCHEMISTRY

Lot Number: J9J060252, J9J070236				
Client ID: PGW				
Due Date:				
QC Batch Number: 9394479		SDG Number: W02921		
Method Test Parameter: SC				
Matrix: soil				
Review Item	Yes (√)	No (√)	N/A (√)	2nd Level Review (√)
A. Calibration 1. Is the calibration documentation included where applicable?			✓	
B. Sample Analysis 1. Are the sample yields within acceptance criteria?	✓			
2. Were all sample holding times met?	✓			
3. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓			
C. QC Samples 1. Is the blank yield within acceptance criteria?	✓			
2. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓			
3. Does the blank result meet the Contract criteria?	✓			
4. Is the blank result < the Contract Detection Limit?	✓			
5. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓	
6. Is the LCS result within acceptance criteria?	✓			
7. Is the LCS yield within acceptance criteria?	✓			
8. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓			
9. Do the MS/MSD results and yields meet acceptance criteria?			✓	
10. Do the duplicate sample results and yields meet acceptance criteria?	✓			
D. Other 1. Are all Nonconformances included and noted? #969	✓			
2. Are all required forms filled out?	✓			
3. Was the correct methodology used?	✓			
4. Was transcription checked?	✓			
5. Were all calculations checked at a minimum frequency?	✓			
6. Were units checked?	✓			

Comments on any "No" response: original data misplaced

First Level Review: Pam Kenitzer Date: 12-28-99

Second Level Review: Jackie Waddell Date: 1/4/00

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Quanterra

Clouseau

Nonconformance Memo

NCM #:	J00969	Classification:	**Deficiency**
NCM Initiated By:	Jackie Waddell	Status:	**CLOSED**
Date Opened:	01/04/00	Production Area:	Project Management
Date Closed:	01/04/00	Tests:	SrTot by GPC
		Lot #'s (Sample #'s):	J9J060252 (1); J9J070236 (1); J9J210000 (479)
		QC Batch:	9294479
Nonconformance:	Other (describe in detail)		
Subcategory:	Other (explanation required)		

Problem Description / Root Cause

Name	Date	Description
Jackie Waddell	01/04/00	Original paperwork mis-filed.

Corrective Action

Name	Date	Corrective Action
Jackie Waddell	01/04/00	Calculation file reprinted with upload log. Copy of the prep lab logbook included.

Quality Assurance Verification

Verified By	Due Date	Status	Notes:
Jodie Carnes	N/A	Verified/completed	

Client Notification Summary

Client	Project Manager	Date Notified	Response Date	How Notified
BECHTEL HANFORD, INC.	Doug Swenson	01/04/00	01/04/00	not notified

Response	Response Details
No response saved	

Approval History

Name	Date Approved:	Position
Jackie Waddell	01/04/00	Project Manager
Jodie Carnes	01/04/00	Quality Assurance

Quanterra

Data Review Checklist
RADIOCHEMISTRY

Lot Number:	J9J062252, J9J070236
Client ID:	BHI
Due Date:	
QC Batch Number:	9294483 SDG Number: W02921
Method Test Parameter:	uranium
Matrix:	soil

Review Item	Yes (√)	No (√)	N/A (√)	2nd Level Review (√)
A. Calibration 1. Is the calibration documentation included where applicable?			✓	✓
B. Sample Analysis 1. Are the sample yields within acceptance criteria?			✓	✓
2. Were all sample holding times met?	✓			✓
3. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓			✓
C. QC Samples 1. Is the blank yield within acceptance criteria?			✓	✓
2. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓			✓
3. Does the blank result meet the Contract criteria?	✓			✓
4. Is the blank result < the Contract Detection Limit?	✓			✓
5. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓	✓
6. Is the LCS result within acceptance criteria?	✓			✓
7. Is the LCS yield within acceptance criteria?			✓	✓
8. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓			✓
9. Do the MS/MSD results and yields meet acceptance criteria?	✓			✓
10. Do the duplicate sample results and yields meet acceptance criteria?	✓			✓
D. Other 1. Are all Nonconformances included and noted?			✓	✓
2. Are all required forms filled out?	✓			✓
3. Was the correct methodology used?	✓			✓
4. Was transcription checked?	✓			✓
5. Were all calculations checked at a minimum frequency?	✓			✓
6. Were units checked?	✓			✓

Comments on any "No" response: _____

First Level Review: Pam Kenitzer Date: 11-22-99

Second Level Review: Jackie Waddell Date: 12/22/99

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CHAIN OF CUSTODY

Bechtel Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B99-078-132	Page 1 of 1

Collector Bowers/Trice	**Company Contact** Chris Cearlock	**Telephone No.** 372-9574	**Project Coordinator** TRENT, SJ
Project Designation 200 Area Source characterization - 200-CW-1 OU	**Sampling Location** 200 Bpond		**SAF No.** B99-078
Ice Chest No.	**Field Logbook No.** EL-1511		**Method of Shipment** Gov vehicle
Shipped To Quanterra Incorporated Richland	**Offsite Property No.**		**Bill of Lading/Air Bill No.**
Q-27038			**COA** B20 CW/ 671C

Price Code 8N **Data Turnaround** 45 Days

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

Preservation	Cool 4C	Cool 4C	None	None	Cool 4C	Cool 4C	None			
Type of Container	aG	aG	aG	aG	aG	aG	aG			
No. of Container(s)	1	1	1	1	1	1	1			
Volume	60mL	60mL	60mL	60mL	500mL	~~600mL~~ 500 B 20 10-4-99	1000mL			
SAMPLE ANALYSIS	See item (1) in Special Instructions.	VOA - 8260A (TCL); VOA - 8260A (Add-On) {1-Propanol, Ethanol}	Isotopic Uranium	pH (Soil) - 9045	See item (2) in Special Instructions.	Semi-VOA - 8270A (TCL), TPH-Diesel Range - WTPH-D, PCBs - 8082	See item (3) in Special Instructions.			

SDG W02921 J9J060252

Sample No.	Matrix *	Sample Date	Sample Time										
B0WKV0 D3C6W	Soil	10-5-99	0745			X				X		B0W861	

CHAIN OF POSSESSION — **Sign/Print Names**

Relinquished By	Date/Time	Received By	Date/Time
C Price	10/5/99 1330	Ref IB	10/5/99 1330
Ref IB	10/6/99 1430	C Price	10/6/99 1430
C Price	10/6/99 1515	[illegible]	10/6/99 1515
		2100CRM	

SPECIAL INSTRUCTIONS

See chain of custody comments on SAF B99-078.

(1) ICP Metals - 6010A (Supertrace) {Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver}; ICP Metals - 6010A (Supertrace Add-On) {Beryllium, Copper, Nickel, Vanadium, Zinc}; Mercury - 7471 - (CV); Chromium Hex - 7196

(2) NO2/NO3 - 353.1; IC Anions - 300.0 {Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Phosphate, Sulfate}; Sulfides - 9030; Ammonia - 350.1; Total Cyanide - 9010

(3) Gamma Spectroscopy {Americium-241, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Strontium-89,90 -- Total Sr; Total Uranium {Uranium}; Isotopic Plutonium, Isotopic Thorium {Thorium-232}; Americium-241

Matrix *
Soil
Water
Vapor
Other Solid
Other Liquid

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

0044

ERC Radiological Counting Facility Analysis Report

RCF Number RCF6592

Sample Date & Time 10/5/99 0913

Project ID: 200-CW-1 **SAF Number:** B99-078 **Date Analyzed** 10/5/99 13:29

Sample ID: B0W8C1

Gamma Energy Analysis

Nuclide	Activity (pCi/g)	Error (pCi/g)	MDA (pCi/g)
Not Requested			

B0WKV0

Total GEA (pCi/g)	N/A	+/-	N/A

	Activity (pCi/g)		Error (pCi/g)
Gross Alpha**	6.1E+00	+/-	1.3E+00
Gross Beta	8.5E+01	+/-	4.0E+00

Alpha MDA (pCi/g)
2.5E+00
Beta MDA (pCi/g)
4.7E+01

Definitions:

All errors reported at 2 standard deviations.
N/R = no result or analysis not requested.
<MDA = Less than detection limit.

Sample Vol/Wt. 1089.5 gm

For soils and natural samples, the following applies:

**The gross alpha results are not corrected for mass absorbtion

α 6.1 * 1089.5 = 6645.95 pCi/Sa

β 85 * 1089.5 = 92607.5 pCi/Sa

Cat I

10/7/99

Analysist T. J. Snider 10/5/99

Report To Dave St. John **Fax** 372-9487

Report Printed: Tuesday, October 05, 1999

Figure 1

SAMPLE CHECK-IN LIST

Date/Time Received: 10/6/99 1515 SG#: W02921

Work Order Number: J9J060252 SAF #: B99-078

Shipping Container ID: N/A Chain of Custody # B99-078-132

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 _____
5. Vermiculite/packing materials is Wet [ ] Dry [ ]
6. Number of samples in shipping container: 2
7. Sample holding times exceeded? Yes [ ] No [ ]

8. Samples have:
   - ✓ tape
   - ✓ custody seals
   - ✓ hazard labels
   - ✓ appropriate sample labels

9. Samples are:
   - ✓ in good condition
   - broken
   - leaking
   - have air bubbles

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

Sample Custodian/Laboratory: [signature] Date: 10/6/99

Telephoned To: _____ On _____ By _____

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B99-078-131	Page 1 of 1

Collector Bowers/Trice	Company Contact Chris Cearlock Telephone No. 372-9574	Project Coordinator TRENT, SJ	Price Code 8N Data Turnaround 45 Days
Project Designation 200 Area Source characterization - 200-CW-1 OU	Sampling Location 200 Bpond	SAF No. B99-078	
Ice Chest No. ERC97-079	Field Logbook No. EL-1511	Method of Shipment Hand deliver - Govt Vehi	
Shipped To Quanterra Incorporated Richland	Offsite Property No. N/A	Bill of Lading/Air Bill No. N/A	
		COA B20CW1 671C	

POSSIBLE SAMPLE HAZARDS/REMARKS

Q-27038

Special Handling and/or Storage

SDG

W02921 J9J070236

Preservation				Cool 4C	Cool 4C	None	None	None	Cool 4C	Cool 4C	None		
Type of Container				aG	aG	aG	aG	aG	aG	aG	aG		
No. of Container(s)				1	1	1	1	1	1	1	1		
Volume				60mL	60mL	60mL	60mL	60mL	500mL	~~600mL~~ 500 D26 10-1-99	1000mL		
SAMPLE ANALYSIS				See item (1) in Special Instructions.	VOA - 8260A (TCL); VOA - 8260A (Add-On) {1-Propanol, Ethanol}	Isotopic Uranium	Neptunium-237	pH (Soil) - 9045	See item (2) in Special Instructions.	Semi-VOA - 8270A (TCL); TPH-Diesel Range - WTPH-D; PCBs - 8082	See item (3) in Special Instructions.		
Sample No.	Matrix *	Sample Date	Sample Time										
B0WKT9 D3DJV	Soil	10-6-99	0840			X	X				X	B0W	8C2

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: Chris 10/6/99	Date/Time: 1320	Received By: Ref 2C 10/6/99	Date/Time: 1320
Relinquished By: Ref #2C 10/7/99	Date/Time: 0840	Received By: Renee Nielson / R. Nielson 10/7/99	Date/Time: 0840
Relinquished By: Renee Nielson / R. Nielson 10/7/99	Date/Time: 1425	Received By: Less than 100 cts Kristin Lubrsdall	Date/Time: 14:25 10/7/99
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS

See chain of custody comments on SAF B99-078.

(1) ICP Metals - 6010A (Supertrace) {Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver}; ICP Metals - 6010A (Supertrace Add-On) {Beryllium, Copper, Nickel, Vanadium, Zinc}; Mercury - 7471 - (CV); Chromium Hex - 7196

(2) NO2/NO3 - 353.1; IC Anions - 300.0 {Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Phosphate, Sulfate}; Sulfides - 9030; Ammonia - 350.1; Total Cyanide - 9010

(3) Gamma Spectroscopy {Americium-241, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Strontium-89,90 – Total Sr; Total Uranium {Uranium}; Isotopic Plutonium; Isotopic Thorium {Thorium-232}; Americium-241

Matrix *
Soil
Water
Vapor
Other Solid
Other Liquid

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

0047

Figure 1

SAMPLE CHECK-IN LIST

Date/Time Received: 10/7/99 14:25 SG#: W02921

Work Order Number: J9J070236 SAF #: B99-078

Shipping Container ID: ERC97-079 Chain of Custody # B99-078-131

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 N/A
5. Vermiculite/packing materials is N/A Wet [ ] Dry [ ]
6. Number of samples in shipping container: 3
7. Sample holding times exceeded? Yes [ ] No [ ]

8. Samples have:
   - ✓ tape
   - ✓ custody seals
   - ✓ hazard labels
   - ✓ appropriate sample labels

9. Samples are:
   - ✓ in good condition
   - broken
   - leaking
   - have air bubbles

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

Sample Custodian/Laboratory: [signature] Date: 10/7/99 14:25

Telephoned To: _____ On _____ By _____

Quanterra

COC Signature Page

W02921

Lot or Batch #: 9294481

	Initials/Date	Procedure #
Released By	KM 10-25-99	Richrc0009
Received	CW 10-25-99	RC 5013
Released By	CW 10-27-99	1 n/a
Received	SK 10/27/99	RC5019-1
Released By	SK 11/15/99	n/a
Received	RD 12/14/99	RC5080
Released By	RD 12/17/99	n/a
Received	SD 12/17/99	Rich 5003 Rev 2
Released By	SD 12/17/99	n/a
Received	CO 12/17/99	RICHRD0008R1
Released By	CB 12/20/99	n/a
Received	JM 12-20-99	Radcalc V2.4
Released By	JM 12-20-99	n/a
Received	JN 12/20/99	RICHRC0008b
Released	JN 12/20/99	

RC-131, Rev.1, 6/99

RQC053

Parent Batch:
Associated Batches:
:
:
:
:

Quanterra Incorporated
Information Sheet Rad Prep

****
* *
* QC BATCH: 9294481 *
* *
****

W02921

SX: Americium-241 by Alpha Sp
6I: PuAm PrpRC5013/RC5019, Se
5I: CLIENT: HANFORD

Run Date: 10/21/99
Time: 21:01:42

Page: 1

Analytical Due Date: 0/00/00

Project Manager: DES

	Lot# Work Order	Client	Analyt Due Matrix	Aliquot	Client Name Geometry	Count Time	Mid/Ave Date/Time		Tracer ID Spike ID	CRDL	Units	Screen Info - (Ci) Alpha	Beta	PM Bin
	J9J060252-001 X D3C6W-1-0C Comments:	SOIL SOIL	0/00/00		Bechtel Hanford, .0000	.000	10/05/99	7:45		1	pCi/g	**NYS 69-9/99	**NYS	DES
++	J9J060252-001 D3C6W-1-04 Comments:	SOIL SOIL	0/00/00		Bechtel Hanford, .0000	.000	10/05/99	7:45		1	pCi/g	**NYS 69-9/99	**NYS	DES
++	J9J070236-001 D3DJV-1-03 Comments:	SOIL SOIL	0/00/00		Bechtel Hanford, .0000	.000	10/06/99	8:40		1	pCi/g	**OTHER 69-9/99	**OTHER	DES
	J9J210000-481 B D40R5-1-01 Comments:	SOLID	0/00/00		Bechtel Hanford,		10/05/99	7:45		1	pCi/g	**NA	**NA	DES
	J9J210000-481 C D40R5-1-02 Comments:	SOLID	0/00/00		Bechtel Hanford,		10/05/99	7:45		1	pCi/g	**NA	**NA	DES
	J9J210000-481 B D40R5-1-03 Comments:	SOLID	0/00/00		Bechtel Hanford,		10/05/99	7:45		1	pCi/g	**NA	**NA	DES
	J9J210000-481 C D40R5-1-04 Comments:	SOLID	0/00/00		Bechtel Hanford,		10/05/99	7:45		1	pCi/g	**NA	**NA	DES

0050

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************************
*                      *
*  QC BATCH: 9294481   *
*                      *
************************
```

Total Number of Samples In Batch: 00007

Batch Information: Dry Wt: | Decay Correct: Y | Blank Sub: None | Call In:

Uncert: Both | Sigma: 1.960 | ODR: Target List + Other Detected

BLANK CRDL		Tracer Yield		Type	QC Control Limits
Americium 241	1	Americium 243	(020-105)	RPD	

** NYS = Not Yet Screened
** NA = Not Applicable
** Other = Other than Gross Alpha or Gross Beta
++ Indicates that Batch Information has changed for this sample. Print worksheet for details.

Quanterra

COC Signature Page

W02921

Lot or Batch #: 9294487

	Initials/Date	Procedure #
Released By	[illegible] 10-25-99	Richrc0009
Received	WN 10-25-99	RC 5013
Released By	WN 10-27-99	n/a
Received	SK 10/27/99	RC5019-1
Released By	SK 11/15/99	n/a
Received	DM 11-17-99	RICHRC, 5009 RO
Released By	DM 11-19-99	n/a
Received	Cs 11/19/99	RICHRC0008 R1
Released By	Cs 11/20/99	n/a
Received	PK 11-20-99	RICH RC0002
Released By	PK 11-22-99	n/a
Received		
Released By		n/a
Received		

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RQC053

Parent Batch:
Associated Batches:
:
:
:
:

Quanterra Incorporated
Information Sheet Rad Prep

****
* *
* QC BATCH: 9294487 *
* *
****

Run Date: 11/09/99
Time: 15:03:11

Page: 1

SW: Neptunium-237 by Alpha Sp
9L: Np PrpRC5013/RC5019, SepR
5I: CLIENT: HANFORD

Analytical Due Date: 0/00/00

Project Manager: DES

Lot# Work Order	Client	Analyt Due Matrix	Client Name Aliquot	Geometry	Count Time	Mid/Ave Date/Time		Tracer ID Spike ID	CRDL	Units	Screen Info - (Ci) Alpha	Beta	PM Bin
J9J070236-001 X D3DJV-1-0E Comments:	SOIL SOIL	0/00/00	Bechtel Hanford, .0000		.000	10/06/99	8:40		1	pCi/g	**OTHER 69-9/99	**OTHER	DES
J9J070236-001 S D3DJV-1-0F Comments:	SOIL SOIL	0/00/00	Bechtel Hanford, .0000		.000	10/06/99	8:40			pCi/g	**OTHER 69-9/99	**OTHER	DES
J9J070236-001 D3DJV-1-05 Comments:	SOIL SOIL	0/00/00	Bechtel Hanford, .0000		.000	10/06/99	8:40		1	pCi/g	**OTHER 69-9/99	**OTHER	DES
J9J210000-487 B D40RA-1-01 Comments:	SOLID	0/00/00	Bechtel Hanford,			10/06/99	8:40		1	pCi/g	**NA	**NA	DES
J9J210000-487 C D40RA-1-02 Comments:	SOLID	0/00/00	Bechtel Hanford,			10/06/99	8:40		1	pCi/g	**NA	**NA	DES

Total Number of Samples In Batch: 00005

Batch Information: Dry Wt: Decay Correct: Y Blank Sub: None Call In:

Uncert: Both Sigma: 1.960 ODR: Target List + Other Detected

BLANK CRDL		Tracer Yield	Type	QC Control Limits
Neptunium 237	1		RPD	

** NYS = Not Yet Screened
** NA = Not Applicable
** Other = Other than Gross Alpha or Gross Beta
++ Indicates that Batch Information has changed for this sample. Print worksheet for details.

Quanterra

COC Signature Page

W02921

Lot or Batch #: 9294482

	Initials/Date	Procedure #
Released By	KAA 10-25-99	Richrc009
Received	LW 10 25 99	RC 5013
Released By	LW 10-27-99	n/a
Received	SK 10/27/99	RC5019-1
Released By	SK 11/15/99 ~~SK 10~~	n/a
Received	AB 12/14/99	RC5080 / RC5010
Released By	AB 12/16/99	n/a
Received	SD 12/16/99	Rich 5039 Rev 2
Released By	SD 12/17/99	n/a
Received	CS 12/17/99	RICHRD0008K1
Released By	CS 12/20/99	n/a
Received	JM 12-20-99	RADcalc V2.4
Released By	JM 12-20-99	n/a
Received		

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RQC053

Parent Batch:
Associated Batches:
:
:
:
:

Quanterra Incorporated
Information Sheet Rad Prep

****
* *
* QC BATCH: 9294482 *
* *
****

W02921

SO: Plutonium-238,239/40 by A
6I: PuAm PrpRC5013/RC5019, Se
5I: CLIENT: HANFORD

Run Date: 10/21/99
Time: 21:02:39

Page: 1

Analytical Due Date: 0/00/00

Project Manager: DES

	Lot# Work Order	Client	Matrix	Analyt Due Aliquot	Client Name Geometry	Count Time	Mid/Ave Date/Time		Tracer ID Spike ID	CRDL	Units	Screen Info - (Ci) Alpha	Beta	PM Bin
	J9J060252-001 X D3C6W-1-0D Comments:	SOIL SOIL		0/00/00	Bechtel Hanford, .0000	.000	10/05/99	7:45			pCi/g	**NYS 69-9/99	**NYS	DES
++	J9J060252-001 D3C6W-1-03 Comments:	SOIL SOIL		0/00/00	Bechtel Hanford, .0000	.000	10/05/99	7:45		1	pCi/g	**NYS 69-9/99	**NYS	DES
++	J9J070236-001 D3DJV-1-02 Comments:	SOIL SOIL		0/00/00	Bechtel Hanford, .0000	.000	10/06/99	8:40		1	pCi/g	**OTHER 69-9/99	**OTHER	DES
	J9J210000-482 B D40R6-1-01 Comments:	SOLID		0/00/00	Bechtel Hanford,		10/05/99	7:45		1	pCi/g	**NA	**NA	DES
	J9J210000-482 C D40R6-1-02 Comments:	SOLID		0/00/00	Bechtel Hanford,		10/05/99	7:45		1	pCi/g	**NA	**NA	DES
	J9J210000-482 B D40R6-1-03 Comments:	SOLID		0/00/00	Bechtel Hanford,		10/05/99	7:45		1	pCi/g	**NA	**NA	DES
	J9J210000-482 C D40R6-1-04 Comments:	SOLID		0/00/00	Bechtel Hanford,		10/05/99	7:45		1	pCi/g	**NA	**NA	DES

```
************************
*                      *
*  QC BATCH: 9294482   *
*                      *
************************
```

Total Number of Samples In Batch: 00007

Batch Information:

Dry Wt:

Uncert: Both

Decay Correct: Y

Sigma: 1.960

Blank Sub: None

Call In:

ODR: Target List + Other Detected

BLANK CRDL		Tracer Yield		Type	QC Control Limits
Plutonium 238	1	Plutonium 242	(020-105)	RPD	
Plutonium 239/4	1			RPD	

** NYS = Not Yet Screened
** NA = Not Applicable
** Other = Other than Gross Alpha or Gross Beta
++ Indicates that Batch Information has changed for this sample. Print worksheet for details.

Quanterra

COC Signature Page

WO 29921

Lot or Batch #: 9294485

	Initials/Date	Procedure #
Released By	KA 10-25-99	Richrc009
Received	WN 10-25-99	RC 5013
Released By	WN 10-27-99	n/a
Received	SK 10/27/99	RC5019-1
Released By	~~SK 101~~ SK 11/12/99	n/a
Received	[illegible] 11-12-99	RC 5011
Released By	[illegible] 11-19-99	n/a
Received	AB 11-19-99	RC5003
Released By	AB 11-29-99	n/a
Received	CS 11/29/99	RICHRD008KI
Released By	CS 11/30/99	n/a
Received	PK 12-1-99	RICHRC0002
Released By	PK 12-2-99	n/a
Received		

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RQC053

Parent Batch:
Associated Batches:
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:
:
:

Quanterra Incorporated
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Run Date: 10/21/99
Time: 21:04:59

Page: 1

****
* QC BATCH: 9294485 *
****

W02921

S1: Thorium-228,230,232 by Al
9R: ThIso PrpRC5013/RC5019, S
5I: CLIENT: HANFORD

Analytical Due Date: 0/00/00

Project Manager: DES

Lot# / Work Order	Client	Analyt Due / Matrix	Client Name / Aliquot	Geometry	Count Time	Mid/Ave Date/Time	Tracer ID / Spike ID	CRDL	Units	Screen Info - (Ci) Alpha	Beta	PM Bin
J9J060252-001 D3C6W-1-06 Comments:	SOIL SOIL	0/00/00	Bechtel .0000	Hanford,	.000	10/05/99 7:45		1	pCi/g	**NYS 69-9/99	**NYS	DES
J9J070236-001 X D3DJV-1-0D Comments:	SOIL SOIL	0/00/00	Bechtel .0000	Hanford,	.000	10/06/99 8:40			pCi/g	**OTHER 69-9/99	**OTHER	DES
J9J070236-001 D3DJV-1-06 Comments:	SOIL SOIL	0/00/00	Bechtel .0000	Hanford,	.000	10/06/99 8:40			pCi/g	**OTHER 69-9/99	**OTHER	DES
J9J210000-485 B D40R9-1-01 Comments:	SOLID	0/00/00	Bechtel	Hanford,		10/06/99 8:40		1	pCi/g	**NA	**NA	DES
J9J210000-485 C D40R9-1-02 Comments:	SOLID	0/00/00	Bechtel	Hanford,		10/06/99 8:40		1	pCi/g	**NA	**NA	DES

Total Number of Samples In Batch: 00005

Batch Information: Dry Wt: ? Decay Correct: Y Blank Sub: None Call In:

Uncert: Both Sigma: 1.960 ODR: Target List + Other Detected

BLANK CRDL		Tracer Yield		Type	QC Control Limits
Thorium 228	1	Thorium 234	(020-105)	RPD	
Thorium 230	1			RPD	
Thorium 232	1			RPD	

** NYS = Not Yet Screened
** NA = Not Applicable
** Other = Other than Gross Alpha or Gross Beta
++ Indicates that Batch Information has changed for this sample. Print worksheet for details.

0058

Quanterra

COC Signature Page

W02921

Lot or Batch #: 9294484

	Initials/Date	Procedure #
Released By	RH 10-25-99	Richrc009
Received	W 10-25-99	RC 5013
Released By	W 10-27-99	n/a
Received	SK 10/27/99	RC5019-1
Released By	SK 11/15/99	n/a
Received	[illegible] 11-15-99	RC 5079
Released By	[illegible] 11-17-99	n/a
Received	AB 11/17/99	RC5039
Released By	AB 11/30/99	n/a
Received	OD 11/30/99	RICHRD0008Rev1
Released By	OD ~~11/30/99~~ 12/1/99 12/1/99	n/a
Received	JM 12-1-99	RADCALC V2.4
Released By	JM 12-1-99	n/a
Received	PK 12-1-99 PK 12-2-99	RICHRC000-

RC-131, Rev.1, 6/99

RQC053

Parent Batch:
Associated Batches:
:
:
:
:

Quanterra Incorporated
Information Sheet Rad Prep

****
* *
* QC BATCH: 9294484 *
* *
****

W0S921

SR: Uranium-234,235,238 by Al
7S: UIso PrpRC5013/RC5019, Se
5I: CLIENT: HANFORD

Run Date: 10/21/99
Time: 21:04:21

Page: 1

Analytical Due Date: 0/00/00

Project Manager: DES

Lot# Work Order	Client	Analyt Due Matrix	Client Name Aliquot	Geometry	Count Time	Mid/Ave Date/Time		Tracer ID Spike ID	CRDL	Units	Screen Info - (Ci) Alpha	Beta	PM Bin
J9J060252-001 D3C6W-1-01 Comments:	SOIL SOIL	0/00/00	Bechtel Hanford, .0000		.000	10/05/99	7:45		1	pCi/g	**NYS 69-9/99	**NYS	DES
J9J070236-001 X D3DJV-1-0C Comments:	SOIL SOIL	0/00/00	Bechtel Hanford, .0000		.000	10/06/99	8:40			pCi/g	**OTHER 69-9/99	**OTHER	DES
J9J070236-001 D3DJV-1-01 Comments:	SOIL SOIL	0/00/00	Bechtel Hanford, .0000		.000	10/06/99	8:40			pCi/g	**OTHER 69-9/99	**OTHER	DES
J9J210000-484 B D40R8-1-01 Comments:	SOLID	0/00/00	Bechtel Hanford,			10/06/99	8:40		1	pCi/g	**NA	**NA	DES
J9J210000-484 C D40R8-1-02 Comments:	SOLID	0/00/00	Bechtel Hanford,			10/06/99	8:40			pCi/g	**NA	**NA	DES

Total Number of Samples In Batch: 00005

Batch Information: Dry Wt: Y Decay Correct: Y Blank Sub: None Call In:

Uncert: Both Sigma: 1.960 ODR: Target List + Other Detected

BLANK CRDL		Tracer Yield		Type	QC Control Limits
Uranium 234	1	Uranium-232	(020-105)	RPD	
Uranium 235	1			RPD	
Uranium 238	1			RPD	

** NYS = Not Yet Screened
** NA = Not Applicable
** Other = Other than Gross Alpha or Gross Beta
++ Indicates that Batch Information has changed for this sample. Print worksheet for details.

0060

Quanterra

COC Signature Page

W02921

Lot or Batch #: 9294480

	Initials/Date	Procedure #
Released By	RM 10-25-99	RichRC0009
Received	lw 10-25-99	RichRC 5013/5017
Released By	lw 10-27-99	n/a
Received	RD 10/27/99	RICHRD007 Rev 2
Released By	11/4/99	n/a
Received	PK 11-5-99	RICHRC0002
Released By		n/a
Received		
Released By		n/a
Received		
Released By		n/a
Received		
Released By		n/a
Received		

RC-131, Rev.1, 6/99

RQC053

Parent Batch:
Associated Batches:
:
:
:
:

Quanterra Incorporated
Information Sheet Rad Prep

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* *
* QC BATCH: 9294480 *
* *
****

W02921

T8: Gamma by HPGE 7 day ingro
AW: Gamma PrpRC5017
5I: CLIENT: HANFORD

Run Date: 10/21/99
Time: 21:00:33

Page: 1

Analytical Due Date: 0/00/00

Project Manager: DES

Lot# Work Order	Client	Analyt Matrix	Due	Client Aliquot	Name Geometry	Count Time	Mid/Ave Date/Time		Tracer ID Spike ID	CRDL	Units	Screen Info - (Ci) Alpha	Beta	PM Bin
J9J060252-001 X D3C6W-1-0A Comments:	SOIL SOIL	0/00/00		Bechtel .0000	Hanford,	.000	10/05/99	7:45		0.05	pCi/g	**NYS 69-9/99	**NYS	DES
J9J060252-001 D3C6W-1-08 Comments:	SOIL SOIL	0/00/00		Bechtel .0000	Hanford,	.000	10/05/99	7:45		0.05	pCi/g	**NYS 69-9/99	**NYS	DES
J9J070236-001 D3DJV-1-08 Comments:	SOIL SOIL	0/00/00		Bechtel .0000	Hanford,	.000	10/06/99	8:40		0.05	pCi/g	**OTHER 69-9/99	**OTHER	DES
J9J210000-480 B D40R4-1-01 Comments:	SOLID	0/00/00		Bechtel	Hanford,		10/05/99	7:45		0.1	pCi/g	**NA	**NA	DES
J9J210000-480 C D40R4-1-02 Comments:	SOLID	0/00/00		Bechtel	Hanford,		10/05/99	7:45		0.1	pCi/g	**NA	**NA	DES

0062

Quanterra

COC Signature Page

W02921

Lot or Batch #: 9294483

	Initials/Date	Procedure #
Released By	KA 10-25-99	RichRC009
Received	[illegible] 10-25-99	RC 5013
Released By	[illegible] 10-~~25~~ 27-99	n/a
Received	SK 10/27/99	RC5013-2 + SK 10/27/99
Released By	SK 11/10/99	n/a
Received	(R) 11/18/99	RICHRC5058
Released By	(R) 11/18/99	n/a
Received	PK 11-20-99	RichRC0002
Released By	PK 11-22-99	n/a
Received		
Released By		n/a
Received		
Released By		n/a
Received		

RC-131, Rev.1, 6/99

RQC053

Parent Batch:
Associated Batches:
:
:
:
:

Quanterra Incorporated
Information Sheet Rad Prep

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* *
* QC BATCH: 9294483 *
* *
****

W02921

SS: Total Uranium by KPA
DS: Unat Laser PrpRC5013, Sep
5J: RCH: BATTELLE ENVIRONMENT

Run Date: 10/21/99
Time: 21:03:39

Page: 1

Analytical Due Date: 0/00/00

Project Manager: DES

Lot# Work Order	Client	Matrix	Analyt Due Aliquot	Client Name Geometry	Count Time	Mid/Ave Date/Time	Tracer ID Spike ID	CRDL	Units	Screen Info - (Ci) Alpha	Beta	PM Bin
J9J060252-001 X D3C6W-1-0E Comments:	SOIL SOIL		0/00/00	Bechtel Hanford, .0000	.000	10/05/99 7:45		1.00E-02	pCi/g	**NYS 69-9/99	**NYS	DES
J9J060252-001 D3C6W-1-07 Comments:	SOIL SOIL		0/00/00	Bechtel Hanford, .0000	.000	10/05/99 7:45		1.00E-02	pCi/g	**NYS 69-9/99	**NYS	DES
J9J070236-001 S D3DJV-1-0A Comments:	SOIL SOIL		0/00/00	Bechtel Hanford, .0000	.000	10/06/99 8:40			pCi/g	**OTHER 69-9/99	**OTHER	DES
J9J070236-001 D3DJV-1-07 Comments:	SOIL SOIL		0/00/00	Bechtel Hanford, .0000	.000	10/06/99 8:40		1.00E-02	pCi/g	**OTHER 69-9/99	**OTHER	DES
J9J210000-483 B D40R7-1-01 Comments:	SOLID		0/00/00	Bechtel Hanford,		10/05/99 7:45		1.00E-02	pCi/g	**NA	**NA	DES
J9J210000-483 C D40R7-1-02 Comments:	SOLID		0/00/00	Bechtel Hanford,		10/05/99 7:45		0.01	pCi/g	**NA	**NA	DES

Total Number of Samples In Batch: 00006

Batch Information: Dry Wt: Decay Correct: Y Blank Sub: None Call In:

Uncert: Both Sigma: 1.960 ODR: Target List + Other Detected

BLANK CRDL		Tracer Yield	Type	QC Control Limits
Uranium	1.00E-02		RPD	

** NYS = Not Yet Screened
** NA = Not Applicable
** Other = Other than Gross Alpha or Gross Beta
++ Indicates that Batch Information has changed for this sample. Print worksheet for details.

0064