W02355

Quanterra
Environmental Services

Quanterra Incorporated
13715 Rider Trail North
Earth City, Missouri 63045

314 298-8566 Telephone
314 298-8757 Fax

0049540

CASE NARRATIVE

JUN 1998
RECEIVED
Data
Log In

Bechtel Hanford Incorporated
3350 George Washington Way
Richland, Washington 99352

June 22, 1998

Attention: Joan Kessner

Project Number	:	550.230
SDG	:	W02355
Number of Samples	:	One (1)
Sample Matrix	:	Water
Data Deliverable	:	Summary
Date SDG Closed	:	April 30, 1998

AUG 1998
RECEIVED
EDMC

II. Introduction

On April 30, 1998, one (1) "water" sample was received by Quanterra, Richland and transferred to Quanterra, St. Louis for chemical analysis. There are no comments or nonconformances associated with the shipping and receiving of this sample. Upon receipt, the sample was given the following laboratory ID numbers to correspond with the specific client ID:

St. Louis ID	BHI ID	Richland ID	Matrix	Date of Receipt
17702-001	B0NRD1	80500201	Water	30-APR-98

III. Analytical Results/ Methodology

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

Analyses requested:

pH by EPA method 150.1.
Sulfate by EPA method 375.4.
TDS by EPA method 160.1.
TSS by EPA method 160.2.
Arsenic by EPA method 7060 - (GFFA).

Analyses requested (cont.): ICP Metals by EPA method 6010A.
Chlorine (Total residual) by EPA method 330.3.
Acrylamide by EPA method 8316.
Volatiles by EPA method 8240 (Append IX).
Volatiles by EPA method 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
MS- Matrix Spike.
DUP- Laboratory Duplicate.
MSD- Matrix Spike Duplicate.

V. Comments

General: The ERC Contractor acknowledges the specified holding time is not likely achievable for EPA 330.3.

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

The recovery of the matrix spike (79.0%) was less than 80% therefore all associated data was flagged with a "N". The recovery of the Silver matrix spike duplicate met criteria at 83.1% recovery.

Volatiles by 8240: A Laboratory Control Sample, Method Blank, Matrix Spike and Matrix Spike Duplicate were analyzed with each preparation batch per the protocol for this analysis.

Sample 17702-001 MSD had low recovery of the surrogate BFB.The sample had 78% recovery and the lower control limit is 80%. The unspiked sample recovered at 84% and the MS at 81%. No further action was taken.

Volatiles by 8260: 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 problems were noted during the analyses of these samples.

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.

Samples 17702-001,-001MS and -001MSD were run 19 days outside hold time,(see NCM #4218).

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.

The Total Residual Chlorine for sample 17702-001 was received at Quanterra, St. Louis on the last day of holding time and analyzed outside of holding time.

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:

Sheila M Fournier for REW

Robert E. White
Project Manager

WO 2355
(6-14)

Quanterra May 06, 1998 10:34 am
Account: 10722 Project: 550.230 Quanterra-Richland QAS No. 550.23 Rev. 1
Master Sample Login: 17702

Project Manager: R. White

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

Sample Header Template:

Sample No. / Comments / Data:	Client ID	C-Matrix	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No.
17702-001	BONRD1	Water	30-APR-98 08:38	30-APR-98 11:30	20-MAY-98	AIRBORNE	1	Screening not Required
Richland ID 80500201								

#	Container Type	Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)
3	VI - Vial-40ml	HPLC/8316/Q4	S	COLD	15-MAY-98	!!-&&&-**	109V	(375600:92 375601:91 375602:90)
3		VOA/8240APPIX/Q4	S	HCL	15-MAY-98	14-MAY-98	109V	(375603:89 375604:88 375605:87)
3		VOA/8260/Q4	S	HCL	15-MAY-98	14-MAY-98	109V	(375606:86 375607:85 375608:84)
1	PN - Plastic-1L	CL/330.3/Q4	S	COLD	15-MAY-98	02-MAY-98	T2A	(375599:93)
1	PN - Plastic-500ml	AS/7060/Q4	S	HNO3	15-MAY-98	27-OCT-98	T2A	(375597:95)
1		ICAP/6010/Q4	S	HNO3	15-MAY-98	27-OCT-98	T2A	(375598:94)
1		TDS/160.1/Q4	S	COLD	15-MAY-98	07-MAY-98	T2A	(375595:97)
1		TSS/160.2/Q4	S	COLD	15-MAY-98	07-MAY-98	T2A	(375596:96)
1	PN - Plastic-250ml	SO4/375.4/Q4	S	COLD	15-MAY-98	28-MAY-98	T2A	(375594:98)
1	PN - Plastic-120ml	PH/150.1/Q4	S	COLD	15-MAY-98	01-MAY-98	T2A	(375593:99)

17702-001DUP	BONRD1	Water	30-APR-98 08:38	30-APR-98 11:30	20-MAY-98	AIRBORNE	1	Screening not Required
Richland ID 80500201								

#	Container Type	Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)
1	PN - Plastic-1L	CL/330.3/Q4	S	COLD	15-MAY-98	02-MAY-98	T2A	(375599:93)
1	PN - Plastic-500ml	TDS/160.1/Q4	S	COLD	15-MAY-98	07-MAY-98	T2A	(375595:97)
1		TSS/160.2/Q4	S	COLD	15-MAY-98	07-MAY-98	T2A	(375596:96)
1	PN - Plastic-250ml	SO4/375.4/Q4	S	COLD	15-MAY-98	28-MAY-98	T2A	(375594:98)
1	PN - Plastic-120ml	PH/150.1/Q4	S	COLD	15-MAY-98	01-MAY-98	T2A	(375593:99)

17702-001MS	BONRD1	Water	30-APR-98 08:38	30-APR-98 11:30	20-MAY-98	AIRBORNE	1	Screening not Required
Richland ID 80500201								

#	Container Type	Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)
3	VI - Vial-40ml	HPLC/8316/Q4	S	COLD	15-MAY-98	02-MAY-98	109V	(375600:92 375601:91 375602:90)
3		VOA/8240APPIX/Q4	S	HCL	15-MAY-98	14-MAY-98	109V	(375603:89 375604:88 375605:87)
3		VOA/8260/Q4	S	HCL	15-MAY-98	14-MAY-98	109V	(375606:86 375607:85 375608:84)
1	PN - Plastic-500ml	AS/7060/Q4	S	HNO3	15-MAY-98	27-OCT-98	T2A	(375597:95)
1		ICAP/6010/Q4	S	HNO3	15-MAY-98	27-OCT-98	T2A	(375598:94)
1	PN - Plastic-250ml	SO4/375.4/Q4	S	COLD	15-MAY-98	28-MAY-98	T2A	(375594:98)

17702-001MSD	BONRD1	Water	30-APR-98 08:38	30-APR-98 11:30	20-MAY-98	AIRBORNE	1	Screening not Required
Richland ID 80500201								

#	Container Type	Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)
3	VI - Vial-40ml	HPLC/8316/Q4	S	COLD	15-MAY-98	02-MAY-98	109V	(375600:92 375601:91 375602:90)
3		VOA/8240APPIX/Q4	S	HCL	15-MAY-98	14-MAY-98	109V	(375603:89 375604:88 375605:87)
3		VOA/8260/Q4	S	HCL	15-MAY-98	14-MAY-98	109V	(375606:86 375607:85 375608:84)
1	PN - Plastic-500ml	AS/7060/Q4	S	HNO3	15-MAY-98	27-OCT-98	T2A	(375597:95)
1		ICAP/6010/Q4	S	HNO3	15-MAY-98	27-OCT-98	T2A	(375598:94)

3*=Sample has not been rad screened.

000005

[redacted]

Chain of Custody Record

1 & M Temp 4°C CUR# 15085 ST LOUIS

Quanterra

QUA-4124 0797

Client: Bechtel	Project Manager: A. Koprucka	Date: 5-1-98	Chain of Custody Number: 09604
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.			

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
80500201 BONRD1	all	bottles										

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 Due 6-14-98

QC Requirements (Specify): SDG-W02355

1. Relinquished By: Heidelberg QES	Date: 5-1-98	Time: 16:00	1. Received By: [illegible]	Date: 5-2-98	Time: 1000
2. Relinquished By	Date	Time	2. Received By	Date	Time
3. Relinquished By	Date	Time	3. Received By	Date	Time

Comments: 000006

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

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B98-009-16	Page 1 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. SML286	Field Logbook No. EL-1309-1		Method of Shipment Gov Vehicle	
Shipped To Quanterra Incorporated	Offsite Property No. N/A		Bill of Lading/Air Bill No. N/A	
Waste Designation PH =			COA 1 1	

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage
Cool 4C

SAMPLE ANALYSIS
80500201 SDG W02355

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 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) - 330.5	Acrylamide - 8316	VOA - 8240A (Append IX)
B0NRD1 / Water / 4/30/98 / 0838	X	X 100	X 100	X 100	X 100	X 100	X 100	X 100	X 3X100	X 3X100

CHAIN OF POSSESSION

Relinquished By	Date/Time	Received By	Date/Time
Renee Nielsen	4/30/98 1130	Hedlbery	4/30/98 1130
		2100	

SPECIAL INSTRUCTIONS
** Close SDG upon receipt of samples.

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

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

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B98-009-16	Page 2 of 2

Collector Renee Nielson	**Company Contact** Joe Zorlc	**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 286	**Field Logbook No.** EL-1309-1		**Method of Shipment** Gov Vehicle	
Shipped To Quanterra Incorporated	**Offsite Property No.** N/A		**Bill of Lading/Air Bill No.** N/A	
Waste Designation			**COA**	

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)										
Sample No.	Matrix *	Sample Date	Sample Time								
B0NRD1	Water	4/30/98	0838	X							
				3x100							

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

Relinquished By	Date/Time	Received By	Date/Time
Renee Nielsen	4/30/98 1130	Heidelberg	4/30/98 1130

SPECIAL INSTRUCTIONS

** Close SDG upon receipt of samples.

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

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

Client Sample Screening Results

01-May-98

(B) 5/1/98

CLIENT CODE	ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
BHI	B0NRD1		4/30/1998 2:00:00 PM	QUAD22A	5/1/1998 11:38:42 AM	B0NRD1	30	5	0.07380952	31	-0.02381
		LIQUID		Bkg:	5/1/1998 3:10:27 AM	BKG	700	65	0.09285714	740	1.0571429

Ani Date:	5/1/1998	Tot Sa, Alq:	2.00E-02	,	1.00E+01	Alp;	(Dpm/	2.15E-01	(uCi/	1.94E-07	(pCi/	9.68E+00	± 2.0E+01	CAT	2.6E+00	Lab
Ppt mg:	1.4	Units:	L	,	ml	Bet;	Alq):	-8.90E-02	Sa):	-8.02E-08	L/g):	-4.01E+00	± 1.7E+01	1	2.0E-02	Alq L/g

Figure 1

SAMPLE CHECK-IN LIST

Date/Time Received: 4/30 1130 SG#: W02355

Work Order Number: 805002 SAF #: B98-009

Shipping Container ID: SML286 Chain of Custody # B98-009-16

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°
5. Vermiculite/packing materials is Wet [ ] Dry [✓] N/A
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: 4-30-98

Telephoned To: _____ On _____ By _____

000010

Quanterra
Environmental Services

BW & SL

015085

Login No.: 17702

Condition Upon Receipt Variance Report
St. Louis Laboratory

Client: EHI
Project No: 550.230
Shipper/No: AB 4719430111

Date: 5-2-98 Time: 1000
Initiated by: [signature]
RFA/COC Numbers: 9604

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: _____

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) [signature] Date: 5-2-98

Project Management Review: Robert E. White Date: 5-4-98

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

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

000011

Bechtel Hanford Incoporated
3350 George Washington Way
Richland, WA 99352

Project: 550.230

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

Client ID: BONRD1

Sample Date : 04/30/98
Receipt Date : 04/30/98
Report Date : 06/09/98

Quanterra ID : 17702-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Acrylamide	79-06-1	QCBLK171491-1	06/02/98	06/02/98	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: BONRD1

Sample Date : 04/30/98
Receipt Date : 04/30/98
Report Date : 06/09/98

Quanterra ID : 17702-001MS

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Acrylamide	79-06-1	QCBLK171491-1	06/02/98	06/02/98	132	%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: BONRD1

Sample Date : 04/30/98
Receipt Date : 04/30/98
Report Date : 06/09/98

Quanterra ID : 17702-001MSD

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Acrylamide	79-06-1	QCBLK171491-1	06/02/98	06/02/98	134	%REC			1

1D
ACRYLAMIDE ANALYSIS DATA SHEET

EPA SAMPLE NO.
B0NRD1

Lab Name: QUANTERRA MO Contract: 550.230

Lab Code: ITMO Case No.: _____ SAS No.: _____ SDG No.: W02355

Matrix : (soil/water) WATER Lab Sample ID: 17702-001

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

Level: (low/med) LOW Date Sampled: 04-30-98

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

Extraction:(SepF/Cont/Sonc/Shak)_____ Date Analyzed: 06-02-98

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

Client ID: BONRD1

Sample Date : 04/30/98
Receipt Date : 04/30/98
Report Date : 06/08/98

Quanterra ID : 17702-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	QCBLK172387-1	05/13/98	05/13/98	10	UG/L	U	10	1
Bromomethane	74-83-9	QCBLK172387-1	05/13/98	05/13/98	10	UG/L	U	10	1
Vinyl Chloride	75-01-4	QCBLK172387-1	05/13/98	05/13/98	10	UG/L	U	10	1
Chloroethane	75-00-3	QCBLK172387-1	05/13/98	05/13/98	10	UG/L	U	10	1
Methylene Chloride	75-09-2	QCBLK172387-1	05/13/98	05/13/98	2	UG/L	BJ	5	1
Acetone	67-64-1	QCBLK172387-1	05/13/98	05/13/98	7	UG/L	BJ	20	1
Carbon Disulfide	75-15-0	QCBLK172387-1	05/13/98	05/13/98	5	UG/L	U	5	1
1,1-Dichloroethene	75-35-4	QCBLK172387-1	05/13/98	05/13/98	5	UG/L	U	5	1
1,1-Dichloroethane	75-34-3	QCBLK172387-1	05/13/98	05/13/98	5	UG/L	U	5	1
1,2-Dichloroethene (total)	540-59-0	QCBLK172387-1	05/13/98	05/13/98	5	UG/L	U	5	1
Chloroform	67-66-3	QCBLK172387-1	05/13/98	05/13/98	9	UG/L		5	1
1,2-Dichloroethane	107-06-2	QCBLK172387-1	05/13/98	05/13/98	5	UG/L	U	5	1
2-Butanone (MEK)	78-93-3	QCBLK172387-1	05/13/98	05/13/98	20	UG/L	U	20	1
1,1,1-Trichloroethane	71-55-6	QCBLK172387-1	05/13/98	05/13/98	5	UG/L	U	5	1
Carbon Tetrachloride	56-23-5	QCBLK172387-1	05/13/98	05/13/98	5	UG/L	U	5	1
Vinyl Acetate	108-05-4	QCBLK172387-1	05/13/98	05/13/98	10	UG/L	U	10	1
Bromodichloromethane	75-27-4	QCBLK172387-1	05/13/98	05/13/98	5	UG/L	U	5	1
1,2-Dichloropropane	78-87-5	QCBLK172387-1	05/13/98	05/13/98	5	UG/L	U	5	1
cis-1,3-Dichloropropene	10061-01-5	QCBLK172387-1	05/13/98	05/13/98	5	UG/L	U	5	1
Trichloroethene	79-01-6	QCBLK172387-1	05/13/98	05/13/98	5	UG/L	U	5	1
Dibromochloromethane	124-48-1	QCBLK172387-1	05/13/98	05/13/98	5	UG/L	U	5	1
1,1,2-Trichloroethane	79-00-5	QCBLK172387-1	05/13/98	05/13/98	5	UG/L	U	5	1
Benzene	71-43-2	QCBLK172387-1	05/13/98	05/13/98	5	UG/L	U	5	1
trans-1,3-Dichloropropene	10061-02-6	QCBLK172387-1	05/13/98	05/13/98	5	UG/L	U	5	1
Bromoform	75-25-2	QCBLK172387-1	05/13/98	05/13/98	5	UG/L	U	5	1
4-Methyl-2-Pentanone (MIBK)	108-10-1	QCBLK172387-1	05/13/98	05/13/98	20	UG/L	U	20	1
2-Hexanone	591-78-6	QCBLK172387-1	05/13/98	05/13/98	20	UG/L	U	20	1
Tetrachloroethene	127-18-4	QCBLK172387-1	05/13/98	05/13/98	5	UG/L	U	5	1
Toluene	108-88-3	QCBLK172387-1	05/13/98	05/13/98	5	UG/L	U	5	1
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK172387-1	05/13/98	05/13/98	5	UG/L	U	5	1
Chlorobenzene	108-90-7	QCBLK172387-1	05/13/98	05/13/98	5	UG/L	U	5	1
EthylBenzene	100-41-4	QCBLK172387-1	05/13/98	05/13/98	5	UG/L	U	5	1
Styrene	100-42-5	QCBLK172387-1	05/13/98	05/13/98	5	UG/L	U	5	1
Xylene (total)	1330-20-7	QCBLK172387-1	05/13/98	05/13/98	5	UG/L	U	5	1
Acrolein	107-02-8	QCBLK172387-1	05/13/98	05/13/98	100	UG/L	U	100	1
Acetonitrile	75-05-8	QCBLK172387-1	05/13/98	05/13/98	100	UG/L	U	100	1
Iodomethane	74-88-4	QCBLK172387-1	05/13/98	05/13/98	5	UG/L	U	5	1
Allyl chloride	107-05-1	QCBLK172387-1	05/13/98	05/13/98	10	UG/L	U	10	1
2-Chloro-1,3-butadiene	126-99-8	QCBLK172387-1	05/13/98	05/13/98	5	UG/L	U	5	1
Propionitrile	107-12-0	QCBLK172387-1	05/13/98	05/13/98	20	UG/L	U	20	1
Methacrylonitrile	126-98-7	QCBLK172387-1	05/13/98	05/13/98	5	UG/L	U	5	1
Isobutyl alcohol	78-83-1	QCBLK172387-1	05/13/98	05/13/98	200	UG/L	U	200	1
1,4-Dioxane	123-91-1	QCBLK172387-1	05/13/98	05/13/98	500	UG/L	U	500	1
Methyl methacrylate	80-62-6	QCBLK172387-1	05/13/98	05/13/98	5	UG/L	U	5	1
Dibromomethane	74-95-3	QCBLK172387-1	05/13/98	05/13/98	5	UG/L	U	5	1
Ethyl methacrylate	97-63-2	QCBLK172387-1	05/13/98	05/13/98	5	UG/L	U	5	1
1,2-Dibromoethane	106-93-4	QCBLK172387-1	05/13/98	05/13/98	5	UG/L	U	5	1
1,1,1,2-Tetrachloroethane	630-20-6	QCBLK172387-1	05/13/98	05/13/98	5	UG/L	U	5	1
trans,1,4-Dichloro-2-butene	110-57-6	QCBLK172387-1	05/13/98	05/13/98	5	UG/L	U	5	1
1,2,3-Trichloropropane	96-18-4	QCBLK172387-1	05/13/98	05/13/98	5	UG/L	U	5	1
1,2-Dibromo-3-chloropropane	96-12-8	QCBLK172387-1	05/13/98	05/13/98	10	UG/L	U	10	1
Dichlorodifluoromethane	75-71-8	QCBLK172387-1	05/13/98	05/13/98	10	UG/L	U	10	1
Trichlorofluoromethane	75-69-4	QCBLK172387-1	05/13/98	05/13/98	10	UG/L	U	10	1
Bromofluorobenzene	460-00-4	QCBLK172387-1	05/13/98	05/13/98	84	%REC			1
1,2-Dichloroethane-d4	17070-07-0	QCBLK172387-1	05/13/98	05/13/98	85	%REC			1
Toluene-d8	2037-26-5	QCBLK172387-1	05/13/98	05/13/98	102	%REC			1

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3350 George Washington Way
Richland, WA 99352

Project: 550.230

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

Sample Date : 04/30/98
Receipt Date : 04/30/98
Report Date : 06/08/98

Client ID: BONRD1

Quanterra ID : 17702-001MS

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
1,1-Dichloroethene	75-35-4	QCBLK172387-1	05/13/98	05/13/98	96	%REC			1
Trichloroethene	79-01-6	QCBLK172387-1	05/13/98	05/13/98	79	%REC			1
Benzene	71-43-2	QCBLK172387-1	05/13/98	05/13/98	85	%REC			1
Toluene	108-88-3	QCBLK172387-1	05/13/98	05/13/98	90	%REC			1
Chlorobenzene	108-90-7	QCBLK172387-1	05/13/98	05/13/98	93	%REC			1
Bromofluorobenzene	460-00-4	QCBLK172387-1	05/13/98	05/13/98	81	%REC			1
1,2-Dichloroethane-d4	17070-07-0	QCBLK172387-1	05/13/98	05/13/98	86	%REC			1
Toluene-d8	2037-26-5	QCBLK172387-1	05/13/98	05/13/98	99	%REC			1

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Richland, WA 99352

Project: 550.230

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

Client ID: BONRD1

Sample Date : 04/30/98
Receipt Date : 04/30/98
Report Date : 06/08/98

Quanterra ID : 17702-001MSD

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
1,1-Dichloroethene	75-35-4	QCBLK172387-1	05/13/98	05/13/98	96	%REC			1
Trichloroethene	79-01-6	QCBLK172387-1	05/13/98	05/13/98	82	%REC			1
Benzene	71-43-2	QCBLK172387-1	05/13/98	05/13/98	88	%REC			1
Toluene	108-88-3	QCBLK172387-1	05/13/98	05/13/98	93	%REC			1
Chlorobenzene	108-90-7	QCBLK172387-1	05/13/98	05/13/98	97	%REC			1
Bromofluorobenzene	460-00-4	QCBLK172387-1	05/13/98	05/13/98	78	%REC	*		1
1,2-Dichloroethane-d4	17070-07-0	QCBLK172387-1	05/13/98	05/13/98	82	%REC			1
Toluene-d8	2037-26-5	QCBLK172387-1	05/13/98	05/13/98	97	%REC			1

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0NRD1

Lab Name: QUANTERRA MO Contract: 550.230

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02355

Matrix: (soil/water) WATER Lab Sample ID: 17702-001

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: ESMP2098

Level: (low/med) LOW Date Received: 04/30/98

% Moisture: not dec. _____ Date Analyzed: 05/13/98

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	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	2	BJ
67-64-1	Acetone	7	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	9	
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
1330-20-7	Xylenes (total)	5	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0NRD1

Lab Name: QUANTERRA MO Contract: 550.230

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02355

Matrix: (soil/water) WATER Lab Sample ID: 17702-001

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: ESMP2098

Level: (low/med) LOW Date Received: 04/30/98

% Moisture: not dec. _____ Date Analyzed: 05/13/98

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	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.

B0NRD1

Lab Name: QUANTERRA MO Contract: 550.230

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02355

Matrix: (soil/water) WATER Lab Sample ID: 17702-001

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: ESMP2098

Level: (low/med) LOW Date Received: 04/30/98

% Moisture: not dec. _____ Date Analyzed: 05/13/98

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
1.				
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Bechtel Hanford Incoporated
3350 George Washington Way
Richland, WA 99352

Project: 550.230

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

Client ID: B0NRD1

Sample Date : 04/30/98
Receipt Date : 04/30/98
Report Date : 06/19/98

Quanterra ID : 17702-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	QCBLK172495-1	05/13/98	05/13/98	10	UG/L	U	10	1
Bromomethane	74-83-9	QCBLK172495-1	05/13/98	05/13/98	10	UG/L	U	10	1
Vinyl Chloride	75-01-4	QCBLK172495-1	05/13/98	05/13/98	10	UG/L	U	10	1
Chloroethane	75-00-3	QCBLK172495-1	05/13/98	05/13/98	10	UG/L	U	10	1
Methylene Chloride	75-09-2	QCBLK172495-1	05/13/98	05/13/98	5	UG/L	U	5	1
Acetone	67-64-1	QCBLK172495-1	05/13/98	05/13/98	7	UG/L	BJ	20	1
Carbon Disulfide	75-15-0	QCBLK172495-1	05/13/98	05/13/98	5	UG/L	U	5	1
1,1-Dichloroethene	75-35-4	QCBLK172495-1	05/13/98	05/13/98	5	UG/L	U	5	1
1,1-Dichloroethane	75-34-3	QCBLK172495-1	05/13/98	05/13/98	5	UG/L	U	5	1
1,2-Dichloroethene (total)	540-59-0	QCBLK172495-1	05/13/98	05/13/98	5	UG/L	U	5	1
Chloroform	67-66-3	QCBLK172495-1	05/13/98	05/13/98	9	UG/L		5	1
1,2-Dichloroethane	107-06-2	QCBLK172495-1	05/13/98	05/13/98	5	UG/L	U	5	1
2-Butanone (MEK)	78-93-3	QCBLK172495-1	05/13/98	05/13/98	20	UG/L	U	20	1
1,1,1-Trichloroethane	71-55-6	QCBLK172495-1	05/13/98	05/13/98	5	UG/L	U	5	1
Carbon Tetrachloride	56-23-5	QCBLK172495-1	05/13/98	05/13/98	5	UG/L	U	5	1
Bromodichloromethane	75-27-4	QCBLK172495-1	05/13/98	05/13/98	5	UG/L	U	5	1
1,2-Dichloropropane	78-87-5	QCBLK172495-1	05/13/98	05/13/98	5	UG/L	U	5	1
cis-1,3-Dichloropropene	10061-01-5	QCBLK172495-1	05/13/98	05/13/98	5	UG/L	U	5	1
Trichloroethene	79-01-6	QCBLK172495-1	05/13/98	05/13/98	5	UG/L	U	5	1
Dibromochloromethane	124-48-1	QCBLK172495-1	05/13/98	05/13/98	5	UG/L	U	5	1
1,1,2-Trichloroethane	79-00-5	QCBLK172495-1	05/13/98	05/13/98	5	UG/L	U	5	1
Benzene	71-43-2	QCBLK172495-1	05/13/98	05/13/98	5	UG/L	U	5	1
trans-1,3-Dichloropropene	10061-02-6	QCBLK172495-1	05/13/98	05/13/98	5	UG/L	U	5	1
Bromoform	75-25-2	QCBLK172495-1	05/13/98	05/13/98	5	UG/L	U	5	1
4-Methyl-2-Pentanone (MIBK)	108-10-1	QCBLK172495-1	05/13/98	05/13/98	20	UG/L	U	20	1
2-Hexanone	591-78-6	QCBLK172495-1	05/13/98	05/13/98	20	UG/L	U	20	1
Tetrachloroethene	127-18-4	QCBLK172495-1	05/13/98	05/13/98	5	UG/L	U	5	1
Toluene	108-88-3	QCBLK172495-1	05/13/98	05/13/98	5	UG/L	U	5	1
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK172495-1	05/13/98	05/13/98	5	UG/L	U	5	1
Chlorobenzene	108-90-7	QCBLK172495-1	05/13/98	05/13/98	5	UG/L	U	5	1
EthylBenzene	100-41-4	QCBLK172495-1	05/13/98	05/13/98	5	UG/L	U	5	1
Styrene	100-42-5	QCBLK172495-1	05/13/98	05/13/98	5	UG/L	U	5	1
Xylene (total)	1330-20-7	QCBLK172495-1	05/13/98	05/13/98	5	UG/L	U	5	1
Silanol, trimethyl-	1066-40-6	QCBLK172495-1	05/13/98	05/13/98	15	UG/L	JN		1
Bromofluorobenzene	460-00-4	QCBLK172495-1	05/13/98	05/13/98	103	%REC			1
Dibromofluoromethane	1868-53-7	QCBLK172495-1	05/13/98	05/13/98	101	%REC			1
Toluene-d8	2037-26-5	QCBLK172495-1	05/13/98	05/13/98	110	%REC			1

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Project: 550.230

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

Client ID: B0NRD1

Sample Date : 04/30/98
Receipt Date : 04/30/98
Report Date : 06/19/98

Quanterra ID : 17702-001MS

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual	Detection Limit	Dilution
1,1-Dichloroethene	75-35-4	QCBLK172495-1	05/13/98	05/13/98	82	%REC			1
Trichloroethene	79-01-6	QCBLK172495-1	05/13/98	05/13/98	91	%REC			1
Benzene	71-43-2	QCBLK172495-1	05/13/98	05/13/98	91	%REC			1
Toluene	108-88-3	QCBLK172495-1	05/13/98	05/13/98	96	%REC			1
Chlorobenzene	108-90-7	QCBLK172495-1	05/13/98	05/13/98	98	%REC			1
Bromofluorobenzene	460-00-4	QCBLK172495-1	05/13/98	05/13/98	100	%REC			1
Dibromofluoromethane	1868-53-7	QCBLK172495-1	05/13/98	05/13/98	99	%REC			1
Toluene-d8	2037-26-5	QCBLK172495-1	05/13/98	05/13/98	106	%REC			1

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Project: 550.230

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

Sample Date : 04/30/98
Receipt Date : 04/30/98
Report Date : 06/19/98

Client ID: B0NRD1

Quanterra ID : 17702-001MSD

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
1,1-Dichloroethene	75-35-4	QCBLK172495-1	05/13/98	05/13/98	86	%REC			1
Trichloroethene	79-01-6	QCBLK172495-1	05/13/98	05/13/98	102	%REC			1
Benzene	71-43-2	QCBLK172495-1	05/13/98	05/13/98	94	%REC			1
Toluene	108-88-3	QCBLK172495-1	05/13/98	05/13/98	97	%REC			1
Chlorobenzene	108-90-7	QCBLK172495-1	05/13/98	05/13/98	104	%REC			1
Bromofluorobenzene	460-00-4	QCBLK172495-1	05/13/98	05/13/98	106	%REC			1
Dibromofluoromethane	1868-53-7	QCBLK172495-1	05/13/98	05/13/98	102	%REC			1
Toluene-d8	2037-26-5	QCBLK172495-1	05/13/98	05/13/98	108	%REC			1

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BONRD1

Lab Name: QUANTERRA MO Contract: 550.230

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02355

Matrix: (soil/water) WATER Lab Sample ID: 17702-001

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: ESMP2125

Level: (low/med) LOW Date Received: 04/30/98

% Moisture: not dec. _____ Date Analyzed: 05/13/98

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	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	7	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	9	
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.

BONRD1

Lab Name: QUANTERRA MO Contract: 550.230

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02355

Matrix: (soil/water) WATER Lab Sample ID: 17702-001

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: ESMP2125

Level: (low/med) LOW Date Received: 04/30/98

% Moisture: not dec. _____ Date Analyzed: 05/13/98

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-	3.913	15	NJ
2.				
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Bechtel Hanford Incoporated
3350 George Washington Way
Richland, WA 99352

Project: 550.230

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

Sample Date : 04/30/98
Receipt Date : 04/30/98
Report Date : 06/08/98

Client ID: BONRD1

Quanterra ID : 17702-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK172602-1	05/15/98	05/15/98	383	UG/L		200	1
Antimony	7440-36-0	QCBLK172602-1	05/15/98	05/15/98	45.7	UG/L	U	60.0	1
Barium	7440-39-3	QCBLK172602-1	05/15/98	05/15/98	27.3	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK172602-1	05/15/98	05/15/98	0.60	UG/L	U	5.0	1
Cadmium	7440-43-9	QCBLK172602-1	05/15/98	05/15/98	4.6	UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK172602-1	05/15/98	05/15/98	25200	UG/L		5000	1
Chromium	7440-47-3	QCBLK172602-1	05/15/98	05/15/98	2.1	UG/L	U	10.0	1
Cobalt	7440-48-4	QCBLK172602-1	05/15/98	05/15/98	3.8	UG/L	U	50.0	1
Copper	7440-50-8	QCBLK172602-1	05/15/98	05/15/98	3.6	UG/L	U	25.0	1
Iron	7439-89-6	QCBLK172602-1	05/15/98	05/15/98	170	UG/L		100	1
Magnesium	7439-95-4	QCBLK172602-1	05/15/98	05/15/98	4440	UG/L	B	5000	1
Manganese	7439-96-5	QCBLK172602-1	05/15/98	05/15/98	7.8	UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK172602-1	05/15/98	05/15/98	14.2	UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK172602-1	05/15/98	05/15/98	2150	UG/L	U	5000	1
Silver	7440-22-4	QCBLK172602-1	05/15/98	05/15/98	5.1	UG/L	UN	10.0	1
Sodium	7440-23-5	QCBLK172602-1	05/15/98	05/15/98	3150	UG/L	B	5000	1
Vanadium	7440-62-2	QCBLK172602-1	05/15/98	05/15/98	4.4	UG/L	U	50.0	1
Zinc	7440-66-6	QCBLK172602-1	05/15/98	05/15/98	9.9	UG/L	B	20.0	1

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Project: 550.230

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

Sample Date : 04/30/98
Receipt Date : 04/30/98
Report Date : 06/08/98

Client ID: BONRD1

Quanterra ID : 17702-001MS

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK172602-1	05/15/98	05/15/98	96	%REC			1
Antimony	7440-36-0	QCBLK172602-1	05/15/98	05/15/98	95	%REC			1
Barium	7440-39-3	QCBLK172602-1	05/15/98	05/15/98	92	%REC			1
Beryllium	7440-41-7	QCBLK172602-1	05/15/98	05/15/98	96	%REC			1
Cadmium	7440-43-9	QCBLK172602-1	05/15/98	05/15/98	115	%REC			1
Calcium	7440-70-2	QCBLK172602-1	05/15/98	05/15/98	100	%REC			1
Chromium	7440-47-3	QCBLK172602-1	05/15/98	05/15/98	92	%REC			1
Cobalt	7440-48-4	QCBLK172602-1	05/15/98	05/15/98	94	%REC			1
Copper	7440-50-8	QCBLK172602-1	05/15/98	05/15/98	95	%REC			1
Iron	7439-89-6	QCBLK172602-1	05/15/98	05/15/98	88	%REC			1
Magnesium	7439-95-4	QCBLK172602-1	05/15/98	05/15/98	99	%REC			1
Manganese	7439-96-5	QCBLK172602-1	05/15/98	05/15/98	93	%REC			1
Nickel	7440-02-0	QCBLK172602-1	05/15/98	05/15/98	96	%REC			1
Potassium	7440-09-7	QCBLK172602-1	05/15/98	05/15/98	94	%REC			1
Silver	7440-22-4	QCBLK172602-1	05/15/98	05/15/98	79	%REC	N		1
Sodium	7440-23-5	QCBLK172602-1	05/15/98	05/15/98	95	%REC			1
Vanadium	7440-62-2	QCBLK172602-1	05/15/98	05/15/98	95	%REC			1
Zinc	7440-66-6	QCBLK172602-1	05/15/98	05/15/98	93	%REC			1

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3350 George Washington Way
Richland, WA 99352

Project: 550.230

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

Sample Date : 04/30/98
Receipt Date : 04/30/98
Report Date : 06/08/98

Client ID: BONRD1

Quanterra ID : 17702-001MSD

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK172602-1	05/15/98	05/15/98	97	%REC			1
Antimony	7440-36-0	QCBLK172602-1	05/15/98	05/15/98	92	%REC			1
Barium	7440-39-3	QCBLK172602-1	05/15/98	05/15/98	92	%REC			1
Beryllium	7440-41-7	QCBLK172602-1	05/15/98	05/15/98	97	%REC			1
Cadmium	7440-43-9	QCBLK172602-1	05/15/98	05/15/98	117	%REC			1
Calcium	7440-70-2	QCBLK172602-1	05/15/98	05/15/98	100	%REC			1
Chromium	7440-47-3	QCBLK172602-1	05/15/98	05/15/98	91	%REC			1
Cobalt	7440-48-4	QCBLK172602-1	05/15/98	05/15/98	94	%REC			1
Copper	7440-50-8	QCBLK172602-1	05/15/98	05/15/98	96	%REC			1
Iron	7439-89-6	QCBLK172602-1	05/15/98	05/15/98	88	%REC			1
Magnesium	7439-95-4	QCBLK172602-1	05/15/98	05/15/98	100	%REC			1
Manganese	7439-96-5	QCBLK172602-1	05/15/98	05/15/98	94	%REC			1
Nickel	7440-02-0	QCBLK172602-1	05/15/98	05/15/98	96	%REC			1
Potassium	7440-09-7	QCBLK172602-1	05/15/98	05/15/98	96	%REC			1
Silver	7440-22-4	QCBLK172602-1	05/15/98	05/15/98	83	%REC			1
Sodium	7440-23-5	QCBLK172602-1	05/15/98	05/15/98	98	%REC			1
Vanadium	7440-62-2	QCBLK172602-1	05/15/98	05/15/98	95	%REC			1
Zinc	7440-66-6	QCBLK172602-1	05/15/98	05/15/98	92	%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 : 04/30/98
Receipt Date : 04/30/98
Report Date : 06/08/98

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
BONRD1	17702-001	Arsenic	7440-38-2	QCBLK172590-1	05/15/98	05/20/98	0.60	UG/L	U	0.20	1
BONRD1	17702-001MS	Arsenic	7440-38-2	QCBLK172590-1	05/15/98	05/20/98	107	%REC			1
BONRD1	17702-001MSD	Arsenic	7440-38-2	QCBLK172590-1	05/15/98	05/20/98	104	%REC			1
NA	QCBLK172590-1	Arsenic	7440-38-2	QCBLK172590-1	05/15/98	05/20/98	0.60	UG/L	U	0.20	1
NA	QCLCS172590-1	Arsenic	7440-38-2	QCBLK172590-1	05/15/98	05/20/98	105	%REC			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.: W02355

SOW No.: SW846

EPA Sample No.	Lab Sample ID
B0NRD1	17702-001
B0NRD1SD	17702-001SD
B0NRD1S	17702-001S

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.

B0NRD1

Lab Name: QUANTERRA_MO Contract: 550.230
Lab Code: ITMO Case No.: SAS No.: SDG No.: W02355
Matrix (soil/water): WATER Lab Sample ID: 17702-001
Level (low/med): LOW Date Received: 04/30/98
% 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	383			P
7440-36-0	Antimony	45.7	U		P
7440-38-2	Arsenic	0.60	U		F
7440-39-3	Barium	27.3	B		P
7440-41-7	Beryllium	0.60	U		P
7440-43-9	Cadmium	4.6	U		P
7440-70-2	Calcium	25200			P
7440-47-3	Chromium	2.1	U		P
7440-48-4	Cobalt	3.8	U		P
7440-50-8	Copper	3.6	U		P
7439-89-6	Iron	170			P
7439-95-4	Magnesium	4440	B		P
7439-96-5	Manganese	7.8	B		P
7440-02-0	Nickel	14.2	U		P
7440-09-7	Potassium	2150	U		P
7440-22-4	Silver	5.1	U	N	P
7440-23-5	Sodium	3150	B		P
7440-62-2	Vanadium	4.4	U		P
7440-66-6	Zinc	9.9	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 : 04/30/98
Receipt Date : 04/30/98
Report Date : 06/08/98

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
BONRD1	17702-001	pH	PH	QCBLK171575-1	05/05/98	05/05/98	7.07	PH			1
BONRD1	17702-001DUP	pH	PH	QCBLK171575-1	05/05/98	05/05/98	7.09	PH			1
NA	QCBLK171575-1	pH	PH	QCBLK171575-1	05/05/98	05/05/98	4.60	PH			1

Bechtel Hanford Incoporated
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Project: 550.230

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

Sample Date : 04/30/98
Receipt Date : 04/30/98
Report Date : 06/08/98

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
BONRD1	17702-001	Residual Chlori	7782-50-5a	QCBLK172564-1	05/14/98	05/14/98	0.10	MG/L	U	0.10	1
BONRD1	17702-001DUP	Residual Chlori	7782-50-5a	QCBLK172564-1	05/14/98	05/14/98	0.10	MG/L	U	0.10	1
NA	QCBLK172564-1	Residual Chlori	7782-50-5a	QCBLK172564-1	05/14/98	05/14/98	0.10	MG/L	U	0.10	1
NA	QCLCS172564-1	Residual Chlori	7782-50-5a	QCBLK172564-1	05/14/98	05/14/98	110	%REC			1

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Project: 550.230

Category: Sulfate
Method: EPA 375.4
Matrix: LIQUID

Sample Date : 04/30/98
Receipt Date : 04/30/98
Report Date : 06/08/98

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
BONRD1	17702-001	Sulfate	14808-79-8	QCBLK173069-1	05/21/98	05/21/98	30.7	MG/L		5.00	1
BONRD1	17702-001DUP	Sulfate	14808-79-8	QCBLK173069-1	05/21/98	05/21/98	31.5	MG/L		5.00	1
BONRD1	17702-001MS	Sulfate	14808-79-8	QCBLK173069-1	05/21/98	05/21/98	102	%REC			1
NA	QCBLK173069-1	Sulfate	14808-79-8	QCBLK173069-1	05/21/98	05/21/98	5.00	MG/L	U	5.00	1
NA	QCLCS173069-1	Sulfate	14808-79-8	QCBLK173069-1	05/21/98	05/21/98	95	%REC			1

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Project: 550.230

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

Sample Date : 04/30/98
Receipt Date : 04/30/98
Report Date : 06/08/98

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
BONRD1	17702-001	Total Dissolved	TDS	QCBLK171791-1	05/06/98	05/06/98	116	MG/L		5.00	1
BONRD1	17702-001DUP	Total Dissolved	TDS	QCBLK171791-1	05/06/98	05/06/98	115	MG/L		5.00	1
NA	QCBLK171791-1	Total Dissolved	TDS	QCBLK171791-1	05/06/98	05/06/98	5.00	MG/L	U	5.00	1
NA	QCLCS171791-1	Total Dissolved	TDS	QCBLK171791-1	05/06/98	05/06/98	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 : 04/30/98
Receipt Date : 04/30/98
Report Date : 06/08/98

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
BONRD1	17702-001	Total Suspended	TSS	QCBLK171603-1	05/05/98	05/05/98	7.0	MG/L		1.00	1
BONRD1	17702-001DUP	Total Suspended	TSS	QCBLK171603-1	05/05/98	05/05/98	4.0	MG/L		1.00	1
NA	QCBLK171603-1	Total Suspended	TSS	QCBLK171603-1	05/05/98	05/05/98	1.00	MG/L	U	1.00	1
NA	QCLCS171603-1	Total Suspended	TSS	QCBLK171603-1	05/05/98	05/05/98	97	%REC			1