START 9613447.0015

0044381 . W0695

Quanterra
Environmental Services

Quanterra Incorporated
13715 Rider Trail North
Earth City, Missouri 63045

314 298-8566 Telephone
314 298-8757 Fax

CERTIFICATE OF ANALYSIS

Bechtel Hanford Incorporated
P.O. Box 1970
Richland, Washington 99352

September 19, 1995

Attention: Joan Kessner

JUN 1996 RECEIVED EDMC

OCT 1995 RECEIVED Data Log In

Project number	:	550.102
Dates Received by Lab	:	August 31, 1995
Number of Samples	:	Two (2)
Sample Type	:	Water
SDG Number	:	W0695
Data Deliverable	:	Summary

I. Introduction

On August 31, 1995, two (2) water samples were received by Quanterra, Richland and transferred to Quanterra, St. Louis for chemical analysis. Upon receipt, the samples were given the following laboratory ID numbers to correspond with their specific client ID's:

St Louis ID	WHC ID	Richland ID	Matrix	Date of Receipt
9263-001	B0GJP1	50849801	Water	08/31/95
9263-002	B0GJP2	50849802	Water	08/31/95

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: Chloride, Fluoride, Nitrite, Nitrate, Phosphate and Sulfate by EPA method 300.0. ICAP Metals by EPA method 6010. Volatiles by EPA 8240.

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III. Quality Control

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

IV. Definitions

The following codes are used to denote laboratory quality control samples and can be found in the data summary section of this report:

QCBLK- Quality Control Blank, Method Blank
QCLCS- Quality Control Laboratory Control Sample, Blank Spike

V. Comments

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

Due to high levels of sodium in 9263-002 a 20-fold dilution was performed to reduce the interferences in the analysis of silver and potassium.

The holding times were waived for the Nitrate, Nitrite and Phosphate analyses.

Sample 9263-002 was diluted to reduce some interfering peaks on the ion chromatogram which resulted in increased detection limits for the Nitrate and Phosphate analyses.

Fluoride was diluted 200 times and Nitrite was diluted 1000 times due to interfering unknown peaks, which in turn raised the detection limits on sample 9263-002.

Fluoride was reintegrated on sample 9263-001 and it's duplicate due to an interfering Fluoride peak, but the peak area was less than the lowest calibration standard so it is reported as less

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than the detection limit. The sample and it's duplicate were diluted 1 to 5 to reduce the interfering peak, which resulted in an increased detection limit.

The Matrix Spike recovery of Chloride is outside of the SOP limits of 75-125%, but the sample concentration exceeds the spike concentration by a factor of four or more.

The Relative Percent Differences could not be calculated for the Phosphate and Fluoride analyses due to the values being below the detection limit for sample 9263-001 and it's duplicate.

I certify that this data package is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature.

Reviewed and approved:

Wade H. Price
Project Manager
e:\\price$\abbydave\hanw0695.nar

Quanterra September 06, 1995 12:03 pm
Account: 10722 Project: 550.102 Quanterra-Richland QAS No. 1028 Rev. 0
Master Sample Login: 9263

Project Manager: W. Price

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

Sample Header Template:

Sample No. / Comments / # / Data:	Client ID / Container Type	C-Matrix / Analysis	Date: Collected	Received	Due	Shipper	Rad Category / Class	Rad Sample No. / Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)
9263-001	BOGJP1	Water	30-AUG-95 10:30	31-AUG-95 10:30	14-SEP-95	FED-EX	1	Screening not Required				
RICHLAND I.D. 50849801												
3	VI - Vial-40ml	VOA/8240/Q4					S	COLD	12-SEP-95	13-SEP-95	109A	(176604:100 176605:99 176606:98)
1	AN - Amber Glass-500ml	ANIONS/300.0/Q4					P	COLD	N/A	N/A	T14A	(176602:100)
1		CL/300.0/Q4					C	COLD	12-SEP-95	27-SEP-95	T14A	(176602:100)
1		FL/300.0/Q4					C	COLD	12-SEP-95	27-SEP-95	T14A	(176602:100)
1		ICAP/6010/Q4					S	COLD	12-SEP-95	26-FEB-96	T14A	(176603:99)
1		NO2/300.0/Q4					C	COLD	12-SEP-95	01-SEP-95	T14A	(176602:100)
1		NO3/300.0/Q4					C	COLD	12-SEP-95	01-SEP-95	T14A	(176602:100)
1		OPHOS/300.0/Q4					C	COLD	12-SEP-95	01-SEP-95	T14A	(176602:100)
1		SO4/300.0/Q4					C	COLD	12-SEP-95	27-SEP-95	T14A	(176602:100)
9263-001DUP	BOGJP1	Water	30-AUG-95 11:30	31-AUG-95 10:30	14-SEP-95	FED-EX	1	Screening not Required				
RICHLAND I.D. 50849801												
1	AN - Amber Glass-500ml	ANIONS/300.0/Q4					P	COLD	N/A	N/A	T14A	(176602:100)
1		CL/300.0/Q4					C	COLD	12-SEP-95	27-SEP-95	T14A	(176602:100)
1		FL/300.0/Q4					C	COLD	12-SEP-95	27-SEP-95	T14A	(176602:100)
1		NO2/300.0/Q4					C	COLD	12-SEP-95	01-SEP-95	T14A	(176602:100)
1		NO3/300.0/Q4					C	COLD	12-SEP-95	01-SEP-95	T14A	(176602:100)
1		OPHOS/300.0/Q4					C	COLD	12-SEP-95	01-SEP-95	T14A	(176602:100)
1		SO4/300.0/Q4					C	COLD	12-SEP-95	27-SEP-95	T14A	(176602:100)
9263-001MS	BOGJP1	Water	30-AUG-95 11:30	31-AUG-95 10:30	14-SEP-95	FED-EX	1	Screening not Required				
RICHLAND I.D. 50849801												
3	VI - Vial-40ml	VOA/8240/Q4					S	COLD	12-SEP-95	13-SEP-95	109A	(176604:100 176605:99 176606:98)
1	AN - Amber Glass-500ml	ANIONS/300.0/Q4					P	COLD	N/A	N/A	T14A	(176602:100)
1		CL/300.0/Q4					C	COLD	12-SEP-95	27-SEP-95	T14A	(176602:100)
1		FL/300.0/Q4					C	COLD	12-SEP-95	27-SEP-95	T14A	(176602:100)
1		ICAP/6010/Q4					S	COLD	12-SEP-95	26-FEB-96	T14A	(176603:99)
1		NO2/300.0/Q4					C	COLD	12-SEP-95	01-SEP-95	T14A	(176602:100)
1		NO3/300.0/Q4					C	COLD	12-SEP-95	01-SEP-95	T14A	(176602:100)
1		OPHOS/300.0/Q4					C	COLD	12-SEP-95	01-SEP-95	T14A	(176602:100)
1		SO4/300.0/Q4					C	COLD	12-SEP-95	27-SEP-95	T14A	(176602:100)
9263-001MSD	BOGJP1	Water	30-AUG-95 11:30	31-AUG-95 10:30	14-SEP-95	FED-EX	1	Screening not Required				
RICHLAND I.D. 50849801												
3	VI - Vial-40ml	VOA/8240/Q4					S	COLD	12-SEP-95	13-SEP-95	109A	(176604:100 176605:99 176606:98)
1	AN - Amber Glass-500ml	ICAP/6010/Q4					S	COLD	12-SEP-95	26-FEB-96	T14A	(176603:99)

3*=Sample has not been rad screened.

0000005

9613447.0018

Quanterra September 06, 1995 12:03 pm
Account: 10722 Project: 550.102 Quanterra-Richland QAS No. 1028 Rev. 0
Master Sample Login: 9263

Project Manager: W. Price

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

Sample Header Template: _____

Sample No. / Comments	Client ID	C-Matrix	Date; Collected	Received	Due	Shipper	Rad Category	Rad Sample No.
9263-002	BOGJP2	Water	30-AUG-95 11:54	31-AUG-95 10:30	14-SEP-95	FED-EX	1	Screening not Required
RICHLAND I.D. 50849802								

#	Container Type	Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)
3	VI - Vial-40ml	VOA/8260/Q4	S	COLD	12-SEP-95	13-SEP-95	109A	(176624:100 176625:99 176626:98)
1	AN - Amber Glass-500ml	ANIONS/300.0/Q4	P	COLD	N/A	N/A	T14A	(176622:100)
1		CL/300.0/Q4	C	COLD	12-SEP-95	27-SEP-95	T14A	(176622:100)
1		FL/300.0/Q4	C	COLD	12-SEP-95	27-SEP-95	T14A	(176622:100)
1		ICAP/6010/Q4	S	COLD	12-SEP-95	26-FEB-96	T14A	(176623:99)
1		NO2/300.0/Q4	C	COLD	12-SEP-95	01-SEP-95	T14A	(176622:100)
1		NO3/300.0/Q4	C	COLD	12-SEP-95	01-SEP-95	T14A	(176622:100)
1		OPHOS/300.0/Q4	C	COLD	12-SEP-95	01-SEP-95	T14A	(176622:100)
1		SO4/300.0/Q4	C	COLD	12-SEP-95	27-SEP-95	T14A	(176622:100)

3*=Sample has not been rad screened.

0000006

9613447.0019

Temp 5 UVK 3262

[redacted]

Chain of Custody Record

to: St Louis

Quanterra Environmental Services

QUA 4124

Client: Bechtel Hanford	Project Manager: Van Pettey	Date: 8-31-95	Chain Of Custody Number: 04949
Address	Telephone Number (Area Code)/Fax Number	Lab Number	Page 1 of 1
City / State / Zip Code	Site Contact		
Project Name: SAF B95-095	Carrier/Waybill Number		
Contract/Purchase Order/Quote No.			

Analysis: See CoC

Sample I.D. No. and Description	Date	Time	Sample Type	Total Volume	Containers Type	Containers No.	Preservative	Condition on Receipt
50849801 BOGJP1	See CoC						2 X 500 ml A/glass	3 X 40 ml vials
↓ 02 ↓ JP2							2 X 500 ml A/glass	3 X 40 ml vials

Special Instructions

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

Sample Disposal: ☒ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months

Turn Around Time Required: ☐ Normal ☒ Rush Due 9-15-95

QC Level: ☐ I. ☐ II. ☐ III.

Project Specific (Specify): SDG 100695

1. Relinquished By: Heidelberg Quanterra	Date: 8-31-95	Time: 16:00	1. Received By: Denise W Byrd	Date: 09-01-95	Time: 08:15
2. Relinquished By	Date	Time	2. Received By	Date	Time
3. Relinquished By	Date	Time	3. Received By	Date	Time

Comments: 0000007

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

9613447.0020

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Date Turnaround: [X] Priority [ ] Normal

Collector: Doug Bowers	Company Contact: R. K. Tranberger	Telephone No.: 372-9298
Project Designation: Purus Tech. Demo. Waste Designation (Water)	Sampling Location: 216-Z-9 Trench Site 200 West	SAF No.: 895-095
Ice Chest No.: QWS-025	Field Logbook No.: EFL 1133	Method of Shipment: Hand Deliver
Shipped To: Quanterra	Offsite Property No.: N/A	Bill of Lading/Air Bill No.: N/A
Possible Sample Hazards/Remarks: Unknown		
Special Handling and/or Storage: cool to 4C		

SDL

SAMPLE ANALYSIS: 50849801-02 W0695

Sample No.	Matrix*	Date Sampled	Time Sampled	Preservative	Type of Container	No. of Container(s)	Volume	ICP Metals TAL	Anions F, Cl, SO4, PO4, NO2, NO3	VOA TCL	Activity Scan	Rad Screen
				cool 4C	P/G	1	500 ml					
				Cool 4C	P/G	1	500 ml					
				Cool 4C	Gs	3	40 ml					
				none	P/G	1	20 ml					
				none	P/G	1	20 ml					
BOGJP1 01	W	8-30-95	1030	X	X	X	X					
BOGJP2 02	W	8-30-95	1054	X	X	X	X					
				100%	100%	3X 40 ml						
				2X 500 ml	2X 500 ml	100%						

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: Doug Bowers	Date/Time: 8-30-95/1400	Received By: GRC Bulkton	Date/Time: 1400 8-30-95
Relinquished By: GRC Bulkton	Date/Time: 8-31-95 10:30	Received By: Karen Schtenberg	Date/Time: 8-31-95 10:30
Relinquished By:	Date/Time:	Received By: Lisa Hall	Date/Time: 100 CAM
Relinquished By:	Date/Time:	Received By:	Date/Time:

SPECIAL INSTRUCTIONS

Sample analysis for phosphate, nitrate, and nitrite by EPA 300.00 at the Quanterra Laboratories is being requested for information only. The ERC Contractor acknowledges the 48-hour holding time will not be met.

Material is NaOH solution with a pH of 13+

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

DISTRIBUTION: Original - Sample Yellow - Sampler

BC-6000-828 (12/92)

0000008

9613447.0021

Client Sample Screening Results

31-Aug-95

R3 8/31/95

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
WHC B0FBT2		8/31/95 12:30:00 PM	QUAD23A	8/31/95 3:35:52 PM	B0FBT2	30	2431	80.9933333	45762	1524.4141
	LIQUID		Bkg:	8/31/95 7:20:28 AM	BKG	925	37	0.04	912	0.9859459
Anl Date: 8/31/95	Tot Sa, Alq: 1.00E+00	, 1.00E-01	Alp; (Dpm/ 1.97E+02	(uCi/ 8.89E-01	(pCi/ 8.89E+05	± 1.7E+04	CAT III	2.8E-05	Lab Alq	
Ppt mg: 0	Units: L	, ml	Bet; Alq): 2.83E+03	Sa): 1.27E+01	Lig): 1.27E+07	± 6.0E+04		3.9E-06	Lig	
WHC B0FBT3		8/31/95 12:30:00 PM	QUAD23B	8/31/95 3:35:52 PM	B0FBT3	30	3	0.05675676	46	0.6317117
	LIQUID		Bkg:	8/31/95 7:20:28 AM	BKG	925	40	0.04324324	834	0.9016216
Anl Date: 8/31/95	Tot Sa, Alq: 1.00E+00	, 5.00E+00	Alp; (Dpm/ 1.55E-01	(uCi/ 1.39E-05	(pCi/ 1.39E+01	± 3.7E+01	CAT I	1.8E+00	Lab Alq	
Ppt mg: 0	Units: L	, ml	Bet; Alq): 1.16E+00	Sa): 1.05E-04	Lig): 1.05E+02	± 3.9E+01		4.8E-01	Lig	
WHC B0GJP1		8/31/95 10:30:00 AM	QUAD21B	8/31/95 2:09:02 PM	B0GJP1	30	3	0.04270270	35	0.3169369
	LIQUID		Bkg:	8/31/95 7:19:57 AM	BKG	925	53	0.0572973	786	0.8497297
Anl Date: 8/31/95	Tot Sa, Alq: 5.00E-01	, 5.00E+00	Alp; (Dpm/ 1.47E-01	(uCi/ 6.63E-06	(pCi/ 1.33E+01	± 4.8E+01	CAT I	1.9E+00	Lab Alq	
Ppt mg: 14.9	Units: L	, ml	Bet; Alq): 6.06E-01	Sa): 2.73E-05	Lig): 5.46E+01	± 3.6E+01		9.2E-01	Lig	
WHC B0GJP2		8/31/95 10:30:00 AM	QUAD21C	8/31/95 2:09:02 PM	B0GJP2	30	6	0.14486486	60	0.9070270
	LIQUID		Bkg:	8/31/95 7:19:57 AM	BKG	925	51	0.05513514	1011	1.092973
Anl Date: 8/31/95	Tot Sa, Alq: 5.00E-01	, 1.00E+00	Alp; (Dpm/ 7.00E-01	(uCi/ 1.58E-04	(pCi/ 3.15E+02	± 3.9E+02	CAT I	7.9E-02	Lab Alq	
Ppt mg: 49.8	Units: L	, ml	Bet; Alq): 1.84E+00	Sa): 4.15E-04	Lig): 8.30E+02	± 2.5E+02		6.0E-02	Lig	
WHC B0GJQ6		8/31/95 10:30:00 AM	QUAD21D	8/31/95 2:09:02 PM	B0GJQ6	30	3	0.04378378	40	0.3700901
	LIQUID		Bkg:	8/31/95 7:19:57 AM	BKG	925	52	0.05621622	891	0.9632432
Anl Date: 8/31/95	Tot Sa, Alq: 6.00E-02	, 1.00E+01	Alp; (Dpm/ 1.58E-01	(uCi/ 4.28E-07	(pCi/ 7.14E+00	± 2.7E+01	CAT I	3.5E+00	Lab Alq	
Ppt mg: 22	Units: L	, ml	Bet; Alq): 7.33E-01	Sa): 1.98E-06	Lig): 3.30E+01	± 2.0E+01		1.5E+00	Lig	

9613447.0022

6000009

(AJ) 8/31/95

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
WHC TEDF083195001		8/31/95 12:30:00 PM	QUAD23C	8/31/95 3:35:52 PM	TEDF083195001	30	3	0.05567568	39	0.2945946
	LIQUID		Bkg:	8/31/95 7:20:28 AM	BKG	925	41	0.04432432	930	1.0054054

Anl Date: 8/31/95	Tot Sa, Alq: 5.00E-01	, 5.00E+00	Alp;	(Dpm/ 1.57E-01	(uCi/ 7.05E-06	(pCi/ 1.41E+01	± 4.0E+01	CAT	1.8E+00	Lab
Ppt mg: 2.1	Units: L	, ml	Bet;	Alq): 5.39E-01	Sa): 2.43E-05	Lig): 4.85E+01	± 3.7E+01	I	1.0E+00	Alq Lig

9613447.0023

0000010

010755

Environmental Restoration Contractor **ERC Team**

Interoffice Memorandum

Job No. 22192
Written Response Required: NO
CCN: N/A
OUI: 200-ZP-2
TSDF: N/A
RRA: N/A
Subject Code: 5850

TO: S.A. Driggers H6-03
T.L. LaFreinere X0-23

DATE: March 6, 1995

COPIES: See Below

FROM: Michael Wesselman
200 Areas Radiological Support
N3-06/ 376-2084

SUBJECT: Radiological Survey Requirements and Recommendations for the Purus Padre Vapor Treatment Unit

After the Purus Padre equipment is connected to the Z-9 vapor extraction system, it is not expected to be exposed to anything but naturally occurring radioactivity. The Purus system is to be installed downstream of two banks of high efficiency particulate air (HEPA) filters which will prevent the potential spread of contamination from any wells in Z-crib area to the unit. These HEPA's have an isokinetic particulate air sampler located near their exhaust. The filters on this sampler are checked on a weekly basis to verify that the HEPA's have not allowed contamination to enter the system.

The only radiological concerns associated with this system are related to the resins used to remove vapor from the air stream and the CCL, liquid wastes retention containers. The resin has the potential to accumulate Radon gas and Radon daughter products which will be transported with the liquid wastes to its storage containers. A weekly check should be performed to verify that this build up does not generate doserates greater than 5 mRem/hr on contact with the unit or waste drums.

Since there is no contamination threat other than the build up of radon in the resin, samples taken anywhere in the system will not require release surveys even when the system is attached to the Vapor Extraction System (VES). However, if samples need to be taken of the resin or the liquid wastes, they should be checked with field instruments to ensure the radon has decayed to below detectable levels prior to shipping.

While no release survey will be required for the unit to leave the site, I recommend an end of work survey to document that the unit meets DOT specifications and to provide a record for future reference should the unit ever be exposed to contamination elsewhere (ie. I.N.E.L. or Savannah River).

This survey should consist of large area smears of the work areas and accessible portions of the external surfaces of the system as well as at any point where the Purus system was connected to the VES unit. Direct readings should be taken on the resin beds, waste containers, the control panel, connection points, and random locations on the unit exterior. The direct readings should consist of 15 second static counts performed with both a PAM and a Geiger-Muller (GM) "Pancake" type probe. There should be at least twenty-two readings taken with each instrument.

If it is found that radon does build up in the resin, or liquid wastes, as would be indicated by a survey with the GM "pancake" probe, the unit or wastes should not be removed from the site until dosrates on contact with the affected areas are below 0.5 mRad/hr in order to meet DOT specifications. This can be determined using an Eberline RO-3 "CP" to survey the area where the elevated GM readings are encountered.

Michael Wesseiman

maw

Distribution

BHI Document Control	H4-79
SA Driggers	H6-01
AP Goforth	H6-08
GC Henckel	H6-07
TL LaFreniere	X0-23
KA Mathews	X0-23
RK Tranbarger	H6-04
JG Zoghbi	H6-07

Figure 1

SAMPLE CHECK-IN LIST

(1 Per Shipping Container)

Date/Time Received 8-2-95 1030 Client Name BHI

Project/Client # B95-095 Batch or Case # _____

Cooler ID (if noted on outside of cooler) CWS025

1. Condition of shipping container? _____
2. Custody Seals on cooler intact? Yes [ ] No [ ]
3. Custody Seals dated and signed? Yes [ ] No [ ]
4. Chain of Custody record is taped on inside of cooler lid? Yes [ ] No [ ]
5. Vermiculite/packing material is: Wet [ ] Dry [ ] _____
6. Each sample is in a plastic bag? Yes [ ] No [ ] _____
7. Number of sample containers in cooler: 18
8. Samples have: ____ tape ____ hazard labels
   ____ custody seals ____ appropriate sample labels
9. Samples are: ____ in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant Present? Yes [X] No [ ] Sample Temperature 4°C
11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #(s) _____
    Request for Analysis #(s) _____
    Airbill # _____ Carrier _____
12. Have any anomalies been identified above? Yes [ ] No [ ]
13. Memos have been initiated for all anomalies identified above? Yes [ ]

Printed Name/Signature _____ Date/Time _____

9613447.0027

Quanterra Environmental

C.U.R. and C.O.C.
COPIED TO: BW / WP
DATE: 09-01-95
TIME: 10:25
BY: BWB

Work Order No.: 9263

Condition Upon Receipt Variance Report
St. Louis Laboratory

Client: WESTINGHOUSE/BECHTEL Hanford
Date: 09-01-95 08:15
Project No: 550.102
Initiated by: George W Byrd
Analysis Requested: Refer to RFA/COC
RFA/COC Numbers: #04949
Client Sample Numbers Affected: Entire Login

Condition/Variance (Check all that apply): Circle Number to Denote that Item was Evaluated. "NA" = "Not Applicable".

1.	NA	Not enough sample received for proper analysis. Received approximately: _____
2.	☐	Sample received broken/leaking.
3.	☐	Sample received without proper preservative.
	☐	Cooler temperature not within 4°C ± 2°C. Record temperature: 5°
	☐	pH _____
	☐	other: _____
4.	☐	Sample received in improper container.
5.	☐	Sample received without proper paperwork. Explain: _____
6.	☐	Paperwork received without sample.
7.	☐	No sample ID on sample container.
8.	☐	Custody tape disturbed/broken/missing.
9.	NA	Sample splits performed by lab.
10.	NA	Volatile sample received with approximately _____ mm headspace.
11.	☐	Sample ID on container does not match sample ID on paperwork. Explain: _____
12.	☐	All coolers on airbill not received with shipment.
13.	☐	Other (explain below): Shipping containers not rad surveyed. 1760467284

Notes:

Corrective Action:

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

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

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

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

Sample Control Supervisor Review: (or designate) George W Byrd Date: 09-01-95

Project Management Review: Abby Wolda Date: 9-7-95

0000014

5262

9613447.0028

Quanterra
Environmental Services

Quanterra-Richland
P.O. Box 1970
Richland, WA 99352

Project: 550.102

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

Client ID: BOGJP1

Sample Date : 08/30/95
Receipt Date : 08/31/95
Report Date : 09/13/95

Quanterra ID : 9263-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	QCBLK77383-1	09/06/95	09/06/95	80000	UG/L	U	80000	8000
Bromomethane	74-83-9	QCBLK77383-1	09/06/95	09/06/95	80000	UG/L	U	80000	8000
Vinyl Chloride	75-01-4	QCBLK77383-1	09/06/95	09/06/95	80000	UG/L	U	80000	8000
Chloroethane	75-00-3	QCBLK77383-1	09/06/95	09/06/95	80000	UG/L	U	80000	8000
Methylene Chloride	75-09-2	QCBLK77383-1	09/06/95	09/06/95	40000	UG/L	U	40000	8000
Acetone	67-64-1	QCBLK77383-1	09/06/95	09/06/95	800000	UG/L	U	800000	8000
Carbon Disulfide	75-15-0	QCBLK77383-1	09/06/95	09/06/95	40000	UG/L	U	40000	8000
1,1-Dichloroethene	75-35-4	QCBLK77383-1	09/06/95	09/06/95	40000	UG/L	U	40000	8000
1,1-Dichloroethane	75-34-3	QCBLK77383-1	09/06/95	09/06/95	40000	UG/L	U	40000	8000
1,2-Dichloroethene (total)	540-59-0	QCBLK77383-1	09/06/95	09/06/95	40000	UG/L	U	40000	8000
Chloroform	67-66-3	QCBLK77383-1	09/06/95	09/06/95	14000	UG/L	J	40000	8000
1,2-Dichloroethane	107-06-2	QCBLK77383-1	09/06/95	09/06/95	40000	UG/L	U	40000	8000
2-Butanone	78-93-3	QCBLK77383-1	09/06/95	09/06/95	800000	UG/L	U	800000	8000
1,1,1-Trichloroethane	71-55-6	QCBLK77383-1	09/06/95	09/06/95	40000	UG/L	U	40000	8000
Carbon Tetrachloride	56-23-5	QCBLK77383-1	09/06/95	09/06/95	590000	UG/L		40000	8000
Bromodichloromethane	75-27-4	QCBLK77383-1	09/06/95	09/06/95	40000	UG/L	U	40000	8000
1,2-Dichloropropane	78-87-5	QCBLK77383-1	09/06/95	09/06/95	40000	UG/L	U	40000	8000
cis-1,3-Dichloropropene	10061-01-5	QCBLK77383-1	09/06/95	09/06/95	40000	UG/L	U	40000	8000
Trichloroethene	79-01-6	QCBLK77383-1	09/06/95	09/06/95	40000	UG/L	U	40000	8000
Dibromochloromethane	124-48-1	QCBLK77383-1	09/06/95	09/06/95	40000	UG/L	U	40000	8000
1,1,2-Trichloroethane	79-00-5	QCBLK77383-1	09/06/95	09/06/95	40000	UG/L	U	40000	8000
Benzene	71-43-2	QCBLK77383-1	09/06/95	09/06/95	40000	UG/L	U	40000	8000
trans-1,3-Dichloropropene	10061-02-6	QCBLK77383-1	09/06/95	09/06/95	40000	UG/L	U	40000	8000
Bromoform	75-25-2	QCBLK77383-1	09/06/95	09/06/95	40000	UG/L	U	40000	8000
4-Methyl-2-Pentanone	108-10-1	QCBLK77383-1	09/06/95	09/06/95	400000	UG/L	U	400000	8000
2-Hexanone	591-78-6	QCBLK77383-1	09/06/95	09/06/95	400000	UG/L	U	400000	8000
Tetrachloroethene	127-18-4	QCBLK77383-1	09/06/95	09/06/95	40000	UG/L	U	40000	8000
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK77383-1	09/06/95	09/06/95	40000	UG/L	U	40000	8000
Toluene	108-88-3	QCBLK77383-1	09/06/95	09/06/95	40000	UG/L	U	40000	8000
Chlorobenzene	108-90-7	QCBLK77383-1	09/06/95	09/06/95	40000	UG/L	U	40000	8000
EthylBenzene	100-41-4	QCBLK77383-1	09/06/95	09/06/95	40000	UG/L	U	40000	8000
Styrene	100-42-5	QCBLK77383-1	09/06/95	09/06/95	40000	UG/L	U	40000	8000
Xylene (total)	1330-20-7	QCBLK77383-1	09/06/95	09/06/95	40000	UG/L	U	40000	8000
Toluene-d8 (SURR)	2037-26-5	QCBLK77383-1	09/06/95	09/06/95	98	%REC			8000
Bromofluorobenzene (SURR)	460-00-4	QCBLK77383-1	09/06/95	09/06/95	92	%REC			8000
1,2-Dichloroethane-d4 (SURR)	17070-07-0	QCBLK77383-1	09/06/95	09/06/95	81	%REC			8000

9613447.0029

Quanterra Environmental Services

Quanterra-Richland
P.O. Box 1970
Richland, WA 99352

Project: 550.102

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

Client ID: BOGJP1

Sample Date : 08/30/95
Receipt Date : 08/31/95
Report Date : 09/13/95

Quanterra ID : 9263-001WS

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
1,1-Dichloroethene	75-35-4	QCBLK77420-1	09/06/95	09/06/95	99	%REC			8000
Trichloroethene	79-01-6	QCBLK77420-1	09/06/95	09/06/95	90	%REC			8000
Benzene	71-43-2	QCBLK77420-1	09/06/95	09/06/95	90	%REC			8000
Toluene	108-88-3	QCBLK77420-1	09/06/95	09/06/95	88	%REC			8000
Chlorobenzene	108-90-7	QCBLK77420-1	09/06/95	09/06/95	89	%REC			8000
Toluene-d8 (SURR)	2037-26-5	QCBLK77420-1	09/06/95	09/06/95	96	%REC			8000
Bromofluorobenzene (SURR)	460-00-4	QCBLK77420-1	09/06/95	09/06/95	96	%REC			8000
1,2-Dichloroethane-d4 (SURR)	17070-07-0	QCBLK77420-1	09/06/95	09/06/95	102	%REC			8000

9613447.0030

Quanterra
Environmental Services

Quanterra-Richland
P.O. Box 1970
Richland, WA 99352

Project: 550.102

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

Client ID: BOGJP1

Sample Date : 08/30/95
Receipt Date : 08/31/95
Report Date : 09/13/95

Quanterra ID : 9263-001MSD

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
1,1-Dichloroethene	75-35-4	QCBLK77420-1	09/06/95	09/06/95	93	%REC			8000
Trichloroethene	79-01-6	QCBLK77420-1	09/06/95	09/06/95	84	%REC			8000
Benzene	71-43-2	QCBLK77420-1	09/06/95	09/06/95	86	%REC			8000
Toluene	108-88-3	QCBLK77420-1	09/06/95	09/06/95	91	%REC			8000
Chlorobenzene	108-90-7	QCBLK77420-1	09/06/95	09/06/95	90	%REC			8000
Toluene-d8 (SURR)	2037-26-5	QCBLK77420-1	09/06/95	09/06/95	101	%REC			8000
Bromofluorobenzene (SURR)	460-00-4	QCBLK77420-1	09/06/95	09/06/95	95	%REC			8000
1,2-Dichloroethane-d4 (SURR)	17070-07-0	QCBLK77420-1	09/06/95	09/06/95	99	%REC			8000

9613447.0031

Quanterra
Environmental Services

Quanterra-Richland
P.O. Box 1970
Richland, WA 99352

Project: 550.102

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

Client ID: BOGJP2

Sample Date : 08/30/95
Receipt Date : 08/31/95
Report Date : 09/13/95

Quanterra ID : 9263-002

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	QCBLK77383-1	09/06/95	09/06/95	10000	UG/L	U	10000	1000
Bromomethane	74-83-9	QCBLK77383-1	09/06/95	09/06/95	10000	UG/L	U	10000	1000
Vinyl Chloride	75-01-4	QCBLK77383-1	09/06/95	09/06/95	10000	UG/L	U	10000	1000
Chloroethane	75-00-3	QCBLK77383-1	09/06/95	09/06/95	10000	UG/L	U	10000	1000
Methylene Chloride	75-09-2	QCBLK77383-1	09/06/95	09/06/95	5000	UG/L	U	5000	1000
Acetone	67-64-1	QCBLK77383-1	09/06/95	09/06/95	5300	UG/L	J	100000	1000
Carbon Disulfide	75-15-0	QCBLK77383-1	09/06/95	09/06/95	5000	UG/L	U	5000	1000
1,1-Dichloroethene	75-35-4	QCBLK77383-1	09/06/95	09/06/95	5000	UG/L	U	5000	1000
1,1-Dichloroethane	75-34-3	QCBLK77383-1	09/06/95	09/06/95	5000	UG/L	U	5000	1000
1,2-Dichloroethene (total)	540-59-0	QCBLK77383-1	09/06/95	09/06/95	5000	UG/L	U	5000	1000
Chloroform	67-66-3	QCBLK77383-1	09/06/95	09/06/95	5000	UG/L	U	5000	1000
1,2-Dichloroethane	107-06-2	QCBLK77383-1	09/06/95	09/06/95	5000	UG/L	U	5000	1000
2-Butanone	78-93-3	QCBLK77383-1	09/06/95	09/06/95	100000	UG/L	U	100000	1000
1,1,1-Trichloroethane	71-55-6	QCBLK77383-1	09/06/95	09/06/95	5000	UG/L	U	5000	1000
Carbon Tetrachloride	56-23-5	QCBLK77383-1	09/06/95	09/06/95	89000	UG/L		5000	1000
Bromodichloromethane	75-27-4	QCBLK77383-1	09/06/95	09/06/95	5000	UG/L	U	5000	1000
1,2-Dichloropropane	78-87-5	QCBLK77383-1	09/06/95	09/06/95	5000	UG/L	U	5000	1000
cis-1,3-Dichloropropene	10061-01-5	QCBLK77383-1	09/06/95	09/06/95	5000	UG/L	U	5000	1000
Trichloroethene	79-01-6	QCBLK77383-1	09/06/95	09/06/95	5000	UG/L	U	5000	1000
Dibromochloromethane	124-48-1	QCBLK77383-1	09/06/95	09/06/95	5000	UG/L	U	5000	1000
1,1,2-Trichloroethane	79-00-5	QCBLK77383-1	09/06/95	09/06/95	5000	UG/L	U	5000	1000
Benzene	71-43-2	QCBLK77383-1	09/06/95	09/06/95	5000	UG/L	U	5000	1000
trans-1,3-Dichloropropene	10061-02-6	QCBLK77383-1	09/06/95	09/06/95	5000	UG/L	U	5000	1000
Bromoform	75-25-2	QCBLK77383-1	09/06/95	09/06/95	5000	UG/L	U	5000	1000
4-Methyl-2-Pentanone	108-10-1	QCBLK77383-1	09/06/95	09/06/95	50000	UG/L	U	50000	1000
2-Hexanone	591-78-6	QCBLK77383-1	09/06/95	09/06/95	50000	UG/L	U	50000	1000
Tetrachloroethene	127-18-4	QCBLK77383-1	09/06/95	09/06/95	3600	UG/L	J	5000	1000
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK77383-1	09/06/95	09/06/95	5000	UG/L	U	5000	1000
Toluene	108-88-3	QCBLK77383-1	09/06/95	09/06/95	5000	UG/L	U	5000	1000
Chlorobenzene	108-90-7	QCBLK77383-1	09/06/95	09/06/95	5000	UG/L	U	5000	1000
EthylBenzene	100-41-4	QCBLK77383-1	09/06/95	09/06/95	5000	UG/L	U	5000	1000
Styrene	100-42-5	QCBLK77383-1	09/06/95	09/06/95	5000	UG/L	U	5000	1000
Xylene (total)	1330-20-7	QCBLK77383-1	09/06/95	09/06/95	5000	UG/L	U	5000	1000
Hexachloroethane	67-72-1	QCBLK77383-1	09/06/95	09/06/95	120000	UG/L	J		1000
Toluene-d8 (SURR)	2037-26-5	QCBLK77383-1	09/06/95	09/06/95	98	%REC			1000
Bromofluorobenzene (SURR)	460-00-4	QCBLK77383-1	09/06/95	09/06/95	91	%REC			1000
1,2-Dichloroethane-d4 (SURR)	17070-07-0	QCBLK77383-1	09/06/95	09/06/95	80	%REC			1000

9613447.0032

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0GJP1

Lab Name: QUANTERRA MO Contract: 550-102

Lab Code: ITMO Case No.: V26301 SDG No.: W0695

Matrix: (soil/water) WATER Lab Sample ID: 9263-001

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: G2678

Level: (low/med) LOW Date Received: 08/31/95

% Moisture: not dec. Date Analyzed: 09/06/95

Column: (pack/cap) CAP Dilution Factor: 8000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	80000	U
74-83-9	Bromomethane	80000	U
75-01-4	Vinyl Chloride	80000	U
75-00-3	Chloroethane	80000	U
75-09-2	Methylene Chloride	40000	U
67-64-1	Acetone	800000	U
75-15-0	Carbon Disulfide	40000	U
75-35-4	1,1-Dichloroethene	40000	U
75-34-3	1,1-Dichloroethane	40000	U
540-59-0	1,2-Dichloroethene (total)	40000	U
67-66-3	Chloroform	14000	J
107-06-2	1,2-Dichloroethane	40000	U
78-93-3	2-Butanone	800000	U
71-55-6	1,1,1-Trichloroethane	40000	U
56-23-5	Carbon Tetrachloride	590000	
75-27-4	Bromodichloromethane	40000	U
78-87-5	1,2-Dichloropropane	40000	U
10061-01-5	cis-1,3-Dichloropropene	40000	U
79-01-6	Trichloroethene	40000	U
124-48-1	Dibromochloromethane	40000	U
79-00-5	1,1,2-Trichloroethane	40000	U
71-43-2	Benzene	40000	U
10061-02-6	trans-1,3-Dichloropropene	40000	U
75-25-2	Bromoform	40000	U
108-10-1	4-Methyl-2-Pentanone	400000	U
591-78-6	2-Hexanone	400000	U
127-18-4	Tetrachloroethene	40000	U
79-34-5	1,1,2,2-Tetrachloroethane	40000	U
108-88-3	Toluene	40000	U
108-90-7	Chlorobenzene	40000	U
100-41-4	Ethylbenzene	40000	U
100-42-5	Styrene	40000	U
1330-20-7	Xylene (total)	40000	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B0GJP1

Lab Name: QUANTERRA MO Contract: 550-102

Lab Code: ITMO Case No.: V26301 SDG No.: W0695

Matrix: (soil/water) WATER Lab Sample ID: 9263-001

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: G2678

Level: (low/med) LOW Date Received: 08/31/95

% Moisture: not dec. Date Analyzed: 09/06/95

Column (pack/cap) CAP Dilution Factor: 8000

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

9613447.0034

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0GJP2

Lab Name: QUANTERRA MO Contract: 550-102

Lab Code: ITMO Case No.: V26301 SDG No.: W0695

Matrix: (soil/water) WATER Lab Sample ID: 9263-002

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: G2679

Level: (low/med) LOW Date Received: 08/31/95

% Moisture: not dec. Date Analyzed: 09/06/95

Column: (pack/cap) CAP Dilution Factor: 1000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10000	U
74-83-9	Bromomethane	10000	U
75-01-4	Vinyl Chloride	10000	U
75-00-3	Chloroethane	10000	U
75-09-2	Methylene Chloride	5000	U
67-64-1	Acetone	5300	J
75-15-0	Carbon Disulfide	5000	U
75-35-4	1,1-Dichloroethene	5000	U
75-34-3	1,1-Dichloroethane	5000	U
540-59-0	1,2-Dichloroethene (total)	5000	U
67-66-3	Chloroform	5000	U
107-06-2	1,2-Dichloroethane	5000	U
78-93-3	2-Butanone	100000	U
71-55-6	1,1,1-Trichloroethane	5000	U
56-23-5	Carbon Tetrachloride	89000	
75-27-4	Bromodichloromethane	5000	U
78-87-5	1,2-Dichloropropane	5000	U
10061-01-5	cis-1,3-Dichloropropene	5000	U
79-01-6	Trichloroethene	5000	U
124-48-1	Dibromochloromethane	5000	U
79-00-5	1,1,2-Trichloroethane	5000	U
71-43-2	Benzene	5000	U
10061-02-6	trans-1,3-Dichloropropene	5000	U
75-25-2	Bromoform	5000	U
108-10-1	4-Methyl-2-Pentanone	50000	U
591-78-6	2-Hexanone	50000	U
127-18-4	Tetrachloroethene	3600	J
79-34-5	1,1,2,2-Tetrachloroethane	5000	U
108-88-3	Toluene	5000	U
108-90-7	Chlorobenzene	5000	U
100-41-4	Ethylbenzene	5000	U
100-42-5	Styrene	5000	U
1330-20-7	Xylene (total)	5000	U

9613447.0035

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B0GJP2

Lab Name: QUANTERRA MO Contract: 550-102

Lab Code: ITMO Case No.: V26301 SDG No.: W0695

Matrix: (soil/water) WATER Lab Sample ID: 9263-002

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: G2679

Level: (low/med) LOW Date Received: 08/31/95

% Moisture: not dec. Date Analyzed: 09/06/95

Column (pack/cap) CAP Dilution Factor: 1000

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 67721	Ethane, hexachloro-	21.41	120000	J

9613447.0036

Quanterra Environmental Services

Quanterra-Richland
P.O. Box 1970
Richland, WA 99352

Project: 550.102

Category: ICAP Metals TAL EPA 6010
Method: EPA 6010
Matrix: LIQUID

Client ID: BOGJP1

Sample Date : 08/30/95
Receipt Date : 08/31/95
Report Date : 09/13/95

Quanterra ID : 9263-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK77590-1	09/08/95	09/11/95	35.6	UG/L	B	200	1
Antimony	7440-36-0	QCBLK77590-1	09/08/95	09/11/95	45.9	UG/L	U	100	1
Barium	7440-39-3	QCBLK77590-1	09/08/95	09/11/95	2.1	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK77590-1	09/08/95	09/11/95	0.50	UG/L	U	7.0	1
Cadmium	7440-43-9	QCBLK77590-1	09/08/95	09/11/95	3.1	UG/L	U	20.0	1
Calcium	7440-70-2	QCBLK77590-1	09/08/95	09/11/95	1970	UG/L	B	5000	1
Chromium	7440-47-3	QCBLK77590-1	09/08/95	09/11/95	146	UG/L		20.0	1
Cobalt	7440-48-4	QCBLK77590-1	09/08/95	09/11/95	4.3	UG/L	U	50.0	1
Copper	7440-50-8	QCBLK77590-1	09/08/95	09/11/95	78.4	UG/L		25.0	1
Iron	7439-89-6	QCBLK77590-1	09/08/95	09/11/95	722	UG/L		100	1
Magnesium	7439-95-4	QCBLK77590-1	09/08/95	09/11/95	356	UG/L	B	5000	1
Manganese	7439-96-5	QCBLK77590-1	09/08/95	09/11/95	33.4	UG/L		15.0	1
Nickel	7440-02-0	QCBLK77590-1	09/08/95	09/11/95	305	UG/L		40.0	1
Potassium	7440-09-7	QCBLK77590-1	09/08/95	09/11/95	1060	UG/L	U	5000	1
Silver	7440-22-4	QCBLK77590-1	09/08/95	09/11/95	2.2	UG/L	U	200	1
Sodium	7440-23-5	QCBLK77590-1	09/08/95	09/11/95	1130000	UG/L		10000	10
Vanadium	7440-62-2	QCBLK77590-1	09/08/95	09/11/95	4.0	UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK77590-1	09/08/95	09/11/95	157	UG/L		20.0	1

9613447.0037

Quanterra Environmental Services

Quanterra-Richland
P.O. Box 1970
Richland, WA 99352

Project: 550.102

Category: ICAP Metals TAL EPA 6010
Method: EPA 6010
Matrix: LIQUID

Client ID: BOGJP1

Sample Date : 08/30/95
Receipt Date : 08/31/95
Report Date : 09/13/95

Quanterra ID : 9263-001MS

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK77590-1	09/08/95	09/11/95	95	%REC			1
Antimony	7440-36-0	QCBLK77590-1	09/08/95	09/11/95	105	%REC			1
Barium	7440-39-3	QCBLK77590-1	09/08/95	09/11/95	90	%REC			1
Beryllium	7440-41-7	QCBLK77590-1	09/08/95	09/11/95	95	%REC			1
Cadmium	7440-43-9	QCBLK77590-1	09/08/95	09/11/95	94	%REC			1
Chromium	7440-47-3	QCBLK77590-1	09/08/95	09/11/95	89	%REC			1
Cobalt	7440-48-4	QCBLK77590-1	09/08/95	09/11/95	92	%REC			1
Copper	7440-50-8	QCBLK77590-1	09/08/95	09/11/95	92	%REC			1
Iron	7439-89-6	QCBLK77590-1	09/08/95	09/11/95	94	%REC			1
Manganese	7439-96-5	QCBLK77590-1	09/08/95	09/11/95	92	%REC			1
Nickel	7440-02-0	QCBLK77590-1	09/08/95	09/11/95	90	%REC			1
Silver	7440-22-4	QCBLK77590-1	09/08/95	09/11/95	96	%REC			1
Vanadium	7440-62-2	QCBLK77590-1	09/08/95	09/11/95	92	%REC			1
Zinc	7440-66-6	QCBLK77590-1	09/08/95	09/11/95	89	%REC			1

9613447.0038

Quanterra Environmental Services

Quanterra-Richland
P.O. Box 1970
Richland, WA 99352

Project: 550.102

Category: ICAP Metals TAL EPA 6010
Method: EPA 6010
Matrix: LIQUID

Sample Date : 08/30/95
Receipt Date : 08/31/95
Report Date : 09/13/95

Client ID: BOGJP1

Quanterra ID : 9263-001MSD

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK77590-1	09/08/95	09/11/95	97	%REC			1
Antimony	7440-36-0	QCBLK77590-1	09/08/95	09/11/95	105	%REC			1
Barium	7440-39-3	QCBLK77590-1	09/08/95	09/11/95	91	%REC			1
Beryllium	7440-41-7	QCBLK77590-1	09/08/95	09/11/95	97	%REC			1
Cadmium	7440-43-9	QCBLK77590-1	09/08/95	09/11/95	97	%REC			1
Chromium	7440-47-3	QCBLK77590-1	09/08/95	09/11/95	90	%REC			1
Cobalt	7440-48-4	QCBLK77590-1	09/08/95	09/11/95	94	%REC			1
Copper	7440-50-8	QCBLK77590-1	09/08/95	09/11/95	94	%REC			1
Iron	7439-89-6	QCBLK77590-1	09/08/95	09/11/95	94	%REC			1
Manganese	7439-96-5	QCBLK77590-1	09/08/95	09/11/95	94	%REC			1
Nickel	7440-02-0	QCBLK77590-1	09/08/95	09/11/95	93	%REC			1
Silver	7440-22-4	QCBLK77590-1	09/08/95	09/11/95	94	%REC			1
Vanadium	7440-62-2	QCBLK77590-1	09/08/95	09/11/95	94	%REC			1
Zinc	7440-66-6	QCBLK77590-1	09/08/95	09/11/95	93	%REC			1

9613447.0039

Quanterra
Environmental Services

Quanterra-Richland
P.O. Box 1970
Richland, WA 99352

Project: 550.102

Category: ICAP Metals TAL EPA 6010
Method: EPA 6010
Matrix: LIQUID

Client ID: BOGJP2

Sample Date : 08/30/95
Receipt Date : 08/31/95
Report Date : 09/13/95

Quanterra ID : 9263-002

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK77590-1	09/08/95	09/11/95	1790	UG/L		200	1
Antimony	7440-36-0	QCBLK77590-1	09/08/95	09/11/95	260	UG/L		100	1
Barium	7440-39-3	QCBLK77590-1	09/08/95	09/11/95	2.7	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK77590-1	09/08/95	09/11/95	1.5	UG/L	B	7.0	1
Cadmium	7440-43-9	QCBLK77590-1	09/08/95	09/11/95	3.1	UG/L	U	20.0	1
Calcium	7440-70-2	QCBLK77590-1	09/08/95	09/11/95	1700	UG/L	B	5000	1
Chromium	7440-47-3	QCBLK77590-1	09/08/95	09/11/95	2.8	UG/L	U	20.0	1
Cobalt	7440-48-4	QCBLK77590-1	09/08/95	09/11/95	4.3	UG/L	U	50.0	1
Copper	7440-50-8	QCBLK77590-1	09/08/95	09/11/95	149	UG/L		25.0	1
Iron	7439-89-6	QCBLK77590-1	09/08/95	09/11/95	559	UG/L		100	1
Magnesium	7439-95-4	QCBLK77590-1	09/08/95	09/11/95	756	UG/L	B	5000	1
Manganese	7439-96-5	QCBLK77590-1	09/08/95	09/11/95	13.7	UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK77590-1	09/08/95	09/11/95	28.0	UG/L	B	40.0	1
Potassium	7440-09-7	QCBLK77590-1	09/08/95	09/11/95	21100	UG/L	U	100000	20
Silver	7440-22-4	QCBLK77590-1	09/08/95	09/11/95	44.0	UG/L	U	4000	20
Sodium	7440-23-5	QCBLK77590-1	09/08/95	09/11/95	30000000	UG/L		1000000	1000
Vanadium	7440-62-2	QCBLK77590-1	09/08/95	09/11/95	354	UG/L		50.0	1
Zinc	7440-66-6	QCBLK77590-1	09/08/95	09/11/95	65.3	UG/L		20.0	1

9613447.0040

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0GJP1

Lab Name: QUANTERRA_MO Contract: 550.102
Lab Code: ITMO Case No.: SAS No.: SDG No.: W0695
Matrix (soil/water): WATER Lab Sample ID: 9263-001
Level (low/med): LOW Date Received: 08/31/95
% 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	35.6	B		P
7440-36-0	Antimony	45.9	U		P
7440-39-3	Barium	2.1	B		P
7440-41-7	Beryllium	0.50	U		P
7440-43-9	Cadmium	3.1	U		P
7440-70-2	Calcium	1970	B		P
7440-47-3	Chromium	146			P
7440-48-4	Cobalt	4.3	U		P
7440-50-8	Copper	78.4			P
7439-89-6	Iron	722			P
7439-95-4	Magnesium	356	B		P
7439-96-5	Manganese	33.4			P
7440-02-0	Nickel	305			P
7440-09-7	Potassium	1060	U		P
7440-22-4	Silver	2.2	U		P
7440-23-5	Sodium	1130000			P
7440-62-2	Vanadium	4.0	B		P
7440-66-6	Zinc	157			P

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

Comments:

FORM I - IN

SW-846

9613447.0041

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0GJP2

Lab Name: QUANTERRA MO Contract: 550.102
Lab Code: ITMO Case No.: SAS No.: SDG No.: W0695
Matrix (soil/water): WATER Lab Sample ID: 9263-002
Level (low/med): LOW Date Received: 08/31/95
% 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	1790			P
7440-36-0	Antimony	260			P
7440-39-3	Barium	2.7	B		P
7440-41-7	Beryllium	1.5	B		P
7440-43-9	Cadmium	3.1	U		P
7440-70-2	Calcium	1700	B		P
7440-47-3	Chromium	2.8	U		P
7440-48-4	Cobalt	4.3	U		P
7440-50-8	Copper	149			P
7439-89-6	Iron	559			P
7439-95-4	Magnesium	756	B		P
7439-96-5	Manganese	13.7	B		P
7440-02-0	Nickel	28.0	B		P
7440-09-7	Potassium	21100	U		P
7440-22-4	Silver	44.0	U		P
7440-23-5	Sodium	30000000			P
7440-62-2	Vanadium	354			P
7440-66-6	Zinc	65.3			P

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

Comments:

FORM I - IN

SW-846

9613447.0042

Quanterra Environmental Services

Quanterra-Richland
P.O. Box 1970
Richland, WA 99352

Project: 550.102

Category: Chloride
Method: EPA 300.0
Matrix: LIQUID

Sample Date : 08/30/95
Receipt Date : 08/31/95
Report Date : 09/13/95

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
BOGJP1	9263-001	Chloride	16887-00-6	QCBLK77598-1	09/07/95	09/07/95	927	MG/L		40.0	200
BOGJP1	9263-001DUP	Chloride	16887-00-6	QCBLK77598-1	09/07/95	09/07/95	933	MG/L		40.0	200
BOGJP1	9263-001MS	Chloride	16887-00-6	QCBLK77598-1	09/07/95	09/07/95	0	%REC			200
BOGJP2	9263-002	Chloride	16887-00-6	QCBLK77921-1	09/13/95	09/13/95	31400	MG/L		2000	10000
NA	QCBLK77598-1	Chloride	16887-00-6	QCBLK77598-1	09/07/95	09/07/95	0.20	MG/L	U	0.20	1
NA	QCBLK77921-1	Chloride	16887-00-6	QCBLK77921-1	09/13/95	09/13/95	0.20	MG/L	U	0.20	1
NA	QCLCS77598-1	Chloride	16887-00-6	QCBLK77598-1	09/07/95	09/07/95	94	%REC			1
NA	QCLCS77921-1	Chloride	16887-00-6	QCBLK77921-1	09/13/95	09/13/95	95	%REC			1

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Quanterra Environmental Services

Quanterra-Richland
P.O. Box 1970
Richland, WA 99352

Project: 550.102

Category: Fluoride
Method: EPA 300.0
Matrix: LIQUID

Sample Date : 08/30/95
Receipt Date : 08/31/95
Report Date : 09/13/95

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
B0GJP1	9263-001	Fluoride	16984-48-8	QCBLK77921-1	09/13/95	09/13/95	0.50	MG/L	U	0.50	5
B0GJP1	9263-001DUP	Fluoride	16984-48-8	QCBLK77921-1	09/13/95	09/13/95	0.50	MG/L	U	0.50	5
B0GJP1	9263-001MS	Fluoride	16984-48-8	QCBLK77921-1	09/13/95	09/13/95	115	%REC			5
B0GJP2	9263-002	Fluoride	16984-48-8	QCBLK77921-1	09/13/95	09/13/95	20.0	MG/L	U	20.0	200
NA	QCBLK77921-1	Fluoride	16984-48-8	QCBLK77921-1	09/13/95	09/13/95	0.10	MG/L	U	0.10	1
NA	QCLCS77921-1	Fluoride	16984-48-8	QCBLK77921-1	09/13/95	09/13/95	97	%REC			1

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Quanterra Environmental Services

Quanterra-Richland
P.O. Box 1970
Richland, WA 99352

Project: 550.102

Category: Nitrate
Method: EPA 300.0
Matrix: LIQUID

Sample Date : 08/30/95
Receipt Date : 08/31/95
Report Date : 09/13/95

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
B0GJP1	9263-001	Nitrate	14797-55-8	QCBLK77598-1	09/07/95	09/07/95	0.31	MG/L		0.040	2
B0GJP1	9263-001DUP	Nitrate	14797-55-8	QCBLK77598-1	09/07/95	09/07/95	0.31	MG/L		0.040	2
B0GJP1	9263-001MS	Nitrate	14797-55-8	QCBLK77598-1	09/07/95	09/07/95	94	%REC			5
B0GJP2	9263-002	Nitrate	14797-55-8	QCBLK77598-1	09/07/95	09/07/95	0.20	MG/L	U	0.20	10
NA	QCBLK77598-1	Nitrate	14797-55-8	QCBLK77598-1	09/07/95	09/07/95	0.020	MG/L	U	0.020	1
NA	QCLCS77598-1	Nitrate	14797-55-8	QCBLK77598-1	09/07/95	09/07/95	93	%REC			1

9613447.0045

Quanterra Environmental Services

Quanterra-Richland
P.O. Box 1970
Richland, WA 99352

Project: 550.102

Category: Nitrite
Method: EPA 300.0
Matrix: LIQUID

Sample Date : 08/30/95
Receipt Date : 08/31/95
Report Date : 09/13/95

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
B0GJP1	9263-001	Nitrite	14797-65-0	QCBLK77921-1	09/13/95	09/13/95	1.47	MG/L		0.40	20
B0GJP1	9263-001DUP	Nitrite	14797-65-0	QCBLK77921-1	09/13/95	09/13/95	1.40	MG/L		0.40	20
B0GJP1	9263-001MS	Nitrite	14797-65-0	QCBLK77921-1	09/13/95	09/13/95	84	%REC			20
B0GJP2	9263-002	Nitrite	14797-65-0	QCBLK77921-1	09/13/95	09/13/95	20.0	MG/L	U	20.0	1000
NA	QCBLK77921-1	Nitrite	14797-65-0	QCBLK77921-1	09/13/95	09/13/95	0.020	MG/L	U	0.020	1
NA	QCLCS77921-1	Nitrite	14797-65-0	QCBLK77921-1	09/13/95	09/13/95	102	%REC			1

9613447.0046

Quanterra Environmental Services

Quanterra-Richland
P.O. Box 1970
Richland, WA 99352

Project: 550.102

Category: Orthophosphate
Method: EPA 300.0
Matrix: LIQUID

Sample Date : 08/30/95
Receipt Date : 08/31/95
Report Date : 09/13/95

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
BOGJP1	9263-001	Ortho-Phosphate	14265-44-2	QCBLK77598-1	09/07/95	09/07/95	0.50	MG/L	U	0.50	1
BOGJP1	9263-001DUP	Ortho-Phosphate	14265-44-2	QCBLK77598-1	09/07/95	09/07/95	0.50	MG/L	U	0.50	1
BOGJP1	9263-001MS	Ortho-Phosphate	14265-44-2	QCBLK77598-1	09/07/95	09/07/95	104	%REC			1
BOGJP2	9263-002	Ortho-Phosphate	14265-44-2	QCBLK77598-1	09/07/95	09/07/95	10.0	MG/L	U	10.0	20
NA	QCBLK77598-1	Ortho-Phosphate	14265-44-2	QCBLK77598-1	09/07/95	09/07/95	0.50	MG/L	U	0.50	1
NA	QCLCS77598-1	Ortho-Phosphate	14265-44-2	QCBLK77598-1	09/07/95	09/07/95	92	%REC			1

9613447.0047

Quanterra Environmental Services

Quanterra-Richland
P.O. Box 1970
Richland, WA 99352

Project: 550.102

Category: Sulfate
Method: EPA 300.0
Matrix: LIQUID

Sample Date : 08/30/95
Receipt Date : 08/31/95
Report Date : 09/13/95

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
B0GJP1	9263-001	Sulfate	14808-79-8	QCBLK77598-1	09/07/95	09/07/95	32.9	MG/L		1.00	2
B0GJP1	9263-001DUP	Sulfate	14808-79-8	QCBLK77598-1	09/07/95	09/07/95	33.2	MG/L		1.00	2
B0GJP1	9263-001MS	Sulfate	14808-79-8	QCBLK77598-1	09/07/95	09/07/95	81	%REC			5
B0GJP2	9263-002	Sulfate	14808-79-8	QCBLK77598-1	09/07/95	09/07/95	296	MG/L		25.0	50
NA	QCBLK77598-1	Sulfate	14808-79-8	QCBLK77598-1	09/07/95	09/07/95	0.50	MG/L	U	0.50	1
NA	QCLCS77598-1	Sulfate	14808-79-8	QCBLK77598-1	09/07/95	09/07/95	82	%REC			1