W02273

Quanterra
Environmental Services

0049312

Quanterra Incorporated
13715 Rider Trail North
Earth City, Missouri 63045

314 298-8566 Telephone
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CASE NARRATIVE

Bechtel Hanford Incorporated
3350 George Washington Way
Richland, Washington 99352

April 9, 1998

Attention: Joan Kessner

APR 1998 RECEIVED Data Log In

Project number	:	550.230
Date Received by Lab	:	March 5, 1998
Number of Samples	:	One (1)
Sample Type	:	Water
SDG Number	:	W02273
Data Deliverable	:	Summary

JUN 1998 RECEIVED EDMC

I. Introduction

On March 5,1998, one (1) water sample was received by Quanterra, Richland and transferred to Quanterra, St. Louis for chemical analysis. Upon receipt, the sample was given the following laboratory ID number to correspond with the specific client ID:

St. Louis ID	BHI ID	Richland ID	Matrix	Date of Receipt
17124-001	B0N837	80312501	Water	05-MAR-98

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

pH by EPA Method 150.1, Sulfate by EPA Method 375.4, Total Dissolved Solids by EPA Method 160.1, Total Suspended Solids by EPA Method 160.2, Arsenic by EPA Method 7060, ICP Metals-TAL by EPA Method 6010, Total Residual Chlorine by EPA Method 330.3, Acrylamide by EPA Method 8316, Appendix IX Volatiles by EPA 8240, TCL Volatiles by EPA Method 8260.

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 this SDG. A Sample Duplicate was analyzed as matrix QC for the pH, TSS, TDS and Total Residual Chlorine.

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
There are no comments or nonconformances associated with the shipping and receiving of these samples.

Volatiles 8240
There are no comments or nonconformances associated with this analysis.

Volatiles 8260
Due to the software used to generate the Volatile forms, the Form 2 lists surrogate recoveries 1,2-DCE. This surrogate is not used to evaluate data run by method 8260. Therefore, this surrogate is not reported on the Data Entry report or in the EDD.

Metals
The recoveries of the Arsenic matrix spike(67.0%) and the matrix spike duplicate (66.5%) were less than 80% therefore all associated data was flagged with a "N".

The percent difference for the Magnesium serial dilution (12.3) was greater than 10 which was indicated on the form one by the "E" flag.

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

Wet Chemistry
There are no comments or nonconformances associated with this analysis.

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:

Robert E. White

Robert E. White
Project Manager

Quanterra March 09, 1998 02:52 pm
Account: 10722 Project: 550.230 Quanterra-Richland QAS No. 550.23 Rev. 1
Master Sample Login: 17124

Project Manager: W. Price

Draft: (Final:) Entered and Reviewed by: [signature] PM Review: [signature]

Sample Header Template: W02273

Sample No. / Comments / Data:	Client ID	C-Matrix	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No.
17124-001	BON837	Water	05-MAR-98 09:16	05-MAR-98 11:03	25-MAR-98	AIRBORNE	1	Screening not Required
RICHLAND ID 80312501								

#	Container Type	Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)
3	VI - Vial-40ml	HPLC/8316/Q4	S	HCL	19-MAR-98	19-MAR-98	109L	(362435:99 362436:98 362437:97)
3		VOA/8240APPIX/Q4	S	HCL	19-MAR-98	19-MAR-98	109L	(362429:92 362430:91 362431:90)
3		VOA/8260/Q4	S	HCL	19-MAR-98	19-MAR-98	109L	(362432:89 362433:88 362434:87)
1	PN - Plastic-1L	CL/330.3/Q4	S	COLD	19-MAR-98	07-MAR-98	T8E	(362428:93)
1	PN - Plastic-500ml	AS/7060/Q4	S	HNO3	19-MAR-98	01-SEP-98	T8E	(362438:86)
1		ICAP/6010/Q4	S	HNO3	19-MAR-98	01-SEP-98	T8E	(362439:85)
1		TDS/160.1/Q4	S	COLD	19-MAR-98	12-MAR-98	T8E	(362426:95)
1		TSS/160.2/Q4	S	COLD	19-MAR-98	12-MAR-98	T8E	(362427:94)
1	PN - Plastic-250ml	SO4/375.4/Q4	S	COLD	19-MAR-98	02-APR-98	T8E	(362425:98)
1	PW - Plastic-128oz	PH/150.1/Q4	S	COLD	19-MAR-98	06-MAR-98	T8E	(362424:99)

Sample No.	Client ID	C-Matrix	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No.
17124-001DUP	BON837	Water	05-MAR-98 09:16	05-MAR-98 11:03	25-MAR-98	AIRBORNE	1	Screening not Required
RICHLAND ID 80312501								

#	Container Type	Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)
1	PN - Plastic-1L	CL/330.3/Q4	S	COLD	19-MAR-98	07-MAR-98	T8E	(362428:93)
1	PN - Plastic-500ml	TDS/160.1/Q4	S	COLD	19-MAR-98	12-MAR-98	T8E	(362426:95)
1		TSS/160.2/Q4	S	COLD	19-MAR-98	12-MAR-98	T8E	(362427:94)
1	PN - Plastic-250ml	SO4/375.4/Q4	S	COLD	19-MAR-98	02-APR-98	T8E	(362425:98)
1	PW - Plastic-128oz	PH/150.1/Q4	S	COLD	19-MAR-98	06-MAR-98	T8E	(362424:99)

Sample No.	Client ID	C-Matrix	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No.
17124-001MS	BON837	Water	05-MAR-98 09:16	05-MAR-98 11:03	25-MAR-98	AIRBORNE	1	Screening not Required
RICHLAND ID 80312501								

#	Container Type	Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)
3	VI - Vial-40ml	HPLC/8316/Q4	S	HCL	19-MAR-98	19-MAR-98	109L	(362435:99 362436:98 362437:97)
3		VOA/8240APPIX/Q4	S	HCL	19-MAR-98	19-MAR-98	109L	(362429:92 362430:91 362431:90)
3		VOA/8260/Q4	S	HCL	19-MAR-98	19-MAR-98	109L	(362432:89 362433:88 362434:87)
1	PN - Plastic-500ml	AS/7060/Q4	S	HNO3	19-MAR-98	01-SEP-98	T8E	(362438:86)
1		ICAP/6010/Q4	S	HNO3	19-MAR-98	01-SEP-98	T8E	(362439:85)
1	PN - Plastic-250ml	SO4/375.4/Q4	S	COLD	19-MAR-98	02-APR-98	T8E	(362425:98)

Sample No.	Client ID	C-Matrix	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No.
17124-001MSD	BON837	Water	05-MAR-98 09:16	05-MAR-98 11:03	25-MAR-98	AIRBORNE	1	Screening not Required
RICHLAND ID 80312501								

#	Container Type	Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)
3	VI - Vial-40ml	HPLC/8316/Q4	S	HCL	19-MAR-98	19-MAR-98	109L	(362435:99 362436:98 362437:97)
3		VOA/8240APPIX/Q4	S	HCL	19-MAR-98	19-MAR-98	109L	(362429:92 362430:91 362431:90)
3		VOA/8260/Q4	S	HCL	19-MAR-98	19-MAR-98	109L	(362432:89 362433:88 362434:87)
1	PN - Plastic-500ml	AS/7060/Q4	S	HNO3	19-MAR-98	01-SEP-98	T8E	(362438:86)
1		ICAP/6010/Q4	S	HNO3	19-MAR-98	01-SEP-98	T8E	(362439:85)

3*=Sample has not been rad screened.

[redacted] T8E Temp 4°C Cur# 14427

Chain of Custody Record

Quanterra QC

QUA 4124 0797

Client: Bechtel Hanford	Project Manager: Van Petty	Date: 3/6/98	Chain of Custody Number: 10413
Address:	Telephone Number (Area Code)/Fax Number:	Lab Number:	Page 1 of 1
City: / State: / Zip Code:	Site Contact: / Lab Contact:		
Project Name: SAF B98-009	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	HNOS	HCl	NaOH	ZnAc/NaOH	Analysis (Attach list if more space is needed)	Special Instructions/ Conditions of Receipt
80312501 BON837				SEE					COC				

RB 3-6-98

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 W02273

	Date	Time		Date	Time
1. Relinquished By: Al Boyd Quaten	3/6/98	1608	1. Received By: [signature]	3-6-98	[illegible]
2. Relinquished By:			2. Received By:		
3. Relinquished By:			3. Received By:		

Comments: Recv Samples 3-6-98 COC 3-7-98 [illegible]

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

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B98-009-11	Page 1 of 2

Collector Renee Nielson	**Company Contact** Joe Zoric	**Telephone No.** 373-4315	**Project Coordinator** KOERNER, CC
Project Designation 183N Backwash Discharge Pond -- Permit Monitoring 1998	**Sampling Location** 100N		**SAF No.** B98-009
Ice Chest No. SML-558	**Field Logbook No.** 3/5/98 ~~EL-1309-1~~ RJN EFL-1133-5		**Method of Shipment** Gov Vehicle
Shipped To Quanterra Incorporated	**Offsite Property No.**		**Bill of Lading/Air Bill No.** PH= 1 1

Data Turnaround 45 Days

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage Cool to 4C

Preservation	None	None	Cool 4C	Cool 4C	Cool 4C	HNO3 to pH <2	HNO3 to pH <2	None	Cool 4C	HCl to pH < 2 Cool 4C
Type of Container	P	P	P	P	P	P	P	P	aGs*	aGs*
No. of Container(s)	1	1	1	1	1	1	1	1	3	3
Volume	20ml	125ml	250ml	500ml	500ml	500ml	500ml	1000ml	40ml	40ml
SAMPLE ANALYSIS	Activity Scan	pH - 150.1	Sulfate -- 375.4	TDS - 160.1	TSS - 160.2	Arsenic - 7060 - (GFAA)	ICP Metals - 6010A (TAL)	Chlorine (Total residual) - 330.3	Acrylamide - 8316	VOA - 8240A (Appendix)
		80312501								

Sample No.	Matrix *	Sample Date	Sample Time										
B0N837	Water	3/5/98	0916	X	X	X	X	X	X	X	X	X	X
					100	100	100	100	100	100	100	3X100	3X100
					3-6	3-6	3-6	3-6	3-6	3-6	3-6	3-6	3-6

CHAIN OF POSSESSION

Relinquished By	Date/Time	Received By	Date/Time
[signature]	3/5/98 1103	[signature] Heidelberg	3/5/98 1103
		400cpm	

Sign/Print Names

SPECIAL INSTRUCTIONS

** Close SDG upon receipt of samples.

** EPA330.3 - The ERC Contractor acknowledges the specified holding time is not likely achievable

SDG W02273

Title

Date/Time

Disposed By

Date/Time

Matrix *

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

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B98-009-11	Page 2 of 2

Collector Renee Nielson	**Company Contact** Joe Zoric	**Telephone No.** 373-4315	**Project Coordinator** KOERNER, CC	**Data Turnaround** 45 Days
Project Designation 183N Backwash Discharge Pond -- Permit Monitoring 1998	**Sampling Location** 100N		**SAF No.** B98-009	
Ice Chest No. SML-558	**Field Logbook No.** ~~EL-1309-1~~ RJR 3/5/98 EFL-1133-5		**Method of Shipment** Gov Vehicle	
Shipped To Quanterra Incorporated	**Offsite Property No.**		**Bill of Lading/Air Bill No.**	

POSSIBLE SAMPLE HAZARDS/REMARKS											
	Preservation	HCl to pH <2 Cool 4C									
	Type of Container	aGs*									
	No. of Container(s)	3									
Special Handling and/or Storage Cool to 4C	Volume	40ml									
SAMPLE ANALYSIS		VOA - 8260A (TCL) 80312501									

Sample No.	Matrix *	Sample Date	Sample Time									
B0N837	Water	3/5/98	0916	X								
				3x100								
				3-6								

CHAIN OF POSSESSION	Sign/Print Names		1103
Relinquished By Renee Nielson 3/5/98	Date/Time 1103	Received By [signature]	Date/Time 3/5/98
Relinquished By	Date/Time	Received By 2100 CPM	Date/Time
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS

** Close SDG upon receipt of samples

** EPA330 3 - The ERC Contractor acknowledges the specified holding time is not likely achievable

SDG W02273

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

Figure 1

SAMPLE CHECK-IN LIST

Date/Time Received: 3/5 1100 SG#: _____

Work Order Number: _____ SAF #: B98-009

Shipping Container ID: SMC 558 Chain of Custody # B98-009-11

1. Custody Seals on shipping container intact? Yes [ ] No [✓]
2. Custody Seals dated and signed? Yes [ ] No [✓]
3. Chain-of-Custody record present? Yes [✓] No [ ]
4. Cooler temperature 4°C
5. Vermiculite/packing materials is Wet [ ] Dry [✓] na
6. Number of samples in shipping container: 17
7. Sample holding times exceeded? Yes [ ] No [✓]

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

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

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

Sample Custodian/Laboratory: [signature] Date: 3/5/98

Telephoned To: _____ On _____ By _____

Quanterra Environmental Services

B+SL

014427

Login No.: 17124

Condition Upon Receipt Variance Report
St. Louis Laboratory

Client: Richland

Date: 3-7-98 Time: 10:00

Project No: 550.250

Initiated by: Fred M Mitchell

Shipper/No: Airborne

RFA/COC Numbers: 10413

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: 4°C

Notes: Rec. Samples 3-6-98

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 designate) Fred M Mitchell Date: 3-7-98

Project Management Review: Dan Nuhn Date: 3-9-98

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

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

000010

Bechtel Hanford Incoporated
3350 George Washington Way
Richland, WA 99352

Project: 550.230

Category: Volatiles 8260 (TCL)
Method: EPA 8260
Matrix: LIQUID

Client ID: BON837

Sample Date : 03/05/98
Receipt Date : 03/05/98
Report Date : 03/18/98

Quanterra ID : 17124-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	QCBLK167129-1	03/11/98	03/11/98	10	UG/L	U	10	1
Bromomethane	74-83-9	QCBLK167129-1	03/11/98	03/11/98	10	UG/L	U	10	1
Vinyl Chloride	75-01-4	QCBLK167129-1	03/11/98	03/11/98	10	UG/L	U	10	1
Chloroethane	75-00-3	QCBLK167129-1	03/11/98	03/11/98	10	UG/L	U	10	1
Methylene Chloride	75-09-2	QCBLK167129-1	03/11/98	03/11/98	4	UG/L	BJ	5	1
Acetone	67-64-1	QCBLK167129-1	03/11/98	03/11/98	6	UG/L	BJ	20	1
Carbon Disulfide	75-15-0	QCBLK167129-1	03/11/98	03/11/98	5	UG/L	U	5	1
1,1-Dichloroethene	75-35-4	QCBLK167129-1	03/11/98	03/11/98	5	UG/L	U	5	1
1,1-Dichloroethane	75-34-3	QCBLK167129-1	03/11/98	03/11/98	5	UG/L	U	5	1
1,2-Dichloroethene (total)	540-59-0	QCBLK167129-1	03/11/98	03/11/98	5	UG/L	U	5	1
Chloroform	67-66-3	QCBLK167129-1	03/11/98	03/11/98	36	UG/L		5	1
1,2-Dichloroethane	107-06-2	QCBLK167129-1	03/11/98	03/11/98	5	UG/L	U	5	1
2-Butanone (MEK)	78-93-3	QCBLK167129-1	03/11/98	03/11/98	20	UG/L	U	20	1
1,1,1-Trichloroethane	71-55-6	QCBLK167129-1	03/11/98	03/11/98	5	UG/L	U	5	1
Carbon Tetrachloride	56-23-5	QCBLK167129-1	03/11/98	03/11/98	5	UG/L	U	5	1
Bromodichloromethane	75-27-4	QCBLK167129-1	03/11/98	03/11/98	2	UG/L	J	5	1
1,2-Dichloropropane	78-87-5	QCBLK167129-1	03/11/98	03/11/98	5	UG/L	U	5	1
cis-1,3-Dichloropropene	10061-01-5	QCBLK167129-1	03/11/98	03/11/98	5	UG/L	U	5	1
Trichloroethene	79-01-6	QCBLK167129-1	03/11/98	03/11/98	5	UG/L	U	5	1
Dibromochloromethane	124-48-1	QCBLK167129-1	03/11/98	03/11/98	5	UG/L	U	5	1
1,1,2-Trichloroethane	79-00-5	QCBLK167129-1	03/11/98	03/11/98	5	UG/L	U	5	1
Benzene	71-43-2	QCBLK167129-1	03/11/98	03/11/98	5	UG/L	U	5	1
trans-1,3-Dichloropropene	10061-02-6	QCBLK167129-1	03/11/98	03/11/98	5	UG/L	U	5	1
Bromoform	75-25-2	QCBLK167129-1	03/11/98	03/11/98	5	UG/L	U	5	1
4-Methyl-2-Pentanone (MIBK)	108-10-1	QCBLK167129-1	03/11/98	03/11/98	20	UG/L	U	20	1
2-Hexanone	591-78-6	QCBLK167129-1	03/11/98	03/11/98	20	UG/L	U	20	1
Tetrachloroethene	127-18-4	QCBLK167129-1	03/11/98	03/11/98	5	UG/L	U	5	1
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK167129-1	03/11/98	03/11/98	5	UG/L	U	5	1
Toluene	108-88-3	QCBLK167129-1	03/11/98	03/11/98	5	UG/L	U	5	1
Chlorobenzene	108-90-7	QCBLK167129-1	03/11/98	03/11/98	5	UG/L	U	5	1
EthylBenzene	100-41-4	QCBLK167129-1	03/11/98	03/11/98	5	UG/L	U	5	1
Styrene	100-42-5	QCBLK167129-1	03/11/98	03/11/98	5	UG/L	U	5	1
Xylene (total)	1330-20-7	QCBLK167129-1	03/11/98	03/11/98	5	UG/L	U	5	1
Unknown-1	TIC-32	QCBLK167129-1	03/11/98	03/11/98	6	UG/L	J		1
Toluene-d8	2037-26-5	QCBLK167129-1	03/11/98	03/11/98	99	%REC			1
Bromofluorobenzene	460-00-4	QCBLK167129-1	03/11/98	03/11/98	103	%REC			1
Dibromofluoromethane	1868-53-7	QCBLK167129-1	03/11/98	03/11/98	109	%REC			1

Bechtel Hanford Incoporated
3350 George Washington Way
Richland, WA 99352

Project: 550.230

Category: Volatiles 8260 (TCL)
Method: EPA 8260
Matrix: LIQUID

Client ID: BON837

Sample Date : 03/05/98
Receipt Date : 03/05/98
Report Date : 03/18/98

Quanterra ID : 17124-001MS

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
1,1-Dichloroethene	75-35-4	QCBLK167129-1	03/11/98	03/11/98	104	%REC			1
Trichloroethene	79-01-6	QCBLK167129-1	03/11/98	03/11/98	96	%REC			1
Benzene	71-43-2	QCBLK167129-1	03/11/98	03/11/98	96	%REC			1
Toluene	108-88-3	QCBLK167129-1	03/11/98	03/11/98	86	%REC			1
Chlorobenzene	108-90-7	QCBLK167129-1	03/11/98	03/11/98	92	%REC			1
Toluene-d8	2037-26-5	QCBLK167129-1	03/11/98	03/11/98	94	%REC			1
Bromofluorobenzene	460-00-4	QCBLK167129-1	03/11/98	03/11/98	101	%REC			1
Dibromofluoromethane	1868-53-7	QCBLK167129-1	03/11/98	03/11/98	108	%REC			1

Bechtel Hanford Incoporated
3350 George Washington Way
Richland, WA 99352

Project: 550.230

Category: Volatiles 8260 (TCL)
Method: EPA 8260
Matrix: LIQUID

Client ID: BON837

Sample Date : 03/05/98
Receipt Date : 03/05/98
Report Date : 03/18/98

Quanterra ID : 17124-001MSD

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
1,1-Dichloroethene	75-35-4	QCBLK167129-1	03/11/98	03/11/98	107	%REC			1
Trichloroethene	79-01-6	QCBLK167129-1	03/11/98	03/11/98	98	%REC			1
Benzene	71-43-2	QCBLK167129-1	03/11/98	03/11/98	98	%REC			1
Toluene	108-88-3	QCBLK167129-1	03/11/98	03/11/98	93	%REC			1
Chlorobenzene	108-90-7	QCBLK167129-1	03/11/98	03/11/98	97	%REC			1
Toluene-d8	2037-26-5	QCBLK167129-1	03/11/98	03/11/98	100	%REC			1
Bromofluorobenzene	460-00-4	QCBLK167129-1	03/11/98	03/11/98	103	%REC			1
Dibromofluoromethane	1868-53-7	QCBLK167129-1	03/11/98	03/11/98	108	%REC			1

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0N837

Lab Name: QUANTERRA MO Contract: 550.230

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02273

Matrix: (soil/water) WATER Lab Sample ID: 17124-001

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: BSMP1754

Level: (low/med) LOW Date Received: 03/05/98

% Moisture: not dec. _____ Date Analyzed: 03/11/98

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	JB
67-64-1	Acetone	6	JB
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	36	
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	2	J
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Chlorodibromomethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-pentanone	20	U
591-78-6	2-Hexanone	20	U
127-18-4	Tetrachloroethene	5	U
108-88-3	Toluene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylenes (total)	5	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B0N837

Lab Name: QUANTERRA MO Contract: 550.230

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02273

Matrix: (soil/water) WATER Lab Sample ID: 17124-001

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: BSMP1754

Level: (low/med) LOW Date Received: 03/05/98

% Moisture: not dec. _____ Date Analyzed: 03/11/98

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	19.508	6	J
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Bechtel Hanford Incoporated
3350 George Washington Way
Richland, WA 99352

Project: 550.230

Category: Volatiles 8240-Appendix IX
Method: EPA 8240
Matrix: LIQUID

Sample Date : 03/05/98
Receipt Date : 03/05/98
Report Date : 04/07/98

Client ID: BON837

Quanterra ID : 17124-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	QCBLK167287-1	03/13/98	03/13/98	10	UG/L	U	10	1
Bromomethane	74-83-9	QCBLK167287-1	03/13/98	03/13/98	10	UG/L	U	10	1
Vinyl Chloride	75-01-4	QCBLK167287-1	03/13/98	03/13/98	1	UG/L	J	10	1
Chloroethane	75-00-3	QCBLK167287-1	03/13/98	03/13/98	10	UG/L	U	10	1
Methylene Chloride	75-09-2	QCBLK167287-1	03/13/98	03/13/98	5	UG/L	U	5	1
Acetone	67-64-1	QCBLK167287-1	03/13/98	03/13/98	20	UG/L	U	20	1
Carbon Disulfide	75-15-0	QCBLK167287-1	03/13/98	03/13/98	5	UG/L	U	5	1
1,1-Dichloroethene	75-35-4	QCBLK167287-1	03/13/98	03/13/98	1	UG/L	J	5	1
1,1-Dichloroethane	75-34-3	QCBLK167287-1	03/13/98	03/13/98	5	UG/L	U	5	1
1,2-Dichloroethene (total)	540-59-0	QCBLK167287-1	03/13/98	03/13/98	5	UG/L	U	5	1
Chloroform	67-66-3	QCBLK167287-1	03/13/98	03/13/98	39	UG/L		5	1
1,2-Dichloroethane	107-06-2	QCBLK167287-1	03/13/98	03/13/98	5	UG/L	U	5	1
2-Butanone (MEK)	78-93-3	QCBLK167287-1	03/13/98	03/13/98	3	UG/L	J	20	1
1,1,1-Trichloroethane	71-55-6	QCBLK167287-1	03/13/98	03/13/98	5	UG/L	U	5	1
Carbon Tetrachloride	56-23-5	QCBLK167287-1	03/13/98	03/13/98	1	UG/L	J	5	1
Vinyl Acetate	108-05-4	QCBLK167287-1	03/13/98	03/13/98	10	UG/L	U	10	1
Bromodichloromethane	75-27-4	QCBLK167287-1	03/13/98	03/13/98	2	UG/L	J	5	1
1,2-Dichloropropane	78-87-5	QCBLK167287-1	03/13/98	03/13/98	5	UG/L	U	5	1
cis-1,3-Dichloropropene	10061-01-5	QCBLK167287-1	03/13/98	03/13/98	5	UG/L	U	5	1
Trichloroethene	79-01-6	QCBLK167287-1	03/13/98	03/13/98	5	UG/L	U	5	1
Dibromochloromethane	124-48-1	QCBLK167287-1	03/13/98	03/13/98	5	UG/L	U	5	1
1,1,2-Trichloroethane	79-00-5	QCBLK167287-1	03/13/98	03/13/98	5	UG/L	U	5	1
Benzene	71-43-2	QCBLK167287-1	03/13/98	03/13/98	1	UG/L	J	5	1
trans-1,3-Dichloropropene	10061-02-6	QCBLK167287-1	03/13/98	03/13/98	5	UG/L	U	5	1
Bromoform	75-25-2	QCBLK167287-1	03/13/98	03/13/98	5	UG/L	U	5	1
4-Methyl-2-Pentanone (MIBK)	108-10-1	QCBLK167287-1	03/13/98	03/13/98	20	UG/L	U	20	1
2-Hexanone	591-78-6	QCBLK167287-1	03/13/98	03/13/98	20	UG/L	U	20	1
Tetrachloroethene	127-18-4	QCBLK167287-1	03/13/98	03/13/98	5	UG/L	U	5	1
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK167287-1	03/13/98	03/13/98	5	UG/L	U	5	1
Toluene	108-88-3	QCBLK167287-1	03/13/98	03/13/98	5	UG/L	U	5	1
Chlorobenzene	108-90-7	QCBLK167287-1	03/13/98	03/13/98	1	UG/L	J	5	1
EthylBenzene	100-41-4	QCBLK167287-1	03/13/98	03/13/98	5	UG/L	U	5	1
Styrene	100-42-5	QCBLK167287-1	03/13/98	03/13/98	5	UG/L	U	5	1
Xylene (total)	1330-20-7	QCBLK167287-1	03/13/98	03/13/98	5	UG/L	U	5	1
Acrolein	107-02-8	QCBLK167287-1	03/13/98	03/13/98	100	UG/L	U	100	1
Acetonitrile	75-05-8	QCBLK167287-1	03/13/98	03/13/98	100	UG/L	U	100	1
Iodomethane	74-88-4	QCBLK167287-1	03/13/98	03/13/98	5	UG/L	U	5	1
Allyl chloride	107-05-1	QCBLK167287-1	03/13/98	03/13/98	5	UG/L	U	5	1
2-Chloro-1,3-butadiene	126-99-8	QCBLK167287-1	03/13/98	03/13/98	5	UG/L	U	5	1
Propionitrile	107-12-0	QCBLK167287-1	03/13/98	03/13/98	100	UG/L	U	100	1
Methacrylonitrile	126-98-7	QCBLK167287-1	03/13/98	03/13/98	100	UG/L	U	100	1
1,4-Dioxane	123-91-1	QCBLK167287-1	03/13/98	03/13/98	500	UG/L	U	500	1
Methyl methacrylate	80-62-6	QCBLK167287-1	03/13/98	03/13/98	5	UG/L	U	5	1
Dibromomethane	74-95-3	QCBLK167287-1	03/13/98	03/13/98	5	UG/L	U	5	1
Ethyl methacrylate	97-63-2	QCBLK167287-1	03/13/98	03/13/98	5	UG/L	U	5	1
1,2-Dibromoethane	106-93-4	QCBLK167287-1	03/13/98	03/13/98	5	UG/L	U	5	1
1,1,1,2-Tetrachloroethane	630-20-6	QCBLK167287-1	03/13/98	03/13/98	5	UG/L	U	5	1
trans,1,4-Dichloro-2-butene	110-57-6	QCBLK167287-1	03/13/98	03/13/98	5	UG/L	U	5	1
1,2,3-Trichloropropane	96-18-4	QCBLK167287-1	03/13/98	03/13/98	5	UG/L	U	5	1
1,2-Dibromo-3-chloropropane	96-12-8	QCBLK167287-1	03/13/98	03/13/98	10	UG/L	U	10	1
Dichlorodifluoromethane	75-71-8	QCBLK167287-1	03/13/98	03/13/98	10	UG/L	U	10	1
Trichlorofluoromethane	75-69-4	QCBLK167287-1	03/13/98	03/13/98	10	UG/L	U	10	1
Silanol, trimethyl-	1066-40-6	QCBLK167287-1	03/13/98	03/13/98	8	UG/L	JN		1
Toluene-d8	2037-26-5	QCBLK167287-1	03/13/98	03/13/98	98	%REC			1
Bromofluorobenzene	460-00-4	QCBLK167287-1	03/13/98	03/13/98	100	%REC			1
1,2-Dichloroethane-d4	17070-07-0	QCBLK167287-1	03/13/98	03/13/98	103	%REC			1

Bechtel Hanford Incoporated
3350 George Washington Way
Richland, WA 99352

Project: 550.230

Category: Volatiles 8240-Appendix IX
Method: EPA 8240
Matrix: LIQUID

Client ID: BOW837

Sample Date : 03/05/98
Receipt Date : 03/05/98
Report Date : 04/07/98

Quanterra ID : 17124-001MS

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
1,1-Dichloroethene	75-35-4	QCBLK167287-1	03/13/98	03/13/98	103	%REC			1
Trichloroethene	79-01-6	QCBLK167287-1	03/13/98	03/13/98	82	%REC			1
Benzene	71-43-2	QCBLK167287-1	03/13/98	03/13/98	92	%REC			1
Toluene	108-88-3	QCBLK167287-1	03/13/98	03/13/98	82	%REC			1
Chlorobenzene	108-90-7	QCBLK167287-1	03/13/98	03/13/98	86	%REC			1
Toluene-d8	2037-26-5	QCBLK167287-1	03/13/98	03/13/98	98	%REC			1
Bromofluorobenzene	460-00-4	QCBLK167287-1	03/13/98	03/13/98	99	%REC			1
1,2-Dichloroethane-d4	17070-07-0	QCBLK167287-1	03/13/98	03/13/98	112	%REC			1

Bechtel Hanford Incoporated
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Richland, WA 99352

Project: 550.230

Category: Volatiles 8240-Appendix IX
Method: EPA 8240
Matrix: LIQUID

Sample Date : 03/05/98
Receipt Date : 03/05/98
Report Date : 04/07/98

Client ID: BON837

Quanterra ID : 17124-001MSD

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
1,1-Dichloroethene	75-35-4	QCBLK167287-1	03/13/98	03/13/98	109	%REC			1
Trichloroethene	79-01-6	QCBLK167287-1	03/13/98	03/13/98	91	%REC			1
Benzene	71-43-2	QCBLK167287-1	03/13/98	03/13/98	106	%REC			1
Toluene	108-88-3	QCBLK167287-1	03/13/98	03/13/98	95	%REC			1
Chlorobenzene	108-90-7	QCBLK167287-1	03/13/98	03/13/98	99	%REC			1
Toluene-d8	2037-26-5	QCBLK167287-1	03/13/98	03/13/98	102	%REC			1
Bromofluorobenzene	460-00-4	QCBLK167287-1	03/13/98	03/13/98	104	%REC			1
1,2-Dichloroethane-d4	17070-07-0	QCBLK167287-1	03/13/98	03/13/98	115	%REC			1

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BON837

Lab Name: QUANTERRA MO Contract: 550.230

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02273

Matrix: (soil/water) WATER Lab Sample ID: 17124-001

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: ESMP1230

Level: (low/med) LOW Date Received: 03/05/98

% Moisture: not dec. _____ Date Analyzed: 03/13/98

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	1	J
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	1	J
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	39	
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	3	J
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	1	J
108-05-4	Vinyl acetate	10	U
75-27-4	Bromodichloromethane	2	J
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	1	J
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
108-88-3	Toluene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-90-7	Chlorobenzene	1	J
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylenes (total)	5	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BON837

Lab Name: QUANTERRA MO Contract: 550.230

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02273

Matrix: (soil/water) WATER Lab Sample ID: 17124-001

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: ESMP1230

Level: (low/med) LOW Date Received: 03/05/98

% Moisture: not dec. _____ Date Analyzed: 03/13/98

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
107-02-8	Acrolein	100	U
75-05-8	Acetonitrile	100	U
74-88-4	Iodomethane	5	U
107-05-1	Allyl chloride	5	U
126-99-8	2-Chloro-1,3-butadiene	5	U
107-12-0	Propionitrile	100	U
126-98-7	Methacrylonitrile	100	U
123-91-1	1,4-Dioxane	500	U
80-62-6	Methyl methacrylate	5	U
75-95-3	Dibromomethane	5	U
97-63-2	Ethyl methacrylate	5	U
106-93-4	1,2-Dibromoethane	5	U
630-20-6	1,1,1,2-Tetrachloroethane	5	U
110-57-6	trans-1,4-dichloro-2-butene	5	U
96-18-4	1,2,3-Trichloropropane	5	U
96-12-8	1,2-Dibromo-3-chloropropane	10	U
75-71-8	Dichlorodifluoromethane	10	U
75-69-4	Trichlorofluoromethane	10	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BON837

Lab Name: QUANTERRA MO Contract: 550.230

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02273

Matrix: (soil/water) WATER Lab Sample ID: 17124-001

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: ESMP1230

Level: (low/med) LOW Date Received: 03/05/98

% Moisture: not dec. _____ Date Analyzed: 03/13/98

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. 1066-40-6	Silanol, trimethyl-	3.948	8	NJ
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Bechtel Hanford Incoporated
3350 George Washington Way
Richland, WA 99352

Project: 550.230

Category: Acrylamide
Method: SW-846 8316
Matrix: LIQUID

Client ID: BON837

Sample Date : 03/05/98
Receipt Date : 03/05/98
Report Date : 03/25/98

Quanterra ID : 17124-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Acrylamide	79-06-1	QCBLK166924-1	03/12/98	03/12/98	100	UG/L	U	100	1

Bechtel Hanford Incoporated
3350 George Washington Way
Richland, WA 99352

Project: 550.230

Category: Acrylamide
Method: SW-846 8316
Matrix: LIQUID

Client ID: BON837

Sample Date : 03/05/98
Receipt Date : 03/05/98
Report Date : 03/25/98

Quanterra ID : 17124-001MS

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Acrylamide	79-06-1	QCBLK166924-1	03/12/98	03/12/98	118	%REC			1

Bechtel Hanford Incoporated
3350 George Washington Way
Richland, WA 99352

Project: 550.230

Category: Acrylamide
Method: SW-846 8316
Matrix: LIQUID

Client ID: BON837

Sample Date : 03/05/98
Receipt Date : 03/05/98
Report Date : 03/25/98

Quanterra ID : 17124-001MSD

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Acrylamide	79-06-1	QCBLK166924-1	03/12/98	03/12/98	108	%REC			1

1D
ACRYLAMIDE ANALYSIS DATA SHEET

EPA SAMPLE NO.
B0N837

Lab Name: QUANTERRA MO Contract: 550.23

Lab Code: ITMO Case No.: _____ SAS No.: _____ SDG No.: W02273

Matrix : (soil/water) WATER Lab Sample ID: 17124-001

Sample wt/vol: 1000 (g/ml) ML Lab File ID: _____

Level: (low/med) LOW Date Sampled: 03-05-98

% Moisture: not dec._____ dec._____ Date Extracted: _____

Extraction:(SepF/Cont/Sonc/Shak)_____ Date Analyzed: 03-12-98

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1

CAS NO.	Compound	CONCENTRATION UNITS: (mg/L or mg/Kg) UG/L	Q
79-06-1	ACRYLAMIDE	100	U

U: Concentration of analyte is less than the value given.

FORM I HBH

Bechtel Hanford Incoporated
3350 George Washington Way
Richland, WA 99352

Project: 550.230

Category: ICP Metals-6010A (TAL)
Method: EPA 6010
Matrix: LIQUID

Client ID: BON837

Sample Date : 03/05/98
Receipt Date : 03/05/98
Report Date : 03/25/98

Quanterra ID : 17124-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK167681-1	03/18/98	03/19/98	483	UG/L		200	1
Antimony	7440-36-0	QCBLK167681-1	03/18/98	03/19/98	42.5	UG/L	U	60.0	1
Barium	7440-39-3	QCBLK167681-1	03/18/98	03/19/98	27.0	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK167681-1	03/18/98	03/19/98	0.40	UG/L	U	5.0	1
Cadmium	7440-43-9	QCBLK167681-1	03/18/98	03/19/98	3.3	UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK167681-1	03/18/98	03/19/98	27600	UG/L		5000	1
Chromium	7440-47-3	QCBLK167681-1	03/18/98	03/19/98	2.7	UG/L	U	10.0	1
Cobalt	7440-48-4	QCBLK167681-1	03/18/98	03/19/98	4.3	UG/L	U	50.0	1
Copper	7440-50-8	QCBLK167681-1	03/18/98	03/19/98	10.9	UG/L	B	25.0	1
Iron	7439-89-6	QCBLK167681-1	03/18/98	03/19/98	159	UG/L		100	1
Magnesium	7439-95-4	QCBLK167681-1	03/18/98	03/19/98	4610	UG/L	BE	5000	1
Manganese	7439-96-5	QCBLK167681-1	03/18/98	03/19/98	5.2	UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK167681-1	03/18/98	03/19/98	14.6	UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK167681-1	03/18/98	03/19/98	2180	UG/L	U	5000	1
Silver	7440-22-4	QCBLK167681-1	03/18/98	03/19/98	6.0	UG/L	U	10.0	1
Sodium	7440-23-5	QCBLK167681-1	03/18/98	03/19/98	4050	UG/L	B	5000	1
Vanadium	7440-62-2	QCBLK167681-1	03/18/98	03/19/98	9.2	UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK167681-1	03/18/98	03/19/98	6.6	UG/L	B	20.0	1

Bechtel Hanford Incoporated
3350 George Washington Way
Richland, WA 99352

Project: 550.230

Category: ICP Metals-6010A (TAL)
Method: EPA 6010
Matrix: LIQUID

Client ID: BON837

Sample Date : 03/05/98
Receipt Date : 03/05/98
Report Date : 03/25/98

Quanterra ID : 17124-001MS

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK167681-1	03/18/98	03/19/98	96	%REC			1
Antimony	7440-36-0	QCBLK167681-1	03/18/98	03/19/98	92	%REC			1
Barium	7440-39-3	QCBLK167681-1	03/18/98	03/19/98	95	%REC			1
Beryllium	7440-41-7	QCBLK167681-1	03/18/98	03/19/98	105	%REC			1
Cadmium	7440-43-9	QCBLK167681-1	03/18/98	03/19/98	100	%REC			1
Calcium	7440-70-2	QCBLK167681-1	03/18/98	03/19/98	98	%REC			1
Chromium	7440-47-3	QCBLK167681-1	03/18/98	03/19/98	96	%REC			1
Cobalt	7440-48-4	QCBLK167681-1	03/18/98	03/19/98	96	%REC			1
Copper	7440-50-8	QCBLK167681-1	03/18/98	03/19/98	95	%REC			1
Iron	7439-89-6	QCBLK167681-1	03/18/98	03/19/98	88	%REC			1
Magnesium	7439-95-4	QCBLK167681-1	03/18/98	03/19/98	100	%REC			1
Manganese	7439-96-5	QCBLK167681-1	03/18/98	03/19/98	97	%REC			1
Nickel	7440-02-0	QCBLK167681-1	03/18/98	03/19/98	96	%REC			1
Potassium	7440-09-7	QCBLK167681-1	03/18/98	03/19/98	99	%REC			1
Silver	7440-22-4	QCBLK167681-1	03/18/98	03/19/98	88	%REC			1
Sodium	7440-23-5	QCBLK167681-1	03/18/98	03/19/98	94	%REC			1
Vanadium	7440-62-2	QCBLK167681-1	03/18/98	03/19/98	99	%REC			1
Zinc	7440-66-6	QCBLK167681-1	03/18/98	03/19/98	99	%REC			1

Bechtel Hanford Incoporated
3350 George Washington Way
Richland, WA 99352

Project: 550.230

Category: ICP Metals-6010A (TAL)
Method: EPA 6010
Matrix: LIQUID

Client ID: BON837

Sample Date : 03/05/98
Receipt Date : 03/05/98
Report Date : 03/25/98

Quanterra ID : 17124-001MSD

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK167681-1	03/18/98	03/19/98	98	%REC			1
Antimony	7440-36-0	QCBLK167681-1	03/18/98	03/19/98	97	%REC			1
Barium	7440-39-3	QCBLK167681-1	03/18/98	03/19/98	96	%REC			1
Beryllium	7440-41-7	QCBLK167681-1	03/18/98	03/19/98	106	%REC			1
Cadmium	7440-43-9	QCBLK167681-1	03/18/98	03/19/98	100	%REC			1
Calcium	7440-70-2	QCBLK167681-1	03/18/98	03/19/98	100	%REC			1
Chromium	7440-47-3	QCBLK167681-1	03/18/98	03/19/98	96	%REC			1
Cobalt	7440-48-4	QCBLK167681-1	03/18/98	03/19/98	97	%REC			1
Copper	7440-50-8	QCBLK167681-1	03/18/98	03/19/98	96	%REC			1
Iron	7439-89-6	QCBLK167681-1	03/18/98	03/19/98	90	%REC			1
Magnesium	7439-95-4	QCBLK167681-1	03/18/98	03/19/98	102	%REC			1
Manganese	7439-96-5	QCBLK167681-1	03/18/98	03/19/98	99	%REC			1
Nickel	7440-02-0	QCBLK167681-1	03/18/98	03/19/98	100	%REC			1
Potassium	7440-09-7	QCBLK167681-1	03/18/98	03/19/98	98	%REC			1
Silver	7440-22-4	QCBLK167681-1	03/18/98	03/19/98	84	%REC			1
Sodium	7440-23-5	QCBLK167681-1	03/18/98	03/19/98	96	%REC			1
Vanadium	7440-62-2	QCBLK167681-1	03/18/98	03/19/98	100	%REC			1
Zinc	7440-66-6	QCBLK167681-1	03/18/98	03/19/98	100	%REC			1

Bechtel Hanford Incoporated
3350 George Washington Way
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Project: 550.230

Category: Arsenic-7060-(GFAA)
Method: EPA 7000 Series
Matrix: LIQUID

Sample Date : 03/05/98
Receipt Date : 03/05/98
Report Date : 03/25/98

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil
B0N837	17124-001	Arsenic	7440-38-2	QCBLK167769-1	03/19/98	03/19/98	2.2	UG/L	UN	10.0	1
B0N837	17124-001MS	Arsenic	7440-38-2	QCBLK167769-1	03/19/98	03/19/98	67	%REC	N		1
B0N837	17124-001MSD	Arsenic	7440-38-2	QCBLK167769-1	03/19/98	03/19/98	66	%REC	N		1
NA	QCLCS167769-1	Arsenic	7440-38-2	QCBLK167769-1	03/19/98	03/19/98	96	%REC			1
NA	QCBLK167769-1	Arsenic	7440-38-2	QCBLK167769-1	03/19/98	03/19/98	2.2	UG/L	U	10.0	1

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COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: QUANTERRA_MO_____ Contract: 550.230___

Lab Code: ITMO__ Case No.: _____ SAS No.: _____ SDG No.: W02273_____

SOW No.: SW846

EPA Sample No.	Lab Sample ID
B0N837	17124-001
B0N837SD	17124-001SD
B0N837S	17124-001S

Were ICP interelement corrections applied ? Yes/No YES

Were ICP background corrections applied ? Yes/No YES

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

Comments:

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

Signature: _____ Name: _____

Date: _____ Title: _____

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0N837

Lab Name: QUANTERRA_MO Contract: 550.230
Lab Code: ITMO Case No.: SAS No.: SDG No.: W02273
Matrix (soil/water): WATER Lab Sample ID: 17124-001
Level (low/med): LOW Date Received: 03/05/98
% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	483			P
7440-36-0	Antimony	42.5	U		P
7440-38-2	Arsenic	2.2	U	N	F
7440-39-3	Barium	27.0	B		P
7440-41-7	Beryllium	0.40	U		P
7440-43-9	Cadmium	3.3	U		P
7440-70-2	Calcium	27600			P
7440-47-3	Chromium	2.7	U		P
7440-48-4	Cobalt	4.3	U		P
7440-50-8	Copper	10.9	B		P
7439-89-6	Iron	159			P
7439-95-4	Magnesium	4610	B	E	P
7439-96-5	Manganese	5.2	B		P
7440-02-0	Nickel	14.6	U		P
7440-09-7	Potassium	2180	U		P
7440-22-4	Silver	6.0	U		P
7440-23-5	Sodium	4050	B		P
7440-62-2	Vanadium	9.2	B		P
7440-66-6	Zinc	6.6	B		P

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

Comments:

FORM I - IN

SW-846

Bechtel Hanford Incoporated
3350 George Washington Way
Richland, WA 99352

Project: 550.230

Category: pH EPA 150.1
Method: EPA 150.1
Matrix: LIQUID

Sample Date : 03/05/98
Receipt Date : 03/05/98
Report Date : 03/24/98

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil
B0N837	17124-001	pH	PH	QCBLK167374-1	03/13/98	03/13/98	7.05	PH			1
B0N837	17124-001DUP	pH	PH	QCBLK167374-1	03/13/98	03/13/98	7.14	PH			1
NA	QCBLK167374-1	pH	PH	QCBLK167374-1	03/13/98	03/13/98	4.79	PH			1

Bechtel Hanford Incoporated
3350 George Washington Way
Richland, WA 99352

Project: 550.230

Category: TDS-160.1
Method: EPA 160.1
Matrix: LIQUID

Sample Date : 03/05/98
Receipt Date : 03/05/98
Report Date : 03/24/98

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
BON837	17124-001	Total Dissolved	TDS	QCBLK167275-1	03/12/98	03/12/98	126	MG/L		5.00	1
BON837	17124-001DUP	Total Dissolved	TDS	QCBLK167275-1	03/12/98	03/12/98	126	MG/L		5.00	1
NA	QCBLK167275-1	Total Dissolved	TDS	QCBLK167275-1	03/12/98	03/12/98	5.00	MG/L	U	5.00	1
NA	QCLCS167275-1	Total Dissolved	TDS	QCBLK167275-1	03/12/98	03/12/98	100	%REC			1

Bechtel Hanford Incoporated
3350 George Washington Way
Richland, WA 99352

Project: 550.230

Category: Total Suspended Solids (160.2)
Method: EPA 160.2
Matrix: LIQUID

Sample Date : 03/05/98
Receipt Date : 03/05/98
Report Date : 03/19/98

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
BON837	17124-001	Total Suspended	TSS	QCBLK166978-1	03/10/98	03/10/98	2.0	MG/L		1.00	1
BON837	17124-001DUP	Total Suspended	TSS	QCBLK166978-1	03/10/98	03/10/98	4.0	MG/L		1.00	1
NA	QCBLK166978-1	Total Suspended	TSS	QCBLK166978-1	03/10/98	03/10/98	1.00	MG/L	U	1.00	1
NA	QCLCS166978-1	Total Suspended	TSS	QCBLK166978-1	03/10/98	03/10/98	97	%REC			1

Bechtel Hanford Incoporated
3350 George Washington Way
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Project: 550.230

Category: Total Residual Chlorine
Method: EPA 330.3
Matrix: LIQUID

Sample Date : 03/05/98
Receipt Date : 03/05/98
Report Date : 03/25/98

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
B0N837	17124-001	Residual Chlori	7782-50-5a	QCBLK167841-1	03/19/98	03/19/98	1.49	MG/L		0.10	1
B0N837	17124-001DUP	Residual Chlori	7782-50-5a	QCBLK167841-1	03/19/98	03/19/98	1.54	MG/L		0.10	1
NA	QCBLK167841-1	Residual Chlori	7782-50-5a	QCBLK167841-1	03/19/98	03/19/98	0.10	MG/L	U	0.10	1
NA	QCLCS167841-1	Residual Chlori	7782-50-5a	QCBLK167841-1	03/19/98	03/19/98	101	%REC			1

Bechtel Hanford Incoporated
3350 George Washington Way
Richland, WA 99352

Project: 550.230

Category: Sulfate
Method: EPA 375.4
Matrix: LIQUID

Sample Date : 03/05/98
Receipt Date : 03/05/98
Report Date : 03/25/98

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil
B0N837	17124-001	Sulfate	14808-79-8	QCBLK168160-1	03/24/98	03/24/98	27.1	MG/L		5.00	1
B0N837	17124-001DUP	Sulfate	14808-79-8	QCBLK168160-1	03/24/98	03/24/98	26.1	MG/L		5.00	1
B0N837	17124-001MS	Sulfate	14808-79-8	QCBLK168160-1	03/24/98	03/24/98	103	%REC			1
NA	QCBLK168160-1	Sulfate	14808-79-8	QCBLK168160-1	03/24/98	03/24/98	5.00	MG/L	U	5.00	1
NA	QCLCS168160-1	Sulfate	14808-79-8	QCBLK168160-1	03/24/98	03/24/98	92	%REC			1