START 9613453.1478

0044661 W0914 142 2

Quanterra
Environmental Services

CERTIFICATE OF ANALYSIS

Bechtel Hanford Incorporated
3350 George Washington Way
Richland, Washington 99352

April 8, 1996

Attention: Joan Kessner

JUN 1996 RECEIVED EDMC

Project number	:	550.124
Date Received by Lab	:	February 27, 28, 29, & March 1, 1996
Number of Samples	:	Sixteen (16)
Sample Type	:	Water
SDG Number	:	W0914
Data Deliverable	:	Summary

I. Introduction

Between February 27 and March 1, 1996, sixteen (15) water samples were received by Quanterra, Richland and transferred to Quanterra, St. Louis for chemical analysis. Upon receipt, the samples were given the following laboratory ID numbers to correspond with the specific client IDs:

St Louis ID	WHC ID	Richland ID	Matrix	Date of Receipt
10461-001	B0H731	60234901	Water	02/27/96
10461-002	B0H725	60234902	Water	02/27/96
10461-003	B0H721	60234903	Water	02/27/96
10461-004	B0H742	60234904	Water	02/27/96
10462-001	B0H723	60236201	Water	02/28/96
10462-002	B0H729	60236202	Water	02/28/96
10462-003	B0H743	60236203	Water	02/28/96
10470-001	B0H715	60239001	Water	02/29/96
10470-002	B0H719	60239002	Water	02/29/96
10470-003	B0H717	60239003	Water	02/29/96
10470-004	B0H741	60239004	Water	02/29/96
10487-001	B0H733	60301502	Water	03/01/96
10487-002	B0H713	60301501	Water	03/01/96
10487-003	B0H735	60301503	Water	03/01/96
10487-004	B0H727	60301504	Water	03/01/96
10487-005	B0H744	60301505	Water	03/01/96

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II. 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: Volatiles by EPA method 8240. Nitrate/Nitrite by EPA method 353.1.

III. Quality Control

A Laboratory Control Sample and Method Blank were analyzed with each preparation batch. Matrix Spike and Matrix Spike Duplicate or Sample Duplicate analyses were performed per the protocol for each analyte.

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

V. Comments

Shipping and Receiving
Sample B0H744 arrived at the laboratory with two separate Bechtel IDs on the containers, it was misinterpreted as a Richland trip blank and was not initially analyzed. The mistake was corrected and the sample was analyzed 19 days past hold time per client request. See NCM #2639.

Volatiles
There are no comments or nonconformances associated with this analysis.

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Nitrate/Nitrite
The Matrix Spike was outside of suggested QC limits of 75-125%, but the sample concentration is much greater than four times the spike amount.

I certify that this data package 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:

Wade H. Price
Project Manager
e:\\price$\abbydave\hanw0914.nar

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Sample Disposition Record

Control #: 96-0044
Revision #: 0
Date Initiated: 03/05/96

Section 1 - BACKGROUND

SAF #: B96-059
OU: 200-UP-1
Project ID: 200-UP-1 TS
Task ID: 2
Sampling Event: 200-UP-1 IRM Implementation Sampling--2nd Quarter 1996
Laboratory: Quanterra
Project Coordinator: ME David
Task Manager: CD Wittreich

Section 2 - SAMPLE INFORMATION

Number of Samples: 1
ID Numbers: B0H744
Matrix: Water
Collection Date: Approximately 02/29/96

Section 3 - ISSUE

Class: Lab Direction
NCR Number: N/A
Type: Incorrect Sample Number
Description: Quanterra received three bottles under HEIS number B0H744 for VOA analysis. Two aliquots were labelled with sample number B0H744. The remaining aliquot was labelled as sample number B0H740.

N/A
NCR Validation (Print/Sign) Date

Section 4 - DISPOSITION

Type: Use As Is
Description: With the consent of the task manager, the VOA analysis will proceed. Analytical results will be reported under sample number B0H744. Issue will be documented in case narrative.

ME David Michael David 03/05/96
Project Coordinator (Print/Sign) Date

CD Wittreich [signature] 3/6/96
Task Manager (Print/Sign) Date

N/A
QA (Print/Sign) Date

Section 5 - INSPECTION (Issue Class: Nonconformance Only)

Inspection Number: N/A
Inspection Results: N/A

N/A
Inspector (Print/Sign) Date

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LOG #: 2639

LABORATORY NONCONFORMANCE MEMO (NCM)

Quanterra Incorporated

Project ID/Client: 550.124

NCM Initiated by/Date: [illegible] 04-06-96 Project Manager:

Sample Numbers/QC batch or lot numbers: 10487-005

Tests: WA/8240

Analytical Area (check appropriate area):

- ☐ Sample control
- ☐ Organic preparation
- ☐ Inorganic preparation
- ☐ GC
- ☐ HPLC
- ☒ GC/MS (WA)
- ☐ Wet chemistry
- ☐ Metals
- ☐ Reporting
- ☐ Data review
- ☐ Radiochemistry
- ☐ _____

Nonconformance (check appropriate area): *To be completed by analyst*

Holding Time Violations (exceeded by 19 days)

Category I: Laboratory Independent

- ☐ 1. Holding time expired in transit
- ☐ 2. Sample rec'd > 48 hrs after sampling. or ½ holding time has expired
- ☐ 3. Test added by client after expiration

Category II: Laboratory Dependent

- ☐ 4. Instrument failure
- ☐ 5. Analyst error
- ☐ 6. Log-in error
- ☐ 7. Miscommunication
- ☒ 8. Other (explanation required) Analysis not logged in until holding time expired

Category III: Analysis Reruns (QA/QC)

- ☐ 9. Surrogates
- ☐ 10. Internal standards
- ☐ 11. Spike recoveries
- ☐ 12. Blank contamination

Category IV: Analysis Reruns (Confirmation)

- ☐ 13. Second column
- ☐ 14. Contamination check
- ☐ 15. Confirmation of matrix effects
- ☐ 16. Other (explanation required) _____

Category V: Analysis Reruns (Dilution)

- ☐ 17. Over calibration
- ☐ 18. Under calibration
- ☐ 19. Other (explanation required) _____

Quality Assurance/Quality Control

- ☐ 20. QC data reported outside of controls
- ☐ 21. Incorrect procedure used
- ☐ 22. SOP intentionally modified with QA and tech approval
- ☐ 23. Invalid instrument calibration
- ☐ 24. Received insufficient sample for proper analysis

Incorrect or Incomplete Client Deliverable

- ☐ 25. Hardcopy deliverable error
- ☐ 26. Electronic deliverable error

Reported Detection Limits Elevated Due to:

- ☐ 27. Sample matrix: Does not include high analyte content
- ☐ 28. Insufficient sample volume
- ☐ 29. Other (explanation required)

Miscellaneous

- ☐ 30. Instrument/equipment Tag-out
- ☐ 31. Other (explanation required)

Notification (check appropriate area): ☐ Required ☐ Not Required *To be completed by project manager*

Client notified by (name and date): AW 4-9-96

- ☒ In writing
- ☐ By telephone (case narrative)
- ☐ By facsimile
- ☐ Other (explain)

Client's name and response:

- ☐ Process "as is"
- ☐ Re-sample
- ☐ On hold until _____
- ☐ Other (explain)

Project manager (signature and date): [signature] 4-9-96

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QUANTERRA LABORATORY NONCONFORMANCE MEMO

LOG #: 2639

Corrective Action: *To be completed and reviewed by all associates involved*

Problem Description/Root Cause Author's initials and date: WAP 4/8/96

Sample misidentified by Project Management staff as a Quanterra internal trip blank which for this project would not require analysis. WAP 4/8/96 WAP 4/8/96

Corrective Actions (Short Term) Author's initials and date:

Report out & hold.

WAP 4/8/96 Per client request.

Corrective Actions to Prevent Reoccurrence (Long Term)

Reinforce sample ID convention that internal Trip Blanks do not have field IDs.

Corrective Action approved by (Supervisor/Group Leader) and date: [illegible] 04-06-96

Additional Comments:

Corrective Action to be completed by (if other than Supervisor/Group Leader):

Date Corrective Action is to be completed:

Quality Assurance Review *To be completed by a QA associate*

☐ Anomaly ☒ Deficiency ☐ Notified Ops/Sys Manager (Initials)

☐ Further action required:

Further action assigned to:

QA signature: [illegible] Date: 4-8-96

Corrective Action Verification: *To be completed by a QA associate*

☐ Verification not required or requested

☐ Verified / CA completed on: by

☐ Cannot verify (specify reason)

Verified by: Date:

Nonconformance Memo Closure:

QA signature: Date:

The Office of Quality Assurance maintains a copy of this NCM indicating its final status.

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Quanterra March 05, 1996 06:19 am
Account: 10722 Project: 550.124 Quanterra-Richland QAS No. 550.124 Rev. 0
Master Sample Login: 10461

Project Manager: W. Price

Draft: Final: Entered and Reviewed by: Bob Caumont PM Review: Abby Holden

Sample Header Template:

Sample No. / Comments / Data:	Client ID	C-Matrix	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No.
10461-001	BOH731	Water	26-FEB-96 10:20	27-FEB-96 13:10	02-APR-96	FED-EX	1	Screening not Required
RICHLAND I.D. 60234901								
3 VI - Vial-40ml	VOA/8240/Q4		S	HCL	26-MAR-96	11-MAR-96	109S	(217355:100 217356:99 217357:98)
1 PN - Plastic-500ml	NO3/353.1/Q4		S	H2SO4	26-MAR-96	25-MAR-96	TOA	(217358:100)
10461-001DUP	BOH731	Water	26-FEB-96 10:20	27-FEB-96 13:10	02-APR-96	FED-EX	1	Screening not Required
RICHLAND I.D. 60234901								
1 PN - Plastic-500ml	NO3/353.1/Q4		S	H2SO4	26-MAR-96	25-MAR-96	TOA	(217358:100)
10461-001MS	BOH731	Water	26-FEB-96 10:20	27-FEB-96 13:10	02-APR-96	FED-EX	1	Screening not Required
RICHLAND I.D. 60234901								
3 VI - Vial-40ml	VOA/8240/Q4		S	HCL	26-MAR-96	11-MAR-96	109S	(217355:100 217356:99 217357:98)
1 PN - Plastic-500ml	NO3/353.1/Q4		S	H2SO4	26-MAR-96	25-MAR-96	TOA	(217358:100)
10461-001MSD	BOH731	Water	26-FEB-96 10:20	27-FEB-96 13:10	02-APR-96	FED-EX	1	Screening not Required
RICHLAND I.D. 60234901								
3 VI - Vial-40ml	VOA/8240/Q4		S	HCL	26-MAR-96	11-MAR-96	109S	(217355:100 217356:99 217357:98)
10461-002	BOH725	Water	26-FEB-96 11:26	27-FEB-96 13:10	02-APR-96	FED-EX	1	Screening not Required
RICHLAND I.D. 60234902								
3 VI - Vial-40ml	VOA/8240/Q4		S	HCL	26-MAR-96	11-MAR-96	109S	(217359:100 217360:99 217361:98)
1 PN - Plastic-500ml	NO3/353.1/Q4		S	H2SO4	26-MAR-96	25-MAR-96	TOA	(217362:100)
10461-003	BOH721	Water	26-FEB-96 12:45	27-FEB-96 13:10	02-APR-96	FED-EX	1	Screening not Required
RICHLAND I.D. 60234903								
3 VI - Vial-40ml	VOA/8240/Q4		S	HCL	26-MAR-96	11-MAR-96	109S	(217363:100 217364:99 217365:98)
1 PN - Plastic-500ml	NO3/353.1/Q4		S	H2SO4	26-MAR-96	25-MAR-96	TOA	(217366:100)
10461-004	BOH742	Water	26-FEB-96 07:30	27-FEB-96 13:10	02-APR-96	FED-EX	1	Screening not Required
RICHLAND I.D. 60234904								
3 VI - Vial-40ml	VOA/8240/Q4		S	HCL	26-MAR-96	11-MAR-96	109S	(217367:100 217368:99 217369:98)

3*=Sample has not been rad screened.

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Temp 2'c cun# 6449

To: St Louis

Chain of Custody Record

Quanterra Environmental Services

QUA-4124-1

Client: Bechtel Hanford	Project Manager: Van Pettey	Date: 2-27-96	Chain Of Custody Number: 54250
Address	Telephone Number (Area Code)/Fax Number	Lab Number	Page 1 of 1
City / State / Zip Code	Site Contact	Lab Contact	
Project Name: SAF B96-059	Carrier/Waybill Number		
Contract/Purchase Order/Quote No.			

Analysis (Attach list if more space is needed): SEE COC

Special Instructions/ Conditions of Receipt

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Aqueous	Sed.	Soil		Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/ NaOH
60234901 BOH731	SEE				COC							
02 725												
03 721												
04 742												

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☑ Unknown

Sample Disposal: ☑ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months (A fee may be assessed if samples are retained longer than 3 months)

Turn Around Time Required: ☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☑ Other

QC Requirements (Specify): SDG- WC914

1 Relinquished By: Heidelberg Quanterra	Date: 2-27-96	Time: 16:00	1 Received By: Fred Mitchell	Date: 2-28-96	Time: 09:20
2 Relinquished By	Date	Time	2 Received By	Date	Time
3 Relinquished By	Date	Time	3 Received By	Date	Time

Comments

DISTRIBUTION: WHITE - Stays with the Sample; CANARY - Returned by Client with Report; PINK - Field Copy

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Bechtel Hanford, Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	Page 1 of 1
		Data Turnaround: ☐ Priority ■ Normal

Collector: A. Rizzo, B. Eshlberg	Company Contact: C. D. Wittreich	Telephone: (509) 372-9315
Project Designation: 200-UP-1 IRM Implementation Sampling - 2nd Quarter 1996 - Feb	Sampling Location: 200 West	SAF No.: B96-059
Ice Chest No.: ER-17	Field Logbook No.: EFL-1135	Method of Shipment: Hand Delivered
Shipped To: Quanterra	Offsite Property No.: NA pH 1	Bill of Lading/Air Bill No.: NA

Possible Sample Hazards/Remarks	Preservation	HCl	H_2SO_4	HNO_3	HCl	None					
	Type of Container	Gs	P/G	P/G	P/G	P/G					
	No. of Container(s)	3	1	1	3	1					
Special Handling and/or Storage: Maintain samples between 2°C and 6°C.	Volume	40mL	500mL	500mL	1L	20mL					
SAMPLE ANALYSIS 602349 SDG W0914		VOA - TCL 100%	NO_2 - NO_3 100%	Total Uranium 602350	Tc-99	Activity Scan					

	Sample No.	Matrix*	Date Sampled	Time Sampled											
1	BOH731 / well 299-W19-37	W	2-26-96	1020	Y	Y	Y	Y	Y						
4	BOH742 /	W	2-26-96	0730	X										
2	BOH725 / well 299-W19-30	W	2-26-96	1120	X	X	X	X	X						
3	BOH721 / 299-W19-28	W	2-26-96	1245	X	X	X	X	X						

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: A. Rizzo / A. Rizzo	Date/Time: 0800 2/27/96	Received By: Eric / B. Eshlberg	Date/Time: 0800 2-27-96
Relinquished By: Eric / B. Eshlberg	Date/Time: 2-27-96	Received By: G. Boyd Ontera	Date/Time: 3-5-96 1310
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS
The Activity Scan is for all samples listed on this chain of custody.

Matrix*
S = Soil
SE = Sediment
SO = Solid
SL = Sludge
W = Water
O = Oil
A = Air
DS = Drum Solids
DL = Drum Liquids
T = Tissue
WI = Wipe
L = Liquid
V = Vegetation
X = Other

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

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(B) 2/27/96

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
BHI B0H6Y7		2/27/96 12:00:00 PM	QUAD22B	2/27/96 3:41:50 PM	B0H6Y7	30	12	0.3475	100	2.3958333
	SOLID		Bkg:	2/27/96 4:23:03 AM	BKG	800	42	0.0525	750	0.9375
Anl Date: 2/27/96	Tot Sa, Alq: 5.00E+02	, 1.06E+02	Alp; (Dpm/ 2.26E+00	(uCi/ 4.81E-03	(pCi/ 9.63E+00	± 5.0E+00	CAT I	5.2E+00	Lab Alq	
Ppt mg: 105.8	Units: g	, mg	Bet; Alq): 5.10E+00	Sa): 1.09E-02	Lig): 2.17E+01	± 3.1E+00		4.6E+00	Lig	
BHI B0H6Y8		2/27/96 12:00:00 PM	QUAD22C	2/27/96 3:41:50 PM	B0H6Y8	30	5	0.12791667	72	1.48
	SOLID		Bkg:	2/27/96 4:23:03 AM	BKG	800	31	0.03875	736	0.92
Anl Date: 2/27/96	Tot Sa, Alq: 5.00E+02	6.21E+01	Alp; (Dpm/ 6.04E-01	(uCi/ 2.19E-03	(pCi/ 4.38E+00	± 6.0E+00	CAT I	1.1E+01	Lab Alq	
Ppt mg: 62.1	Units: g	, mg	Bet; Alq): 3.06E+00	Sa): 1.11E-02	Lig): 2.22E+01	± 4.3E+00		4.5E+00	Lig	
BHI B0H6Y9		2/27/96 12:00:00 PM	QUAD22D	2/27/96 3:41:50 PM	B0H6Y9	30	6	0.13125	99	2.405
	SOLID		Bkg:	2/27/96 4:23:03 AM	BKG	800	55	0.06875	716	0.895
Anl Date: 2/27/96	Tot Sa, Alq: 5.00E+02	1.06E+02	Alp; (Dpm/ 7.48E-01	(uCi/ 1.59E-03	(pCi/ 3.18E+00	± 4.5E+00	CAT I	1.6E+01	Lab Alq	
Ppt mg: 105.9	Units: g	, mg	Bet; Alq): 5.25E+00	Sa): 1.12E-02	Lig): 2.23E+01	± 3.1E+00		4.5E+00	Lig	
BHI B0H721		2/27/96	QUAD23A	2/27/96 3:46:56 PM	B0H721	30	197	6.49916667	1612	52.789583
	LIQUID		Bkg:	2/27/96 4:23:12 AM	BKG	800	54	0.0675	755	0.94375
Anl Date: 12/30/99	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp; (Dpm/ 2.06E+01	(uCi/ 9.30E-04	(pCi/ 9.30E+02	± 6.4E+01	CAT I	2.7E-02	Lab Alq	
Ppt mg: 11.7	Units: L	, ml	Bet; Alq): 9.86E+01	Sa): 4.44E-03	Lig): 4.44E+03	± 1.1E+02		1.1E-02	Lig	
BHI B0H725		2/27/96 12:00:00 PM	QUAD23B	2/27/96 3:46:56 PM	B0H725	30	245	8.12666667	6736	223.53208
	LIQUID		Bkg:	2/27/96 4:23:12 AM	BKG	800	32	0.04	801	1.00125
Anl Date: 2/27/96	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp; (Dpm/ 2.66E+01	(uCi/ 1.20E-03	(pCi/ 1.20E+03	± 8.2E+01	CAT I	2.1E-02	Lab Alq	
Ppt mg: 29.1	Units: L	, ml	Bet; Alq): 4.48E+02	Sa): 2.02E-02	Lig): 2.02E+04	± 2.5E+02		2.5E-03	Lig	
BHI B0H731		2/27/96 12:00:00 PM	QUAD23D	2/27/96 3:46:56 PM	B0H731	30	397	13.1733333	2555	84.247917
	LIQUID		Bkg:	2/27/96 4:23:12 AM	BKG	800	48	0.06	735	0.91875
Anl Date: 2/27/96	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp; (Dpm/ 4.93E+01	(uCi/ 2.22E-03	(pCi/ 2.22E+03	± 1.0E+02	CAT I	1.1E-02	Lab Alq	
Ppt mg: 24.4	Units: L	, ml	Bet; Alq): 1.60E+01	Sa): 7.22E-03	Lig): 7.22E+03	± 1.5E+02		6.9E-03	Lig	

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Environmental Restoration Contractor **ERC Team**

Interoffice Memorandum

Job No. 22192
Written Response Required: NO
CCN: N/A
OU: 100-UP-1
TSD: N/A
ERA: N/A
Subject Code: 5850

TO:	W. S. Thompson	N1-28	DATE:	December 28, 1995
	F. G. Zwiesler	X0-23		
COPIES:	T. L. Lafreniere	X0-23	FROM:	S. K. De Mers
	D. A. St John	N1-28		Radiological Controls
	C. D. Wittreich	H6-02		T7-05/373-1913

SUBJECT: **Sampling of Wells in support of 200 UP-1 Pump and Treat Operations Rev. 1**

There is no need to perform total activities prior to offsite shipment to NRC licensed labs of samples taken from the attached list of wells.

The wells were reviewed for radiological content based on the previous 4 years of sampling data. The wells listed has a β activity <100,000 pCi/l (<.1 uCi/sample based on a 1 liter sample size) and the α activity is <10,000 pCi/l (<.01 uCi/l based on a 1 liter sample). The well shows activities < 2,000 pCi/gm (< 2 nCi/gm D.O.T. limit). The highest activity in recent samples is 3,500 pCi/l β and 1370 pCi/l α.

Wells 299-W19-34A, W19-37, W19-38 and W19-40 were not reviewed as there is no recent sampling data. However, the wells exist relatively in the same vicinity as the listed wells and have little or no potential for exceeding the DOT requirements.

Some of the wells listed exist inside radiological controlled areas and therefor have governing RWP's. Additionally, some wells have radioactive material stickers and will require an RCT to assist in taking samples. An RCT may be scheduled through Mr. Jim Parsons at 531-0716.

skd

Bill
FYI
-Wendy

9613453.1489

200 UP-1 WELL SAMPLE LIST

299-W19-19
299-W19-20
299-W19-23
299-W19-24
299-W19-25
299-W19-28
299-W19-29
299-W19-30
299-W19-34A
299-W19-35
299-W19-37
299-W19-38
299-W19-40

Figure 1

SAMPLE CHECK-IN LIST

(1 Per Shipping Container)

Date/Time Received 2/27/96 Client Name BHI

Project/Client # B96-059 Batch or Case # _____

Cooler ID (if noted on outside of cooler) ER17

1. Condition of shipping container? OK
2. Custody Seals on cooler intact? Yes [X] No [ ]
3. Custody Seals dated and signed? Yes [X] No [ ]
4. Chain of Custody record is taped on inside of cooler lid? Yes [ ] No [X]
5. Vermiculite/packing material is: Wet [X] Dry [ ] _____
6. Each sample is in a plastic bag? Yes [X] No [ ] _____
7. Number of sample containers in cooler: 46
8. Samples have: ____ tape ____ hazard labels
   X custody seals X appropriate sample labels
9. Samples are: X in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant Present? Yes [X] No [ ] Sample Temperature 2°C
11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #(s) N/A
    Request for Analysis #(s) _____
    Airbill # _____ Carrier _____
12. Have any anomalies been identified above? Yes [ ] No [ ]
13. Memos have been initiated for all anomalies identified above? Yes [ ]

Printed Name/Signature R. Boyd R. Boyd Date/Time 2/27/96

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Quanterra Environmental Services

C.U. and C.O.C.
COPIED TO: RWLWB
DATE: 2-28-96
TIME:
BY:

Login No.: 10461

Condition Upon Receipt Variance Report
St. Louis Laboratory

Client: Richland

Date: 2-28-96 Time: 0 9:20

Project No: 550.124

Initiated by: [illegible]

Shipper/No: FED EX ~~5420~~ 227 7612057

RFA/COC Numbers: 54250

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.
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: 2°C

Notes:

Corrective Action:

☐ Client's Name: _____ Informed verbally on: _____ By: _____

☐ Client's Name: _____ Informed in writing on: _____ By: _____

☐ Sample(s) processed "as is".

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

Sample Control Supervisor Review: (or designee) [illegible] Date: 2-28-96

Project Management Review: Abby Wolden Date: 2-1-96

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

SL-ADMIN-0004, Revised 11/24/95

Quanterra February 29, 1996 04:56 pm
Account: 10722 Project: 550.124 Quanterra-Richland QAS No. 550.124 Rev. 0
Master Sample Login: 10462

Project Manager: W. Price

Draft: Final: Entered and Reviewed by: PM Review:

Sample Header Template:

Sample No. / Comments / # Container Type / Date:	Client ID	C-Matrix	Analysis	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No.	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)
10462-001 RICHLAND I.D. 60236201	BOH723	Water		27-FEB-96 09:45	28-FEB-96 12:00	03-APR-96	FED-EX	1	Screening not Required						
3 VI - Vial-40ml			VOA/8240/Q4							S	HCL	27-MAR-96	12-MAR-96	109S	(217383:100 217384:99 217385:98)
1 PN - Plastic-500ml			NO3/353.1/Q4							S	H2SO4	27-MAR-96	26-MAR-96	TOA	(217386:100)
10462-002 RICHLAND I.D. 60236202	BOH729	Water		27-FEB-96 12:51	28-FEB-96 12:00	03-APR-96	FED-EX	1	Screening not Required						
3 VI - Vial-40ml			VOA/8240/Q4							S	HCL	27-MAR-96	12-MAR-96	109S	(217387:100 217388:99 217389:98)
1 PN - Plastic-500ml			NO3/353.1/Q4							S	H2SO4	27-MAR-96	26-MAR-96	TOA	(217390:100)
10462-003 RICHLAND I.D. 60236203	BOH743	Water		27-FEB-96 07:30	28-FEB-96 12:00	03-APR-96	FED-EX	1	Screening not Required						
3 VI - Vial-40ml			VOA/8240/Q4							S	HCL	27-MAR-96	12-MAR-96	109S	(217391:100 217392:99 217393:98)

3*=Sample has not been rad screened.

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00014

Temp 3°C Curr # 6488

To: St Louis

Chain of Custody Record

Quanterra Environmental Services

QUA-4124-1

Client	Project Manager	Date	Chain Of Custody Number
Bechtel Hanford	Van Pretty	2-28-96	54253
Address	Telephone Number (Area Code)/Fax Number	Lab Number	Page 1 of 1

City	State	Zip Code	Site Contact	Lab Contact

Project Name: SAF B96-059

Carrier/Waybill Number:

Contract/Purchase Order/Quote No.:

Analysis (Attach list if more space is needed): SEE COC

Special Instructions/Conditions of Receipt:

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Aqueous	Sed.	Soil		Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH
60236201 BOH723		SEE			COC							
↓ 2 ↓ 729												
3 743												

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☑ Unknown

Sample Disposal: ☐ Return To Client ☑ Disposal By Lab ☐ Archive For ____ Months (A fee may be assessed if samples are retained longer than 3 months)

Turn Around Time Required: ☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☑ Other ____

QC Requirements (Specify): SDG-W0914

Relinquished By	Date	Time	Received By	Date	Time
1. Heidelberg Quanterra	2-28-96	16:00	1. [illegible]	2-29-96	08:50
2.			2.		
3.			3.		

Comments:

DISTRIBUTION: WHITE - Stays with the Sample; CANARY - Returned to Client with Report; PINK - Field Copy

9613453.1493

0001

Bechtel Hanford, Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Date Turnaround
☐ Priority
■ Normal

Collector: A. Rizzo, M. Mehlhorn	Company Contact: C. D. Wittreich	Telephone: (509) 372-9315
Project Designation: 200-UP-1 IRM Implementation Sampling - 2nd Quarter 1996 - Feb	Sampling Location: 200 West	SAF No.: B96-059
Ice Chest No.	Field Logbook No.: EFL-1135	Method of Shipment: Hand Delivered
Shipped To: Quenterra	Offsite Property No.: NA PH 1	Bill of Lading/Air Bill No.: NA

Possible Sample Hazards/Remarks

Preservation	HCl	H_2SO_4	HNO_3	HCl	None						
Type of Container	Gs	P/G	P/G	P/G	P/G						
No. of Container(s)	3	1	1	3	1						
Volume	40mL	500mL	500mL	1L	20mL						
SAMPLE ANALYSIS	VOA - TCL	NO_2 - NO_3	Total Uranium	Tc-99	Activity Scan						
602362 SDG W0914			602363								

Special Handling and/or Storage
Maintain samples between 2°C and 6°C.

	Sample No.	Matrix*	Date Sampled	Time Sampled	VOA - TCL	NO_2 - NO_3	Total Uranium	Tc-99	Activity Scan					
1	B0H723	W	2-27-96	0945	X	X	X	X	X					
3	B0H743	W	02-27-96	0730	X									
	~~B0H709~~	~~W~~	~~2-27-96~~	~~2-27-96~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~					
2	B0H729	W	2-27-96	1251	X	X	X	X	X					
					3X100	100								

CHAIN OF POSSESSION	Sign/Print Names	
Relinquished By: M. Mehlhorn / Mark Mueller — Date/Time: 2-27-96 1410	Received By: [signature] / Bechtel — Date/Time: 1410 2-27-96	
Relinquished By: [signature] / Bechtel — Date/Time: 2-28-96 1200	Received By: [signature] / Quenterra — Date/Time: 2-28-96 1200	
Relinquished By: — Date/Time:	Received By: — Date/Time:	
Relinquished By: — Date/Time:	Received By: — Date/Time:	

SPECIAL INSTRUCTIONS
The Activity Scan is for all samples listed on this chain of custody.

Matrix*
S = Soil
SE = Sediment
SO = Solid
SL = Sludge
W = Water
O = Oil
A = Air
DS = Drum Solids
DL = Drum Liquids
T = Tissue
Wi = Wipe
L = Liquid
V = Vegetation
X = Other

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

9613953.1499

00016

Client Sample Screening Results

28-Feb-96

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
BHI B0H0P3		2/28/96 1:30:00 PM	QUAD21C	2/28/96 3:04:00 PM	B0H0P3	30	25	0.79708333	109	2.7045833
	LIQUID		Bkg:	2/28/96 5:16:19 AM	BKG	800	29	0.03625	743	0.92875
Anl Date: 2/28/96	Tot Sa, Alq: 2.00E+00		1.00E+01	Alp; (Dpm/ 2.22E+00	(uCi/ 2.00E-04	(pCi/ 1.00E+02	± 2.6E+01	CAT	2.5E-01	Lab
Ppt mg: 0	Units: L		ml	Bet; Alq): 4.84E+00	Sa): 4.36E-04	Lig): 2.18E+02	± 3.0E+01	I	2.3E-01	Alq Lig
BHI B0H0P5		2/28/96 1:30:00 PM	QUAD21D	2/28/96 3:04:00 PM	B0H0P5	30	41	1.32166667	131	3.4391667
	LIQUID		Bkg:	2/28/96 5:16:19 AM	BKG	800	36	0.045	726	0.9075
Anl Date: 2/28/96	Tot Sa, Alq: 2.00E+00		1.00E+01	Alp; (Dpm/ 3.98E+00	(uCi/ 3.58E-04	(pCi/ 1.79E+02	± 3.2E+01	CAT	1.4E-01	Lab
Ppt mg: 0.5	Units: L		ml	Bet; Alq): 6.03E+00	Sa): 5.43E-04	Lig): 2.71E+02	± 3.2E+01	I	1.8E-01	Alq Lig
BHI B0H723		2/28/96 12:00:00 PM	QUAD21A	2/28/96 1:33:46 PM	B0H723	30	35	1.11291667	278	8.3279167
	LIQUID		Bkg:	2/28/96 5:16:19 AM	BKG	800	43	0.05375	751	0.93875
Anl Date: 2/28/96	Tot Sa, Alq: 2.00E+00		1.00E+01	Alp; (Dpm/ 3.40E+00	(uCi/ 3.06E-04	(pCi/ 1.53E+02	± 3.4E+01	CAT	1.6E-01	Lab
Ppt mg: 8.6	Units: L		ml	Bet; Alq): 1.63E+01	Sa): 1.47E-03	Lig): 7.36E+02	± 5.0E+01	I	6.8E-02	Alq Lig
BHI B0H743		2/28/96 12:00:00 PM	QUAD21B	2/28/96 1:33:46 PM	B0H743	30	31	0.98708333	221	6.5354167
	LIQUID		Bkg:	2/28/96 5:16:19 AM	BKG	800	37	0.04625	665	0.83125
Anl Date: 2/28/96	Tot Sa, Alq: 2.00E+00		1.00E+01	Alp; (Dpm/ 3.03E+00	(uCi/ 2.73E-04	(pCi/ 1.37E+02	± 3.0E+01	CAT	1.8E-01	Lab
Ppt mg: 4.2	Units: L		ml	Bet; Alq): 1.21E+01	Sa): 1.09E-03	Lig): 5.47E+02	± 4.3E+01	I	9.1E-02	Alq Lig

9613453.1496

Environmental Restoration Contractor **ERC Team**

Interoffice Memorandum

Job No. 22192
Written Response Required: NO
CCN: N/A
OU: 100-UP-1
TSD: N/A
ERA: N/A
Subject Code: 5850

TO:	W. S. Thompson	N1-28	DATE:	December 28, 1995
	F. G. Zwiesler	X0-23		
COPIES:	T. L. Lafreniere	X0-23	FROM:	S. K. De Mers
	D. A. St John	N1-28		Radiological Controls
	C. D. Wittreich	H6-02		T7-05/373-1913

SUBJECT: **Sampling of Wells in support of 200 UP-1 Pump and Treat Operations Rev. 1**

There is no need to perform total activities prior to offsite shipment to NRC licensed labs of samples taken from the attached list of wells.

The wells were reviewed for radiological content based on the previous 4 years of sampling data. The wells listed has a β activity <100,000 pCi/l (<.1 uCi/sample based on a 1 liter sample size) and the α activity is <10,000 pCi/l (<.01 uCi/l based on a 1 liter sample). The well shows activities < 2,000 pCi/gm (< 2 nCi/gm D.O.T. limit). The highest activity in recent samples is 3,500 pCi/l β and 1370 pCi/l α.

Wells 299-W19-34A, W19-37, W19-38 and W19-40 were not reviewed as there is no recent sampling data. However, the wells exist relatively in the same vicinity as the listed wells and have little or no potential for exceeding the DOT requirements.

Some of the wells listed exist inside radiological controlled areas and therefor have governing RWP's. Additionally, some wells have radioactive material stickers and will require an RCT to assist in taking samples. An RCT may be scheduled through Mr. Jim Parsons at 531-0716.

skd

Bill
FYI
-Wendy

200 UP-1 WELL SAMPLE LIST

299-W19-19
299-W19-20
299-W19-23
299-W19-24
299-W19-25
299-W19-28
299-W19-29
299-W19-30
299-W19-34A
299-W19-35
299-W19-37
299-W19-38
299-W19-40

Figure 1

SAMPLE CHECK-IN LIST

(1 Per Shipping Container)

Date/Time Received 2/28/96 1200 Client Name BHI

Project/Client # B96-059 Batch or Case # _____

Cooler ID (if noted on outside of cooler) ER-1B

1. Condition of shipping container? OK
2. Custody Seals on cooler intact? Yes [X] No [ ]
3. Custody Seals dated and signed? Yes [X] No [ ]
4. Chain of Custody record is taped on inside of cooler lid? Yes [ ] No [X]
5. Vermiculite/packing material is: Wet [X] Dry [ ] _____
6. Each sample is in a plastic bag? Yes [X] No [ ] _____
7. Number of sample containers in cooler: 21
8. Samples have: X tape; X custody seals; ___ hazard labels; ___ appropriate sample labels
9. Samples are: X in good condition; ___ broken; ___ other; ___ leaking; ___ have air bubbles
10. Coolant Present? Yes [ ] No [X] Sample Temperature 4° C
11. The following paperwork should be accounted for (N/A if not applicable):

    Chain of Custody #(s) N/A

    Request for Analysis #(s) ✓

    Airbill # ✓ Carrier N/A
12. Have any anomalies been identified above? Yes [ ] No [X]
13. Memos have been initiated for all anomalies identified above? Yes [X]

Printed Name/Signature Karen Dettinley Date/Time 2/28/96 1200

9613453.1499

Quanterra Environmental Services

C.O.C. and C.O.C.

RECEIVED TO BY: W P
2-29-96
10:00
JM

Login No.: 10462

Condition Upon Receipt Variance Report
St. Louis Laboratory

Client: Richland

Project No: 550.124

Shipper/No: Fed Ex 227 7910 704

Date: 2-29-96 Time: 08:50

Initiated by: [illegible]

RFA/COC Numbers: 54253

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.
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°C

Notes:

Corrective Action:

☐ Client's Name: _____ Informed verbally on: _____ By: _____

☐ Client's Name: _____ Informed in writing on: _____ By: _____

☐ Sample(s) processed "as is".

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

Sample Control Supervisor Review: (or designee) [illegible] Date: 2-29-96

Project Management Review: Abby Walden Date: 3-1-96

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

SL-ADMIN-0004, Revised 11/24/95

Quanterra March 04, 1996 05:33 pm
Account: 10722 Project: 550.124 Quanterra-Richland QAS No. 550.124 Rev. 0
Master Sample Login: 10470

Project Manager: W. Price

Draft: Final: Entered and Reviewed by: Sue Wilson PM Review: Abby Wolf

Sample Header Template:

Sample No. / Comments / # / Container Type	Client ID	C-Matrix	Analysis	Class	Preservative	Date: Collected	Received	Anal. Due Date	Due	Hold Date	Shipper	Site	Rad Category	Rad Sample No. (Container Numbers:% Filled)
Data:														
10470-001	BOH715	Water				28-FEB-96 10:35	29-FEB-96 10:00		04-APR-96		FED-EX		1	Screening not Required
RICHLAND I.D. 60239001														
3 VI - Vial-40ml			VOA/8240/Q4	S	HCL			28-MAR-96		13-MAR-96		109S		(217532:100 217533:99 217534:98)
1 PN - Plastic-500ml			NO3/353.1/Q4	S	H2SO4			28-MAR-96		27-MAR-96		TOB		(217535:100)
10470-002	BOH719	Water				28-FEB-96 12:10	29-FEB-96 10:00		04-APR-96		FED-EX		1	Screening not Required
RICHLAND I.D. 60239002														
3 VI - Vial-40ml			VOA/8240/Q4	S	HCL			28-MAR-96		13-MAR-96		109S		(217536:100 217537:99 217538:98)
1 PN - Plastic-500ml			NO3/353.1/Q4	S	H2SO4			28-MAR-96		27-MAR-96		TOB		(217539:100)
10470-003	BOH717	Water				28-FEB-96 14:30	29-FEB-96 10:00		04-APR-96		FED-EX		1	Screening not Required
RICHLAND I.D. 60239003														
3 VI - Vial-40ml			VOA/8240/Q4	S	HCL			28-MAR-96		13-MAR-96		109S		(217540:100 217541:99 217542:98)
1 PN - Plastic-500ml			NO3/353.1/Q4	S	H2SO4			28-MAR-96		27-MAR-96		TOB		(217543:100)
10470-004	BOH741	Water				28-FEB-96 07:30	29-FEB-96 10:00		04-APR-96		FED-EX		1	Screening not Required
RICHLAND I.D. 60239004														
3 VI - Vial-40ml			VOA/8240/Q4	S	HCL			28-MAR-96		13-MAR-96		109S		(217544:100 217545:99 217546:98)
10470-005	TRIP BLANK	Water				28-FEB-96 00:00	29-FEB-96 10:00		04-APR-96		FED-EX		1	Screening not Required
2 VI - Vial-40ml			HOLD//Q4	S	HCL			!!-&&&-**		!!-&&&-**		109S		(217548:100 217549:99)

3*=Sample has not been rad screened.

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Temp 3°c Curr# 6515

To: St Louis

Chain of Custody Record

Quanterra Environmental Services

QUA-4124-1

Client	Project Manager	Date	Chain Of Custody Number
Bechtel Hanford	Van Pettey	2-29-96	54255

Address | Telephone Number (Area Code)/Fax Number | Lab Number | Page 1 of 1

City | State | Zip Code | Site Contact | Lab Contact

Project Name: SAF B96-059

Carrier/Waybill Number

Contract/Purchase Order/Quote No.

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Aqueous	Sed.	Soil		Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Analysis (Attach list if more space is needed)	Special Instructions/ Conditions of Receipt
60239001 BOH715	SEE				CDC								SEE CDC	
2 719														
3 717														
4 741														

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☑ Unknown

Sample Disposal: ☑ Return To Client ☐ Disposal By Lab ☐ Archive For ___ Months (A fee may be assessed if samples are retained longer than 3 months)

Turn Around Time Required: ☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☑ Other

QC Requirements (Specify): SDG W0914

		Date	Time			Date	Time
1. Relinquished By	Heidelberg Quanterra	2-29-96	16:00	1. Received By	Brad Mitchell	3-1-96	09:45
2. Relinquished By				2. Received By			
3. Relinquished By				3. Received By			

Comments

DISTRIBUTION: WHITE - Stays with the Sample; CANARY - Returned to Client with Report; PINK - Field Copy

000023

10051.154319.96

Bechtel Hanford, Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: ☐ Priority ■ Normal

Collector: A. Rizzo / M. Mehlhorn	Company Contact: C. D. Wittreich	Telephone: (509) 372-9315
Project Designation: 200-UP-1 IRM Implementation Sampling - 2nd Quarter 1996 - Feb	Sampling Location: 200 West	SAF No.: B96-059
Ice Chest No.	Field Logbook No.: EFL-1135	Method of Shipment: Hand Delivered
Shipped To: Quanterra	Offsite Property No.: NA PH 1	Bill of Lading/Air Bill No.: NA

Possible Sample Hazards/Remarks

Special Handling and/or Storage: Maintain samples between 2°C and 6°C.

SAMPLE ANALYSIS: 602390 SDG W0914

Preservation	HCl	H_2SO_4	HNO_3	HCl	None					
Type of Container	Gs	P/G	P/G	P/G	P/G					
No. of Container(s)	3	1	1	3	1					
Volume	40mL	500mL	500mL	1L	20mL					
	VOA - TCL 3X100 ↓	NO_2 - NO_3 100% ↓	Total Uranium 602391	Tc-99	Activity Scan					

Sample No.	Matrix*	Date Sampled	Time Sampled	VOA - TCL	NO_2 - NO_3	Total Uranium	Tc-99	Activity Scan					
BOH715 01	W	2-28-96	1035	X	X	X	X	X					
BOH719 02	W	2-28-96	1210	X	X	X	X	X					
BOH717 03	W	2-28-96	1430	X	X	X	X	X					
BOH741 04	W	2-28-96	0730	X									
			2m										
			Recv 2X40	ml	GA	H2O	no	Label					

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: M. Mehlhorn	Date/Time: 2-29-96 0900	Received By: EC	Date/Time: 0900 B. Wittr 2-29-96
Relinquished By: EC	Date/Time: 1000 B. Wittr 2-29-96	Received By: C. Boyd Otten	Date/Time: 2-29-96 1000
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS
The Activity Scan is for all samples listed on this chain of custody.

Matrix*
S = Soil
SE = Sediment
SO = Solid
SL = Sludge
W = Water
O = Oil
A = Air
DS = Drum Solids
DL = Drum Liquids
T = Tissue
WI = Wipe
L = Liquid
V = Vegetation
X = Other

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

9613453.1502

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Client Sample Screening Results

29-Feb-96

(f3) 12/9/96

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
BHI B0H715		2/29/96 10:20:00 AM	QUAD21C	2/29/96 12:30:27 PM	B0H715	30	204	6.7475	2274	74.97625
	LIQUID		Bkg:	2/29/96 5:51:22 AM	BKG	800	42	0.0525	659	0.82375
Ani Date: 2/29/96	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp; (Dpm/ 2.00E+01	(uCi/ 9.01E-04	(pCi/ 9.01E+02	± 6.3E+01	CAT.	2.8E-02	Lab	
Ppt mg: 9.2	Units: L	, ml	Bet; Alq): 1.46E+02	Sa): 6.56E-03	Lig): 6.56E+03	± 1.4E+02	I	7.6E-03	Alq	
									Lig	
BHI B0H717		2/29/96 10:20:00 AM	QUAD21D	2/29/96 12:30:27 PM	B0H717	30	232	7.68083333	5636	186.99167
	LIQUID		Bkg:	2/29/96 5:51:22 AM	BKG	800	42	0.0525	700	0.875
Ani Date: 2/29/96	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp; (Dpm/ 2.34E+01	(uCi/ 1.05E-03	(pCi/ 1.05E+03	± 7.5E+01	CAT	2.4E-02	Lab	
Ppt mg: 23.1	Units: L	, ml	Bet; Alq): 3.78E+02	Sa): 1.70E-02	Lig): 1.70E+04	± 2.3E+02	I	2.9E-03	Alq	
									Lig	
BHI B0H719		2/29/96 10:20:00 AM	QUAD22A	2/29/96 12:30:31 PM	B0H719	30	349	11.5808333	2772	91.44875
	LIQUID		Bkg:	2/29/96 5:51:32 AM	BKG	800	42	0.0525	761	0.95125
Ani Date: 2/29/96	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp; (Dpm/ 4.11E+01	(uCi/ 1.85E-03	(pCi/ 1.85E+03	± 9.4E+01	CAT	1.3E-02	Lab	
Ppt mg: 21.7	Units: L	, ml	Bet; Alq): 1.71E+02	Sa): 7.71E-03	Lig): 7.71E+03	± 1.5E+02	I	6.5E-03	Alq	
									Lig	

00025

9613453.1503

Environmental Restoration Contractor **ERC Team**

Interoffice Memorandum

Job No. 22192
Written Response Required: NO
CCN: N/A
OU: 100-UP-1
TSD: N/A
ERA: N/A
Subject Code: 5850

TO:	W. S. Thompson	N1-28	DATE:	December 28, 1995
	F. G. Zwiesler	X0-23		
COPIES:	T. L. Lafreniere	X0-23	FROM:	S. K. De Mers
	D. A. St John	N1-28		Radiological Controls
	C. D. Wittreich	H6-02		T7-05/373-1913

SUBJECT: **Sampling of Wells in support of 200 UP-1 Pump and Treat Operations Rev. 1**

There is no need to perform total activities prior to offsite shipment to NRC licensed labs of samples taken from the attached list of wells.

The wells were reviewed for radiological content based on the previous 4 years of sampling data. The wells listed has a β activity <100,000 pCi/l (<.1 uCi/sample based on a 1 liter sample size) and the α activity is <10,000 pCi/l (<.01 uCi/l based on a 1 liter sample). The well shows activities < 2,000 pCi/gm (< 2 nCi/gm D.O.T. limit). The highest activity in recent samples is 3,500 pCi/l β and 1370 pCi/l α.

Wells 299-W19-34A, W19-37, W19-38 and W19-40 were not reviewed as there is no recent sampling data. However, the wells exist relatively in the same vicinity as the listed wells and have little or no potential for exceeding the DOT requirements.

Some of the wells listed exist inside radiological controlled areas and therefor have governing RWP's. Additionally, some wells have radioactive material stickers and will require an RCT to assist in taking samples. An RCT may be scheduled through Mr. Jim Parsons at 531-0716.

skd

Bell
FYI
-Wendy

200 UP-1 WELL SAMPLE LIST

299-W19-19
299-W19-20
299-W19-23
299-W19-24
299-W19-25
299-W19-28
299-W19-29
299-W19-30
299-W19-34A
299-W19-35
299-W19-37
299-W19-38
299-W19-40

Figure 1

SAMPLE CHECK-IN LIST

(1 Per Shipping Container)

Date/Time Received 2/29/96 1000 Client Name BHI

Project/Client # B96-059 Batch or Case # _____

Cooler ID (if noted on outside of cooler) ERIB

1. Condition of shipping container? OK
2. Custody Seals on cooler intact? Yes [X] No [ ]
3. Custody Seals dated and signed? Yes [X] No [ ]
4. Chain of Custody record is taped on inside of cooler lid? Yes [ ] No [X]
5. Vermiculite/packing material is: Wet [X] Dry [ ] _____
6. Each sample is in a plastic bag? Yes [X] No [ ] _____
7. Number of sample containers in cooler: 30
8. Samples have:
   - ____ tape
   - ____ hazard labels
   - ✓ custody seals
   - ✓ appropriate sample labels
9. Samples are:
   - ✓ in good condition
   - ____ leaking
   - ____ broken
   - ____ have air bubbles
   - ____ other
10. Coolant Present? Yes [ ] No [ ] Sample Temperature 4°C
11. The following paperwork should be accounted for (N/A if not applicable):
    - Chain of Custody #(s) N/A
    - Request for Analysis #(s) _____
    - Airbill # _____ Carrier _____
12. Have any anomalies been identified above? Yes [ ] No [X]
13. Memos have been initiated for all anomalies identified above? Yes [ ]

Printed Name/Signature R. Byd R. Byd Date/Time 2/29/96 1000

9613453.1507

Quanterra

Environmental Services

C.O.C.
COPIED TO: Bwave
DATE: 3-1-96
1035
2m

Login No.: 10470

Condition Upon Receipt Variance Report
St. Louis Laboratory

Client: Richland

Project No: 550.124

Shipper/No: Fed-Ex 227 2986 913

Date: 3-1-96 Time: 09:45

Initiated by: 2nd Mitchell

RFA/COC Numbers: 54255

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:
   Rec'd 2X40ml C-A H2O no labels
5. ☐ Paperwork received without sample.
6. ☐ No sample ID on sample container.
7. ☐ Custody tape disturbed/broken/missing.
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°C

Notes:

* put trip blank on hold. ALW 3/4/96

Corrective Action:

☐ Client's Name: _____ Informed verbally on: _____ By: _____

☐ Client's Name: _____ Informed in writing on: _____ By: _____

☐ Sample(s) processed "as is".

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

Sample Control Supervisor Review: (or designee) 2nd Mitchell Date: 3-1-96

Project Management Review: Abby Walden Date: 3-4-96

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

SL-ADMIN-0004, Revised 11/24/95

6515

Quanterra April 01, 1996 03:58 pm
Account: 10722 Project: 550.124 Quanterra-Richland QAS No. 550.124 Rev. 0
Master Sample Login: 10487

Project Manager: W. Price

Draft: Final: Entered and Reviewed by: Tammy L. Mahaney PM Review: Hay Holden

Sample Header Template:

Sample No. / Comments / # / Data:	Client ID	C-Matrix	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No.
10487-001	BOH733	Water	29-FEB-96 11:40	01-MAR-96 11:00	04-APR-96	FED-EX	1	Screening not Required
RICHLAND I.D. 60301502								
3 VI - Vial-40ml	VOA/8240/Q4		S HCL	02-APR-96	14-MAR-96	109S		(218191:100 218192:99 218193:98)
1 PN - Plastic-500ml	NO3/353.1/Q4		S H2SO4	02-APR-96	28-MAR-96	TOB		(218194:100)
10487-002	BOH713	Water	29-FEB-96 10:00	01-MAR-96 11:00	04-APR-96	FED-EX	1	Screening not Required
RICHLAND I.D. 60301501								
3 VI - Vial-40ml	VOA/8240/Q4		S HCL	02-APR-96	14-MAR-96	109S		(218195:100 218196:99 218197:98)
1 PN - Plastic-500ml	NO3/353.1/Q4		S H2SO4	02-APR-96	28-MAR-96	TOB		(218198:100)
10487-003	BOH735	Water	29-FEB-96 13:00	01-MAR-96 11:00	04-APR-96	FED-EX	1	Screening not Required
RICHLAND I.D. 60301503								
3 VI - Vial-40ml	VOA/8240/Q4		S HCL	02-APR-96	14-MAR-96	109S		(218199:100 218200:99 218201:98)
1 PN - Plastic-500ml	NO3/353.1/Q4		S H2SO4	02-APR-96	28-MAR-96	TOB		(218202:100)
10487-004	BOH727	Water	29-FEB-96 14:20	01-MAR-96 11:00	04-APR-96	FED-EX	1	Screening not Required
RICHLAND I.D. 60301504								
3 VI - Vial-40ml	VOA/8240/Q4		S HCL	02-APR-96	14-MAR-96	109S		(218203:100 218204:99 218205:98)
1 PN - Plastic-500ml	NO3/353.1/Q4		S H2SO4	02-APR-96	28-MAR-96	TOB		(218206:100)
10487-005	BOH740	Water	29-FEB-96 07:30	01-MAR-96 11:00	04-APR-96	FED-EX	1	Screening not Required
RICHLAND I.D. 60301505								
3 VI - Vial-40ml	VOA/8240/Q4		S HCL	02-APR-96	14-MAR-96	109S		(218207:100 218208:99 218209:98)

9613453.1508

0030

3*=Sample has not been rad screened.

TEMP 4°C CUR# 6521

To: St. Louis

Chain of Custody Record

Quanterra Environmental Services

QUA-4124-1

Client: Bechtel Hanford	Project Manager: Van Pettey	Date: 3-1-96	Chain Of Custody Number: 54256
Address	Telephone Number (Area Code)/Fax Number	Lab Number	Page 1 of 1
City / State / Zip Code	Site Contact	Lab Contact	
Project Name: SAF B96-059	Carrier/Waybill Number		
Contract/Purchase Order/Quote No.			

Analysis (Attach list if more space is needed): SEE QC

Special Instructions/ Conditions of Receipt

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Aqueous	Sed.	Soil		Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/ NaOH
60301501	SEE QC (see sample variance report)	BOH713										
2		733										
3		735										
4		727										
5		740										

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☑ Unknown

Sample Disposal: ☑ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months (A fee may be assessed if samples are retained longer than 3 months)

Turn Around Time Required: ☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☑ Other

QC Requirements (Specify): SDG W0914

1 Relinquished By: Heidelberg Quanterra	Date: 3-1-96	Time: 16:00	1 Received By: [signature]	Date: 3-2-96	Time: 08:15
2 Relinquished By	Date	Time	2 Received By	Date	Time
3 Relinquished By	Date	Time	3 Received By	Date	Time

Comments

DISTRIBUTION: WHITE - Stays with the Sample; CANARY - Returned to Client with Report; PINK - Field File Copy

00031

9613453.1509

Bechtel Hanford, Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Date Turnaround: ☐ Priority ■ Normal

Collector: A. Rizzo / M. Mehlhorn	Company Contact: C. D. Wittreich	Telephone: (509) 372-9315
Project Designation: 200-UP-1 IRM Implementation Sampling - 2nd Quarter 1996 - Feb	Sampling Location: 200 West	SAF No.: B96-059
Ice Chest No.: ER-1B	Field Logbook No.: EFL-1135	Method of Shipment: Hand Delivered
Shipped To: Quanterra	Offsite Property No.: NA PH71	Bill of Lading/Air Bill No.: NA

Possible Sample Hazards/Remarks

Special Handling and/or Storage: Maintain samples between 2°C and 6°C.

SAMPLE ANALYSIS: 603015 SDG W0914

Preservation	HCl	H_2SO_4	HNO_3	HCl	None					
Type of Container	Gs	P/G	P/G	P/G	P/G					
No. of Container(s)	3	1	1	3	1					
Volume	40mL	500mL	500mL	1L	20mL					
	VOA - TCL	NO_2 - NO_3	Total Uranium 603016	Tc-99	Activity Scan					

Sample No.	Matrix*	Date Sampled	Time Sampled	VOA - TCL	NO_2 - NO_3	Total Uranium	Tc-99	Activity Scan					
B0H713 01	W	2-29-96	1000	X	X	X	X	X					
B0H733 02	W	2-29-96	1140	X	X	X	X	X					
B0H735 03	W	2-29-96	1300	X	X	X	X	X					
B0H727 04	W	2-29-96	1420	X	X	X	X	X					
				100%	100%								
				100%									

CHAIN OF POSSESSION	Sign/Print Names	Date/Time
Relinquished By	M. Mehlhorn / Mark Muller	2-29-96 0800
Received By	Luis Valdez / B. Wittreich	0800 3-1-96
Relinquished By	Luis Valdez / B. Wittreich	1100 3-1-96
Received By	Guard / Karen Ostenburg	1100 3-1-96
Relinquished By		
Received By	D. W. Byrd	3-2-96 08:15
Relinquished By		
Received By		

SPECIAL INSTRUCTIONS
The Activity Scan is for all samples listed on this chain of custody.

Turnaround

Matrix*
S = Soil
SE = Sediment
SO = Solid
SL = Sludge
W = Water
O = Oil
A = Air
DS = Drum Solids
DL = Drum Liquids
T = Tissue
Wi = Wipe
L = Liquid
V = Vegetation
X = Other

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

9613453.1510

000032

Client Sample Screening Results

01-Mar-96

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
BHI B0H645		3/1/96 11:00:00 AM	QUAD21A	3/1/96 2:09:03 PM	B0H645	30	20	0.59791667	718	23.035833
	LIQUID		Bkg:	2/29/96 5:51:22 AM	BKG	800	55	0.06875	718	0.8975
Anl Date: 3/1/96	Tot Sa, Alq: 2.00E+00	, 1.00E+01	Alp; (Dpm/ 9.92E-01	(uCi/ 8.94E-05	(pCi/ 4.47E+01	± 2.3E+01	CAT I	5.6E-01	Lab Alq	
Ppt mg: 0.9	Units: L	, ml	Bet; Alq): 4.56E+01	Sa): 4.11E-03	L/g): 2.06E+03	± 8.0E+01		2.4E-02	L/g	
BHI B0H646		3/1/96 11:00:00 AM	QUAD21B	3/1/96 2:09:03 PM	B0H646	30	17	0.51791667	94	2.3295833
	LIQUID		Bkg:	2/29/96 5:51:22 AM	BKG	800	39	0.04875	643	0.80375
Anl Date: 3/1/96	Tot Sa, Alq: 2.00E+00	, 1.00E+01	Alp; (Dpm/ 1.55E+00	(uCi/ 1.40E-04	(pCi/ 6.99E+01	± 2.4E+01	CAT I	3.6E-01	Lab Alq	
Ppt mg: 0.5	Units: L	, ml	Bet; Alq): 4.19E+00	Sa): 3.77E-04	L/g): 1.89E+02	± 2.8E+01		2.6E-01	L/g	
BHI B0H713		3/1/96 11:00:00 AM	QUAD21C	3/1/96 2:09:03 PM	B0H713	30	101	3.31416667	130	3.5095833
	LIQUID		Bkg:	2/29/96 5:51:22 AM	BKG	800	42	0.0525	659	0.82375
Anl Date: 3/1/96	Tot Sa, Alq: 2.00E+00	, 1.00E+01	Alp; (Dpm/ 9.78E+00	(uCi/ 8.81E-04	(pCi/ 4.41E+02	± 4.3E+01	CAT I	5.7E-02	Lab Alq	
Ppt mg: 1.9	Units: L	, ml	Bet; Alq): 5.01E+00	Sa): 4.51E-04	L/g): 2.26E+02	± 3.0E+01		2.2E-01	L/g	
BHI B0H727		3/1/96 11:00:00 AM	QUAD21D	3/1/96 2:09:03 PM	B0H727	30	19	0.58083333	109	2.7583333
	LIQUID		Bkg:	2/29/96 5:51:22 AM	BKG	800	42	0.0525	700	0.875
Anl Date: 3/1/96	Tot Sa, Alq: 2.00E+00	, 1.00E+01	Alp; (Dpm/ 1.75E+00	(uCi/ 1.57E-04	(pCi/ 7.87E+01	± 2.6E+01	CAT I	3.2E-01	Lab Alq	
Ppt mg: 2.1	Units: L	, ml	Bet; Alq): 5.10E+00	Sa): 4.60E-04	L/g): 2.30E+02	± 3.0E+01		2.2E-01	L/g	
BHI B0H733		3/1/96 11:00:00 AM	QUAD22A	3/1/96 2:09:08 PM	B0H733	30	40	1.28083333	183	5.14875
	LIQUID		Bkg:	2/29/96 5:51:32 AM	BKG	800	42	0.0525	761	0.95125
Anl Date: 3/1/96	Tot Sa, Alq: 2.00E+00	, 1.00E+01	Alp; (Dpm/ 3.79E+00	(uCi/ 3.41E-04	(pCi/ 1.71E+02	± 3.1E+01	CAT I	1.5E-01	Lab Alq	
Ppt mg: 5	Units: L	, ml	Bet; Alq): 8.92E+00	Sa): 8.03E-04	L/g): 4.02E+02	± 3.7E+01		1.2E-01	L/g	

Reviewed 3/1/96

00033

96134531.1511

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
BHI B0H735		3/1/96 11:00:00 AM	QUAD22B	3/1/96 2:09:08 PM	B0H735	30	54	1.73875	412	12.854583
	LIQUID		Bkg:	2/29/96 5:51:32 AM	BKG	800	49	0.06125	703	0.87875

Anl Date: 3/1/96	Tot Sa, Alq: 2.00E+00	, 1.00E+01	Alp;	(Dpm/ 5.24E+00	(uCi/ 4.72E-04	(pCi/ 2.36E+02	± 3.6E+01	CAT I	1.1E-01	Lab Alq
Ppt mg: 5.3	Units:	, ml	Bet;	Alq): 2.36E+01	Sa): 2.13E-03	Lig): 1.06E+03	± 5.7E+01		4.7E-02	Lig

Received 3/1/96 [illegible]

96135453.1512

00034

9613453.1513

SAMPLE RECEIPT VARIANCE REPORT

WORK ORDER NUMBER: 603015 DATE INITIATED: 3-1-96

INITIATED BY: Heidelberg

DATE/TIME OF SAMPLE (AND/OR RFA & COC) RECEIPT: 3-1-96 @ 1100

CLIENT SAMPLE NUMBER	RFA/COC NUMBERS	ANALYSIS REQUESTED
BOH740	na	VOA

Samples were received with the following deficiencies:

- ☐ 1. Not enough sample received for proper analysis.
- ☐ 2. Sample received without proper preservative.
- ☐ 3. No sample received in container.
- ☐ 4. Sample received without a RFA/COC form.
- ☐ 5. No sample ID on container.
- ☐ 6. Sample received broken or leaking.
- ☐ 7. Holding time exceeded at receipt.
- ☐ 8. Custody tape broken.
- ☐ 9. COC not relinquished by client.
- ☐ 10. Sample information on container does not match sample information on the paper work (Explain below).
- ☐ 11. All shipping containers (coolers) on waybill not received with shipment.
  - ☐ RFA/COC received
  - ☐ RFA/COC not received
- ☒ 12. Other (Explain below).

05 NOTES: BOH740 - 2-29 0730 trip blank VOA - NOT ON COC. Sent to St Louis -- recvd 3x40 mL in St. Louis - see CUR.

SUPERVISOR REVIEW: Sami Heidelberg

PROJECT MANAGER REVIEW:

TELEPHONED TO: ON BY

TELEFAXED TO: ON BY

SIGNED ORIGINAL MUST BE RETAINED IN WORK ORDER FILE

FORM NO. LS-023, 3/92, Rev. 0

9613453.1514

Environmental Restoration Contractor **ERC Team**

Interoffice Memorandum

Job No. 22192
Written Response Required: NO
CCN: N/A
OU: 100-UP-1
TSD: N/A
ERA: N/A
Subject Code: 5850

TO:	W. S. Thompson	N1-28	DATE:	December 28, 1995
	F. G. Zwiesler	X0-23		
COPIES:	T. L. Lafreniere	X0-23	FROM:	S. K. De Mers
	D. A. St John	N1-28		Radiological Controls
	C. D. Wittreich	H6-02		T7-05/373-1913

SUBJECT: **Sampling of Wells in support of 200 UP-1 Pump and Treat Operations Rev. 1**

There is no need to perform total activities prior to offsite shipment to NRC licensed labs of samples taken from the attached list of wells.

The wells were reviewed for radiological content based on the previous 4 years of sampling data. The wells listed has a β activity <100,000 pCi/l (<.1 uCi/sample based on a 1 liter sample size) and the α activity is <10,000 pCi/l (<.01 uCi/l based on a 1 liter sample). The well shows activities < 2,000 pCi/gm (< 2 nCi/gm D.O.T. limit). The highest activity in recent samples is 3,500 pCi/l β and 1370 pCi/l α.

Wells 299-W19-34A, W19-37, W19-38 and W19-40 were not reviewed as there is no recent sampling data. However, the wells exist relatively in the same vicinity as the listed wells and have little or no potential for exceeding the DOT requirements.

Some of the wells listed exist inside radiological controlled areas and therefor have governing RWP's. Additionally, some wells have radioactive material stickers and will require an RCT to assist in taking samples. An RCT may be scheduled through Mr. Jim Parsons at 531-0716.

skd

Bell
FYI
-Wendy

9613453.1515

200 UP-1 WELL SAMPLE LIST

299-W19-19
299-W19-20
299-W19-23
299-W19-24
299-W19-25
299-W19-28
299-W19-29
299-W19-30
299-W19-34A
299-W19-35
299-W19-37
299-W19-38
299-W19-40

9613453.1516

Figure 1

SAMPLE CHECK-IN LIST

(1 Per Shipping Container)

Date/Time Received 3-1-96 KAA 3/1/96 Client Name _____

Project/Client # B96-059 Batch or Case # _____

Cooler ID (if noted on outside of cooler) ER-1B

1. Condition of shipping container? O.K.
2. Custody Seals on cooler intact? Yes [X] No [ ]
3. Custody Seals dated and signed? Yes [X] No [ ]
4. Chain of Custody record is taped on inside of cooler lid? Yes [ ] No [X]
5. Vermiculite/packing material is: Wet [X] Dry [ ] _____
6. Each sample is in a plastic bag? Yes [X] No [ ] _____
7. Number of sample containers in cooler: 38
8. Samples have: X tape ____ hazard labels
   X custody seals ____ appropriate sample labels
9. Samples are: X in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant Present? Yes [X] No [ ] Sample Temperature 4°C
11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #(s) N/A
    Request for Analysis #(s) _____
    Airbill # N/A Carrier N/A
12. Have any anomalies been identified above? Yes [ ] No [X]
13. Memos have been initiated for all anomalies identified above? Yes [X]

Printed Name/Signature Karen Stittenburg Date/Time 3-1-96 1100

00038

9613453.1517

Quanterra

Environmental Services

DELIVERED TO: BW/WP
DATE: 3-2-96
TIME: 09:30
BY: AWB

no QC

Login No.: 10487

Condition Upon Receipt Variance Report
St. Louis Laboratory

Client: Bechtel Hanford
Project No: 550.124
Shipper/No: 227-3293-407

Date: 3-2-96 Time: 08:15
Initiated by: George W Byrd
RFA/COC Numbers: # 541256

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.
8. ☑ Sample ID on container does not match sample ID on paperwork. Explain: as below.
9. ☐ All coolers on airbill not received with shipment.
10. ☐ Other (explain below):

☐ No variances were noted during sample receipt. Cooler Temperature Upon Receipt: 4°C

Notes: BOH740 – rec'd. 3x40 mL in St. Louis. 2 vials are marked BOH744 – but they all 3 have the same sample date & time & same Richland I.D. SW 03-03-96
Richland ID 60301505

Corrective Action: * do not ~~log~~ ~~in~~ aw 3/4/96 they are trip blanks

☐ Client's Name: _____ Informed verbally on: _____ By: _____

☐ Client's Name: _____ Informed in writing on: _____ By: log in ~~to~~ and put on hold

☐ Sample(s) processed "as is". _____

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

Sample Control Supervisor Review: (or designee) George W Byrd Date: 3-2-96

Project Management Review: Abby Mota Date: 3-4-96

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

SL-ADMIN-0004, Revised 11/24/95

9613453.1518

Quanterra-Richland
3350 George Washington Way
Richland, WA 99352

Project: 550.124

Category: VOA TCL (8240)
Method: EPA 8240
Matrix: LIQUID

Sample Date : 02/26/96
Receipt Date : 02/27/96
Report Date : 03/26/96

Client ID: BOH731

Quanterra ID : 10461-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	QCBLK93604-1	03/06/96	03/06/96	10	UG/L	U	10	1
Bromomethane	74-83-9	QCBLK93604-1	03/06/96	03/06/96	10	UG/L	U	10	1
Vinyl Chloride	75-01-4	QCBLK93604-1	03/06/96	03/06/96	10	UG/L	U	10	1
Chloroethane	75-00-3	QCBLK93604-1	03/06/96	03/06/96	10	UG/L	U	10	1
Methylene Chloride	75-09-2	QCBLK93604-1	03/06/96	03/06/96	9	UG/L	B	5	1
Acetone	67-64-1	QCBLK93604-1	03/06/96	03/06/96	20	UG/L	U	20	1
Carbon Disulfide	75-15-0	QCBLK93604-1	03/06/96	03/06/96	5	UG/L	U	5	1
1,1-Dichloroethene	75-35-4	QCBLK93604-1	03/06/96	03/06/96	5	UG/L	U	5	1
1,1-Dichloroethane	75-34-3	QCBLK93604-1	03/06/96	03/06/96	5	UG/L	U	5	1
1,2-Dichloroethene (total)	540-59-0	QCBLK93604-1	03/06/96	03/06/96	5	UG/L	U	5	1
Chloroform	67-66-3	QCBLK93604-1	03/06/96	03/06/96	3	UG/L	J	5	1
1,2-Dichloroethane	107-06-2	QCBLK93604-1	03/06/96	03/06/96	5	UG/L	U	5	1
2-Butanone	78-93-3	QCBLK93604-1	03/06/96	03/06/96	20	UG/L	U	20	1
1,1,1-Trichloroethane	71-55-6	QCBLK93604-1	03/06/96	03/06/96	5	UG/L	U	5	1
Carbon Tetrachloride	56-23-5	QCBLK93604-1	03/06/96	03/06/96	140	UG/L		5	1
Bromodichloromethane	75-27-4	QCBLK93604-1	03/06/96	03/06/96	5	UG/L	U	5	1
1,2-Dichloropropane	78-87-5	QCBLK93604-1	03/06/96	03/06/96	5	UG/L	U	5	1
cis-1,3-Dichloropropene	10061-01-5	QCBLK93604-1	03/06/96	03/06/96	5	UG/L	U	5	1
Trichloroethene	79-01-6	QCBLK93604-1	03/06/96	03/06/96	5	UG/L	U	5	1
Dibromochloromethane	124-48-1	QCBLK93604-1	03/06/96	03/06/96	5	UG/L	U	5	1
1,1,2-Trichloroethane	79-00-5	QCBLK93604-1	03/06/96	03/06/96	5	UG/L	U	5	1
Benzene	71-43-2	QCBLK93604-1	03/06/96	03/06/96	5	UG/L	U	5	1
trans-1,3-Dichloropropene	10061-02-6	QCBLK93604-1	03/06/96	03/06/96	5	UG/L	U	5	1
Bromoform	75-25-2	QCBLK93604-1	03/06/96	03/06/96	5	UG/L	U	5	1
4-Methyl-2-Pentanone	108-10-1	QCBLK93604-1	03/06/96	03/06/96	20	UG/L	U	20	1
2-Hexanone	591-78-6	QCBLK93604-1	03/06/96	03/06/96	20	UG/L	U	20	1
Tetrachloroethene	127-18-4	QCBLK93604-1	03/06/96	03/06/96	5	UG/L	U	5	1
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK93604-1	03/06/96	03/06/96	5	UG/L	U	5	1
Toluene	108-88-3	QCBLK93604-1	03/06/96	03/06/96	5	UG/L	U	5	1
Chlorobenzene	108-90-7	QCBLK93604-1	03/06/96	03/06/96	5	UG/L	U	5	1
EthylBenzene	100-41-4	QCBLK93604-1	03/06/96	03/06/96	5	UG/L	U	5	1
Styrene	100-42-5	QCBLK93604-1	03/06/96	03/06/96	5	UG/L	U	5	1
Xylene (total)	1330-20-7	QCBLK93604-1	03/06/96	03/06/96	5	UG/L	U	5	1
Toluene-d8 (SURR)	2037-26-5	QCBLK93604-1	03/06/96	03/06/96	96	%REC			1
Bromofluorobenzene (SURR)	460-00-4	QCBLK93604-1	03/06/96	03/06/96	92	%REC			1
1,2-Dichloroethane-d4 (SURR)	17070-07-0	QCBLK93604-1	03/06/96	03/06/96	97	%REC			1

9613453.1519

Quanterra-Richland
3350 George Washington Way
Richland, WA 99352

Project: 550.124

Category: VOA TCL (8240)
Method: EPA 8240
Matrix: LIQUID

Sample Date : 02/26/96
Receipt Date : 02/27/96
Report Date : 03/26/96

Client ID: B0H731

Quanterra ID : 10461-001MS

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
1,1-Dichloroethene	75-35-4	QCBLK93604-1	03/06/96	03/06/96	139	%REC			1
Trichloroethene	79-01-6	QCBLK93604-1	03/06/96	03/06/96	109	%REC			1
Benzene	71-43-2	QCBLK93604-1	03/06/96	03/06/96	111	%REC			1
Toluene	108-88-3	QCBLK93604-1	03/06/96	03/06/96	106	%REC			1
Chlorobenzene	108-90-7	QCBLK93604-1	03/06/96	03/06/96	101	%REC			1
Toluene-d8 (SURR)	2037-26-5	QCBLK93604-1	03/06/96	03/06/96	96	%REC			1
Bromofluorobenzene (SURR)	460-00-4	QCBLK93604-1	03/06/96	03/06/96	94	%REC			1
1,2-Dichloroethane-d4 (SURR)	17070-07-0	QCBLK93604-1	03/06/96	03/06/96	97	%REC			1

9613453.1520

Quanterra-Richland
3350 George Washington Way
Richland, WA 99352

Project: 550.124

Category: VOA TCL (8240)
Method: EPA 8240
Matrix: LIQUID

Client ID: BOH731

Sample Date : 02/26/96
Receipt Date : 02/27/96
Report Date : 03/26/96

Quanterra ID : 10461-001MSD

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
1,1-Dichloroethene	75-35-4	QCBLK93604-1	03/06/96	03/06/96	143	%REC			1
Trichloroethene	79-01-6	QCBLK93604-1	03/06/96	03/06/96	111	%REC			1
Benzene	71-43-2	QCBLK93604-1	03/06/96	03/06/96	106	%REC			1
Toluene	108-88-3	QCBLK93604-1	03/06/96	03/06/96	102	%REC			1
Chlorobenzene	108-90-7	QCBLK93604-1	03/06/96	03/06/96	100	%REC			1
Toluene-d8 (SURR)	2037-26-5	QCBLK93604-1	03/06/96	03/06/96	96	%REC			1
Bromofluorobenzene (SURR)	460-00-4	QCBLK93604-1	03/06/96	03/06/96	92	%REC			1
1,2-Dichloroethane-d4 (SURR)	17070-07-0	QCBLK93604-1	03/06/96	03/06/96	95	%REC			1

9613453.1521

Quanterra-Richland
3350 George Washington Way
Richland, WA 99352

Project: 550.124

Category: VOA TCL (8240)
Method: EPA 8240
Matrix: LIQUID

Client ID: BOH725

Sample Date : 02/26/96
Receipt Date : 02/27/96
Report Date : 03/26/96

Quanterra ID : 10461-002

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	QCBLK93604-1	03/06/96	03/06/96	10	UG/L	U	10	1
Bromomethane	74-83-9	QCBLK93604-1	03/06/96	03/06/96	10	UG/L	U	10	1
Vinyl Chloride	75-01-4	QCBLK93604-1	03/06/96	03/06/96	10	UG/L	U	10	1
Chloroethane	75-00-3	QCBLK93604-1	03/06/96	03/06/96	10	UG/L	U	10	1
Methylene Chloride	75-09-2	QCBLK93604-1	03/06/96	03/06/96	7	UG/L	B	5	1
Acetone	67-64-1	QCBLK93604-1	03/06/96	03/06/96	20	UG/L	U	20	1
Carbon Disulfide	75-15-0	QCBLK93604-1	03/06/96	03/06/96	5	UG/L	U	5	1
1,1-Dichloroethene	75-35-4	QCBLK93604-1	03/06/96	03/06/96	5	UG/L	U	5	1
1,1-Dichloroethane	75-34-3	QCBLK93604-1	03/06/96	03/06/96	5	UG/L	U	5	1
1,2-Dichloroethene (total)	540-59-0	QCBLK93604-1	03/06/96	03/06/96	5	UG/L	U	5	1
Chloroform	67-66-3	QCBLK93604-1	03/06/96	03/06/96	2	UG/L	J	5	1
1,2-Dichloroethane	107-06-2	QCBLK93604-1	03/06/96	03/06/96	5	UG/L	U	5	1
2-Butanone	78-93-3	QCBLK93604-1	03/06/96	03/06/96	20	UG/L	U	20	1
1,1,1-Trichloroethane	71-55-6	QCBLK93604-1	03/06/96	03/06/96	5	UG/L	U	5	1
Carbon Tetrachloride	56-23-5	QCBLK93604-1	03/06/96	03/06/96	140	UG/L		5	1
Bromodichloromethane	75-27-4	QCBLK93604-1	03/06/96	03/06/96	5	UG/L	U	5	1
1,2-Dichloropropane	78-87-5	QCBLK93604-1	03/06/96	03/06/96	5	UG/L	U	5	1
cis-1,3-Dichloropropene	10061-01-5	QCBLK93604-1	03/06/96	03/06/96	5	UG/L	U	5	1
Trichloroethene	79-01-6	QCBLK93604-1	03/06/96	03/06/96	2	UG/L	J	5	1
Dibromochloromethane	124-48-1	QCBLK93604-1	03/06/96	03/06/96	5	UG/L	U	5	1
1,1,2-Trichloroethane	79-00-5	QCBLK93604-1	03/06/96	03/06/96	5	UG/L	U	5	1
Benzene	71-43-2	QCBLK93604-1	03/06/96	03/06/96	5	UG/L	U	5	1
trans-1,3-Dichloropropene	10061-02-6	QCBLK93604-1	03/06/96	03/06/96	5	UG/L	U	5	1
Bromoform	75-25-2	QCBLK93604-1	03/06/96	03/06/96	5	UG/L	U	5	1
4-Methyl-2-Pentanone	108-10-1	QCBLK93604-1	03/06/96	03/06/96	20	UG/L	U	20	1
2-Hexanone	591-78-6	QCBLK93604-1	03/06/96	03/06/96	20	UG/L	U	20	1
Tetrachloroethene	127-18-4	QCBLK93604-1	03/06/96	03/06/96	5	UG/L	U	5	1
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK93604-1	03/06/96	03/06/96	5	UG/L	U	5	1
Toluene	108-88-3	QCBLK93604-1	03/06/96	03/06/96	5	UG/L	U	5	1
Chlorobenzene	108-90-7	QCBLK93604-1	03/06/96	03/06/96	5	UG/L	U	5	1
EthylBenzene	100-41-4	QCBLK93604-1	03/06/96	03/06/96	5	UG/L	U	5	1
Styrene	100-42-5	QCBLK93604-1	03/06/96	03/06/96	5	UG/L	U	5	1
Xylene (total)	1330-20-7	QCBLK93604-1	03/06/96	03/06/96	5	UG/L	U	5	1
Toluene-d8 (SURR)	2037-26-5	QCBLK93604-1	03/06/96	03/06/96	96	UG/L	U		1
Bromofluorobenzene (SURR)	460-00-4	QCBLK93604-1	03/06/96	03/06/96	94	UG/L	U		1
1,2-Dichloroethane-d4 (SURR)	17070-07-0	QCBLK93604-1	03/06/96	03/06/96	100	UG/L	U		1

9613453.1522

Quanterra-Richland
3350 George Washington Way
Richland, WA 99352

Project: 550.124

Category: VOA TCL (8240)
Method: EPA 8240
Matrix: LIQUID

Sample Date : 02/26/96
Receipt Date : 02/27/96
Report Date : 03/26/96

Client ID: BOH721

Quanterra ID : 10461-003

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	QCBLK93826-1	03/10/96	03/10/96	10	UG/L	U	10	1
Bromomethane	74-83-9	QCBLK93826-1	03/10/96	03/10/96	10	UG/L	U	10	1
Vinyl Chloride	75-01-4	QCBLK93826-1	03/10/96	03/10/96	10	UG/L	U	10	1
Chloroethane	75-00-3	QCBLK93826-1	03/10/96	03/10/96	10	UG/L	U	10	1
Methylene Chloride	75-09-2	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
Acetone	67-64-1	QCBLK93826-1	03/10/96	03/10/96	20	UG/L	U	20	1
Carbon Disulfide	75-15-0	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
1,1-Dichloroethene	75-35-4	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
1,1-Dichloroethane	75-34-3	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
1,2-Dichloroethene (total)	540-59-0	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
Chloroform	67-66-3	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
1,2-Dichloroethane	107-06-2	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
2-Butanone	78-93-3	QCBLK93826-1	03/10/96	03/10/96	20	UG/L	U	20	1
1,1,1-Trichloroethane	71-55-6	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
Carbon Tetrachloride	56-23-5	QCBLK93826-1	03/10/96	03/10/96	8	UG/L		5	1
Bromodichloromethane	75-27-4	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
1,2-Dichloropropane	78-87-5	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
cis-1,3-Dichloropropene	10061-01-5	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
Trichloroethene	79-01-6	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
Dibromochloromethane	124-48-1	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
1,1,2-Trichloroethane	79-00-5	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
Benzene	71-43-2	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
trans-1,3-Dichloropropene	10061-02-6	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
Bromoform	75-25-2	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
4-Methyl-2-Pentanone	108-10-1	QCBLK93826-1	03/10/96	03/10/96	20	UG/L	U	20	1
2-Hexanone	591-78-6	QCBLK93826-1	03/10/96	03/10/96	20	UG/L	U	20	1
Tetrachloroethene	127-18-4	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
Toluene	108-88-3	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
Chlorobenzene	108-90-7	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
EthylBenzene	100-41-4	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
Styrene	100-42-5	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
Xylene (total)	1330-20-7	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
Toluene-d8 (SURR)	2037-26-5	QCBLK93826-1	03/10/96	03/10/96	99	%REC			1
Bromofluorobenzene (SURR)	460-00-4	QCBLK93826-1	03/10/96	03/10/96	95	%REC			1
1,2-Dichloroethane-d4 (SURR)	17070-07-0	QCBLK93826-1	03/10/96	03/10/96	97	%REC			1

9613453.1523

Quanterra-Richland
3350 George Washington Way
Richland, WA 99352

Project: 550.124

Category: VOA TCL (8240)
Method: EPA 8240
Matrix: LIQUID

Client ID: BOH742

Sample Date : 02/26/96
Receipt Date : 02/27/96
Report Date : 03/26/96

Quanterra ID : 10461-004

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	QCBLK93826-1	03/10/96	03/10/96	10	UG/L	U	10	1
Bromomethane	74-83-9	QCBLK93826-1	03/10/96	03/10/96	10	UG/L	U	10	1
Vinyl Chloride	75-01-4	QCBLK93826-1	03/10/96	03/10/96	10	UG/L	U	10	1
Chloroethane	75-00-3	QCBLK93826-1	03/10/96	03/10/96	10	UG/L	U	10	1
Methylene Chloride	75-09-2	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
Acetone	67-64-1	QCBLK93826-1	03/10/96	03/10/96	20	UG/L	U	20	1
Carbon Disulfide	75-15-0	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
1,1-Dichloroethene	75-35-4	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
1,1-Dichloroethane	75-34-3	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
1,2-Dichloroethene (total)	540-59-0	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
Chloroform	67-66-3	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
1,2-Dichloroethane	107-06-2	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
2-Butanone	78-93-3	QCBLK93826-1	03/10/96	03/10/96	20	UG/L	U	20	1
1,1,1-Trichloroethane	71-55-6	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
Carbon Tetrachloride	56-23-5	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
Bromodichloromethane	75-27-4	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
1,2-Dichloropropane	78-87-5	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
cis-1,3-Dichloropropene	10061-01-5	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
Trichloroethene	79-01-6	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
Dibromochloromethane	124-48-1	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
1,1,2-Trichloroethane	79-00-5	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
Benzene	71-43-2	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
trans-1,3-Dichloropropene	10061-02-6	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
Bromoform	75-25-2	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
4-Methyl-2-Pentanone	108-10-1	QCBLK93826-1	03/10/96	03/10/96	20	UG/L	U	20	1
2-Hexanone	591-78-6	QCBLK93826-1	03/10/96	03/10/96	20	UG/L	U	20	1
Tetrachloroethene	127-18-4	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
Toluene	108-88-3	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
Chlorobenzene	108-90-7	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
EthylBenzene	100-41-4	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
Styrene	100-42-5	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
Xylene (total)	1330-20-7	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
Toluene-d8 (SURR)	2037-26-5	QCBLK93826-1	03/10/96	03/10/96	95	%REC			1
Bromofluorobenzene (SURR)	460-00-4	QCBLK93826-1	03/10/96	03/10/96	96	%REC			1
1,2-Dichloroethane-d4 (SURR)	17070-07-0	QCBLK93826-1	03/10/96	03/10/96	94	%REC			1

9613453.1524

Quanterra-Richland
3350 George Washington Way
Richland, WA 99352

Project: 550.124

Category: VOA TCL (8240)
Method: EPA 8240
Matrix: LIQUID

Client ID: BOH723

Sample Date : 02/27/96
Receipt Date : 02/28/96
Report Date : 03/26/96

Quanterra ID : 10462-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	QCBLK93826-1	03/10/96	03/10/96	10	UG/L	U	10	1
Bromomethane	74-83-9	QCBLK93826-1	03/10/96	03/10/96	10	UG/L	U	10	1
Vinyl Chloride	75-01-4	QCBLK93826-1	03/10/96	03/10/96	10	UG/L	U	10	1
Chloroethane	75-00-3	QCBLK93826-1	03/10/96	03/10/96	10	UG/L	U	10	1
Methylene Chloride	75-09-2	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
Acetone	67-64-1	QCBLK93826-1	03/10/96	03/10/96	20	UG/L	U	20	1
Carbon Disulfide	75-15-0	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
1,1-Dichloroethene	75-35-4	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
1,1-Dichloroethane	75-34-3	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
1,2-Dichloroethene (total)	540-59-0	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
Chloroform	67-66-3	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
1,2-Dichloroethane	107-06-2	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
2-Butanone	78-93-3	QCBLK93826-1	03/10/96	03/10/96	20	UG/L	U	20	1
1,1,1-Trichloroethane	71-55-6	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
Carbon Tetrachloride	56-23-5	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
Bromodichloromethane	75-27-4	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
1,2-Dichloropropane	78-87-5	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
cis-1,3-Dichloropropene	10061-01-5	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
Trichloroethene	79-01-6	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
Dibromochloromethane	124-48-1	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
1,1,2-Trichloroethane	79-00-5	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
Benzene	71-43-2	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
trans-1,3-Dichloropropene	10061-02-6	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
Bromoform	75-25-2	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
4-Methyl-2-Pentanone	108-10-1	QCBLK93826-1	03/10/96	03/10/96	20	UG/L	U	20	1
2-Hexanone	591-78-6	QCBLK93826-1	03/10/96	03/10/96	20	UG/L	U	20	1
Tetrachloroethene	127-18-4	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
Toluene	108-88-3	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
Chlorobenzene	108-90-7	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
EthylBenzene	100-41-4	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
Styrene	100-42-5	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
Xylene (total)	1330-20-7	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
Toluene-d8 (SURR)	2037-26-5	QCBLK93826-1	03/10/96	03/10/96	100	%REC			1
Bromofluorobenzene (SURR)	460-00-4	QCBLK93826-1	03/10/96	03/10/96	94	%REC			1
1,2-Dichloroethane-d4 (SURR)	17070-07-0	QCBLK93826-1	03/10/96	03/10/96	101	%REC			1

9613453.1525

Quanterra-Richland
3350 George Washington Way
Richland, WA 99352

Project: 550.124

Category: VOA TCL (8240)
Method: EPA 8240
Matrix: LIQUID

Sample Date : 02/27/96
Receipt Date : 02/28/96
Report Date : 03/26/96

Client ID: BOH729

Quanterra ID : 10462-002

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	QCBLK93826-1	03/10/96	03/10/96	10	UG/L	U	10	1
Bromomethane	74-83-9	QCBLK93826-1	03/10/96	03/10/96	10	UG/L	U	10	1
Vinyl Chloride	75-01-4	QCBLK93826-1	03/10/96	03/10/96	10	UG/L	U	10	1
Chloroethane	75-00-3	QCBLK93826-1	03/10/96	03/10/96	10	UG/L	U	10	1
Methylene Chloride	75-09-2	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
Acetone	67-64-1	QCBLK93826-1	03/10/96	03/10/96	20	UG/L	U	20	1
Carbon Disulfide	75-15-0	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
1,1-Dichloroethene	75-35-4	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
1,1-Dichloroethane	75-34-3	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
1,2-Dichloroethene (total)	540-59-0	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
Chloroform	67-66-3	QCBLK93826-1	03/10/96	03/10/96	3	UG/L	J	5	1
1,2-Dichloroethane	107-06-2	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
2-Butanone	78-93-3	QCBLK93826-1	03/10/96	03/10/96	20	UG/L	U	20	1
1,1,1-Trichloroethane	71-55-6	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
Carbon Tetrachloride	56-23-5	QCBLK93826-1	03/10/96	03/10/96	180	UG/L		5	1
Bromodichloromethane	75-27-4	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
1,2-Dichloropropane	78-87-5	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
cis-1,3-Dichloropropene	10061-01-5	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
Trichloroethene	79-01-6	QCBLK93826-1	03/10/96	03/10/96	10	UG/L		5	1
Dibromochloromethane	124-48-1	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
1,1,2-Trichloroethane	79-00-5	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
Benzene	71-43-2	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
trans-1,3-Dichloropropene	10061-02-6	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
Bromoform	75-25-2	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
4-Methyl-2-Pentanone	108-10-1	QCBLK93826-1	03/10/96	03/10/96	20	UG/L	U	20	1
2-Hexanone	591-78-6	QCBLK93826-1	03/10/96	03/10/96	20	UG/L	U	20	1
Tetrachloroethene	127-18-4	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
Toluene	108-88-3	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
Chlorobenzene	108-90-7	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
EthylBenzene	100-41-4	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
Styrene	100-42-5	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
Xylene (total)	1330-20-7	QCBLK93826-1	03/10/96	03/10/96	5	UG/L	U	5	1
Toluene-d8 (SURR)	2037-26-5	QCBLK93826-1	03/10/96	03/10/96	96	%REC			1
Bromofluorobenzene (SURR)	460-00-4	QCBLK93826-1	03/10/96	03/10/96	94	%REC			1
1,2-Dichloroethane-d4 (SURR)	17070-07-0	QCBLK93826-1	03/10/96	03/10/96	98	%REC			1

9613453.1526

Quanterra-Richland
3350 George Washington Way
Richland, WA 99352

Project: 550.124

Category: VOA TCL (8240)
Method: EPA 8240
Matrix: LIQUID

Sample Date : 02/27/96
Receipt Date : 02/28/96
Report Date : 03/26/96

Client ID: BOH743

Quanterra ID : 10462-003

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	QCBLK93911-1	03/11/96	03/11/96	10	UG/L	U	10	1
Bromomethane	74-83-9	QCBLK93911-1	03/11/96	03/11/96	10	UG/L	U	10	1
Vinyl Chloride	75-01-4	QCBLK93911-1	03/11/96	03/11/96	10	UG/L	U	10	1
Chloroethane	75-00-3	QCBLK93911-1	03/11/96	03/11/96	10	UG/L	U	10	1
Methylene Chloride	75-09-2	QCBLK93911-1	03/11/96	03/11/96	8	UG/L	B	5	1
Acetone	67-64-1	QCBLK93911-1	03/11/96	03/11/96	20	UG/L	U	20	1
Carbon Disulfide	75-15-0	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
1,1-Dichloroethene	75-35-4	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
1,1-Dichloroethane	75-34-3	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
1,2-Dichloroethene (total)	540-59-0	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
Chloroform	67-66-3	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
1,2-Dichloroethane	107-06-2	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
2-Butanone	78-93-3	QCBLK93911-1	03/11/96	03/11/96	20	UG/L	U	20	1
1,1,1-Trichloroethane	71-55-6	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
Carbon Tetrachloride	56-23-5	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
Bromodichloromethane	75-27-4	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
1,2-Dichloropropane	78-87-5	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
cis-1,3-Dichloropropene	10061-01-5	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
Trichloroethene	79-01-6	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
Dibromochloromethane	124-48-1	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
1,1,2-Trichloroethane	79-00-5	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
Benzene	71-43-2	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
trans-1,3-Dichloropropene	10061-02-6	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
Bromoform	75-25-2	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
4-Methyl-2-Pentanone	108-10-1	QCBLK93911-1	03/11/96	03/11/96	20	UG/L	U	20	1
2-Hexanone	591-78-6	QCBLK93911-1	03/11/96	03/11/96	20	UG/L	U	20	1
Tetrachloroethene	127-18-4	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
Toluene	108-88-3	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
Chlorobenzene	108-90-7	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
EthylBenzene	100-41-4	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
Styrene	100-42-5	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
Xylene (total)	1330-20-7	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
Toluene-d8 (SURR)	2037-26-5	QCBLK93911-1	03/11/96	03/11/96	99	%REC			1
Bromofluorobenzene (SURR)	460-00-4	QCBLK93911-1	03/11/96	03/11/96	90	%REC			1
1,2-Dichloroethane-d4 (SURR)	17070-07-0	QCBLK93911-1	03/11/96	03/11/96	84	%REC			1

9613453.1527

Quanterra-Richland
3350 George Washington Way
Richland, WA 99352

Project: 550.124

Category: VOA TCL (8240)
Method: EPA 8240
Matrix: LIQUID

Sample Date : 02/28/96
Receipt Date : 02/29/96
Report Date : 03/26/96

Client ID: BOH715

Quanterra ID : 10470-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	QCBLK93911-1	03/11/96	03/11/96	10	UG/L	U	10	1
Bromomethane	74-83-9	QCBLK93911-1	03/11/96	03/11/96	10	UG/L	U	10	1
Vinyl Chloride	75-01-4	QCBLK93911-1	03/11/96	03/11/96	10	UG/L	U	10	1
Chloroethane	75-00-3	QCBLK93911-1	03/11/96	03/11/96	10	UG/L	U	10	1
Methylene Chloride	75-09-2	QCBLK93911-1	03/11/96	03/11/96	8	UG/L	B	5	1
Acetone	67-64-1	QCBLK93911-1	03/11/96	03/11/96	18	UG/L	BJ	20	1
Carbon Disulfide	75-15-0	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
1,1-Dichloroethene	75-35-4	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
1,1-Dichloroethane	75-34-3	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
1,2-Dichloroethene (total)	540-59-0	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
Chloroform	67-66-3	QCBLK93911-1	03/11/96	03/11/96	5	UG/L		5	1
1,2-Dichloroethane	107-06-2	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
2-Butanone	78-93-3	QCBLK93911-1	03/11/96	03/11/96	20	UG/L	U	20	1
1,1,1-Trichloroethane	71-55-6	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
Carbon Tetrachloride	56-23-5	QCBLK93911-1	03/11/96	03/11/96	120	UG/L		5	1
Bromodichloromethane	75-27-4	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
1,2-Dichloropropane	78-87-5	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
cis-1,3-Dichloropropene	10061-01-5	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
Trichloroethene	79-01-6	QCBLK93911-1	03/11/96	03/11/96	6	UG/L		5	1
Dibromochloromethane	124-48-1	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
1,1,2-Trichloroethane	79-00-5	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
Benzene	71-43-2	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
trans-1,3-Dichloropropene	10061-02-6	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
Bromoform	75-25-2	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
4-Methyl-2-Pentanone	108-10-1	QCBLK93911-1	03/11/96	03/11/96	20	UG/L	U	20	1
2-Hexanone	591-78-6	QCBLK93911-1	03/11/96	03/11/96	20	UG/L	U	20	1
Tetrachloroethene	127-18-4	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
Toluene	108-88-3	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
Chlorobenzene	108-90-7	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
EthylBenzene	100-41-4	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
Styrene	100-42-5	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
Xylene (total)	1330-20-7	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
Unknown	TIC-2	QCBLK93911-1	03/11/96	03/11/96	14	UG/L	J		1
Toluene-d8 (SURR)	2037-26-5	QCBLK93911-1	03/11/96	03/11/96	95	%REC			1
Bromofluorobenzene (SURR)	460-00-4	QCBLK93911-1	03/11/96	03/11/96	92	%REC			1
1,2-Dichloroethane-d4 (SURR)	17070-07-0	QCBLK93911-1	03/11/96	03/11/96	95	%REC			1

9613453.1528

Quanterra-Richland
3350 George Washington Way
Richland, WA 99352

Project: 550.124

Category: VOA TCL (8240)
Method: EPA 8240
Matrix: LIQUID

Sample Date : 02/28/96
Receipt Date : 02/29/96
Report Date : 03/26/96

Client ID: BOH719

Quanterra ID : 10470-002

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	QCBLK93911-1	03/11/96	03/11/96	10	UG/L	U	10	1
Bromomethane	74-83-9	QCBLK93911-1	03/11/96	03/11/96	10	UG/L	U	10	1
Vinyl Chloride	75-01-4	QCBLK93911-1	03/11/96	03/11/96	10	UG/L	U	10	1
Chloroethane	75-00-3	QCBLK93911-1	03/11/96	03/11/96	10	UG/L	U	10	1
Methylene Chloride	75-09-2	QCBLK93911-1	03/11/96	03/11/96	8	UG/L	B	5	1
Acetone	67-64-1	QCBLK93911-1	03/11/96	03/11/96	20	UG/L	U	20	1
Carbon Disulfide	75-15-0	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
1,1-Dichloroethene	75-35-4	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
1,1-Dichloroethane	75-34-3	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
1,2-Dichloroethene (total)	540-59-0	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
Chloroform	67-66-3	QCBLK93911-1	03/11/96	03/11/96	4	UG/L	J	5	1
1,2-Dichloroethane	107-06-2	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
2-Butanone	78-93-3	QCBLK93911-1	03/11/96	03/11/96	20	UG/L	U	20	1
1,1,1-Trichloroethane	71-55-6	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
Carbon Tetrachloride	56-23-5	QCBLK93911-1	03/11/96	03/11/96	110	UG/L		5	1
Bromodichloromethane	75-27-4	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
1,2-Dichloropropane	78-87-5	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
cis-1,3-Dichloropropene	10061-01-5	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
Trichloroethene	79-01-6	QCBLK93911-1	03/11/96	03/11/96	3	UG/L	J	5	1
Dibromochloromethane	124-48-1	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
1,1,2-Trichloroethane	79-00-5	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
Benzene	71-43-2	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
trans-1,3-Dichloropropene	10061-02-6	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
Bromoform	75-25-2	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
4-Methyl-2-Pentanone	108-10-1	QCBLK93911-1	03/11/96	03/11/96	20	UG/L	U	20	1
2-Hexanone	591-78-6	QCBLK93911-1	03/11/96	03/11/96	20	UG/L	U	20	1
Tetrachloroethene	127-18-4	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
Toluene	108-88-3	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
Chlorobenzene	108-90-7	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
EthylBenzene	100-41-4	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
Styrene	100-42-5	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
Xylene (total)	1330-20-7	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
Toluene-d8 (SURR)	2037-26-5	QCBLK93911-1	03/11/96	03/11/96	100	%REC			1
Bromofluorobenzene (SURR)	460-00-4	QCBLK93911-1	03/11/96	03/11/96	93	%REC			1
1,2-Dichloroethane-d4 (SURR)	17070-07-0	QCBLK93911-1	03/11/96	03/11/96	97	%REC			1

9613453.1528

Quanterra-Richland
3350 George Washington Way
Richland, WA 99352

Project: 550.124

Category: VOA TCL (8240)
Method: EPA 8240
Matrix: LIQUID

Sample Date : 02/28/96
Receipt Date : 02/29/96
Report Date : 03/26/96

Client ID: BOH717

Quanterra ID : 10470-003

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	QCBLK93911-1	03/11/96	03/11/96	10	UG/L	U	10	1
Bromomethane	74-83-9	QCBLK93911-1	03/11/96	03/11/96	10	UG/L	U	10	1
Vinyl Chloride	75-01-4	QCBLK93911-1	03/11/96	03/11/96	10	UG/L	U	10	1
Chloroethane	75-00-3	QCBLK93911-1	03/11/96	03/11/96	10	UG/L	U	10	1
Methylene Chloride	75-09-2	QCBLK93911-1	03/11/96	03/11/96	8	UG/L	B	5	1
Acetone	67-64-1	QCBLK93911-1	03/11/96	03/11/96	20	UG/L	U	20	1
Carbon Disulfide	75-15-0	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
1,1-Dichloroethene	75-35-4	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
1,1-Dichloroethane	75-34-3	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
1,2-Dichloroethene (total)	540-59-0	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
Chloroform	67-66-3	QCBLK93911-1	03/11/96	03/11/96	4	UG/L	J	5	1
1,2-Dichloroethane	107-06-2	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
2-Butanone	78-93-3	QCBLK93911-1	03/11/96	03/11/96	20	UG/L	U	20	1
1,1,1-Trichloroethane	71-55-6	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
Carbon Tetrachloride	56-23-5	QCBLK93911-1	03/11/96	03/11/96	170	UG/L		5	1
Bromodichloromethane	75-27-4	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
1,2-Dichloropropane	78-87-5	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
cis-1,3-Dichloropropene	10061-01-5	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
Trichloroethene	79-01-6	QCBLK93911-1	03/11/96	03/11/96	2	UG/L	J	5	1
Dibromochloromethane	124-48-1	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
1,1,2-Trichloroethane	79-00-5	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
Benzene	71-43-2	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
trans-1,3-Dichloropropene	10061-02-6	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
Bromoform	75-25-2	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
4-Methyl-2-Pentanone	108-10-1	QCBLK93911-1	03/11/96	03/11/96	20	UG/L	U	20	1
2-Hexanone	591-78-6	QCBLK93911-1	03/11/96	03/11/96	20	UG/L	U	20	1
Tetrachloroethene	127-18-4	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
Toluene	108-88-3	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
Chlorobenzene	108-90-7	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
EthylBenzene	100-41-4	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
Styrene	100-42-5	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
Xylene (total)	1330-20-7	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
Unknown	TIC-2	QCBLK93911-1	03/11/96	03/11/96	7.7	UG/L	J		1
Toluene-d8 (SURR)	2037-26-5	QCBLK93911-1	03/11/96	03/11/96	100	%REC			1
Bromofluorobenzene (SURR)	460-00-4	QCBLK93911-1	03/11/96	03/11/96	91	%REC			1
1,2-Dichloroethane-d4 (SURR)	17070-07-0	QCBLK93911-1	03/11/96	03/11/96	96	%REC			1

9613453.1530

Quanterra-Richland
3350 George Washington Way
Richland, WA 99352

Project: 550.124

Category: VOA TCL (8240)
Method: EPA 8240
Matrix: LIQUID

Sample Date : 02/28/96
Receipt Date : 02/29/96
Report Date : 03/26/96

Client ID: B0H741

Quanterra ID : 10470-004

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	QCBLK93911-1	03/11/96	03/11/96	10	UG/L	U	10	1
Bromomethane	74-83-9	QCBLK93911-1	03/11/96	03/11/96	10	UG/L	U	10	1
Vinyl Chloride	75-01-4	QCBLK93911-1	03/11/96	03/11/96	10	UG/L	U	10	1
Chloroethane	75-00-3	QCBLK93911-1	03/11/96	03/11/96	10	UG/L	U	10	1
Methylene Chloride	75-09-2	QCBLK93911-1	03/11/96	03/11/96	6	UG/L	B	5	1
Acetone	67-64-1	QCBLK93911-1	03/11/96	03/11/96	20	UG/L	U	20	1
Carbon Disulfide	75-15-0	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
1,1-Dichloroethene	75-35-4	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
1,1-Dichloroethane	75-34-3	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
1,2-Dichloroethene (total)	540-59-0	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
Chloroform	67-66-3	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
1,2-Dichloroethane	107-06-2	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
2-Butanone	78-93-3	QCBLK93911-1	03/11/96	03/11/96	20	UG/L	U	20	1
1,1,1-Trichloroethane	71-55-6	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
Carbon Tetrachloride	56-23-5	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
Bromodichloromethane	75-27-4	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
1,2-Dichloropropane	78-87-5	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
cis-1,3-Dichloropropene	10061-01-5	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
Trichloroethene	79-01-6	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
Dibromochloromethane	124-48-1	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
1,1,2-Trichloroethane	79-00-5	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
Benzene	71-43-2	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
trans-1,3-Dichloropropene	10061-02-6	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
Bromoform	75-25-2	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
4-Methyl-2-Pentanone	108-10-1	QCBLK93911-1	03/11/96	03/11/96	20	UG/L	U	20	1
2-Hexanone	591-78-6	QCBLK93911-1	03/11/96	03/11/96	20	UG/L	U	20	1
Tetrachloroethene	127-18-4	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
Toluene	108-88-3	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
Chlorobenzene	108-90-7	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
EthylBenzene	100-41-4	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
Styrene	100-42-5	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
Xylene (total)	1330-20-7	QCBLK93911-1	03/11/96	03/11/96	5	UG/L	U	5	1
Toluene-d8 (SURR)	2037-26-5	QCBLK93911-1	03/11/96	03/11/96	98	%REC			1
Bromofluorobenzene (SURR)	460-00-4	QCBLK93911-1	03/11/96	03/11/96	93	%REC			1
1,2-Dichloroethane-d4 (SURR)	17070-07-0	QCBLK93911-1	03/11/96	03/11/96	95	%REC			1

9613453.1531

Quanterra-Richland
3350 George Washington Way
Richland, WA 99352

Project: 550.124

Category: VOA TCL (8240)
Method: EPA 8240
Matrix: LIQUID

Sample Date : 02/29/96
Receipt Date : 03/01/96
Report Date : 03/26/96

Client ID: BOH733

Quanterra ID : 10487-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	QCBLK93991-1	03/12/96	03/12/96	10	UG/L	U	10	1
Bromomethane	74-83-9	QCBLK93991-1	03/12/96	03/12/96	10	UG/L	U	10	1
Vinyl Chloride	75-01-4	QCBLK93991-1	03/12/96	03/12/96	10	UG/L	U	10	1
Chloroethane	75-00-3	QCBLK93991-1	03/12/96	03/12/96	10	UG/L	U	10	1
Methylene Chloride	75-09-2	QCBLK93991-1	03/12/96	03/12/96	4	UG/L	BJ	5	1
Acetone	67-64-1	QCBLK93991-1	03/12/96	03/12/96	20	UG/L	U	20	1
Carbon Disulfide	75-15-0	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
1,1-Dichloroethene	75-35-4	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
1,1-Dichloroethane	75-34-3	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
1,2-Dichloroethene (total)	540-59-0	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
Chloroform	67-66-3	QCBLK93991-1	03/12/96	03/12/96	2	UG/L	J	5	1
1,2-Dichloroethane	107-06-2	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
2-Butanone	78-93-3	QCBLK93991-1	03/12/96	03/12/96	20	UG/L	U	20	1
1,1,1-Trichloroethane	71-55-6	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
Carbon Tetrachloride	56-23-5	QCBLK93991-1	03/12/96	03/12/96	22	UG/L		5	1
Bromodichloromethane	75-27-4	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
1,2-Dichloropropane	78-87-5	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
cis-1,3-Dichloropropene	10061-01-5	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
Trichloroethene	79-01-6	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
Dibromochloromethane	124-48-1	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
1,1,2-Trichloroethane	79-00-5	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
Benzene	71-43-2	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
trans-1,3-Dichloropropene	10061-02-6	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
Bromoform	75-25-2	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
4-Methyl-2-Pentanone	108-10-1	QCBLK93991-1	03/12/96	03/12/96	20	UG/L	U	20	1
2-Hexanone	591-78-6	QCBLK93991-1	03/12/96	03/12/96	20	UG/L	U	20	1
Tetrachloroethene	127-18-4	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
Toluene	108-88-3	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
Chlorobenzene	108-90-7	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
EthylBenzene	100-41-4	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
Styrene	100-42-5	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
Xylene (total)	1330-20-7	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
Toluene-d8 (SURR)	2037-26-5	QCBLK93991-1	03/12/96	03/12/96	94	%REC			1
Bromofluorobenzene (SURR)	460-00-4	QCBLK93991-1	03/12/96	03/12/96	89	%REC			1
1,2-Dichloroethane-d4 (SURR)	17070-07-0	QCBLK93991-1	03/12/96	03/12/96	91	%REC			1

9613453.1532

Quanterra-Richland
3350 George Washington Way
Richland, WA 99352

Project: 550.124

Category: VOA TCL (8240)
Method: EPA 8240
Matrix: LIQUID

Sample Date : 02/29/96
Receipt Date : 03/01/96
Report Date : 03/26/96

Client ID: BOH713

Quanterra ID : 10487-002

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	QCBLK93991-1	03/12/96	03/12/96	20	UG/L	U	20	2
Bromomethane	74-83-9	QCBLK93991-1	03/12/96	03/12/96	20	UG/L	U	20	2
Vinyl Chloride	75-01-4	QCBLK93991-1	03/12/96	03/12/96	20	UG/L	U	20	2
Chloroethane	75-00-3	QCBLK93991-1	03/12/96	03/12/96	20	UG/L	U	20	2
Methylene Chloride	75-09-2	QCBLK93991-1	03/12/96	03/12/96	10	UG/L	BJ	10	2
Acetone	67-64-1	QCBLK93991-1	03/12/96	03/12/96	40	UG/L	U	40	2
Carbon Disulfide	75-15-0	QCBLK93991-1	03/12/96	03/12/96	10	UG/L	U	10	2
1,1-Dichloroethene	75-35-4	QCBLK93991-1	03/12/96	03/12/96	10	UG/L	U	10	2
1,1-Dichloroethane	75-34-3	QCBLK93991-1	03/12/96	03/12/96	10	UG/L	U	10	2
1,2-Dichloroethene (total)	540-59-0	QCBLK93991-1	03/12/96	03/12/96	10	UG/L	U	10	2
Chloroform	67-66-3	QCBLK93991-1	03/12/96	03/12/96	3	UG/L	J	10	2
1,2-Dichloroethane	107-06-2	QCBLK93991-1	03/12/96	03/12/96	10	UG/L	U	10	2
2-Butanone	78-93-3	QCBLK93991-1	03/12/96	03/12/96	40	UG/L	U	40	2
1,1,1-Trichloroethane	71-55-6	QCBLK93991-1	03/12/96	03/12/96	10	UG/L	U	10	2
Carbon Tetrachloride	56-23-5	QCBLK93991-1	03/12/96	03/12/96	300	UG/L		10	2
Bromodichloromethane	75-27-4	QCBLK93991-1	03/12/96	03/12/96	10	UG/L	U	10	2
1,2-Dichloropropane	78-87-5	QCBLK93991-1	03/12/96	03/12/96	10	UG/L	U	10	2
cis-1,3-Dichloropropene	10061-01-5	QCBLK93991-1	03/12/96	03/12/96	10	UG/L	U	10	2
Trichloroethene	79-01-6	QCBLK93991-1	03/12/96	03/12/96	10	UG/L	U	10	2
Dibromochloromethane	124-48-1	QCBLK93991-1	03/12/96	03/12/96	10	UG/L	U	10	2
1,1,2-Trichloroethane	79-00-5	QCBLK93991-1	03/12/96	03/12/96	10	UG/L	U	10	2
Benzene	71-43-2	QCBLK93991-1	03/12/96	03/12/96	10	UG/L	U	10	2
trans-1,3-Dichloropropene	10061-02-6	QCBLK93991-1	03/12/96	03/12/96	10	UG/L	U	10	2
Bromoform	75-25-2	QCBLK93991-1	03/12/96	03/12/96	10	UG/L	U	10	2
4-Methyl-2-Pentanone	108-10-1	QCBLK93991-1	03/12/96	03/12/96	40	UG/L	U	40	2
2-Hexanone	591-78-6	QCBLK93991-1	03/12/96	03/12/96	40	UG/L	U	40	2
Tetrachloroethene	127-18-4	QCBLK93991-1	03/12/96	03/12/96	10	UG/L	U	10	2
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK93991-1	03/12/96	03/12/96	10	UG/L	U	10	2
Toluene	108-88-3	QCBLK93991-1	03/12/96	03/12/96	10	UG/L	U	10	2
Chlorobenzene	108-90-7	QCBLK93991-1	03/12/96	03/12/96	10	UG/L	U	10	2
EthylBenzene	100-41-4	QCBLK93991-1	03/12/96	03/12/96	10	UG/L	U	10	2
Styrene	100-42-5	QCBLK93991-1	03/12/96	03/12/96	10	UG/L	U	10	2
Xylene (total)	1330-20-7	QCBLK93991-1	03/12/96	03/12/96	10	UG/L	U	10	2
Toluene-d8 (SURR)	2037-26-5	QCBLK93991-1	03/12/96	03/12/96	99	%REC			2
Bromofluorobenzene (SURR)	460-00-4	QCBLK93991-1	03/12/96	03/12/96	95	%REC			2
1,2-Dichloroethane-d4 (SURR)	17070-07-0	QCBLK93991-1	03/12/96	03/12/96	101	%REC			2

9613453.1533

Quanterra-Richland
3350 George Washington Way
Richland, WA 99352

Project: 550.124

Category: VOA TCL (8240)
Method: EPA 8240
Matrix: LIQUID

Sample Date : 02/29/96
Receipt Date : 03/01/96
Report Date : 03/26/96

Client ID: B0H735

Quanterra ID : 10487-003

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	QCBLK93991-1	03/12/96	03/12/96	10	UG/L	U	10	1
Bromomethane	74-83-9	QCBLK93991-1	03/12/96	03/12/96	10	UG/L	U	10	1
Vinyl Chloride	75-01-4	QCBLK93991-1	03/12/96	03/12/96	10	UG/L	U	10	1
Chloroethane	75-00-3	QCBLK93991-1	03/12/96	03/12/96	10	UG/L	U	10	1
Methylene Chloride	75-09-2	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
Acetone	67-64-1	QCBLK93991-1	03/12/96	03/12/96	20	UG/L	U	20	1
Carbon Disulfide	75-15-0	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
1,1-Dichloroethene	75-35-4	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
1,1-Dichloroethane	75-34-3	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
1,2-Dichloroethene (total)	540-59-0	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
Chloroform	67-66-3	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	J	5	1
1,2-Dichloroethane	107-06-2	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
2-Butanone	78-93-3	QCBLK93991-1	03/12/96	03/12/96	20	UG/L	U	20	1
1,1,1-Trichloroethane	71-55-6	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
Carbon Tetrachloride	56-23-5	QCBLK93991-1	03/12/96	03/12/96	29	UG/L		5	1
Bromodichloromethane	75-27-4	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
1,2-Dichloropropane	78-87-5	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
cis-1,3-Dichloropropene	10061-01-5	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
Trichloroethene	79-01-6	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
Dibromochloromethane	124-48-1	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
1,1,2-Trichloroethane	79-00-5	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
Benzene	71-43-2	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
trans-1,3-Dichloropropene	10061-02-6	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
Bromoform	75-25-2	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
4-Methyl-2-Pentanone	108-10-1	QCBLK93991-1	03/12/96	03/12/96	20	UG/L	U	20	1
2-Hexanone	591-78-6	QCBLK93991-1	03/12/96	03/12/96	20	UG/L	U	20	1
Tetrachloroethene	127-18-4	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
Toluene	108-88-3	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
Chlorobenzene	108-90-7	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
EthylBenzene	100-41-4	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
Styrene	100-42-5	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
Xylene (total)	1330-20-7	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
Unknown	TIC-2	QCBLK93991-1	03/12/96	03/12/96	6	UG/L	J		1
Toluene-d8 (SURR)	2037-26-5	QCBLK93991-1	03/12/96	03/12/96	95	%REC			1
Bromofluorobenzene (SURR)	460-00-4	QCBLK93991-1	03/12/96	03/12/96	92	%REC			1
1,2-Dichloroethane-d4 (SURR)	17070-07-0	QCBLK93991-1	03/12/96	03/12/96	96	%REC			1

9613453.1534

Quanterra-Richland
3350 George Washington Way
Richland, WA 99352

Project: 550.124

Category: VOA TCL (8240)
Method: EPA 8240
Matrix: LIQUID

Sample Date : 02/29/96
Receipt Date : 03/01/96
Report Date : 03/26/96

Client ID: BOH727

Quanterra ID : 10487-004

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	QCBLK93991-1	03/12/96	03/12/96	10	UG/L	U	10	1
Bromomethane	74-83-9	QCBLK93991-1	03/12/96	03/12/96	10	UG/L	U	10	1
Vinyl Chloride	75-01-4	QCBLK93991-1	03/12/96	03/12/96	10	UG/L	U	10	1
Chloroethane	75-00-3	QCBLK93991-1	03/12/96	03/12/96	10	UG/L	U	10	1
Methylene Chloride	75-09-2	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
Acetone	67-64-1	QCBLK93991-1	03/12/96	03/12/96	20	UG/L	U	20	1
Carbon Disulfide	75-15-0	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
1,1-Dichloroethene	75-35-4	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
1,1-Dichloroethane	75-34-3	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
1,2-Dichloroethene (total)	540-59-0	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
Chloroform	67-66-3	QCBLK93991-1	03/12/96	03/12/96	6	UG/L		5	1
1,2-Dichloroethane	107-06-2	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
2-Butanone	78-93-3	QCBLK93991-1	03/12/96	03/12/96	20	UG/L	U	20	1
1,1,1-Trichloroethane	71-55-6	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
Carbon Tetrachloride	56-23-5	QCBLK93991-1	03/12/96	03/12/96	65	UG/L		5	1
Bromodichloromethane	75-27-4	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
1,2-Dichloropropane	78-87-5	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
cis-1,3-Dichloropropene	10061-01-5	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
Trichloroethene	79-01-6	QCBLK93991-1	03/12/96	03/12/96	3	UG/L	J	5	1
Dibromochloromethane	124-48-1	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
1,1,2-Trichloroethane	79-00-5	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
Benzene	71-43-2	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
trans-1,3-Dichloropropene	10061-02-6	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
Bromoform	75-25-2	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
4-Methyl-2-Pentanone	108-10-1	QCBLK93991-1	03/12/96	03/12/96	20	UG/L	U	20	1
2-Hexanone	591-78-6	QCBLK93991-1	03/12/96	03/12/96	20	UG/L	U	20	1
Tetrachloroethene	127-18-4	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
Toluene	108-88-3	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
Chlorobenzene	108-90-7	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
EthylBenzene	100-41-4	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
Styrene	100-42-5	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
Xylene (total)	1330-20-7	QCBLK93991-1	03/12/96	03/12/96	5	UG/L	U	5	1
Toluene-d8 (SURR)	2037-26-5	QCBLK93991-1	03/12/96	03/12/96	94	%REC			1
Bromofluorobenzene (SURR)	460-00-4	QCBLK93991-1	03/12/96	03/12/96	93	%REC			1
1,2-Dichloroethane-d4 (SURR)	17070-07-0	QCBLK93991-1	03/12/96	03/12/96	92	%REC			1

9613453.1535

Quanterra-Richland
3350 George Washington Way
Richland, WA 99352

Project: 550.124

Category: VOA TCL (8240)
Method: EPA 8240
Matrix: LIQUID

Client ID: ~~BOH740~~ BOH744
J.C 4/10/96

Sample Date : 02/29/96
Receipt Date : 03/01/96
Report Date : 04/08/96

Quanterra ID : 10487-005

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	QCBLK95885-1	04/02/96	04/02/96	10	UG/L	U	10	1
Bromomethane	74-83-9	QCBLK95885-1	04/02/96	04/02/96	10	UG/L	U	10	1
Vinyl Chloride	75-01-4	QCBLK95885-1	04/02/96	04/02/96	10	UG/L	U	10	1
Chloroethane	75-00-3	QCBLK95885-1	04/02/96	04/02/96	10	UG/L	U	10	1
Methylene Chloride	75-09-2	QCBLK95885-1	04/02/96	04/02/96	5	UG/L	U	5	1
Acetone	67-64-1	QCBLK95885-1	04/02/96	04/02/96	20	UG/L	U	20	1
Carbon Disulfide	75-15-0	QCBLK95885-1	04/02/96	04/02/96	5	UG/L	U	5	1
1,1-Dichloroethene	75-35-4	QCBLK95885-1	04/02/96	04/02/96	5	UG/L	U	5	1
1,1-Dichloroethane	75-34-3	QCBLK95885-1	04/02/96	04/02/96	5	UG/L	U	5	1
1,2-Dichloroethene (total)	540-59-0	QCBLK95885-1	04/02/96	04/02/96	5	UG/L	U	5	1
Chloroform	67-66-3	QCBLK95885-1	04/02/96	04/02/96	5	UG/L	U	5	1
1,2-Dichloroethane	107-06-2	QCBLK95885-1	04/02/96	04/02/96	5	UG/L	U	5	1
2-Butanone	78-93-3	QCBLK95885-1	04/02/96	04/02/96	20	UG/L	U	20	1
1,1,1-Trichloroethane	71-55-6	QCBLK95885-1	04/02/96	04/02/96	5	UG/L	U	5	1
Carbon Tetrachloride	56-23-5	QCBLK95885-1	04/02/96	04/02/96	5	UG/L	U	5	1
Bromodichloromethane	75-27-4	QCBLK95885-1	04/02/96	04/02/96	5	UG/L	U	5	1
1,2-Dichloropropane	78-87-5	QCBLK95885-1	04/02/96	04/02/96	5	UG/L	U	5	1
cis-1,3-Dichloropropene	10061-01-5	QCBLK95885-1	04/02/96	04/02/96	5	UG/L	U	5	1
Trichloroethene	79-01-6	QCBLK95885-1	04/02/96	04/02/96	5	UG/L	U	5	1
Dibromochloromethane	124-48-1	QCBLK95885-1	04/02/96	04/02/96	5	UG/L	U	5	1
1,1,2-Trichloroethane	79-00-5	QCBLK95885-1	04/02/96	04/02/96	5	UG/L	U	5	1
Benzene	71-43-2	QCBLK95885-1	04/02/96	04/02/96	5	UG/L	U	5	1
trans-1,3-Dichloropropene	10061-02-6	QCBLK95885-1	04/02/96	04/02/96	5	UG/L	U	5	1
Bromoform	75-25-2	QCBLK95885-1	04/02/96	04/02/96	5	UG/L	U	5	1
4-Methyl-2-Pentanone	108-10-1	QCBLK95885-1	04/02/96	04/02/96	20	UG/L	U	20	1
2-Hexanone	591-78-6	QCBLK95885-1	04/02/96	04/02/96	20	UG/L	U	20	1
Tetrachloroethene	127-18-4	QCBLK95885-1	04/02/96	04/02/96	5	UG/L	U	5	1
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK95885-1	04/02/96	04/02/96	5	UG/L	U	5	1
Toluene	108-88-3	QCBLK95885-1	04/02/96	04/02/96	5	UG/L	U	5	1
Chlorobenzene	108-90-7	QCBLK95885-1	04/02/96	04/02/96	5	UG/L	U	5	1
EthylBenzene	100-41-4	QCBLK95885-1	04/02/96	04/02/96	5	UG/L	U	5	1
Styrene	100-42-5	QCBLK95885-1	04/02/96	04/02/96	5	UG/L	U	5	1
Xylene (total)	1330-20-7	QCBLK95885-1	04/02/96	04/02/96	5	UG/L	U	5	1
Toluene-d8 (SURR)	2037-26-5	QCBLK95885-1	04/02/96	04/02/96	87	%REC			1
Bromofluorobenzene (SURR)	460-00-4	QCBLK95885-1	04/02/96	04/02/96	87	%REC			1
1,2-Dichloroethane-d4 (SURR)	17070-07-0	QCBLK95885-1	04/02/96	04/02/96	86	%REC			1

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alw 4-9-96 ~~00046A~~

9613453.1536

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0H713

Lab Name: QUANTERRA MO Contract: 550-124

Lab Code: ITMO Case No.: V46101 SDG No.: W0914

Matrix: (soil/water) WATER Lab Sample ID: 10487-002

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: B7722

Level: (low/med) LOW Date Received: 03/01/96

% Moisture: not dec. Date Analyzed: 03/12/96

Column: (pack/cap) CAP Dilution Factor: 2.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	20	U
74-83-9	Bromomethane	20	U
75-01-4	Vinyl Chloride	20	U
75-00-3	Chloroethane	20	U
75-09-2	Methylene Chloride	10	BJ
67-64-1	Acetone	40	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	3	J
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	40	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	300	
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	40	U
591-78-6	2-Hexanone	40	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

9613453.1537

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B0H713

Lab Name: QUANTERRA MO Contract: 550-124

Lab Code: ITMO Case No.: V46101 SDG No.: W0914

Matrix: (soil/water) WATER Lab Sample ID: 10487-002

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: B7722

Level: (low/med) LOW Date Received: 03/01/96

% Moisture: not dec. Date Analyzed: 03/12/96

Column (pack/cap) CAP Dilution Factor: 2.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

9613453.1538

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0H715

Lab Name: QUANTERRA MO Contract: 550-124

Lab Code: ITMO Case No.: V46101 SDG No.: W0914

Matrix: (soil/water) WATER Lab Sample ID: 10470-001

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: B7692

Level: (low/med) LOW Date Received: 02/29/96

% Moisture: not dec. Date Analyzed: 03/11/96

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	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	8	B
67-64-1	Acetone	18	BJ
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	
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	20	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	120	
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	6	
124-48-1	Dibromochloromethane	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	20	U
591-78-6	2-Hexanone	20	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

9613453.1539

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B0H715

Lab Name: QUANTERRA MO Contract: 550-124

Lab Code: ITMO Case No.: V46101 SDG No.: W0914

Matrix: (soil/water) WATER Lab Sample ID: 10470-001

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: B7692

Level: (low/med) LOW Date Received: 02/29/96

% Moisture: not dec. Date Analyzed: 03/11/96

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	23.02	14	J

9613453.1540

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0H717

Lab Name: QUANTERRA MO Contract: 550-124

Lab Code: ITMO Case No.: V46101 SDG No.: W0914

Matrix: (soil/water) WATER Lab Sample ID: 10470-003

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: B7694

Level: (low/med) LOW Date Received: 02/29/96

% Moisture: not dec. Date Analyzed: 03/11/96

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	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	8	B
67-64-1	Acetone	20	U
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	4	J
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	20	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	170	
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	2	J
124-48-1	Dibromochloromethane	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	20	U
591-78-6	2-Hexanone	20	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

9613453.1541

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B0H717

Lab Name: QUANTERRA MO Contract: 550-124

Lab Code: ITMO Case No.: V46101 SDG No.: W0914

Matrix: (soil/water) WATER Lab Sample ID: 10470-003

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: B7694

Level: (low/med) LOW Date Received: 02/29/96

% Moisture: not dec. Date Analyzed: 03/11/96

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	22.16	7.7	J

9613453.1542

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0H719

Lab Name: QUANTERRA MO Contract: 550-124

Lab Code: ITMO Case No.: V46101 SDG No.: W0914

Matrix: (soil/water) WATER Lab Sample ID: 10470-002

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: B7693

Level: (low/med) LOW Date Received: 02/29/96

% Moisture: not dec. Date Analyzed: 03/11/96

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	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	8	B
67-64-1	Acetone	20	U
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	4	J
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	20	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	110	
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	3	J
124-48-1	Dibromochloromethane	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	20	U
591-78-6	2-Hexanone	20	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

9613453.1543

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B0H719

Lab Name: QUANTERRA MO Contract: 550-124

Lab Code: ITMO Case No.: V46101 SDG No.: W0914

Matrix: (soil/water) WATER Lab Sample ID: 10470-002

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: B7693

Level: (low/med) LOW Date Received: 02/29/96

% Moisture: not dec. Date Analyzed: 03/11/96

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

9613453.1544

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0H721

Lab Name: QUANTERRA MO Contract: 550-124

Lab Code: ITMO Case No.: V46101 SDG No.: W0914

Matrix: (soil/water) WATER Lab Sample ID: 10461-003

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: B7678

Level: (low/med) LOW Date Received: 02/27/96

% Moisture: not dec. Date Analyzed: 03/10/96

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	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	5	U
67-64-1	Acetone	20	U
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	20	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	8	
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	Dibromochloromethane	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	20	U
591-78-6	2-Hexanone	20	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

9613453.1545

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B0H721

Lab Name: QUANTERRA MO Contract: 550-124

Lab Code: ITMO Case No.: V46101 SDG No.: W0914

Matrix: (soil/water) WATER Lab Sample ID: 10461-003

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: B7678

Level: (low/med) LOW Date Received: 02/27/96

% Moisture: not dec. Date Analyzed: 03/10/96

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

9613453.1546

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0H723

Lab Name: QUANTERRA MO Contract: 550-124

Lab Code: ITMO Case No.: V46101 SDG No.: W0914

Matrix: (soil/water) WATER Lab Sample ID: 10462-001

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: B7680

Level: (low/med) LOW Date Received: 02/28/96

% Moisture: not dec. Date Analyzed: 03/10/96

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	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	5	U
67-64-1	Acetone	20	U
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	20	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	Dibromochloromethane	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	20	U
591-78-6	2-Hexanone	20	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

9613453.1547

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B0H723

Lab Name: QUANTERRA MO Contract: 550-124

Lab Code: ITMO Case No.: V46101 SDG No.: W0914

Matrix: (soil/water) WATER Lab Sample ID: 10462-001

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: B7680

Level: (low/med) LOW Date Received: 02/28/96

% Moisture: not dec. Date Analyzed: 03/10/96

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

9613453.1548

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0H725

Lab Name: QUANTERRA MO Contract: 550-124

Lab Code: ITMO Case No.: V46101 SDG No.: W0914

Matrix: (soil/water) WATER Lab Sample ID: 10461-002

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: B7623

Level: (low/med) LOW Date Received: 02/27/96

% Moisture: not dec. Date Analyzed: 03/06/96

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	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	20	U
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	2	J
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	20	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	140	
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	2	J
124-48-1	Dibromochloromethane	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	20	U
591-78-6	2-Hexanone	20	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B0H725

Lab Name: QUANTERRA MO Contract: 550-124

Lab Code: ITMO Case No.: V46101 SDG No.: W0914

Matrix: (soil/water) WATER Lab Sample ID: 10461-002

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: B7623

Level: (low/med) LOW Date Received: 02/27/96

% Moisture: not dec. Date Analyzed: 03/06/96

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

9613453.1550

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0H727

Lab Name: QUANTERRA MO Contract: 550-124

Lab Code: ITMO Case No.: V46101 SDG No.: W0914

Matrix: (soil/water) WATER Lab Sample ID: 10487-004

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: B7715

Level: (low/med) LOW Date Received: 03/01/96

% Moisture: not dec. Date Analyzed: 03/12/96

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	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	5	U
67-64-1	Acetone	20	U
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	6	
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	20	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	65	
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	3	J
124-48-1	Dibromochloromethane	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	20	U
591-78-6	2-Hexanone	20	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

9613453.1551

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B0H727

Lab Name: QUANTERRA MO Contract: 550-124

Lab Code: ITMO Case No.: V46101 SDG No.: W0914

Matrix: (soil/water) WATER Lab Sample ID: 10487-004

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: B7715

Level: (low/med) LOW Date Received: 03/01/96

% Moisture: not dec. Date Analyzed: 03/12/96

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

9613453.1552

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0H729

Lab Name: QUANTERRA MO Contract: 550-124

Lab Code: ITMO Case No.: V46101 SDG No.: W0914

Matrix: (soil/water) WATER Lab Sample ID: 10462-002

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: B7681

Level: (low/med) LOW Date Received: 02/28/96

% Moisture: not dec. Date Analyzed: 03/10/96

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	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	5	U
67-64-1	Acetone	20	U
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	3	J
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	20	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	180	
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	10	
124-48-1	Dibromochloromethane	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	20	U
591-78-6	2-Hexanone	20	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

9613453.1553

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B0H729

Lab Name: QUANTERRA MO Contract: 550-124

Lab Code: ITMO Case No.: V46101 SDG No.: W0914

Matrix: (soil/water) WATER Lab Sample ID: 10462-002

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: B7681

Level: (low/med) LOW Date Received: 02/28/96

% Moisture: not dec. Date Analyzed: 03/10/96

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

9613453.1554

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0H731

Lab Name: QUANTERRA MO Contract: 550-124

Lab Code: ITMO Case No.: V46101 SDG No.: W0914

Matrix: (soil/water) WATER Lab Sample ID: 10461-001

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: B7620

Level: (low/med) LOW Date Received: 02/27/96

% Moisture: not dec. Date Analyzed: 03/06/96

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	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	9	B
67-64-1	Acetone	20	U
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	3	J
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	20	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	140	
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	Dibromochloromethane	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	20	U
591-78-6	2-Hexanone	20	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

9613453.1555

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B0H731

Lab Name: QUANTERRA MO Contract: 550-124

Lab Code: ITMO Case No.: V46101 SDG No.: W0914

Matrix: (soil/water) WATER Lab Sample ID: 10461-001

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: B7620

Level: (low/med) LOW Date Received: 02/27/96

% Moisture: not dec. Date Analyzed: 03/06/96

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

9613453.1556

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0H733

Lab Name: QUANTERRA MO Contract: 550-124

Lab Code: ITMO Case No.: V46101 SDG No.: W0914

Matrix: (soil/water) WATER Lab Sample ID: 10487-001

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: B7712

Level: (low/med) LOW Date Received: 03/01/96

% Moisture: not dec. Date Analyzed: 03/12/96

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	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	4	BJ
67-64-1	Acetone	20	U
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	2	J
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	20	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	22	
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	Dibromochloromethane	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	20	U
591-78-6	2-Hexanone	20	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

9613453.1557

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B0H733

Lab Name: QUANTERRA MO Contract: 550-124

Lab Code: ITMO Case No.: V46101 SDG No.: W0914

Matrix: (soil/water) WATER Lab Sample ID: 10487-001

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: B7712

Level: (low/med) LOW Date Received: 03/01/96

% Moisture: not dec. Date Analyzed: 03/12/96

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

9613453.1558

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0H735

Lab Name: QUANTERRA MO Contract: 550-124

Lab Code: ITMO Case No.: V46101 SDG No.: W0914

Matrix: (soil/water) WATER Lab Sample ID: 10487-003

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: B7714

Level: (low/med) LOW Date Received: 03/01/96

% Moisture: not dec. Date Analyzed: 03/12/96

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	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	5	U
67-64-1	Acetone	20	U
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	J
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	20	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	29	
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	Dibromochloromethane	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	20	U
591-78-6	2-Hexanone	20	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

9613453.1559

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B0H735

Lab Name: QUANTERRA MO Contract: 550-124

Lab Code: ITMO Case No.: V46101 SDG No.: W0914

Matrix: (soil/water) WATER Lab Sample ID: 10487-003

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: B7714

Level: (low/med) LOW Date Received: 03/01/96

% Moisture: not dec. Date Analyzed: 03/12/96

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	23.04	6	J

FORM I VOA-TIC

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9613453.1560

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0H744
~~B0H740~~ J.C. 4/16/96

Lab Name: QUANTERRA MO Contract: 550-124

Lab Code: ITMO Case No.: V46101 SDG No.: W0914

Matrix: (soil/water) WATER Lab Sample ID: 10487-005

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: B8110

Level: (low/med) LOW Date Received: 03/01/96

% Moisture: not dec. Date Analyzed: 04/02/96

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	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	5	U
67-64-1	Acetone	20	U
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	20	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	Dibromochloromethane	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	20	U
591-78-6	2-Hexanone	20	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

9613453.1561

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B0H744
~~B0H740~~ J.C. 4/16/96

Lab Name: QUANTERRA MO Contract: 550-124

Lab Code: ITMO Case No.: V46101 SDG No.: W0914

Matrix: (soil/water) WATER Lab Sample ID: 10487-005

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: B8110

Level: (low/med) LOW Date Received: 03/01/96

% Moisture: not dec. Date Analyzed: 04/02/96

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

9613453.1562

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0H741

Lab Name: QUANTERRA MO Contract: 550-124

Lab Code: ITMO Case No.: V46101 SDG No.: W0914

Matrix: (soil/water) WATER Lab Sample ID: 10470-004

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: B7695

Level: (low/med) LOW Date Received: 02/29/96

% Moisture: not dec. Date Analyzed: 03/11/96

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	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	6	B
67-64-1	Acetone	20	U
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	20	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	Dibromochloromethane	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	20	U
591-78-6	2-Hexanone	20	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

9613453.1563

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B0H741

Lab Name: QUANTERRA MO Contract: 550-124

Lab Code: ITMO Case No.: V46101 SDG No.: W0914

Matrix: (soil/water) WATER Lab Sample ID: 10470-004

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: B7695

Level: (low/med) LOW Date Received: 02/29/96

% Moisture: not dec. Date Analyzed: 03/11/96

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

9613453.1564

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0H742

Lab Name: QUANTERRA MO Contract: 550-124

Lab Code: ITMO Case No.: V46101 SDG No.: W0914

Matrix: (soil/water) WATER Lab Sample ID: 10461-004

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: B7679

Level: (low/med) LOW Date Received: 02/27/96

% Moisture: not dec. Date Analyzed: 03/10/96

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	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	5	U
67-64-1	Acetone	20	U
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	20	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	Dibromochloromethane	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	20	U
591-78-6	2-Hexanone	20	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

9613453.1565

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B0H742

Lab Name: QUANTERRA MO Contract: 550-124

Lab Code: ITMO Case No.: V46101 SDG No.: W0914

Matrix: (soil/water) WATER Lab Sample ID: 10461-004

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: B7679

Level: (low/med) LOW Date Received: 02/27/96

% Moisture: not dec. Date Analyzed: 03/10/96

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

9613453.1566

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0H743

Lab Name: QUANTERRA MO Contract: 550-124

Lab Code: ITMO Case No.: V46101 SDG No.: W0914

Matrix: (soil/water) WATER Lab Sample ID: 10462-003

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: B7688

Level: (low/med) LOW Date Received: 02/28/96

% Moisture: not dec. Date Analyzed: 03/11/96

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	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	8	B
67-64-1	Acetone	20	U
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	20	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	Dibromochloromethane	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	20	U
591-78-6	2-Hexanone	20	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B0H743

Lab Name: QUANTERRA MO Contract: 550-124

Lab Code: ITMO Case No.: V46101 SDG No.: W0914

Matrix: (soil/water) WATER Lab Sample ID: 10462-003

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: B7688

Level: (low/med) LOW Date Received: 02/28/96

% Moisture: not dec. Date Analyzed: 03/11/96

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

9613453.1568

Quanterra-Richland
3350 George Washington Way
Richland, WA 99352

Project: 550.124

Category: NO2/NO3 (353.1)
Method: EPA 353.1
Matrix: LIQUID

Sample Date : 02/26/96
Receipt Date : 02/27/96
Report Date : 03/26/96

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
BOH731	10461-001	Nitrate/Nitrite	NO2+NO3-N	QCBLK93062-1	03/05/96	03/05/96	301	MG/L		25.0	500
BOH731	10461-001DUP	Nitrate/Nitrite	NO2+NO3-N	QCBLK93062-1	03/05/96	03/05/96	317	MG/L		25.0	500
BOH731	10461-001MS	Nitrate/Nitrite	NO2+NO3-N	QCBLK93062-1	03/05/96	03/05/96	0	%REC			500
BOH725	10461-002	Nitrate/Nitrite	NO2+NO3-N	QCBLK93062-1	03/05/96	03/05/96	331	MG/L		25.0	500
BOH721	10461-003	Nitrate/Nitrite	NO2+NO3-N	QCBLK93062-1	03/05/96	03/05/96	120	MG/L		10.0	200
BOH723	10462-001	Nitrate/Nitrite	NO2+NO3-N	QCBLK93062-1	03/05/96	03/05/96	130	MG/L		25.0	500
BOH729	10462-002	Nitrate/Nitrite	NO2+NO3-N	QCBLK93062-1	03/05/96	03/05/96	217	MG/L		25.0	500
BOH715	10470-001	Nitrate/Nitrite	NO2+NO3-N	QCBLK93414-1	03/06/96	03/06/96	97.7	MG/L		25.0	500
BOH719	10470-002	Nitrate/Nitrite	NO2+NO3-N	QCBLK93414-1	03/06/96	03/06/96	281	MG/L		25.0	500
BOH717	10470-003	Nitrate/Nitrite	NO2+NO3-N	QCBLK93414-1	03/06/96	03/06/96	331	MG/L		25.0	500
BOH733	10487-001	Nitrate/Nitrite	NO2+NO3-N	QCBLK93682-1	03/07/96	03/07/96	48.1	MG/L		5.00	100
BOH713	10487-002	Nitrate/Nitrite	NO2+NO3-N	QCBLK93682-1	03/07/96	03/07/96	6.33	MG/L		1.00	20
BOH735	10487-003	Nitrate/Nitrite	NO2+NO3-N	QCBLK93682-1	03/07/96	03/07/96	48.3	MG/L		5.00	100
BOH727	10487-004	Nitrate/Nitrite	NO2+NO3-N	QCBLK93682-1	03/07/96	03/07/96	3.83	MG/L		1.00	20
NA	QCBLK93062-1	Nitrate/Nitrite	NO2+NO3-N	QCBLK93062-1	03/05/96	03/05/96	0.050	MG/L	U	0.050	1
NA	QCBLK93414-1	Nitrate/Nitrite	NO2+NO3-N	QCBLK93414-1	03/06/96	03/06/96	0.050	MG/L	U	0.050	1
NA	QCBLK93682-1	Nitrate/Nitrite	NO2+NO3-N	QCBLK93682-1	03/07/96	03/07/96	0.050	MG/L	U	0.050	1
NA	QCLCS93062-1	Nitrate/Nitrite	NO2+NO3-N	QCBLK93062-1	03/05/96	03/05/96	105	%REC			1
NA	QCLCS93414-1	Nitrate/Nitrite	NO2+NO3-N	QCBLK93414-1	03/06/96	03/06/96	98	%REC			1
NA	QCLCS93682-1	Nitrate/Nitrite	NO2+NO3-N	QCBLK93682-1	03/07/96	03/07/96	100	%REC			1

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W0914
R

Quanterra
Environmental Services

Quanterra Incorporated
2800 George Washington Way
Richland, Washington 99352

509 375-3131 Telephone
509 375-5590 Fax

CERTIFICATE OF ANALYSIS

APR 1996
RECEIVED
Data
Log In

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

April 26, 1996

Attention: Joan Kessner

SAF Number	:	B96-059
Date SDG Closed	:	March 12, 1996
Number of Samples	:	Twelve (12)
Sample Type	:	Water
SDG Number	:	W0914
Data Deliverable	:	Summary

I. Introduction

On March 12, 1996, twelve water samples were received by the Quanterra Environmental Services Richland Laboratory (QTESRL) for radiochemical analysis. Upon receipt, the samples were assigned the following laboratory ID numbers to correspond with the Bechtel Hanford, Inc. (BHI) specific IDs:

QTESRL ID#	BHI ID#	MATRIX	DATE OF RECEIPT
60235001	B0H731	Water	02/27/96
60235002	B0H725	Water	02/27/96
60235003	B0H721	Water	02/27/96
60236301	B0H723	Water	02/28/96
60236302	B0H729	Water	02/28/96
60239101	B0H715	Water	02/29/96
60239102	B0H719	Water	02/29/96
60239103	B0H717	Water	02/29/96
60301601	B0H713	Water	03/01/96
60301602	B0H733	Water	03/01/96
60301603	B0H735	Water	03/01/96
60301604	B0H727	Water	03/01/96

Quanterra
Environmental Services

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:

Liquid Scintillation Counting
Technetium-99 by method ITAS-IT-RS-0001
Total Uranium
Total Uranium by method RICHRC-5058

III. Quality Control

The analytical results for each analysis performed under SDG W0914 include a minimum of one Laboratory Control Sample (LCS), one method (reagent) blank, and one duplicate. Any exceptions have been noted in the "Comments" section.

Quality control sample results are reported in the same units as sample results.

IV. Comments

Liquid Scintillation Counting

Technetium-99 by method ITAS-IT-RS-0001
Sample B0H723 was reanalyzed due to inconsistent results when compared with the matrix spike of the same sample. The reanalysis results are within the expected range and are accepted. The unexpected first result is attributed to the possibility of a hot sediment particle in the sample. The matrix spike, LCS, batch blank, sample and sample duplicate (B0H715) results are within contractual requirements.

Total Uranium

Total Uranium by method RICHRC-5058
The matrix spike, LCS, batch blank, sample and sample duplicate (B0H723) results are within contractual requirements.

Quanterra
Environmental Services

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:

Suzanne Gaines

Suzanne Gaines
Project Manager

9613453.1572

Quanterra Environmental Services

SAMPLE RESULTS

LAB NAME:	ITAS-RICHLAND	**SDG:**	W0914
LAB SAMPLE ID:	60235001	**MATRIX:**	WATER
CLIENT ID:	B0H731	**DATE RECEIVED:**	2/27/96 12:00:00 PM

ISOTOPE	RESULT	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
TC-99	1.05E+04	3.3E+01	1.1E+03	3.70E+00	pCi/L	95.10%	ITAS-IT-RS-0001
TOTAL-URANIUM	3.49E+03	N/A	7.7E+02	3.92E-03	ug/L	N/A	RICHRC5058

Number of Results: 2

Quanterra
Environmental Services

SAMPLE RESULTS

LAB NAME:	ITAS-RICHLAND	**SDG:**	W0914
LAB SAMPLE ID:	60235002	**MATRIX:**	WATER
CLIENT ID:	B0H725	**DATE RECEIVED:**	2/27/96 12:00:00 PM

ISOTOPE	RESULT	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
TC-99	2.93E+04	7.3E+01	3.2E+03	3.70E+00	pCi/L	95.10%	ITAS-IT-RS-0001
TOTAL-URANIUM	7.93E+02	N/A	1.7E+02	3.92E-03	ug/L	N/A	RICHRC5058

Number of Results: 2

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Quanterra
Environmental Services

SAMPLE RESULTS

LAB NAME:	ITAS-RICHLAND	**SDG:**	W0914
LAB SAMPLE ID:	60235003	**MATRIX:**	WATER
CLIENT ID:	B0H721	**DATE RECEIVED:**	2/27/96 12:00:00 PM

ISOTOPE	RESULT	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
TC-99	3.77E+03	2.0E+01	4.1E+02	3.70E+00	pCi/L	95.10%	ITAS-IT-RS-0001
TOTAL-URANIUM	1.14E+03	N/A	1.6E+02	3.92E-03	ug/L	N/A	RICHRC5058

Number of Results: 2

Quanterra
Environmental Services

SAMPLE RESULTS

LAB NAME:	ITAS-RICHLAND	**SDG:**	W0914
LAB SAMPLE ID:	60236301	**MATRIX:**	WATER
CLIENT ID:	B0H723	**DATE RECEIVED:**	2/28/96 12:00:00 PM

ISOTOPE	RESULT	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
TC-99	8.07E+02	9.2E+00	9.1E+01	3.84E+00	pCi/L	95.10%	ITAS-IT-RS-0001
TOTAL-URANIUM	1.32E+02	N/A	3.0E+01	3.92E-03	ug/L	N/A	RICHRC5058

Number of Results: 2

Quanterra
Environmental Services

SAMPLE RESULTS

LAB NAME:	ITAS-RICHLAND	**SDG:**	W0914
LAB SAMPLE ID:	60236302	**MATRIX:**	WATER
CLIENT ID:	B0H729	**DATE RECEIVED:**	2/28/96 12:00:00 PM

ISOTOPE	RESULT	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
TC-99	4.75E+02	7.1E+00	5.5E+01	3.70E+00	pCi/L	95.10%	ITAS-IT-RS-0001
TOTAL-URANIUM	4.72E+01	N/A	1.1E+01	3.92E-03	ug/L	N/A	RICHRC5058

Number of Results: 2

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Quanterra
Environmental Services

SAMPLE RESULTS

LAB NAME:	ITAS-RICHLAND	**SDG:**	W0914
LAB SAMPLE ID:	60239101	**MATRIX:**	WATER
CLIENT ID:	B0H715	**DATE RECEIVED:**	2/29/96 10:00:00 AM

ISOTOPE	RESULT	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
TC-99	8.52E+03	2.9E+01	9.3E+02	3.70E+00	pCi/L	95.10%	ITAS-IT-RS-0001
TOTAL-URANIUM	1.08E+03	N/A	2.4E+02	3.92E-03	ug/L	N/A	RICHRC5058

Number of Results: 2

Quanterra
Environmental Services

SAMPLE RESULTS

LAB NAME:	ITAS-RICHLAND	**SDG:**	W0914
LAB SAMPLE ID:	60239102	**MATRIX:**	WATER
CLIENT ID:	B0H719	**DATE RECEIVED:**	2/29/96 10:00:00 AM

ISOTOPE	RESULT	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
TC-99	1.17E+04	3.5E+01	1.3E+03	3.70E+00	pCi/L	95.10%	ITAS-IT-RS-0001
TOTAL-URANIUM	2.24E+03	N/A	3.1E+02	3.92E-03	ug/L	N/A	RICHRC5058

Number of Results: 2

Quanterra
Environmental Services

SAMPLE RESULTS

LAB NAME:	ITAS-RICHLAND	**SDG:**	W0914
LAB SAMPLE ID:	60239103	**MATRIX:**	WATER
CLIENT ID:	B0H717	**DATE RECEIVED:**	2/29/96 10:00:00 AM

ISOTOPE	RESULT	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
TC-99	4.90E+02	7.2E+00	5.6E+01	3.70E+00	pCi/L	95.10%	ITAS-IT-RS-0001
TOTAL-URANIUM	7.98E+02	N/A	1.8E+02	3.92E-03	ug/L	N/A	RICHRC5058

Number of Results: 2

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Quanterra Environmental Services

SAMPLE RESULTS

LAB NAME:	ITAS-RICHLAND	**SDG:**	W0914
LAB SAMPLE ID:	60301601	**MATRIX:**	WATER
CLIENT ID:	B0H713	**DATE RECEIVED:**	3/1/96 11:00:00 AM

ISOTOPE	RESULT	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
TC-99	1.53E+02	4.2E+00	2.0E+01	3.70E+00	pCi/L	95.10%	ITAS-IT-RS-0001
TOTAL-URANIUM	8.26E+02	N/A	1.9E+02	3.92E-03	ug/L	N/A	RICHRC5058

Number of Results: 2

Quanterra
Environmental Services

SAMPLE RESULTS

LAB NAME:	ITAS-RICHLAND	**SDG:**	W0914
LAB SAMPLE ID:	60301602	**MATRIX:**	WATER
CLIENT ID:	B0H733	**DATE RECEIVED:**	3/1/96 11:00:00 AM

ISOTOPE	RESULT	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
TC-99	4.18E+02	6.7E+00	4.9E+01	3.70E+00	pCi/L	95.10%	ITAS-IT-RS-0001
TOTAL-URANIUM	1.87E+02	N/A	4.2E+01	3.92E-03	ug/L	N/A	RICHRC5058

Number of Results: 2

Quanterra
Environmental Services

SAMPLE RESULTS

LAB NAME:	ITAS-RICHLAND	**SDG:**	W0914
LAB SAMPLE ID:	60301603	**MATRIX:**	WATER
CLIENT ID:	B0H735	**DATE RECEIVED:**	3/1/96 11:00:00 AM

ISOTOPE	RESULT	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
TC-99	1.90E+04	4.8E+01	2.1E+03	3.70E+00	pCi/L	95.10%	ITAS-IT-RS-0001
TOTAL-URANIUM	1.75E+02	N/A	3.9E+01	3.92E-03	ug/L	N/A	RICHRC5058

Number of Results: 2

Quanterra
Environmental Services

SAMPLE RESULTS

LAB NAME:	ITAS-RICHLAND	**SDG:**	W0914
LAB SAMPLE ID:	60301604	**MATRIX:**	WATER
CLIENT ID:	B0H727	**DATE RECEIVED:**	3/1/96 11:00:00 AM

ISOTOPE	RESULT	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
TC-99	1.37E+02	4.0E+00	1.8E+01	3.70E+00	pCi/L	95.10%	ITAS-IT-RS-0001
TOTAL-URANIUM	1.46E+00	N/A	3.3E-01	3.92E-03	ug/L	N/A	RICHRC5058

Number of Results: 2

Quanterra Data Review Checklist
RADIOCHEMISTRY

Work Order number (s): 602363, 603016, 602391, 602350

Client ID: BHI

Due Date: 4-26-96

Lab Sample Number or SDG: WØ914

Method Test Parameters: TC-99

Matrix: Water

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. Is the blank result < 1/2 the Contract Detection Limit?	✓			✓
4. Is the blank > 1/2 the Contract Detection Limit but < 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. MS/MSD results and yield meet acceptance criteria?		✓		✓
10. Duplicate sample results and yield meet acceptance criteria?	✓			✓
D. Other				
1. Are all Nonconformances included and noted?	✓			✓
2. Are all required forms filed out?	✓			✓
3. Correct methodology used?	✓			✓
4. Transcription checked?	4-25-96			JR
5. Were all calculations checked at a minimum frequency?	✓			✓
6. Units checked?	✓			✓

Comments on any "No' response: _____

First Level Review: [signature] Date: 4/23/96

Second Level Review: Suzy Gaines Date. 4/26/96

Form #: LS-038,2 /96, Rev.4

QUANTERRA LABORATORY NONCONFORMANCE MEMO (NCM)

LOG #: RD-96-

Project ID: BHI
NCM Initiated by: Joel Kempema
Sample Numbers: A0236301
Tests: Tc99
Matrix: Water
W0914

Analytical Area (check appropriate area):

- ☐ Sample control
- ☐ Organic preparation
- ☐ Inorganic preparation
- ☐ GC
- ☐ HPLC
- ☐ GC/MS
- ☐ Wet chemistry
- ☐ Metals
- ☐ Reporting
- ☒ Data review
- ☒ Radiochemistry
- ☐ Bioassay

Nonconformance (check appropriate area):

Holding Time Violations (exceeded by _____ days)

Category I: Laboratory Independent

- ☐ 1. Holding time expired in transit
- ☐ 2. Sample received > 48 hrs. or 1/2 holding time has expired
- ☐ 3. Test added by client after expiration

Category II: Laboratory Dependent

- ☐ 4. Instrument failure
- ☐ 5. Analyst error
- ☐ 6. Login error
- ☐ 7. Miscommunication
- ☐ 8. Other (complete description required)

Category III: Analysis Reruns (QA/QC)

- ☐ 9. Surrogates
- ☐ 10. Internal Standards
- ☐ 11. Spike Recoveries
- ☐ 12. Blank Contamination

Category IV: Analysis Reruns (Confirmation)

- ☐ 13. Second column
- ☐ 14. Contamination check
- ☐ 15. Confirmation of matrix effects
- ☐ 16. Other (complete description required)

Quality Assurance/Quality Control

- ☐ 17. QC data reported outside of controls
- ☐ 18. Incorrect procedure used
- ☐ 19. SOP intentionally modified with QA and Tech. approval
- ☐ 20. Invalid instrument calibration
- ☐ 21. Insufficient sample received for proper analysis

Incorrect or Incomplete Client Deliverable

- ☐ 22. Hardcopy deliverable error
- ☐ 23. Electronic deliverable error

Reported detection limits elevated due to:

- ☐ 24. Sample matrix
- ☐ 25. Insufficient sample volume
- ☐ 26. Other (complete description required)
- ☒ 27. ***Other (specify):*** Result outside acceptance criteria

Comments/Explanation: reanalysis performed

Notification (check appropriate area):

Client notified by (name and date): _____

- ☐ in writing
- ☐ by facsimile
- ☐ by telephone
- ☐ other (explain)

Client's name and response: _____

- ☐ process "as is"
- ☐ re-sample
- ☐ on hold until _____
- ☐ other (explain)

Project Manager (signature and date): Suzy Haines 4/26/96

9613453.1586

QUANTERRA LABORATORY NONCONFORMANCE MEMO (NCM)

LOG#: RD-96-

Corrective Action

Root Cause Initial and date: SEC 4/23/96

Possible "Hot" sediment particle(s)

Reanalysis confirmed original MS level of activity

Corrective Action Initial and Date: SEC 4/23/96

Reanalysis OK.

Responsibility for performing CA assigned to:

Actions to prevent recurrence Initial and Date:

First Level Supervisor: Date: 4/23/96

Responsible Manager: Date: 4/26/96

Quality Assurance Review

☐ Anomaly ☐ Deficiency ☑ Rerun

☐ Further action required:

Assigned to:

QA signature: Date: 4/26/96

Corrective Action Verification

☑ Verified

☐ Cannot Verify (specify reason):

Nonconformance Memo Closure

QA signature/date: 4/26/96

9613453.1587

Quanterra Data Review Checklist
RADIOCHEMISTRY

Work Order number (s):	602350 602363 603391 603016
Client ID:	BHI
Due Date:	4-26-96
Lab Sample Number or SDG:	W0914
Method Test Parameters:	Uranium
Matrix:	Water

Review Item	Yes (✓)	No (✓)	N/A (✓)	2nd Level Review (✓)
A. Calibration				
1. Is the calibration documentation included where applicable?	✓		TKH-2-99	✓
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. Is the blank result < 1/2 the Contract Detection Limit?	✓			✓
4. Is the blank > 1/2 the Contract Detection Linit but < 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. MS/MSD results and yield meet acceptance criteria?	✓			✓
10. Duplicate sample results and yield meet acceptance criteria?	✓			✓
D. Other				
1. Are all Nonconformances included and noted?			✓	✓
2. Are all required forms filed out?	✓			✓
3. Correct methodology used?	✓			✓
4. Transcription checked? m.w 4-22-96	✓			TK
5. Were all calculations checked at a minimum frequency?	✓			✓
6. Units checked?	✓			✓

Comments on any "No' response: _____

First Level Review: [signature] Date: 4-22-96

Second Level Review: [signature] Date: 4/26/96

Form #: LS-038,2 /96, Rev.4

9613453.1588

CHAIN OF

CUSTODY FORMS

Bechtel Hanford, Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround
☐ Priority
■ Normal

Collector: A. Rizzo, M. Mehlhorn	Company Contact: C. D. Wittreich	Telephone: (509) 372-9315
Project Designation: 200-UP-1 IRM Implementation Sampling - 2nd Quarter 1996 - Feb	Sampling Location: 200 West	SAF No.: B96-059
Ice Chest No.	Field Logbook No.: EFL-1135	Method of Shipment: Hand Delivered
Shipped To: Quanterra	Offsite Property No.: NA	Bill of Lading/Air Bill No.: NA

Possible Sample Hazards/Remarks

Special Handling and/or Storage: Maintain samples between 2°C and 6°C.

SAMPLE ANALYSIS: 602362 SDG W0914

Preservation	HCl	H_2SO_4	HNO_3	HCl	None					
Type of Container	Gs	P/G	P/G	P/G	P/G					
No. of Container(s)	3	1	1	3	1					
Volume	40mL	500mL	500mL	1L	20mL					
	VOA - TCL	NO_2 - NO_3	Total Uranium 602363	Tc-99	Activity Scan					

	Sample No.	Matrix*	Date Sampled	Time Sampled	VOA - TCL	NO_2 - NO_3	Total Uranium	Tc-99	Activity Scan					
1	B0H723	W	2-27-96	0945	X	X	X	X	X					
3	B0H743	W	02-27-96	0730	X									
	~~B0H707~~	~~W~~	~~2-27-96~~	~~2-27-96~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~					
2	B0H729	W	2-27-96	1251	X	X	X	X	X					

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: M. Mehlhorn / Matt Mueller	Date/Time: 2-27-96 1410	Received By: Bechtel	Date/Time: 1410 2-27-96
Relinquished By: Bechtel	Date/Time: 1200 2-28-96	Received By: Quanterra / Karen Stillenberg	Date/Time: 2-28-96 1200
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS
The Activity Scan is for all samples listed on this chain of custody.

Matrix*
S = Soil
SE = Sediment
SO = Solid
SL = Sludge
W = Water
O = Oil
A = Air
DS = Drum Solids
DL = Drum Liquids
T = Tissue
WI = Wipe
L = Liquid
V = Vegetation
X = Other

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

9613453.1589

0000031

9613453.1590

Environmental Restoration Contractor **ERC Team**

Interoffice Memorandum

Job No. 22192
Written Response Required: NO
CCN: N/A
OU: 100-UP-1
TSD: N/A
ERA: N/A
Subject Code: 5850

TO:	W. S. Thompson	N1-28	DATE:	December 28, 1995
	F. G. Zwiesler	X0-23		
COPIES:	T. L. Lafreniere	X0-23	FROM:	S. K. De Mers
	D. A. St John	N1-28		Radiological Controls
	C. D. Wittreich	H6-02		T7-05/373-1913

SUBJECT: **Sampling of Wells in support of 200 UP-1 Pump and Treat Operations Rev. 1**

There is no need to perform total activities prior to offsite shipment to NRC licensed labs of samples taken from the attached list of wells.

The wells were reviewed for radiological content based on the previous 4 years of sampling data. The wells listed has a β activity <100,000 pCi/l (<.1 uCi/sample based on a 1 liter sample size) and the α activity is <10,000 pCi/l (<.01 uCi/l based on a 1 liter sample). The well shows activities < 2,000 pCi/gm (< 2 nCi/gm D.O.T. limit). The highest activity in recent samples is 3,500 pCi/l β and 1370 pCi/l α.

Wells 299-W19-34A, W19-37, W19-38 and W19-40 were not reviewed as there is no recent sampling data. However, the wells exist relatively in the same vicinity as the listed wells and have little or no potential for exceeding the DOT requirements.

Some of the wells listed exist inside radiological controlled areas and therefor have governing RWP's. Additionally, some wells have radioactive material stickers and will require an RCT to assist in taking samples. An RCT may be scheduled through Mr. Jim Parsons at 531-0716.

skd

Bell
FYI
-Wendy

200 UP-1 WELL SAMPLE LIST

299-W19-19
299-W19-20
299-W19-23
299-W19-24
299-W19-25
299-W19-28
299-W19-29
299-W19-30
299-W19-34A
299-W19-35
299-W19-37
299-W19-38
299-W19-40

9613453.1592

SDG W09914

Figure 1

SAMPLE CHECK-IN LIST

(1 Per Shipping Container)

Date/Time Received 2/28/96 1200 Client Name BHI

Project/Client # B96-059 Batch or Case # _____

Cooler ID (if noted on outside of cooler) ER-1B

1. Condition of shipping container? OK
2. Custody Seals on cooler intact? Yes [X] No [ ]
3. Custody Seals dated and signed? Yes [X] No [ ]
4. Chain of Custody record is taped on inside of cooler lid? Yes [ ] No [X]
5. Vermiculite/packing material is: Wet [X] Dry [ ] _____
6. Each sample is in a plastic bag? Yes [X] No [ ] _____
7. Number of sample containers in cooler: 21
8. Samples have: X tape; X custody seals; ____ hazard labels; ____ appropriate sample labels
9. Samples are: X in good condition; ____ broken; ____ other; ____ leaking; ____ have air bubbles
10. Coolant Present? Yes [ ] No [X] Sample Temperature 4°C
11. The following paperwork should be accounted for (N/A if not applicable):

    Chain of Custody #(s) N/A

    Request for Analysis #(s) ✓

    Airbill # ✓ Carrier N/A
12. Have any anomalies been identified above? Yes [ ] No [X]
13. Memos have been initiated for all anomalies identified above? Yes [X]

Printed Name/Signature Karen Dittenley Date/Time 2/28/96 1200

8th W0914

602362 Chem
602363 Rad

Client Sample Screening Results

28-Feb-96

(23) 2/28/96

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
BHI B0H0P3		2/28/96 1:30:00 PM	QUAD21C	2/28/96 3:04:00 PM	B0H0P3	30	25	0.79708333	109	2.7045833
	LIQUID		Bkg:	2/28/96 5:16:19 AM	BKG	800	29	0.03625	743	0.92875
Anl Date: 2/28/96	Tot Sa, Alq: 2.00E+00	, 1.00E+01	Alp; (Dpm/ 2.22E+00	(uCi/ 2.00E-04	(pCi/ 1.00E+02	± 2.6E+01	CAT I	2.5E-01	Lab	
Ppt mg: 0	Units: L	, ml	Bet; Alq): 4.84E+00	Sa): 4.36E-04	L|g): 2.18E+02	± 3.0E+01		2.3E-01	Alq L|g	
BHI B0H0P5		2/28/96 1:30:00 PM	QUAD21D	2/28/96 3:04:00 PM	B0H0P5	30	41	1.32166667	131	3.4591667
	LIQUID		Bkg:	2/28/96 5:16:19 AM	BKG	800	36	0.045	726	0.9075
Anl Date: 2/28/96	Tot Sa, Alq: 2.00E+00	, 1.00E+01	Alp; (Dpm/ 3.98E+00	(uCi/ 3.58E-04	(pCi/ 1.79E+02	± 3.2E+01	CAT I	1.4E-01	Lab	
Ppt mg: 0.5	Units: L	, ml	Bet; Alq): 6.03E+00	Sa): 5.43E-04	L|g): 2.71E+02	± 3.2E+01		1.8E-01	Alq L|g	
BHI B0H723		2/28/96 12:00:00 PM	QUAD21A	2/28/96 1:33:46 PM	B0H723	30	35	1.11291667	278	8.3279167
01	LIQUID		Bkg:	2/28/96 5:16:19 AM	BKG	800	43	0.05375	751	0.93875
Anl Date: 2/28/96	Tot Sa, Alq: 2.00E+00	, 1.00E+01	Alp; (Dpm/ 3.40E+00	(uCi/ 3.06E-04	(pCi/ 1.53E+02	± 3.4E+01	CAT I	1.6E-01	Lab	
Ppt mg: 8.6	Units: L	, ml	Bet; Alq): 1.63E+01	Sa): 1.47E-03	L|g): 7.36E+02	± 5.0E+01		6.8E-02	Alq L|g	
BHI B0H7~~45~~ 29	DH 2/29/96	2/28/96 12:00:00 PM	QUAD21B	2/28/96 1:33:46 PM	B0H743	30	31	0.98708333	221	6.5354167
02	LIQUID		Bkg:	2/28/96 5:16:19 AM	BKG	800	37	0.04625	665	0.83125
Anl Date: 2/28/96	Tot Sa, Alq: 2.00E+00	, 1.00E+01	Alp; (Dpm/ 3.03E+00	(uCi/ 2.73E-04	(pCi/ 1.37E+02	± 3.0E+01	CAT I	1.8E-01	Lab	
Ppt mg: 4.2	Units: L	, ml	Bet; Alq): 1.21E+01	Sa): 1.09E-03	L|g): 5.47E+02	± 4.3E+01		9.1E-02	Alq L|g	

96134531593

000035

Bechtel Hanford, Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround
☐ Priority
■ Normal

Collector: A. Rizzo, B. Fahlberg	Company Contact: C. D. Wittreich	Telephone: (509) 372-9315
Project Designation: 200-UP-1 IRM Implementation Sampling - 2nd Quarter 1996 - Feb	Sampling Location: 200 West	SAF No.: B96-059
Ice Chest No.: ER-17	Field Logbook No.: EFL-1135	Method of Shipment: Hand Delivered
Shipped To: Quanterra	Offsite Property No.: NA	Bill of Lading/Air Bill No.: NA

Possible Sample Hazards/Remarks

Special Handling and/or Storage: Maintain samples between 2°C and 6°C.

SAMPLE ANALYSIS: 602349 SDG W0914

Preservation	HCl	H_2SO_4	HNO_3	HCl	None					
Type of Container	Gs	P/G	P/G	P/G	P/G					
No. of Container(s)	3	1	1	3	1					
Volume	40mL	500mL	500mL	1L	20mL					
	VOA - TCL	NO_2 - NO_3	Total Uranium 602350	Tc-99	Activity Scan					

	Sample No.	Matrix*	Date Sampled	Time Sampled	VOA - TCL	NO_2 - NO_3	Total Uranium	Tc-99	Activity Scan					
1	BOH731 / well 299-W19-37	W	2-26-96	1020	Y	Y	Y	Y	Y					
4	BOH742 /	W	2-26-96	0730	X									
2	BOH725 / well 299-W19-30	W	2-26-96	1126	X	X	X	X	X					
3	BOH721 / 299-W19-28	W	2-26-96	1245	X	X	X	X	X					

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: A. Rizzo (ERG)	Date/Time: 0800 2/27/96	Received By: Eric B. Fahlberg	Date/Time: 0800 2-27-96
Relinquished By: Eric B. Fahlberg	Date/Time: 2-27-96	Received By: Boyd Ontera	Date/Time: 2-27-96 1310
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS
The Activity Scan is for all samples listed on this chain of custody.

Matrix*
S = Soil
SE = Sediment
SO = Solid
SL = Sludge
W = Water
O = Oil
A = Air
DS = Drum Solids
DL = Drum Liquids
T = Tissue
WI = Wipe
L = Liquid
V = Vegetation
X = Other

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

9613453.1594

0000036

9613453.1595

Environmental Restoration Contractor **ERC Team**

Interoffice Memorandum

Job No. 22192
Written Response Required: NO
CCN: N/A
OU: 100-UP-1
TSD: N/A
ERA: N/A
Subject Code: 5850

TO:	W. S. Thompson	N1-28	DATE:	December 28, 1995
	F. G. Zwiesler	X0-23		
COPIES:	T. L. Lafreniere	X0-23	FROM:	S. K. De Mers
	D. A. St John	N1-28		Radiological Controls
	C. D. Wittreich	H6-02		T7-05/373-1913

SUBJECT: **Sampling of Wells in support of 200 UP-1 Pump and Treat Operations Rev. 1**

There is no need to perform total activities prior to offsite shipment to NRC licensed labs of samples taken from the attached list of wells.

The wells were reviewed for radiological content based on the previous 4 years of sampling data. The wells listed has a β activity <100,000 pCi/l (<.1 uCi/sample based on a 1 liter sample size) and the α activity is <10,000 pCi/l (<.01 uCi/l based on a 1 liter sample). The well shows activities < 2,000 pCi/gm (< 2 nCi/gm D.O.T. limit). The highest activity in recent samples is 3,500 pCi/l β and 1370 pCi/l α.

Wells 299-W19-34A, W19-37, W19-38 and W19-40 were not reviewed as there is no recent sampling data. However, the wells exist relatively in the same vicinity as the listed wells and have little or no potential for exceeding the DOT requirements.

Some of the wells listed exist inside radiological controlled areas and therefor have governing RWP's. Additionally, some wells have radioactive material stickers and will require an RCT to assist in taking samples. An RCT may be scheduled through Mr. Jim Parsons at 531-0716.

skd

Bell
FYI
-Wendy

200 UP-1 WELL SAMPLE LIST

299-W19-19
299-W19-20
299-W19-23
299-W19-24
299-W19-25
299-W19-28
299-W19-29
299-W19-30
299-W19-34A
299-W19-35
299-W19-37
299-W19-38
299-W19-40

9613453.1597

SDG W0914

Figure 1

SAMPLE CHECK-IN LIST

(1 Per Shipping Container)

Date/Time Received 2/27/96 Client Name BHI

Project/Client # B96-059 Batch or Case # _____

Cooler ID (if noted on outside of cooler) ER17

1. Condition of shipping container? OK
2. Custody Seals on cooler intact? Yes [X] No [ ]
3. Custody Seals dated and signed? Yes [X] No [ ]
4. Chain of Custody record is taped on inside of cooler lid? Yes [ ] No [X]
5. Vermiculite/packing material is: Wet [X] Dry [ ] _____
6. Each sample is in a plastic bag? Yes [X] No [ ] _____
7. Number of sample containers in cooler: 46
8. Samples have: ____ tape ____ hazard labels
   X custody seals X appropriate sample labels
9. Samples are: X in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant Present? Yes [X] No [ ] Sample Temperature 2°C
11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #(s) N/A
    Request for Analysis #(s) _____
    Airbill # _____ Carrier _____
12. Have any anomalies been identified above? Yes [ ] No [ ]
13. Memos have been initiated for all anomalies identified above? Yes [ ]

Printed Name/Signature R. Boyd R. Boyd Date/Time 2/27/96

000039

SDG W0914

602349-Chem
602350-Rad

(B3) 2/27/96

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
BHI B0H6Y7		2/27/96 12:00:00 PM	QUAD22B	2/27/96 3:41:50 PM	B0H6Y7	30	12	0.3475	100	2.3958333
	SOLID		Bkg:	2/27/96 4:23:03 AM	BKG	800	42	0.0525	750	0.9375

Anl Date: 2/27/96 Tot Sa, Alq: 5.00E+02 , 1.06E+02 Alp; (Dpm/ 2.26E+00 (uCi/ 4.81E-03 (pCi/ 9.63E+00 ± 5.0E+00 CAT I 5.2E+00 Lab
Ppt mg: 105.8 Units: g , mg Bet; Alq): 5.10E+00 Sa): 1.09E-02 L|g): 2.17E+01 ± 3.1E+00 4.6E+00 Alq Lig

BHI B0H6Y8		2/27/96 12:00:00 PM	QUAD22C	2/27/96 3:41:50 PM	B0H6Y8	30	5	0.12791667	72	1.48
	SOLID		Bkg:	2/27/96 4:23:03 AM	BKG	800	31	0.03875	736	0.92

Anl Date: 2/27/96 Tot Sa, Alq: 5.00E+02 , 6.21E+01 Alp; (Dpm/ 6.04E-01 (uCi/ 2.19E-03 (pCi/ 4.38E+00 ± 6.0E+00 CAT I 1.1E+01 Lab
Ppt mg: 62.1 Units: g , mg Bet; Alq): 3.06E+00 Sa): 1.11E-02 L|g): 2.22E+01 ± 4.3E+00 4.5E+00 Alq Lig

BHI B0H6Y9		2/27/96 12:00:00 PM	QUAD22D	2/27/96 3:41:50 PM	B0H6Y9	30	6	0.13125	99	2.405
	SOLID		Bkg:	2/27/96 4:23:03 AM	BKG	800	55	0.06875	716	0.895

Anl Date: 2/27/96 Tot Sa, Alq: 5.00E+02 , 1.06E+02 Alp; (Dpm/ 7.48E-01 (uCi/ 1.59E-03 (pCi/ 3.18E+00 ± 4.5E+00 CAT I 1.6E+01 Lab
Ppt mg: 105.9 Units: g , mg Bet; Alq): 5.25E+00 Sa): 1.12E-02 L|g): 2.23E+01 ± 3.1E+00 4.5E+00 Alq Lig

BHI B0H721		2/27/96	QUAD23A	2/27/96 3:46:56 PM	B0H721	30	197	6.49916667	1612	52.789583
03	LIQUID		Bkg:	2/27/96 4:23:12 AM	BKG	800	54	0.0675	755	0.94375

Anl Date: 12/30/99 Tot Sa, Alq: 1.00E+00 , 1.00E+01 Alp; (Dpm/ 2.06E+01 (uCi/ 9.30E-04 (pCi/ 9.30E+02 ± 6.4E+01 CAT I 2.7E-02 Lab
Ppt mg: 11.7 Units: L , ml Bet; Alq): 9.86E+01 Sa): 4.44E-03 L|g): 4.44E+03 ± 1.1E+02 1.1E-02 Alq Lig

BHI B0H725		2/27/96 12:00:00 PM	QUAD23B	2/27/96 3:46:56 PM	B0H725	30	245	8.12666667	6736	223.53208
02	LIQUID		Bkg:	2/27/96 4:23:12 AM	BKG	800	32	0.04	801	1.00125

Anl Date: 2/27/96 Tot Sa, Alq: 1.00E+00 , 1.00E+01 Alp; (Dpm/ 2.66E+01 (uCi/ 1.20E-03 (pCi/ 1.20E+03 ± 8.2E+01 CAT I 2.1E-02 Lab
Ppt mg: 29.1 Units: L , ml Bet; Alq): 4.48E+02 Sa): 2.02E-02 L|g): 2.02E+04 ± 2.5E+02 2.5E-03 Alq Lig

BHI B0H731		2/27/96 12:00:00 PM	QUAD23D	2/27/96 3:46:56 PM	B0H731	30	397	13.1733333	2555	84.247917
01	LIQUID		Bkg:	2/27/96 4:23:12 AM	BKG	800	48	0.06	735	0.91875

Anl Date: 2/27/96 Tot Sa, Alq: 1.00E+00 , 1.00E+01 Alp; (Dpm/ 4.93E+01 (uCi/ 2.22E-03 (pCi/ 2.22E+03 ± 1.0E+02 CAT I 1.1E-02 Lab
Ppt mg: 24.4 Units: L , ml Bet; Alq): 1.60E+02 Sa): 7.22E-03 L|g): 7.22E+03 ± 1.5E+02 6.9E-03 Alq Lig

000040

96134531598

Bechtel Hanford, Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround
☐ Priority
■ Normal

Collector: A. Rizzo / M. Mehlhorn	Company Contact: C. D. Wittreich	Telephone: (509) 372-9315
Project Designation: 200-UP-1 IRM Implementation Sampling - 2nd Quarter 1996 - Feb	Sampling Location: 200 West	SAF No.: B96-059
Ice Chest No.	Field Logbook No.: EFL-1135	Method of Shipment: Hand Delivered
Shipped To: Quanterra	Offsite Property No.: NA	Bill of Lading/Air Bill No.: NA
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: Maintain samples between 2°C and 6°C.		

Preservation	HCl	H_2SO_4	HNO_3	HCl	None					
Type of Container	Gs	P/G	P/G	P/G	P/G					
No. of Container(s)	3	1	1	3	1					
Volume	40mL	500mL	500mL	1L	20mL					
SAMPLE ANALYSIS	VOA - TCL	NO_2 - NO_3	Total Uranium	Tc-99	Activity Scan					
602390 SDG W0914			602391							

Sample No.	Matrix*	Date Sampled	Time Sampled										
BOH715 01	W	2-28-96	1035	X	X	X	X	X					
BOH719 02	W	2-28-96	1210	X	X	X	X	X					
BOH717 03	W	2-28-96	1430	X	X	X	X	X					
BOH741 04	W	2-28-96	0730	X									

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: M. Mehlhorn	Date/Time: 2-29-96 0800	Received By: ERC / B. Whitter	Date/Time: 0800 2-29-96
Relinquished By: ERC / B. Whitter	Date/Time: 2-29-96 1000	Received By: C. Boyd Orton	Date/Time: 2-29-96 1000
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS
The Activity Scan is for all samples listed on this chain of custody.

Matrix*
S = Soil
SE = Sediment
SO = Solid
SL = Sludge
W = Water
O = Oil
A = Air
DS = Drum Solids
DL = Drum Liquids
T = Tissue
WI = Wipe
L = Liquid
V = Vegetation
X = Other

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

9613453.1599

000041

9613453.1600

Environmental Restoration Contractor **ERC Team**

Interoffice Memorandum

Job No. 22192
Written Response Required: NO
CCN: N/A
OU: 100-UP-1
TSD: N/A
ERA: N/A
Subject Code: 5850

TO:	W. S. Thompson	N1-28	DATE:	December 28, 1995
	F. G. Zwiesler	X0-23		
COPIES:	T. L. Lafreniere	X0-23	FROM:	S. K. De Mers
	D. A. St John	N1-28		Radiological Controls
	C. D. Wittreich	H6-02		T7-05/373-1913

SUBJECT: **Sampling of Wells in support of 200 UP-1 Pump and Treat Operations Rev. 1**

There is no need to perform total activities prior to offsite shipment to NRC licensed labs of samples taken from the attached list of wells.

The wells were reviewed for radiological content based on the previous 4 years of sampling data. The wells listed has a β activity <100,000 pCi/l (<.1 uCi/sample based on a 1 liter sample size) and the α activity is <10,000 pCi/l (<.01 uCi/l based on a 1 liter sample). The well shows activities < 2,000 pCi/gm (< 2 nCi/gm D.O.T. limit). The highest activity in recent samples is 3,500 pCi/l β and 1370 pCi/l α.

Wells 299-W19-34A, W19-37, W19-38 and W19-40 were not reviewed as there is no recent sampling data. However, the wells exist relatively in the same vicinity as the listed wells and have little or no potential for exceeding the DOT requirements.

Some of the wells listed exist inside radiological controlled areas and therefor have governing RWP's. Additionally, some wells have radioactive material stickers and will require an RCT to assist in taking samples. An RCT may be scheduled through Mr. Jim Parsons at 531-0716.

skd

Bell
FYI
-Wendy

200 UP-1 WELL SAMPLE LIST

299-W19-19
299-W19-20
299-W19-23
299-W19-24
299-W19-25
299-W19-28
299-W19-29
299-W19-30
299-W19-34A
299-W19-35
299-W19-37
299-W19-38
299-W19-40

9613453.1602

SDC W0914

Figure 1

SAMPLE CHECK-IN LIST

(1 Per Shipping Container)

Date/Time Received 2/29/96 1000 Client Name BHI

Project/Client # B96-059 Batch or Case # _____

Cooler ID (if noted on outside of cooler) ERIB

1. Condition of shipping container? OK
2. Custody Seals on cooler intact? Yes [X] No [ ]
3. Custody Seals dated and signed? Yes [X] No [ ]
4. Chain of Custody record is taped on inside of cooler lid? Yes [ ] No [X]
5. Vermiculite/packing material is: Wet [X] Dry [ ] _____
6. Each sample is in a plastic bag? Yes [X] No [ ] _____
7. Number of sample containers in cooler: 30
8. Samples have:
   - ____ tape
   - ____ hazard labels
   - X custody seals
   - X appropriate sample labels
9. Samples are:
   - X in good condition
   - ____ leaking
   - ____ broken
   - ____ have air bubbles
   - ____ other
10. Coolant Present? Yes [ ] No [ ] Sample Temperature 4°C
11. The following paperwork should be accounted for (N/A if not applicable):
    - Chain of Custody #(s) N/A
    - Request for Analysis #(s) _____
    - Airbill # _____ Carrier _____
12. Have any anomalies been identified above? Yes [ ] No [X]
13. Memos have been initiated for all anomalies identified above? Yes [ ]

Printed Name/Signature R. Boyd R. Boyd Date/Time 2/29/96 1000

SDG W0914

602390 Chem
602391 Rad.

Client Sample Screening Results

29-Feb-96

(P3) 2/29/96

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
BHI B0H715		2/29/96 10:20:00 AM	QUAD21C	2/29/96 12:30:27 PM	B0H715	30	204	6.7475	2274	74.97625
01	LIQUID		Bkg:	2/29/96 5:51:22 AM	BKG	800	42	0.0525	659	0.82375

Anl Date: 2/29/96 Tot Sa, Alq: 1.00E+00 , 1.00E+01 Alp; (Dpm/ 2.00E+01 (uCi/ 9.01E-04 (pCi/ 9.01E+02 ± 6.3E+01 CAT I 2.8E-02 Lab
Ppt mg: 9.2 Units: L , ml Bet; Alq): 1.46E+02 Sa): 6.56E-03 L|g): 6.56E+03 ± 1.4E+02 7.6E-03 Alq L|g

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
BHI B0H717		2/29/96 10:20:00 AM	QUAD21D	2/29/96 12:30:27 PM	B0H717	30	232	7.68083333	5636	186.99167
03	LIQUID		Bkg:	2/29/96 5:51:22 AM	BKG	800	42	0.0525	700	0.875

Anl Date: 2/29/96 Tot Sa, Alq: 1.00E+00 , 1.00E+01 Alp; (Dpm/ 2.34E+01 (uCi/ 1.05E-03 (pCi/ 1.05E+03 ± 7.5E+01 CAT I 2.4E-02 Lab
Ppt mg: 23.1 Units: L , ml Bet; Alq): 3.78E+02 Sa): 1.70E-02 L|g): 1.70E+04 ± 2.3E+02 2.9E-03 Alq L|g

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
BHI B0H719		2/29/96 10:20:00 AM	QUAD22A	2/29/96 12:30:31 PM	B0H719	30	349	11.5808333	2772	91.44875
02	LIQUID		Bkg:	2/29/96 5:51:32 AM	BKG	800	42	0.0525	761	0.95125

Anl Date: 2/29/96 Tot Sa, Alq: 1.00E+00 , 1.00E+01 Alp; (Dpm/ 4.11E+01 (uCi/ 1.85E-03 (pCi/ 1.85E+03 ± 9.4E+01 CAT I 1.3E-02 Lab
Ppt mg: 21.7 Units: L , ml Bet; Alq): 1.71E+02 Sa): 7.71E-03 L|g): 7.71E+03 ± 1.5E+02 6.5E-03 Alq L|g

000045

9613453.1603

Bechtel Hanford, Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	Page 1 of 1
		Data Turnaround: ☐ Priority ■ Normal

Collector: A. Rizzo / M. Mehlhorn	Company Contact: C. D. Wittreich	Telephone: (509) 372-9315
Project Designation: 200-UP-1 IRM Implementation Sampling - 2nd Quarter 1996 - Feb	Sampling Location: 200 West	SAF No.: B96-059
Ice Chest No.: ER-1B	Field Logbook No.: EFL-1135	Method of Shipment: Hand Delivered
Shipped To: Quanterra	Offsite Property No.: NA	Bill of Lading/Air Bill No.: NA

Possible Sample Hazards/Remarks	Preservation	HCl	H_2SO_4	HNO_3	HCl	None					
	Type of Container	Gs	P/G	P/G	P/G	P/G					
	No. of Container(s)	3	1	1	3	1					
Special Handling and/or Storage: Maintain samples between 2°C and 6°C.	Volume	40mL	500mL	500mL	1L	20mL					
SAMPLE ANALYSIS: 603015 SDG W0914		VOA - TCL	NO_2 - NO_3	Total Uranium 603016	Tc-99	Activity Scan					

Sample No.	Matrix*	Date Sampled	Time Sampled										
B0H713 01	W	2-29-96	1000	X	X	X	X	X					
B0H733 02	W	2-29-96	1140	X	X	X	X	X					
B0H735 03	W	2-29-96	1300	X	X	X	X	X					
B0H727 04	W	2-29-96	1420	X	X	X	X	X					

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: M. Mehlhorn / Mark Mellen	Date/Time: 2-29-96 0800	Received By: Kim Whitten / B Whitten	Date/Time: 0800 3-1-96
Relinquished By: Kim Whitten / B Whitten	Date/Time: 1100 3-1-96	Received By: Quanterra / Karen Schinlung	Date/Time: 1100 3-1-96
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:

SPECIAL INSTRUCTIONS
The Activity Scan is for all samples listed on this chain of custody.
Lab Turnaround

Matrix*
S = Soil
SE = Sediment
SO = Solid
SL = Sludge
W = Water
O = Oil
A = Air
DS = Drum Solids
DL = Drum Liquids
T = Tissue
WI = Wipe
L = Liquid
V = Vegetation
X = Other

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

9613453.1604

000046

9613453.1605

Environmental Restoration Contractor **ERC Team**

Interoffice Memorandum

Job No. 22192
Written Response Required: NO
CCN: N/A
OU: 100-UP-1
TSD: N/A
ERA: N/A
Subject Code: 5850

TO:	W. S. Thompson	N1-28	DATE:	December 28, 1995
	F. G. Zwiesler	X0-23		
COPIES:	T. L. Lafreniere	X0-23	FROM:	S. K. De Mers
	D. A. St John	N1-28		Radiological Controls
	C. D. Wittreich	H6-02		T7-05/373-1913

SUBJECT: **Sampling of Wells in support of 200 UP-1 Pump and Treat Operations Rev. 1**

There is no need to perform total activities prior to offsite shipment to NRC licensed labs of samples taken from the attached list of wells.

The wells were reviewed for radiological content based on the previous 4 years of sampling data. The wells listed has a β activity <100,000 pCi/l (<.1 uCi/sample based on a 1 liter sample size) and the α activity is <10,000 pCi/l (<.01 uCi/l based on a 1 liter sample). The well shows activities < 2,000 pCi/gm (< 2 nCi/gm D.O.T. limit). The highest activity in recent samples is 3,500 pCi/l β and 1370 pCi/l α.

Wells 299-W19-34A, W19-37, W19-38 and W19-40 were not reviewed as there is no recent sampling data. However, the wells exist relatively in the same vicinity as the listed wells and have little or no potential for exceeding the DOT requirements.

Some of the wells listed exist inside radiological controlled areas and therefor have governing RWP's. Additionally, some wells have radioactive material stickers and will require an RCT to assist in taking samples. An RCT may be scheduled through Mr. Jim Parsons at 531-0716.

skd

Bell
FYI
-Wendy

200 UP-1 WELL SAMPLE LIST

299-W19-19
299-W19-20
299-W19-23
299-W19-24
299-W19-25
299-W19-28
299-W19-29
299-W19-30
299-W19-34A
299-W19-35
299-W19-37
299-W19-38
299-W19-40

9613453.1607

SDG W0914

Figure 1

SAMPLE CHECK-IN LIST

(1 Per Shipping Container)

Date/Time Received 3-1-96 KEA 3/1/96 Client Name BHI

Project/Client # B96-059 Batch or Case # _____

Cooler ID (if noted on outside of cooler) ER-1B

1. Condition of shipping container? O.K.
2. Custody Seals on cooler intact? Yes [X] No [ ]
3. Custody Seals dated and signed? Yes [X] No [ ]
4. Chain of Custody record is taped on inside of cooler lid? Yes [ ] No [X]
5. Vermiculite/packing material is: Wet [X] Dry [ ] _____
6. Each sample is in a plastic bag? Yes [X] No [ ] _____
7. Number of sample containers in cooler: 38
8. Samples have: X tape ____ hazard labels; X custody seals ____ appropriate sample labels
9. Samples are: X in good condition ____ leaking; ____ broken ____ have air bubbles; ____ other
10. Coolant Present? Yes [X] No [ ] Sample Temperature 4°C
11. The following paperwork should be accounted for (N/A if not applicable):

    Chain of Custody #(s) N/A

    Request for Analysis #(s) ✓

    Airbill # ✓ Carrier N/A
12. Have any anomalies been identified above? Yes [ ] No [X]
13. Memos have been initiated for all anomalies identified above? Yes [X]

Printed Name/Signature Karen Stittenberg Date/Time 3-1-96 1100

W0914 9613453.1608

SAMPLE RECEIPT VARIANCE REPORT

WORK ORDER NUMBER: 603015 DATE INITIATED: 3-1-96

INITIATED BY: Heidelberg

DATE/TIME OF SAMPLE (AND/OR RFA & COC) RECEIPT: 3-1-96 @ 1100

CLIENT SAMPLE NUMBER	RFA/COC NUMBERS	ANALYSIS REQUESTED
BOH740	na	VOA

Samples were received with the following deficiencies:

- ☐ 1. Not enough sample received for proper analysis.
- ☐ 2. Sample received without proper preservative.
- ☐ 3. No sample received in container.
- ☐ 4. Sample received without a RFA/COC form.
- ☐ 5. No sample ID on container.
- ☐ 6. Sample received broken or leaking.
- ☐ 7. Holding time exceeded at receipt.
- ☐ 8. Custody tape broken.
- ☐ 9. COC not relinquished by client.
- ☐ 10. Sample information on container does not match sample information on the paper work (Explain below).
- ☐ 11. All shipping containers (coolers) on waybill not received with shipment.
  - ☐ RFA/COC received
  - ☐ RFA/COC not received
- ☒ 12. Other (Explain below).

05 NOTES: 1 bottle BOH740 - 2-29 0730 (2) bottles BOH744 on them trip blank VOA = NOT ON COC. Sent to St Louis

SUPERVISOR REVIEW: Sami Heidelberg

PROJECT MANAGER REVIEW: Sey Haines

TELEPHONED TO: MIKE DAVID ON 3/4/96 BY D. Swenson

TELEFAXED TO: _____ ON _____ BY _____

SIGNED ORIGINAL MUST BE RETAINED IN WORK ORDER FILE

FORM NO. LS-023, 3/92, Rev. 0

SDG W0914

603015 Chem
603016 Rad

Client Sample Screening Results

01-Mar-96

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
BHI B0H645		3/1/96 11:00:00 AM	QUAD21A	3/1/96 2:09:03 PM	B0H645	30	20	0.59791667	718	23.035833
	LIQUID		Bkg:	2/29/96 5:51:22 AM	BKG	800	55	0.06875	718	0.8975

Anl Date: 3/1/96	Tot Sa, Alq: 2.00E+00	, 1.00E+01	Alp;	(Dpm/ 9.92E-01	(uCi/ 8.94E-05	(pCi/ 4.47E+01	± 2.3E+01	CAT I	5.6E-01	Lab
Ppt mg: 0.9	Units: L	, ml	Bet;	Alq): 4.56E+01	Sa): 4.11E-03	L|g): 2.06E+03	± 8.0E+01		2.4E-02	Alq L|g

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
BHI B0H646		3/1/96 11:00:00 AM	QUAD21B	3/1/96 2:09:03 PM	B0H646	30	17	0.51791667	94	2.3295833
	LIQUID		Bkg:	2/29/96 5:51:22 AM	BKG	800	39	0.04875	643	0.80375

Anl Date: 3/1/96	Tot Sa, Alq: 2.00E+00	, 1.00E+01	Alp;	(Dpm/ 1.55E+00	(uCi/ 1.40E-04	(pCi/ 6.99E+01	± 2.4E+01	CAT I	3.6E-01	Lab
Ppt mg: 0.5	Units: L	, ml	Bet;	Alq): 4.19E+00	Sa): 3.77E-04	L|g): 1.89E+02	± 2.8E+01		2.6E-01	Alq L|g

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
BHI B0H713 01		3/1/96 11:00:00 AM	QUAD21C	3/1/96 2:09:03 PM	B0H713	30	101	3.31416667	130	3.5095833
	LIQUID		Bkg:	2/29/96 5:51:22 AM	BKG	800	42	0.0525	659	0.82375

Anl Date: 3/1/96	Tot Sa, Alq: 2.00E+00	, 1.00E+01	Alp;	(Dpm/ 9.78E+00	(uCi/ 8.81E-04	(pCi/ 4.41E+02	± 4.3E+01	CAT I	5.7E-02	Lab
Ppt mg: 1.9	Units: L	, ml	Bet;	Alq): 5.01E+00	Sa): 4.51E-04	L|g): 2.26E+02	± 3.0E+01		2.2E-01	Alq L|g

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
BHI B0H727 04		3/1/96 11:00:00 AM	QUAD21D	3/1/96 2:09:03 PM	B0H727	30	19	0.58083333	109	2.7583333
	LIQUID		Bkg:	2/29/96 5:51:22 AM	BKG	800	42	0.0525	700	0.875

Anl Date: 3/1/96	Tot Sa, Alq: 2.00E+00	, 1.00E+01	Alp;	(Dpm/ 1.75E+00	(uCi/ 1.57E-04	(pCi/ 7.87E+01	± 2.6E+01	CAT I	3.2E-01	Lab
Ppt mg: 2.1	Units: L	, ml	Bet;	Alq): 5.10E+00	Sa): 4.60E-04	L|g): 2.30E+02	± 3.0E+01		2.2E-01	Alq L|g

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
BHI B0H733 02		3/1/96 11:00:00 AM	QUAD22A	3/1/96 2:09:08 PM	B0H733	30	40	1.28083333	183	5.14875
	LIQUID		Bkg:	2/29/96 5:51:32 AM	BKG	800	42	0.0525	761	0.95125

Anl Date: 3/1/96	Tot Sa, Alq: 2.00E+00	, 1.00E+01	Alp;	(Dpm/ 3.79E+00	(uCi/ 3.41E-04	(pCi/ 1.71E+02	± 3.1E+01	CAT I	1.5E-01	Lab
Ppt mg: 5	Units: L	, ml	Bet;	Alq): 8.92E+00	Sa): 8.03E-04	L|g): 4.02E+02	± 3.7E+01		1.2E-01	Alq L|g

Reviewed 3/1/96

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961345 3.1609

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
BHI B0H735		3/1/96 11:00:00 AM	QUAD22B	3/1/96 2:09:08 PM	B0H735	30	54	1.73875	412	12.854583
03	LIQUID		Bkg:	2/29/96 5:51:32 AM	BKG	800	49	0.06125	703	0.87875

Anl Date: 3/1/96	Tot Sa, Alq: 2.00E+00	, 1.00E+01	Alp;	(Dpm/ 5.24E+00	(uCi/ 4.72E-04	(pCi/ 2.36E+02	± 3.6E+01	CAT I	1.1E-01	Lab Alq
Ppt mg: 5.3	Units:	, ml	Bet;	Alq): 2.36E+01	Sa): 2.13E-03	L|g): 1.06E+03	± 5.7E+01		4.7E-02	L|g

Received 3/1/96 [illegible]

0191353196
000052

9613453.1611

Quanterra

BATCH SUMMARY/CHAIN OF CUSTODY

ANALYSIS U MATRIX water DUE DATE 4-26-96

WORK ORDER	SEQUENCE #	CLIENT	COMMENTS
P 02350	-1B	BHI	QC BATCH REAGENT BLANK
P N/A	-1X		QC BATCH MATRIX BLANK
P 02350	-1M or 1S (circle)		QC BATCH MATRIX/REAGENT SPIKE EQIP 351
P N/A	-2M or 2S (circle)		QC BATCH MATRIX/REAGENT SPIKE
C 02363	-01		Duplicate of Sample # 60236301
A 02363	-02		MS " " 60236502 EQIP 352
60235001	-03		pH 2.2: ALL SAMPLES, ADJUSTED W/CON HNO3 REDUCED ALIQUOT, ALL SAMPLES, HIGH ALPHA Screening RESULTS
60236301	-02		
60239101	-03		
60301601	-04		
	-		
	-		
	-		
	-		

Batched and QC updated by S on 3-26-96

Rec'd in Prep Lab by S on 3-22-96 Sop# RICHRC5016 Rev# 1

Rec'd in Sep Lab by N/A on Sop# N/A Rev#

Rec'd in Sep lab by on Sop# Rev#

ED/CPPT by on Sop# Rev#

Rec'd in C.R. by on 4/11/96 Sop# RICHRC5058 Rev#

Data Reviewed by on 4-19-96 Sop# RICHRC0002 Rev# Ø

Original batch sheet and complete calculation file to be filed with the FIRST listed work order number.

FORM NO.: RC-52, 1/96, Rev. 6

9613453.1612

*** URANIUM ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

28-Feb-1996
Page 1

CUSTOMER: BHI SAF

SAMPLE DELIVERY GROUP W0914

MATRIX : WATER B96-059

BATCH NUMBER 02-363

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	60236301 C0236301		BHI	BOH723	
2)	60236302 A0236302		BHI	BOH729	

ACTIONS (Initial & Date)

1) INITIATED RD2800 JH 2/28/96 RICH RC 5016

2) PREP LAB RECEIVED 3-22-96

3) SAMPLE REMAINDER STORED 3-26-96

4) SEPARATION LAB RECEIVED

5) COUNTING/MEASUREMENT LAB RICH RC 5058 4/11/96

6) DATA REVIEWED AND ANALYTICAL PREP STORED

*** URANIUM ***

9613453.1613

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

1-Mar-1996
Page 1

CUSTOMER: BHI SAF

SAMPLE DELIVERY GROUP W0914

MATRIX : WATER B96-059

BATCH NUMBER 03-016

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	60301601		BHI	BOH723 JH 3/4/96	
2)	60301602		BHI	BOH733	
3)	60301603		BHI	BOH735	
4)	60301604		BHI	BOH727	

ACTIONS (Initial & Date)

1) INITIATED RD2800 JH 3/1/96 RICH RC5016

2) PREP LAB RECEIVED 3-22-96 C

3) SAMPLE REMAINDER STORED 3-26-96 C

4) SEPARATION LAB RECEIVED _____

5) COUNTING/MEASUREMENT LAB RICH RC5058 4/11/96

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

*** URANIUM ***

9613453.1619

4/26/96

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

29-Feb-1996
Page 1

CUSTOMER: BHI SAF

SAMPLE DELIVERY GROUP W0914

MATRIX : WATER B96-059

BATCH NUMBER 02-391

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	60239101		BHI	BOH715	
2)	60239102		BHI	BOH719	
3)	60239103		BHI	BOH717	

ACTIONS (Initial & Date)

1) INITIATED RD2800 2/29/96

2) PREP LAB RECEIVED 3-22-96 C RKH RC 5016

3) SAMPLE REMAINDER STORED 3-26-96 C

4) SEPARATION LAB RECEIVED _____

5) COUNTING/MEASUREMENT LAB Ric H RC 5058 4/11/96

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

9613453.1615

*** URANIUM ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

27-Feb-1996
Page 1

CUSTOMER: BHI SAF

SAMPLE DELIVERY GROUP W0914

MATRIX : WATER B96-059

BATCH NUMBER 02-350

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	60235001		BHI	BOH731	
2)	60235002		BHI	BOH725	
3)	60235003		BHI	BOH721	

ACTIONS (Initial & Date)

1) INITIATED RD2800 JH 2/28/96

2) PREP LAB RECEIVED RICHRC5016 3-22-96 S

3) SAMPLE REMAINDER STORED 3-26-96 C

4) SEPARATION LAB RECEIVED _____

5) COUNTING/MEASUREMENT LAB RICHRC5058 4/11/96

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

9613453.1616

Quanterra

BATCH SUMMARY/CHAIN OF CUSTODY

ANALYSIS IC.99 MATRIX water DUE DATE 4/26/96

WORK ORDER	SEQUENCE #	CLIENT	COMMENTS
P 02363	-1B	BHT	QC BATCH REAGENT BLANK
P	-1X		QC BATCH MATRIX BLANK
P 02363	-1M or 1S (circle)		QC BATCH MATRIX/REAGENT SPIKE
P A0236301	-2M or 2S (circle)		QC BATCH MATRIX/REAGENT SPIKE
C 0239101	-		Duplicate of Sample # 60239101
60236301	- 02		
60301601	- 04		
60239101	- 03		
60235001	- 03		
	-		
	-		
	-		
	-		
	-		

Batched and QC updated by MM on 4/04/96

Rec'd in Prep Lab by MM on 4/01/96 Sop# ITAS-IT-RS Rev# 0001

Rec'd in Sep Lab by MM on 4/01/96 Sop# Rev#

Rec'd in Sep lab by NA on NA Sop# Rev#

ED/CPPT by NA on Sop# Rev#

Rec'd in C.R. by on 4/4/96 Sop# RD4600 Rev# 1

Data Reviewed by JK on 4-1-96 Sop# RICHRC0002 Rev# Ø

Original batch sheet and complete calculation file to be filed with the FIRST listed work order number.

FORM NO.: RC-52, 1/96, Rev. 6

*** TC-99 ***

9613453.1617

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

28-Feb-1996
Page 1

CUSTOMER: BHI SRF

SAMPLE DELIVERY GROUP W0914

MATRIX : WATER B96-059

BATCH NUMBER 02-363

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	60236301		BHI	BOH723	
2)	60236302		BHI	BOH729	

ACTIONS (Initial & Date)

1) INITIATED RD2860 JH 2/28/96

2) PREP LAB RECEIVED _____

3) SAMPLE REMAINDER STORED _____

4) SEPARATION LAB RECEIVED _____

5) COUNTING/MEASUREMENT LAB RD 4/4/96 RD4600 Rev 1

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

*** TC-99 ***

9613453.1618

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

1-Mar-1996
Page 1

CUSTOMER: BHI SAF

SAMPLE DELIVERY GROUP W0914

MATRIX : WATER B96-059

BATCH NUMBER 03-016

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	60301601		BHI	BOH723 1 DH 3/4/96	
2)	60301602		BHI	BOH733	
3)	60301603		BHI	BOH735	
4)	60301604		BHI	BOH727	

ACTIONS (Initial & Date)

1) INITIATED RD2800 JH 3/1/96

2) PREP LAB RECEIVED _____

3) SAMPLE REMAINDER STORED _____

4) SEPARATION LAB RECEIVED _____

5) COUNTING/MEASUREMENT LAB DA 4/4/96 RD4600 Rev1

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

9613453.1619

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

29-Feb-1996

CUSTOMER: BHI SAF

SAMPLE DELIVERY GROUP W0914

MATRIX : WATER B96-059

BATCH NUMBER 02-391

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	60239101		BHI	BOH715	
2)	60239102		BHI	BOH719	
3)	60239103		BHI	BOH717	

ACTIONS (Initial & Date)

1) INITIATED RD2800 JH 2/29/96

2) PREP LAB RECEIVED _____

3) SAMPLE REMAINDER STORED _____

4) SEPARATION LAB RECEIVED _____

5) COUNTING/MEASUREMENT LAB DD 4/4/96 RD 4600 Rev1

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

9613453.1620 *** TC-99 ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

27-Feb-1996
Page 1

CUSTOMER: BHI SAF

SAMPLE DELIVERY GROUP W0914

MATRIX : WATER B96-059

BATCH NUMBER 02-350

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	60235001		BHI	BOH731	
2)	60235002		BHI	BOH725	
3)	60235003		BHI	BOH721	

ACTIONS (Initial & Date)

1) INITIATED RD2800 JH 2/28/96

2) PREP LAB RECEIVED _____

3) SAMPLE REMAINDER STORED _____

4) SEPARATION LAB RECEIVED _____

5) COUNTING/MEASUREMENT LAB OD 4/4/96 RD4600 Rev1

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____