W02026

Quanterra
Environmental Services

Quanterra Incorporated
13715 Rider Trail North
Earth City, Missouri 63045

314 298-8566 Telephone
314 298-8757 Fax

0048705

CASE NARRATIVE

DEC 1997
RECEIVED
Data
Log In

Bechtel Hanford Incorporated
3350 George Washington Way
Richland, Washington 99352

December 19, 1997

Attention: Joan Kessner

Project number	:	550.230
Date Received by Lab	:	October 30 and November 13, 1997
Number of Samples	:	Two (2)
Sample Type	:	Water
SDG Number	:	W02026
Data Deliverable	:	Summary

I. Introduction

On October 30 and November 13, 1997, a total of two (2) water samples were received by Quanterra, Richland and were transferred to Quanterra, St. Louis for chemical analysis. Upon receipt, the samples were given the following laboratory ID numbers to correspond with the specific client ID's:

St. Louis ID	BHI ID	Richland ID	Matrix	Date of Receipt
16190-001	B0M8T9	71053101	Water	10/30/97
16282-001	B0MDL3	71124101	Water	11/13/97

II. Analytical Results/ Methodology

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

Analyses requested: Volatiles by EPA 8260. Appendix IX Volatiles by EPA 8240. Total Residual Chlorine by EPA Method 330.1. Sulfate by EPA Method 375.4. pH by EPA Method 150.1. ICAP Metals by EPA Method 6010. Arsenic by EPA Method 7060. Acrylamide by EPA Method 8316. Total Suspended Solids by EPA Method 160.1. Total Dissolved Solids by EPA Method 160.2.

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 were performed per the protocol for each analyte in this SDG. Total Residual Chlorine, Total Dissolved Solids, Total Suspended Solids, and pH require only a Sample Duplicate for matrix QC.

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 were no variances associated with sample receipt.

Volatiles-8260
There are no comments or nonconformances associated with this analysis.

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

Acrylamide
There are no comments or nonconformances associated with these analyses.

Metals
There are no comments or nonconformances associated with these analyses.

Wet Chemistry
There are no comments or nonconformances associated with these analyses.

Quanterra
Environmental Services

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 Lawrie for WHP

Wade H. Price
Project Manager
e:\\price$\hanford\hanw1998.nar

Quanterra November 07, 1997 07:39 am
Account: 10722 Project: 550.230 Quanterra-Richland QAS No. 550.23 Rev. 1
Master Sample Login: 16190

Project Manager: W. Price

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.
16190-001	B0M8T9	Water	30-OCT-97 08:00	30-OCT-97 14:00	04-DEC-97	AIR BORNE	1	Screening not Required
RICHLAND I.D. 71053101								

#	Container Type	Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)
3	VI - Vial-40ml	VOA/8260/Q4	S	HCL	27-NOV-97	13-NOV-97	109A	(339266:100 339267:99 339268:98)
1	PN - Plastic-1L	CL/330.3/Q4	S	COLD	27-NOV-97	01-NOV-97	T14B	(339265:100)
1	PN - Plastic-250ml	SO4/375.4/Q4	S	COLD	27-NOV-97	27-NOV-97	T14B	(339269:97)
1	PN - Plastic-120ml	PH/150.1/Q4	S	COLD	27-NOV-97	31-OCT-97	T14B	(339264:100)

Sample No.	Client ID	C-Matrix	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No.
16190-001DUP	B0M8T9	Water	30-OCT-97 08:00	30-OCT-97 14:00	04-DEC-97	AIR BORNE	1	Screening not Required
RICHLAND I.D. 71053101								

#	Container Type	Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)
3	VI - Vial-40ml	VOA/8260/Q4	S	HCL	27-NOV-97	13-NOV-97	109A	(339266:100 339267:99 339268:98)
1	PN - Plastic-1L	CL/330.3/Q4	S	COLD	27-NOV-97	01-NOV-97	T14B	(339265:100)
1	PN - Plastic-250ml	SO4/375.4/Q4	S	COLD	27-NOV-97	27-NOV-97	T14B	(339269:97)
1	PN - Plastic-120ml	PH/150.1/Q4	S	COLD	27-NOV-97	31-OCT-97	T14B	(339264:100)

Sample No.	Client ID	C-Matrix	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No.
16190-001MS	B0M8T9	Water	30-OCT-97 08:00	30-OCT-97 14:00	04-DEC-97	AIR BORNE	1	Screening not Required
RICHLAND I.D. 71053101								

#	Container Type	Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)
3	VI - Vial-40ml	VOA/8260/Q4	S	HCL	27-NOV-97	13-NOV-97	109A	(339266:100 339267:99 339268:98)
1	PN - Plastic-250ml	SO4/375.4/Q4	S	COLD	27-NOV-97	27-NOV-97	T14B	(339269:97)

Sample No.	Client ID	C-Matrix	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No.
16190-001MSD	B0M8T9	Water	30-OCT-97 08:00	30-OCT-97 14:00	04-DEC-97	AIR BORNE	1	Screening not Required
RICHLAND I.D. 71053101								

#	Container Type	Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)
3	VI - Vial-40ml	VOA/8260/Q4	S	HCL	27-NOV-97	13-NOV-97	109A	(339266:100 339267:99 339268:98)

3*=Sample has not been rad screened.

T 14B Temp 3°C CUR# 13248 + 13242 QC
ST Lulll

Chain of Custody Record

Quanterra

QUA-4124 0797

Client: Bechtel	Project Manager: A. Koprda	Date: 10-31-97	Chain of Custody Number: 00124
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 CUR

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
1105310T BOM579	all	liquids										

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): SIX-WO2026

1. Relinquished By: Heidelberg Quanterra	Date: 10-31-97	Time: 16:00	1. Received By: Fred M Mitchell	Date: 11-1-97	Time: 10:00
2. Relinquished By	Date	Time	2. Received By	Date	Time
3. Relinquished By	Date	Time	3. Received By	Date	Time

Comments: #2m Recved Samples 10-31-97

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

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

B98-009-02

Collector R.Fahlberg / R. Nielson	Company Contact RL Martin	Telephone No. 373-4483	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.	Field Logbook No. EL-1309-1		Method of Shipment Hand Delivered
Shipped To Quanterra Incorporated	Offsite Property No.		Bill of Lading/Air Bill No.

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

Preservation	None	None	Cool 4C	Cool 4C	Cool 4C	HNO3 to pH <2	HNO3 to pH <2	None	Cool 4C	HCl or H2SO4 to pH <2 Coo
Type of Container	G/P	P	P	G/P	G/P	G/P	G/P	P	Gs*	Gs*
No. of Container(s)	1	1	1	1	1	1	1	1	3	3
Volume	20ml	125ml	250ml	400ml	400ml	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 (Append IX)

Sample No	Matrix *	Sample Date	Sample Time										
BOM8T9	W	10/30/97	0800	X	X	X					X		
					100%	100%					100%		
					REC'D	10-31-97					REC'D	10-31-97	

SPECIAL INSTRUCTIONS

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By	Date/Time	Received By	Date/Time
Barry Barnes	10-30-97 1400	Heidelberg	10/30/97 1400
Heidelberg	10/30/97 16:00		

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

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

B98-009-02

Collector R.Fahlberg	**Company Contact** RL Martin **Telephone No.** 373-4483	**Project Coordinator** KOERNER, CC
Project Designation 183N Backwash Discharge Pond -- Permit Monitoring 1998	**Sampling Location** 100N	**SAF No.** B98-009
Ice Chest No.	**Field Logbook No.** EL-1309-1	**Method of Shipment** Hand Delivered
Shipped To Quanterra Incorporated	**Offsite Property No.**	**Bill of Lading/Air Bill No.**

Data Turnaround 45 Days

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

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

Sample No.	Matrix *	Sample Date	Sample Time										
BOM8T9	W	10/30/97	0800	1X									
				183110									
				REC'D	10-31-97								

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

Relinquished By	Date/Time	Received By	Date/Time
Doug Bauman	10-30-97/1400	Heidelberg	10/30/97 1400
Heidelberg	10-30-97 1600		

SPECIAL INSTRUCTIONS

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

Environmental Restoration Contractor **ERC Team**

Interoffice Memorandum

Job No. 22192
Written Response Required: NO
CCN: N/A
OU: N/A
TSD: N/A
ERA: N/A
Subject Code: 5830

TO:	W. S. Thompson	N1-28	DATE:	February 29, 1996
	G. C. Henckel	H4-80		
COPIES:	K. A. Smith	X0-23	FROM:	S. K. De Mers
	T. L. Lafreniere	X0-23		Radiological Controls
	D. E. Gergely	X0-23		T7-05/373-1913

SUBJECT: **Total Activities for Off-Site Shipments of Groundwater Samples to NRC Licensed Laboratories**

There is no need to perform total activities prior to offsite shipment to NRC licensed labs of samples taken from ground water wells located on the Hanford Site.

All wells reviewed to date for radiological content have shown no well with a total activity in excess of 2,000,000 pCi/l (2,000 pCi/gm), the Department Of Transportation limit for radioactive material. The highest activity in any known well is 1.56×10^6 pCi/l H^3.

While this does not constitute any release from radiological controls for worker protection, it does allow samples to be shipped based on historical laboratory data and save the expense of doing radiochemical analysis.

A copy of the most recent analytical data should be provided to the NRC licensed laboratory with the samples being shipped or if no data is available for new wells, the most recent data from adjacent wells.

Quanterra Environmental Services

WHC/BHI SAMPLE CHECK-IN LIST

Date/Time Received: 10/30 1400 SDG #: _____

Work Order Number: _____ SAF #: B98-009

Shipping Container ID: 044 Chain of Custody # B98-009-02

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 2°C

5. Vermiculite/packing materials is Wet [ ] Dry [ ] na

6. Number of samples in shipping container: 7

7. Sample holding times exceeded? Yes [ ] No [ ]

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

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

10. Were any anomalies identifed in sample receipt? Yes[ ] No[ ]

11. Description of anomalies (include sample numbers): _____

Sample Custodian: D Heidelberg On 10-30-97 1400

Telephoned To: _____ On _____ By _____

FORM NO. LS-042, Rev. 1, 2/95

000010

Quanterra Environmental Services

BW & WP

013248

Login No.: 1619

Condition Upon Receipt Variance Report
St. Louis Laboratory

Client: Rechland

Date: 11-3-97 Time: 10:00

Project No: 550-230

Initiated by: Fred Mitchell

Shipper/No: A/B 599 9663 515

RFA/COC Numbers: 124

Condition/Variance (Check all that apply):

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

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

Notes: Recv'd Samples 10-31-97

Corrective Action:

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

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

☐ Sample(s) processed "as is". _____

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

Sample Control Supervisor Review: (or designee) Fred Mitchell Date: 10-7-97

Project Management Review: [signature] Date: 11/6/97

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

000011

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

Quanterra Environmental Services

B.W + W.F

013242

Login No.: _____

Condition Upon Receipt Variance Report
St. Louis Laboratory

Client: _____ Date: 10-31-97 Time: 8:15

Project No: _____ Initiated by: Jimmie Jackson

Shipper/No: AB5999662 012 RFA/COC Numbers: _____

Condition/Variance (Check all that apply):

1. ☐ Sample received broken/leaking.
2. ☐ Sample received without proper preservative.
   - ☐ Cooler temperature not within 4°C ± 2°C
     Record temperature: _____
   - ☐ pH _____
   - ☐ other: _____
3. ☐ Sample received in improper container.
4. ☑ Sample received without proper paperwork. Explain: _____
5. ☐ Paperwork received without sample.
6. ☐ No sample ID on sample container.
7. ☐ Custody tape disturbed/broken/missing.
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: Sample I.D Bom8T9 VOA'S, pH 150.1, CHLORINE, SULFATE 375.4

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, query: _____

Sample Control Supervisor Review: (or designee) [signature] Date: 10-31-97

Project Management Review: [signature] Date: 11/6/97

C00012

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

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

Quanterra November 13, 1997 01:57 pm
Account: [illegible] Project: 550.23 Quanterra Richland CAS No. 550.23 Rev. 1
Master Sample Login: 162482

Project Manager: W. Price

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

Sample Header Template.

Sample No. / Comments	Client ID	C-Matrix	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No.
# Container Type	Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)	

162482-001	B0MDL3	Water	13-NOV-97 07:08	13-NOV-97 11:30	18-DEC-97	AIRBORNE	1	Screening not Required	
RICHLAND ID 71124101									
3 VI Vial-40ml	HPLC/8316/Q4	S	HCL	11-DEC-97	27-NOV-97	109Q		(341831:99 341832:98 341833:97)	
	VOA/8260/Q4	S	HCL	11-DEC-97	27-NOV-97	109Q		(341825:89 341826:88 341827:87)	
	VOA/APP1X/Q4	S	HCL	11-DEC-97	27-NOV-97	109Q		(341822:92 341823:91 341824:90)	
1 AN Amber Glass-500ml	AS/7060/Q4	S	HNO3	11-DEC-97	12-MAY-98	S1D		(341817:97)	
	ICAP/6010/Q4	S	HNO3	11-DEC-97	12-MAY-98	S1D		(341818:96)	
1 PN Plastic-1L	CL/330.3/Q4	S	COLD	11-DEC-97	15-NOV-97	S1D		(341821:93)	
1 PN Plastic-500ml	TDS/160.1/Q4	S	COLD	11-DEC-97	20-NOV-97	S1D		(341819:95)	
	TSS/160.2/Q4	S	COLD	11-DEC-97	20-NOV-97	S1D		(341820:94)	
1 PN Plastic-250ml	SO4/375.4/Q4	S	COLD	11-DEC-97	11-DEC-97	S1D		(341816:98)	
1 PW Plastic-128oz	PH/150.1/Q4	S	COLD	11-DEC-97	14-NOV-97	S1D		(341815:99)	
162482-003DUP	B0MDL3	Water	13-NOV-97 07:08	13-NOV-97 11:30	18-DEC-97	AIRBORNE	1	Screening not Required	
RICHLAND ID 71124101									
1 PN Plastic-500ml	TDS/160.1/Q4	S	COLD	11-DEC-97	20-NOV-97	S1D		(341819:95)	
	TSS/160.2/Q4	S	COLD	11-DEC-97	20-NOV-97	S1D		(341820:94)	
162482-1MS	B0MDL3	Water	13-NOV-97 07:08	13-NOV-97 11:30	18-DEC-97	AIRBORNE	1	Screening not Required	
RICHLAND ID 71124101									
3 VI Vial-40ml	HPLC/8316/Q4	S	HCL	11-DEC-97	27-NOV-97	109Q		(341831:99 341832:98 341833:97)	
	VOA/APP1X/Q4	S	HCL	11-DEC-97	27-NOV-97	109Q		(341822:92 341823:91 341824:90)	
1 AN Amber Glass-500ml	AS/7060/Q4	S	HNO3	11-DEC-97	12-MAY-98	S1D		(341817:97)	
	ICAP/6010/Q4	S	HNO3	11-DEC-97	12-MAY-98	S1D		(341818:96)	
162482-2MSD	B0MDL3	Water	13-NOV-97 07:08	13-NOV-97 11:30	18-DEC-97	AIRBORNE	1	Screening not Required	
RICHLAND ID 71124101									
3 VI Vial-40ml	HPLC/8316/Q4	S	HCL	11-DEC-97	27-NOV-97	109Q		(341831:99 341832:98 341833:97)	
	VOA/APP1X/Q4	S	HCL	11-DEC-97	27-NOV-97	109Q		(341822:92 341823:91 341824:90)	
1 AN Amber Glass-500ml	AS/7060/Q4	S	HNO3	11-DEC-97	12-MAY-98	S1D		(341817:97)	
	ICAP/6010/Q4	S	HNO3	11-DEC-97	12-MAY-98	S1D		(341818:96)	

C00013

* Sample has not been rad screened

Chain of Custody Record

SID Temp 4°C CLRH 13425
ST 13403

Quanterra QC

QUA-4124 0797

Client	Project Manager	Date	Chain of Custody Number
Bechtel	A. Koprowa	11-14-97	10177
Address	Telephone Number (Area Code)/Fax Number	Lab Number	Page 1 of 1
City / State / Zip Code	Site Contact / Lab Contact		
Project Name: SAF BIS-OCA	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	Aqueous	Sec	Soil		Unpres	H2SO4	HNOS	HCl	NaOH	ZnAc/ NaOH
7112410.1 BCMDL3	QCP	[illegible]										

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 12-25-97

QC Requirements (Specify): SDG W02026

Relinquished By	Date	Time	Received By	Date	Time
1. Delivery Quanterra	11-14-97	16:00	1. 2nd M Mitchell	11-15-97	0920
2. Relinquished By	Date	Time	2. Received By	Date	Time
3. Relinquished By	Date	Time	3. Received By	Date	Time

Comments

DISTRIBUTION: WHITE - Stays with the Sample, CANARY - Retained by Originator, PINK - [illegible]

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B98-009-03	Page 1 of 2

Collector R.Fahlberg	**Company Contact** RL Martin	**Telephone No.** 373-4483	**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.	**Field Logbook No.** EL-1309-1		**Method of Shipment** Hand Delivered	
Shipped To Quanterra Incorporated	**Offsite Property No.**		**Bill of Lading/Air Bill No.**	

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

SAMPLE ANALYSIS SDL 71124101 W002026

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	Gs*	Gs*
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
	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)

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)
80MDL3	Water	11/13/97	0705	X	X	X	X	X	X	X	X	X	X
					100	100	100	100	100	100	100	3x100	3x100
												11-14	11-14

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By R.Fahlberg / R.Fahlberg	Date/Time 11-13-97 11:30	Received By	Date/Time 11-13-97 1130
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS

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	B98-009-03	Page 2 of 2

Collector R.Fahlberg	**Company Contact** RL Martin	**Telephone No.** 373-4483	**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.	**Field Logbook No.** EL-1309-1		**Method of Shipment** Hand Delivered	
Shipped To Quanterra Incorporated	**Offsite Property No.**		**Bill of Lading/Air Bill No.**	

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

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

Sample No.	Matrix *	Sample Date	Sample Time										
B0MDL3	Water	11/13/97	0708	X									
				3/100									
				11-14									

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By 11-13-97 Date/Time	Received By Date/Time 1130		
R.Fahlberg 1130	11-13-97 1130		
Relinquished By Date/Time	Received By Date/Time		
Relinquished By Date/Time	Received By Date/Time		
Relinquished By Date/Time	Received By Date/Time		

SPECIAL INSTRUCTIONS

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: 11-13-97 1130 SG#: BHI W022026

Work Order Number: 711241 SAF #: B98-009

Shipping Container ID: ERC-96-019 Chain of Custody # B98-009-03

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 2°C
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: 11-13-97

Telephoned To: _____ On _____ By _____

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B98-009-03	Page 2 of 2

ollector R.Fahlberg	Company Contact RL Martin	Telephone No. 373-4483	Project Coordinator KOERNER, CC	Data Turnaround 45 Days
roject Designation 183N Backwash Discharge Pond -- Permit Monitoring 1998	Sampling Location 100N		SAF No. B98-009	
e Chest No.	Field Logbook No. EL-1309-1		Method of Shipment Hand Delivered	
hipped To Quanterra Incorporated	Offsite Property No.		Bill of Lading/Air Bill No.	

OSSIBLE SAMPLE HAZARDS/REMARKS

pecial Handling and/or Storage

SAMPLE ANALYSIS

Preservation	HCl to pH <2 Cool 4C												
Type of Container	Gs*												
No. of Container(s)	3												
Volume	40ml												
	VOA - 8260A (TCL)												
Sample No.	Matrix *	Sample Date	Sample Time										
0MDL3	Water	11/13/97	0705	X									
				3x40									
				11-14									

CHAIN OF POSSESSION	Sign/Print Names		
elinquished By	Date/Time 11-13-97 1130	Received By	Date/Time 11-13-97 1130
elinquished By	Date/Time 1600	Received By	Date/Time
elinquished By	Date/Time	Received By	Date/Time
elinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS

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	B98-009-03	Page 1 of 2

ollector R Fahlberg	Company Contact RL Martin	Telephone No. 373-4483	Project Coordinator KOERNER, CC	Data Turnaround **45 Days**
oject Designation 183N Backwash Discharge Pond – Permit Monitoring 1998	Sampling Location 100N		SAF No. B98-009	
e Chest No.	Field Logbook No. EL-1309-1		Method of Shipment Hand Delivered	
hipped To Quanterra Incorporated	Offsite Property No.		Bill of Lading/Air Bill No.	

OSSIBLE SAMPLE HAZARDS/REMARKS

pecial Handling and/or Storage

SAMPLE ANALYSIS

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	Gs*	Gs*
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
	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)

Sample No.	Matrix *	Sample Date	Sample Time										
0MDL3	Water	11/13/97	0705	X	X	X	X	X	X	X	X	X	X
												3x100	3x100
												11-14	11-14

CHAIN OF POSSESSION

Sign/Print Names			
elinquished By R. Fahlberg / R. Fahlberg	Date/Time 11-13-97 11:30	Received By [illegible]	Date/Time 11-13-97 1130
elinquished By [illegible]	Date/Time 11-13-97 1600	Received By	Date/Time
elinquished By	Date/Time	Received By	Date/Time
elinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS

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

Quanterra
Environmental Services

BW+WP
013403

Login No.: 16282

Condition Upon Receipt Variance Report
St. Louis Laboratory

Client: Richland
Date: 11-14-97 Time: 0845
Project No: 550.230
Initiated by: [illegible]
Shipper/No: AB 5799675113
RFA/COC Numbers: No Rich COC B98-009

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: 1/0A's B98-009-03 [illegible]

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) [illegible] Date: 11-14-97
Project Management Review: [illegible] Date: 11/18/97

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

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

000020

Quanterra
Environmental Services

BWSWP 013425

Login No.: 16282

Condition Upon Receipt Variance Report
St. Louis Laboratory

Client: Richland

Date: 11-15-97 Time: 0920

Project No: 550.230

Initiated by: Fred Mitchell

Shipper/No: A/B 5999 675 710

RFA/COC Numbers: 177

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: Recv v-18 11-14-97

Corrective Action:

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

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

☐ Sample(s) processed "as is".

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

Sample Control Supervisor Review: (or designee) Fred Mitchell Date: 11-15-97

Project Management Review: [illegible] Date: 11/18/97

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

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

000021

Bechtel Hanford Incoporated
3350 George Washington Way
Richland, WA 99352

Project: 550.230

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

Client ID: BOMDL3

Sample Date : 11/13/97
Receipt Date : 11/13/97
Report Date : 12/18/97

Quanterra ID : 16282-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Acrylamide	79-06-1	QCBLK158923-1	11/20/97	11/20/97	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: BOMDL3

Sample Date : 11/13/97
Receipt Date : 11/13/97
Report Date : 12/18/97

Quanterra ID : 16282-001MS

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Acrylamide	79-06-1	QCBLK158923-1	11/20/97	11/20/97	112	%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: BOMDL3

Sample Date : 11/13/97
Receipt Date : 11/13/97
Report Date : 12/18/97

Quanterra ID : 16282-001MSD

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Acrylamide	79-06-1	QCBLK158923-1	11/20/97	11/20/97	113	%REC			1

1D
ACRYLAMIDE ANALYSIS DATA SHEET

EPA SAMPLE NO.
BOMDL3

Lab Name: QUANTERRA MO Contract: 550.230

Lab Code: ITMO Case No.: _____ SAS No.: _____ SDG No.: W02026

Matrix : (soil/water) WATER Lab Sample ID: 16282-001

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

Level: (low/med) LOW Date Sampled: 11-13-97

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

Extraction:(SepF/Cont/Sonc/Shak)_____ Date Analyzed: 11-20-97

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: BOMDL3

Sample Date : 11/13/97
Receipt Date : 11/13/97
Report Date : 12/18/97

Quanterra ID : 16282-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK159971-1	12/03/97	12/04/97	125	UG/L	B	200	1
Antimony	7440-36-0	QCBLK159971-1	12/03/97	12/04/97	36.1	UG/L	U	60.0	1
Barium	7440-39-3	QCBLK159971-1	12/03/97	12/04/97	25.8	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK159971-1	12/03/97	12/04/97	0.40	UG/L	U	5.0	1
Cadmium	7440-43-9	QCBLK159971-1	12/03/97	12/04/97	3.0	UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK159971-1	12/03/97	12/04/97	23900	UG/L		5000	1
Chromium	7440-47-3	QCBLK159971-1	12/03/97	12/04/97	3.5	UG/L	U	10.0	1
Cobalt	7440-48-4	QCBLK159971-1	12/03/97	12/04/97	4.2	UG/L	U	50.0	1
Copper	7440-50-8	QCBLK159971-1	12/03/97	12/04/97	8.7	UG/L	B	25.0	1
Iron	7439-89-6	QCBLK159971-1	12/03/97	12/04/97	454	UG/L		100	1
Magnesium	7439-95-4	QCBLK159971-1	12/03/97	12/04/97	4340	UG/L	B	5000	1
Manganese	7439-96-5	QCBLK159971-1	12/03/97	12/04/97	8.9	UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK159971-1	12/03/97	12/04/97	9.9	UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK159971-1	12/03/97	12/04/97	2640	UG/L	U	5000	1
Silver	7440-22-4	QCBLK159971-1	12/03/97	12/04/97	5.3	UG/L	U	10.0	1
Sodium	7440-23-5	QCBLK159971-1	12/03/97	12/04/97	5650	UG/L		5000	1
Vanadium	7440-62-2	QCBLK159971-1	12/03/97	12/04/97	6.6	UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK159971-1	12/03/97	12/04/97	22.7	UG/L		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: BOMDL3

Sample Date : 11/13/97
Receipt Date : 11/13/97
Report Date : 12/18/97

Quanterra ID : 16282-001MS

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK159971-1	12/03/97	12/04/97	89	%REC			1
Antimony	7440-36-0	QCBLK159971-1	12/03/97	12/04/97	88	%REC			1
Barium	7440-39-3	QCBLK159971-1	12/03/97	12/04/97	91	%REC			1
Beryllium	7440-41-7	QCBLK159971-1	12/03/97	12/04/97	96	%REC			1
Cadmium	7440-43-9	QCBLK159971-1	12/03/97	12/04/97	82	%REC			1
Calcium	7440-70-2	QCBLK159971-1	12/03/97	12/04/97	94	%REC			1
Chromium	7440-47-3	QCBLK159971-1	12/03/97	12/04/97	90	%REC			1
Cobalt	7440-48-4	QCBLK159971-1	12/03/97	12/04/97	91	%REC			1
Copper	7440-50-8	QCBLK159971-1	12/03/97	12/04/97	98	%REC			1
Iron	7439-89-6	QCBLK159971-1	12/03/97	12/04/97	93	%REC			1
Magnesium	7439-95-4	QCBLK159971-1	12/03/97	12/04/97	96	%REC			1
Manganese	7439-96-5	QCBLK159971-1	12/03/97	12/04/97	90	%REC			1
Nickel	7440-02-0	QCBLK159971-1	12/03/97	12/04/97	92	%REC			1
Potassium	7440-09-7	QCBLK159971-1	12/03/97	12/04/97	99	%REC			1
Silver	7440-22-4	QCBLK159971-1	12/03/97	12/04/97	92	%REC			1
Sodium	7440-23-5	QCBLK159971-1	12/03/97	12/04/97	93	%REC			1
Vanadium	7440-62-2	QCBLK159971-1	12/03/97	12/04/97	92	%REC			1
Zinc	7440-66-6	QCBLK159971-1	12/03/97	12/04/97	93	%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

Sample Date : 11/13/97
Receipt Date : 11/13/97
Report Date : 12/18/97

Client ID: BOMDL3

Quanterra ID : 16282-001MSD

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK159971-1	12/03/97	12/04/97	89	%REC			1
Antimony	7440-36-0	QCBLK159971-1	12/03/97	12/04/97	96	%REC			1
Barium	7440-39-3	QCBLK159971-1	12/03/97	12/04/97	91	%REC			1
Beryllium	7440-41-7	QCBLK159971-1	12/03/97	12/04/97	96	%REC			1
Cadmium	7440-43-9	QCBLK159971-1	12/03/97	12/04/97	84	%REC			1
Calcium	7440-70-2	QCBLK159971-1	12/03/97	12/04/97	92	%REC			1
Chromium	7440-47-3	QCBLK159971-1	12/03/97	12/04/97	89	%REC			1
Cobalt	7440-48-4	QCBLK159971-1	12/03/97	12/04/97	91	%REC			1
Copper	7440-50-8	QCBLK159971-1	12/03/97	12/04/97	96	%REC			1
Iron	7439-89-6	QCBLK159971-1	12/03/97	12/04/97	92	%REC			1
Magnesium	7439-95-4	QCBLK159971-1	12/03/97	12/04/97	96	%REC			1
Manganese	7439-96-5	QCBLK159971-1	12/03/97	12/04/97	90	%REC			1
Nickel	7440-02-0	QCBLK159971-1	12/03/97	12/04/97	93	%REC			1
Potassium	7440-09-7	QCBLK159971-1	12/03/97	12/04/97	98	%REC			1
Silver	7440-22-4	QCBLK159971-1	12/03/97	12/04/97	90	%REC			1
Sodium	7440-23-5	QCBLK159971-1	12/03/97	12/04/97	92	%REC			1
Vanadium	7440-62-2	QCBLK159971-1	12/03/97	12/04/97	92	%REC			1
Zinc	7440-66-6	QCBLK159971-1	12/03/97	12/04/97	92	%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 : 11/13/97
Receipt Date : 11/13/97
Report Date : 12/18/97

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil
BOMDL3	16282-001	Arsenic	7440-38-2	QCBLK160532-1	12/11/97	12/11/97	1.6	UG/L	U	10.0	1
BOMDL3	16282-001MS	Arsenic	7440-38-2	QCBLK160532-1	12/11/97	12/11/97	97	%REC			1
BOMDL3	16282-001MSD	Arsenic	7440-38-2	QCBLK160532-1	12/11/97	12/11/97	97	%REC			1
NA	QCLCS160532-1	Arsenic	7440-38-2	QCBLK160532-1	12/11/97	12/11/97	101	%REC			1
NA	QCBLK160532-1	Arsenic	7440-38-2	QCBLK160532-1	12/11/97	12/11/97	1.6	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.: W02026

SOW No.: SW846

EPA Sample No.	Lab Sample ID
B0MDL3	16282-001
B0MDL3SD	16282-001SD
B0MDL3S	16282-001S

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.

B0MDL3

Lab Name: QUANTERRA_MO Contract: 550.230

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02026

Matrix (soil/water): WATER Lab Sample ID: 16282-001

Level (low/med): LOW Date Received: 11/13/97

% 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	125	B		P
7440-36-0	Antimony	36.1	U		P
7440-38-2	Arsenic	1.6	U		F
7440-39-3	Barium	25.8	B		P
7440-41-7	Beryllium	0.40	U		P
7440-43-9	Cadmium	3.0	U		P
7440-70-2	Calcium	23900			P
7440-47-3	Chromium	3.5	U		P
7440-48-4	Cobalt	4.2	U		P
7440-50-8	Copper	8.7	B		P
7439-89-6	Iron	454			P
7439-95-4	Magnesium	4340	B		P
7439-96-5	Manganese	8.9	B		P
7440-02-0	Nickel	9.9	U		P
7440-09-7	Potassium	2640	U		P
7440-22-4	Silver	5.3	U		P
7440-23-5	Sodium	5650			P
7440-62-2	Vanadium	6.6	B		P
7440-66-6	Zinc	22.7			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: Volatiles 8260 (TCL)
Method: EPA 8260
Matrix: LIQUID

Sample Date : 10/30/97
Receipt Date : 10/30/97
Report Date : 12/19/97

Client ID: BOM8T9

Quanterra ID : 16190-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	QCBLK158254-1	11/06/97	11/06/97	10	UG/L	U	10	1
Bromomethane	74-83-9	QCBLK158254-1	11/06/97	11/06/97	10	UG/L	U	10	1
Vinyl Chloride	75-01-4	QCBLK158254-1	11/06/97	11/06/97	10	UG/L	U	10	1
Chloroethane	75-00-3	QCBLK158254-1	11/06/97	11/06/97	10	UG/L	U	10	1
Methylene Chloride	75-09-2	QCBLK158254-1	11/06/97	11/06/97	2	UG/L	BJ	5	1
Acetone	67-64-1	QCBLK158254-1	11/06/97	11/06/97	21	UG/L		20	1
Carbon Disulfide	75-15-0	QCBLK158254-1	11/06/97	11/06/97	5	UG/L	U	5	1
1,1-Dichloroethene	75-35-4	QCBLK158254-1	11/06/97	11/06/97	5	UG/L	U	5	1
1,1-Dichloroethane	75-34-3	QCBLK158254-1	11/06/97	11/06/97	5	UG/L	U	5	1
1,2-Dichloroethene (total)	540-59-0	QCBLK158254-1	11/06/97	11/06/97	5	UG/L	U	5	1
Chloroform	67-66-3	QCBLK158254-1	11/06/97	11/06/97	5	UG/L	U	5	1
1,2-Dichloroethane	107-06-2	QCBLK158254-1	11/06/97	11/06/97	5	UG/L	U	5	1
2-Butanone (MEK)	78-93-3	QCBLK158254-1	11/06/97	11/06/97	20	UG/L	U	20	1
1,1,1-Trichloroethane	71-55-6	QCBLK158254-1	11/06/97	11/06/97	5	UG/L	U	5	1
Carbon Tetrachloride	56-23-5	QCBLK158254-1	11/06/97	11/06/97	5	UG/L	U	5	1
Bromodichloromethane	75-27-4	QCBLK158254-1	11/06/97	11/06/97	1	UG/L	J	5	1
1,2-Dichloropropane	78-87-5	QCBLK158254-1	11/06/97	11/06/97	5	UG/L	U	5	1
cis-1,3-Dichloropropene	10061-01-5	QCBLK158254-1	11/06/97	11/06/97	5	UG/L	U	5	1
Trichloroethene	79-01-6	QCBLK158254-1	11/06/97	11/06/97	5	UG/L	U	5	1
Dibromochloromethane	124-48-1	QCBLK158254-1	11/06/97	11/06/97	5	UG/L	U	5	1
1,1,2-Trichloroethane	79-00-5	QCBLK158254-1	11/06/97	11/06/97	5	UG/L	U	5	1
Benzene	71-43-2	QCBLK158254-1	11/06/97	11/06/97	5	UG/L	U	5	1
trans-1,3-Dichloropropene	10061-02-6	QCBLK158254-1	11/06/97	11/06/97	5	UG/L	U	5	1
Bromoform	75-25-2	QCBLK158254-1	11/06/97	11/06/97	5	UG/L	U	5	1
4-Methyl-2-Pentanone (MIBK)	108-10-1	QCBLK158254-1	11/06/97	11/06/97	20	UG/L	U	20	1
2-Hexanone	591-78-6	QCBLK158254-1	11/06/97	11/06/97	20	UG/L	U	20	1
Tetrachloroethene	127-18-4	QCBLK158254-1	11/06/97	11/06/97	5	UG/L	U	5	1
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK158254-1	11/06/97	11/06/97	5	UG/L	U	5	1
Toluene	108-88-3	QCBLK158254-1	11/06/97	11/06/97	5	UG/L	U	5	1
Chlorobenzene	108-90-7	QCBLK158254-1	11/06/97	11/06/97	5	UG/L	U	5	1
EthylBenzene	100-41-4	QCBLK158254-1	11/06/97	11/06/97	5	UG/L	U	5	1
Styrene	100-42-5	QCBLK158254-1	11/06/97	11/06/97	5	UG/L	U	5	1
Xylene (total)	1330-20-7	QCBLK158254-1	11/06/97	11/06/97	5	UG/L	U	5	1
Toluene-d8	2037-26-5	QCBLK158254-1	11/06/97	11/06/97	112	%REC			1
Bromofluorobenzene	460-00-4	QCBLK158254-1	11/06/97	11/06/97	91	%REC			1
Dibromofluoromethane	1868-53-7	QCBLK158254-1	11/06/97	11/06/97	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: BOMDL3

Sample Date : 11/13/97
Receipt Date : 11/13/97
Report Date : 12/18/97

Quanterra ID : 16282-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	QCBLK159549-1	11/25/97	11/25/97	10	UG/L	U	10	5
Bromomethane	74-83-9	QCBLK159549-1	11/25/97	11/25/97	10	UG/L	U	10	5
Vinyl Chloride	75-01-4	QCBLK159549-1	11/25/97	11/25/97	10	UG/L	U	10	5
Chloroethane	75-00-3	QCBLK159549-1	11/25/97	11/25/97	10	UG/L	U	10	5
Methylene Chloride	75-09-2	QCBLK159549-1	11/25/97	11/25/97	5	UG/L	U	5	5
Acetone	67-64-1	QCBLK159549-1	11/25/97	11/25/97	38	UG/L	B	20	5
Carbon Disulfide	75-15-0	QCBLK159549-1	11/25/97	11/25/97	5	UG/L	U	5	5
1,1-Dichloroethene	75-35-4	QCBLK159549-1	11/25/97	11/25/97	5	UG/L	U	5	5
1,1-Dichloroethane	75-34-3	QCBLK159549-1	11/25/97	11/25/97	5	UG/L	U	5	5
1,2-Dichloroethene (total)	540-59-0	QCBLK159549-1	11/25/97	11/25/97	5	UG/L	U	5	5
Chloroform	67-66-3	QCBLK159549-1	11/25/97	11/25/97	50	UG/L		5	5
1,2-Dichloroethane	107-06-2	QCBLK159549-1	11/25/97	11/25/97	5	UG/L	U	5	5
2-Butanone (MEK)	78-93-3	QCBLK159549-1	11/25/97	11/25/97	20	UG/L	U	20	5
1,1,1-Trichloroethane	71-55-6	QCBLK159549-1	11/25/97	11/25/97	5	UG/L	U	5	5
Carbon Tetrachloride	56-23-5	QCBLK159549-1	11/25/97	11/25/97	5	UG/L	U	5	5
Bromodichloromethane	75-27-4	QCBLK159549-1	11/25/97	11/25/97	5	UG/L	U	5	5
1,2-Dichloropropane	78-87-5	QCBLK159549-1	11/25/97	11/25/97	5	UG/L	U	5	5
cis-1,3-Dichloropropene	10061-01-5	QCBLK159549-1	11/25/97	11/25/97	5	UG/L	U	5	5
Trichloroethene	79-01-6	QCBLK159549-1	11/25/97	11/25/97	1	UG/L	BJ	5	5
Dibromochloromethane	124-48-1	QCBLK159549-1	11/25/97	11/25/97	5	UG/L	U	5	5
1,1,2-Trichloroethane	79-00-5	QCBLK159549-1	11/25/97	11/25/97	5	UG/L	U	5	5
Benzene	71-43-2	QCBLK159549-1	11/25/97	11/25/97	5	UG/L	U	5	5
trans-1,3-Dichloropropene	10061-02-6	QCBLK159549-1	11/25/97	11/25/97	5	UG/L	U	5	5
Bromoform	75-25-2	QCBLK159549-1	11/25/97	11/25/97	5	UG/L	U	5	5
4-Methyl-2-Pentanone (MIBK)	108-10-1	QCBLK159549-1	11/25/97	11/25/97	20	UG/L	U	20	5
2-Hexanone	591-78-6	QCBLK159549-1	11/25/97	11/25/97	20	UG/L	U	20	5
Tetrachloroethene	127-18-4	QCBLK159549-1	11/25/97	11/25/97	5	UG/L	U	5	5
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK159549-1	11/25/97	11/25/97	5	UG/L	U	5	5
Toluene	108-88-3	QCBLK159549-1	11/25/97	11/25/97	5	UG/L	U	5	5
Chlorobenzene	108-90-7	QCBLK159549-1	11/25/97	11/25/97	5	UG/L	U	5	5
EthylBenzene	100-41-4	QCBLK159549-1	11/25/97	11/25/97	5	UG/L	U	5	5
Styrene	100-42-5	QCBLK159549-1	11/25/97	11/25/97	5	UG/L	U	5	5
Xylene (total)	1330-20-7	QCBLK159549-1	11/25/97	11/25/97	5	UG/L	U	5	5
Toluene-d8	2037-26-5	QCBLK159549-1	11/25/97	11/25/97	106	%REC			5
Bromofluorobenzene	460-00-4	QCBLK159549-1	11/25/97	11/25/97	107	%REC			5
Dibromofluoromethane	1868-53-7	QCBLK159549-1	11/25/97	11/25/97	99	%REC			5

Bechtel Hanford Incoporated
3350 George Washington Way
Richland, WA 99352

Project: 550.230

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

Client ID: B0M8T9

Sample Date : 10/30/97
Receipt Date : 10/30/97
Report Date : 12/18/97

Quanterra ID : 16190-001MS

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
1,1-Dichloroethene	75-35-4	QCBLK158377-1	11/10/97	11/10/97	167	%REC			1
Trichloroethene	79-01-6	QCBLK158377-1	11/10/97	11/10/97	105	%REC			1
Benzene	71-43-2	QCBLK158377-1	11/10/97	11/10/97	115	%REC			1
Toluene	108-88-3	QCBLK158377-1	11/10/97	11/10/97	101	%REC			1
Chlorobenzene	108-90-7	QCBLK158377-1	11/10/97	11/10/97	103	%REC			1
Toluene-d8	2037-26-5	QCBLK158377-1	11/10/97	11/10/97	92	%REC			1
Bromofluorobenzene	460-00-4	QCBLK158377-1	11/10/97	11/10/97	98	%REC			1
Dibromofluoromethane	1868-53-7	QCBLK158377-1	11/10/97	11/10/97	96	%REC			1

Bechtel Hanford Incoporated
3350 George Washington Way
Richland, WA 99352

Project: 550.230

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

Sample Date : 10/30/97
Receipt Date : 10/30/97
Report Date : 12/18/97

Client ID: B0M8T9

Quanterra ID : 16190-001MSD

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
1,1-Dichloroethene	75-35-4	QCBLK158377-1	11/10/97	11/10/97	164	%REC			1
Trichloroethene	79-01-6	QCBLK158377-1	11/10/97	11/10/97	109	%REC			1
Benzene	71-43-2	QCBLK158377-1	11/10/97	11/10/97	112	%REC			1
Toluene	108-88-3	QCBLK158377-1	11/10/97	11/10/97	104	%REC			1
Chlorobenzene	108-90-7	QCBLK158377-1	11/10/97	11/10/97	103	%REC			1
Toluene-d8	2037-26-5	QCBLK158377-1	11/10/97	11/10/97	95	%REC			1
Bromofluorobenzene	460-00-4	QCBLK158377-1	11/10/97	11/10/97	95	%REC			1
Dibromofluoromethane	1868-53-7	QCBLK158377-1	11/10/97	11/10/97	91	%REC			1

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOM8T9

Lab Name: QUANTERRA MO Contract: 550.230

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02026

Matrix: (soil/water) WATER Lab Sample ID: 16190-001

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: ESMP0111

Level: (low/med) LOW Date Received: 10/30/97

% Moisture: not dec. _____ Date Analyzed: 11/06/97

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	JB
67-64-1	Acetone	21	
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	20	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
75-27-4	Bromodichloromethane	1	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.

BOM8T9

Lab Name: QUANTERRA MO Contract: 550.230

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02026

Matrix: (soil/water) WATER Lab Sample ID: 16190-001

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: ESMP0111

Level: (low/med) LOW Date Received: 10/30/97

% Moisture: not dec. _____ Date Analyzed: 11/06/97

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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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0MDL3

Lab Name: QUANTERRA MO Contract: 550-230

Lab Code: ITMO Case No.: V28201 SAS No.: SDG No.: W02026

Matrix: (soil/water) WATER Lab Sample ID: 16282-001

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: G0100

Level: (low/med) LOW Date Received: 11/13/97

% Moisture: not dec. Date Analyzed: 11/25/97

GC Column: RTX-502.2 ID: 0.530 (mm) Dilution Factor: 5.0

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	38	B
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	50	
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	1	BJ
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	20	U
591-78-6	2-Hexanone	20	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B0MDL3

Lab Name: QUANTERRA MO Contract: 550-230

Lab Code: ITMO Case No.: V28201 SAS No.: SDG No.: W02026

Matrix: (soil/water) WATER Lab Sample ID: 16282-001

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: G0100

Level: (low/med) LOW Date Received: 11/13/97

% Moisture: not dec. Date Analyzed: 11/25/97

GC Column: RTX-502.2 ID: 0.530 (mm) Dilution Factor: 5.0

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

4A
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK01

Lab Name: QUANTERRA MO Contract: 550-230

Lab Code: ITMO Case No.: V28201 SAS No.: SDG No.: W02026

Lab File ID: G0093 Lab Sample ID: QCBLK159549

Date Analyzed: 11/25/97 Time Analyzed: 0732

GC Column: RTX-502.2 ID: 0.530(mm) Heated Purge: (Y/N) N

Instrument ID: MSG

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	B0MDL3	16282-001	G0100	1221

COMMENTS:

FORM IV VOA

~~000096~~
000074C

3/90

Bechtel Hanford Incoporated
3350 George Washington Way
Richland, WA 99352

Project: 550.230

Category: VOA-8240A (Appendix IX)
Method: EPA 8240
Matrix: LIQUID

Client ID: BOMDL3

Sample Date : 11/13/97
Receipt Date : 11/13/97
Report Date : 12/18/97

Quanterra ID : 16282-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Dichlorodifluoromethane	75-71-8	QCBLK159346-1	11/21/97	11/21/97	10	UG/L	U	10	1
Chloromethane	74-87-3	QCBLK159346-1	11/21/97	11/21/97	10	UG/L	U	10	1
Bromomethane	74-83-9	QCBLK159346-1	11/21/97	11/21/97	10	UG/L	U	10	1
Vinyl Chloride	75-01-4	QCBLK159346-1	11/21/97	11/21/97	10	UG/L	U	10	1
Chloroethane	75-00-3	QCBLK159346-1	11/21/97	11/21/97	10	UG/L	U	10	1
Acrolein	107-02-8	QCBLK159346-1	11/21/97	11/21/97	100	UG/L	U	100	1
Methylene Chloride	75-09-2	QCBLK159346-1	11/21/97	11/21/97	5	UG/L	U	5	1
Acetone	67-64-1	QCBLK159346-1	11/21/97	11/21/97	10	UG/L	J	20	1
Trichlorofluoromethane	75-69-4	QCBLK159346-1	11/21/97	11/21/97	10	UG/L	U	10	1
Allyl chloride	107-05-1	QCBLK159346-1	11/21/97	11/21/97	10	UG/L	U	10	1
Carbon Disulfide	75-15-0	QCBLK159346-1	11/21/97	11/21/97	5	UG/L	U	5	1
1,1-Dichloroethene	75-35-4	QCBLK159346-1	11/21/97	11/21/97	5	UG/L	U	5	1
Acetonitrile	75-05-8	QCBLK159346-1	11/21/97	11/21/97	100	UG/L	U	100	1
Acrylonitrile	107-13-1	QCBLK159346-1	11/21/97	11/21/97	100	UG/L	U	100	1
Propionitrile	107-12-0	QCBLK159346-1	11/21/97	11/21/97	20	UG/L	U	20	1
1,1-Dichloroethane	75-34-3	QCBLK159346-1	11/21/97	11/21/97	5	UG/L	U	5	1
trans-1,2-Dichloroethene	156-60-5	QCBLK159346-1	11/21/97	11/21/97	2	UG/L	U	2	1
Iodomethane	74-88-4	QCBLK159346-1	11/21/97	11/21/97	5	UG/L	U	5	1
Chloroform	67-66-3	QCBLK159346-1	11/21/97	11/21/97	46	UG/L		5	1
1,2-Dichloroethane	107-06-2	QCBLK159346-1	11/21/97	11/21/97	5	UG/L	U	5	1
2-Chloro-1,3-butadiene	126-99-8	QCBLK159346-1	11/21/97	11/21/97	5	UG/L	U	5	1
Methacrylonitrile	126-98-7	QCBLK159346-1	11/21/97	11/21/97	5	UG/L	U	5	1
2-Butanone (MEK)	78-93-3	QCBLK159346-1	11/21/97	11/21/97	20	UG/L	U	20	1
Isobutyl alcohol	78-83-1	QCBLK159346-1	11/21/97	11/21/97	200	UG/L	U	200	1
1,1,1-Trichloroethane	71-55-6	QCBLK159346-1	11/21/97	11/21/97	5	UG/L	U	5	1
Carbon Tetrachloride	56-23-5	QCBLK159346-1	11/21/97	11/21/97	5	UG/L	U	5	1
Vinyl Acetate	108-05-4	QCBLK159346-1	11/21/97	11/21/97	10	UG/L	U	10	1
Bromodichloromethane	75-27-4	QCBLK159346-1	11/21/97	11/21/97	5	UG/L	U	5	1
1,2-Dichloropropane	78-87-5	QCBLK159346-1	11/21/97	11/21/97	5	UG/L	U	5	1
cis-1,3-Dichloropropene	10061-01-5	QCBLK159346-1	11/21/97	11/21/97	5	UG/L	U	5	1
Methyl methacrylate	80-62-6	QCBLK159346-1	11/21/97	11/21/97	5	UG/L	U	5	1
Trichloroethene	79-01-6	QCBLK159346-1	11/21/97	11/21/97	5	UG/L	U	5	1
Ethyl methacrylate	97-63-2	QCBLK159346-1	11/21/97	11/21/97	5	UG/L	U	5	1
1,1,2-Trichloroethane	79-00-5	QCBLK159346-1	11/21/97	11/21/97	5	UG/L	U	5	1
Benzene	71-43-2	QCBLK159346-1	11/21/97	11/21/97	5	UG/L	U	5	1
Dibromomethane	74-95-3	QCBLK159346-1	11/21/97	11/21/97	5	UG/L	U	5	1
trans-1,3-Dichloropropene	10061-02-6	QCBLK159346-1	11/21/97	11/21/97	5	UG/L	U	5	1
Bromoform	75-25-2	QCBLK159346-1	11/21/97	11/21/97	5	UG/L	U	5	1
1,2-Dibromoethane	106-93-4	QCBLK159346-1	11/21/97	11/21/97	5	UG/L	U	5	1
1,4-Dioxane	123-91-1	QCBLK159346-1	11/21/97	11/21/97	500	UG/L	U	500	1
4-Methyl-2-Pentanone (MIBK)	108-10-1	QCBLK159346-1	11/21/97	11/21/97	20	UG/L	U	20	1
2-Hexanone	591-78-6	QCBLK159346-1	11/21/97	11/21/97	20	UG/L	U	20	1
Tetrachloroethene	127-18-4	QCBLK159346-1	11/21/97	11/21/97	5	UG/L	U	5	1
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK159346-1	11/21/97	11/21/97	5	UG/L	U	5	1
Dibromochloromethane	124-48-1	QCBLK159346-1	11/21/97	11/21/97	5	UG/L	U	5	1
Toluene	108-88-3	QCBLK159346-1	11/21/97	11/21/97	5	UG/L	U	5	1
Chlorobenzene	108-90-7	QCBLK159346-1	11/21/97	11/21/97	5	UG/L	U	5	1
1,1,1,2-Tetrachloroethane	630-20-6	QCBLK159346-1	11/21/97	11/21/97	5	UG/L	U	5	1
EthylBenzene	100-41-4	QCBLK159346-1	11/21/97	11/21/97	5	UG/L	U	5	1
Styrene	100-42-5	QCBLK159346-1	11/21/97	11/21/97	5	UG/L	U	5	1
trans,1,4-Dichloro-2-butene	110-57-6	QCBLK159346-1	11/21/97	11/21/97	5	UG/L	U	5	1
Xylene (total)	1330-20-7	QCBLK159346-1	11/21/97	11/21/97	5	UG/L	U	5	1
Pentachloroethane	76-01-7	QCBLK159346-1	11/21/97	11/21/97	10	UG/L	U	10	1
1,2,3-Trichloropropane	96-18-4	QCBLK159346-1	11/21/97	11/21/97	5	UG/L	U	5	1
1,2-Dibromo-3-chloropropane	96-12-8	QCBLK159346-1	11/21/97	11/21/97	10	UG/L	U	10	1
Toluene-d8	2037-26-5	QCBLK159346-1	11/21/97	11/21/97	101	%REC			1
Bromofluorobenzene	460-00-4	QCBLK159346-1	11/21/97	11/21/97	91	%REC			1
Dibromofluoromethane	1868-53-7	QCBLK159346-1	11/21/97	11/21/97	98	%REC			1

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Project: 550.230

Category: VOA-8240A (Appendix IX)
Method: EPA 8240
Matrix: LIQUID

Client ID: BOMDL3

Sample Date : 11/13/97
Receipt Date : 11/13/97
Report Date : 12/18/97

Quanterra ID : 16282-001MS

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
1,1-Dichloroethene	75-35-4	QCBLK159346-1	11/21/97	11/21/97	125	%REC			1
Trichloroethene	79-01-6	QCBLK159346-1	11/21/97	11/21/97	89	%REC			1
Benzene	71-43-2	QCBLK159346-1	11/21/97	11/21/97	91	%REC			1
Toluene	108-88-3	QCBLK159346-1	11/21/97	11/21/97	88	%REC			1
Chlorobenzene	108-90-7	QCBLK159346-1	11/21/97	11/21/97	91	%REC			1
Toluene-d8	2037-26-5	QCBLK159346-1	11/21/97	11/21/97	98	%REC			1
Bromofluorobenzene	460-00-4	QCBLK159346-1	11/21/97	11/21/97	91	%REC			1
Dibromofluoromethane	1868-53-7	QCBLK159346-1	11/21/97	11/21/97	103	%REC			1

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Project: 550.230

Category: VOA-8240A (Appendix IX)
Method: EPA 8240
Matrix: LIQUID

Client ID: BOMDL3

Sample Date : 11/13/97
Receipt Date : 11/13/97
Report Date : 12/18/97

Quanterra ID : 16282-001MSD

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
1,1-Dichloroethene	75-35-4	QCBLK159346-1	11/21/97	11/21/97	122	%REC			1
Trichloroethene	79-01-6	QCBLK159346-1	11/21/97	11/21/97	90	%REC			1
Benzene	71-43-2	QCBLK159346-1	11/21/97	11/21/97	93	%REC			1
Toluene	108-88-3	QCBLK159346-1	11/21/97	11/21/97	91	%REC			1
Chlorobenzene	108-90-7	QCBLK159346-1	11/21/97	11/21/97	93	%REC			1
Toluene-d8	2037-26-5	QCBLK159346-1	11/21/97	11/21/97	98	%REC			1
Bromofluorobenzene	460-00-4	QCBLK159346-1	11/21/97	11/21/97	93	%REC			1
Dibromofluoromethane	1868-53-7	QCBLK159346-1	11/21/97	11/21/97	106	%REC			1

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

B0MDL3

Lab Name: QUANTERRA MO Contract: 550-230

Lab Code: ITMO Case No.: V28201 SAS No.: SDG No.: W02026

Matrix: (soil/water) WATER Lab Sample ID: 16282-001

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: G0045

Level: (low/med) LOW Date Received: 11/13/97

% Moisture: not dec. Date Analyzed: 11/21/97

GC Column: RTX-502.2 ID: 0.530 (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
75-71-8	Dichlorodifluoromethane	10	U
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
107-02-8	Acrolein	100	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	10	J
75-69-4	Trichlorofluoromethane	10	U
107-05-1	Allyl chloride	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-05-8	Acetonitrile	100	U
107-13-1	Acrylonitrile	100	U
107-12-0	Propionitrile	20	U
75-34-3	1,1-Dichloroethane	5	U
156-60-5	Trans-1,2-Dichloroethene	2	U
74-88-4	Iodomethane	5	U
67-66-3	Chloroform	46	
107-06-2	1,2-Dichloroethane	5	U
126-99-8	2-Chlor-1,3-Butadiene	5	U
126-98-7	Methacrylonitrile	5	U
78-93-3	2-Butanone	20	U
78-83-1	Isobutyl alcohol	200	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

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

B0MDL3

Lab Name: QUANTERRA MO Contract: 550-230

Lab Code: ITMO Case No.: V28201 SAS No.: SDG No.: W02026

Matrix: (soil/water) WATER Lab Sample ID: 16282-001

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: G0045

Level: (low/med) LOW Date Received: 11/13/97

% Moisture: not dec. Date Analyzed: 11/21/97

GC Column: RTX-502.2 ID: 0.530 (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
10061-01-5	cis-1,3-Dichloropropene	5	U
80-62-6	Methyl methacrylate	5	U
79-01-6	Trichloroethene	5	U
97-63-2	Ethyl methacrylate	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
74-95-3	Dibromomethane	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
106-93-4	1,2-Dibromoethane	5	U
123-91-1	1,4-Dioxane	500	U
108-10-1	4-Methyl-2-Pentanone	20	U
591-78-6	2-Hexanone	20	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
124-48-1	Dibromochloromethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
630-20-6	1,1,1,2-Tetrachloroethane	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
110-57-6	trans-1,4-Dichloro-2-butene	5	U
1330-20-7	Xylene (total)	5	U
76-01-7	Pentachloroethane	10	U
96-18-4	1,2,3-Trichloropropane	5	U
96-12-8	1,2-Dibromo-3-Chloropropane	10	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B0MDL3

Lab Name: QUANTERRA MO Contract: 550-230

Lab Code: ITMO Case No.: V28201 SAS No.: SDG No.: W02026

Matrix: (soil/water) WATER Lab Sample ID: 16282-001

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: G0045

Level: (low/med) LOW Date Received: 11/13/97

% Moisture: not dec. Date Analyzed: 11/21/97

GC Column: RTX-502.2 ID: 0.530 (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

C00083

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Project: 550.230

Category: Sulfate
Method: EPA 375.4
Matrix: LIQUID

Sample Date : 10/30/97
Receipt Date : 10/30/97
Report Date : 11/17/97

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil
B0M8T9	16190-001	Sulfate	14808-79-8	QCBLK158622-1	11/12/97	11/12/97	34.8	MG/L		5.00	1
B0M8T9	16190-001DUP	Sulfate	14808-79-8	QCBLK158622-1	11/12/97	11/12/97	37.2	MG/L		5.00	1
B0M8T9	16190-001MS	Sulfate	14808-79-8	QCBLK158622-1	11/12/97	11/12/97	92	%REC			1
NA	QCBLK158622-1	Sulfate	14808-79-8	QCBLK158622-1	11/12/97	11/12/97	5.00	MG/L	U	5.00	1
NA	QCLCS158622-1	Sulfate	14808-79-8	QCBLK158622-1	11/12/97	11/12/97	81	%REC			1

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Project: 550.230

Category: Sulfate
Method: EPA 375.4
Matrix: LIQUID

Sample Date : 11/13/97
Receipt Date : 11/13/97
Report Date : 12/19/97

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil
BOMDL3	16282-001	Sulfate	14808-79-8	QCBLK160152-1	12/04/97	12/04/97	34.2	MG/L		5.00	1
NA	QCBLK160152-1	Sulfate	14808-79-8	QCBLK160152-1	12/04/97	12/04/97	5.00	MG/L	U	5.00	1
NA	QCLCS160152-1	Sulfate	14808-79-8	QCBLK160152-1	12/04/97	12/04/97	98	%REC			1

Bechtel Hanford Incoporated
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Project: 550.230

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

Sample Date : 10/30/97
Receipt Date : 10/30/97
Report Date : 11/14/97

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil
B0M8T9	16190-001	pH	PH	QCBLK158228-1	11/06/97	11/06/97	6.49	PH			1
B0M8T9	16190-001DUP	pH	PH	QCBLK158228-1	11/06/97	11/06/97	6.62	PH			1
NA	QCBLK158228-1	pH	PH	QCBLK158228-1	11/06/97	11/06/97	5.03	PH			1

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Project: 550.230

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

Sample Date : 11/13/97
Receipt Date : 11/13/97
Report Date : 12/19/97

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil
BOMDL3	16282-001	pH	PH	QCBLK159320-1	11/20/97	11/20/97	6.62	PH			1
NA	QCBLK159320-1	pH	PH	QCBLK159320-1	11/20/97	11/20/97	4.64	PH			1

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Project: 550.230

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

Sample Date : 10/30/97
Receipt Date : 10/30/97
Report Date : 11/18/97

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil
B0M8T9	16190-001	Residual Chlori	7782-50-5	QCBLK158230-1	11/06/97	11/06/97	0.10	MG/L	U	0.10	1
80M8T9	16190-001DUP	Residual Chlori	7782-50-5	QCBLK158230-1	11/06/97	11/06/97	0.10	MG/L	U	0.10	1
NA	QCBLK158230-1	Residual Chlori	7782-50-5	QCBLK158230-1	11/06/97	11/06/97	0.10	MG/L	U	0.10	1
NA	QCLCS158230-1	Residual Chlori	7782-50-5	QCBLK158230-1	11/06/97	11/06/97	101	%REC			1

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Project: 550.230

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

Sample Date : 11/13/97
Receipt Date : 11/13/97
Report Date : 12/19/97

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil
B0M0L3	16282-001	Residual Chlori	7782-50-5a	QCBLK159319-1	11/20/97	11/20/97	0.10	MG/L	U	0.10	1
NA	QCBLK159319-1	Residual Chlori	7782-50-5a	QCBLK159319-1	11/20/97	11/20/97	0.10	MG/L	U	0.10	1
NA	QCLCS159319-1	Residual Chlori	7782-50-5a	QCBLK159319-1	11/20/97	11/20/97	103	%REC			1

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Project: 550.230

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

Sample Date : 11/13/97
Receipt Date : 11/13/97
Report Date : 12/19/97

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil
BOMDL3	16282-001	Total Suspended	TSS	QCBLK159197-1	11/19/97	11/19/97	2.0	MG/L		1.00	1
BOMDL3	16282-001DUP	Total Suspended	TSS	QCBLK159197-1	11/19/97	11/19/97	1.0	MG/L		1.00	1
NA	QCBLK159197-1	Total Suspended	TSS	QCBLK159197-1	11/19/97	11/19/97	1.00	MG/L	U	1.00	1
NA	QCLCS159197-1	Total Suspended	TSS	QCBLK159197-1	11/19/97	11/19/97	102	%REC			1

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Project: 550.230

Category: TDS
Method: EPA 160.1
Matrix: LIQUID

Sample Date : 11/13/97
Receipt Date : 11/13/97
Report Date : 12/18/97

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil
BOMDL3	16282-001	Total Dissolved	TDS	QCBLK159198-1	11/19/97	11/19/97	147	MG/L		5.00	1
BOMDL3	16282-001DUP	Total Dissolved	TDS	QCBLK159198-1	11/19/97	11/19/97	135	MG/L		5.00	1
NA	QCBLK159198-1	Total Dissolved	TDS	QCBLK159198-1	11/19/97	11/19/97	5.00	MG/L	U	5.00	1
NA	QCLCS159198-1	Total Dissolved	TDS	QCBLK159198-1	11/19/97	11/19/97	100	%REC			1