W02714-R2

Quanterra
Environmental Services

Quanterra Incorporated
13715 Rider Trail North
Earth City, Missouri 63045

314 298-8566 Telephone
314 298-8757 Fax

0001456

CASE NARRATIVE

AUG 1999 RECEIVED EDMC

APR 1999 RECEIVED Data Log In

Bechtel Hanford Incorporated
3350 George Washington Way
Richland, Washington 99352

April 22, 1999

Attention: Joan Kessner

Project Number	:	550.230
SDG	:	W02714
Number of Samples	:	One (1)
Sample Matrix	:	Water
Data Deliverable	:	Summary (IV/DA)
Date SDG Closed	:	March 17, 1999

II. Introduction

On March 17, 1999, one (1) "water" sample was received by Quanterra, Richland and transferred to Quanterra, St. Louis for chemical analysis. The sample was received at a temperature of 2° C. Upon receipt, the samples were given the following laboratory ID numbers to correspond with the specific client ID:

St. Louis ID	BHI ID	SAF ID	Matrix	Date of Receipt
20909-001	B0V1P4	B99-018	WATER	17-MAR-99

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 - 150.1
Sulfate - 375.4
TDS - 160.1
TSS - 160.2
Arsenic 7060 - (GFAA)

000002

Analysis Requested (cont.)	ICP Metals - 6010A (TAL) Chlorine (Total residual) - 330.3 Acrylamide - 8316 VOA - 8240 (Append IX) VOA - 8260 (TCL)
Deviation from Request:	No Deviation from requested methods.

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
DUP- Laboratory Duplicate
MS- Matrix Spike
MSD- Matrix Spike Duplicate.

V. Comments

General: There are no general comments.

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

"No comments" were noted for this analysis.

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

"No comments" were noted for this analysis.

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

"No comments" were noted for the metals analyses in this SDG.

Wet Chemistry: A Laboratory Control Sample, Method Blank, Matrix Spike and Laboratory Duplicate were analyzed with each preparation batch per the protocol for this analysis. pH, and Total Residual Chlorine require a duplicate as matrix QC.

"No comments" were noted for the wet chemistry analyses in this SDG.

I certify that this Summary 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:

Shiela Louvier

Shiela M. Louvier
St. Louis Project Manager

W02714

Quanterra March 22, 1999 12:34 pm
Account: 10722 Project: 550.230 Quanterra-Richland QAS No. 550.23 Rev. 2
Master Sample Login: 20909

Project Manager: S. Louvier

Reviewed by and Date: Sheila Louvier 3-22-99

Sample Header Template:

Sample No. / #	Client ID / Container Type	C-Matrix / Analysis	Date: Collected / Class	Received / Preservative	Due / Anal. Due Date	Shipper / Hold Date	Site	Rad Category / (Container Numbers:% Filled)	Rad Sample No.
20909-001	B0V1P4	Water	17-MAR-99 09:21	17-MAR-99 10:50	16-APR-99		AIRBORNE	1	Screening not Required
SAF B99-018									
3	VI - Vial-40ml	HPLC/8316/Q4	S	COLD	09-APR-99	26-APR-99 ~~11-666~~	109H10	(434025:100 434026:99 434027:98)	
3		VOA/8240APPIX/Q4	S	HCL	09-APR-99	31-MAR-99	109H10	(434031:94 434032:93 434033:92)	
3		VOA/8260/Q4	S	HCL	09-APR-99	31-MAR-99	109H10	(434028:97 434029:96 434030:95)	
1	PN - Plastic-1L	RCL/330.3/Q4	S	COLD	09-APR-99	18-MAR-99	R2A	(434024:99)	
1	PN - Plastic-500ml	AS/7060/Q4	S	HNO3	09-APR-99	13-SEP-99	R2A	(434022:98)	
1		ICAP/6010/Q4	S	HNO3	09-APR-99	13-SEP-99	R2A	(434023:97)	
1		TDS/160.1/Q4	S	COLD	09-APR-99	24-MAR-99	R2A	(434020:100)	
1		TSS/160.2/Q4	S	COLD	09-APR-99	24-MAR-99	R2A	(434021:99)	
1	PN - Plastic-250ml	SO4/375.4/Q4	S	COLD	09-APR-99	14-APR-99	R2A	(434019:100)	
1	PN - Plastic-120ml	PH/150.1/Q4	S	COLD	09-APR-99	18-MAR-99	R2A	(434018:100)	
1	PW - Plastic-2oz	RAD/SCREEN/Q4	S	COLD	09-APR-99	13-SEP-99	R2A	(434239:99)	
20909-001DUP	B0V1P4	Water	17-MAR-99 09:21	17-MAR-99 10:50	16-APR-99		AIRBORNE	1	Screening not Required
SAF B99-018									
1	PN - Plastic-1L	RCL/330.3/Q4	S	COLD	09-APR-99	18-MAR-99	R2A	(434024:99)	
1	PN - Plastic-500ml	TDS/160.1/Q4	S	COLD	09-APR-99	24-MAR-99	R2A	(434020:100)	
1		TSS/160.2/Q4	S	COLD	09-APR-99	24-MAR-99	R2A	(434021:99)	
1	PN - Plastic-250ml	SO4/375.4/Q4	S	COLD	09-APR-99	14-APR-99	R2A	(434019:100)	
1	PN - Plastic-120ml	PH/150.1/Q4	S	COLD	09-APR-99	18-MAR-99	R2A	(434018:100)	
20909-001MS	B0V1P4	Water	17-MAR-99 09:21	17-MAR-99 10:50	16-APR-99		AIRBORNE	1	Screening not Required
SAF B99-018									
3	VI - Vial-40ml	HPLC/8316/Q4	S	COLD	09-APR-99	26-APR-99 ~~11-666~~	109H10	(434025:100 434026:99 434027:98)	
3		VOA/8240APPIX/Q4	S	HCL	09-APR-99	31-MAR-99	109H10	(434031:94 434032:93 434033:92)	
3		VOA/8260/Q4	S	HCL	09-APR-99	31-MAR-99	109H10	(434028:97 434029:96 434030:95)	
1	PN - Plastic-500ml	AS/7060/Q4	S	HNO3	09-APR-99	13-SEP-99	R2A	(434022:98)	
1		ICAP/6010/Q4	S	HNO3	09-APR-99	13-SEP-99	R2A	(434023:97)	
1	PN - Plastic-250ml	SO4/375.4/Q4	S	COLD	09-APR-99	14-APR-99	R2A	(434019:100)	
20909-001MSD	B0V1P4	Water	17-MAR-99 09:21	17-MAR-99 10:50	16-APR-99		AIRBORNE	1	Screening not Required
SAF B99-018									
3	VI - Vial-40ml	HPLC/8316/Q4	S	COLD	09-APR-99	26-APR-99 ~~11-666~~	109H10	(434025:100 434026:99 434027:98)	
3		VOA/8240APPIX/Q4	S	HCL	09-APR-99	31-MAR-99	109H10	(434031:94 434032:93 434033:92)	
3		VOA/8260/Q4	S	HCL	09-APR-99	31-MAR-99	109H10	(434028:97 434029:96 434030:95)	
1	PN - Plastic-500ml	AS/7060/Q4	S	HNO3	09-APR-99	13-SEP-99	R2A	(434022:98)	
1		ICAP/6010/Q4	S	HNO3	09-APR-99	13-SEP-99	R2A	(434023:97)	

3*=Sample has not been rad screened.

000005

(cl) 18306 2°C

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B99-018-10	Page 1 of 2

Collector Renee Nielson	**Company Contact** Dorman Blankenship	**Telephone No.** 373-5456	**Project Coordinator** TRENT, SJ
Project Designation 183N Backwash Discharge Pond -- Permit Monitoring 1999	**Sampling Location** 100N		**SAF No.** B99-018
Ice Chest No. CL-1419	**Field Logbook No.** EL-1381-1		**Method of Shipment** Hand deliver - Govt vehicle
Shipped To Quanterra Incorporated	**Offsite Property No.** N/A		**Bill of Lading/Air Bill No.** N/A 5157767 775
			COA

Price Code | **Data Turnaround** 45 Days

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage Cool 4C

SDG W02714

SAMPLE ANALYSIS

Sample No.	Matrix *	Sample Date	Sample Time	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 (Append IX)
				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	G/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
					100%					pH-1	pH-1			
B0V1P4	Water	3-17-99	0921		X	X	X	X	X	X	X	X	X	X

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

Relinquished By	Date/Time	Received By	Date/Time
R. Nielson / R. Nielson 3/17/99	1050	R. Tatterlung	1050 3-17-99
R. Tatterlung 3-17-99	1600	[illegible]	3-18-99 830

SPECIAL INSTRUCTIONS
** Close SDG upon receipt of samples.

Matrix *
Soil
Water
Vapor
Other Solid
Other Liquid

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

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B99-018-10	Page 2 of 2

Collector Renee Nielson	**Company Contact** Dorman Blankenship	**Telephone No.** 373-5456	**Project Coordinator** TRENT, SJ
Project Designation 183N Backwash Discharge Pond -- Permit Monitoring 1999	**Sampling Location** 100N		**SAF No.** B99-018
Ice Chest No. CL449	**Field Logbook No.** EL-1381-1		**Method of Shipment** Hand deliver - Govt vehicle
Shipped To Quanterra Incorporated	**Offsite Property No.** N/A		**Bill of Lading/Air Bill No.** N/A
			COA

Price Code

Data Turnaround 45 Days

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage Cool 4C

Preservation	HCl to pH <2 Cool 4C										
Type of Container	aGs*										
No. of Container(s)	3										
Volume	40mL										
SAMPLE ANALYSIS	VOA - 8260A (TCL)										
	100%										

Sample No.	Matrix *	Sample Date	Sample Time										
B0V1P4	Water	3-17-99	0921	X									

CHAIN OF POSSESSION

Relinquished By	Date/Time	Received By	Date/Time
R. Nielson / R. Nielson	3/17/99 1050	R. Stallings	3-17-99 1050
R. Stallings	3-17-99 1600	Mark B.	3-18-99 830

Sign/Print Names

SPECIAL INSTRUCTIONS
** Close SDG upon receipt of samples.

Matrix *
Soil
Water
Vapor
Other Solid
Other Liquid

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

FROM THE DESK OF: ALLEN NELLESEN
ERC TEAM RAD-CON SUPPORT
373-1925/X0-23

TO: R.T.Fahlberg N1-28 DATE: August 15, 1996

SUBJECT: WATER SAMPLES FROM 183N POTABLE WATER PLANT

Water samples are routinely collected and sent off-site for analysis to assure compliance with Washington State Department of Health drinking water requirements. The history of 183-N which provides treated water to support the operation of the N-Reactor shows that a radiological survey of the water samples is not warranted.

If you need further help or have any questions, please call me at the phone number displayed above.

cc: D. D. Blankenship X7-75
T. A. Edwards X0-23
J. E. Parsons X0-23
R. K. Stafford X1-86
J. P. Zoric X5-57

Figure 1

SAMPLE CHECK-IN LIST

Date/Time Received: 3/17-99 SG#: SDG W02714

Work Order Number: _____ SAF #: B99-018

Shipping Container ID: _____ Chain of Custody # B99-018-10

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 [ ]
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: 3-17-99

Telephoned To: _____ On _____ By _____

000019

Quanterra
Environmental Services

018306

Login No.: 2090
W02714

Condition Upon Receipt Variance Report
St. Louis Laboratory

Client: Rechland
Date: 3-18-99 Time: 830
Project No: 550.230
Initiated by: Michael B. Lorn
Shipper/No: Airborne 5157762775
RFA/COC Numbers: B39-018-10

Condition/Variance (Check all that apply):

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

☑ **No variances were noted during sample receipt.** **Cooler Temperature Upon Receipt:** 2°C

Temperature Variance Does Not Affect the Following Analyses: _____

Notes: _____

Corrective Action:

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

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

☐ Sample(s) processed "as is". Comments: _____

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

Sample Control Supervisor Review: (or designate) Michael B. Lorn Date: 3-18-99

Project Management Review: Sheila Loarner Date: 3-19-99

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

SL-ADMIN-0004, Revised 3/17/99

000010

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: B0V1P4

Sample Date : 03/17/99
Receipt Date : 03/17/99
Report Date : 04/14/99

Quanterra ID : 20909-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	QCBLK196038-1	03/24/99	03/24/99	10	UG/L	U	10	1
Bromomethane	74-83-9	QCBLK196038-1	03/24/99	03/24/99	10	UG/L	U	10	1
Vinyl Chloride	75-01-4	QCBLK196038-1	03/24/99	03/24/99	10	UG/L	U	10	1
Chloroethane	75-00-3	QCBLK196038-1	03/24/99	03/24/99	10	UG/L	U	10	1
Methylene Chloride	75-09-2	QCBLK196038-1	03/24/99	03/24/99	5	UG/L	U	5	1
Acetone	67-64-1	QCBLK196038-1	03/24/99	03/24/99	3	UG/L	J	20	1
Carbon Disulfide	75-15-0	QCBLK196038-1	03/24/99	03/24/99	5	UG/L	U	5	1
1,1-Dichloroethene	75-35-4	QCBLK196038-1	03/24/99	03/24/99	5	UG/L	U	5	1
1,1-Dichloroethane	75-34-3	QCBLK196038-1	03/24/99	03/24/99	5	UG/L	U	5	1
1,2-Dichloroethene (total)	540-59-0	QCBLK196038-1	03/24/99	03/24/99	5	UG/L	U	5	1
Chloroform	67-66-3	QCBLK196038-1	03/24/99	03/24/99	12	UG/L		5	1
1,2-Dichloroethane	107-06-2	QCBLK196038-1	03/24/99	03/24/99	5	UG/L	U	5	1
2-Butanone (MEK)	78-93-3	QCBLK196038-1	03/24/99	03/24/99	20	UG/L	U	20	1
1,1,1-Trichloroethane	71-55-6	QCBLK196038-1	03/24/99	03/24/99	5	UG/L	U	5	1
Carbon Tetrachloride	56-23-5	QCBLK196038-1	03/24/99	03/24/99	5	UG/L	U	5	1
Vinyl Acetate	108-05-4	QCBLK196038-1	03/24/99	03/24/99	10	UG/L	U	10	1
Bromodichloromethane	75-27-4	QCBLK196038-1	03/24/99	03/24/99	5	UG/L	U	5	1
1,2-Dichloropropane	78-87-5	QCBLK196038-1	03/24/99	03/24/99	5	UG/L	U	5	1
cis-1,3-Dichloropropene	10061-01-5	QCBLK196038-1	03/24/99	03/24/99	5	UG/L	U	5	1
Trichloroethene	79-01-6	QCBLK196038-1	03/24/99	03/24/99	5	UG/L	U	5	1
Dibromochloromethane	124-48-1	QCBLK196038-1	03/24/99	03/24/99	5	UG/L	U	5	1
1,1,2-Trichloroethane	79-00-5	QCBLK196038-1	03/24/99	03/24/99	5	UG/L	U	5	1
Benzene	71-43-2	QCBLK196038-1	03/24/99	03/24/99	5	UG/L	U	5	1
trans-1,3-Dichloropropene	10061-02-6	QCBLK196038-1	03/24/99	03/24/99	5	UG/L	U	5	1
Bromoform	75-25-2	QCBLK196038-1	03/24/99	03/24/99	5	UG/L	U	5	1
4-Methyl-2-Pentanone (MIBK)	108-10-1	QCBLK196038-1	03/24/99	03/24/99	20	UG/L	U	20	1
2-Hexanone	591-78-6	QCBLK196038-1	03/24/99	03/24/99	20	UG/L	U	20	1
Tetrachloroethene	127-18-4	QCBLK196038-1	03/24/99	03/24/99	5	UG/L	U	5	1
Toluene	108-88-3	QCBLK196038-1	03/24/99	03/24/99	5	UG/L	U	5	1
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK196038-1	03/24/99	03/24/99	5	UG/L	U	5	1
Chlorobenzene	108-90-7	QCBLK196038-1	03/24/99	03/24/99	5	UG/L	U	5	1
EthylBenzene	100-41-4	QCBLK196038-1	03/24/99	03/24/99	5	UG/L	U	5	1
Styrene	100-42-5	QCBLK196038-1	03/24/99	03/24/99	5	UG/L	U	5	1
Xylene (total)	1330-20-7	QCBLK196038-1	03/24/99	03/24/99	5	UG/L	U	5	1
Acrolein	107-02-8	QCBLK196038-1	03/24/99	03/24/99	100	UG/L	U	100	1
Acetonitrile	75-05-8	QCBLK196038-1	03/24/99	03/24/99	100	UG/L	U	100	1
Iodomethane	74-88-4	QCBLK196038-1	03/24/99	03/24/99	5	UG/L	U	5	1
Allyl chloride	107-05-1	QCBLK196038-1	03/24/99	03/24/99	10	UG/L	U	10	1
2-Chloro-1,3-butadiene	126-99-8	QCBLK196038-1	03/24/99	03/24/99	5	UG/L	U	5	1
Propionitrile	107-12-0	QCBLK196038-1	03/24/99	03/24/99	20	UG/L	U	20	1
Methacrylonitrile	126-98-7	QCBLK196038-1	03/24/99	03/24/99	5	UG/L	U	5	1
Isobutanol	78-83-1	QCBLK196038-1	03/24/99	03/24/99	200	UG/L	U	200	1
1,4-Dioxane	123-91-1	QCBLK196038-1	03/24/99	03/24/99	500	UG/L	U	500	1
Methyl methacrylate	80-62-6	QCBLK196038-1	03/24/99	03/24/99	5	UG/L	U	5	1
Dibromomethane	74-95-3	QCBLK196038-1	03/24/99	03/24/99	5	UG/L	U	5	1
Ethyl methacrylate	97-63-2	QCBLK196038-1	03/24/99	03/24/99	5	UG/L	U	5	1
1,2-Dibromoethane	106-93-4	QCBLK196038-1	03/24/99	03/24/99	5	UG/L	U	5	1
1,1,1,2-Tetrachloroethane	630-20-6	QCBLK196038-1	03/24/99	03/24/99	5	UG/L	U	5	1
trans,1,4-Dichloro-2-butene	110-57-6	QCBLK196038-1	03/24/99	03/24/99	5	UG/L	U	5	1
1,2,3-Trichloropropane	96-18-4	QCBLK196038-1	03/24/99	03/24/99	5	UG/L	U	5	1
1,2-Dibromo-3-chloropropane	96-12-8	QCBLK196038-1	03/24/99	03/24/99	10	UG/L	U	10	1
Dichlorodifluoromethane	75-71-8	QCBLK196038-1	03/24/99	03/24/99	10	UG/L	U	10	1
Trichlorofluoromethane	75-69-4	QCBLK196038-1	03/24/99	03/24/99	10	UG/L	U	10	1
Unknown Hydrocarbon-1	TIC-5001	QCBLK196038-1	03/24/99	03/24/99	9	UG/L	J		1
Unknown Hydrocarbon-2	TIC-5002	QCBLK196038-1	03/24/99	03/24/99	5	UG/L	BJ		1
Unknown Hydrocarbon-3	TIC-5003	QCBLK196038-1	03/24/99	03/24/99	11	UG/L	BJ		1
Bromofluorobenzene	460-00-4	QCBLK196038-1	03/24/99	03/24/99	88	%REC			1
1,2-Dichloroethane-d4	17070-07-0	QCBLK196038-1	03/24/99	03/24/99	112	%REC			1
Toluene-d8	2037-26-5	QCBLK196038-1	03/24/99	03/24/99	111	%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: B0V1P4

Sample Date : 03/17/99
Receipt Date : 03/17/99
Report Date : 04/14/99

Quanterra ID : 20909-001MS

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
1,1-Dichloroethene	75-35-4	QCBLK196038-1	03/24/99	03/24/99	139	%REC			1
Trichloroethene	79-01-6	QCBLK196038-1	03/24/99	03/24/99	98	%REC			1
Benzene	71-43-2	QCBLK196038-1	03/24/99	03/24/99	114	%REC			1
Toluene	108-88-3	QCBLK196038-1	03/24/99	03/24/99	116	%REC			1
Chlorobenzene	108-90-7	QCBLK196038-1	03/24/99	03/24/99	106	%REC			1
Bromofluorobenzene	460-00-4	QCBLK196038-1	03/24/99	03/24/99	89	%REC			1
Dibromofluoromethane	1868-53-7	QCBLK196038-1	03/24/99	03/24/99	112	%REC			1
Toluene-d8	2037-26-5	QCBLK196038-1	03/24/99	03/24/99	110	%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: B0V1P4

Sample Date : 03/17/99
Receipt Date : 03/17/99
Report Date : 04/14/99

Quanterra ID : 20909-001MSD

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
1,1-Dichloroethene	75-35-4	QCBLK196038-1	03/24/99	03/24/99	149	%REC			1
Trichloroethene	79-01-6	QCBLK196038-1	03/24/99	03/24/99	107	%REC			1
Benzene	71-43-2	QCBLK196038-1	03/24/99	03/24/99	125	%REC			1
Toluene	108-88-3	QCBLK196038-1	03/24/99	03/24/99	124	%REC			1
Chlorobenzene	108-90-7	QCBLK196038-1	03/24/99	03/24/99	115	%REC			1
Bromofluorobenzene	460-00-4	QCBLK196038-1	03/24/99	03/24/99	83	%REC			1
Dibromofluoromethane	1868-53-7	QCBLK196038-1	03/24/99	03/24/99	118	%REC			1
Toluene-d8	2037-26-5	QCBLK196038-1	03/24/99	03/24/99	101	%REC			1

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0V1P4

Lab Name: QUANTERRA MO Contract: 550.230

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02714

Matrix: (soil/water) WATER Lab Sample ID: 20909-001

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: ESMP7180

Level: (low/med) LOW Date Received: 03/17/99

% Moisture: not dec. _____ Date Analyzed: 03/24/99

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

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

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	3	J
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	12	
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
108-05-4	Vinyl acetate	10	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
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

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0V1P4

Lab Name: QUANTERRA MO Contract: 550.230

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02714

Matrix: (soil/water) WATER Lab Sample ID: 20909-001

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: ESMP7180

Level: (low/med) LOW Date Received: 03/17/99

% Moisture: not dec. _____ Date Analyzed: 03/24/99

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
1330-20-7	Xylenes (total)	5	U
107-02-8	Acrolein	100	U
75-05-8	Acetonitrile	100	U
74-88-4	Iodomethane	5	U
107-05-1	Allyl chloride	10	U
126-99-8	2-Chloro-1,3-butadiene	5	U
107-12-0	Propionitrile	20	U
126-98-7	Methacrylonitrile	5	U
78-83-1	Isobutanol	200	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.

B0V1P4

Lab Name: QUANTERRA MO Contract: 550.230

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02714

Matrix: (soil/water) WATER Lab Sample ID: 20909-001

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: ESMP7180

Level: (low/med) LOW Date Received: 03/17/99

% Moisture: not dec. _____ Date Analyzed: 03/24/99

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

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

Number TICs found: 3

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	4.14	9.450	J
2.	UNKNOWN HYDROCARBON	23.77	5.120	JB
3.	UNKNOWN HYDROCARBON	24.88	11.19	JB
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Richland, WA 99352

Project: 550.230

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

Sample Date : 03/17/99
Receipt Date : 03/17/99
Report Date : 04/14/99

Client ID: B0V1P4

Quanterra ID : 20909-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	QCBLK196191-1	03/25/99	03/25/99	10	UG/L	U	10	1
Bromomethane	74-83-9	QCBLK196191-1	03/25/99	03/25/99	10	UG/L	U	10	1
Vinyl Chloride	75-01-4	QCBLK196191-1	03/25/99	03/25/99	10	UG/L	U	10	1
Chloroethane	75-00-3	QCBLK196191-1	03/25/99	03/25/99	10	UG/L	U	10	1
Methylene Chloride	75-09-2	QCBLK196191-1	03/25/99	03/25/99	1	UG/L	J	5	1
Acetone	67-64-1	QCBLK196191-1	03/25/99	03/25/99	20	UG/L	U	20	1
Carbon Disulfide	75-15-0	QCBLK196191-1	03/25/99	03/25/99	5	UG/L	U	5	1
1,1-Dichloroethene	75-35-4	QCBLK196191-1	03/25/99	03/25/99	5	UG/L	U	5	1
1,1-Dichloroethane	75-34-3	QCBLK196191-1	03/25/99	03/25/99	5	UG/L	U	5	1
1,2-Dichloroethene (total)	540-59-0	QCBLK196191-1	03/25/99	03/25/99	5	UG/L	U	5	1
Chloroform	67-66-3	QCBLK196191-1	03/25/99	03/25/99	13	UG/L		5	1
1,2-Dichloroethane	107-06-2	QCBLK196191-1	03/25/99	03/25/99	5	UG/L	U	5	1
2-Butanone (MEK)	78-93-3	QCBLK196191-1	03/25/99	03/25/99	20	UG/L	U	20	1
1,1,1-Trichloroethane	71-55-6	QCBLK196191-1	03/25/99	03/25/99	5	UG/L	U	5	1
Carbon Tetrachloride	56-23-5	QCBLK196191-1	03/25/99	03/25/99	5	UG/L	U	5	1
Bromodichloromethane	75-27-4	QCBLK196191-1	03/25/99	03/25/99	5	UG/L	U	5	1
1,2-Dichloropropane	78-87-5	QCBLK196191-1	03/25/99	03/25/99	5	UG/L	U	5	1
cis-1,3-Dichloropropene	10061-01-5	QCBLK196191-1	03/25/99	03/25/99	5	UG/L	U	5	1
Trichloroethene	79-01-6	QCBLK196191-1	03/25/99	03/25/99	5	UG/L	U	5	1
Dibromochloromethane	124-48-1	QCBLK196191-1	03/25/99	03/25/99	5	UG/L	U	5	1
1,1,2-Trichloroethane	79-00-5	QCBLK196191-1	03/25/99	03/25/99	5	UG/L	U	5	1
Benzene	71-43-2	QCBLK196191-1	03/25/99	03/25/99	5	UG/L	U	5	1
trans-1,3-Dichloropropene	10061-02-6	QCBLK196191-1	03/25/99	03/25/99	5	UG/L	U	5	1
Bromoform	75-25-2	QCBLK196191-1	03/25/99	03/25/99	5	UG/L	U	5	1
4-Methyl-2-Pentanone (MIBK)	108-10-1	QCBLK196191-1	03/25/99	03/25/99	20	UG/L	U	20	1
2-Hexanone	591-78-6	QCBLK196191-1	03/25/99	03/25/99	20	UG/L	U	20	1
Tetrachloroethene	127-18-4	QCBLK196191-1	03/25/99	03/25/99	5	UG/L	U	5	1
Toluene	108-88-3	QCBLK196191-1	03/25/99	03/25/99	5	UG/L	U	5	1
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK196191-1	03/25/99	03/25/99	5	UG/L	U	5	1
Chlorobenzene	108-90-7	QCBLK196191-1	03/25/99	03/25/99	5	UG/L	U	5	1
EthylBenzene	100-41-4	QCBLK196191-1	03/25/99	03/25/99	5	UG/L	U	5	1
Styrene	100-42-5	QCBLK196191-1	03/25/99	03/25/99	5	UG/L	U	5	1
Xylene (total)	1330-20-7	QCBLK196191-1	03/25/99	03/25/99	5	UG/L	U	5	1
Bromofluorobenzene	460-00-4	QCBLK196191-1	03/25/99	03/25/99	100	%REC			1
Dibromofluoromethane	1868-53-7	QCBLK196191-1	03/25/99	03/25/99	102	%REC			1
Toluene-d8	2037-26-5	QCBLK196191-1	03/25/99	03/25/99	105	%REC			1

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3350 George Washington Way
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Project: 550.230

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

Sample Date : 03/17/99
Receipt Date : 03/17/99
Report Date : 04/14/99

Client ID: B0V1P4

Quanterra ID : 20909-001MS

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
1,1-Dichloroethene	75-35-4	QCBLK196191-1	03/25/99	03/25/99	119	%REC			1
Trichloroethene	79-01-6	QCBLK196191-1	03/25/99	03/25/99	100	%REC			1
Benzene	71-43-2	QCBLK196191-1	03/25/99	03/25/99	119	%REC			1
Toluene	108-88-3	QCBLK196191-1	03/25/99	03/25/99	116	%REC			1
Chlorobenzene	108-90-7	QCBLK196191-1	03/25/99	03/25/99	109	%REC			1
Bromofluorobenzene	460-00-4	QCBLK196191-1	03/25/99	03/25/99	120	%REC			1
Dibromofluoromethane	1868-53-7	QCBLK196191-1	03/25/99	03/25/99	116	%REC			1
Toluene-d8	2037-26-5	QCBLK196191-1	03/25/99	03/25/99	122	%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: B0V1P4

Sample Date : 03/17/99
Receipt Date : 03/17/99
Report Date : 04/14/99

Quanterra ID : 20909-001MSD

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
1,1-Dichloroethene	75-35-4	QCBLK196191-1	03/25/99	03/25/99	116	%REC			1
Trichloroethene	79-01-6	QCBLK196191-1	03/25/99	03/25/99	95	%REC			1
Benzene	71-43-2	QCBLK196191-1	03/25/99	03/25/99	114	%REC			1
Toluene	108-88-3	QCBLK196191-1	03/25/99	03/25/99	115	%REC			1
Chlorobenzene	108-90-7	QCBLK196191-1	03/25/99	03/25/99	106	%REC			1
Bromofluorobenzene	460-00-4	QCBLK196191-1	03/25/99	03/25/99	106	%REC			1
Dibromofluoromethane	1868-53-7	QCBLK196191-1	03/25/99	03/25/99	110	%REC			1
Toluene-d8	2037-26-5	QCBLK196191-1	03/25/99	03/25/99	115	%REC			1

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0V1P4

Lab Name: QUANTERRA MO Contract: 550.230

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02714

Matrix: (soil/water) WATER Lab Sample ID: 20909-001

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: ESMP7200

Level: (low/med) LOW Date Received: 03/17/99

% Moisture: not dec. _____ Date Analyzed: 03/25/99

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

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

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	1	J
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	13	
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	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.

B0V1P4

Lab Name: QUANTERRA MO Contract: 550.230

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02714

Matrix: (soil/water) WATER Lab Sample ID: 20909-001

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: ESMP7200

Level: (low/med) LOW Date Received: 03/17/99

% Moisture: not dec. _____ Date Analyzed: 03/25/99

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

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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3350 George Washington Way
Richland, WA 99352

Project: 550.230

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

Client ID: B0V1P4

Sample Date : 03/17/99
Receipt Date : 03/17/99
Report Date : 04/14/99

Quanterra ID : 20909-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Acrylamide	79-06-1	QCBLK195841-1	03/26/99	03/26/99	100	UG/L	U	100	1

Bechtel Hanford Incoporated
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Richland, WA 99352

Project: 550.230

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

Client ID: B0V1P4

Sample Date : 03/17/99
Receipt Date : 03/17/99
Report Date : 04/14/99

Quanterra ID : 20909-001MS

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Acrylamide	79-06-1	QCBLK195841-1	03/26/99	03/26/99	108	%REC			1

Bechtel Hanford Incoporated
3350 George Washington Way
Richland, WA 99352

Project: 550.230

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

Sample Date : 03/17/99
Receipt Date : 03/17/99
Report Date : 04/14/99

Client ID: B0V1P4

Quanterra ID : 20909-001MSD

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Acrylamide	79-06-1	QCBLK195841-1	03/26/99	03/26/99	98	%REC			1

FORM 1
OTHER ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

B0V1P4

Lab Name: QUANTERRA Contract: 550.230

Lab Code: QUANTERRA-STL Case No.: SAS No.: SDG No.: W02714

Matrix: (soil/water) WATER Lab Sample ID: 20909-001

Sample wt/vol: _____ (g/mL) ML Lab File ID: K___194

% Moisture: _____ decanted: (Y/N)___ Date Received: 03/17/99

Extraction: (SepF/Cont/Sonc) CONT Date Extracted:

Concentrated Extract Volume:_____(uL) Date Analyzed: 03/26/99

Injection Volume: _____(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
	----------Acrylamide	100	U

FORM I OTHER

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: B0V1P4

Sample Date : 03/17/99
Receipt Date : 03/17/99
Report Date : 04/14/99

Quanterra ID : 20909-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK197106-1	04/08/99	04/08/99	257	UG/L	U	200	1
Antimony	7440-36-0	QCBLK197106-1	04/08/99	04/08/99	36.4	UG/L	U	60.0	1
Barium	7440-39-3	QCBLK197106-1	04/08/99	04/08/99	28.6	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK197106-1	04/08/99	04/08/99	0.49	UG/L	B	5.0	1
Cadmium	7440-43-9	QCBLK197106-1	04/08/99	04/08/99	3.9	UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK197106-1	04/08/99	04/08/99	24500	UG/L		5000	1
Chromium	7440-47-3	QCBLK197106-1	04/08/99	04/08/99	4.8	UG/L	U	10.0	1
Cobalt	7440-48-4	QCBLK197106-1	04/08/99	04/08/99	5.1	UG/L	U	50.0	1
Copper	7440-50-8	QCBLK197106-1	04/08/99	04/08/99	5.2	UG/L	B	25.0	1
Iron	7439-89-6	QCBLK197106-1	04/08/99	04/08/99	164	UG/L		100	1
Magnesium	7439-95-4	QCBLK197106-1	04/08/99	04/08/99	5250	UG/L		5000	1
Manganese	7439-96-5	QCBLK197106-1	04/08/99	04/08/99	9.4	UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK197106-1	04/08/99	04/08/99	8.6	UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK197106-1	04/08/99	04/08/99	1700	UG/L	U	5000	1
Silver	7440-22-4	QCBLK197106-1	04/08/99	04/08/99	5.9	UG/L	U	10.0	1
Sodium	7440-23-5	QCBLK197106-1	04/08/99	04/08/99	3530	UG/L	B	5000	1
Vanadium	7440-62-2	QCBLK197106-1	04/08/99	04/08/99	6.5	UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK197106-1	04/08/99	04/08/99	11.5	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: B0V1P4

Sample Date : 03/17/99
Receipt Date : 03/17/99
Report Date : 04/14/99

Quanterra ID : 20909-001MS

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK197106-1	04/08/99	04/08/99	104	%REC			1
Antimony	7440-36-0	QCBLK197106-1	04/08/99	04/08/99	97	%REC			1
Barium	7440-39-3	QCBLK197106-1	04/08/99	04/08/99	96	%REC			1
Beryllium	7440-41-7	QCBLK197106-1	04/08/99	04/08/99	102	%REC			1
Cadmium	7440-43-9	QCBLK197106-1	04/08/99	04/08/99	113	%REC			1
Calcium	7440-70-2	QCBLK197106-1	04/08/99	04/08/99	103	%REC			1
Chromium	7440-47-3	QCBLK197106-1	04/08/99	04/08/99	95	%REC			1
Cobalt	7440-48-4	QCBLK197106-1	04/08/99	04/08/99	99	%REC			1
Copper	7440-50-8	QCBLK197106-1	04/08/99	04/08/99	100	%REC			1
Iron	7439-89-6	QCBLK197106-1	04/08/99	04/08/99	103	%REC			1
Magnesium	7439-95-4	QCBLK197106-1	04/08/99	04/08/99	105	%REC			1
Manganese	7439-96-5	QCBLK197106-1	04/08/99	04/08/99	95	%REC			1
Nickel	7440-02-0	QCBLK197106-1	04/08/99	04/08/99	98	%REC			1
Potassium	7440-09-7	QCBLK197106-1	04/08/99	04/08/99	105	%REC			1
Silver	7440-22-4	QCBLK197106-1	04/08/99	04/08/99	~~998~~	%REC	99		1
Sodium	7440-23-5	QCBLK197106-1	04/08/99	04/08/99	103	%REC			1
Vanadium	7440-62-2	QCBLK197106-1	04/08/99	04/08/99	99	%REC			1
Zinc	7440-66-6	QCBLK197106-1	04/08/99	04/08/99	101	%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: B0V1P4

Sample Date : 03/17/99
Receipt Date : 03/17/99
Report Date : 04/14/99

Quanterra ID : 20909-001MSD

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK197106-1	04/08/99	04/08/99	100	%REC			1
Antimony	7440-36-0	QCBLK197106-1	04/08/99	04/08/99	95	%REC			1
Barium	7440-39-3	QCBLK197106-1	04/08/99	04/08/99	94	%REC			1
Beryllium	7440-41-7	QCBLK197106-1	04/08/99	04/08/99	99	%REC			1
Cadmium	7440-43-9	QCBLK197106-1	04/08/99	04/08/99	108	%REC			1
Calcium	7440-70-2	QCBLK197106-1	04/08/99	04/08/99	98	%REC			1
Chromium	7440-47-3	QCBLK197106-1	04/08/99	04/08/99	92	%REC			1
Cobalt	7440-48-4	QCBLK197106-1	04/08/99	04/08/99	95	%REC			1
Copper	7440-50-8	QCBLK197106-1	04/08/99	04/08/99	97	%REC			1
Iron	7439-89-6	QCBLK197106-1	04/08/99	04/08/99	98	%REC			1
Magnesium	7439-95-4	QCBLK197106-1	04/08/99	04/08/99	102	%REC			1
Manganese	7439-96-5	QCBLK197106-1	04/08/99	04/08/99	93	%REC			1
Nickel	7440-02-0	QCBLK197106-1	04/08/99	04/08/99	96	%REC			1
Potassium	7440-09-7	QCBLK197106-1	04/08/99	04/08/99	102	%REC			1
Silver	7440-22-4	QCBLK197106-1	04/08/99	04/08/99	86	%REC			1
Sodium	7440-23-5	QCBLK197106-1	04/08/99	04/08/99	100	%REC			1
Vanadium	7440-62-2	QCBLK197106-1	04/08/99	04/08/99	96	%REC			1
Zinc	7440-66-6	QCBLK197106-1	04/08/99	04/08/99	97	%REC			1

Bechtel Hanford Incoporated
3350 George Washington Way
Richland, WA 99352

Project: 550.230

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

Sample Date : 03/17/99
Receipt Date : 03/17/99
Report Date : 04/14/99

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
B0V1P4	20909-001	Arsenic	7440-38-2	QCBLK197121-1	04/08/99	04/10/99	1.8	UG/L	U	10.0	1
B0V1P4	20909-001MS	Arsenic	7440-38-2	QCBLK197121-1	04/08/99	04/10/99	96	%REC			1
B0V1P4	20909-001MSD	Arsenic	7440-38-2	QCBLK197121-1	04/08/99	04/10/99	103	%REC			1
NA	QCLCS197121-1	Arsenic	7440-38-2	QCBLK197121-1	04/08/99	04/10/99	104	%REC			1
NA	QCBLK197121-1	Arsenic	7440-38-2	QCBLK197121-1	04/08/99	04/10/99	1.8	UG/L	U	10.0	1

U.S. EPA - CLP

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: QUANTERRA_MO_____ Contract: 550.230___

Lab Code: ITMO__ Case No.: _____ SAS No.: _____ SDG No.: W02714_____

SOW No.: SW846

EPA Sample No.	Lab Sample ID
B0V1P4	20909-001
B0V1P4SD	20909-001SD
B0V1P4S	20909-001S

Were ICP interelement corrections applied ? Yes/No YES

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

Comments:

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

Signature: _____ Name: _____

Date: _____ Title: _____

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0V1P4

Lab Name: QUANTERRA_MO Contract: 550.230
Lab Code: ITMO Case No.: SAS No.: SDG No.: W02714
Matrix (soil/water): WATER Lab Sample ID: 20909-001
Level (low/med): LOW Date Received: 03/17/99
% 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	257			P
7440-36-0	Antimony	36.4	U		P
7440-38-2	Arsenic	1.8	U		F
7440-39-3	Barium	28.6	B		P
7440-41-7	Beryllium	0.49	B		P
7440-43-9	Cadmium	3.9	U		P
7440-70-2	Calcium	24500			P
7440-47-3	Chromium	4.8	U		P
7440-48-4	Cobalt	5.1	U		P
7440-50-8	Copper	5.2	B		P
7439-89-6	Iron	164			P
7439-95-4	Magnesium	5250			P
7439-96-5	Manganese	9.4	B		P
7440-02-0	Nickel	8.6	U		P
7440-09-7	Potassium	1700	U		P
7440-22-4	Silver	5.9	U		P
7440-23-5	Sodium	3530	B		P
7440-62-2	Vanadium	6.5	B		P
7440-66-6	Zinc	11.5	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 : 03/17/99
Receipt Date : 03/17/99
Report Date : 04/14/99

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
B0V1P4	20909-001	pH	PH	QCBLK196262-1	03/29/99	03/29/99	7.71	PH			1
B0V1P4	20909-001DUP	pH	PH	QCBLK196262-1	03/29/99	03/29/99	7.64	PH			1
NA	QCBLK196262-1	pH	PH	QCBLK196262-1	03/29/99	03/29/99	6.20	PH			1

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Project: 550.230

Category: Residual Chlorine
Method: EPA 330.3
Matrix: LIQUID

Sample Date : 03/17/99
Receipt Date : 03/17/99
Report Date : 04/14/99

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
B0V1P4	20909-001	Residual Chlori	7782-50-5a	QCBLK196001-1	03/24/99	03/24/99	0.10	MG/L	U	0.10	1
B0V1P4	20909-001DUP	Residual Chlori	7782-50-5a	QCBLK196001-1	03/24/99	03/24/99	0.10	MG/L	U	0.10	1
NA	QCBLK196001-1	Residual Chlori	7782-50-5a	QCBLK196001-1	03/24/99	03/24/99	0.10	MG/L	U	0.10	1
NA	QCLCS196001-1	Residual Chlori	7782-50-5a	QCBLK196001-1	03/24/99	03/24/99	113	%REC			1

Bechtel Hanford Incoporated
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Richland, WA 99352

Project: 550.230

Category: Sulfate
Method: EPA 375.4
Matrix: LIQUID

Sample Date : 03/17/99
Receipt Date : 03/17/99
Report Date : 04/14/99

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
B0V1P4	20909-001	Sulfate	14808-79-8	QCBLK197425-1	04/08/99	04/08/99	42.3	MG/L		5.00	1
B0V1P4	20909-001DUP	Sulfate	14808-79-8	QCBLK197425-1	04/08/99	04/08/99	42.9	MG/L		5.00	1
B0V1P4	20909-001MS	Sulfate	14808-79-8	QCBLK197425-1	04/08/99	04/08/99	100	%REC			2
NA	QCBLK197425-1	Sulfate	14808-79-8	QCBLK197425-1	04/08/99	04/08/99	5.00	MG/L	U	5.00	1
NA	QCLCS197425-1	Sulfate	14808-79-8	QCBLK197425-1	04/08/99	04/08/99	100	%REC			1

Bechtel Hanford Incoporated
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Project: 550.230

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

Sample Date : 03/17/99
Receipt Date : 03/17/99
Report Date : 04/14/99

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
B0V1P4	20909-001	Total Dissolved TDS		QCBLK195929-1	03/23/99	03/23/99	118	MG/L		5.00	1
B0V1P4	20909-001DUP	Total Dissolved TDS		QCBLK195929-1	03/23/99	03/23/99	107	MG/L		5.00	1
NA	QCBLK195929-1	Total Dissolved TDS		QCBLK195929-1	03/23/99	03/23/99	5.00	MG/L	U	5.00	1
NA	QCLCS195929-1	Total Dissolved TDS		QCBLK195929-1	03/23/99	03/23/99	100	%REC			1

Bechtel Hanford Incoporated
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Richland, WA 99352

Project: 550.230

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

Sample Date : 03/17/99
Receipt Date : 03/17/99
Report Date : 04/14/99

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
B0V1P4	20909-001	Total Suspended	TSS	QCBLK195933-1	03/23/99	03/23/99	3.00	MG/L		1.00	1
B0V1P4	20909-001DUP	Total Suspended	TSS	QCBLK195933-1	03/23/99	03/23/99	3.00	MG/L		1.00	1
NA	QCBLK195933-1	Total Suspended	TSS	QCBLK195933-1	03/23/99	03/23/99	1.00	MG/L	U	1.00	1
NA	QCLCS195933-1	Total Suspended	TSS	QCBLK195933-1	03/23/99	03/23/99	93	%REC			1