

0050818



Quanterra Incorporated
13715 Rider Trail North
Earth City, Missouri 63045

CASE NARRATIVE

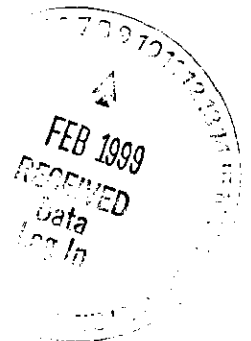
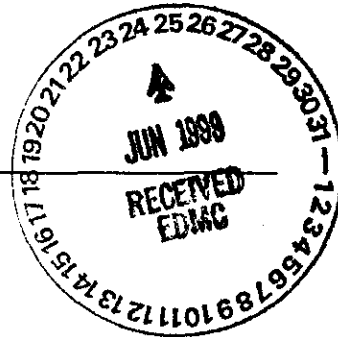
314 298-8566 Telephone
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Bechtel Hanford Incorporated
3350 George Washington Way
Richland, Washington 99352

February 8, 1999

Attention: Joan Kessner

Project Number	:	550.184
SDG	:	W02593
Number of Samples	:	Fifty-six (56)
Sample Matrix	:	Water
Data Deliverable	:	Summary
Date SDG Closed	:	November 17, 1998



II. Introduction

Between November 3, 1998 and November 18, 1998, a total of fifty-six (56) "water" samples were received by Quanterra, Richland and transferred to Quanterra, St. Louis for chemical analysis. Sample B0T1H1 was received at Quanterra, St. Louis on 11/19/98 other samples on COC-009-71 were received on 11/17/99. Upon receipt, the samples were given the following laboratory ID numbers to correspond with the specific client ID's:

<u>St. Louis ID</u>	<u>BHI ID</u>	<u>SAF ID</u>	<u>Matrix</u>	<u>Date of Receipt</u>
20425-001	B0T113	C99-009	WATER	03-NOV-98
20425-002	B0T116	C99-009	WATER	03-NOV-98
20425-003	B0T120	C99-009	WATER	03-NOV-98
20425-004	B0T1J0	C99-009	WATER	03-NOV-98
20425-005	B0T189	C99-009	WATER	03-NOV-98
20425-006	B0T429	C99-009	WATER	03-NOV-98
20425-007	B0T1B5	C99-009	WATER	03-NOV-98
20425-008	B0T1D3	C99-009	WATER	03-NOV-98
20425-009	B0T1D6	C99-009	WATER	03-NOV-98
20425-010	B0T1D7	C99-009	WATER	03-NOV-98
20425-011	B0T1D4	C99-009	WATER	03-NOV-98
20425-012	B0T1B6	C99-009	WATER	03-NOV-98
20425-013	B0T430	C99-009	WATER	03-NOV-98
20425-014	B0T191	C99-009	WATER	03-NOV-98
20425-015	B0T1J1	C99-009	WATER	03-NOV-98

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<u>St. Louis ID</u>	<u>BHI ID</u>	<u>SAF ID</u>	<u>Matrix</u>	<u>Date of Receipt</u>
20425-016	B0T121	C99-009	WATER	03-NOV-98
20425-017	B0T117	C99-009	WATER	03-NOV-98
20425-018	B0T114	C99-009	WATER	03-NOV-98
20427-001	B0T1J6	C99-009	WATER	04-NOV-98
20427-002	B0T150	C99-009	WATER	04-NOV-98
20427-003	B0T153	C99-009	WATER	04-NOV-98
20427-004	B0T156	C99-009	WATER	04-NOV-98
20427-005	B0T137	C99-009	WATER	04-NOV-98
20427-006	B0T136	C99-009	WATER	04-NOV-98
20427-007	B0T1J5	C99-009	WATER	04-NOV-98
20427-008	B0T149	C99-009	WATER	04-NOV-98
20427-009	B0T152	C99-009	WATER	04-NOV-98
20427-010	B0T155	C99-009	WATER	04-NOV-98
20428-001	B0T1B0	C99-009	WATER	18-NOV-98
20428-002	B0T1F3	C99-009	WATER	18-NOV-98
20428-003	B0T129	C99-009	WATER	18-NOV-98
20428-004	B0T128	C99-009	WATER	18-NOV-98
20428-005	B0T198	C99-009	WATER	18-NOV-98
20428-006	B0T1F2	C99-009	WATER	18-NOV-98
20429-001	B0T123	C99-009	WATER	05-NOV-98
20429-002	B0T1F6	C99-009	WATER	05-NOV-98
20429-003	B0T1F5	C99-009	WATER	05-NOV-98
20429-004	B0T122	C99-009	WATER	05-NOV-98
20429-005	B0T1F9	C99-009	WATER	05-NOV-98
20429-006	B0T1H0	C99-009	WATER	05-NOV-98
20430-001	B0T1D9	C99-009	WATER	17-NOV-98
20430-002	B0T1H7	C99-009	WATER	17-NOV-98
20430-003	B0T1C2	C99-009	WATER	17-NOV-98
20430-004	B0T1H4	C99-009	WATER	17-NOV-98
20430-005	B0T432	C99-009	WATER	17-NOV-98
20430-006	B0T125	C99-009	WATER	17-NOV-98
20430-007	B0T126	C99-009	WATER	17-NOV-98
20430-008	B0T433	C99-009	WATER	17-NOV-98
20430-009	B0T1H2	C99-009	WATER	17-NOV-98
20430-010	B0T1H5	C99-009	WATER	17-NOV-98
20430-011	B0T1C4	C99-009	WATER	17-NOV-98
20430-012	B0T1F0	C99-009	WATER	17-NOV-98
20430-014	B0T1H8	C99-009	WATER	17-NOV-98

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<u>St. Louis ID</u>	<u>BHI ID</u>	<u>SAF ID</u>	<u>Matrix</u>	<u>Date of Receipt</u>
20430-015	B0T1H1	C99-009	WATER	17-NOV-98
20431-001	B0T172	C99-009	WATER	11-NOV-98
20431-002	B0T170	C99-009	WATER	11-NOV-98

NOTE: 20430-013 was deleted. No client sample assigned.

III. Analytical Results/ Methodology

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

Analyses requested: ICP Metals by EPA method 6010A
 Anions by EPA method 300.0, (CL,FL,NO2,NO3,SO4)

Deviation from Request: No Deviation from requested methods.

IV. Definitions

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

QCBLK- Quality Control Blank, Method Blank
QCLCS- Quality Control Laboratory Control Sample, Blank Spike
DUP- Laboratory Duplicate
MS- Matrix Spike
MSD- Matrix Spike Duplicate

V. Comments

General: Due to complications with the Quanterra, St. Louis L.I.M.S., new login numbers were issued for certain samples that were already logged into the database. Please note that anywhere the new login number is mentioned it is referring to the original login number listed in the table below:

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<u>Original Login Number</u>	<u>New Login Number</u>
19283	20425
19291	20427
19413	20428
19300	20429
19410	20430
19355	20431

The assignment of new login numbers does not alter any of the data results.

Inorganics:

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

The recoveries of the Silver matrix spike (58.2%) and the matrix spike duplicate (61.1%) for sample 19291-006 were less than 75% therefore all associated data was flagged with a "N".

Wet Chemistry:

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

There were no comments for this parameter.

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

Reviewed and approved:



Shiela M. Louvier
St. Louis Project Manager

0004A

Project Manager: R. White

Reviewed by and Date: Robert E. White

Sample Header Template:

Sample No. # Comments Container Type Data:	Client ID	C-Matrix Analysis	Date: Collected Class Preservative	Received Anal. Due Date	Due Hold Date	Shipper Site	Rad Category (Container Numbers:% Filled)	Rad Sample No.
19283-001 SAF C99-009 1 PN - Plastic-500ml	B0T113	Water ICAPD/6010/Q4	S HNO3	02-NOV-98 11:09 25-NOV-98	03-NOV-98 08:00	03-DEC-98 AIRBORNE	3* (414230:99)	R7937-018
19283-002 SAF C99-009 1 PN - Plastic-500ml	B0T116	Water ICAPD/6010/Q4	S HNO3	02-NOV-98 11:05 25-NOV-98	03-NOV-98 08:00	03-DEC-98 AIRBORNE	3* (414232:99)	R7937-017
19283-003 SAF C99-009 1 PN - Plastic-500ml	B0T120	Water ICAPD/6010/Q4	S HNO3	02-NOV-98 11:05 25-NOV-98	03-NOV-98 08:00	03-DEC-98 AIRBORNE	3* (414233:99)	R7937-016
19283-004 SAF C99-009 1 PN - Plastic-500ml	B0T1J0	Water ICAPD/6010/Q4	S HNO3	02-NOV-98 13:19 25-NOV-98	03-NOV-98 08:00	03-DEC-98 AIRBORNE	3* (414234:99)	R7937-015
19283-005 SAF C99-009 1 PN - Plastic-500ml	B0T189	Water ICAPD/6010/Q4	S HNO3	02-NOV-98 11:04 25-NOV-98	03-NOV-98 08:00	03-DEC-98 AIRBORNE	3* (414235:99)	R7937-014
19283-006 SAF C99-009 1 PN - Plastic-500ml	B0T429	Water ICAPD/6010/Q4	S HNO3	02-NOV-98 09:00 25-NOV-98	03-NOV-98 08:00	03-DEC-98 AIRBORNE	3* (414236:99)	R7937-013
19283-007 SAF C99-009 1 PN - Plastic-500ml	B0T1B5	Water ICAPD/6010/Q4	S HNO3	02-NOV-98 13:12 25-NOV-98	03-NOV-98 08:00	03-DEC-98 AIRBORNE	3* (414237:99)	R7937-012
19283-008 SAF C99-009 1 PN - Plastic-500ml	B0T1D3	Water ICAPD/6010/Q4	S HNO3	02-NOV-98 12:15 25-NOV-98	03-NOV-98 08:00	03-DEC-98 AIRBORNE	3* (414238:99)	R7937-011
19283-009 SAF C99-009	B0T1D6	Water	S HNO3	02-NOV-98 13:01 25-NOV-98	03-NOV-98 08:00	03-DEC-98 AIRBORNE	3* (414238:99)	R7937-010

3* Sample has not been rad screened.

Project Manager: R. White

Reviewed by and Date: _____

Sample Header Template: _____

Sample No. #	Comments Container Type	Client ID	C-Matrix Analysis	Date: Collected Class	Received Preservative	Due Anal. Due Date	Shipper Hold Date Site	Rad Category (Container Numbers:% Filled)	Rad Sample No.
1	PN - Plastic-500ml		ICAP/6010/Q4	S	HNO3	25-NOV-98	02-MAY-99 S4B	(414239:99)	
19283-010	SAF C99-009	BOT1D7	Water	02-NOV-98	13:01	03-NOV-98 08:00	03-DEC-98 AIRBORNE	3*	R7937-009
1	PN - Plastic-500ml		CL/300.0/Q4	S	COLD	25-NOV-98	30-NOV-98 S4B	(414241:99)	
1			FL/300.0/Q4	S	COLD	25-NOV-98	30-NOV-98 S4B	(414241:99)	
1			ICAP/6010/Q4	S	HNO3	25-NOV-98	01-MAY-99 S4B	(414240:99)	
1			NO2/300.0/Q4	S	COLD	25-NOV-98	04-NOV-98 S4B	(414241:99)	
1			NO3/300.0/Q4	S	COLD	25-NOV-98	04-NOV-98 S4B	(414241:99)	
1			SO4/300.0/Q4	S	COLD	25-NOV-98	30-NOV-98 S4B	(414241:99)	
1	PW - Plastic-2oz		RAD/SCREEN/Q4	S	COLD	25-NOV-98	02-MAY-99 S4B	(414382:99)	
19283-011	SAF C99-009	BOT1D4	Water	02-NOV-98	12:15	03-NOV-98 08:00	03-DEC-98 AIRBORNE	3*	R7937-008
1	PN - Plastic-500ml		CL/300.0/Q4	S	COLD	25-NOV-98	30-NOV-98 S4B	(414243:99)	
1			FL/300.0/Q4	S	COLD	25-NOV-98	30-NOV-98 S4B	(414243:99)	
1			ICAP/6010/Q4	S	HNO3	25-NOV-98	01-MAY-99 S4B	(414242:99)	
1			NO2/300.0/Q4	S	COLD	25-NOV-98	04-NOV-98 S4B	(414243:99)	
1			NO3/300.0/Q4	S	COLD	25-NOV-98	04-NOV-98 S4B	(414243:99)	
1			SO4/300.0/Q4	S	COLD	25-NOV-98	30-NOV-98 S4B	(414243:99)	
1	PW - Plastic-2oz		RAD/SCREEN/Q4	S	COLD	25-NOV-98	02-MAY-99 S4B	(414383:99)	
19283-012	SAF C99-009	BOT1B6	Water	02-NOV-98	13:12	03-NOV-98 08:00	03-DEC-98 AIRBORNE	3*	R7937-007
1	PN - Plastic-500ml		CL/300.0/Q4	S	COLD	25-NOV-98	30-NOV-98 S4B	(414245:99)	
1			FL/300.0/Q4	S	COLD	25-NOV-98	30-NOV-98 S4B	(414245:99)	
1			ICAP/6010/Q4	S	HNO3	25-NOV-98	01-MAY-99 S4B	(414244:99)	
1			NO2/300.0/Q4	S	COLD	25-NOV-98	04-NOV-98 S4B	(414245:99)	
1			NO3/300.0/Q4	S	COLD	25-NOV-98	04-NOV-98 S4B	(414245:99)	
1			SO4/300.0/Q4	S	COLD	25-NOV-98	30-NOV-98 S4B	(414245:99)	
1	PW - Plastic-2oz		RAD/SCREEN/Q4	S	COLD	25-NOV-98	02-MAY-99 S4B	(414384:99)	
19283-013	SAF C99-009	BOT430	Water	02-NOV-98	09:00	03-NOV-98 08:00	03-DEC-98 AIRBORNE	3*	R7937-006
1	PN - Plastic-500ml		CL/300.0/Q4	S	COLD	25-NOV-98	30-NOV-98 S4B	(414247:99)	
1			FL/300.0/Q4	S	COLD	25-NOV-98	30-NOV-98 S4B	(414247:99)	
1			ICAP/6010/Q4	S	HNO3	25-NOV-98	01-MAY-99 S4B	(414246:99)	
1			NO2/300.0/Q4	S	COLD	25-NOV-98	04-NOV-98 S4B	(414247:99)	
1			NO3/300.0/Q4	S	COLD	25-NOV-98	04-NOV-98 S4B	(414247:99)	
1			SO4/300.0/Q4	S	COLD	25-NOV-98	30-NOV-98 S4B	(414247:99)	

30 Sample has not been rad screened.

Project Manager: R. White

Reviewed by and Date: _____

Sample Header Template: _____

Sample No.	Client ID	C-Matrix	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No.
Comments								
# Container Type		Analysis	Class	Preservative	Anal. Due Date	Hold Date Site	(Container Numbers:% Filled)	
Data:								
1 PW - Plastic-2oz		RAD/SCREEN/Q4	S	COLD	25-NOV-98	02-MAY-99 S4B	(414385:99)	
19283-014	BOT191	Water	02-NOV-98 11:04	03-NOV-98 08:00	03-DEC-98	AIRBORNE	3*	R7937-005
SAF C99-009								
1 PN - Plastic-500ml		CL/300.0/Q4	S	COLD	25-NOV-98	30-NOV-98 S4B	(414249:99)	
1		FL/300.0/Q4	S	COLD	25-NOV-98	30-NOV-98 S4B	(414249:99)	
1		ICAP/6010/Q4	S	HNO3	25-NOV-98	01-MAY-99 S4B	(414248:99)	
1		NO2/300.0/Q4	S	COLD	25-NOV-98	04-NOV-98 S4B	(414249:99)	
1		NO3/300.0/Q4	S	COLD	25-NOV-98	04-NOV-98 S4B	(414249:99)	
1		SO4/300.0/Q4	S	COLD	25-NOV-98	30-NOV-98 S4B	(414249:99)	
1 PW - Plastic-2oz		RAD/SCREEN/Q4	S	COLD	25-NOV-98	02-MAY-99 S4B	(414386:99)	
19283-014DUP	BOT191	Water	02-NOV-98 11:04	03-NOV-98 08:00	03-DEC-98	AIRBORNE	3*	R7937-005
SAF C99-009								
1 PN - Plastic-500ml		CL/300.0/Q4	S	COLD	25-NOV-98	30-NOV-98 S4B	(414249:99)	
1		FL/300.0/Q4	S	COLD	25-NOV-98	30-NOV-98 S4B	(414249:99)	
1		NO2/300.0/Q4	S	COLD	25-NOV-98	04-NOV-98 S4B	(414249:99)	
1		NO3/300.0/Q4	S	COLD	25-NOV-98	04-NOV-98 S4B	(414249:99)	
1		SO4/300.0/Q4	S	COLD	25-NOV-98	30-NOV-98 S4B	(414249:99)	
19283-014MS	BOT191	Water	02-NOV-98 11:04	03-NOV-98 08:00	03-DEC-98	AIRBORNE	3*	R7937-005
SAF C99-009								
1 PN - Plastic-500ml		CL/300.0/Q4	S	COLD	25-NOV-98	30-NOV-98 S4B	(414249:99)	
1		FL/300.0/Q4	S	COLD	25-NOV-98	30-NOV-98 S4B	(414249:99)	
1		ICAP/6010/Q4	S	HNO3	25-NOV-98	01-MAY-99 S4B	(414248:99)	
1		NO2/300.0/Q4	S	COLD	25-NOV-98	04-NOV-98 S4B	(414249:99)	
1		NO3/300.0/Q4	S	COLD	25-NOV-98	04-NOV-98 S4B	(414249:99)	
1		SO4/300.0/Q4	S	COLD	25-NOV-98	30-NOV-98 S4B	(414249:99)	
19283-014MSD	BOT191	Water	02-NOV-98 11:04	03-NOV-98 08:00	03-DEC-98	AIRBORNE	3*	R7937-005
SAF C99-009								
1 PN - Plastic-500ml		ICAP/6010/Q4	S	HNO3	25-NOV-98	01-MAY-99 S4B	(414248:99)	
19283-015	BOT1J1	Water	02-NOV-98 13:19	03-NOV-98 08:00	03-DEC-98	AIRBORNE	3*	R7937-004
SAF C99-009								
1 PN - Plastic-500ml		CL/300.0/Q4	S	COLD	25-NOV-98	30-NOV-98 S4B	(414251:99)	
1		FL/300.0/Q4	S	COLD	25-NOV-98	30-NOV-98 S4B	(414251:99)	
1		ICAP/6010/Q4	S	HNO3	25-NOV-98	01-MAY-99 S4B	(414250:99)	
1		NO2/300.0/Q4	S	COLD	25-NOV-98	04-NOV-98 S4B	(414251:99)	

3*=Sample has not been rad screened.

200674

Project Manager: R. White

Reviewed by and Date: _____

Sample Header Template: _____

Sample No.	Client ID	C-Matrix	Date: Collected		Received	Due	Shipper	Rad Category	Rad Sample No.
Comments		Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)	
1		NO3/300.0/Q4	S	COLD	25-NOV-98	04-NOV-98	S4B	(414251:99)	
1		SO4/300.0/Q4	S	COLD	25-NOV-98	30-NOV-98	S4B	(414251:99)	
1 PW - Plastic-2oz		RAD/SCREEN/Q4	S	COLD	25-NOV-98	02-MAY-99	S4B	(414387:99)	
83-016	BOT121	Water	02-NOV-98 11:05		03-NOV-98 08:00	03-DEC-98	AIRBORNE	3*	R7937-003
SAF C99-009									
1 PN - Plastic-500ml		ICAP/6010/Q4	S	HNO3	25-NOV-98	01-MAY-99	S4B	(414252:99)	
1 PW - Plastic-2oz		RAD/SCREEN/Q4	S	COLD	25-NOV-98	02-MAY-99	S4B	(414388:99)	
83-017	BOT117	Water	02-NOV-98 11:05		03-NOV-98 08:00	03-DEC-98	AIRBORNE	3*	R7937-002
SAF C99-009									
1 PN - Plastic-500ml		ICAP/6010/Q4	S	HNO3	25-NOV-98	01-MAY-99	S4B	(414254:99)	
1 PW - Plastic-2oz		RAD/SCREEN/Q4	S	COLD	25-NOV-98	02-MAY-99	S4B	(414389:99)	
83-018	BOT114	Water	02-NOV-98 10:09		03-NOV-98 08:00	03-DEC-98	AIRBORNE	3*	R7937-001
SAF C99-009									
1 PN - Plastic-500ml		ICAP/6010/Q4	S	HNO3	25-NOV-98	01-MAY-99	S4B	(414255:99)	
1 PW - Plastic-2oz		RAD/SCREEN/Q4	S	COLD	25-NOV-98	02-MAY-99	S4B	(414390:99)	

Sample has not been rad screened.

[illegible]

PNNL

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. #

C99-009-92

Page 1 of 1

Collector K.J. YOUNG (RFS)	Contact/Requester JH KESSNER	Telephone No. (509) 372-9538	MSIN FAX
SAF No. C99-009	Sampling Origin HANFORD SITE	Purchase Order/Charge Code	
Project Title 100-HR3-1AM (2) GW SAMPLING NOVEMBER 1998	Logbook No. LOIM-SIAL-HIS	Ice Chest No.	Temp. 4°C
Shipped To (Lab) Quanterra St. Louis	Method of Shipment GOVT. VEHICLE	Bill of Lading/Air Bill No. 6WS-107 00474568 416	
Protocol CERCLA	Data Turnaround 45 Days	Offsite Property No.	

POSSIBLE SAMPLE HAZARDS/REMARKS

.. ..

SPECIAL INSTRUCTIONS

Hold Time

Total Activity Exemption:

Yes ☒ No ☐

FAX COPIES OF TMA & QES LOG-IN TO DL STEWART (372-1704) & JM DUNCAN (372-9052).

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
BOT120 (F)	3	W	11-2-98	1105	1x500-mL GP	ICP Metals - 6010A RCRA GW 100% PH-1	HNO3 to pH <2
BOT121	16	W	↓	↓	1x500-mL GP	ICP Metals - 6010A RCRA GW ↓ ↓	HNO3 to pH <2
BOT121		W	↓	↓	1x20-mL P	Activity Scan	None

 Relinquished By
K.J. YOUNG (RFS)

Print

Sign

Date/Time

11-2-98 1405

Received By

Print

Sign

Date/Time

J. TRMANN

J. Trmann

11-3-98 0800

 Relinquished By
Date/Time

Received By

Date/Time

 Relinquished By
Date/Time

Received By

Date/Time

 Relinquished By
Date/Time

Received By

Date/Time

Matrix *

S = Soil	DS = Drum Solid
SE = Sediment	DL = Drum Liquid
SO = Solid	T = Tissue
SL = Sludge	WL = Wire
W = Water	L = Liquid
O = Oil	V = Vegetation
A = Air	X = Other

FINAL SAMPLE DISPOSITION

Disposal Method (e.g., Return to customer, per lab procedure, used in process)

Disposed By

Date/Time

[illegible]

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						C.O.C.# C99-009-83
							Page 1 of 1
Collector AG RIZZO		Contact/Requester JH KESSNER			Telephone No. (509) 372-9538		MSIN FAX
SAF No. C99-009		Sampling Origin HANFORD SITE			Purchase Order/Charge Code		
Project Title 100-HR3-IAM(2)LGW SAMPLING NOVEMBER 1998		Logbook No. WM SML-H6			Ice Chest No. GWS - 107 Temp. 4°C		
Shipped To (Lab) Quanterra St. Louis		Method of Shipment GOVT. VEHICLE			Bill of Lading/Air Bill No. 004719568 416		
Protocol CERCLA		Data Turnaround 45 Days			Offsite Property No.		
POSSIBLE SAMPLE HAZARDS/REMARKS				SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☒ No ☐ FAX COPIES OF TMA & QES LOG-IN TO DL STEWART (372-1704) & JM DUNCAN (372-9052).			
Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
BOT1J0 (F)	4	W	11/2/98	1319	1x500-mL GP	ICP Metals - 6010A RCRA GW 100% PH-1	HNO3 to pH <2
BOT1J1	15	W			1x500-mL GP	ICP Metals - 6010A RCRA GW	HNO3 to pH <2
BOT1J1		W			1x500-mL P	IC Anions - 300.0 (Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate) 100%	Cool 4C
BOT1J1		W			1x20-mL P	Activity Scan 100%	None
Relinquished By Print Sign AG RIZZO [Signature]	Date/Time 11/2/98	MOS	Received By Print Sign JOE TREMANN [Signature]	Date/Time 11-3-99	OFR	Matrix *	
Relinquished By	Date/Time		Received By	Date/Time		S = Soil DS = Drum Solid	DI = Drum Liquid
						SE = Sediment	T = Tissue
						SO = Solid	WI = Wine
						SL = Sludge	L = Liquid
						W = Water	V = Vegetation
						O = Oil	X = Other
						A = Air	
Relinquished By [Initials]	Date/Time		Received By	Date/Time			
Relinquished By [Initials]	Date/Time		Received By	Date/Time			
FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)			Disposed By		Date/Time	

PNNL		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				C.O.C. # C99-009-49					
Collector		Contact/Requester		Telephone No.		MSIN FAX					
KB HULSE		JH KESSNER		(509) 372-9538							
SAF No. C99-009		Sampling Origin HANFORD SITE		Purchase Order/Charge Code							
Project Title 100-HR3-1AM (2) GW SAMPLING NOVEMBER 1998		Logbook No. WM-SML-H20		Ice Chest No. GWS-107		Temp. 4°C					
Shipped To (Lab) Quanterra St. Louis		Method of Shipment GOVT VEHICLE		Bill of Lading/Air Bill No. 004719368 416							
Protocol CERCLA		Data Turnaround 45 Days		Offsite Property No.							
POSSIBLE SAMPLE HAZARDS/REMARKS				SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☒ No ☐ FAX COPIES OF TMA & QES LOG-IN TO DL STEWART (372-1704) & JM DUNCAN (372-9052).							
Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis		Preservative			
BOT189 (F)	5	W	11-2-98	1104	1x500-mL GP	ICP Metals - 6010A RCRA GW 100% PH-1		HNO3 to pH <2			
BOT191	14	W	↓	↓	1x500-mL GP	ICP Metals - 6010A RCRA GW ↓ ↓		HNO3 to pH <2			
BOT191		W	↓	↓	1x500-mL P	IC Anions - 300.0 (Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate) 100%		Cool 4C			
BOT191		W	↓	↓	1x20-mL P	Activity Scan 100%		None			
Relinquished By KB HULSE		Print [Signature]	Sign [Signature]	Date/Time 11-2-98 1405	Received By J. TIEMANN		Print [Signature]	Sign [Signature]	Date/Time 11-3-98 0800	Matrix *	
Relinquished By		Date/Time			Received By		Date/Time			S = Soil DS = Drum Solid SE = Sediment DL = Drum Liquid SO = Solid T = Tissue SL = Sludge WL = Wine W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other	
Relinquished By		Date/Time			Received By		Date/Time				
Relinquished By		Date/Time			Received By		Date/Time				
Relinquished By		Date/Time			Received By		Date/Time				
FINAL SAMPLE DISPOSITION		Disposal Method (e.g., Return to customer, per lab procedure, used in process)				Disposed By		Date/Time			

PNNL		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				C.O.C. # C99-009-53		
Collector KB HULSE		Contact/Requester JH KESSNER		Telephone No. (509) 372-9538		MSIN FAX		
SAF No. C99-009		Sampling Origin HANFORD SITE		Purchase Order/Charge Code				
Project Title 100-HR3-1AM (2) GW SAMPLING NOVEMBER 1998		Logbook No. UM-SML-H2O		Ice Chest No. GWS-107		Temp. 40C		
Shipped To (Lab) Quanterra St. Louis		Method of Shipment GOVT. VEHICLE		Bill of Lading/Air Bill No. 004719368 416				
Protocol CERCLA		Data Turnaround 45 Days		Offsite Property No.				
POSSIBLE SAMPLE HAZARDS/REMARKS				SPECIAL INSTRUCTIONS FAX COPIES OF TMA & QES LOG-IN TO DL STEWART (372-1704) & JM DUNCAN (372-9052).				
				Hold Time Total Activity Exemption: Yes ☒ No ☐				
Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis		Preservative
B0T1B5 (F)	7	W	11-2-98	1312	1x500-mL G/P	ICP Metals - 6010A RCRA GW 100% PH-1		HNO3 to pH <2
B0T1B6	12	W	↓	↓	1x500-mL G/P	ICP Metals - 6010A RCRA GW ↓ ↓		HNO3 to pH <2
B0T1B6		W	↓	↓	1x500-mL P	IC Anions - 300.0 (Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate) 100%		Cool 4C
B0T1B6		W	↓	↓	1x20-mL P	Activity Scan 100%		None
Relinquished By KB HULSE	Print KB Hulse	Sign [Signature]	Date/Time 11-2-98 1405	Received By J. Termon	Print J. Termon	Sign [Signature]	Date/Time 11-3-98 0800	Matrix *
Relinquished By			Date/Time	Received By			Date/Time	S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air
Relinquished By			Date/Time	Received By			Date/Time	DS = Drum Solid DL = Drum Liquid T = Tissue WT = Wine L = Liquid V = Vegetation X = Other
Relinquished By			Date/Time	Received By			Date/Time	
FINAL SAMPLE DISPOSITION		Disposal Method (e.g., Return to customer, per lab procedure, used in process)				Disposed By		Date/Time

PNNL						CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST								C.O.C. # C99-009-114 Page 1 of 1			
Collector JG HOGAN				Contact/Requester JH KESSNER				Telephone No. (509) 372-9538				MSIN FAX					
SAF No. C99-009				Sampling Origin HANFORD SITE				Purchase Order/Charge Code									
Project Title 100-HR3-IAM(2) GW SAMPLING NOVEMBER 1998				Logbook No. WM-SML-H2O				Ice Chest No. 6W3-107				Temp. 40C					
Shipped To (Lab) Quanterra St. Louis				Method of Shipment GOVT VEHICLE				Bill of Lading/Air Bill No. 004719568 416									
Protocol CERCLA				Data Turnaround 45 Days				Offsite Property No.									
POSSIBLE SAMPLE HAZARDS/REMARKS						SPECIAL INSTRUCTIONS FAX COPIES OF TMA & QES LOG-IN TO DL STEWART (372-1704) & JM DUNCAN (372-9052).						Hold Time Total Activity Exemption: Yes ☒ No ☐					
Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis						Preservative					
BOT429 (F)	6	W	11-2-98	0900	1x500-mL GP	ICP Metals - 6010A RCRA GW 100% PH-1						HNO3 to pH <2					
BOT430	13	W	↓	↓	1x500-mL GP	ICP Metals - 6010A RCRA GW ↓ ↓						HNO3 to pH <2					
BOT430		W	↓	↓	1x500-mL P	IC Anions - 300.0 (Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate) 100%						Cool 4C					
BOT430		W	↓	↓	1x20-mL P	Activity Scan 100%						None					
[Large diagonal line across remaining rows]																	
Relinquished By JG HOGAN				Print Sign		Date/Time 11-2-98 / 1403		Received By S. TIEMANN				Print Sign		Date/Time 11-3-98 0800		Matrix *	
Relinquished By				Print		Date/Time		Received By				Print		Date/Time		S = Soil DS = Drum Solid SE = Sediment DL = Drum Liquid SO = Solid T = Tissue SL = Sludge WL = Wine W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other	
Relinquished By				Print		Date/Time		Received By				Print		Date/Time			
Relinquished By				Print		Date/Time		Received By				Print		Date/Time			
FINAL SAMPLE DISPOSITION				Disposal Method (e.g., Return to customer, per lab procedure, used in process)						Disposed By				Date/Time			

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						C.O.C.# C99-009-58 Page 1 of 1
Collector AG RIZZO	Contact/Requester JH KESSNER	Telephone No. MSIN FAX (509) 372-9538					
SAF No. C99-009	Sampling Origin HANFORD SITE	Purchase Order/Charge Code					
Project Title 100-HR3-IAM (2) GW SAMPLING NOVEMBER 1998	Logbook No. Wm SML-H16	Ice Chest No. GWS-107 Temp. 4°C					
Shipped To (Lab) Quanterra St Louis	Method of Shipment GOVT VEHICLE	Bill of Lading/Air Bill No. 004719368 YIG					
Protocol CERCLA	Data Turnaround 45 Days	Offsite Property No.					
POSSIBLE SAMPLE HAZARDS/REMARKS ** **		SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes [X] No [] FAX COPIES OF TMA & QES LOG-IN TO DL STEWART (372-1704) & JM DUNCAN (372-9052).					
Sample No.	Lab ID	*	Date	Time	No./Type Container	Sample Analysis	Preservative
BOT1D3 (F)	8	W	11-2-98	1215	1x500-mL G/GP	ICP Metals - 6010A RCRA GW 100% PH-1	HNO3 to pH <2
BOT1D4	11	W			1x500-mL G/GP	↓ ICP Metals - 6010A RCRA GW ↓	HNO3 to pH <2
BOT1D4		W			1x500-mL P	IC Anions - 300.0 (Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate) 100%	Cool 4C
BOT1D4		W			1x20-mL P	Activity Scan 100%	None
Relinquished By AG RIZZO Print Sign Date/Time 11/2/98 1405	Received By J. TRIMANN Print Sign Date/Time 11-3-98 0800	Matrix *					
Relinquished By Date/Time	Received By Date/Time	S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air DS = Drum Solid DL = Drum Liquid T = Tissue WL = Wine LI = Liquid V = Vegetation X = Other					
Relinquished By Date/Time	Received By Date/Time						
Relinquished By Date/Time	Received By Date/Time						
FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)		Disposed By	Date/Time			

Login No.: 19283

Condition Upon Receipt Variance Report
St. Louis Laboratory

Client: Pickland

Date: 11-3-98 Time: 0800

Project No: 550184

Initiated by: Joe Tiedmann

Shipper/No: Airborne / 4719568 416

RFA/COC Numbers: C99-009-49, -53, -58,
-60, -83, -87, -91, -92, -114

Condition/Variance (Check all that apply):

1. ☐ Sample received broken/leaking.	8. ☐ Sample ID on container does not match sample ID on paperwork. Explain: _____
2. ☐ Sample received without proper preservative.	
☐ Cooler temperature not within 4°C ± 2°C	
Record temperature: _____	
☐ pH _____	9. ☐ All coolers on airbill not received with shipment.
☐ other: _____	10. ☐ Other (explain below): _____
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.	

☒ No variances were noted during sample receipt.

Cooler Temperature Upon Receipt: 4°C

Notes:

Corrective Action:

☐ Client's Name: _____	Informed verbally on: _____	By: _____
☐ Client's Name: _____	Informed in writing on: _____	By: _____
☐ Sample(s) processed "as is".	_____	
☐ Sample(s) on hold until: _____	If released, notify: _____	

Sample Control Supervisor Review: (or designate) Joe Tiedmann Date: 11-3-98

Project Management Review: Robert E. White Date: 11-4-98

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

Project Manager: R. White

Reviewed by and Date:

Robert E. White

Sample Header Template:

Sample No.	Client ID	C-Matrix	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No.
# Comments Container Type		Analysis	Class	Preservative	Anal. Due Date	Hold Date Site	(Container Numbers:% Filled)	
19291-001 SAF C99-009	B0T1J6	Water	03-NOV-98 10:40	04-NOV-98 08:30	04-DEC-98	AIRBORNE	1	Screening not Required
1 PN - Plastic-500ml		CL/300.0/Q4	S	COLD	25-NOV-98	01-DEC-98 S14A		(414547:99)
1		FL/300.0/Q4	S	COLD	25-NOV-98	01-DEC-98 S14A		(414547:99)
1		ICAP/6010/Q4	S	HNO3	25-NOV-98	02-MAY-99 S14A		(414546:100)
1		NO2/300.0/Q4	S	COLD	25-NOV-98	05-NOV-98 S14A		(414547:99)
1		NO3/300.0/Q4	S	COLD	25-NOV-98	05-NOV-98 S14A		(414547:99)
1		SO4/300.0/Q4	S	COLD	25-NOV-98	01-DEC-98 S14A		(414547:99)
1 PW - Plastic-2oz		RAD/SCREEN/Q4	S	COLD	25-NOV-98	03-MAY-99 S14A		(414599:99)
19291-002 SAF C99-009	B0T150	Water	03-NOV-98 11:48	04-NOV-98 08:30	04-DEC-98	AIRBORNE	1	Screening not Required
1 PN - Plastic-500ml		CL/300.0/Q4	S	COLD	25-NOV-98	01-DEC-98 S14A		(414549:99)
1		FL/300.0/Q4	S	COLD	25-NOV-98	01-DEC-98 S14A		(414549:99)
1		ICAP/6010/Q4	S	HNO3	25-NOV-98	02-MAY-99 S14A		(414548:100)
1		NO2/300.0/Q4	S	COLD	25-NOV-98	05-NOV-98 S14A		(414549:99)
1		NO3/300.0/Q4	S	COLD	25-NOV-98	05-NOV-98 S14A		(414549:99)
1		SO4/300.0/Q4	S	COLD	25-NOV-98	01-DEC-98 S14A		(414549:99)
1 PW - Plastic-2oz		RAD/SCREEN/Q4	S	COLD	25-NOV-98	03-MAY-99 S14A		(414600:99)
19291-003 SAF C99-009	B0T153	Water	03-NOV-98 12:39	04-NOV-98 08:30	04-DEC-98	AIRBORNE	1	Screening not Required
1 PN - Plastic-1L		ICAP/6010/Q4	S	HNO3	25-NOV-98	02-MAY-99 S14A		(414597:99)
1 PN - Plastic-500ml		CL/300.0/Q4	S	COLD	25-NOV-98	01-DEC-98 S14A		(414551:99)
1		FL/300.0/Q4	S	COLD	25-NOV-98	01-DEC-98 S14A		(414551:99)
1		NO2/300.0/Q4	S	COLD	25-NOV-98	05-NOV-98 S14A		(414551:99)
1		NO3/300.0/Q4	S	COLD	25-NOV-98	05-NOV-98 S14A		(414551:99)
1		SO4/300.0/Q4	S	COLD	25-NOV-98	01-DEC-98 S14A		(414551:99)
1 PW - Plastic-2oz		RAD/SCREEN/Q4	S	COLD	25-NOV-98	03-MAY-99 S14A		(414601:99)
19291-004 SAF C99-009	B0T156	Water	03-NOV-98 09:50	04-NOV-98 08:30	04-DEC-98	AIRBORNE	1	Screening not Required
1 PN - Plastic-500ml		CL/300.0/Q4	S	COLD	25-NOV-98	01-DEC-98 S14A		(414553:99)
1		FL/300.0/Q4	S	COLD	25-NOV-98	01-DEC-98 S14A		(414553:99)
1		ICAP/6010/Q4	S	HNO3	25-NOV-98	02-MAY-99 S14A		(414552:100)
1		NO2/300.0/Q4	S	COLD	25-NOV-98	05-NOV-98 S14A		(414553:99)
1		NO3/300.0/Q4	S	COLD	25-NOV-98	05-NOV-98 S14A		(414553:99)
1		SO4/300.0/Q4	S	COLD	25-NOV-98	01-DEC-98 S14A		(414553:99)
1 PW - Plastic-2oz		RAD/SCREEN/Q4	S	COLD	25-NOV-98	03-MAY-99 S14A		(414602:99)

34 Sample has not been rad screened.

Project Manager: R. White

Reviewed by and Date: _____

Sample Header Template: _____

Sample No. #	Comments Container Type	Client ID	C-Matrix Analysis	Date: Collected Class	Received Preservative	Due Anal. Due Date	Shipper Hold Date Site	Rad Category	Rad Sample No. (Container Numbers:X Filled)
19291-005 SAF C99-009		80T137	Water	03-NOV-98	11:26	04-NOV-98 08:30	04-DEC-98 AIRBORNE	1	Screening not Required
1	PN - Plastic-500ml		CL/300.0/Q4	S	COLD	25-NOV-98	01-DEC-98 S14A		(414555:99)
1			FL/300.0/Q4	S	COLD	25-NOV-98	01-DEC-98 S14A		(414555:99)
1			ICAP/6010/Q4	S	HNO3	25-NOV-98	02-MAY-99 S14A		(414554:100)
1			NO2/300.0/Q4	S	COLD	25-NOV-98	05-NOV-98 S14A		(414555:99)
1			NO3/300.0/Q4	S	COLD	25-NOV-98	05-NOV-98 S14A		(414555:99)
1			SO4/300.0/Q4	S	COLD	25-NOV-98	01-DEC-98 S14A		(414555:99)
1	PW - Plastic-2oz		RAD/SCREEN/Q4	S	COLD	25-NOV-98	03-MAY-99 S14A		(414603:99)
19291-006 SAF C99-009		80T136	Water	03-NOV-98	11:26	04-NOV-98 08:30	04-DEC-98 AIRBORNE	1	Screening not Required
1	PN - Plastic-500ml		ICAPD/6010/Q4	S	HNO3	25-NOV-98	03-MAY-99 S14A		(414556:100)
19291-006MS SAF C99-009		80T136	Water	03-NOV-98	11:26	04-NOV-98 08:30	04-DEC-98 AIRBORNE	1	Screening not Required
1	PN - Plastic-500ml		ICAPD/6010/Q4	S	HNO3	25-NOV-98	03-MAY-99 S14A		(414556:100)
19291-006MSD SAF C99-009		80T136	Water	03-NOV-98	11:26	04-NOV-98 08:30	04-DEC-98 AIRBORNE	1	Screening not Required
1	PN - Plastic-500ml		ICAPD/6010/Q4	S	HNO3	25-NOV-98	03-MAY-99 S14A		(414556:100)
19291-007 SAF C99-009		80T1J5	Water	03-NOV-98	10:40	04-NOV-98 08:30	04-DEC-98 AIRBORNE	1	Screening not Required
1	PN - Plastic-500ml		ICAPD/6010/Q4	S	HNO3	25-NOV-98	03-MAY-99 S14A		(414558:100)
19291-008 SAF C99-009		80T149	Water	03-NOV-98	11:48	04-NOV-98 08:30	04-DEC-98 AIRBORNE	1	Screening not Required
1	PN - Plastic-500ml		ICAPD/6010/Q4	S	HNO3	25-NOV-98	03-MAY-99 S14A		(414559:100)
19291-009 SAF C99-009		80T152	Water	03-NOV-98	12:39	04-NOV-98 08:30	04-DEC-98 AIRBORNE	1	Screening not Required
1	PN - Plastic-1L		ICAPD/6010/Q4	S	HNO3	25-NOV-98	03-MAY-99 S14A		(414598:99)

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3*
5

Sample has not been rad screened.

Quanterra November 05, 1998 01:28 pm
Account: 10722 Project: 550.184 Quanterra-Richland QAS No. 550.184 Rev. 3
Master Sample Login: 19291

Project Manager: R. White

Reviewed by and Date: _____

Sample Header Template: _____

Sample No. # Comments Container Type Data:	Client ID	C-Matrix	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No.
		Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)
19291-010 SAF C99-009	B0T155	Water	03-NOV-98 09:50	04-NOV-98 08:30	04-DEC-98	AIRBORNE	1	Screening not Required
1 PN - Plastic-500ml		ICAPD/6010/Q4	S	HNO3	25-NOV-98	03-MAY-99	S14A	(414561:100)

00100

3*=Sample has not been rad screened.

[illegible]

[illegible]

PNNL		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				C.O.C. # C99-009-38	
						Page 1 of 1	
Collector AG RIZZO		Contact/Requester JH KESSNER		Telephone No. MSIN (509) 372-9538		FAX	
SAF No. C99-009		Sampling Origin HANFORD SITE		Purchase Order/Charge Code			
Project Title 100-HR3-IAM (2) GW SAMPLING, NOVEMBER 1998		Logbook No. WHA-SML-411		Ice Chest No. SM4188		Temp. 4°C	
Shipped To (Lab) Quanterra St. Louis		Method of Shipment GOVT VEHICLE		Bill of Lading/Air Bill No. 004719569 212			
Protocol CERCLA		Data Turnaround 45 Days		Offsite Property No.			
POSSIBLE SAMPLE HAZARDS/REMARKS				SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☒ No ☐ FAX COPIES OF TMA & QES LOG-IN TO DL STEWART (372-1704) & JM DUNCAN (372-9052).			
Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B0T152 (F)	9	W	11/3/98	1239	1x500-mL G	ICP Metals - 6010A RCRA GW 100% PH-1	HNO3 to pH <2
B0T153	3	W			1x500-mL G	ICP Metals - 6010A RCRA GW ↓ ↓	HNO3 to pH <2
B0T153		W			1x500-mL P	IC Anions - 300.0 (Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate) 100%	Cool 4C
B0T153	●	W			1x20-mL P	Activity Scan	None
Relinquished By AG RIZZO	Print <i>[Signature]</i>	Sign <i>[Signature]</i>	Date/Time 11/3/98 1530	Received By <i>[Signature]</i>	Print 11-4-98	Sign 0830	Date/Time 0830
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
FINAL SAMPLE DISPOSITION Disposal Method (e.g., Return to customer, per lab procedure, used in process)				Disposed By Date/Time			

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C.# C99-009-113					
		Page 1 of 1					
Collector RT SICKLE (RFS)	Contact/Requester JH KESSNER	Telephone No. (509) 372-9538 MSIN FAX					
SAF No. C99-009	Sampling Origin HANFORD SITE	Purchase Order/Charge Code					
Project Title 100-HR3-IAM (2) GW SAMPLING NOVEMBER 1998	Logbook No. Run-SML HIB, pages 43 & 44	Ice Chest No. SM488 Temp. 4°C					
Shipped To (Lab) Quanterra St. Louis	Method of Shipment GOVT VEHICLE	Bill of Lading/Air Bill No. 004719569 212					
Protocol CERCLA	Date Turnaround 45 Days	Offsite Property No.					
POSSIBLE SAMPLE HAZARDS/REMARKS ** **		SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☒ No ☐ FAX COPIES OF TMA & QES LOG-IN TO DL STEWART (372-1704) & JM DUNCAN (372-9052).					
Sample No.	Lab ID	*	Date	Time	No./Type Container	Sample Analysis	Preservative
BOT136 (F)	4	W	11-3-98	1126	1x500-mL GØ	ICP Metals - 6010A RCRA GW 100% PH=1	HNO3 to pH <2
BOT137	5	W			1x500-mL GØ	ICP Metals - 6010A RCRA GW ↓ ↓	HNO3 to pH <2
BOT137		W			1x500-mL P	IC Anions - 300.0 [Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate] 100%	Cool AC
BOT137	.	W			1x20-mL P	Activity Scan	None
Relinquished By RT SICKLE (RFS)	Print Sign Date/Time [Signature] 11-3-98 1330	Received By Print Sign Date/Time Joe Turmin 11-4-98 0830					
Relinquished By	Date/Time	Received By Date/Time					
Relinquished By	Date/Time	Received By Date/Time					
Relinquished By	Date/Time	Received By Date/Time					
FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)		Disposed By		Date/Time		

[illegible]

Login No.: 19291

Condition Upon Receipt Variance Report
St. Louis Laboratory

Client: Richland

Date: 11-4-98 Time: 0830

Project No: 550.184

Initiated by: Joe TIEMANN

Shipper/No: Airborne / 4719569 212

RFA/COC Numbers: C99-009-28, -36, -38, -40, -113.

Condition/Variance (Check all that apply):

1. ☐ Sample received broken/leaking.	8. ☐ Sample ID on container does not match sample ID on paperwork. Explain: _____
2. ☐ Sample received without proper preservative.	
☐ Cooler temperature not within 4°C ± 2°C	
Record temperature: _____	
☐ pH _____	9. ☐ All coolers on airbill not received with shipment.
☐ other: _____	10. ☐ Other (explain below): _____
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.	

☒ No variances were noted during sample receipt.

Cooler Temperature Upon Receipt: 4°C

Notes:

Corrective Action:

☐ Client's Name: _____	Informed verbally on: _____	By: _____
☐ Client's Name: _____	Informed in writing on: _____	By: _____
☐ Sample(s) processed "as is".	_____	
☐ Sample(s) on hold until: _____	If released, notify: _____	

Sample Control Supervisor Review: (or designate) Joe Tiemann Date: 11-4-98

Project Management Review: Robert A. White Date: 11-4-98

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

W02593

Quanterra November 19, 1998 08:39 am
 Account: 10722 Project: 550.184 Quanterra-Richland QAS No. 550.184 Rev. 3
 Master Sample Login: 19413

Project Manager: R. White

Reviewed by and Date:

Robert E. White

Sample Header Template:

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

19413-001	B0T1B0	Water	17-NOV-98 10:29	18-NOV-98 08:20	18-DEC-98	AIRBORNE	3*	R8031-003
SAF C99-009								

1	PN - Plastic-500ml	CL/300.0/Q4	S	COLD	11-DEC-98	15-DEC-98 T5C		(417386:99)
1		FL/300.0/Q4	S	COLD	11-DEC-98	15-DEC-98 T5C		(417386:99)
1		ICAP/6010/Q4	S	HNO3	11-DEC-98	16-MAY-99 T5C		(417388:99)
1		NO2/300.0/Q4	S	COLD	11-DEC-98	19-NOV-98 T5C		(417386:99)
1		NO3/300.0/Q4	S	COLD	11-DEC-98	19-NOV-98 T5C		(417386:99)
1		SO4/300.0/Q4	S	COLD	11-DEC-98	15-DEC-98 T5C		(417386:99)
1	PW - Plastic-2oz	RAD/SCREEN/Q4	S	COLD	11-DEC-98	17-MAY-99 T5C		(417387:99)

19413-002	B0T1F3	Water	17-NOV-98 11:16	18-NOV-98 08:20	18-DEC-98	AIRBORNE	3*	R8031-002
SAF C99-009								

1	PN - Plastic-500ml	CL/300.0/Q4	S	COLD	11-DEC-98	15-DEC-98 T5C		(417389:99)
1		FL/300.0/Q4	S	COLD	11-DEC-98	15-DEC-98 T5C		(417389:99)
1		ICAP/6010/Q4	S	HNO3	11-DEC-98	16-MAY-99 T5C		(417391:99)
1		NO2/300.0/Q4	S	COLD	11-DEC-98	19-NOV-98 T5C		(417389:99)
1		NO3/300.0/Q4	S	COLD	11-DEC-98	19-NOV-98 T5C		(417389:99)
1		SO4/300.0/Q4	S	COLD	11-DEC-98	15-DEC-98 T5C		(417389:99)
1	PW - Plastic-2oz	RAD/SCREEN/Q4	S	COLD	11-DEC-98	17-MAY-99 T5C		(417390:99)

19413-003	B0T129	Water	17-NOV-98 10:47	18-NOV-98 08:20	18-DEC-98	AIRBORNE	3*	R8031-001
SAF C99-009								

1	PN - Plastic-500ml	ICAP/6010/Q4	S	HNO3	11-DEC-98	16-MAY-99 T5C		(417394:99)
1	PW - Plastic-2oz	CL/300.0/Q4	S	COLD	11-DEC-98	15-DEC-98 T5C		(417449:98)
1		FL/300.0/Q4	S	COLD	11-DEC-98	15-DEC-98 T5C		(417449:98)
1		NO2/300.0/Q4	S	COLD	11-DEC-98	19-NOV-98 T5C		(417449:98)
1		NO3/300.0/Q4	S	COLD	11-DEC-98	19-NOV-98 T5C		(417449:98)
1		RAD/SCREEN/Q4	S	COLD	11-DEC-98	17-MAY-99 T5C		(417393:99)
1		SO4/300.0/Q4	S	COLD	11-DEC-98	15-DEC-98 T5C		(417449:98)

19413-004	B0T128	Water	17-NOV-98 10:47	18-NOV-98 08:20	18-DEC-98	AIRBORNE	1	Screening not Required
SAF C99-009								

1	PN - Plastic-500ml	ICAPD/6010/Q4	S	HNO3	11-DEC-98	17-MAY-99 T5C		(417397:99)
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19413-005	B0T198	Water	17-NOV-98 10:29	18-NOV-98 08:20	18-DEC-98	AIRBORNE	1	Screening not Required
SAF C99-009								

1	PN - Plastic-500ml	ICAPD/6010/Q4	S	HNO3	11-DEC-98	17-MAY-99 T5C		(417398:99)
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3. Sample has not been rad screened.

Quanterra November 19, 1998 08:39 am
Account: 10722 Project: 550.184 Quanterra-Richland QAS No. 550.184 Rev. 3
Master Sample Login: 19413

Project Manager: R. White

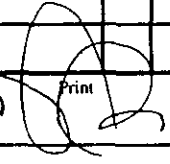
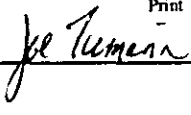
Reviewed by and Date: _____

Sample Header Template: _____

Sample No.	Client ID	C-Matrix	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No.
#	Comments							
Container Type		Analysis	Class	Preservative	Anal. Due Date	Hold Date Site	(Container Numbers: % Filled)	
19413-006	B0T1F2	Water	17-NOV-98 11:16	18-NOV-98 08:20	18-DEC-98	AIRBORNE	1	Screening not Required
SAF C99-009								
1 PN - Plastic-500ml		ICAPD/6010/Q4	S	HNO3	11-DEC-98	17-MAY-99 T5C		(417399:99)

0028

30 Sample has not been rad screened.

PNNL		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						C.O.C. # C99-009-51		
								Page 1 of 1		
Collector RR FOX (RFS)			Contact/Requester JH KESSNER			Telephone No. (509) 372-9538			MSIN FAX	
SAF No. C99-009			Sampling Origin HANFORD SITE			Purchase Order/Charge Code				
Project Title 100-HR3-1AM (2) GW SAMPLING NOVEMBER 1998			Logbook No. LO1P-51A2-1118			Ice Chest No. 5112 546		Temp. 11-18-98 3°C		
Shipped To (Lab) Quanterra St. Louis			Method of Shipment GOVT VEHICLE			Bill of Lading/Air Bill No. 004719586 712				
Protocol CERCLA			Data Turnaround 45 Days			Offsite Property No.				
POSSIBLE SAMPLE HAZARDS/REMARKS						SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☒ No ☐				
						FAX COPIES OF TMA & QES LOG-IN TO DL STEWART (372-1704) & JM DUNCAN (372-9052).				
Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis			Preservative	
B0T198 (F)	(6)	W	11-17-98	1029	1x500-mL GP	ICP Metals - 6010A RCRA GW 100% pH=1			HNO3 to pH <2	
B0T1B0	(1)	W	↓	↓	1x500-mL GP	ICP Metals - 6010A RCRA GW ↓ ↓			HNO3 to pH <2	
B0T1B0		W	↓	↓	1x500-mL P	IC Anions - 300.0 (Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate) 100%			Cool 4C	
B0T1B0		W	↓	↓	1x20-mL P	Activity Scan 100%			None	
Relinquished By RR FOX (RFS)		Print 	Sign NOV 17 1998	Date/Time 1450	Received By 		Print 11-18-98	Sign 0820	Date/Time 11-18-98	Matrix * S = Soil DS = Drum Solid SE = Sediment DI = Drum Liquid SO = Solid T = Tissue SL = Sludge W1 = Wine W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other
Relinquished By				Date/Time	Received By				Date/Time	
Relinquished By				Date/Time	Received By				Date/Time	
Relinquished By				Date/Time	Received By				Date/Time	
FINAL SAMPLE DISPOSITION		Disposal Method (e.g., Return to customer, per lab procedure, used in process)				Disposed By		Date/Time		

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						C.O.C.# C99-009-64 Page 1 of 1		
Collector RR FOX (RFS)	Contact/Requester JH KESSNER	Telephone No. (509) 372-9538		MSIN	FAX				
SAF No. C99-009	Sampling Origin HANFORD SITE	Purchase Order/Charge Code							
Project Title 100-HR3-IAM (2) GW SAMPLING NOVEMBER 1998	Logbook No. WIN-SML-1118	Ice Chest No.		Temp.					
Shipped To (Lab) Quanterra St. Louis	Method of Shipment GOVT VEHICLE	Bill of Lading/Air Bill No.							
Protocol CERCLA	Data Turnaround 45 Days	Offsite Property No.							
POSSIBLE SAMPLE HAZARDS/REMARKS			SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☒ No ☐ FAX COPIES OF TMA & QES LOG-IN TO DL STEWART (372-1704) & JM DUNCAN (372-9052).						
Sample No.	Lab ID	*	Date	Time	No./Type Container	Sample Analysis	Preservative		
BOT1F2 (F)	④	W	11-17-98	1116	1x500-mL GP	ICP Metals - 6010A RCRA GW 100% pH=1	HNO3 to pH <2		
BOT1F3	②	W			1x500-mL GP	ICP Metals - 6010A RCRA GW ↓ ↓	HNO3 to pH <2		
BOT1F3		W			1x500-mL P	IC Anions - 300.0 [Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate] 100%	Cool AC		
BOT1F3		W			1x20-mL P	Activity Scan 100%	None		
Relinquished By RR FOX (RFS)	Print 	Sign 	Date/Time NOV 17 1998	1450	Received By Joe Herman	Print 	Sign 	Date/Time 11-18-98 0820	Matrix *
Relinquished By			Date/Time		Received By			Date/Time	S = Soil DS = Drum Solid SE = Sediment DL = Drum Liquid SO = Solid T = Tissue SL = Sludge WI = Wine W = Water LI = Liquid O = Oil V = Vegetation A = Air X = Other
Relinquished By			Date/Time		Received By			Date/Time	
Relinquished By			Date/Time		Received By			Date/Time	
FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)				Disposed By				Date/Time

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # C99-009-103					
		Page 1 of 1					
Collector OZZIE GAY	Contact/Requester JH KESSNER	Telephone No. (509) 372-9538 MSIN FAX					
SAF No. C99-009	Sampling Origin HANFORD SITE	Purchase Order/Charge Code					
Project Title 100-HR3-IAM(2) GW SAMPLING NOVEMBER 1998	Logbook No. with SML-1121	Ice Chest No. SML-543 Temp. 4°C 11-12-98					
Shipped To (Lab) Quanterra St. Louis	Method of Shipment GOVT VEHICLE	Bill of Lading/Air Bill No. 004719586 513					
Protocol CERCLA	Data Turnaround 45 Days	Offsite Property No.					
POSSIBLE SAMPLE HAZARDS/REMARKS		SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes [X] No [] FAX COPIES OF TMA & QES LOG-IN TO DL STEWART (372-1704) & JM DUNCAN (372-9052).					
Sample No.	Lab ID	*	Date	Time	No./Type Container	Sample Analysis	Preservative
BOT128 (F)	A	W	11/17/98	1047	1x500-mL GP	ICP Metals - 6010A RCRA GW 100% pH=1	HNO3 to pH <2
BOT129	B	W			1x500-mL GP	ICP Metals - 6010A RCRA GW ↓ ↓	HNO3 to pH <2
BOT129		W			1x500-mL P	IC Anions - 300.0 (Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate) 100% x 20 ml	Cool 4C
BOT129		W			1x20-mL P	Activity Scan 100%	None
Relinquished By Print Sign Date/Time	Received By Print Sign Date/Time		Matrix * S = Soil DS = Drum Solid SE = Sediment DI = Drum Liquid SO = Solid T = Tissue SL = Sludge WL = Wine W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other				
OZZIE GAY AG Rizzo 11/17/98 / 1400	Joe Kernan 11-18-98 0820						
Relinquished By Date/Time	Received By Date/Time						
Relinquished By Date/Time	Received By Date/Time						
Relinquished By Date/Time	Received By Date/Time						
FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)						Disposed By Date/Time

Login No.: 19413

Condition Upon Receipt Variance Report
St. Louis Laboratory

Client: Richland

Date: 11-18-98 Time: 0820

Project No: 550-184-519-145

Initiated by: Joe Tiemann

Shipper/No: Airborne / 479586-712, -513

RFA/COC Numbers: C99-009-51, -64, -103

Condition/Variance (Check all that apply):

1. ☐ Sample received broken/leaking.	8. ☐ Sample ID on container does not match sample ID on paperwork. Explain: _____
2. ☐ Sample received without proper preservative.	
☐ Cooler temperature not within 4°C ± 2°C	
Record temperature: _____	
☐ pH _____	9. ☐ All coolers on airbill not received with shipment.
☐ other: _____	10. ☐ Other (explain below): _____
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.	

☒ No variances were noted during sample receipt.

Cooler Temperature Upon Receipt: 3°C + 4°C

Notes: _____

Corrective Action:

- ☐ Client's Name: _____ Informed verbally on: _____ By: _____
- ☐ Client's Name: _____ Informed in writing on: _____ By: _____
- ☐ Sample(s) processed "as is". _____
- ☐ Sample(s) on hold until: _____ If released, notify: _____

Sample Control Supervisor Review: (or designate) Joe Tiemann Date: 11-18-98

Project Management Review: Robert J. White Date: 11-18-98

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

Project Manager: R. White

Reviewed by and Date:

Robert E. White

Sample Header Template:

Sample No. # Comments Container Type	Client ID	C-Matrix Analysis	Date: Collected Class Preservative	Received Anal. Due Date	Due Hold Date	Shipper Site	Rad Category (Container Numbers:% Filled)	Rad Sample No.
19300-001 SAF C99-009	B0T123	Water	04-NOV-98 11:08	05-NOV-98 08:30	04-DEC-98	AIRBORNE	3*	R7941-006
1 PN - Plastic-500ml		CL/300.0/Q4	S COLD	25-NOV-98	02-DEC-98	S5G	(414761:99)	
1		FL/300.0/Q4	S COLD	25-NOV-98	02-DEC-98	S5G	(414761:99)	
1		ICAP/6010/Q4	S HNO3	25-NOV-98	03-MAY-99	S5G	(414763:99)	
1		NO2/300.0/Q4	S COLD	25-NOV-98	06-NOV-98	S5G	(414761:99)	
1		NO3/300.0/Q4	S COLD	25-NOV-98	06-NOV-98	S5G	(414761:99)	
1		SO4/300.0/Q4	S COLD	25-NOV-98	02-DEC-98	S5G	(414761:99)	
1 PW - Plastic-2oz		RAD/SCREEN/Q4	S COLD	25-NOV-98	04-MAY-99	S5G	(414762:99)	
19300-002 SAF C99-009	B0T1F6	Water	03-NOV-98 09:09	05-NOV-98 08:30	04-DEC-98	AIRBORNE	3*	R7941-005
1 PN - Plastic-500ml		ICAP/6010/Q4	S HNO3	25-NOV-98	02-MAY-99	S5G	(414766:99)	
1 PW - Plastic-2oz		RAD/SCREEN/Q4	S COLD	25-NOV-98	04-MAY-99	S5G	(414765:99)	
19300-003 SAF C99-009	B0T1F5	Water	03-NOV-98 09:09	05-NOV-98 08:30	04-DEC-98	AIRBORNE	3*	R7941-004
1 PN - Plastic-500ml		ICAPD/6010/Q4	S HNO3	25-NOV-98	04-MAY-99	S5G	(414768:99)	
19300-004 SAF C99-009	B0T122	Water	04-NOV-98 11:01	05-NOV-98 08:30	04-DEC-98	AIRBORNE	3*	R7941-003
1 PN - Plastic-500ml		ICAPD/6010/Q4	S HNO3	25-NOV-98	04-MAY-99	S5G	(414769:99)	
19300-005 SAF C99-009	B0T1F9	Water	04-NOV-98 09:09	05-NOV-98 08:30	04-DEC-98	AIRBORNE	3*	R7941-002
1 PN - Plastic-500ml		ICAPD/6010/Q4	S HNO3	25-NOV-98	04-MAY-99	S5G	(414770:99)	
19300-006 SAF C99-009	B0T1H0	Water	04-NOV-98 09:09	05-NOV-98 08:30	04-DEC-98	AIRBORNE	3*	R7941-001
1 PN - Plastic-500ml		ICAP/6010/Q4	S HNO3	25-NOV-98	03-MAY-99	S5G	(414771:99)	
1 PW - Plastic-2oz		RAD/SCREEN/Q4	S COLD	25-NOV-98	04-MAY-99	S5G	(414772:99)	

002

Sample has not been rad screened.

Login No.: 19300

**Condition Upon Receipt Variance Report
St. Louis Laboratory**

Client: Puchland

Date: 11-5-98 Time: 0930

Project No: 550.184

Initiated by: Joe Tiemann

Shipper/No: Airborne / 4719570 715

RFA/COC Numbers: _____

Condition/Variance (Check all that apply):

1. ☐ Sample received broken/leaking.	8. ☐ Sample ID on container does not match sample ID on paperwork. Explain: _____
2. ☐ Sample received without proper preservative.	
☐ Cooler temperature not within 4°C ± 2°C	
Record temperature: _____	
☐ pH _____	9. ☐ All coolers on airbill not received with shipment.
☐ other: _____	10. ☐ Other (explain below): _____
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.	

☒ No variances were noted during sample receipt.

Cooler Temperature Upon Receipt: 3°C

Notes:

Corrective Action:

☐ Client's Name: _____	Informed verbally on: _____	By: _____
☐ Client's Name: _____	Informed in writing on: _____	By: _____
☐ Sample(s) processed "as is".	_____	
☐ Sample(s) on hold until: _____	If released, notify: _____	

Sample Control Supervisor Review: (or designate) Joe Tiemann Date: 11-5-98

Project Management Review: Robert E. White Date: 11-5-98

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

Project Manager: R. White

Reviewed by and Date: Don N. 11-17-98

Sample Header Template:

Sample No. #	Comments Container Type	Client ID	C-Matrix Analysis	Date: Collected Class	Received Preservative	Due Anal. Due Date	Shipper Hold Date Site	Rad Category (Container Numbers:% Filled)	Rad Sample No.
19355-001 SAF C99-009		B01172	Water	10-NOV-98 10:07	11-NOV-98 08:30	11-DEC-98	AIRBORNE	3*	R7985-001
1	PN - Plastic-500ml		CL/300.0/Q4	S	COLD	04-DEC-98	08-DEC-98 R14C	(415985:99)	
1			FL/300.0/Q4	S	COLD	04-DEC-98	08-DEC-98 R14C	(415985:99)	
1			ICAP/6010/Q4	S	HNO3	04-DEC-98	09-MAY-99 R14C	(415987:99)	
1			NO2/300.0/Q4	S	COLD	04-DEC-98	12-NOV-98 R14C	(415985:99)	
1			NO3/300.0/Q4	S	COLD	04-DEC-98	12-NOV-98 R14C	(415985:99)	
1			SO4/300.0/Q4	S	COLD	04-DEC-98	08-DEC-98 R14C	(415985:99)	
1	PW - Plastic-2oz		RAD/SCREEN/Q4	S	COLD	04-DEC-98	10-MAY-99 R14C	(415986:99)	
19355-002 SAF C99-009		B01170	Water	10-NOV-98 10:07	11-NOV-98 08:30	11-DEC-98	AIRBORNE	1	Screening not Required
1	PN - Plastic-500ml		ICAPD/6010/Q4	S	HNO3	04-DEC-98	10-MAY-99 R14C	(415990:99)	

0033

3*=Sample has not been rad screened.

W02593

Quanterra January 04, 1999 12:29 pm
 Account: 10722 Project: 550.184 Quanterra Richland QAS No. 550.184 Rev. 3
 Master Sample Login: 20431

Project Manager: S. Louvier

Reviewed by and Date: 1/4/99

Sample Header Template:

Sample No.	Client ID	C-Matrix	Date: Collected		Received	Due	Shipper	Rad Category	Rad Sample No.
Comments									
# Container Type	Analysis		Class	Preservative	Anal. Due Date	Hold Date Site		(Container Numbers: % Filled)	
Data:									
20431-001	B0T172	Water	10-NOV-98	10:07	11-NOV-98 08:30	11-DEC-98	AIRBORNE	3*	R8080-001
PREVIOUS LOGIN 19355 SAF C99-009									
1 PN - Plastic-500ml	CL/300.0/Q4		S	COLD	04-DEC-98	08-DEC-98	S5G		(421498:99)
1	FL/300.0/Q4		S	COLD	04-DEC-98	08-DEC-98	S5G		(421498:99)
1	ICAP/6010/Q4		S	HNO3	04-DEC-98	09-MAY-99	S5G		(421499:99)
1	NO2/300.0/Q4		S	COLD	04-DEC-98	12-NOV-98	S5G		(421498:99)
1	NO3/300.0/Q4		S	COLD	04-DEC-98	12-NOV-98	S5G		(421498:99)
1	SO4/300.0/Q4		S	COLD	04-DEC-98	08-DEC-98	S5G		(421498:99)
1 V1 - Vial-20ml	RAD/SCREEN/Q4		S	COLD	04-DEC-98	10-MAY-99	S5G		(421500:99)
20431-002	B0T170	Water	10-NOV-98	10:07	11-NOV-98 08:30	11 DEC-98	AIRBORNE	1	Screening not Required
PREVIOUS LOGIN 19355 SAF C99-009									
1 PN - Plastic-500ml	ICAPD/6010/Q4		S	HNO3	04-DEC-98	10-MAY-99	S5G		(421520:99)

0034

3**Sample has not been rad screened.

Temp 4°C C99-009-47

PNNL		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				C.O.C. # C99-009-47	
						Page 1 of 1	
Collector RT SICKLE (HFS)		Contact/Requester JH KESSNER		Telephone No. (509) 372-9538		MSIN FAX	
SAF No. C99-009		Sampling Origin HANFORD SITE		Purchase Order/Charge Code			
Project Title 100-HR3-IAM (2) GW SAMPLING NOVEMBER 1998		Logbook No. C99-5112 11/8 PAGE 47		Ice Chest No. 5112 5/11		Temp. 100 4°C	
Shipped To (Lab) Quanterra St. Louis		Method of Shipment GOVT. VEHICLE		Bill of Lading/Air Bill No. 004719574915			
Protocol CERCLA		Data Turnaround 45 Days		Offsite Property No.			
POSSIBLE SAMPLE HAZARDS/REMARKS				SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☒ No ☐			
				FAX COPIES OF TMA & QES LOG-IN TO DL STEWART (372-1704) & JM DUNCAN (372-9052).			
W02593							
Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
BOT170 (F)		W	11-10-98	100+	1x500-mL GP	ICP Metals - 6010A RCRA GW 100% pH-1	HNO3 to pH <2
BOT172		W			1x500-mL GP	ICP Metals - 6010A RCRA GW	HNO3 to pH <2
BOT172		W			1x500-mL P	IC Anions - 300.0 (Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate) 100%	Cool 4C
BOT172		W			1x20-mL P	Activity Scan 100%	None
Relinquished By RT SICKLE (HFS)		Print	Sign	Date/Time NOV 10 1998	Received By Joe Terman		Date/Time 11-11-98 0830
Relinquished By				Date/Time	Received By		Date/Time
Relinquished By				Date/Time	Received By		Date/Time
Relinquished By				Date/Time	Received By		Date/Time
FINAL SAMPLE DISPOSITION		Disposal Method (e.g., Return to customer, per lab procedure, used in process)				Disposed By	
						Date/Time	

- Matrix *
- | | |
|---------------|------------------|
| S = Soil | DS = Drum Solid |
| SE = Sediment | DL = Drum Liquid |
| SO = Solid | T = Tissue |
| SL = Sludge | WI = Wine |
| W = Water | L = Liquid |
| O = Oil | V = Vegetation |
| A = Air | X = Other |

Login No.: 19335
W02593

Condition Upon Receipt Variance Report
St. Louis Laboratory

Client: Richland

Date: 11-11-98 Time: 0830

Project No: 550-184

Initiated by: Joe Tiemann

Shipper/No: Airborne/4719574-915

RFA/COC Numbers: C99-009-47

Condition/Variance (Check all that apply):

1. ☐ Sample received broken/leaking.	8. ☐ Sample ID on container does not match sample ID on paperwork. Explain: _____
2. ☐ Sample received without proper preservative. ☐ Cooler temperature not within $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$ Record temperature: _____ ☐ pH _____ ☐ other: _____	9. ☐ All coolers on airbill not received with shipment.
3. ☐ Sample received in improper container.	10. ☐ Other (explain below): _____
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.	

☒ No variances were noted during sample receipt.

Cooler Temperature Upon Receipt: 4°C

Notes: _____

Corrective Action:

- ☐ Client's Name: _____ Informed verbally on: _____ By: _____
- ☐ Client's Name: _____ Informed in writing on: _____ By: _____
- ☐ Sample(s) processed "as is". _____
- ☐ Sample(s) on hold until: _____ If released, notify: _____

Sample Control Supervisor Review: (or designate) Joe Tiemann Date: 11-11-98

Project Management Review: Shirley Gouvier Date: 2-3-99

for Don Nisky 11-17-98
SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

W02593

Quanterra November 20, 1998 08:46 am
 Account: 10722 Project: 550.184 Quanterra-Richland QAS No. 550.184 Rev. 3
 Master Sample Login: 19410

Project Manager: R. White

Reviewed by and Date:

Robert E. White

Sample Header Template:

Sample No. Comments # Container Type	Client ID	C-Matrix Analysis	Date: Collected Class Preservative	Received Anal. Due Date	Due Hold Date Site	Shipper	Rad Category Rad Sample No. (Container Numbers: % Filled)
19410-001 SAF C99-009	B0T1D9	Water	16-NOV-98 11:39	17-NOV-98 08:00	17-DEC-98	AIRBORNE	3* R8028-001
1 PN - Plastic-500ml		ICAPD/6010/Q4	S HNO3	10-DEC-98	16-MAY-99	T5B	(417323:100)
19410-001MS SAF C99-009	B0T1D9	Water	16-NOV-98 11:39	17-NOV-98 08:00	17-DEC-98	AIRBORNE	3* R8028-001
1 PN - Plastic-500ml		ICAPD/6010/Q4	S HNO3	10-DEC-98	16-MAY-99	T5B	(417323:100)
19410-001MSD SAF C99-009	B0T1D9	Water	16-NOV-98 11:39	17-NOV-98 08:00	17-DEC-98	AIRBORNE	3* R8028-001
1 PN - Plastic-500ml		ICAPD/6010/Q4	S HNO3	10-DEC-98	16-MAY-99	T5B	(417323:100)
19410-002 SAF C99-009	B0T1H7	Water	16-NOV-98 11:02	17-NOV-98 08:00	17-DEC-98	AIRBORNE	3* R8028-002
1 PN - Plastic-500ml		ICAPD/6010/Q4	S HNO3	10-DEC-98	16-MAY-99	T5B	(417324:100)
19410-003 SAF C99-009	B0T1C2	Water	16-NOV-98 09:14	17-NOV-98 08:00	17-DEC-98	AIRBORNE	3* R8028-003
1 PN - Plastic-500ml		ICAPD/6010/Q4	S HNO3	10-DEC-98	16-MAY-99	T5B	(417325:100)
19410-004 SAF C99-009	B0T1H4	Water	16-NOV-98 11:30	17-NOV-98 08:00	17-DEC-98	AIRBORNE	3* R8028-004
1 PN - Plastic 500ml		ICAPD/6010/Q4	S HNO3	10-DEC-98	16-MAY-99	T5B	(417326:100)
19410-005 SAF C99-009	B0T432	Water	16-NOV-98 08:00	17-NOV-98 08:00	17-DEC-98	AIRBORNE	3* R8028-005
1 PN - Plastic-500ml		ICAPD/6010/Q4	S HNO3	10-DEC-98	16-MAY-99	T5B	(417327:100)
19410-006 SAF C99-009	B0T125	Water	16-NOV-98 09:30	17-NOV-98 08:00	17-DEC-98	AIRBORNE	3* R8028-006
1 PN - Plastic-500ml		ICAPD/6010/Q4	S HNO3	10-DEC-98	16-MAY-99	T5B	(417328:100)
19410-007 SAF C99-009	B0T126	Water	16-NOV-98 09:30	17-NOV-98 08:00	17-DEC-98	AIRBORNE	3* R8028-013

0037

3*=Sample has not been rad screened.

Project Manager: R. White

Reviewed by and Date: _____

Sample Header Template: _____

Sample No.	Client ID	C-Matrix	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No.
#	Comments	Analysis	Class	Preservative	Anal. Due Date	Hold Date Site	(Container Numbers: % Filled)	
1	PN - Plastic-500ml	CL/300.0/Q4	S	COLD	10-DEC-98	14-DEC-98 T5B	(417330:99)	
1		FL/300.0/Q4	S	COLD	10-DEC-98	14-DEC-98 T5B	(417330:99)	
1		ICAP/6010/Q4	S	HNO3	10-DEC-98	15-MAY-99 T5B	(417329:100)	
1		NO2/300.0/Q4	S	COLD	10-DEC-98	18-NOV-98 T5B	(417330:99)	
1		NO3/300.0/Q4	S	COLD	10-DEC-98	18-NOV-98 T5B	(417330:99)	
1		SO4/300.0/Q4	S	COLD	10-DEC-98	14-DEC-98 T5B	(417330:99)	
1	VI - Vial-20ml	RAD/SCREEN/Q4	S	COLD	10-DEC-98	16-MAY-99 T5B	(417331:100)	
19410-008	B0T433	Water	16-NOV-98 08:00	17-NOV-98 08:00	17-DEC-98	AIRBORNE	3*	R8028-012
SAF C99-009								
1	PN - Plastic-500ml	CL/300.0/Q4	S	COLD	10-DEC-98	14-DEC-98 T5B	(417333:99)	
1		FL/300.0/Q4	S	COLD	10-DEC-98	14-DEC-98 T5B	(417333:99)	
1		ICAP/6010/Q4	S	HNO3	10 DEC-98	15-MAY-99 T5B	(417332:100)	
1		NO2/300.0/Q4	S	COLD	10-DEC-98	18-NOV-98 T5B	(417333:99)	
1		NO3/300.0/Q4	S	COLD	10-DEC-98	18-NOV-98 T5B	(417333:99)	
1		SO4/300.0/Q4	S	COLD	10-DEC-98	14-DEC-98 T5B	(417333:99)	
1	VI - Vial-20ml	RAD/SCREEN/Q4	S	COLD	10-DEC-98	16-MAY-99 T5B	(417334:100)	
19410-009	B0T1H2	Water	16-NOV-98 10:26	17-NOV-98 08:00	17-DEC-98	AIRBORNE	3*	R8028-011
SAF C99-009								
1	PN - Plastic-500ml	CL/300.0/Q4	S	COLD	10-DEC-98	14-DEC-98 T5B	(417336:99)	
1		FL/300.0/Q4	S	COLD	10-DEC-98	14-DEC-98 T5B	(417336:99)	
1		ICAP/6010/Q4	S	HNO3	10-DEC-98	15-MAY-99 T5B	(417335:100)	
1		NO2/300.0/Q4	S	COLD	10-DEC-98	18-NOV-98 T5B	(417336:99)	
1		NO3/300.0/Q4	S	COLD	10-DEC-98	18-NOV-98 T5B	(417336:99)	
1		SO4/300.0/Q4	S	COLD	10-DEC-98	14-DEC-98 T5B	(417336:99)	
1	VI - Vial-20ml	RAD/SCREEN/Q4	S	COLD	10-DEC-98	16-MAY-99 T5B	(417337:100)	
19410-010	B0T1H5	Water	16-NOV-98 11:30	17-NOV-98 08:00	17-DEC-98	AIRBORNE	3*	R8028-010
SAF C99-009								
1	PN - Plastic-500ml	CL/300.0/Q4	S	COLD	10-DEC-98	14-DEC-98 T5B	(417339:99)	
1		FL/300.0/Q4	S	COLD	10-DEC-98	14-DEC-98 T5B	(417339:99)	
1		ICAP/6010/Q4	S	HNO3	10-DEC-98	15-MAY-99 T5B	(417338:100)	
1		NO2/300.0/Q4	S	COLD	10-DEC-98	18-NOV-98 T5B	(417339:99)	
1		NO3/300.0/Q4	S	COLD	10-DEC-98	18-NOV-98 T5B	(417339:99)	
1		SO4/300.0/Q4	S	COLD	10-DEC-98	14-DEC-98 T5B	(417339:99)	
1	VI - Vial-20ml	RAD/SCREEN/Q4	S	COLD	10-DEC-98	16-MAY-99 T5B	(417340:100)	

19410-011 B0T1C4 Water 16-NOV-98 09:14 17-NOV-98 08:00 17-DEC-98 AIRBORNE 3* R8028-009
 SAF C99-009

0038

3*=Sample has not been rad screened.

Project Manager: R. White

Reviewed by and Date: _____

Sample Header Template: _____

Sample No.	Client ID	C-Matrix	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No.
Comments								
# Container Type		Analysis	Class	Preservative	Anal. Due Date	Hold Date Site	(Container Numbers: % Filled)	
Data:								
1 PN - Plastic-500ml		CL/300.0/Q4	S	COLD	10-DEC-98	14-DEC-98 T5B		(417342:99)
1		FL/300.0/Q4	S	COLD	10-DEC-98	14-DEC-98 T5B		(417342:99)
1		ICAP/6010/Q4	S	HNO3	10-DEC-98	15-MAY-99 T5B		(417341:100)
1		NO2/300.0/Q4	S	COLD	10-DEC-98	18-NOV-98 T5B		(417342:99)
1		NO3/300.0/Q4	S	COLD	10-DEC-98	18-NOV-98 T5B		(417342:99)
1		SO4/300.0/Q4	S	COLD	10-DEC-98	14-DEC-98 T5B		(417342:99)
1 VI - Vial-20ml		RAD/SCREEN/Q4	S	COLD	10-DEC-98	16-MAY-99 T5B		(417343:100)
19410-012	B0T1F0	Water	16-NOV-98	11:39	17-NOV-98 08:00	17-DEC-98 AIRBORNE	3*	R8028-008
SAF C99-009								
1 PN - Plastic-500ml		CL/300.0/Q4	S	COLD	10-DEC-98	14-DEC-98 T5B		(417345:99)
1		FL/300.0/Q4	S	COLD	10-DEC-98	14-DEC-98 T5B		(417345:99)
1		ICAP/6010/Q4	S	HNO3	10-DEC-98	15-MAY-99 T5B		(417344:100)
1		NO2/300.0/Q4	S	COLD	10-DEC-98	18-NOV-98 T5B		(417345:99)
1		NO3/300.0/Q4	S	COLD	10-DEC-98	18-NOV-98 T5B		(417345:99)
1		SO4/300.0/Q4	S	COLD	10-DEC-98	14-DEC-98 T5B		(417345:99)
1 VI - Vial-20ml		RAD/SCREEN/Q4	S	COLD	10-DEC-98	16-MAY-99 T5B		(417346:100)
19410-012DUP	B0T1F0	Water	16-NOV-98	11:39	17-NOV-98 08:00	17-DEC-98 AIRBORNE	3*	R8028-008
SAF C99-009								
1 PN - Plastic-500ml		CL/300.0/Q4	S	COLD	10-DEC-98	14-DEC-98 T5B		(417345:99)
1		FL/300.0/Q4	S	COLD	10-DEC-98	14-DEC-98 T5B		(417345:99)
1		NO2/300.0/Q4	S	COLD	10-DEC-98	18-NOV-98 T5B		(417345:99)
1		NO3/300.0/Q4	S	COLD	10-DEC-98	18-NOV-98 T5B		(417345:99)
1		SO4/300.0/Q4	S	COLD	10-DEC-98	14-DEC-98 T5B		(417345:99)
19410-012MS	B0T1F0	Water	16-NOV-98	11:39	17-NOV-98 08:00	17-DEC-98 AIRBORNE	3*	R8028-008
SAF C99-009								
1 PN - Plastic-500ml		CL/300.0/Q4	S	COLD	10-DEC-98	14-DEC-98 T5B		(417345:99)
1		FL/300.0/Q4	S	COLD	10-DEC-98	14-DEC-98 T5B		(417345:99)
1		NO2/300.0/Q4	S	COLD	10-DEC-98	18-NOV-98 T5B		(417345:99)
1		NO3/300.0/Q4	S	COLD	10-DEC-98	18-NOV-98 T5B		(417345:99)
1		SO4/300.0/Q4	S	COLD	10-DEC-98	14-DEC-98 T5B		(417345:99)
19410-013	B0T1H8	Water	16-NOV-98	11:02	17-NOV-98 08:00	17-DEC-98 AIRBORNE	3*	R8028-007
SAF C99-009								
1 PN - Plastic-500ml		ICAP/6010/Q4	S	HNO3	10-DEC-98	15-MAY-99 T5B		(417347:100)
1 VI - Vial-20ml		RAD/SCREEN/Q4	S	COLD	10-DEC-98	16-MAY-99 T5B		(417349:100)

3* Sample has not been rad screened.

Quanterra November 20, 1998 08:46 am
Account: 10722 Project: 550.184 Quanterra-Richland QAS No. 550.184 Rev. 3
Master Sample Login: 19410

Project Manager: R. White

Reviewed by and Date: _____

Sample Header Template: _____

Sample No.	Client ID	C-Matrix	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No.
#	Comments							
#	Container Type	Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)
19410-014	B0T1H1	Water	16-NOV-98 10:26	17-NOV-98 08:00	17-DEC-98	AIRBORNE	3*	Sample not Screened
SAF C99-009								
1	PN - Plastic-500ml	ICAPD/6010/Q4	S	HNO3	10-DEC-98	16-MAY-99	T5B	(418210:100)

00400

3*-Sample has not been rad screened.

PNNL		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						C.O.C. # C99-009-62									
								Page 1 of 1									
Collector RR FOX (RFS)			Contact/Requester JH KESSNER			Telephone No. (509) 372-9538			MSIN FAX								
SAF No. C99-009			Sampling Origin HANFORD SITE			Purchase Order/Charge Code											
Project Title 100-HR3-IAM (2) GW SAMPLING NOVEMBER 1998			Logbook No. WJ172-SITE-418			Ice Chest No. GWS108			Temp. 1 °C								
Shipped To (Lab) Quanterra St. Louis			Method of Shipment GOVT VEHICLE			Bill of Lading/Air Bill No.			004719584 310								
Protocol CERCLA			Data Turnaround 45 Days			Offsite Property No.											
POSSIBLE SAMPLE HAZARDS/REMARKS ** **						SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☒ No ☐ FAX COPIES OF TMA & QES LOG-IN TO DL STEWART (372-1704) & JM DUNCAN (372-9052).											
Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis				Preservative							
BOT1D9 (F)	1	W	11-16-98	11:34	1x500-mL GC	ICP Metals - 6010A RCRA GW 100% pH=1 3°C				HNO3 to pH <2							
BOT1F0	12	W			1x500-mL GC	ICP Metals - 6010A RCRA GW ↓ ↓ ↓				HNO3 to pH <2							
BOT1F0		W			1x500-mL P	IC Anions - 300.0 (Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate) 100% 3°C				Cool 4C							
BOT1F0		W			1x20-mL P	Activity Scan 100% 4°C				None							
						W02593											
Relinquished By RR FOX (RFS)						Print Sign		Date/Time NOV 16 1998		Received By Joe Termin		Print Sign		Date/Time 11-17-98 0800		Matrix *	
Relinquished By						Date/Time		Received By		Date/Time		S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air DS = Drum Solid DL = Drum Liquid T = Tissue WI = Wine L = Liquid V = Vegetation X = Other					
Relinquished By						Date/Time		Received By		Date/Time							
Relinquished By						Date/Time		Received By		Date/Time							
FINAL SAMPLE DISPOSITION		Disposal Method (e.g., Return to customer, per lab procedure, used in process)								Disposed By		Date/Time					

PNNL		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						C.O.C. # C99-009-79			
		Page 1 of 1									
Collector RR FOX (RFS)		Contact/Requester JH KESSNER				Telephone No. (509) 372-9538					
SAF No. C99-009		Sampling Origin HANFORD SITE				Purchase Order/Charge Code					
Project Title 100-HR3-IAM(2) GW SAMPLING NOVEMBER 1998		Logbook No. WELL-SMIL-HIS				Ice Chest No. GWS108		Temp. 4°C			
Shipped To (Lab) Quanterra St. Louis		Method of Shipment GOVT VEHICLE				Bill of Lading/Air Bill No. 004719584 310					
Protocol CERCLA		Data Turnaround 45 Days				Offsite Property No.					
POSSIBLE SAMPLE HAZARDS/REMARKS ** **						SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☒ No ☐ FAX COPIES OF TMA & QES LOG-IN TO DL STEWART (372-1704) & JM DUNCAN (372-9052).					
Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis				Preservative	
BOT1H7 (F)	2	W	11/6/98	1102	1x500-mL G@	ICP Metals - 6010A RCRA GW 100% pH=1 3°C				HNO3 to pH <2	
BOT1H8	13	W	↓	↓	1x500-mL G@	ICP Metals - 6010A RCRA GW ↓ ↓ ↓				HNO3 to pH <2	
BOT1H8		W	↓	↓	1x20-mL P	Activity Scan 100% 4°C				None	
						W02593					
Relinquished By RR FOX (RFS)						Print Sign NOV 16 1998		Date/Time 11/10		Received By Joe Kerner	
Relinquished By						Print Sign		Date/Time 11-17-98		Date/Time 0800	
Relinquished By						Print Sign		Date/Time		Date/Time	
Relinquished By						Print Sign		Date/Time		Date/Time	
Relinquished By						Print Sign		Date/Time		Date/Time	
FINAL SAMPLE DISPOSITION						Disposal Method (e.g., Return to customer, per lab procedure, used in process)					
Disposed By						Date/Time					

[illegible]

PNNL		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						C.O.C.# C99-009-75			
		Page 1 of 1									
Collector AG RIZZO			Contact/Requester JH KESSNER			Telephone No. (509) 372-9538			MSIN FAX		
SAF No. C99-009			Sampling Origin HANFORD SITE			Purchase Order/Charge Code					
Project Title 100-HR3-IAM (2) GW SAMPLING NOVEMBER 1998			Logbook No. JHM-SML-H21			Ice Chest No. SML-597			Temp. 4°C		
Shipped To (Lab) Quanterra St. Louis			Method of Shipment GOVT VEHICLE			Bill of Lading/Air Bill No. 004714584 413					
Protocol CERCLA			Data Turnaround 45 Days			Offsite Property No.					
POSSIBLE SAMPLE HAZARDS/REMARKS ** **						SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☒ No ☐ FAX COPIES OF TMA & QES LOG-IN TO DL STEWART (372-1704) & JM DUNCAN (372-9052).					
Sample No.	Lab ID	*	Date	Time	No./Type Container	Sample Analysis				Preservative	
BOT1H4 (F)	4	W	11/16/98	1130	1x500-mL GWP	ICP Metals - 6010A RCRA GW 100% pH=1 3°C				HNO3 to pH <2	
BOT1H5	10	W			1x500-mL GWP	ICP Metals - 6010A RCRA GW ↓ ↓ ↓				HNO3 to pH <2	
BOT1H5		W			1x500-mL P	IC Anions - 300.0 (Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate) 100% 3°C				Cool 4C	
BOT1H5		W			1x20-mL P	Activity Scan 100% 4°C				None	
						WB2593					
Relinquished By AG RIZZO Print Sign Date/Time						Received By Joe Teimer Print Sign Date/Time				Matrix *	
Relinquished By Date/Time						Received By Date/Time				S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air DS = Drum Solid DL = Drum Liquid T = Tissue WI = Wine L = Liquid V = Vegetation X = Other	
Relinquished By Date/Time						Received By Date/Time					
Relinquished By Date/Time						Received By Date/Time					
FINAL SAMPLE DISPOSITION		Disposal Method (e.g., Return to customer, per lab procedure, used in process)				Disposed By		Date/Time			

PNNL		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						C.O.C. # C99-009-71			
								Page 1 of 1			
Collector AG RIZZO D.R. BREWINGTON (RFS)		Contact/Requester JH KESSNER				Telephone No. (509) 372-9538 MSIN FAX					
SAF No. C99-009		Sampling Origin HANFORD SITE				Purchase Order/Charge Code					
Project Title 100-HR3-IAM(2) GW SAMPLING NOVEMBER 1998		Logbook No. WM SML-1721				Ice Chest No. SML-418		Temp. 4°C			
Shipped To (Lab) Quanterra St. Louis		Method of Shipment GOVT VEHICLE				Bill of Lading/Air Bill No. 004719584 413					
Protocol CERCLA		Data Turnaround 45 Days				Offsite Property No.					
POSSIBLE SAMPLE HAZARDS/REMARKS ** **						SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☒ No ☐ FAX COPIES OF TMA & QES LOG-IN TO DL STEWART (372-1704) & JM DUNCAN (372-9052).					
Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis				Preservative	
B0T1H1 (F)		W	11/16/98	1030	1x500-mL G/P	ICP Metals - 6010A RCRA GW did not receive per 11-17-98				HNO3 to pH <2	
B0T1H2	9	W			1x500-mL G/B	ICP Metals - 6010A RCRA GW 100% ph-1				HNO3 to pH <2	
B0T1H2		W			1x500-mL P	IC Anions - 300.0 (Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate) 100%				Cool AC	
B0T1H2		W			1x20-mL P	Activity Scan 100%				None	
						WO2593					
Relinquished By D.R. BREWINGTON (RFS) AG RIZZO ASK [Signature] 11/16/98 Date/Time						Received By Joe Teemann Print Sign 11-17-98 0800 Date/Time		Matrix *			
Relinquished By Date/Time						Received By Date/Time		S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air DS = Drum Solid DL = Drum Liquid T = Tissue WI = Wine LI = Liquid V = Vegetation X = Other			
Relinquished By Date/Time						Received By Date/Time					
Relinquished By Date/Time						Received By Date/Time					
FINAL SAMPLE DISPOSITION		Disposal Method (e.g., Return to customer, per lab procedure, used in process)				Disposed By		Date/Time			

PNNL		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						C.O.C. # C99-009-99		
								Page 1 of 1		
Collector AG RIZZO			Contact/Requester JH KESSNER			Telephone No. MSIN (509) 372-9538			FAX	
SAF No. C99-009			Sampling Origin HANFORD SITE			Purchase Order/Charge Code				
Project Title 100-HR3-1AM (2) GW SAMPLING, NOVEMBER 1998			Logbook No. 100-HR3-1AM-11-21			Ice Chest No. 5111593		Temp. 4°C		
Shipped To (Lab) Quanterra St. Louis			Method of Shipment GOVT. VEHICLE			Bill of Lading/Air Bill No. 004719584 413				
Protocol CERCLA			Data Turnaround 45 Days			Offsite Property No.				
POSSIBLE SAMPLE HAZARDS/REMARKS						SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☒ No ☐				
						FAX COPIES OF TMA & QES LOG-IN TO DL STEWART (372-1704) & JM DUNCAN (372-9052).				
Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis			Preservative	
BOT125 (F)	6	W	11/16/98	0930	1x500-mL GP	ICP Metals - 6010A RCRA GW 100% pH-1 3°C			HNO3 to pH <2	
BOT126	7	W	↓	↓	1x500-mL GP	ICP Metals - 6010A RCRA GW ↓ ↓ ↓			HNO3 to pH <2	
BOT126		W			1x500-mL P	IC Anions - 300.0 (Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate) 100% 3°C			Cool 4C	
BOT126		W			1x20-mL P	Activity Scan 100% 4°C			None	
W02593										
Relinquished By AG RIZZO			Print Sign		Date/Time 11/16/98	Received By Joe Kessner			Date/Time 11-17-98 0800	
Relinquished By					Date/Time	Received By			Date/Time	
Relinquished By					Date/Time	Received By			Date/Time	
Relinquished By					Date/Time	Received By			Date/Time	
FINAL SAMPLE DISPOSITION		Disposal Method (e.g., Return to customer, per lab procedure, used in process)				Disposed By		Date/Time		

Matrix *

S = Soil	DS = Drum Solid
SE = Sediment	DL = Drum Liquid
SO = Solid	T = Tissue
SL = Sludge	WI = Wine
W = Water	L = Liquid
O = Oil	V = Vegetation
A = Air	X = Other

PNNL		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST					C.O.C. # C99-009-116	
							Page 1 of 1	
Collector AG RIZZO			Contact/Requester JH KESSNER			Telephone No. MSIN FAX (509) 372-9538		
SAF No. C99-009			Sampling Origin HANFORD SITE			Purchase Order/Charge Code		
Project Title 100-HR3-1AM (2) GW SAMPLING NOVEMBER 1998			Logbook No. <i>Lum Sml 421</i>			Ice Chest No. <i>SML-593</i> Temp. <i>4C</i>		
Shipped To (Lab) Quanterra St. Louis			Method of Shipment GOVT VEHICLE			Bill of Lading/Air Bill No. <i>004719584 413</i>		
Protocol CERCLA			Data Turnaround 45 Days			Offsite Property No.		
POSSIBLE SAMPLE HAZARDS/REMARKS					SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☒ No ☐			
					FAX COPIES OF TMA & QES LOG-IN TO DL STEWART (372-1704) & JM DUNCAN (372-9052).			
Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis		Preservative
B0T432 (F)	5	W	<i>11/16/98</i>	<i>0800</i>	1x500-mL G/P	ICP Metals - 6010A RCRA GW <i>100% pH=1 3°C</i>		HNO3 to pH <2
B0T433	8	W	<i>7</i>	<i>7</i>	1x500-mL G/P	ICP Metals - 6010A RCRA GW <i>↓ ↓ ↓</i>		HNO3 to pH <2
B0T433		W			1x500-mL P	IC Anions - 300.0 (Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate) <i>100% 3°C</i>		Cool 4C
B0T433		W			1x20-mL P	Activity Scan <i>100% 4°C</i>		None
<i>W02593</i>								
Relinquished By AG RIZZO			Print Sign <i>AG Rizzo</i>		Date/Time <i>11/16/98</i>		Received By <i>Joe Turin</i>	
Relinquished By			Print Sign		Date/Time <i>11-17-98 0800</i>		Matrix *	
Relinquished By			Print Sign		Date/Time		S = Soil DS = Drum Solid	
Relinquished By			Print Sign		Date/Time		SE = Sediment DL = Drum Liquid	
Relinquished By			Print Sign		Date/Time		SO = Solid T = Tissue	
Relinquished By			Print Sign		Date/Time		SL = Sludge WI = Wine	
Relinquished By			Print Sign		Date/Time		W = Water L = Liquid	
Relinquished By			Print Sign		Date/Time		O = Oil V = Vegetation	
Relinquished By			Print Sign		Date/Time		A = Air X = Other	
FINAL SAMPLE DISPOSITION		Disposal Method (e.g., Return to customer, per lab procedure, used in process)					Disposed By	
							Date/Time	

Login No.: 19410

**Condition Upon Receipt Variance Report
St. Louis Laboratory**

Client: Richland - BHI

Date: 11-17-98 Time: 0800

Project No: 550184

Initiated by: Joe Tiemann

Shipper/No: Airborne / 4719584-310, -413

RFA/COC Numbers: C99-009-79, -62, -55
-75, -71, -116, -99

Condition/Variance (Check all that apply):

1. ☐ Sample received broken/leaking.	8. ☐ Sample ID on container does not match sample ID on paperwork. Explain: _____
2. ☐ Sample received without proper preservative.	
☐ Cooler temperature not within 4°C ± 2°C	
Record temperature: _____	
☐ pH _____	9. ☐ All coolers on airbill not received with shipment.
☐ other: _____	10. ☐ Other (explain below): _____
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.	

☐ No variances were noted during sample receipt.

Cooler Temperature Upon Receipt: 4°C, 3°C

Notes: did not receive BOT1H1 ICP Metals - 6010A RCRA GW 500ml p

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) Joe Tiemann Date: 11-17-98

Project Management Review: Robert E. White Date: 11-17-98

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

Login No.: 19410

**Condition Upon Receipt Variance Report
St. Louis Laboratory**

Client: PNNL

Date: 11-19-98 Time: 0845

Project No: 519.145

Initiated by: Joe Tiemann

Shipper/No: Airborne / 4719588-016

RFA/COC Numbers: C99-009-71

Condition/Variance (Check all that apply):

1. ☐ Sample received broken/leaking.	8. ☐ Sample ID on container does not match sample ID on paperwork. Explain: _____
2. ☐ Sample received without proper preservative.	
☐ Cooler temperature not within 4°C ± 2°C	
Record temperature: _____	
☐ pH _____	9. ☐ All coolers on airbill not received with shipment.
☐ other: _____	10. ☐ Other (explain below): _____
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.	

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

Notes: BOT 1H1 - 500ml poly ICP metals, received.

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) Joe Tiemann Date: 11-19-98

Project Management Review: Robert E. White Date: 11-21-98

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

Quanterra-Richland
3350 George Washington Way
Richland, WA 99352

Project: 550.184

Category: ICAP Metals - Dissolved
Method: EPA 6010
Matrix: LIQUID

Sample Date : 11/02/98
Receipt Date : 11/03/98
Report Date : 01/13/99

Client ID: BOT116

Quanterra ID : 19283-002

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK194041-1	12/08/98	12/09/98	25.6 UG/L	B	200	1
Antimony	7440-36-0	QCBLK194041-1	12/08/98	12/09/98	33.0 UG/L	U	60.0	1
Barium	7440-39-3	QCBLK194041-1	12/08/98	12/09/98	67.3 UG/L	B	200	1
Beryllium	7440-41-7	QCBLK194041-1	12/08/98	12/09/98	0.50 UG/L	U	5.0	1
Cadmium	7440-43-9	QCBLK194041-1	12/08/98	12/09/98	2.6 UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK194041-1	12/08/98	12/09/98	58000 UG/L		5000	1
Chromium	7440-47-3	QCBLK194041-1	12/08/98	12/09/98	77.9 UG/L		10.0	1
Cobalt	7440-48-4	QCBLK194041-1	12/08/98	12/09/98	2.4 UG/L	U	50.0	1
Copper	7440-50-8	QCBLK194041-1	12/08/98	12/09/98	2.9 UG/L	U	25.0	1
Iron	7439-89-6	QCBLK194041-1	12/08/98	12/09/98	53.3 UG/L	B	100	1
Magnesium	7439-95-4	QCBLK194041-1	12/08/98	12/09/98	12200 UG/L		5000	1
Manganese	7439-96-5	QCBLK194041-1	12/08/98	12/09/98	3.2 UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK194041-1	12/08/98	12/09/98	10.8 UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK194041-1	12/08/98	12/09/98	4420 UG/L	B	5000	1
Silver	7440-22-4	QCBLK194041-1	12/08/98	12/09/98	5.0 UG/L	U	10.0	1
Sodium	7440-23-5	QCBLK194041-1	12/08/98	12/09/98	10700 UG/L		5000	1
Vanadium	7440-62-2	QCBLK194041-1	12/08/98	12/09/98	13.6 UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK194041-1	12/08/98	12/09/98	92.8 UG/L		20.0	1
Strontium	7440-24-6	QCBLK194041-1	12/08/98	12/09/98	284 UG/L		50.0	1

0049A

Quanterra-Richland
3350 George Washington Way
Richland, WA 99352

Project: 550.184

Category: ICAP Metals - Dissolved
Method: EPA 6010
Matrix: LIQUID

Sample Date : 11/02/98
Receipt Date : 11/03/98
Report Date : 01/13/99

Client ID: B0T113

Quanterra ID : 19283-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK194041-1	12/08/98	12/09/98	20.6	UG/L	U	200	1
Antimony	7440-36-0	QCBLK194041-1	12/08/98	12/09/98	33.5	UG/L	B	60.0	1
Barium	7440-39-3	QCBLK194041-1	12/08/98	12/09/98	55.2	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK194041-1	12/08/98	12/09/98	0.73	UG/L	B	5.0	1
Cadmium	7440-43-9	QCBLK194041-1	12/08/98	12/09/98	2.6	UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK194041-1	12/08/98	12/09/98	64700	UG/L		5000	1
Chromium	7440-47-3	QCBLK194041-1	12/08/98	12/09/98	93.8	UG/L		10.0	1
Cobalt	7440-48-4	QCBLK194041-1	12/08/98	12/09/98	2.4	UG/L	U	50.0	1
Copper	7440-50-8	QCBLK194041-1	12/08/98	12/09/98	3.5	UG/L	B	25.0	1
Iron	7439-89-6	QCBLK194041-1	12/08/98	12/09/98	35.2	UG/L	B	100	1
Magnesium	7439-95-4	QCBLK194041-1	12/08/98	12/09/98	11500	UG/L		5000	1
Manganese	7439-96-5	QCBLK194041-1	12/08/98	12/09/98	3.3	UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK194041-1	12/08/98	12/09/98	10.8	UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK194041-1	12/08/98	12/09/98	3210	UG/L	B	5000	1
Silver	7440-22-4	QCBLK194041-1	12/08/98	12/09/98	5.0	UG/L	U	10.0	1
Sodium	7440-23-5	QCBLK194041-1	12/08/98	12/09/98	7790	UG/L		5000	1
Vanadium	7440-62-2	QCBLK194041-1	12/08/98	12/09/98	13.2	UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK194041-1	12/08/98	12/09/98	98.7	UG/L		20.0	1
Strontium	7440-24-6	QCBLK194041-1	12/08/98	12/09/98	304	UG/L		20.0	1

0049B

Quanterra-Richland
3350 George Washington Way
Richland, WA 99352

Project: 550.184

Category: ICAP Metals - Dissolved
Method: EPA 6010
Matrix: LIQUID

Sample Date : 11/02/98
Receipt Date : 11/03/98
Report Date : 01/13/99

Client ID: BOT1J0

Quanterra ID : 19283-004

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection	
								Limit	Dilution
Aluminum	7429-90-5	QCBLK194041-1	12/08/98	12/09/98	23.7	UG/L	B	200	1
Antimony	7440-36-0	QCBLK194041-1	12/08/98	12/09/98	33.0	UG/L	U	60.0	1
Barium	7440-39-3	QCBLK194041-1	12/08/98	12/09/98	40.3	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK194041-1	12/08/98	12/09/98	0.50	UG/L	U	5.0	1
Cadmium	7440-43-9	QCBLK194041-1	12/08/98	12/09/98	2.6	UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK194041-1	12/08/98	12/09/98	63800	UG/L		5000	1
Chromium	7440-47-3	QCBLK194041-1	12/08/98	12/09/98	35.6	UG/L		10.0	1
Cobalt	7440-48-4	QCBLK194041-1	12/08/98	12/09/98	2.4	UG/L	U	50.0	1
Copper	7440-50-8	QCBLK194041-1	12/08/98	12/09/98	3.0	UG/L	B	25.0	1
Iron	7439-89-6	QCBLK194041-1	12/08/98	12/09/98	44.6	UG/L	B	100	1
Magnesium	7439-95-4	QCBLK194041-1	12/08/98	12/09/98	14200	UG/L		5000	1
Manganese	7439-96-5	QCBLK194041-1	12/08/98	12/09/98	4.6	UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK194041-1	12/08/98	12/09/98	10.8	UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK194041-1	12/08/98	12/09/98	5850	UG/L		5000	1
Silver	7440-22-4	QCBLK194041-1	12/08/98	12/09/98	5.0	UG/L	U	10.0	1
Sodium	7440-23-5	QCBLK194041-1	12/08/98	12/09/98	24900	UG/L		5000	1
Vanadium	7440-62-2	QCBLK194041-1	12/08/98	12/09/98	16.2	UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK194041-1	12/08/98	12/09/98	12.2	UG/L	B	20.0	1
Strontium	7440-24-6	QCBLK194041-1	12/08/98	12/09/98	313	UG/L		50.0	1

0050A

Quanterra-Richland
3350 George Washington Way
Richland, WA 99352

Project: 550.184

Category: ICAP Metals - Dissolved
Method: EPA 6010
Matrix: LIQUID

Sample Date : 11/02/98
Receipt Date : 11/03/98
Report Date : 01/13/99

Client ID: BOT120

Quanterra ID : 19283-003

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK194041-1	12/08/98	12/09/98	85.9 UG/L	B	200	1
Antimony	7440-36-0	QCBLK194041-1	12/08/98	12/09/98	33.0 UG/L	U	60.0	1
Barium	7440-39-3	QCBLK194041-1	12/08/98	12/09/98	67.3 UG/L	B	200	1
Beryllium	7440-41-7	QCBLK194041-1	12/08/98	12/09/98	0.50 UG/L	U	5.0	1
Cadmium	7440-43-9	QCBLK194041-1	12/08/98	12/09/98	2.6 UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK194041-1	12/08/98	12/09/98	58600 UG/L		5000	1
Chromium	7440-47-3	QCBLK194041-1	12/08/98	12/09/98	78.6 UG/L		10.0	1
Cobalt	7440-48-4	QCBLK194041-1	12/08/98	12/09/98	2.4 UG/L	U	50.0	1
Copper	7440-50-8	QCBLK194041-1	12/08/98	12/09/98	2.9 UG/L	U	25.0	1
Iron	7439-89-6	QCBLK194041-1	12/08/98	12/09/98	48.2 UG/L	B	100	1
Magnesium	7439-95-4	QCBLK194041-1	12/08/98	12/09/98	12300 UG/L		5000	1
Manganese	7439-96-5	QCBLK194041-1	12/08/98	12/09/98	3.4 UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK194041-1	12/08/98	12/09/98	10.8 UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK194041-1	12/08/98	12/09/98	4930 UG/L	B	5000	1
Silver	7440-22-4	QCBLK194041-1	12/08/98	12/09/98	5.0 UG/L	U	10.0	1
Sodium	7440-23-5	QCBLK194041-1	12/08/98	12/09/98	10800 UG/L		5000	1
Vanadium	7440-62-2	QCBLK194041-1	12/08/98	12/09/98	14.0 UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK194041-1	12/08/98	12/09/98	93.5 UG/L		20.0	1
Strontium	7440-24-6	QCBLK194041-1	12/08/98	12/09/98	284 UG/L		50.0	1

Quanterra-Richland
3350 George Washington Way
Richland, WA 99352

Project: 550.184

Category: ICAP Metals - Dissolved
Method: EPA 6010
Matrix: LIQUID

Sample Date : 11/02/98
Receipt Date : 11/03/98
Report Date : 01/13/99

Client ID: B0T1B5

Quanterra ID : 19283-007

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK194041-1	12/08/98	12/09/98	29.3	UG/L	B	200	1
Antimony	7440-36-0	QCBLK194041-1	12/08/98	12/09/98	33.0	UG/L	U	60.0	1
Barium	7440-39-3	QCBLK194041-1	12/08/98	12/09/98	34.6	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK194041-1	12/08/98	12/09/98	0.55	UG/L	B	5.0	1
Cadmium	7440-43-9	QCBLK194041-1	12/08/98	12/09/98	2.6	UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK194041-1	12/08/98	12/09/98	71100	UG/L		5000	1
Chromium	7440-47-3	QCBLK194041-1	12/08/98	12/09/98	61.3	UG/L		10.0	1
Cobalt	7440-48-4	QCBLK194041-1	12/08/98	12/09/98	2.4	UG/L	U	50.0	1
Copper	7440-50-8	QCBLK194041-1	12/08/98	12/09/98	4.4	UG/L	B	25.0	1
Iron	7439-89-6	QCBLK194041-1	12/08/98	12/09/98	31.4	UG/L	B	100	1
Magnesium	7439-95-4	QCBLK194041-1	12/08/98	12/09/98	12300	UG/L		5000	1
Manganese	7439-96-5	QCBLK194041-1	12/08/98	12/09/98	4.4	UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK194041-1	12/08/98	12/09/98	10.8	UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK194041-1	12/08/98	12/09/98	2950	UG/L	B	5000	1
Silver	7440-22-4	QCBLK194041-1	12/08/98	12/09/98	5.0	UG/L	U	10.0	1
Sodium	7440-23-5	QCBLK194041-1	12/08/98	12/09/98	8340	UG/L		5000	1
Vanadium	7440-62-2	QCBLK194041-1	12/08/98	12/09/98	13.1	UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK194041-1	12/08/98	12/09/98	8.2	UG/L	B	20.0	1
Strontium	7440-24-6	QCBLK194041-1	12/08/98	12/09/98	303	UG/L		50.0	1

0057A

Quanterra-Richland
3350 George Washington Way
Richland, WA 99352

Project: 550.184

Category: ICAP Metals - Dissolved
Method: EPA 6010
Matrix: LIQUID

Sample Date : 11/02/98
Receipt Date : 11/03/98
Report Date : 01/13/99

Client ID: B0T429

Quanterra ID : 19283-006

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK194041-1	12/08/98	12/09/98	24.2	UG/L	B	200	1
Antimony	7440-36-0	QCBLK194041-1	12/08/98	12/09/98	33.0	UG/L	U	60.0	1
Barium	7440-39-3	QCBLK194041-1	12/08/98	12/09/98	0.60	UG/L	U	200	1
Beryllium	7440-41-7	QCBLK194041-1	12/08/98	12/09/98	0.50	UG/L	U	5.0	1
Cadmium	7440-43-9	QCBLK194041-1	12/08/98	12/09/98	2.6	UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK194041-1	12/08/98	12/09/98	267	UG/L	B	5000	1
Chromium	7440-47-3	QCBLK194041-1	12/08/98	12/09/98	2.7	UG/L	U	10.0	1
Cobalt	7440-48-4	QCBLK194041-1	12/08/98	12/09/98	2.4	UG/L	U	50.0	1
Copper	7440-50-8	QCBLK194041-1	12/08/98	12/09/98	2.9	UG/L	U	25.0	1
Iron	7439-89-6	QCBLK194041-1	12/08/98	12/09/98	31.7	UG/L	B	100	1
Magnesium	7439-95-4	QCBLK194041-1	12/08/98	12/09/98	85.6	UG/L	B	5000	1
Manganese	7439-96-5	QCBLK194041-1	12/08/98	12/09/98	1.1	UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK194041-1	12/08/98	12/09/98	10.8	UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK194041-1	12/08/98	12/09/98	1220	UG/L	U	5000	1
Silver	7440-22-4	QCBLK194041-1	12/08/98	12/09/98	5.0	UG/L	U	10.0	1
Sodium	7440-23-5	QCBLK194041-1	12/08/98	12/09/98	409	UG/L	B	5000	1
Vanadium	7440-62-2	QCBLK194041-1	12/08/98	12/09/98	2.6	UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK194041-1	12/08/98	12/09/98	5.7	UG/L	B	20.0	1
Strontium	7440-24-6	QCBLK194041-1	12/08/98	12/09/98	2.7	UG/L	U	50.0	1

0051B

Quanterra-Richland
 3350 George Washington Way
 Richland, WA 99352

Project: E50.184

Category: ICAP Metals - Dissolved
 Method: EPA 6010
 Matrix: LIQUID

Sample Date : 11/02/98
 Receipt Date : 11/03/98
 Report Date : 01/13/99

Client ID: BOT189

Quanterra ID : 19283-005

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK194041-1	12/08/98	12/09/98	20.6	UG/L	U	200	1
Antimony	7440-36-0	QCBLK194041-1	12/08/98	12/09/98	33.0	UG/L	U	60.0	1
Barium	7440-39-3	QCBLK194041-1	12/08/98	12/09/98	67.2	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK194041-1	12/08/98	12/09/98	0.50	UG/L	U	5.0	1
Cadmium	7440-43-9	QCBLK194041-1	12/08/98	12/09/98	2.6	UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK194041-1	12/08/98	12/09/98	47000	UG/L		5000	1
Chromium	7440-47-3	QCBLK194041-1	12/08/98	12/09/98	30.1	UG/L		10.0	1
Cobalt	7440-48-4	QCBLK194041-1	12/08/98	12/09/98	2.4	UG/L	U	50.0	1
Copper	7440-50-8	QCBLK194041-1	12/08/98	12/09/98	2.9	UG/L	U	25.0	1
Iron	7439-89-6	QCBLK194041-1	12/08/98	12/09/98	34.9	UG/L	B	100	1
Magnesium	7439-95-4	QCBLK194041-1	12/08/98	12/09/98	11200	UG/L		5000	1
Manganese	7439-96-5	QCBLK194041-1	12/08/98	12/09/98	2.6	UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK194041-1	12/08/98	12/09/98	10.8	UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK194041-1	12/08/98	12/09/98	3490	UG/L	B	5000	1
Silver	7440-22-4	QCBLK194041-1	12/08/98	12/09/98	5.0	UG/L	U	10.0	1
Sodium	7440-23-5	QCBLK194041-1	12/08/98	12/09/98	12900	UG/L		5000	1
Vanadium	7440-62-2	QCBLK194041-1	12/08/98	12/09/98	12.4	UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK194041-1	12/08/98	12/09/98	6.9	UG/L	B	20.0	1
Strontium	7440-24-6	QCBLK194041-1	12/08/98	12/09/98	230	UG/L		50.0	1

Quanterra-Richland
3350 George Washington Way
Richland, WA 99352

Project: 550.184

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

Sample Date : 11/02/98
Receipt Date : 11/03/98
Report Date : 01/13/99

Client ID: 30T1D7

Quanterra ID : 19283-010

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK194041-1	12/08/98	12/09/98	119	UG/L	B	200	1
Antimony	7440-36-0	QCBLK194041-1	12/08/98	12/09/98	33.0	UG/L	U	60.0	1
Barium	7440-39-3	QCBLK194041-1	12/08/98	12/09/98	59.4	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK194041-1	12/08/98	12/09/98	0.50	UG/L	U	5.0	1
Cadmium	7440-43-9	QCBLK194041-1	12/08/98	12/09/98	2.6	UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK194041-1	12/08/98	12/09/98	66600	UG/L		5000	1
Chromium	7440-47-3	QCBLK194041-1	12/08/98	12/09/98	80.2	UG/L		10.0	1
Cobalt	7440-48-4	QCBLK194041-1	12/08/98	12/09/98	2.4	UG/L	U	50.0	1
Copper	7440-50-8	QCBLK194041-1	12/08/98	12/09/98	6.2	UG/L	B	25.0	1
Iron	7439-89-6	QCBLK194041-1	12/08/98	12/09/98	314	UG/L		100	1
Magnesium	7439-95-4	QCBLK194041-1	12/08/98	12/09/98	13300	UG/L		5000	1
Manganese	7439-96-5	QCBLK194041-1	12/08/98	12/09/98	10.3	UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK194041-1	12/08/98	12/09/98	18.8	UG/L	B	40.0	1
Potassium	7440-09-7	QCBLK194041-1	12/08/98	12/09/98	5490	UG/L		5000	1
Silver	7440-22-4	QCBLK194041-1	12/08/98	12/09/98	5.0	UG/L	U	10.0	1
Sodium	7440-23-5	QCBLK194041-1	12/08/98	12/09/98	18700	UG/L		5000	1
Vanadium	7440-62-2	QCBLK194041-1	12/08/98	12/09/98	20.4	UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK194041-1	12/08/98	12/09/98	28.4	UG/L		20.0	1
Strontium	7440-24-6	QCBLK194041-1	12/08/98	12/09/98	298	UG/L		50.0	1

Quanterra-Richland
1350 George Washington Way
Richland, WA 99352

Project: 550.184

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

Sample Date : 11/02/98
Receipt Date : 11/03/98
Report Date : 01/13/99

Client ID: B0T1D4

Quanterra ID : 19283-011

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK194041-1	12/08/98	12/09/98	20.6 UG/L	U	200	1
Antimony	7440-36-0	QCBLK194041-1	12/08/98	12/09/98	33.0 UG/L	U	60.0	1
Barium	7440-39-3	QCBLK194041-1	12/08/98	12/09/98	36.1 UG/L	B	200	1
Beryllium	7440-41-7	QCBLK194041-1	12/08/98	12/09/98	0.50 UG/L	U	5.0	1
Cadmium	7440-43-9	QCBLK194041-1	12/08/98	12/09/98	2.6 UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK194041-1	12/08/98	12/09/98	86000 UG/L		5000	1
Chromium	7440-47-3	QCBLK194041-1	12/08/98	12/09/98	57.9 UG/L		10.0	1
Cobalt	7440-48-4	QCBLK194041-1	12/08/98	12/09/98	2.4 UG/L	U	50.0	1
Copper	7440-50-8	QCBLK194041-1	12/08/98	12/09/98	4.0 UG/L	B	25.0	1
Iron	7439-89-6	QCBLK194041-1	12/08/98	12/09/98	124 UG/L		100	1
Magnesium	7439-95-4	QCBLK194041-1	12/08/98	12/09/98	12000 UG/L		5000	1
Manganese	7439-96-5	QCBLK194041-1	12/08/98	12/09/98	5.2 UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK194041-1	12/08/98	12/09/98	10.8 UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK194041-1	12/08/98	12/09/98	2740 UG/L	B	5000	1
Silver	7440-22-4	QCBLK194041-1	12/08/98	12/09/98	5.0 UG/L	U	10.0	1
Sodium	7440-23-5	QCBLK194041-1	12/08/98	12/09/98	10300 UG/L		5000	1
Vanadium	7440-62-2	QCBLK194041-1	12/08/98	12/09/98	15.9 UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK194041-1	12/08/98	12/09/98	5.7 UG/L	B	20.0	1
Strontium	7440-24-6	QCBLK194041-1	12/08/98	12/09/98	375 UG/L		50.0	1

Quanterra-Richland
 3350 George Washington Way
 Richland, WA 99352

Project: 550.184

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

Sample Date : 11/02/98
 Receipt Date : 11/03/98
 Report Date : 01/13/99

Client ID: BOT1B6

Quanterra ID : 19283-012

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK194041-1	12/08/98	12/09/98	20.6 UG/L	U	200	1
Antimony	7440-36-0	QCBLK194041-1	12/08/98	12/09/98	39.5 UG/L	B	60.0	1
Barium	7440-39-3	QCBLK194041-1	12/08/98	12/09/98	33.9 UG/L	B	200	1
Beryllium	7440-41-7	QCBLK194041-1	12/08/98	12/09/98	0.50 UG/L	U	5.0	1
Cadmium	7440-43-9	QCBLK194041-1	12/08/98	12/09/98	2.6 UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK194041-1	12/08/98	12/09/98	71700 UG/L		5000	1
Chromium	7440-47-3	QCBLK194041-1	12/08/98	12/09/98	64.6 UG/L		10.0	1
Cobalt	7440-48-4	QCBLK194041-1	12/08/98	12/09/98	2.4 UG/L	U	50.0	1
Copper	7440-50-8	QCBLK194041-1	12/08/98	12/09/98	4.0 UG/L	B	25.0	1
Iron	7439-89-6	QCBLK194041-1	12/08/98	12/09/98	54.8 UG/L	B	100	1
Magnesium	7439-95-4	QCBLK194041-1	12/08/98	12/09/98	12300 UG/L		5000	1
Manganese	7439-96-5	QCBLK194041-1	12/08/98	12/09/98	4.7 UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK194041-1	12/08/98	12/09/98	10.8 UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK194041-1	12/08/98	12/09/98	1360 UG/L	B	5000	1
Silver	7440-22-4	QCBLK194041-1	12/08/98	12/09/98	5.0 UG/L	U	10.0	1
Sodium	7440-23-5	QCBLK194041-1	12/08/98	12/09/98	8220 UG/L		5000	1
Vanadium	7440-62-2	QCBLK194041-1	12/08/98	12/09/98	18.9 UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK194041-1	12/08/98	12/09/98	7.1 UG/L	B	20.0	1
Strontium	7440-24-6	QCBLK194041-1	12/08/98	12/09/98	297 UG/L		50.0	1

Quanterra-Richland
 1350 George Washington Way
 Richland, WA 99352

Project: 550.184

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

Sample Date : 11/02/98
 Receipt Date : 11/03/98
 Report Date : 01/13/99

Client ID: BOT430

Quanterra ID : 19283-013

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK194041-1	12/08/98	12/09/98	23.4 UG/L	B	200	1
Antimony	7440-36-0	QCBLK194041-1	12/08/98	12/09/98	33.0 UG/L	U	60.0	1
Barium	7440-39-3	QCBLK194041-1	12/08/98	12/09/98	0.60 UG/L	U	200	1
Beryllium	7440-41-7	QCBLK194041-1	12/08/98	12/09/98	0.50 UG/L	U	5.0	1
Cadmium	7440-43-9	QCBLK194041-1	12/08/98	12/09/98	2.6 UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK194041-1	12/08/98	12/09/98	213 UG/L	B	5000	1
Chromium	7440-47-3	QCBLK194041-1	12/08/98	12/09/98	2.7 UG/L	U	10.0	1
Cobalt	7440-48-4	QCBLK194041-1	12/08/98	12/09/98	2.4 UG/L	U	50.0	1
Copper	7440-50-8	QCBLK194041-1	12/08/98	12/09/98	2.9 UG/L	U	25.0	1
Iron	7439-89-6	QCBLK194041-1	12/08/98	12/09/98	45.4 UG/L	B	100	1
Magnesium	7439-95-4	QCBLK194041-1	12/08/98	12/09/98	143 UG/L	B	5000	1
Manganese	7439-96-5	QCBLK194041-1	12/08/98	12/09/98	1.5 UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK194041-1	12/08/98	12/09/98	10.8 UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK194041-1	12/08/98	12/09/98	1220 UG/L	U	5000	1
Silver	7440-22-4	QCBLK194041-1	12/08/98	12/09/98	5.0 UG/L	U	10.0	1
Sodium	7440-23-5	QCBLK194041-1	12/08/98	12/09/98	418 UG/L	B	5000	1
Vanadium	7440-62-2	QCBLK194041-1	12/08/98	12/09/98	6.0 UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK194041-1	12/08/98	12/09/98	4.7 UG/L	B	20.0	1
Strontium	7440-24-6	QCBLK194041-1	12/08/98	12/09/98	2.7 UG/L	U	50.0	1

Quanterra-Richland
 3350 George Washington Way
 Richland, WA 99352

Project: E50.184

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

Sample Date : 11/02/98
 Receipt Date : 11/03/98
 Report Date : 01/13/99

Client ID: B0T191

Quanterra ID : 19283-014

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK194041-1	12/08/98	12/09/98	20.6 UG/L	U	200	1
Antimony	7440-36-0	QCBLK194041-1	12/08/98	12/09/98	33.0 UG/L	U	60.0	1
Barium	7440-39-3	QCBLK194041-1	12/08/98	12/09/98	66.3 UG/L	B	200	1
Beryllium	7440-41-7	QCBLK194041-1	12/08/98	12/09/98	0.50 UG/L	U	5.0	1
Cadmium	7440-43-9	QCBLK194041-1	12/08/98	12/09/98	2.6 UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK194041-1	12/08/98	12/09/98	47600 UG/L		5000	1
Chromium	7440-47-3	QCBLK194041-1	12/08/98	12/09/98	30.5 UG/L		10.0	1
Cobalt	7440-48-4	QCBLK194041-1	12/08/98	12/09/98	2.4 UG/L	U	50.0	1
Copper	7440-50-8	QCBLK194041-1	12/08/98	12/09/98	5.6 UG/L	B	25.0	1
Iron	7439-89-6	QCBLK194041-1	12/08/98	12/09/98	33.2 UG/L	B	100	1
Magnesium	7439-95-4	QCBLK194041-1	12/08/98	12/09/98	11300 UG/L		5000	1
Manganese	7439-96-5	QCBLK194041-1	12/08/98	12/09/98	3.0 UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK194041-1	12/08/98	12/09/98	10.8 UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK194041-1	12/08/98	12/09/98	4260 UG/L	B	5000	1
Silver	7440-22-4	QCBLK194041-1	12/08/98	12/09/98	5.0 UG/L	U	10.0	1
Sodium	7440-23-5	QCBLK194041-1	12/08/98	12/09/98	12700 UG/L		5000	1
Vanadium	7440-62-2	QCBLK194041-1	12/08/98	12/09/98	16.4 UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK194041-1	12/08/98	12/09/98	5.1 UG/L	B	20.0	1
Strontium	7440-24-6	QCBLK194041-1	12/08/98	12/09/98	228 UG/L		50.0	1

Quanterra-Richland
8350 George Washington Way
Richland, WA 99352

Project: 550.184

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

Sample Date : 11/02/98
Receipt Date : 11/03/98
Report Date : 01/13/99

Client ID: 80T191

Quanterra ID : 19283-014MS

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK194041-1	12/08/98	12/09/98	93	%REC			1
Antimony	7440-36-0	QCBLK194041-1	12/08/98	12/09/98	102	%REC			1
Barium	7440-39-3	QCBLK194041-1	12/08/98	12/09/98	90	%REC			1
Beryllium	7440-41-7	QCBLK194041-1	12/08/98	12/09/98	94	%REC			1
Cadmium	7440-43-9	QCBLK194041-1	12/08/98	12/09/98	95	%REC			1
Calcium	7440-70-2	QCBLK194041-1	12/08/98	12/09/98	91	%REC			1
Chromium	7440-47-3	QCBLK194041-1	12/08/98	12/09/98	92	%REC			1
Cobalt	7440-48-4	QCBLK194041-1	12/08/98	12/09/98	92	%REC			1
Copper	7440-50-8	QCBLK194041-1	12/08/98	12/09/98	94	%REC			1
Iron	7439-89-6	QCBLK194041-1	12/08/98	12/09/98	98	%REC			1
Magnesium	7439-95-4	QCBLK194041-1	12/08/98	12/09/98	95	%REC			1
Manganese	7439-96-5	QCBLK194041-1	12/08/98	12/09/98	90	%REC			1
Nickel	7440-02-0	QCBLK194041-1	12/08/98	12/09/98	94	%REC			1
Potassium	7440-09-7	QCBLK194041-1	12/08/98	12/09/98	98	%REC			1
Silver	7440-22-4	QCBLK194041-1	12/08/98	12/09/98	98	%REC			1
Sodium	7440-23-5	QCBLK194041-1	12/08/98	12/09/98	91	%REC			1
Vanadium	7440-62-2	QCBLK194041-1	12/08/98	12/09/98	92	%REC			1
Zinc	7440-66-6	QCBLK194041-1	12/08/98	12/09/98	92	%REC			1
Strontium	7440-24-6	QCBLK194041-1	12/08/98	12/09/98	90	%REC			1

Quanterra-Richland
3350 George Washington Way
Richland, WA 99352

Project: 550.184

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

Sample Date : 11/02/98
Receipt Date : 11/03/98
Report Date : 01/13/99

Client ID: BOT191

Quanterra ID : 19283-014MSD

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK194041-1	12/08/98	12/09/98	92	%REC			1
Antimony	7440-36-0	QCBLK194041-1	12/08/98	12/09/98	99	%REC			1
Barium	7440-39-3	QCBLK194041-1	12/08/98	12/09/98	89	%REC			1
Beryllium	7440-41-7	QCBLK194041-1	12/08/98	12/09/98	93	%REC			1
Cadmium	7440-43-9	QCBLK194041-1	12/08/98	12/09/98	95	%REC			1
Calcium	7440-70-2	QCBLK194041-1	12/08/98	12/09/98	92	%REC			1
Chromium	7440-47-3	QCBLK194041-1	12/08/98	12/09/98	91	%REC			1
Cobalt	7440-48-4	QCBLK194041-1	12/08/98	12/09/98	92	%REC			1
Copper	7440-50-8	QCBLK194041-1	12/08/98	12/09/98	92	%REC			1
Iron	7439-89-6	QCBLK194041-1	12/08/98	12/09/98	104	%REC			1
Magnesium	7439-95-4	QCBLK194041-1	12/08/98	12/09/98	94	%REC			1
Manganese	7439-96-5	QCBLK194041-1	12/08/98	12/09/98	90	%REC			1
Nickel	7440-02-0	QCBLK194041-1	12/08/98	12/09/98	93	%REC			1
Potassium	7440-09-7	QCBLK194041-1	12/08/98	12/09/98	95	%REC			1
Silver	7440-22-4	QCBLK194041-1	12/08/98	12/09/98	96	%REC			1
Sodium	7440-23-5	QCBLK194041-1	12/08/98	12/09/98	89	%REC			1
Vanadium	7440-62-2	QCBLK194041-1	12/08/98	12/09/98	92	%REC			1
Zinc	7440-66-6	QCBLK194041-1	12/08/98	12/09/98	93	%REC			1
Strontium	7440-24-6	QCBLK194041-1	12/08/98	12/09/98	89	%REC			1

Quanterra-Richland
1350 George Washington Way
Richland, WA 99352

Project: 350.184

Category: ICP Metals-6010A (TAL)

Method: EPA 6010

Matrix: LIQUID

Client ID: 507101

Quanterra ID : 19283-015

Sample Date : 11/02/98
Receipt Date : 11/03/98
Report Date : 01/13/99

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBULK194041-1	12/08/98	12/09/98	28.6 UG/L	B	200	1
Antimony	7440-36-0	QCBULK194041-1	12/08/98	12/09/98	33.0 UG/L	U	60.0	1
Barium	7440-39-3	QCBULK194041-1	12/08/98	12/09/98	39.8 UG/L	B	200	1
Beryllium	7440-41-7	QCBULK194041-1	12/08/98	12/09/98	0.74 UG/L	B	5.0	1
Cadmium	7440-43-9	QCBULK194041-1	12/08/98	12/09/98	2.6 UG/L	U	5.0	1
Calcium	7440-70-2	QCBULK194041-1	12/08/98	12/09/98	65200 UG/L		5000	1
Chromium	7440-47-3	QCBULK194041-1	12/08/98	12/09/98	44.4 UG/L	U	10.0	1
Cobalt	7440-48-4	QCBULK194041-1	12/08/98	12/09/98	2.4 UG/L	U	50.0	1
Copper	7440-50-8	QCBULK194041-1	12/08/98	12/09/98	5.2 UG/L	B	25.0	1
Iron	7439-89-6	QCBULK194041-1	12/08/98	12/09/98	291 UG/L		100	1
Magnesium	7439-95-4	QCBULK194041-1	12/08/98	12/09/98	14100 UG/L		5000	1
Manganese	7439-96-5	QCBULK194041-1	12/08/98	12/09/98	10.3 UG/L	B	15.0	1
Nickel	7440-02-0	QCBULK194041-1	12/08/98	12/09/98	10.8 UG/L	U	40.0	1
Potassium	7440-09-7	QCBULK194041-1	12/08/98	12/09/98	6270 UG/L		5000	1
Silver	7440-22-4	QCBULK194041-1	12/08/98	12/09/98	5.0 UG/L	U	10.0	1
Sodium	7440-23-5	QCBULK194041-1	12/08/98	12/09/98	24000 UG/L		5000	1
Tamadium	7440-62-2	QCBULK194041-1	12/08/98	12/09/98	29.1 UG/L	B	50.0	1
Zinc	7440-66-6	QCBULK194041-1	12/08/98	12/09/98	20.4 UG/L		20.0	1
Strontium	7440-24-6	QCBULK194041-1	12/08/98	12/09/98	297 UG/L		50.0	1

Quanterra-Richland
 1350 George Washington Way
 Richland, WA 99352

Project: 550.184

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

Sample Date : 11/02/98
 Receipt Date : 11/03/98
 Report Date : 01/13/99

Client ID: 80T121

Quanterra ID : 19283-016

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK194041-1	12/08/98	12/09/98	46.5	UG/L	B	200	1
Antimony	7440-36-0	QCBLK194041-1	12/08/98	12/09/98	33.0	UG/L	U	60.0	1
Barium	7440-39-3	QCBLK194041-1	12/08/98	12/09/98	69.7	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK194041-1	12/08/98	12/09/98	0.89	UG/L	B	5.0	1
Cadmium	7440-43-9	QCBLK194041-1	12/08/98	12/09/98	2.6	UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK194041-1	12/08/98	12/09/98	63800	UG/L		5000	1
Chromium	7440-47-3	QCBLK194041-1	12/08/98	12/09/98	117	UG/L		10.0	1
Cobalt	7440-48-4	QCBLK194041-1	12/08/98	12/09/98	2.4	UG/L	U	50.0	1
Copper	7440-50-8	QCBLK194041-1	12/08/98	12/09/98	4.2	UG/L	B	25.0	1
Iron	7439-89-6	QCBLK194041-1	12/08/98	12/09/98	1760	UG/L		100	1
Magnesium	7439-95-4	QCBLK194041-1	12/08/98	12/09/98	13000	UG/L		5000	1
Manganese	7439-96-5	QCBLK194041-1	12/08/98	12/09/98	11.2	UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK194041-1	12/08/98	12/09/98	20.0	UG/L	B	40.0	1
Potassium	7440-09-7	QCBLK194041-1	12/08/98	12/09/98	3580	UG/L	B	5000	1
Silver	7440-22-4	QCBLK194041-1	12/08/98	12/09/98	5.0	UG/L	U	10.0	1
Sodium	7440-23-5	QCBLK194041-1	12/08/98	12/09/98	11000	UG/L		5000	1
Vanadium	7440-62-2	QCBLK194041-1	12/08/98	12/09/98	33.2	UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK194041-1	12/08/98	12/09/98	149	UG/L		20.0	1
Strontium	7440-24-6	QCBLK194041-1	12/08/98	12/09/98	284	UG/L		50.0	1

Quanterra-Richland
3350 George Washington Way
Richland, WA 99352

Project: 550.184

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

Sample Date : 11/02/98
Receipt Date : 11/03/98
Report Date : 01/13/99

Client ID: B0T117

Quanterra ID : 19283-017

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK194041-1	12/08/98	12/09/98	248 UG/L		200	1
Antimony	7440-36-0	QCBLK194041-1	12/08/98	12/09/98	38.2 UG/L	B	60.0	1
Barium	7440-39-3	QCBLK194041-1	12/08/98	12/09/98	73.4 UG/L	B	200	1
Beryllium	7440-41-7	QCBLK194041-1	12/08/98	12/09/98	0.73 UG/L	B	5.0	1
Cadmium	7440-43-9	QCBLK194041-1	12/08/98	12/09/98	2.6 UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK194041-1	12/08/98	12/09/98	60600 UG/L		5000	1
Chromium	7440-47-3	QCBLK194041-1	12/08/98	12/09/98	143 UG/L		10.0	1
Cobalt	7440-48-4	QCBLK194041-1	12/08/98	12/09/98	2.4 UG/L	U	50.0	1
Copper	7440-50-8	QCBLK194041-1	12/08/98	12/09/98	8.4 UG/L	B	25.0	1
Iron	7439-89-6	QCBLK194041-1	12/08/98	12/09/98	2880 UG/L		100	1
Magnesium	7439-95-4	QCBLK194041-1	12/08/98	12/09/98	12300 UG/L		5000	1
Manganese	7439-96-5	QCBLK194041-1	12/08/98	12/09/98	26.0 UG/L		15.0	1
Nickel	7440-02-0	QCBLK194041-1	12/08/98	12/09/98	37.9 UG/L	B	40.0	1
Potassium	7440-09-7	QCBLK194041-1	12/08/98	12/09/98	4470 UG/L	B	5000	1
Silver	7440-22-4	QCBLK194041-1	12/08/98	12/09/98	5.0 UG/L	U	10.0	1
Sodium	7440-23-5	QCBLK194041-1	12/08/98	12/09/98	10400 UG/L		5000	1
Vanadium	7440-62-2	QCBLK194041-1	12/08/98	12/09/98	31.0 UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK194041-1	12/08/98	12/09/98	182 UG/L		20.0	1
Strontium	7440-24-6	QCBLK194041-1	12/08/98	12/09/98	272 UG/L		50.0	1

Quanterra-Richland
3350 George Washington Way
Richland, WA 99352

Project: 550.184

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

Sample Date : 11/02/98
Receipt Date : 11/03/98
Report Date : 01/13/99

Client ID: B0T114

Quanterra ID : 19283-018

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK194041-1	12/08/98	12/09/98	38.7	UG/L	B	200	1
Antimony	7440-36-0	QCBLK194041-1	12/08/98	12/09/98	33.0	UG/L	U	60.0	1
Barium	7440-39-3	QCBLK194041-1	12/08/98	12/09/98	52.2	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK194041-1	12/08/98	12/09/98	0.98	UG/L	B	5.0	1
Cadmium	7440-43-9	QCBLK194041-1	12/08/98	12/09/98	2.6	UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK194041-1	12/08/98	12/09/98	57200	UG/L		5000	1
Chromium	7440-47-3	QCBLK194041-1	12/08/98	12/09/98	94.3	UG/L		10.0	1
Cobalt	7440-48-4	QCBLK194041-1	12/08/98	12/09/98	2.4	UG/L	U	50.0	1
Copper	7440-50-8	QCBLK194041-1	12/08/98	12/09/98	2.9	UG/L	U	25.0	1
Iron	7439-89-6	QCBLK194041-1	12/08/98	12/09/98	78.8	UG/L	B	100	1
Magnesium	7439-95-4	QCBLK194041-1	12/08/98	12/09/98	11400	UG/L		5000	1
Manganese	7439-96-5	QCBLK194041-1	12/08/98	12/09/98	6.5	UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK194041-1	12/08/98	12/09/98	10.8	UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK194041-1	12/08/98	12/09/98	2830	UG/L	B	5000	1
Silver	7440-22-4	QCBLK194041-1	12/08/98	12/09/98	5.0	UG/L	U	10.0	1
Sodium	7440-23-5	QCBLK194041-1	12/08/98	12/09/98	7580	UG/L		5000	1
Vanadium	7440-62-2	QCBLK194041-1	12/08/98	12/09/98	38.5	UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK194041-1	12/08/98	12/09/98	99.3	UG/L		20.0	1
Strontium	7440-24-6	QCBLK194041-1	12/08/98	12/09/98	276	UG/L		50.0	1

Quanterra-Richland
 8350 George Washington Way
 Richland, WA 99352

Project: 550.184

Category: ICAP Metals - Dissolved
 Method: EPA 6010
 Matrix: LIQUID

Sample Date : NA
 Receipt Date : NA
 Report Date : 01/13/99

Client ID: NA

Quanterra ID : QCBLK194041-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK194041-1	12/08/98	12/09/98	120	UG/L	B	200	1
Antimony	7440-36-0	QCBLK194041-1	12/08/98	12/09/98	33.0	UG/L	U	60.0	1
Barium	7440-39-3	QCBLK194041-1	12/08/98	12/09/98	0.60	UG/L	U	200	1
Beryllium	7440-41-7	QCBLK194041-1	12/08/98	12/09/98	0.50	UG/L	U	5.0	1
Cadmium	7440-43-9	QCBLK194041-1	12/08/98	12/09/98	2.6	UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK194041-1	12/08/98	12/09/98	152	UG/L	B	5000	1
Chromium	7440-47-3	QCBLK194041-1	12/08/98	12/09/98	2.7	UG/L	U	10.0	1
Cobalt	7440-48-4	QCBLK194041-1	12/08/98	12/09/98	2.4	UG/L	U	50.0	1
Copper	7440-50-8	QCBLK194041-1	12/08/98	12/09/98	2.9	UG/L	U	25.0	1
Iron	7439-89-6	QCBLK194041-1	12/08/98	12/09/98	63.4	UG/L	B	100	1
Magnesium	7439-95-4	QCBLK194041-1	12/08/98	12/09/98	75.8	UG/L	B	5000	1
Manganese	7439-96-5	QCBLK194041-1	12/08/98	12/09/98	0.72	UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK194041-1	12/08/98	12/09/98	10.8	UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK194041-1	12/08/98	12/09/98	1220	UG/L	U	5000	1
Silver	7440-22-4	QCBLK194041-1	12/08/98	12/09/98	5.0	UG/L	U	10.0	1
Sodium	7440-23-5	QCBLK194041-1	12/08/98	12/09/98	63.4	UG/L	B	5000	1
Vanadium	7440-62-2	QCBLK194041-1	12/08/98	12/09/98	1.8	UG/L	U	50.0	1
Zinc	7440-66-6	QCBLK194041-1	12/08/98	12/09/98	5.5	UG/L	B	20.0	1
Strontium	7440-24-6	QCBLK194041-1	12/08/98	12/09/98	2.7	UG/L	U	50.0	1

Quanterra-Richland
3350 George Washington Way
Richland, WA 99352

Project: 550.184

Category: ICAP Metals - Dissolved
Method: EPA 6010
Matrix: LIQUID

Sample Date : NA
Receipt Date : NA
Report Date : 01/13/99

Client ID: NA

Quanterra ID : QCLCS194041-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK194041-1	12/08/98	12/09/98	100	%REC		1
Antimony	7440-36-0	QCBLK194041-1	12/08/98	12/09/98	97	%REC		1
Barium	7440-39-3	QCBLK194041-1	12/08/98	12/09/98	97	%REC		1
Beryllium	7440-41-7	QCBLK194041-1	12/08/98	12/09/98	97	%REC		1
Cadmium	7440-43-9	QCBLK194041-1	12/08/98	12/09/98	97	%REC		1
Calcium	7440-70-2	QCBLK194041-1	12/08/98	12/09/98	98	%REC		1
Chromium	7440-47-3	QCBLK194041-1	12/08/98	12/09/98	96	%REC		1
Cobalt	7440-48-4	QCBLK194041-1	12/08/98	12/09/98	96	%REC		1
Copper	7440-50-8	QCBLK194041-1	12/08/98	12/09/98	99	%REC		1
Iron	7439-89-6	QCBLK194041-1	12/08/98	12/09/98	104	%REC		1
Magnesium	7439-95-4	QCBLK194041-1	12/08/98	12/09/98	100	%REC		1
Manganese	7439-96-5	QCBLK194041-1	12/08/98	12/09/98	95	%REC		1
Nickel	7440-02-0	QCBLK194041-1	12/08/98	12/09/98	95	%REC		1
Potassium	7440-09-7	QCBLK194041-1	12/08/98	12/09/98	94	%REC		1
Silver	7440-22-4	QCBLK194041-1	12/08/98	12/09/98	102	%REC		1
Sodium	7440-23-5	QCBLK194041-1	12/08/98	12/09/98	99	%REC		1
Vanadium	7440-62-2	QCBLK194041-1	12/08/98	12/09/98	96	%REC		1
Zinc	7440-66-6	QCBLK194041-1	12/08/98	12/09/98	98	%REC		1
Strontium	7440-24-6	QCBLK194041-1	12/08/98	12/09/98	97	%REC		1

Quanterra-Richland
3350 George Washington Way
Richland, WA 99352

Project: 550.134

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

Sample Date : 11/03/98
Receipt Date : 11/04/98
Report Date : 01/13/99

Client ID: BOT1J6

Quanterra ID : 19291-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK194263-1	12/09/98	12/09/98	47.6	UG/L	B	200	1
Antimony	7440-36-0	QCBLK194263-1	12/09/98	12/09/98	33.0	UG/L	U	60.0	1
Barium	7440-39-3	QCBLK194263-1	12/09/98	12/09/98	127	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK194263-1	12/09/98	12/09/98	0.60	UG/L	B	5.0	1
Cadmium	7440-43-9	QCBLK194263-1	12/09/98	12/09/98	2.6	UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK194263-1	12/09/98	12/09/98	94500	UG/L		5000	1
Chromium	7440-47-3	QCBLK194263-1	12/09/98	12/09/98	239	UG/L		10.0	1
Cobalt	7440-48-4	QCBLK194263-1	12/09/98	12/09/98	2.4	UG/L	U	50.0	1
Copper	7440-50-8	QCBLK194263-1	12/09/98	12/09/98	6.2	UG/L	B	25.0	1
Iron	7439-89-6	QCBLK194263-1	12/09/98	12/09/98	95.8	UG/L	B	100	1
Magnesium	7439-95-4	QCBLK194263-1	12/09/98	12/09/98	23600	UG/L		5000	1
Manganese	7439-96-5	QCBLK194263-1	12/09/98	12/09/98	5.1	UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK194263-1	12/09/98	12/09/98	10.8	UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK194263-1	12/09/98	12/09/98	5510	UG/L		5000	1
Silver	7440-22-4	QCBLK194263-1	12/09/98	12/09/98	5.0	UG/L	UN	10.0	1
Sodium	7440-23-5	QCBLK194263-1	12/09/98	12/09/98	17700	UG/L		5000	1
Vanadium	7440-62-2	QCBLK194263-1	12/09/98	12/09/98	25.2	UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK194263-1	12/09/98	12/09/98	11.1	UG/L	B	20.0	1
Strontium	7440-24-6	QCBLK194263-1	12/09/98	12/09/98	607	UG/L		50.0	1

Quanterra-Richland
3350 George Washington Way
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Project: 550.184

Category: ICAP Metals - Dissolved
Method: EPA 6010
Matrix: LIQUID

Sample Date : 11/02/98
Receipt Date : 11/03/98
Report Date : 01/13/99

Client ID: BOT1D3

Quanterra ID : 19283-008

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK194041-1	12/08/98	12/09/98	20.6 UG/L	U	200	1
Antimony	7440-36-0	QCBLK194041-1	12/08/98	12/09/98	33.0 UG/L	U	60.0	1
Barium	7440-39-3	QCBLK194041-1	12/08/98	12/09/98	35.9 UG/L	B	200	1
Beryllium	7440-41-7	QCBLK194041-1	12/08/98	12/09/98	0.50 UG/L	U	5.0	1
Cadmium	7440-43-9	QCBLK194041-1	12/08/98	12/09/98	2.6 UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK194041-1	12/08/98	12/09/98	85800 UG/L		5000	1
Chromium	7440-47-3	QCBLK194041-1	12/08/98	12/09/98	37.7 UG/L		10.0	1
Cobalt	7440-48-4	QCBLK194041-1	12/08/98	12/09/98	2.4 UG/L	U	50.0	1
Copper	7440-50-8	QCBLK194041-1	12/08/98	12/09/98	2.9 UG/L	U	25.0	1
Iron	7439-89-6	QCBLK194041-1	12/08/98	12/09/98	55.4 UG/L	B	100	1
Magnesium	7439-95-4	QCBLK194041-1	12/08/98	12/09/98	12000 UG/L		5000	1
Manganese	7439-96-5	QCBLK194041-1	12/08/98	12/09/98	5.4 UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK194041-1	12/08/98	12/09/98	10.8 UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK194041-1	12/08/98	12/09/98	2610 UG/L	B	5000	1
Silver	7440-22-4	QCBLK194041-1	12/08/98	12/09/98	5.0 UG/L	U	10.0	1
Sodium	7440-23-5	QCBLK194041-1	12/08/98	12/09/98	10400 UG/L		5000	1
Vanadium	7440-62-2	QCBLK194041-1	12/08/98	12/09/98	15.0 UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK194041-1	12/08/98	12/09/98	6.2 UG/L	B	20.0	1
Strontium	7440-24-6	QCBLK194041-1	12/08/98	12/09/98	374 UG/L		50.0	1

Quanterra-Richland
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Project: 550.184

Category: ICAP Metals - Dissolved
 Method: EPA 6010
 Matrix: LIQUID

Sample Date : 11/02/98
 Receipt Date : 11/03/98
 Report Date : 01/13/99

Client ID: B0T1D6

Quanterra ID : 19283-009

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK194041-1	12/08/98	12/09/98	20.6	UG/L	U	200	1
Antimony	7440-36-0	QCBLK194041-1	12/08/98	12/09/98	33.0	UG/L	U	60.0	1
Barium	7440-39-3	QCBLK194041-1	12/08/98	12/09/98	58.0	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK194041-1	12/08/98	12/09/98	0.50	UG/L	U	5.0	1
Cadmium	7440-43-9	QCBLK194041-1	12/08/98	12/09/98	2.6	UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK194041-1	12/08/98	12/09/98	65400	UG/L		5000	1
Chromium	7440-47-3	QCBLK194041-1	12/08/98	12/09/98	46.6	UG/L		10.0	1
Cobalt	7440-48-4	QCBLK194041-1	12/08/98	12/09/98	2.4	UG/L	U	50.0	1
Copper	7440-50-8	QCBLK194041-1	12/08/98	12/09/98	7.3	UG/L	B	25.0	1
Iron	7439-89-6	QCBLK194041-1	12/08/98	12/09/98	64.6	UG/L	B	100	1
Magnesium	7439-95-4	QCBLK194041-1	12/08/98	12/09/98	13100	UG/L		5000	1
Manganese	7439-96-5	QCBLK194041-1	12/08/98	12/09/98	5.7	UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK194041-1	12/08/98	12/09/98	10.8	UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK194041-1	12/08/98	12/09/98	4630	UG/L	B	5000	1
Silver	7440-22-4	QCBLK194041-1	12/08/98	12/09/98	5.0	UG/L	U	10.0	1
Sodium	7440-23-5	QCBLK194041-1	12/08/98	12/09/98	18500	UG/L		5000	1
Vanadium	7440-62-2	QCBLK194041-1	12/08/98	12/09/98	16.5	UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK194041-1	12/08/98	12/09/98	14.8	UG/L	B	20.0	1
Strontium	7440-24-6	QCBLK194041-1	12/08/98	12/09/98	296	UG/L		50.0	1

Quanterra-Richland
3350 George Washington Way
Richland, WA 99352

Project: 550.184

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

Sample Date : 11/03/98
Receipt Date : 11/04/98
Report Date : 01/13/99

Client ID: BOT150

Quanterra ID : 19291-002

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK194263-1	12/09/98	12/09/98	30.0	UG/L	B	200	1
Antimony	7440-36-0	QCBLK194263-1	12/09/98	12/09/98	33.0	UG/L	U	60.0	1
Barium	7440-39-3	QCBLK194263-1	12/09/98	12/09/98	79.6	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK194263-1	12/09/98	12/09/98	0.50	UG/L	U	5.0	1
Cadmium	7440-43-9	QCBLK194263-1	12/09/98	12/09/98	2.6	UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK194263-1	12/09/98	12/09/98	54200	UG/L		5000	1
Chromium	7440-47-3	QCBLK194263-1	12/09/98	12/09/98	40.1	UG/L		10.0	1
Cobalt	7440-48-4	QCBLK194263-1	12/09/98	12/09/98	2.4	UG/L	U	50.0	1
Copper	7440-50-8	QCBLK194263-1	12/09/98	12/09/98	2.9	UG/L	U	25.0	1
Iron	7439-89-6	QCBLK194263-1	12/09/98	12/09/98	175	UG/L		100	1
Magnesium	7439-95-4	QCBLK194263-1	12/09/98	12/09/98	17600	UG/L		5000	1
Manganese	7439-96-5	QCBLK194263-1	12/09/98	12/09/98	6.4	UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK194263-1	12/09/98	12/09/98	10.8	UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK194263-1	12/09/98	12/09/98	4370	UG/L	B	5000	1
Silver	7440-22-4	QCBLK194263-1	12/09/98	12/09/98	5.0	UG/L	UN	10.0	1
Sodium	7440-23-5	QCBLK194263-1	12/09/98	12/09/98	13200	UG/L		5000	1
Vanadium	7440-62-2	QCBLK194263-1	12/09/98	12/09/98	27.0	UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK194263-1	12/09/98	12/09/98	7.8	UG/L	B	20.0	1
Strontium	7440-24-6	QCBLK194263-1	12/09/98	12/09/98	399	UG/L		50.0	1

Quanterra-Richland
3350 George Washington Way
Richland, WA 99352

Project: 550.184

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

Sample Date : 11/03/98
Receipt Date : 11/04/98
Report Date : 01/13/99

Client ID: 80T153

Quanterra ID : 19291-003

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection	
								Limit	Dilution
Aluminum	7429-90-5	QCBLK194263-1	12/09/98	12/09/98	86.8	UG/L	B	200	1
Antimony	7440-36-0	QCBLK194263-1	12/09/98	12/09/98	33.0	UG/L	U	60.0	1
Barium	7440-39-3	QCBLK194263-1	12/09/98	12/09/98	49.8	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK194263-1	12/09/98	12/09/98	0.50	UG/L	U	5.0	1
Cadmium	7440-43-9	QCBLK194263-1	12/09/98	12/09/98	2.6	UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK194263-1	12/09/98	12/09/98	57200	UG/L		5000	1
Chromium	7440-47-3	QCBLK194263-1	12/09/98	12/09/98	77.4	UG/L		10.0	1
Cobalt	7440-48-4	QCBLK194263-1	12/09/98	12/09/98	2.4	UG/L	U	50.0	1
Copper	7440-50-8	QCBLK194263-1	12/09/98	12/09/98	9.1	UG/L	B	25.0	1
Iron	7439-89-6	QCBLK194263-1	12/09/98	12/09/98	142	UG/L		100	1
Magnesium	7439-95-4	QCBLK194263-1	12/09/98	12/09/98	2150	UG/L	B	5000	1
Manganese	7439-96-5	QCBLK194263-1	12/09/98	12/09/98	5.7	UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK194263-1	12/09/98	12/09/98	10.8	UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK194263-1	12/09/98	12/09/98	5730	UG/L		5000	1
Silver	7440-22-4	QCBLK194263-1	12/09/98	12/09/98	5.0	UG/L	UN	10.0	1
Sodium	7440-23-5	QCBLK194263-1	12/09/98	12/09/98	5810	UG/L		5000	1
Vanadium	7440-62-2	QCBLK194263-1	12/09/98	12/09/98	14.4	UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK194263-1	12/09/98	12/09/98	17.2	UG/L	B	20.0	1
Strontium	7440-24-6	QCBLK194263-1	12/09/98	12/09/98	473	UG/L		50.0	1

Quanterra-Richland
3350 George Washington Way
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Project: 550.184

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

Sample Date : 11/03/98
Receipt Date : 11/04/98
Report Date : 01/13/99

Client ID: BOT156

Quanterra ID : 19291-004

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK194263-1	12/09/98	12/09/98	48.4 UG/L	B	200	1
Antimony	7440-36-0	QCBLK194263-1	12/09/98	12/09/98	33.0 UG/L	U	60.0	1
Barium	7440-39-3	QCBLK194263-1	12/09/98	12/09/98	63.4 UG/L	B	200	1
Beryllium	7440-41-7	QCBLK194263-1	12/09/98	12/09/98	0.50 UG/L	U	5.0	1
Cadmium	7440-43-9	QCBLK194263-1	12/09/98	12/09/98	2.6 UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK194263-1	12/09/98	12/09/98	47800 UG/L		5000	1
Chromium	7440-47-3	QCBLK194263-1	12/09/98	12/09/98	228 UG/L		10.0	1
Cobalt	7440-48-4	QCBLK194263-1	12/09/98	12/09/98	2.4 UG/L	U	50.0	1
Copper	7440-50-8	QCBLK194263-1	12/09/98	12/09/98	3.9 UG/L	B	25.0	1
Iron	7439-89-6	QCBLK194263-1	12/09/98	12/09/98	529 UG/L		100	1
Magnesium	7439-95-4	QCBLK194263-1	12/09/98	12/09/98	12300 UG/L		5000	1
Manganese	7439-96-5	QCBLK194263-1	12/09/98	12/09/98	7.8 UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK194263-1	12/09/98	12/09/98	16.2 UG/L	B	40.0	1
Potassium	7440-09-7	QCBLK194263-1	12/09/98	12/09/98	4260 UG/L	B	5000	1
Silver	7440-22-4	QCBLK194263-1	12/09/98	12/09/98	5.0 UG/L	UN	10.0	1
Sodium	7440-23-5	QCBLK194263-1	12/09/98	12/09/98	6240 UG/L		5000	1
Vanadium	7440-62-2	QCBLK194263-1	12/09/98	12/09/98	19.3 UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK194263-1	12/09/98	12/09/98	8.8 UG/L	B	20.0	1
Strontium	7440-24-6	QCBLK194263-1	12/09/98	12/09/98	300 UG/L		50.0	1

Quanterra-Richland
 8350 George Washington Way
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Project: 550.184

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

Sample Date : 11/03/98
 Receipt Date : 11/04/98
 Report Date : 01/13/99

Client ID: BOT137

Quanterra ID : 19291-005

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK194263-1	12/09/98	12/09/98	20.6 UG/L	U	200	1
Antimony	7440-36-0	QCBLK194263-1	12/09/98	12/09/98	33.0 UG/L	U	60.0	1
Barium	7440-39-3	QCBLK194263-1	12/09/98	12/09/98	79.3 UG/L	B	200	1
Beryllium	7440-41-7	QCBLK194263-1	12/09/98	12/09/98	0.50 UG/L	U	5.0	1
Cadmium	7440-43-9	QCBLK194263-1	12/09/98	12/09/98	2.9 UG/L	B	5.0	1
Calcium	7440-70-2	QCBLK194263-1	12/09/98	12/09/98	48000 UG/L		5000	1
Chromium	7440-47-3	QCBLK194263-1	12/09/98	12/09/98	45.3 UG/L		10.0	1
Cobalt	7440-48-4	QCBLK194263-1	12/09/98	12/09/98	3.8 UG/L	B	50.0	1
Copper	7440-50-8	QCBLK194263-1	12/09/98	12/09/98	4.2 UG/L	B	25.0	1
Iron	7439-89-6	QCBLK194263-1	12/09/98	12/09/98	617 UG/L		100	1
Magnesium	7439-95-4	QCBLK194263-1	12/09/98	12/09/98	11400 UG/L		5000	1
Manganese	7439-96-5	QCBLK194263-1	12/09/98	12/09/98	5.2 UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK194263-1	12/09/98	12/09/98	10.8 UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK194263-1	12/09/98	12/09/98	4010 UG/L	B	5000	1
Silver	7440-22-4	QCBLK194263-1	12/09/98	12/09/98	5.0 UG/L	UN	10.0	1
Sodium	7440-23-5	QCBLK194263-1	12/09/98	12/09/98	11600 UG/L		5000	1
Vanadium	7440-62-2	QCBLK194263-1	12/09/98	12/09/98	15.8 UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK194263-1	12/09/98	12/09/98	11.0 UG/L	B	20.0	1
Strontium	7440-24-6	QCBLK194263-1	12/09/98	12/09/98	220 UG/L		50.0	1

Quanterra-Richland
3350 George Washington Way
Richland, WA 99352

Project: 550.184

Category: ICAP Metals - Dissolved
Method: EPA 6010
Matrix: LIQUID

Sample Date : 11/03/98
Receipt Date : 11/04/98
Report Date : 01/13/99

Client ID: B0Ti36

Quanterra ID : 19291-006

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK194263-1	12/09/98	12/09/98	27.9 UG/L	B	200	1
Antimony	7440-36-0	QCBLK194263-1	12/09/98	12/09/98	33.0 UG/L	U	60.0	1
Barium	7440-39-3	QCBLK194263-1	12/09/98	12/09/98	78.8 UG/L	B	200	1
Beryllium	7440-41-7	QCBLK194263-1	12/09/98	12/09/98	0.50 UG/L	U	5.0	1
Cadmium	7440-43-9	QCBLK194263-1	12/09/98	12/09/98	2.6 UG/L	B	5.0	1
Calcium	7440-70-2	QCBLK194263-1	12/09/98	12/09/98	47500 UG/L		5000	1
Chromium	7440-47-3	QCBLK194263-1	12/09/98	12/09/98	42.0 UG/L		10.0	1
Cobalt	7440-48-4	QCBLK194263-1	12/09/98	12/09/98	3.3 UG/L	B	50.0	1
Copper	7440-50-8	QCBLK194263-1	12/09/98	12/09/98	2.9 UG/L	U	25.0	1
Iron	7439-89-6	QCBLK194263-1	12/09/98	12/09/98	61.4 UG/L	B	100	1
Magnesium	7439-95-4	QCBLK194263-1	12/09/98	12/09/98	11300 UG/L		5000	1
Manganese	7439-96-5	QCBLK194263-1	12/09/98	12/09/98	3.4 UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK194263-1	12/09/98	12/09/98	10.8 UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK194263-1	12/09/98	12/09/98	4090 UG/L	B	5000	1
Silver	7440-22-4	QCBLK194263-1	12/09/98	12/09/98	5.0 UG/L	UN	10.0	1
Sodium	7440-23-5	QCBLK194263-1	12/09/98	12/09/98	11500 UG/L		5000	1
Vanadium	7440-62-2	QCBLK194263-1	12/09/98	12/09/98	14.6 UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK194263-1	12/09/98	12/09/98	6.9 UG/L	B	20.0	1
Strontium	7440-24-6	QCBLK194263-1	12/09/98	12/09/98	219 UG/L		50.0	1

Quanterra-Richland
3350 George Washington Way
Richland, WA 99352

Project: 550.184

Category: ICAP Metals - Dissolved
Method: EPA 6010
Matrix: LIQUID

Sample Date : 11/03/98
Receipt Date : 11/04/98
Report Date : 01/13/99

Client ID: B0T136

Quanterra ID : 19291-006MS

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK194263-1	12/09/98	12/09/98	97 %REC			1
Antimony	7440-36-0	QCBLK194263-1	12/09/98	12/09/98	99 %REC			1
Barium	7440-39-3	QCBLK194263-1	12/09/98	12/09/98	96 %REC			1
Beryllium	7440-41-7	QCBLK194263-1	12/09/98	12/09/98	100 %REC			1
Cadmium	7440-43-9	QCBLK194263-1	12/09/98	12/09/98	105 %REC			1
Calcium	7440-70-2	QCBLK194263-1	12/09/98	12/09/98	100 %REC			1
Chromium	7440-47-3	QCBLK194263-1	12/09/98	12/09/98	92 %REC			1
Cobalt	7440-48-4	QCBLK194263-1	12/09/98	12/09/98	95 %REC			1
Copper	7440-50-8	QCBLK194263-1	12/09/98	12/09/98	97 %REC			1
Iron	7439-89-6	QCBLK194263-1	12/09/98	12/09/98	100 %REC			1
Magnesium	7439-95-4	QCBLK194263-1	12/09/98	12/09/98	98 %REC			1
Manganese	7439-96-5	QCBLK194263-1	12/09/98	12/09/98	93 %REC			1
Nickel	7440-02-0	QCBLK194263-1	12/09/98	12/09/98	97 %REC			1
Potassium	7440-09-7	QCBLK194263-1	12/09/98	12/09/98	102 %REC			1
Silver	7440-22-4	QCBLK194263-1	12/09/98	12/09/98	58 %REC	N		1
Sodium	7440-23-5	QCBLK194263-1	12/09/98	12/09/98	102 %REC			1
Vanadium	7440-62-2	QCBLK194263-1	12/09/98	12/09/98	96 %REC			1
Zinc	7440-66-6	QCBLK194263-1	12/09/98	12/09/98	100 %REC			1
Strontium	7440-24-6	QCBLK194263-1	12/09/98	12/09/98	96 %REC			1

Quanterra-Richland
3350 George Washington Way
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Project: 550.184

Category: ICAP Metals - Dissolved
Method: EPA 6010
Matrix: LIQUID

Sample Date : 11/03/98
Receipt Date : 11/04/98
Report Date : 01/13/99

Client ID: B0T136

Quanterra ID : 19291-006MSD

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result Unit	Detection		
						Qual.	Limit	Dilution
Aluminum	7429-90-5	QCBLK194263-1	12/09/98	12/09/98	97 %REC			1
Antimony	7440-36-0	QCBLK194263-1	12/09/98	12/09/98	100 %REC			1
Barium	7440-39-3	QCBLK194263-1	12/09/98	12/09/98	96 %REC			1
Beryllium	7440-41-7	QCBLK194263-1	12/09/98	12/09/98	100 %REC			1
Cadmium	7440-43-9	QCBLK194263-1	12/09/98	12/09/98	112 %REC			1
Calcium	7440-70-2	QCBLK194263-1	12/09/98	12/09/98	102 %REC			1
Chromium	7440-47-3	QCBLK194263-1	12/09/98	12/09/98	92 %REC			1
Cobalt	7440-48-4	QCBLK194263-1	12/09/98	12/09/98	95 %REC			1
Copper	7440-50-8	QCBLK194263-1	12/09/98	12/09/98	98 %REC			1
Iron	7439-89-6	QCBLK194263-1	12/09/98	12/09/98	101 %REC			1
Magnesium	7439-95-4	QCBLK194263-1	12/09/98	12/09/98	99 %REC			1
Manganese	7439-96-5	QCBLK194263-1	12/09/98	12/09/98	93 %REC			1
Nickel	7440-02-0	QCBLK194263-1	12/09/98	12/09/98	96 %REC			1
Potassium	7440-09-7	QCBLK194263-1	12/09/98	12/09/98	104 %REC			1
Silver	7440-22-4	QCBLK194263-1	12/09/98	12/09/98	61 %REC	N		1
Sodium	7440-23-5	QCBLK194263-1	12/09/98	12/09/98	105 %REC			1
Vanadium	7440-62-2	QCBLK194263-1	12/09/98	12/09/98	96 %REC			1
Zinc	7440-66-6	QCBLK194263-1	12/09/98	12/09/98	100 %REC			1
Strontium	7440-24-6	QCBLK194263-1	12/09/98	12/09/98	97 %REC			1

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Project: 550.184

Category: ICAP Metals - Dissolved
Method: EPA 6010
Matrix: LIQUID

Sample Date : 11/03/98
Receipt Date : 11/04/98
Report Date : 01/13/99

Client ID: B0T135

Quanterra ID : 19291-007

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result Unit	Qual.	Detection	
							Limit	Dilution
Aluminum	7429-90-5	QCBLK194263-1	12/09/98	12/09/98	20.6 UG/L	U	200	1
Antimony	7440-36-0	QCBLK194263-1	12/09/98	12/09/98	33.0 UG/L	U	60.0	1
Barium	7440-39-3	QCBLK194263-1	12/09/98	12/09/98	124 UG/L	B	200	1
Beryllium	7440-41-7	QCBLK194263-1	12/09/98	12/09/98	0.50 UG/L	U	5.0	1
Cadmium	7440-43-9	QCBLK194263-1	12/09/98	12/09/98	2.6 UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK194263-1	12/09/98	12/09/98	91700 UG/L		5000	1
Chromium	7440-47-3	QCBLK194263-1	12/09/98	12/09/98	235 UG/L		10.0	1
Cobalt	7440-48-4	QCBLK194263-1	12/09/98	12/09/98	2.4 UG/L	U	50.0	1
Copper	7440-50-8	QCBLK194263-1	12/09/98	12/09/98	2.9 UG/L	U	25.0	1
Iron	7439-89-6	QCBLK194263-1	12/09/98	12/09/98	40.0 UG/L	B	100	1
Magnesium	7439-95-4	QCBLK194263-1	12/09/98	12/09/98	23300 UG/L		5000	1
Manganese	7439-96-5	QCBLK194263-1	12/09/98	12/09/98	4.3 UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK194263-1	12/09/98	12/09/98	10.8 UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK194263-1	12/09/98	12/09/98	5780 UG/L		5000	1
Silver	7440-22-4	QCBLK194263-1	12/09/98	12/09/98	5.0 UG/L	LN	10.0	1
Sodium	7440-23-5	QCBLK194263-1	12/09/98	12/09/98	19000 UG/L		5000	1
Vanadium	7440-62-2	QCBLK194263-1	12/09/98	12/09/98	24.5 UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK194263-1	12/09/98	12/09/98	11.6 UG/L	B	20.0	1
Strontium	7440-24-6	QCBLK194263-1	12/09/98	12/09/98	594 UG/L		50.0	1

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Project: 550.184

Category: ICAP Metals - Dissolved
Method: EPA 6010
Matrix: LIQUID

Sample Date : 11/03/98
Receipt Date : 11/04/98
Report Date : 01/13/99

Client ID: B0T149

Quanterra ID : 19291-008

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK194263-1	12/09/98	12/09/98	20.6	UG/L	U	200	1
Antimony	7440-36-0	QCBLK194263-1	12/09/98	12/09/98	33.0	UG/L	U	60.0	1
Barium	7440-39-3	QCBLK194263-1	12/09/98	12/09/98	82.1	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK194263-1	12/09/98	12/09/98	0.50	UG/L	U	5.0	1
Cadmium	7440-43-9	QCBLK194263-1	12/09/98	12/09/98	2.6	UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK194263-1	12/09/98	12/09/98	55100	UG/L		5000	1
Chromium	7440-47-3	QCBLK194263-1	12/09/98	12/09/98	14.2	UG/L		10.0	1
Cobalt	7440-48-4	QCBLK194263-1	12/09/98	12/09/98	2.4	UG/L	U	50.0	1
Copper	7440-50-8	QCBLK194263-1	12/09/98	12/09/98	2.9	UG/L	U	25.0	1
Iron	7439-89-6	QCBLK194263-1	12/09/98	12/09/98	57.4	UG/L	B	100	1
Magnesium	7439-95-4	QCBLK194263-1	12/09/98	12/09/98	18400	UG/L		5000	1
Manganese	7439-96-5	QCBLK194263-1	12/09/98	12/09/98	3.8	UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK194263-1	12/09/98	12/09/98	10.8	UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK194263-1	12/09/98	12/09/98	5330	UG/L		5000	1
Silver	7440-22-4	QCBLK194263-1	12/09/98	12/09/98	5.0	UG/L	UN	10.0	1
Sodium	7440-23-5	QCBLK194263-1	12/09/98	12/09/98	15100	UG/L		5000	1
Vanadium	7440-62-2	QCBLK194263-1	12/09/98	12/09/98	26.9	UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK194263-1	12/09/98	12/09/98	8.1	UG/L	B	20.0	1
Strontium	7440-24-6	QCBLK194263-1	12/09/98	12/09/98	411	UG/L		50.0	1

Quanterra-Richland
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Project: 550.184

Category: ICAP Metals - Dissolved
 Method: EPA 6010
 Matrix: LIQUID

Sample Date : 11/03/98
 Receipt Date : 11/04/98
 Report Date : 01/13/99

Client ID: B0T152

Quanterra ID : 19291-009

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK194263-1	12/09/98	12/09/98	20.6	UG/L	U	200	1
Antimony	7440-36-0	QCBLK194263-1	12/09/98	12/09/98	33.0	UG/L	U	60.0	1
Barium	7440-39-3	QCBLK194263-1	12/09/98	12/09/98	51.0	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK194263-1	12/09/98	12/09/98	0.50	UG/L	U	5.0	1
Cadmium	7440-43-9	QCBLK194263-1	12/09/98	12/09/98	2.6	UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK194263-1	12/09/98	12/09/98	58800	UG/L		5000	1
Chromium	7440-47-3	QCBLK194263-1	12/09/98	12/09/98	67.0	UG/L		10.0	1
Cobalt	7440-48-4	QCBLK194263-1	12/09/98	12/09/98	2.4	UG/L	U	50.0	1
Copper	7440-50-8	QCBLK194263-1	12/09/98	12/09/98	2.9	UG/L	U	25.0	1
Iron	7439-89-6	QCBLK194263-1	12/09/98	12/09/98	27.9	UG/L	B	100	1
Magnesium	7439-95-4	QCBLK194263-1	12/09/98	12/09/98	2190	UG/L	B	5000	1
Manganese	7439-96-5	QCBLK194263-1	12/09/98	12/09/98	3.5	UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK194263-1	12/09/98	12/09/98	10.8	UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK194263-1	12/09/98	12/09/98	4580	UG/L	B	5000	1
Silver	7440-22-4	QCBLK194263-1	12/09/98	12/09/98	5.0	UG/L	UN	10.0	1
Sodium	7440-23-5	QCBLK194263-1	12/09/98	12/09/98	6280	UG/L		5000	1
Vanadium	7440-62-2	QCBLK194263-1	12/09/98	12/09/98	13.5	UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK194263-1	12/09/98	12/09/98	5.5	UG/L	B	20.0	1
Strontium	7440-24-6	QCBLK194263-1	12/09/98	12/09/98	488	UG/L		50.0	1

Quanterra-Richland
8350 George Washington Way
Richland, WA 99352

Project: 550.184

Category: ICAP Metals - Dissolved
Method: EPA 6010
Matrix: LIQUID

Sample Date : 11/03/98
Receipt Date : 11/04/98
Report Date : 01/13/99

Client ID: B0T155

Quanterra ID : 19291-010

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK194263-1	12/09/98	12/09/98	20.6	UG/L	U	200	1
Antimony	7440-36-0	QCBLK194263-1	12/09/98	12/09/98	33.0	UG/L	U	60.0	1
Barium	7440-39-3	QCBLK194263-1	12/09/98	12/09/98	62.8	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK194263-1	12/09/98	12/09/98	0.50	UG/L	U	5.0	1
Cadmium	7440-43-9	QCBLK194263-1	12/09/98	12/09/98	2.6	UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK194263-1	12/09/98	12/09/98	48100	UG/L		5000	1
Chromium	7440-47-3	QCBLK194263-1	12/09/98	12/09/98	212	UG/L		10.0	1
Cobalt	7440-48-4	QCBLK194263-1	12/09/98	12/09/98	2.4	UG/L	U	50.0	1
Copper	7440-50-8	QCBLK194263-1	12/09/98	12/09/98	8.5	UG/L	B	25.0	1
Iron	7439-89-6	QCBLK194263-1	12/09/98	12/09/98	36.8	UG/L	B	100	1
Magnesium	7439-95-4	QCBLK194263-1	12/09/98	12/09/98	12500	UG/L		5000	1
Manganese	7439-96-5	QCBLK194263-1	12/09/98	12/09/98	3.7	UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK194263-1	12/09/98	12/09/98	10.8	UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK194263-1	12/09/98	12/09/98	4940	UG/L	B	5000	1
Silver	7440-22-4	QCBLK194263-1	12/09/98	12/09/98	5.0	UG/L	UN	10.0	1
Sodium	7440-23-5	QCBLK194263-1	12/09/98	12/09/98	6600	UG/L		5000	1
Vanadium	7440-62-2	QCBLK194263-1	12/09/98	12/09/98	18.0	UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK194263-1	12/09/98	12/09/98	7.2	UG/L	B	20.0	1
Strontium	7440-24-6	QCBLK194263-1	12/09/98	12/09/98	306	UG/L		50.0	1

Quanterra-Richland
3350 George Washington Way
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Project: 550.184

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

Sample Date : 11/04/98
Receipt Date : 11/05/98
Report Date : 01/13/99

Client ID: BOT123

Quanterra ID : 19300-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK194263-1	12/09/98	12/09/98	21.1 UG/L	B	200	1
Antimony	7440-36-0	QCBLK194263-1	12/09/98	12/09/98	33.0 UG/L	U	60.0	1
Barium	7440-39-3	QCBLK194263-1	12/09/98	12/09/98	44.2 UG/L	B	200	1
Beryllium	7440-41-7	QCBLK194263-1	12/09/98	12/09/98	0.50 UG/L	U	5.0	1
Cadmium	7440-43-9	QCBLK194263-1	12/09/98	12/09/98	2.6 UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK194263-1	12/09/98	12/09/98	65400 UG/L		5000	1
Chromium	7440-47-3	QCBLK194263-1	12/09/98	12/09/98	72.4 UG/L		10.0	1
Cobalt	7440-48-4	QCBLK194263-1	12/09/98	12/09/98	2.4 UG/L	U	50.0	1
Copper	7440-50-8	QCBLK194263-1	12/09/98	12/09/98	2.9 UG/L	U	25.0	1
Iron	7439-89-6	QCBLK194263-1	12/09/98	12/09/98	116 UG/L		100	1
Magnesium	7439-95-4	QCBLK194263-1	12/09/98	12/09/98	12700 UG/L		5000	1
Manganese	7439-96-5	QCBLK194263-1	12/09/98	12/09/98	5.0 UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK194263-1	12/09/98	12/09/98	10.8 UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK194263-1	12/09/98	12/09/98	6140 UG/L		5000	1
Silver	7440-22-4	QCBLK194263-1	12/09/98	12/09/98	5.0 UG/L	UN	10.0	1
Sodium	7440-23-5	QCBLK194263-1	12/09/98	12/09/98	27700 UG/L		5000	1
Vanadium	7440-62-2	QCBLK194263-1	12/09/98	12/09/98	18.4 UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK194263-1	12/09/98	12/09/98	5.6 UG/L	B	20.0	1
Strontium	7440-24-6	QCBLK194263-1	12/09/98	12/09/98	305 UG/L		50.0	1

Quanterra-Richland
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Project: 550.184

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

Sample Date : 11/03/98
Receipt Date : 11/05/98
Report Date : 01/13/99

Client ID: BOT1F6

Quanterra ID : 19300-002

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK194263-1	12/09/98	12/09/98	20.6	UG/L	U	200	1
Antimony	7440-36-0	QCBLK194263-1	12/09/98	12/09/98	33.0	UG/L	U	60.0	1
Barium	7440-39-3	QCBLK194263-1	12/09/98	12/09/98	75.8	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK194263-1	12/09/98	12/09/98	0.50	UG/L	U	5.0	1
Cadmium	7440-43-9	QCBLK194263-1	12/09/98	12/09/98	2.6	UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK194263-1	12/09/98	12/09/98	67500	UG/L		5000	1
Chromium	7440-47-3	QCBLK194263-1	12/09/98	12/09/98	230	UG/L		10.0	1
Cobalt	7440-48-4	QCBLK194263-1	12/09/98	12/09/98	2.4	UG/L	U	50.0	1
Copper	7440-50-8	QCBLK194263-1	12/09/98	12/09/98	2.9	UG/L	U	25.0	1
Iron	7439-89-6	QCBLK194263-1	12/09/98	12/09/98	276	UG/L		100	1
Magnesium	7439-95-4	QCBLK194263-1	12/09/98	12/09/98	11200	UG/L		5000	1
Manganese	7439-96-5	QCBLK194263-1	12/09/98	12/09/98	6.9	UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK194263-1	12/09/98	12/09/98	16.9	UG/L	B	40.0	1
Potassium	7440-09-7	QCBLK194263-1	12/09/98	12/09/98	6310	UG/L		5000	1
Silver	7440-22-4	QCBLK194263-1	12/09/98	12/09/98	5.0	UG/L	UN	10.0	1
Sodium	7440-23-5	QCBLK194263-1	12/09/98	12/09/98	96500	UG/L		5000	1
Vanadium	7440-62-2	QCBLK194263-1	12/09/98	12/09/98	14.4	UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK194263-1	12/09/98	12/09/98	13.4	UG/L	B	20.0	1
Strontium	7440-24-6	QCBLK194263-1	12/09/98	12/09/98	326	UG/L		50.0	1

Quanterra-Richland
3350 George Washington Way
Richland, WA 99352

Project: 550.184

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

Sample Date : 11/03/98
Receipt Date : 11/05/98
Report Date : 01/13/99

Client ID: BOT1F5

Quanterra ID : 19300-003

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK194263-1	12/09/98	12/09/98	20.6	UG/L	U	200	1
Antimony	7440-36-0	QCBLK194263-1	12/09/98	12/09/98	33.0	UG/L	U	60.0	1
Barium	7440-39-3	QCBLK194263-1	12/09/98	12/09/98	74.1	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK194263-1	12/09/98	12/09/98	0.50	UG/L	U	5.0	1
Cadmium	7440-43-9	QCBLK194263-1	12/09/98	12/09/98	2.6	UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK194263-1	12/09/98	12/09/98	55200	UG/L		5000	1
Chromium	7440-47-3	QCBLK194263-1	12/09/98	12/09/98	185	UG/L		10.0	1
Cobalt	7440-48-4	QCBLK194263-1	12/09/98	12/09/98	2.4	UG/L	U	50.0	1
Copper	7440-50-8	QCBLK194263-1	12/09/98	12/09/98	2.9	UG/L	U	25.0	1
Iron	7439-89-6	QCBLK194263-1	12/09/98	12/09/98	44.0	UG/L	B	100	1
Magnesium	7439-95-4	QCBLK194263-1	12/09/98	12/09/98	10900	UG/L		5000	1
Manganese	7439-96-5	QCBLK194263-1	12/09/98	12/09/98	3.6	UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK194263-1	12/09/98	12/09/98	10.8	UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK194263-1	12/09/98	12/09/98	5760	UG/L		5000	1
Silver	7440-22-4	QCBLK194263-1	12/09/98	12/09/98	5.0	UG/L	UN	10.0	1
Sodium	7440-23-5	QCBLK194263-1	12/09/98	12/09/98	96400	UG/L		5000	1
Vanadium	7440-62-2	QCBLK194263-1	12/09/98	12/09/98	14.8	UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK194263-1	12/09/98	12/09/98	11.1	UG/L	B	20.0	1
Strontium	7440-24-6	QCBLK194263-1	12/09/98	12/09/98	319	UG/L		50.0	1

Quanterra-Richland
 1880 George Washington Way
 Richland, WA 99352

Project: 350.134

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

Sample Date : 11/04/98
 Receipt Date : 11/05/98
 Report Date : 01/13/99

Client ID: BOT122

Quanterra ID : 19300-004

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK194263-1	12/09/98	12/09/98	20.6	UG/L	U	200	1
Antimony	7440-36-0	QCBLK194263-1	12/09/98	12/09/98	33.0	UG/L	U	60.0	1
Barium	7440-39-3	QCBLK194263-1	12/09/98	12/09/98	43.3	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK194263-1	12/09/98	12/09/98	0.52	UG/L	B	5.0	1
Cadmium	7440-43-9	QCBLK194263-1	12/09/98	12/09/98	2.6	UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK194263-1	12/09/98	12/09/98	65100	UG/L		5000	1
Chromium	7440-47-3	QCBLK194263-1	12/09/98	12/09/98	58.9	UG/L		10.0	1
Cobalt	7440-48-4	QCBLK194263-1	12/09/98	12/09/98	2.8	UG/L	B	50.0	1
Copper	7440-50-8	QCBLK194263-1	12/09/98	12/09/98	2.9	UG/L	U	25.0	1
Iron	7439-89-6	QCBLK194263-1	12/09/98	12/09/98	72.1	UG/L	B	100	1
Magnesium	7439-95-4	QCBLK194263-1	12/09/98	12/09/98	12400	UG/L		5000	1
Manganese	7439-96-5	QCBLK194263-1	12/09/98	12/09/98	5.1	UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK194263-1	12/09/98	12/09/98	10.8	UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK194263-1	12/09/98	12/09/98	5840	UG/L		5000	1
Silver	7440-22-4	QCBLK194263-1	12/09/98	12/09/98	5.0	UG/L	UN	10.0	1
Sodium	7440-23-5	QCBLK194263-1	12/09/98	12/09/98	25300	UG/L		5000	1
Vanadium	7440-62-2	QCBLK194263-1	12/09/98	12/09/98	18.7	UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK194263-1	12/09/98	12/09/98	10.5	UG/L	B	20.0	1
Strontium	7440-24-6	QCBLK194263-1	12/09/98	12/09/98	300	UG/L		50.0	1

Quanterra-Richland
 1350 George Washington Way
 Richland, WA 99352

Project: 550.184

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

Sample Date : 11/04/98
 Receipt Date : 11/05/98
 Report Date : 01/13/99

Client ID: 30TiF9

Quanterra ID : 19300-005

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK194263-1	12/09/98	12/09/98	20.6 UG/L	U	200	1
Antimony	7440-36-0	QCBLK194263-1	12/09/98	12/09/98	33.0 UG/L	U	60.0	1
Barium	7440-39-3	QCBLK194263-1	12/09/98	12/09/98	75.0 UG/L	B	200	1
Beryllium	7440-41-7	QCBLK194263-1	12/09/98	12/09/98	0.50 UG/L	U	5.0	1
Cadmium	7440-43-9	QCBLK194263-1	12/09/98	12/09/98	2.6 UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK194263-1	12/09/98	12/09/98	67100 UG/L		5000	1
Chromium	7440-47-3	QCBLK194263-1	12/09/98	12/09/98	188 UG/L		10.0	1
Cobalt	7440-48-4	QCBLK194263-1	12/09/98	12/09/98	4.3 UG/L	B	50.0	1
Copper	7440-50-8	QCBLK194263-1	12/09/98	12/09/98	2.9 UG/L	U	25.0	1
Iron	7439-89-6	QCBLK194263-1	12/09/98	12/09/98	51.2 UG/L	B	100	1
Magnesium	7439-95-4	QCBLK194263-1	12/09/98	12/09/98	11000 UG/L		5000	1
Manganese	7439-96-5	QCBLK194263-1	12/09/98	12/09/98	3.9 UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK194263-1	12/09/98	12/09/98	10.8 UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK194263-1	12/09/98	12/09/98	6480 UG/L		5000	1
Silver	7440-22-4	QCBLK194263-1	12/09/98	12/09/98	5.0 UG/L	UN	10.0	1
Sodium	7440-23-5	QCBLK194263-1	12/09/98	12/09/98	95000 UG/L		5000	1
Vanadium	7440-62-2	QCBLK194263-1	12/09/98	12/09/98	16.2 UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK194263-1	12/09/98	12/09/98	14.8 UG/L	B	20.0	1
Strontium	7440-24-6	QCBLK194263-1	12/09/98	12/09/98	322 UG/L		50.0	1

Quanterra-Richland
3350 George Washington Way
Richland, WA 99352

Project: 550.184

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

Sample Date : 11/04/98
Receipt Date : 11/05/98
Report Date : 01/13/99

Client ID: 20T1H9

Quanterra ID : 19300-006

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK194263-1	12/09/98	12/09/98	20.6 UG/L	U	200	1
Antimony	7440-36-0	QCBLK194263-1	12/09/98	12/09/98	33.0 UG/L	U	60.0	1
Barium	7440-39-3	QCBLK194263-1	12/09/98	12/09/98	74.7 UG/L	B	200	1
Beryllium	7440-41-7	QCBLK194263-1	12/09/98	12/09/98	0.50 UG/L	U	5.0	1
Cadmium	7440-43-9	QCBLK194263-1	12/09/98	12/09/98	2.6 UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK194263-1	12/09/98	12/09/98	66300 UG/L		5000	1
Chromium	7440-47-3	QCBLK194263-1	12/09/98	12/09/98	237 UG/L		10.0	1
Cobalt	7440-48-4	QCBLK194263-1	12/09/98	12/09/98	2.4 UG/L	U	50.0	1
Copper	7440-50-8	QCBLK194263-1	12/09/98	12/09/98	4.0 UG/L	B	25.0	1
Iron	7439-89-6	QCBLK194263-1	12/09/98	12/09/98	402 UG/L		100	1
Magnesium	7439-95-4	QCBLK194263-1	12/09/98	12/09/98	10900 UG/L		5000	1
Manganese	7439-96-5	QCBLK194263-1	12/09/98	12/09/98	8.0 UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK194263-1	12/09/98	12/09/98	21.9 UG/L	B	40.0	1
Potassium	7440-09-7	QCBLK194263-1	12/09/98	12/09/98	5850 UG/L		5000	1
Silver	7440-22-4	QCBLK194263-1	12/09/98	12/09/98	5.0 UG/L	UN	10.0	1
Sodium	7440-23-5	QCBLK194263-1	12/09/98	12/09/98	95400 UG/L		5000	1
Vanadium	7440-62-2	QCBLK194263-1	12/09/98	12/09/98	15.2 UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK194263-1	12/09/98	12/09/98	11.6 UG/L	B	20.0	1
Strontium	7440-24-6	QCBLK194263-1	12/09/98	12/09/98	320 UG/L		50.0	1

Quanterra-Richland
 3350 George Washington Way
 Richland, WA 99352

Project: 550.184

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

Sample Date : 11/10/98
 Receipt Date : 11/11/98
 Report Date : 01/13/99

Client ID: B0T172

Quanterra ID : 19355-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK194263-1	12/09/98	12/09/98	20.6	UG/L	U	200	1
Antimony	7440-36-0	QCBLK194263-1	12/09/98	12/09/98	33.0	UG/L	U	60.0	1
Barium	7440-39-3	QCBLK194263-1	12/09/98	12/09/98	32.0	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK194263-1	12/09/98	12/09/98	0.50	UG/L	U	5.0	1
Cadmium	7440-43-9	QCBLK194263-1	12/09/98	12/09/98	2.6	UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK194263-1	12/09/98	12/09/98	57300	UG/L		5000	1
Chromium	7440-47-3	QCBLK194263-1	12/09/98	12/09/98	11.4	UG/L		10.0	1
Cobalt	7440-48-4	QCBLK194263-1	12/09/98	12/09/98	2.4	UG/L	U	50.0	1
Copper	7440-50-8	QCBLK194263-1	12/09/98	12/09/98	2.9	UG/L	U	25.0	1
Iron	7439-89-6	QCBLK194263-1	12/09/98	12/09/98	32.4	UG/L	B	100	1
Magnesium	7439-95-4	QCBLK194263-1	12/09/98	12/09/98	13500	UG/L		5000	1
Manganese	7439-96-5	QCBLK194263-1	12/09/98	12/09/98	3.0	UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK194263-1	12/09/98	12/09/98	10.8	UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK194263-1	12/09/98	12/09/98	5700	UG/L		5000	1
Silver	7440-22-4	QCBLK194263-1	12/09/98	12/09/98	5.0	UG/L	UN	10.0	1
Sodium	7440-23-5	QCBLK194263-1	12/09/98	12/09/98	18300	UG/L		5000	1
Vanadium	7440-62-2	QCBLK194263-1	12/09/98	12/09/98	17.9	UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK194263-1	12/09/98	12/09/98	14.1	UG/L	B	20.0	1
Strontium	7440-24-6	QCBLK194263-1	12/09/98	12/09/98	294	UG/L		50.0	1

Quanterra-Richland
3350 George Washington Way
Richland, WA 99352

Project: 550.184

Category: ICAP Metals - Dissolved
Method: EPA 6010
Matrix: LIQUID

Sample Date : 11/10/98
Receipt Date : 11/11/98
Report Date : 01/13/99

Client ID: B0T170

Quanterra ID : 19355-002

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection	
								Limit	Dilution
Aluminum	7429-90-5	QCBLK194263-1	12/09/98	12/09/98	20.6	UG/L	U	200	1
Antimony	7440-36-0	QCBLK194263-1	12/09/98	12/09/98	33.0	UG/L	U	60.0	1
Barium	7440-39-3	QCBLK194263-1	12/09/98	12/09/98	33.2	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK194263-1	12/09/98	12/09/98	0.50	UG/L	U	5.0	1
Cadmium	7440-43-9	QCBLK194263-1	12/09/98	12/09/98	2.6	UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK194263-1	12/09/98	12/09/98	59200	UG/L		5000	1
Chromium	7440-47-3	QCBLK194263-1	12/09/98	12/09/98	12.3	UG/L		10.0	1
Cobalt	7440-48-4	QCBLK194263-1	12/09/98	12/09/98	2.4	UG/L	U	50.0	1
Copper	7440-50-8	QCBLK194263-1	12/09/98	12/09/98	2.9	UG/L	U	25.0	1
Iron	7439-89-6	QCBLK194263-1	12/09/98	12/09/98	222	UG/L		100	1
Magnesium	7439-95-4	QCBLK194263-1	12/09/98	12/09/98	14100	UG/L		5000	1
Manganese	7439-96-5	QCBLK194263-1	12/09/98	12/09/98	3.6	UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK194263-1	12/09/98	12/09/98	10.8	UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK194263-1	12/09/98	12/09/98	5750	UG/L		5000	1
Silver	7440-22-4	QCBLK194263-1	12/09/98	12/09/98	5.0	UG/L	UN	10.0	1
Sodium	7440-23-5	QCBLK194263-1	12/09/98	12/09/98	19600	UG/L		5000	1
Vanadium	7440-62-2	QCBLK194263-1	12/09/98	12/09/98	19.2	UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK194263-1	12/09/98	12/09/98	11.3	UG/L	B	20.0	1
Strontium	7440-24-6	QCBLK194263-1	12/09/98	12/09/98	305	UG/L		50.0	1

Quanterra-Richland
3350 George Washington Way
Richland, WA 99352

Project: 550.184

Category: ICP Metals-6010A (TAL)

Method: EPA 6010

Matrix: LIQUID

Client ID: BOT1B0

Quanterra ID : 19413-001

Sample Date : 11/17/98

Receipt Date : 11/18/98

Report Date : 01/13/99

Analyle	CAS Number	Blank Sample	Prep. Date	Analyses Date	Result Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBULK194755-1	12/14/98	12/14/98	20.6 UG/L	U	200	1
Antimony	7440-36-0	QCBULK194755-1	12/14/98	12/15/98	33.0 UG/L	U	60.0	1
Barium	7440-39-3	QCBULK194755-1	12/14/98	12/14/98	28.1 UG/L	B	200	1
Beryllium	7440-41-7	QCBULK194755-1	12/14/98	12/14/98	0.50 UG/L	U	5.0	1
Cadmium	7440-43-9	QCBULK194755-1	12/14/98	12/14/98	2.6 UG/L	U	5.0	1
Calcium	7440-70-2	QCBULK194755-1	12/14/98	12/14/98	33000 UG/L		5000	1
Chromium	7440-47-3	QCBULK194755-1	12/14/98	12/14/98	244 UG/L		10.0	1
Cobalt	7440-48-4	QCBULK194755-1	12/14/98	12/14/98	2.4 UG/L	U	50.0	1
Copper	7440-50-8	QCBULK194755-1	12/14/98	12/14/98	2.9 UG/L	U	25.0	1
Iron	7439-89-6	QCBULK194755-1	12/14/98	12/14/98	177 UG/L		100	1
Magnesium	7439-95-4	QCBULK194755-1	12/14/98	12/14/98	12500 UG/L		5000	1
Manganese	7439-96-5	QCBULK194755-1	12/14/98	12/14/98	4.9 UG/L	B	15.0	1
Nickel	7440-02-0	QCBULK194755-1	12/14/98	12/14/98	10.8 UG/L	U	40.0	1
Potassium	7440-09-7	QCBULK194755-1	12/14/98	12/15/98	4830 UG/L	B	5000	1
Silver	7440-22-4	QCBULK194755-1	12/14/98	12/14/98	5.0 UG/L	U	10.0	1
Sodium	7440-23-5	QCBULK194755-1	12/14/98	12/15/98	4510 UG/L	B	5000	1
Vanadium	7440-62-2	QCBULK194755-1	12/14/98	12/14/98	30.3 UG/L	B	50.0	1
Zinc	7440-66-6	QCBULK194755-1	12/14/98	12/14/98	10.4 UG/L	B	20.0	1
Strontium	7440-24-6	QCBULK194755-1	12/14/98	12/14/98	234 UG/L		50.0	1

Quanterra-Richland
1350 George Washington Way
Richland, WA 99352

Project: 550.184

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

Sample Date : 11/17/98
Receipt Date : 11/18/98
Report Date : 01/13/99

Client ID: B0T1F3

Quanterra ID : 19413-002

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK194755-1	12/14/98	12/14/98	499	UG/L		200	1
Antimony	7440-36-0	QCBLK194755-1	12/14/98	12/15/98	33.0	UG/L	U	50.0	1
Barium	7440-39-3	QCBLK194755-1	12/14/98	12/14/98	66.4	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK194755-1	12/14/98	12/14/98	0.50	UG/L	U	5.0	1
Cadmium	7440-43-9	QCBLK194755-1	12/14/98	12/14/98	2.6	UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK194755-1	12/14/98	12/14/98	60500	UG/L		5000	1
Chromium	7440-47-3	QCBLK194755-1	12/14/98	12/14/98	168	UG/L		10.0	1
Cobalt	7440-48-4	QCBLK194755-1	12/14/98	12/14/98	4.7	UG/L	B	50.0	1
Copper	7440-50-8	QCBLK194755-1	12/14/98	12/14/98	2.9	UG/L	U	25.0	1
Iron	7439-89-6	QCBLK194755-1	12/14/98	12/14/98	720	UG/L		100	1
Magnesium	7439-95-4	QCBLK194755-1	12/14/98	12/14/98	11300	UG/L		5000	1
Manganese	7439-96-5	QCBLK194755-1	12/14/98	12/14/98	14.7	UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK194755-1	12/14/98	12/14/98	10.8	UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK194755-1	12/14/98	12/15/98	6500	UG/L		5000	1
Silver	7440-22-4	QCBLK194755-1	12/14/98	12/14/98	5.0	UG/L	U	10.0	1
Sodium	7440-23-5	QCBLK194755-1	12/14/98	12/15/98	66100	UG/L		5000	1
Vanadium	7440-62-2	QCBLK194755-1	12/14/98	12/14/98	12.9	UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK194755-1	12/14/98	12/14/98	6.5	UG/L	B	20.0	1
Strontium	7440-24-6	QCBLK194755-1	12/14/98	12/14/98	300	UG/L		50.0	1

Quanterra-Richland
3350 George Washington Way
Richland, WA 99352

Project: 550.184

Sample Date : 11/17/98
Receipt Date : 11/18/98
Report Date : 01/13/99

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

Client ID: BOT129

Quanterra ID : 19413-003

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK194755-1	12/14/98	12/14/98	24.2	UG/L	B	200	1
Antimony	7440-36-0	QCBLK194755-1	12/14/98	12/15/98	33.0	UG/L	U	60.0	1
Barium	7440-39-3	QCBLK194755-1	12/14/98	12/14/98	55.6	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK194755-1	12/14/98	12/14/98	0.50	UG/L	U	5.0	1
Cadmium	7440-43-9	QCBLK194755-1	12/14/98	12/14/98	2.6	UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK194755-1	12/14/98	12/14/98	56600	UG/L		5000	1
Chromium	7440-47-3	QCBLK194755-1	12/14/98	12/14/98	107	UG/L		10.0	1
Cobalt	7440-48-4	QCBLK194755-1	12/14/98	12/14/98	2.4	UG/L	U	50.0	1
Copper	7440-50-8	QCBLK194755-1	12/14/98	12/14/98	2.9	UG/L	U	25.0	1
Iron	7439-89-6	QCBLK194755-1	12/14/98	12/14/98	63.3	UG/L	B	100	1
Magnesium	7439-95-4	QCBLK194755-1	12/14/98	12/14/98	16800	UG/L		5000	1
Manganese	7439-96-5	QCBLK194755-1	12/14/98	12/14/98	3.0	UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK194755-1	12/14/98	12/14/98	10.8	UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK194755-1	12/14/98	12/15/98	6470	UG/L		5000	1
Silver	7440-22-4	QCBLK194755-1	12/14/98	12/14/98	5.0	UG/L	U	10.0	1
Sodium	7440-23-5	QCBLK194755-1	12/14/98	12/15/98	24400	UG/L		5000	1
Vanadium	7440-62-2	QCBLK194755-1	12/14/98	12/14/98	12.2	UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK194755-1	12/14/98	12/14/98	5.8	UG/L	B	20.0	1
Strontium	7440-24-6	QCBLK194755-1	12/14/98	12/14/98	356	UG/L		50.0	1

Quanterra-Richland
3350 George Washington Way
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Project: 552.184

Category: ICAP Metals - Dissolved
Method: EPA 6010
Matrix: LIQUID

Sample Date : 11/17/98
Receipt Date : 11/18/98
Report Date : 01/13/99

Client ID: 30T128

Quanterra ID : 19413-004

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK194755-1	12/14/98	12/14/98	20.6	UG/L	U	200	1
Antimony	7440-36-0	QCBLK194755-1	12/14/98	12/15/98	33.0	UG/L	U	60.0	1
Barium	7440-39-3	QCBLK194755-1	12/14/98	12/14/98	54.6	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK194755-1	12/14/98	12/14/98	0.50	UG/L	U	5.0	1
Cadmium	7440-43-9	QCBLK194755-1	12/14/98	12/14/98	2.6	UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK194755-1	12/14/98	12/14/98	56100	UG/L		5000	1
Chromium	7440-47-3	QCBLK194755-1	12/14/98	12/14/98	102	UG/L		10.0	1
Cobalt	7440-48-4	QCBLK194755-1	12/14/98	12/14/98	2.4	UG/L	U	50.0	1
Copper	7440-50-8	QCBLK194755-1	12/14/98	12/14/98	2.9	UG/L	U	25.0	1
Iron	7439-89-6	QCBLK194755-1	12/14/98	12/14/98	31.0	UG/L	B	100	1
Magnesium	7439-95-4	QCBLK194755-1	12/14/98	12/14/98	16600	UG/L		5000	1
Manganese	7439-96-5	QCBLK194755-1	12/14/98	12/14/98	3.3	UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK194755-1	12/14/98	12/14/98	10.8	UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK194755-1	12/14/98	12/15/98	6930	UG/L		5000	1
Silver	7440-22-4	QCBLK194755-1	12/14/98	12/14/98	5.0	UG/L	U	10.0	1
Sodium	7440-23-5	QCBLK194755-1	12/14/98	12/15/98	24000	UG/L		5000	1
Vanadium	7440-62-2	QCBLK194755-1	12/14/98	12/14/98	12.1	UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK194755-1	12/14/98	12/14/98	5.3	UG/L	B	20.0	1
Strontium	7440-24-6	QCBLK194755-1	12/14/98	12/14/98	351	UG/L		50.0	1

Quanterra-Richland
1350 George Washington Way
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Project: 550.184

Category: ICAP Metals - Dissolved
Method: EPA 6010
Matrix: LIQUID

Sample Date : 11/17/98
Receipt Date : 11/18/98
Report Date : 01/13/99

Client ID: B0T198

Quanterra ID : 19413-005

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK194755-1	12/14/98	12/14/98	32.3	UG/L	B	200	1
Antimony	7440-36-0	QCBLK194755-1	12/14/98	12/15/98	33.0	UG/L	U	60.0	1
Barium	7440-39-3	QCBLK194755-1	12/14/98	12/14/98	26.2	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK194755-1	12/14/98	12/14/98	0.50	UG/L	U	5.0	1
Cadmium	7440-43-9	QCBLK194755-1	12/14/98	12/14/98	2.6	UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK194755-1	12/14/98	12/14/98	31300	UG/L		5000	1
Chromium	7440-47-3	QCBLK194755-1	12/14/98	12/14/98	201	UG/L		10.0	1
Cobalt	7440-48-4	QCBLK194755-1	12/14/98	12/14/98	2.5	UG/L	B	50.0	1
Copper	7440-50-8	QCBLK194755-1	12/14/98	12/14/98	6.4	UG/L	B	25.0	1
Iron	7439-89-6	QCBLK194755-1	12/14/98	12/14/98	32.1	UG/L	B	100	1
Magnesium	7439-95-4	QCBLK194755-1	12/14/98	12/14/98	11900	UG/L		5000	1
Manganese	7439-96-5	QCBLK194755-1	12/14/98	12/14/98	2.2	UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK194755-1	12/14/98	12/14/98	10.8	UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK194755-1	12/14/98	12/15/98	5100	UG/L		5000	1
Silver	7440-22-4	QCBLK194755-1	12/14/98	12/14/98	5.0	UG/L	U	10.0	1
Sodium	7440-23-5	QCBLK194755-1	12/14/98	12/15/98	4440	UG/L	B	5000	1
Vanadium	7440-62-2	QCBLK194755-1	12/14/98	12/14/98	27.9	UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK194755-1	12/14/98	12/14/98	7.5	UG/L	B	20.0	1
Strontium	7440-24-6	QCBLK194755-1	12/14/98	12/14/98	220	UG/L		50.0	1

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Quanterra-Richland
 1350 George Washington Way
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Project: 550.184

Category: ICAP Metals - Dissolved
 Method: EPA 6010
 Matrix: LIQUID

Sample Date : 11/17/98
 Receipt Date : 11/18/98
 Report Date : 01/13/99

Client ID: BOT1F2

Quanterra ID : 19413-006

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK194755-1	12/14/98	12/14/98	32.6	UG/L	B	200	1
Antimony	7440-36-0	QCBLK194755-1	12/14/98	12/15/98	33.0	UG/L	U	60.0	1
Barium	7440-39-3	QCBLK194755-1	12/14/98	12/14/98	65.7	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK194755-1	12/14/98	12/14/98	3.50	UG/L	U	5.0	1
Cadmium	7440-43-9	QCBLK194755-1	12/14/98	12/14/98	2.6	UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK194755-1	12/14/98	12/14/98	60700	UG/L		5000	1
Chromium	7440-47-3	QCBLK194755-1	12/14/98	12/14/98	150	UG/L		10.0	1
Cobalt	7440-48-4	QCBLK194755-1	12/14/98	12/14/98	2.4	UG/L	U	50.0	1
Copper	7440-50-8	QCBLK194755-1	12/14/98	12/14/98	2.9	UG/L	U	25.0	1
Iron	7439-89-6	QCBLK194755-1	12/14/98	12/14/98	41.9	UG/L	B	100	1
Magnesium	7439-95-4	QCBLK194755-1	12/14/98	12/14/98	11900	UG/L		5000	1
Manganese	7439-96-5	QCBLK194755-1	12/14/98	12/14/98	4.1	UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK194755-1	12/14/98	12/14/98	10.8	UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK194755-1	12/14/98	12/15/98	6630	UG/L		5000	1
Silver	7440-22-4	QCBLK194755-1	12/14/98	12/14/98	5.0	UG/L	U	10.0	1
Sodium	7440-23-5	QCBLK194755-1	12/14/98	12/15/98	67700	UG/L		5000	1
Vanadium	7440-62-2	QCBLK194755-1	12/14/98	12/14/98	7.8	UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK194755-1	12/14/98	12/14/98	3.9	UG/L	B	20.0	1
Strontium	7440-24-6	QCBLK194755-1	12/14/98	12/14/98	313	UG/L		50.0	1

Quanterra-Richland
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Project: 550.184

Category: ICAP Metals - Dissolved
 Method: EPA 6010
 Matrix: LIQUID

Sample Date : 11/16/98
 Receipt Date : 11/17/98
 Report Date : 01/13/99

Client ID: 30T1D9

Quanterra ID : 19410-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK194755-1	12/14/98	12/14/98	24.4 UG/L	B	200	1
Antimony	7440-36-0	QCBLK194755-1	12/14/98	12/15/98	33.0 UG/L	U	60.0	1
Barium	7440-39-3	QCBLK194755-1	12/14/98	12/14/98	41.0 UG/L	B	200	1
Beryllium	7440-41-7	QCBLK194755-1	12/14/98	12/14/98	0.50 UG/L	U	5.0	1
Cadmium	7440-43-9	QCBLK194755-1	12/14/98	12/14/98	2.6 UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK194755-1	12/14/98	12/14/98	68800 UG/L		5000	1
Chromium	7440-47-3	QCBLK194755-1	12/14/98	12/14/98	118 UG/L		10.0	1
Cobalt	7440-48-4	QCBLK194755-1	12/14/98	12/14/98	2.4 UG/L	U	50.0	1
Copper	7440-50-8	QCBLK194755-1	12/14/98	12/14/98	2.9 UG/L	U	25.0	1
Iron	7439-89-6	QCBLK194755-1	12/14/98	12/14/98	38.9 UG/L	B	100	1
Magnesium	7439-95-4	QCBLK194755-1	12/14/98	12/14/98	12300 UG/L		5000	1
Manganese	7439-96-5	QCBLK194755-1	12/14/98	12/14/98	3.5 UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK194755-1	12/14/98	12/14/98	10.8 UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK194755-1	12/14/98	12/15/98	6240 UG/L		5000	1
Silver	7440-22-4	QCBLK194755-1	12/14/98	12/14/98	5.0 UG/L	U	10.0	1
Sodium	7440-23-5	QCBLK194755-1	12/14/98	12/15/98	16000 UG/L		5000	1
Vanadium	7440-62-2	QCBLK194755-1	12/14/98	12/14/98	12.5 UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK194755-1	12/14/98	12/14/98	5.3 UG/L	B	20.0	1
Strontium	7440-24-6	QCBLK194755-1	12/14/98	12/14/98	321 UG/L		50.0	1

Quanterra-Richland
3350 George Washington Way
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Project: 550.184

Category: ICAP Metals - Dissolved
Method: EPA 6010
Matrix: LIQUID

Sample Date : 11/16/98
Receipt Date : 11/17/98
Report Date : 01/13/99

Client ID: BOT1D9

Quanterra ID : 19410-001M

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result Unit	Detection		
						Qual.	Limit	Dilution
Aluminum	7429-90-5	QCBLK194755-1	12/14/98	12/14/98	101 %REC			1
Antimony	7440-36-0	QCBLK194755-1	12/14/98	12/15/98	81 %REC			1
Barium	7440-39-3	QCBLK194755-1	12/14/98	12/14/98	96 %REC			1
Beryllium	7440-41-7	QCBLK194755-1	12/14/98	12/14/98	99 %REC			1
Cadmium	7440-43-9	QCBLK194755-1	12/14/98	12/14/98	109 %REC			1
Calcium	7440-70-2	QCBLK194755-1	12/14/98	12/14/98	97 %REC			1
Chromium	7440-47-3	QCBLK194755-1	12/14/98	12/14/98	90 %REC			1
Cobalt	7440-48-4	QCBLK194755-1	12/14/98	12/14/98	94 %REC			1
Copper	7440-50-8	QCBLK194755-1	12/14/98	12/14/98	100 %REC			1
Iron	7439-89-6	QCBLK194755-1	12/14/98	12/14/98	100 %REC			1
Magnesium	7439-95-4	QCBLK194755-1	12/14/98	12/14/98	102 %REC			1
Manganese	7439-96-5	QCBLK194755-1	12/14/98	12/14/98	93 %REC			1
Nickel	7440-02-0	QCBLK194755-1	12/14/98	12/14/98	94 %REC			1
Potassium	7440-09-7	QCBLK194755-1	12/14/98	12/15/98	95 %REC			1
Silver	7440-22-4	QCBLK194755-1	12/14/98	12/14/98	98 %REC			1
Sodium	7440-23-5	QCBLK194755-1	12/14/98	12/15/98	99 %REC			1
Vanadium	7440-62-2	QCBLK194755-1	12/14/98	12/14/98	95 %REC			1
Zinc	7440-66-6	QCBLK194755-1	12/14/98	12/14/98	99 %REC			1
Strontium	7440-24-6	QCBLK194755-1	12/14/98	12/14/98	96 %REC			1

Quanterra-Richland
3350 George Washington Way
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Project: 850.184

Category: ICAP Metals - Dissolved
Method: EPA 6010
Matrix: LIQUID

Sample Date : 11/16/98
Receipt Date : 11/17/98
Report Date : 01/13/99

Client ID: BOT1D9

Quanterra ID : 19410-001MSD

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK194755-1	12/14/98	12/14/98	100	%REC			1
Antimony	7440-36-0	QCBLK194755-1	12/14/98	12/15/98	93	%REC			1
Barium	7440-39-3	QCBLK194755-1	12/14/98	12/14/98	94	%REC			1
Beryllium	7440-41-7	QCBLK194755-1	12/14/98	12/14/98	96	%REC			1
Cadmium	7440-43-9	QCBLK194755-1	12/14/98	12/14/98	105	%REC			1
Calcium	7440-70-2	QCBLK194755-1	12/14/98	12/14/98	92	%REC			1
Chromium	7440-47-3	QCBLK194755-1	12/14/98	12/14/98	88	%REC			1
Cobalt	7440-48-4	QCBLK194755-1	12/14/98	12/14/98	93	%REC			1
Copper	7440-50-8	QCBLK194755-1	12/14/98	12/14/98	97	%REC			1
Iron	7439-89-6	QCBLK194755-1	12/14/98	12/14/98	97	%REC			1
Magnesium	7439-95-4	QCBLK194755-1	12/14/98	12/14/98	100	%REC			1
Manganese	7439-96-5	QCBLK194755-1	12/14/98	12/14/98	91	%REC			1
Nickel	7440-02-0	QCBLK194755-1	12/14/98	12/14/98	93	%REC			1
Potassium	7440-09-7	QCBLK194755-1	12/14/98	12/15/98	95	%REC			1
Silver	7440-22-4	QCBLK194755-1	12/14/98	12/14/98	93	%REC			1
Sodium	7440-23-5	QCBLK194755-1	12/14/98	12/15/98	97	%REC			1
Vanadium	7440-62-2	QCBLK194755-1	12/14/98	12/14/98	93	%REC			1
Zinc	7440-66-6	QCBLK194755-1	12/14/98	12/14/98	97	%REC			1
Strontium	7440-24-6	QCBLK194755-1	12/14/98	12/14/98	93	%REC			1

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Project: 550.184

Category: ICAP Metals - Dissolved
 Method: EPA 6010
 Matrix: LIQUID

Sample Date : 11/16/98
 Receipt Date : 11/17/98
 Report Date : 01/13/99

Client ID: B0T1H7

Quanterra ID : 19410-002

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK194755-1	12/14/98	12/14/98	20.6 UG/L	U	200	1
Antimony	7440-36-0	QCBLK194755-1	12/14/98	12/15/98	33.0 UG/L	U	60.0	1
Barium	7440-39-3	QCBLK194755-1	12/14/98	12/14/98	67.2 UG/L	B	200	1
Beryllium	7440-41-7	QCBLK194755-1	12/14/98	12/14/98	0.50 UG/L	U	5.0	1
Cadmium	7440-43-9	QCBLK194755-1	12/14/98	12/14/98	2.6 UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK194755-1	12/14/98	12/14/98	71000 UG/L		5000	1
Chromium	7440-47-3	QCBLK194755-1	12/14/98	12/14/98	130 UG/L		10.0	1
Cobalt	7440-48-4	QCBLK194755-1	12/14/98	12/14/98	3.5 UG/L	B	50.0	1
Copper	7440-50-8	QCBLK194755-1	12/14/98	12/14/98	2.9 UG/L	U	25.0	1
Iron	7439-89-6	QCBLK194755-1	12/14/98	12/14/98	36.7 UG/L	B	100	1
Magnesium	7439-95-4	QCBLK194755-1	12/14/98	12/14/98	13100 UG/L		5000	1
Manganese	7439-96-5	QCBLK194755-1	12/14/98	12/14/98	3.8 UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK194755-1	12/14/98	12/14/98	10.8 UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK194755-1	12/14/98	12/15/98	7260 UG/L		5000	1
Silver	7440-22-4	QCBLK194755-1	12/14/98	12/14/98	5.0 UG/L	U	10.0	1
Sodium	7440-23-5	QCBLK194755-1	12/14/98	12/15/98	22400 UG/L		5000	1
Vanadium	7440-62-2	QCBLK194755-1	12/14/98	12/14/98	15.2 UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK194755-1	12/14/98	12/14/98	13.0 UG/L	B	20.0	1
Strontium	7440-24-6	QCBLK194755-1	12/14/98	12/14/98	333 UG/L		50.0	1

Quanterra-Richland
 3350 George Washington Way
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Project: 550.184

Category: ICAP Metals - Dissolved
 Method: EPA 6010
 Matrix: LIQUID

Sample Date : 11/16/98
 Receipt Date : 11/17/98
 Report Date : 01/13/99

Client ID: B0T1C2

Quanterra ID : 19410-003

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK194755-1	12/14/98	12/14/98	23.1	UG/L	B	200	1
Antimony	7440-36-0	QCBLK194755-1	12/14/98	12/15/98	33.0	UG/L	U	60.0	1
Barium	7440-39-3	QCBLK194755-1	12/14/98	12/14/98	33.1	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK194755-1	12/14/98	12/14/98	0.50	UG/L	U	5.0	1
Cadmium	7440-43-9	QCBLK194755-1	12/14/98	12/14/98	2.6	UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK194755-1	12/14/98	12/14/98	66000	UG/L		5000	1
Chromium	7440-47-3	QCBLK194755-1	12/14/98	12/14/98	240	UG/L		10.0	1
Cobalt	7440-48-4	QCBLK194755-1	12/14/98	12/14/98	3.4	UG/L	B	50.0	1
Copper	7440-50-8	QCBLK194755-1	12/14/98	12/14/98	2.9	UG/L	U	25.0	1
Iron	7439-89-6	QCBLK194755-1	12/14/98	12/14/98	33.9	UG/L	B	100	1
Magnesium	7439-95-4	QCBLK194755-1	12/14/98	12/14/98	13300	UG/L		5000	1
Manganese	7439-96-5	QCBLK194755-1	12/14/98	12/14/98	3.3	UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK194755-1	12/14/98	12/14/98	10.8	UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK194755-1	12/14/98	12/15/98	7030	UG/L		5000	1
Silver	7440-22-4	QCBLK194755-1	12/14/98	12/14/98	5.0	UG/L	U	10.0	1
Sodium	7440-23-5	QCBLK194755-1	12/14/98	12/15/98	11800	UG/L		5000	1
Vanadium	7440-62-2	QCBLK194755-1	12/14/98	12/14/98	13.6	UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK194755-1	12/14/98	12/14/98	11.3	UG/L	B	20.0	1
Strontium	7440-24-6	QCBLK194755-1	12/14/98	12/14/98	321	UG/L		50.0	1

Quanterra-Richland
 3350 George Washington Way
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Project: 550.184

Category: ICAP Metals - Dissolved
 Method: EPA 6010
 Matrix: LIQUID

Sample Date : 11/16/98
 Receipt Date : 11/17/98
 Report Date : 01/13/99

Client ID: B0T1H4

Quanterra ID : 19410-004

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection	
								Limit	Dilution
Aluminum	7429-90-5	QCBLK194755-1	12/14/98	12/14/98	25.5	UG/L	B	200	1
Antimony	7440-36-0	QCBLK194755-1	12/14/98	12/15/98	33.0	UG/L	U	60.0	1
Barium	7440-39-3	QCBLK194755-1	12/14/98	12/14/98	39.2	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK194755-1	12/14/98	12/14/98	0.50	UG/L	U	5.0	1
Cadmium	7440-43-9	QCBLK194755-1	12/14/98	12/14/98	2.6	UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK194755-1	12/14/98	12/14/98	64400	UG/L		5000	1
Chromium	7440-47-3	QCBLK194755-1	12/14/98	12/14/98	26.4	UG/L		10.0	1
Cobalt	7440-48-4	QCBLK194755-1	12/14/98	12/14/98	2.4	UG/L	U	50.0	1
Copper	7440-50-8	QCBLK194755-1	12/14/98	12/14/98	3.4	UG/L	B	25.0	1
Iron	7439-89-6	QCBLK194755-1	12/14/98	12/14/98	43.5	UG/L	B	100	1
Magnesium	7439-95-4	QCBLK194755-1	12/14/98	12/14/98	14200	UG/L		5000	1
Manganese	7439-96-5	QCBLK194755-1	12/14/98	12/14/98	4.4	UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK194755-1	12/14/98	12/14/98	10.8	UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK194755-1	12/14/98	12/15/98	6200	UG/L		5000	1
Silver	7440-22-4	QCBLK194755-1	12/14/98	12/14/98	5.0	UG/L	U	10.0	1
Sodium	7440-23-5	QCBLK194755-1	12/14/98	12/15/98	21000	UG/L		5000	1
Vanadium	7440-62-2	QCBLK194755-1	12/14/98	12/14/98	13.6	UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK194755-1	12/14/98	12/14/98	10.8	UG/L	B	20.0	1
Strontium	7440-24-6	QCBLK194755-1	12/14/98	12/14/98	384	UG/L		50.0	1

Quanterra-Richland
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Project: 550.184

Category: ICAP Metals - Dissolved
 Method: EPA 6010
 Matrix: LIQUID

Sample Date : 11/16/98
 Receipt Date : 11/17/98
 Report Date : 01/13/99

Client ID: BOT432

Quanterra ID : 19410-005

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK194755-1	12/14/98	12/14/98	20.6 UG/L	U	200	1
Antimony	7440-36-0	QCBLK194755-1	12/14/98	12/15/98	33.0 UG/L	U	60.0	1
Barium	7440-39-3	QCBLK194755-1	12/14/98	12/14/98	0.60 UG/L	U	200	1
Beryllium	7440-41-7	QCBLK194755-1	12/14/98	12/14/98	0.50 UG/L	U	5.0	1
Cadmium	7440-43-9	QCBLK194755-1	12/14/98	12/14/98	2.6 UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK194755-1	12/14/98	12/14/98	214 UG/L	B	5000	1
Chromium	7440-47-3	QCBLK194755-1	12/14/98	12/14/98	2.7 UG/L	U	10.0	1
Cobalt	7440-48-4	QCBLK194755-1	12/14/98	12/14/98	2.4 UG/L	U	50.0	1
Copper	7440-50-8	QCBLK194755-1	12/14/98	12/14/98	2.9 UG/L	U	25.0	1
Iron	7439-89-6	QCBLK194755-1	12/14/98	12/14/98	8.2 UG/L	B	100	1
Magnesium	7439-95-4	QCBLK194755-1	12/14/98	12/14/98	52.2 UG/L	U	5000	1
Manganese	7439-96-5	QCBLK194755-1	12/14/98	12/14/98	0.60 UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK194755-1	12/14/98	12/14/98	10.8 UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK194755-1	12/14/98	12/15/98	1220 UG/L	U	5000	1
Silver	7440-22-4	QCBLK194755-1	12/14/98	12/14/98	5.0 UG/L	U	10.0	1
Sodium	7440-23-5	QCBLK194755-1	12/14/98	12/15/98	127 UG/L	B	5000	1
Vanadium	7440-62-2	QCBLK194755-1	12/14/98	12/14/98	1.8 UG/L	U	50.0	1
Zinc	7440-66-6	QCBLK194755-1	12/14/98	12/14/98	7.0 UG/L	B	20.0	1
Strontium	7440-24-6	QCBLK194755-1	12/14/98	12/14/98	2.7 UG/L	U	50.0	1

Quanterra-Richland
3350 George Washington Way
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Project: 550.184

Category: ICAP Metals - Dissolved
Method: EPA 6010
Matrix: LIQUID

Sample Date : 11/16/98
Receipt Date : 11/17/98
Report Date : 01/13/99

Client ID: 80T125

Quanterra ID : 19410-006

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK194755-1	12/14/98	12/14/98	20.6 UG/L	U	200	1
Antimony	7440-36-0	QCBLK194755-1	12/14/98	12/15/98	33.0 UG/L	U	60.0	1
Barium	7440-39-3	QCBLK194755-1	12/14/98	12/14/98	45.9 UG/L	B	200	1
Beryllium	7440-41-7	QCBLK194755-1	12/14/98	12/14/98	0.50 UG/L	U	5.0	1
Cadmium	7440-43-9	QCBLK194755-1	12/14/98	12/14/98	2.6 UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK194755-1	12/14/98	12/14/98	77100 UG/L		5000	1
Chromium	7440-47-3	QCBLK194755-1	12/14/98	12/14/98	37.6 UG/L		10.0	1
Cobalt	7440-48-4	QCBLK194755-1	12/14/98	12/14/98	2.4 UG/L	U	50.0	1
Copper	7440-50-8	QCBLK194755-1	12/14/98	12/14/98	2.9 UG/L	U	25.0	1
Iron	7439-89-6	QCBLK194755-1	12/14/98	12/14/98	35.3 UG/L	B	100	1
Magnesium	7439-95-4	QCBLK194755-1	12/14/98	12/14/98	12100 UG/L		5000	1
Manganese	7439-96-5	QCBLK194755-1	12/14/98	12/14/98	4.3 UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK194755-1	12/14/98	12/14/98	10.8 UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK194755-1	12/14/98	12/15/98	5700 UG/L		5000	1
Silver	7440-22-4	QCBLK194755-1	12/14/98	12/14/98	5.0 UG/L	U	10.0	1
Sodium	7440-23-5	QCBLK194755-1	12/14/98	12/15/98	15400 UG/L		5000	1
Vanadium	7440-62-2	QCBLK194755-1	12/14/98	12/14/98	12.0 UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK194755-1	12/14/98	12/14/98	10.7 UG/L	B	20.0	1
Strontium	7440-24-6	QCBLK194755-1	12/14/98	12/14/98	399 UG/L		50.0	1

Quanterra-Richland
3350 George Washington Way
Richland, WA 99352

Project: 550.184

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

Sample Date : 11/16/98
Receipt Date : 11/17/98
Report Date : 01/13/99

Client ID: BOT126

Quanterra ID : 19410-007

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK194755-1	12/14/98	12/14/98	23.0	UG/L	B	200	1
Antimony	7440-36-0	QCBLK194755-1	12/14/98	12/15/98	33.0	UG/L	U	60.0	1
Barium	7440-39-3	QCBLK194755-1	12/14/98	12/14/98	45.4	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK194755-1	12/14/98	12/14/98	0.50	UG/L	U	5.0	1
Cadmium	7440-43-9	QCBLK194755-1	12/14/98	12/14/98	2.6	UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK194755-1	12/14/98	12/14/98	76000	UG/L		5000	1
Chromium	7440-47-3	QCBLK194755-1	12/14/98	12/14/98	40.7	UG/L		10.0	1
Cobalt	7440-48-4	QCBLK194755-1	12/14/98	12/14/98	2.4	UG/L	U	50.0	1
Copper	7440-50-8	QCBLK194755-1	12/14/98	12/14/98	17.9	UG/L	B	25.0	1
Iron	7439-89-6	QCBLK194755-1	12/14/98	12/14/98	54.8	UG/L	B	100	1
Magnesium	7439-95-4	QCBLK194755-1	12/14/98	12/14/98	11800	UG/L		5000	1
Manganese	7439-96-5	QCBLK194755-1	12/14/98	12/14/98	4.2	UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK194755-1	12/14/98	12/14/98	10.8	UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK194755-1	12/14/98	12/15/98	7470	UG/L		5000	1
Silver	7440-22-4	QCBLK194755-1	12/14/98	12/14/98	5.0	UG/L	U	10.0	1
Sodium	7440-23-5	QCBLK194755-1	12/14/98	12/15/98	15100	UG/L		5000	1
Vanadium	7440-62-2	QCBLK194755-1	12/14/98	12/14/98	12.5	UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK194755-1	12/14/98	12/14/98	7.8	UG/L	B	20.0	1
Strontium	7440-24-6	QCBLK194755-1	12/14/98	12/14/98	391	UG/L		50.0	1

Quanterra-Richland
1350 George Washington Way
Richland, WA 99352

Project: 550.184

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

Sample Date : 11/16/98
Receipt Date : 11/17/98
Report Date : 01/13/99

Client ID: BOT433

Quanterra ID : 19410-008

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK194755-1	12/14/98	12/14/98	20.6 UG/L	U	200	1
Antimony	7440-36-0	QCBLK194755-1	12/14/98	12/15/98	33.0 UG/L	U	60.0	1
Barium	7440-39-3	QCBLK194755-1	12/14/98	12/14/98	0.60 UG/L	U	200	1
Beryllium	7440-41-7	QCBLK194755-1	12/14/98	12/14/98	0.50 UG/L	U	5.0	1
Cadmium	7440-43-9	QCBLK194755-1	12/14/98	12/14/98	2.6 UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK194755-1	12/14/98	12/14/98	198 UG/L	B	5000	1
Chromium	7440-47-3	QCBLK194755-1	12/14/98	12/14/98	2.7 UG/L	U	10.0	1
Cobalt	7440-48-4	QCBLK194755-1	12/14/98	12/14/98	2.4 UG/L	U	50.0	1
Copper	7440-50-8	QCBLK194755-1	12/14/98	12/14/98	2.9 UG/L	U	25.0	1
Iron	7439-89-6	QCBLK194755-1	12/14/98	12/14/98	17.5 UG/L	B	100	1
Magnesium	7439-95-4	QCBLK194755-1	12/14/98	12/14/98	52.2 UG/L	U	5000	1
Manganese	7439-96-5	QCBLK194755-1	12/14/98	12/14/98	0.50 UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK194755-1	12/14/98	12/14/98	10.8 UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK194755-1	12/14/98	12/15/98	1230 UG/L	B	5000	1
Silver	7440-22-4	QCBLK194755-1	12/14/98	12/14/98	5.0 UG/L	U	10.0	1
Sodium	7440-23-5	QCBLK194755-1	12/14/98	12/15/98	155 UG/L	B	5000	1
Vanadium	7440-62-2	QCBLK194755-1	12/14/98	12/14/98	1.8 UG/L	U	50.0	1
Zinc	7440-66-6	QCBLK194755-1	12/14/98	12/14/98	7.5 UG/L	B	20.0	1
Strontium	7440-24-6	QCBLK194755-1	12/14/98	12/14/98	2.7 UG/L	U	50.0	1

Quanterra-Richland
 3350 George Washington Way
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Project: 550.184

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

Sample Date : 11/16/98
 Receipt Date : 11/17/98
 Report Date : 01/13/99

Client ID: SOT1H2

Quanterra ID : 19410-009

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK194755-1	12/14/98	12/14/98	20.6	UG/L	U	200	1
Antimony	7440-36-0	QCBLK194755-1	12/14/98	12/15/98	33.0	UG/L	U	60.0	1
Barium	7440-39-3	QCBLK194755-1	12/14/98	12/14/98	31.0	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK194755-1	12/14/98	12/14/98	0.50	UG/L	U	5.0	1
Cadmium	7440-43-9	QCBLK194755-1	12/14/98	12/14/98	2.6	UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK194755-1	12/14/98	12/14/98	80000	UG/L		5000	1
Chromium	7440-47-3	QCBLK194755-1	12/14/98	12/14/98	51.7	UG/L		10.0	1
Cobalt	7440-48-4	QCBLK194755-1	12/14/98	12/14/98	2.4	UG/L	U	50.0	1
Copper	7440-50-8	QCBLK194755-1	12/14/98	12/14/98	2.9	UG/L	U	25.0	1
Iron	7439-89-6	QCBLK194755-1	12/14/98	12/14/98	72.4	UG/L	B	100	1
Magnesium	7439-95-4	QCBLK194755-1	12/14/98	12/14/98	10700	UG/L		5000	1
Manganese	7439-96-5	QCBLK194755-1	12/14/98	12/14/98	4.1	UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK194755-1	12/14/98	12/14/98	10.8	UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK194755-1	12/14/98	12/15/98	4630	UG/L	B	5000	1
Silver	7440-22-4	QCBLK194755-1	12/14/98	12/14/98	5.0	UG/L	U	10.0	1
Sodium	7440-23-5	QCBLK194755-1	12/14/98	12/15/98	6880	UG/L		5000	1
Vanadium	7440-62-2	QCBLK194755-1	12/14/98	12/14/98	10.9	UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK194755-1	12/14/98	12/14/98	8.1	UG/L	B	20.0	1
Strontium	7440-24-6	QCBLK194755-1	12/14/98	12/14/98	343	UG/L		50.0	1

Quanterra-Richland
 3350 George Washington Way
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Project: 550.184

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

Sample Date : 11/16/98
 Receipt Date : 11/17/98
 Report Date : 01/13/99

Client ID: BOT1H5

Quanterra ID : 19410-010

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK194755-1	12/14/98	12/14/98	59.0	UG/L	B	200	1
Antimony	7440-36-0	QCBLK194755-1	12/14/98	12/15/98	33.0	UG/L	U	60.0	1
Barium	7440-39-3	QCBLK194755-1	12/14/98	12/14/98	42.6	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK194755-1	12/14/98	12/14/98	0.50	UG/L	U	5.0	1
Cadmium	7440-43-9	QCBLK194755-1	12/14/98	12/14/98	2.6	UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK194755-1	12/14/98	12/14/98	68100	UG/L		5000	1
Chromium	7440-47-3	QCBLK194755-1	12/14/98	12/14/98	41.7	UG/L		10.0	1
Cobalt	7440-48-4	QCBLK194755-1	12/14/98	12/14/98	2.4	UG/L	U	50.0	1
Copper	7440-50-8	QCBLK194755-1	12/14/98	12/14/98	2.9	UG/L	U	25.0	1
Iron	7439-89-6	QCBLK194755-1	12/14/98	12/14/98	165	UG/L		100	1
Magnesium	7439-95-4	QCBLK194755-1	12/14/98	12/14/98	15200	UG/L		5000	1
Manganese	7439-96-5	QCBLK194755-1	12/14/98	12/14/98	5.2	UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK194755-1	12/14/98	12/14/98	10.8	UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK194755-1	12/14/98	12/15/98	7730	UG/L		5000	1
Silver	7440-22-4	QCBLK194755-1	12/14/98	12/14/98	5.0	UG/L	U	10.0	1
Sodium	7440-23-5	QCBLK194755-1	12/14/98	12/15/98	21400	UG/L		5000	1
Vanadium	7440-62-2	QCBLK194755-1	12/14/98	12/14/98	11.9	UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK194755-1	12/14/98	12/14/98	10.4	UG/L	B	20.0	1
Strontium	7440-24-6	QCBLK194755-1	12/14/98	12/14/98	415	UG/L		50.0	1

Quanterra-Richland
1350 George Washington Way
Richland, WA 99352

Project: 550.184

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

Sample Date : 11/16/98
Receipt Date : 11/17/98
Report Date : 01/13/99

Client ID: B0T1C4

Quanterra ID : 19410-011

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK194755-1	12/14/98	12/14/98	28.2	UG/L	B	200	1
Antimony	7440-36-0	QCBLK194755-1	12/14/98	12/15/98	33.0	UG/L	U	60.0	1
Barium	7440-39-3	QCBLK194755-1	12/14/98	12/14/98	35.2	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK194755-1	12/14/98	12/14/98	0.50	UG/L	U	5.0	1
Cadmium	7440-43-9	QCBLK194755-1	12/14/98	12/14/98	2.6	UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK194755-1	12/14/98	12/14/98	68000	UG/L		5000	1
Chromium	7440-47-3	QCBLK194755-1	12/14/98	12/14/98	266	UG/L		10.0	1
Cobalt	7440-48-4	QCBLK194755-1	12/14/98	12/14/98	2.4	UG/L	U	50.0	1
Copper	7440-50-8	QCBLK194755-1	12/14/98	12/14/98	2.9	UG/L	U	25.0	1
Iron	7439-89-6	QCBLK194755-1	12/14/98	12/14/98	120	UG/L		100	1
Magnesium	7439-95-4	QCBLK194755-1	12/14/98	12/14/98	14100	UG/L		5000	1
Manganese	7439-96-5	QCBLK194755-1	12/14/98	12/14/98	4.4	UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK194755-1	12/14/98	12/14/98	10.8	UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK194755-1	12/14/98	12/15/98	6790	UG/L		5000	1
Silver	7440-22-4	QCBLK194755-1	12/14/98	12/14/98	5.0	UG/L	U	10.0	1
Sodium	7440-23-5	QCBLK194755-1	12/14/98	12/15/98	12700	UG/L		5000	1
Vanadium	7440-62-2	QCBLK194755-1	12/14/98	12/14/98	12.8	UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK194755-1	12/14/98	12/14/98	5.8	UG/L	B	20.0	1
Strontium	7440-24-6	QCBLK194755-1	12/14/98	12/14/98	342	UG/L		50.0	1

Quanterra-Richland
3350 George Washington Way
Richland, WA 99352

Project: 550.184

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

Sample Date : 11/16/98
Receipt Date : 11/17/98
Report Date : 01/13/99

Client ID: 80T1F0

Quanterra ID : 19410-012

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK194755-1	12/14/98	12/14/98	46.1	UG/L	B	200	1
Antimony	7440-36-0	QCBLK194755-1	12/14/98	12/15/98	33.0	UG/L	U	60.0	1
Barium	7440-39-3	QCBLK194755-1	12/14/98	12/14/98	42.6	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK194755-1	12/14/98	12/14/98	0.50	UG/L	U	5.0	1
Cadmium	7440-43-9	QCBLK194755-1	12/14/98	12/14/98	2.6	UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK194755-1	12/14/98	12/14/98	69600	UG/L		5000	1
Chromium	7440-47-3	QCBLK194755-1	12/14/98	12/14/98	132	UG/L		10.0	1
Cobalt	7440-48-4	QCBLK194755-1	12/14/98	12/14/98	3.6	UG/L	B	50.0	1
Copper	7440-50-8	QCBLK194755-1	12/14/98	12/14/98	2.9	UG/L	U	25.0	1
Iron	7439-89-6	QCBLK194755-1	12/14/98	12/14/98	124	UG/L		100	1
Magnesium	7439-95-4	QCBLK194755-1	12/14/98	12/14/98	12800	UG/L		5000	1
Manganese	7439-96-5	QCBLK194755-1	12/14/98	12/14/98	4.7	UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK194755-1	12/14/98	12/14/98	10.8	UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK194755-1	12/14/98	12/15/98	5710	UG/L		5000	1
Silver	7440-22-4	QCBLK194755-1	12/14/98	12/14/98	5.0	UG/L	U	10.0	1
Sodium	7440-23-5	QCBLK194755-1	12/14/98	12/15/98	17900	UG/L		5000	1
Vanadium	7440-62-2	QCBLK194755-1	12/14/98	12/14/98	11.2	UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK194755-1	12/14/98	12/14/98	6.1	UG/L	B	20.0	1
Strontium	7440-24-6	QCBLK194755-1	12/14/98	12/14/98	332	UG/L		50.0	1

Quanterra-Richland
1850 George Washington Way
Richland, WA 99352

Project: 550.184

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

Sample Date : 11/16/98
Receipt Date : 11/17/98
Report Date : 01/13/99

Client ID: B0T1H8

Quanterra ID : 19410-013

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK194755-1	12/14/98	12/14/98	25.5	UG/L	B	200	1
Antimony	7440-36-0	QCBLK194755-1	12/14/98	12/15/98	33.0	UG/L	U	60.0	1
Barium	7440-39-3	QCBLK194755-1	12/14/98	12/14/98	68.1	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK194755-1	12/14/98	12/14/98	0.50	UG/L	U	5.0	1
Cadmium	7440-43-9	QCBLK194755-1	12/14/98	12/14/98	2.6	UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK194755-1	12/14/98	12/14/98	71000	UG/L		5000	1
Chromium	7440-47-3	QCBLK194755-1	12/14/98	12/14/98	141	UG/L		10.0	1
Cobalt	7440-48-4	QCBLK194755-1	12/14/98	12/14/98	2.8	UG/L	B	50.0	1
Copper	7440-50-8	QCBLK194755-1	12/14/98	12/14/98	2.9	UG/L	U	25.0	1
Iron	7439-89-6	QCBLK194755-1	12/14/98	12/14/98	233	UG/L		100	1
Magnesium	7439-95-4	QCBLK194755-1	12/14/98	12/14/98	13300	UG/L		5000	1
Manganese	7439-96-5	QCBLK194755-1	12/14/98	12/14/98	6.9	UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK194755-1	12/14/98	12/14/98	10.8	UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK194755-1	12/14/98	12/15/98	7200	UG/L		5000	1
Silver	7440-22-4	QCBLK194755-1	12/14/98	12/14/98	5.0	UG/L	U	10.0	1
Sodium	7440-23-5	QCBLK194755-1	12/14/98	12/15/98	23400	UG/L		5000	1
Vanadium	7440-62-2	QCBLK194755-1	12/14/98	12/14/98	12.5	UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK194755-1	12/14/98	12/14/98	13.6	UG/L	B	20.0	1
Strontium	7440-24-6	QCBLK194755-1	12/14/98	12/14/98	338	UG/L		50.0	1

Quanterra-Richland
3350 George Washington Way
Richland, WA 99352

Project: E50.124

Category: ICAP Metals - Dissolved
Method: EPA 6010
Matrix: LIQUID

Sample Date : 11/16/98
Receipt Date : 11/17/98
Report Date : 01/13/99

Client ID: BOT1H1

Quanterra ID : 19410-014

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK194755-1	12/14/98	12/14/98	27.8	UG/L	B	200	1
Antimony	7440-36-0	QCBLK194755-1	12/14/98	12/15/98	33.0	UG/L	U	60.0	1
Barium	7440-39-3	QCBLK194755-1	12/14/98	12/14/98	33.0	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK194755-1	12/14/98	12/14/98	0.50	UG/L	U	5.0	1
Cadmium	7440-43-9	QCBLK194755-1	12/14/98	12/14/98	2.6	UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK194755-1	12/14/98	12/14/98	83000	UG/L		5000	1
Chromium	7440-47-3	QCBLK194755-1	12/14/98	12/14/98	46.8	UG/L		10.0	1
Cobalt	7440-48-4	QCBLK194755-1	12/14/98	12/14/98	2.4	UG/L	U	50.0	1
Copper	7440-50-8	QCBLK194755-1	12/14/98	12/14/98	2.9	UG/L	U	25.0	1
Iron	7439-89-6	QCBLK194755-1	12/14/98	12/14/98	58.6	UG/L	B	100	1
Magnesium	7439-95-4	QCBLK194755-1	12/14/98	12/14/98	13300	UG/L		5000	1
Manganese	7439-96-5	QCBLK194755-1	12/14/98	12/14/98	4.5	UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK194755-1	12/14/98	12/14/98	10.8	UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK194755-1	12/14/98	12/15/98	3050	UG/L	B	5000	1
Silver	7440-22-4	QCBLK194755-1	12/14/98	12/14/98	5.0	UG/L	U	10.0	1
Sodium	7440-23-5	QCBLK194755-1	12/14/98	12/15/98	7230	UG/L		5000	1
Vanadium	7440-62-2	QCBLK194755-1	12/14/98	12/14/98	11.4	UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK194755-1	12/14/98	12/14/98	9.7	UG/L	B	20.0	1
Strontium	7440-24-6	QCBLK194755-1	12/14/98	12/14/98	361	UG/L		50.0	1

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COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: QUANTERRA_MO_____ Contract: 550.184_____
 Lab Code: ITMO_____ Case No.: _____ SAS No.: _____ SDG No.: W02593_____
 SOW No.: SW846

EPA Sample No.	Lab Sample ID
B0T1B0	19413-001
B0T1B5	19283-007
B0T1B6	19283-012
B0T1C2	19410-003
B0T1C4	19410-011
B0T1D3	19283-008
B0T1D4	19283-011
B0T1D6	19283-009
B0T1D7	19283-010
B0T1D9	19410-001
B0T1D9SD	19410-001SD
B0T1D9S	19410-001S
B0T1F0	19410-012
B0T1F2	19413-006
B0T1F3	19413-002
B0T1F5	19300-003
B0T1F6	19300-002
B0T1F9	19300-005
B0T1H0	19300-006
B0T1H1	19410-014

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

Comments:

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

Signature: _____ Name: _____
 Date: _____ Title: _____

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COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: QUANTERRA_MO_____ Contract: 550.184_____
Lab Code: ITMO_____ Case No.: _____ SAS No.: _____ SDG No.: W02593_____
SOW No.: SW846

EPA Sample No.	Lab Sample ID
B0T1H2	19410-009
B0T1H4	19410-004
B0T1H5	19410-010
B0T1H7	19410-002
B0T1H8	19410-013
B0T1J0	19283-004
B0T1J1	19283-015
B0T1J5	19291-007
B0T1J6	19291-001
B0T113	19283-001
B0T114	19283-018
B0T116	19283-002
B0T117	19283-017
B0T120	19283-003
B0T121	19283-016
B0T122	19300-004
B0T123	19300-001
B0T125	19410-006
B0T126	19410-007
B0T128	19413-004

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

Comments:

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

Signature: _____ Name: _____
Date: _____ Title: _____

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SW-846

0115

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[illegible]

Comments:

Signature: _____ Name: _____
Date: _____ Title: _____

U.S. EPA - CLP

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: QUANTERRA_MO_____ Contract: 550.184_____
Lab Code: ITMO_____ Case No.: _____ SAS No.: _____ SDG No.: W02593_____
SOW No.: SW846

EPA Sample No.	Lab Sample ID
B0T129_____	19413-003_____
B0T136_____	19291-006_____
B0T136SD_____	19291-006SD_____
B0T136S_____	19291-006S_____
B0T137_____	19291-005_____
B0T149_____	19291-008_____
B0T150_____	19291-002_____
B0T152_____	19291-009_____
B0T153_____	19291-003_____
B0T155_____	19291-010_____
B0T156_____	19291-004_____
B0T170_____	19355-002_____
B0T172_____	19355-001_____
B0T189_____	19283-005_____
B0T191_____	19283-014_____
B0T191SD_____	19283-014SD_____
B0T191S_____	19283-014S_____
B0T198_____	19413-005_____
B0T429_____	19283-006_____
B0T430_____	19283-013_____

Were ICP interelement corrections applied ? Yes/No YES

Were ICP background corrections applied ? Yes/No YES

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

Comments:

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

Signature: _____ Name: _____

Date: _____ Title: _____

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SW-846

0116

1

INORGANIC ANALYSES DATA SHEET

BOT1B0

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

[illegible]

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

Comments :

FORM 1-52

SW-846

0117

INORGANIC ANALYSES DATA SHEET

B0T1B5

Contract: 550.184
SAS No.: SDG No.: W02593
Lab Sample ID: 19283-007
Date Received: 11/03/98

[illegible]

Texture: _____
Artifacts: _____

FORM I - IN

SW-846

0118

INORGANIC ANALYSES DATA SHEET

B0T1B6

Contract: 550.184
SAS No.: SDG No.: W02593
Lab Sample ID: 19283-012
Date Received: 11/03/98

[illegible]

Texture: _____
Artifacts: _____

FORM - - IN

SW-846

0119

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0T1C4

Lab Name: QUANTERRA MO
Lab Code: ITMO Case No.:
Matrix (soil/water): WATER
Level (low/med): LOW
% Solids: 0.0

Contract: 550.134
SAS No.: SDG No.: W02593
Lab Sample ID: 19410-011
Date Received: 11/17/98

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

[illegible]

Color Before: _____
Color After: _____

Clarity Before: _____
Clarity After: _____

Texture: _____
Artifacts: _____

Comments:

1

INORGANIC ANALYSES DATA SHEET

B0T1D3

Lab Name: QUANTERRA MO	Contract: 550.134	SDG No.: W02593
Lab Code: ITMO	Case No.:	SAS No.:
Matrix (soil/water): WATER	Lab Sample ID: 19283-008	Date Received: 11/03/98
Level (low/med): LOW		
% Solids: 0.0		

[illegible]

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

Comments:

FORM I - IN

SW-846

0122

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0T1D4

Lab Name: QUANTERRA MO	Contract: 550.184	SDG No.: W02593
Lab Code: ITMO	SAS No.:	Lab Sample ID: 19283-011
Case No.:		Date Received: 11/03/98
Matrix (soil/water): WATER		
Level (low/med): LOW		
% Solids: 0.0		

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

[illegible]

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

Comments:

1

INORGANIC ANALYSES DATA SHEET

B0T1D6

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

[illegible]

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

Comments:

1

INORGANIC ANALYSES DATA SHEET

BOT1D7

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

[illegible]

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

Comments:

FORM I - IN

SW-846

0125

1

INORGANIC ANALYSES DATA SHEET

BOT1FO

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

[illegible]

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

Comments:

1
INORGANIC ANALYSES DATA SHEET

BOT1F2

Contract: 550.184
SAS No.: SDG No.: W02593
Lab Sample ID: 19413-006
Date Received: 11/18/98

[illegible]

Texture: _____
Artifacts: _____

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1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOT1F3

Lab Name: QUANTERRA MO

Contract: 550.184

Lab Code: ITMO

Case No.:

SAS No. :

SDG No.: W02593

Matrix (soil/water): WATER

Lab Sample ID: 19413-002

Level (low/med): LOW

Date Received: 11/18/98

% Solids:	0.0
-----------	-----

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

[illegible]

Color Before: _____
Color After: _____

Clarity Before: _____
Clarity After: _____

Texture: _____
Artifacts: _____

Comments:

1

INORGANIC ANALYSES DATA SHEET

B0T1F5

Lab Name: QUANTERRA MO Contract: 550.184
Lab Code: ITMO Case No.: SAS No.: SDG No.: W02593
Matrix (soil/water): WATER Lab Sample ID: 19300-003
Level (low/med): LOW Date Received: 11/05/98
% Solids: 0.0

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

[illegible]

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

Comments:

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOT1F6

Lab Name: QUANTERRA MO Contract: 550.184
Lab Code: ITMO Case No.: SAS No.: SDG No.: W02593
Matrix (soil/water): WATER Lab Sample ID: 19300-002
Level (low/med): LOW Date Received: 11/05/98
% Solids: 0.0

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

[illegible]

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

Comments:

1

INORGANIC ANALYSES DATA SHEET

B0T1F9

Lab Name: QUANTERRA MO	Contract: 550.184	SDG No.: W02593
Lab Code: ITMO	Case No.:	SAS No.:
Matrix (soil/water): WATER	Lab Sample ID: 19300-005	Date Received: 11/05/98
Level (low/med): LOW		
% Solids: 0.0		

[illegible]

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

Comments:

1
INORGANIC ANALYSES DATA SHEET

BOT1H1

Lab Name: QUANTERRA MO Contract: 550.184
Lab Code: ITMO Case No.: SAS No.: SDG No.: W02593
Matrix (soil/water): WATER Lab Sample ID: 19410-014
Level (low/med): LOW Date Received: 11/17/98
% Solids: 0.0

[illegible]

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

Comments:

FORM I - IN

SW-846

0134

1
INORGANIC ANALYSES DATA SHEET

BOT1H2

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

[illegible]

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

Comments:

1

INORGANIC ANALYSES DATA SHEET

B0T1H4

Contract: 550.184
SAS No.: _____ SDG No.: W02593
Lab Sample ID: 19410-004
Date Received: 11/17/98

[illegible]

Texture: _____
Artifacts: _____

FORM I - IN

SW-846

0136

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0T1H5

Lab Name: QUANTERRA MO	Contract: 550.184	
Lab Code: ITMO	Case No.:	SAS No.: SDG No.: W02593
Matrix (soil/water): WATER		Lab Sample ID: 19410-010
Level (low/med): LOW		Date Received: 11/17/98
% Solids: 0.0		

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

[illegible]

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

Comments :

1

INORGANIC ANALYSES DATA SHEET

B0T1H7

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

[illegible]

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

Comments:

1
INORGANIC ANALYSES DATA SHEET

B0T1H8

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

[illegible]

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

Comments:

1
INORGANIC ANALYSES DATA SHEET

BOT1JO

Lab Name: QUANTERRA MO Contract: 550.124
Lab Code: ITMO Case No.: SAS No.: SDG No.: W02593
Matrix (soil/water): WATER Lab Sample ID: 19283-004
Level (low/med): LOW Date Received: 11/03/98
% Solids: 0.0

[illegible]

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

FORM I - IN

SW-846

0140

1

INORGANIC ANALYSES DATA SHEET

BOT1J1

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

[illegible]

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

Comments:

FORM I - IN

SW-846

0141

1
INORGANIC ANALYSES DATA SHEET

B0T1J5

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

[illegible]

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

Comments:

FORM I - IN

SW-846

0142

1

INORGANIC ANALYSES DATA SHEET

BOT1J6

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

[illegible]

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

Comments:

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0T113

Lab Name: QUANTERRA MO
Lab Code: ITMO Case No.:
Matrix (soil/water): WATER
Level (low/med): LOW
% Solids: 0.0

Contract: 550.184
SAS No.: _____ SDG No.: W02593
Lab Sample ID: 19283-001
Date Received: 11/03/98

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

[illegible]

Color Before: _____
Color After: _____

Clarity Before: _____
Clarity After: _____

Texture: _____
Artifacts: _____

Comments:

INORGANIC ANALYSES DATA SHEET

BOT114

Contract: 550.184
SAS No.: SDG No.: W02593
Lab Sample ID: 19283-018
Date Received: 11/03/98

[illegible]

Texture: _____
Artifacts: _____

FORM 1 - IN

SW-846

0145

1
INORGANIC ANALYSES DATA SHEET

BOT116

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

[illegible]

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

Comments:

FORM I - IN

SW-846

0146

1
INORGANIC ANALYSES DATA SHEET

BOT117

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

[illegible]

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

Comments:

FORM I - IN

SW-846

0147

1
INORGANIC ANALYSES DATA SHEET

BOT120

Contract: 550.184
SAS No.: SDG No.: W02593
Lab Sample ID: 19283-003
Date Received: 11/03/98

[illegible]

Texture: _____
Artifacts: _____

FORM I - IN

SW-846

0148

1

INORGANIC ANALYSES DATA SHEET

BOT121

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

[illegible]

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

Comments:

1
INORGANIC ANALYSES DATA SHEET

BOT122

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

[illegible]

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

Comments :

1
INORGANIC ANALYSES DATA SHEET

B0T123

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

[illegible]

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

Comments:

INORGANIC ANALYSES DATA SHEET

BOT126

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

[illegible]

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

Comments:

1

INORGANIC ANALYSES DATA SHEET

B0T128

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

[illegible]

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

Comments:

1
INORGANIC ANALYSES DATA SHEET

BOT136

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

[illegible]

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

Comments :

1

INORGANIC ANALYSES DATA SHEET

BOT137

Lab Name: QUANTERRA MO Contract: 550.184
Lab Code: ITMO Case No.: SAS No.: SDG No.: W02593
Matrix (soil/water): WATER Lab Sample ID: 19291-005
Level (low/med): LOW Date Received: 11/04/98
% Solids: 0.0

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

[illegible]

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

Comments:

FORM - IN

SW-846

0157

INORGANIC ANALYSES DATA SHEET

BOT149

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

[illegible]

Comments:

1

INORGANIC ANALYSES DATA SHEET

BOT150

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

[illegible]

Comments:

1

INORGANIC ANALYSES DATA SHEET

BOT152

Lab Name: QUANTERRA MO Contract: 550.184
Lab Code: ITMO Case No.: SAS No.: SDG No.: W02593
Matrix (soil/water): WATER Lab Sample ID: 19291-009
Level (low/med): LOW Date Received: 11/04/98
% Solids: 0.0

[illegible]

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

Comments:

FORM I - IN

SW-846

0160

1

INORGANIC ANALYSES DATA SHEET

BOT155

Lab Name: QUANTERRA MO Contract: 550.184
Lab Code: ITMO Case No.: SAS No.: SDG No.: W02593
Matrix (soil/water): WATER Lab Sample ID: 19291-010
Level (low/med): LOW Date Received: 11/04/98
% Solids: 0.0

[illegible]

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

Comments :

1

INORGANIC ANALYSES DATA SHEET

BOT156

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

[illegible]

Comments:

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOT172

Lab Name: QUANTERRA MO Contract: 550.184
Lab Code: ITMO Case No.: SAS No.: SDG No.: W02593
Matrix (soil/water): WATER Lab Sample ID: 19355-001
Level (low/med): LOW Date Received: 11/11/98
% Solids: 0.0

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

[illegible]

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

Comments:

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SW-846

0165

INORGANIC ANALYSES DATA SHEET

BOT189

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

[illegible]

Comments:

1

INORGANIC ANALYSES DATA SHEET

BOT191

Lab Name: QUANTERRA MO Contract: 550.184
Lab Code: ITMO Case No.: SAS No.: SDG No.: W02593
Matrix (soil/water): WATER Lab Sample ID: 19283-014
Level (low/med): LOW Date Received: 11/03/98
% Solids: 0.0

[illegible]

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

Comments:

0167

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0T198

Lab Name: QUANTERRA MO Contract: 550.184
Lab Code: ITMO Case No.: SAS No.: SDG No.: W02593
Matrix (soil/water): WATER Lab Sample ID: 19413-005
Level (low/med): LOW Date Received: 11/18/98
% Solids: 0.0

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

[illegible]

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

Comments:

1
INORGANIC ANALYSES DATA SHEET

B0T429

Lab Name: QUANTERRA MO Contract: 550.184
Lab Code: ITMO Case No.: SAS No.: SDG No.: W02593
Matrix (soil/water): WATER Lab Sample ID: 19283-006
Level (low/med): LOW Date Received: 11/03/98
% Solids: 0.0

[illegible]

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

Comments:

B0T430

Lab Name: QUANTERRA MO
Lab Code: ITMO Case No.:
Matrix (soil/water): WATER
Level (low/med): LOW
% Solids: 0.0

Contract: 550.184
SAS No.: SDG No.: W02593
Lab Sample ID: 19283-013
Date Received: 11/03/98

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

[illegible]

Color Before: _____
Color After: _____

Clarity Before: _____
Clarity After: _____

Texture: _____
Artifacts: _____

Comments :

INORGANIC ANALYSES DATA SHEET

30T432

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

[illegible]

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

Comments:

1

INORGANIC ANALYSES DATA SHEET

B0T433

Contract: 550.184
SAS No.: SDG No.: W02593
Lab Sample ID: 19410-008
Date Received: 11/17/98

[illegible]

Texture: _____
Artifacts: _____

FORM I - IN

SW-846

0172

Quanterra-Richland
3350 George Washington Way
Richland, WA 99352

Project: 550.184

Category: Anions
Method: EPA 800.0
Matrix: LIQUID

Sample Date : 11/02/98
Receipt Date : 11/03/98
Report Date : 01/13/99

Client ID: B0T1D7

Quanterra ID : 19283-010

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result Unit	Qual.	Detection Limit	Dilution
Fluoride	16984-48-8	QCBLK193585-1	11/03/98	11/03/98	0.21 MG/L		0.10	1
Chloride	16887-00-6	QCBLK193585-1	11/03/98	11/03/98	11.0 MG/L		1.00	5
Sulfate	14808-79-8	QCBLK193585-1	11/03/98	11/03/98	77.0 MG/L		2.50	5
Nitrate	NO3-N	QCBLK193585-1	11/03/98	11/03/98	8.69 MG/L		0.40	20
Nitrite	NO2-N	QCBLK193585-1	11/03/98	11/03/98	0.020 MG/L	U	0.020	1

Quanterra-Richland
3350 George Washington Way
Richland, WA 99352

Project: 550.184

Category: Anions
Method: EPA 300.0
Matrix: LIQUID

Sample Date : 11/02/98
Receipt Date : 11/03/98
Report Date : 01/13/99

Client ID: B0T1D4

Quanterra ID : 19283-011

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result Unit	Qual.	Detection Limit	Dilution
Fluoride	16984-48-8	QCBLK193585-1	11/03/98	11/03/98	0.14 MG/L		0.10	1
Chloride	16887-00-6	QCBLK193585-1	11/03/98	11/03/98	18.1 MG/L		1.00	5
Sulfate	14808-79-8	QCBLK193585-1	11/03/98	11/03/98	68.5 MG/L		2.50	5
Nitrate	NO3-N	QCBLK193585-1	11/03/98	11/03/98	12.9 MG/L		0.40	20
Nitrite	NO2-N	QCBLK193585-1	11/03/98	11/03/98	0.020 MG/L	U	0.020	1

Quanterra-Richland
3350 George Washington Way
Richland, WA 99352

Project: 550.184

Category: Anions
Method: EPA 300.0
Matrix: LIQUID

Sample Date : 11/02/98
Receipt Date : 11/03/98
Report Date : 01/13/99

Client ID: B0T1B6

Quanterra ID : 19283-012

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Fluoride	16984-48-8	QCBLK193585-1	11/03/98	11/03/98	0.16	MG/L		0.10	1
Chloride	16887-00-6	QCBLK193585-1	11/03/98	11/03/98	10.2	MG/L		1.00	5
Sulfate	14808-79-8	QCBLK193585-1	11/03/98	11/03/98	57.1	MG/L		2.50	5
Nitrate	NO3-N	QCBLK193585-1	11/03/98	11/03/98	10.3	MG/L		0.40	20
Nitrite	NO2-N	QCBLK193585-1	11/03/98	11/03/98	0.020	MG/L	U	0.020	1

Quanterra-Richland
3350 George Washington Way
Richland, WA 99352

Project: S50.184

Category: Anions
Method: EPA 300.0
Matrix: LIQUID

Sample Date : 11/02/98
Receipt Date : 11/03/98
Report Date : 01/13/99

Client ID: BOT430

Quanterra ID : 19283-013

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result Unit	Qual.	Detection Limit	Dilution
Fluoride	16984-48-8	QCBLK193585-1	11/03/98	11/03/98	0.10 MG/L	U	0.10	1
Chloride	16887-00-6	QCBLK193585-1	11/03/98	11/03/98	0.20 MG/L	U	0.20	1
Sulfate	14808-79-8	QCBLK193585-1	11/03/98	11/03/98	0.50 MG/L	U	0.50	1
Nitrate	NO3-N	QCBLK193585-1	11/03/98	11/03/98	0.020 MG/L	U	0.020	1
Nitrite	NO2-N	QCBLK193585-1	11/03/98	11/03/98	0.020 MG/L	U	0.020	1

Quanterra-Richland
1350 George Washington Way
Richland, WA 99352

Project: 550.184

Category: Anions
Method: EPA 300.0
Matrix: LIQUID

Sample Date : 11/02/98
Receipt Date : 11/03/98
Report Date : 01/13/99

Client ID: B0T191

Quanterra ID : 19283-014

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result Unit	Qual.	Detection	
							Limit	Dilution
Fluoride	16984-48-8	QCBLK193585-1	11/03/98	11/03/98	0.18 MG/L		0.10	1
Chloride	16887-00-6	QCBLK193585-1	11/03/98	11/03/98	11.3 MG/L		1.00	5
Sulfate	14808-79-8	QCBLK193585-1	11/03/98	11/03/98	43.6 MG/L		2.50	5
Nitrate	NO3-N	QCBLK193585-1	11/03/98	11/03/98	7.69 MG/L		0.40	10
Nitrite	NO2-N	QCBLK193585-1	11/03/98	11/03/98	0.020 MG/L	U	0.020	1

Quanterra-Richland
3350 George Washington Way
Richland, WA 99352

Project: 550.184

Category: Anions
Method: EPA 300.0
Matrix: LIQUID

Sample Date : 11/02/98
Receipt Date : 11/03/98
Report Date : 01/13/99

Client ID: BOT191

Quanterra ID : 19283-014DUP

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result Unit	Qual.	Detection Limit	Dilution
Fluoride	16984-48-8	QCBLK193585-1	11/03/98	11/03/98	0.19 MG/L		0.10	1
Chloride	16887-00-6	QCBLK193585-1	11/03/98	11/03/98	11.2 MG/L		1.00	5
Sulfate	14808-79-8	QCBLK193585-1	11/03/98	11/03/98	43.4 MG/L		2.50	5
Nitrate	NO3-N	QCBLK193585-1	11/03/98	11/03/98	7.62 MG/L		0.20	10
Nitrite	NO2-N	QCBLK193585-1	11/03/98	11/03/98	0.020 MG/L	U	0.020	1

Quanterra-Richland
3350 George Washington Way
Richland, WA 99352

Project: 550.184

Category: Anions
Method: EPA 300.0
Matrix: LIQUID

Sample Date : 11/02/98
Receipt Date : 11/03/98
Report Date : 01/13/99

Client ID: B0T191

Quanterra ID : 19283-014MS

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Fluoride	16984-48-8	QCBLK193585-1	11/03/98	11/03/98	108	%REC			1
Chloride	16887-00-6	QCBLK193585-1	11/03/98	11/03/98	104	%REC			10
Sulfate	14808-79-8	QCBLK193585-1	11/03/98	11/03/98	92	%REC			10
Nitrate	NO3-N	QCBLK193585-1	11/03/98	11/03/98	102	%REC			10
Nitrite	NO2-N	QCBLK193585-1	11/03/98	11/03/98	120	%REC			10

Quanterra-Richland
2350 George Washington Way
Richland, WA 99352

Project: 550.184

Category: Anions
Method: EPA 300.0
Matrix: LIQUID

Sample Date : 11/02/98
Receipt Date : 11/03/98
Report Date : 01/13/99

Client ID: 30TLJ1

Quanterra ID : 19283-015

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Fluoride	16984-48-8	QCBLK193585-1	11/03/98	11/03/98	0.23	MG/L		0.10	1
Chloride	16887-00-6	QCBLK193585-1	11/03/98	11/03/98	14.9	MG/L		1.00	5
Sulfate	14808-79-8	QCBLK193585-1	11/03/98	11/03/98	80.8	MG/L		2.50	5
Nitrate	NO3-N	QCBLK193585-1	11/03/98	11/03/98	10.5	MG/L		0.40	20
Nitrite	NO2-N	QCBLK193585-1	11/03/98	11/03/98	0.020	MG/L	U	0.020	1

Quanterra-Richland
3350 George Washington Way
Richland, WA 99352

Project: 550.184

Category: Anions
Method: EPA 300.0
Matrix: LIQUID

Sample Date : 11/03/98
Receipt Date : 11/04/98
Report Date : 01/13/99

Client ID: BOT1J6

Quanterra ID : 19291-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result Unit	Qual.	Detection Limit	Dilution
Fluoride	16984-48-8	QCBLK193269-1	11/04/98	11/04/98	0.12 MG/L		0.10	1
Chloride	16887-00-6	QCBLK193269-1	11/04/98	11/04/98	22.1 MG/L		2.00	10
Sulfate	14808-79-8	QCBLK193269-1	11/04/98	11/04/98	158 MG/L		5.00	10
Nitrate	NO3-N	QCBLK193269-1	11/04/98	11/04/98	18.4 MG/L		0.50	25
Nitrite	NO2-N	QCBLK193269-1	11/04/98	11/04/98	0.020 MG/L	U	0.020	1

Quanterra-Richland
3350 George Washington Way
Richland, WA 99352

Project: 550.184

Category: Anions
Method: EPA 300.0
Matrix: LIQUID

Sample Date : 11/03/98
Receipt Date : 11/04/98
Report Date : 01/13/99

Client ID: BOT150

Quanterra ID : 19291-002

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Fluoride	16984-48-8	QCBLK193269-1	11/04/98	11/04/98	0.10	MG/L	U	0.10	1
Chloride	16887-00-6	QCBLK193269-1	11/04/98	11/04/98	9.97	MG/L		1.00	5
Sulfate	14808-79-8	QCBLK193269-1	11/04/98	11/04/98	98.5	MG/L		5.00	10
Nitrate	NO3-N	QCBLK193269-1	11/04/98	11/04/98	3.96	MG/L		0.10	5
Nitrite	NO2-N	QCBLK193269-1	11/04/98	11/04/98	0.020	MG/L	U	0.020	1

Quanterra-Richland
3350 George Washington Way
Richland, WA 99352

Project: 550.184

Category: Anions
Method: EPA 300.0
Matrix: LIQUID

Sample Date : 11/03/98
Receipt Date : 11/04/98
Report Date : 01/13/99

Client ID: BOT153

Quanterra ID : 19291-003

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result Unit	Qual.	Detection	
							Limit	Dilution
Fluoride	16984-48-8	QCBLK193269-1	11/04/98	11/04/98	0.10 MG/L		0.10	1
Chloride	16887-00-6	QCBLK193269-1	11/04/98	11/04/98	17.5 MG/L		1.00	5
Sulfate	14808-79-8	QCBLK193269-1	11/04/98	11/04/98	77.7 MG/L		2.50	5
Nitrate	NO3-N	QCBLK193269-1	11/04/98	11/04/98	10.2 MG/L		0.40	20
Nitrite	NO2-N	QCBLK193269-1	11/04/98	11/04/98	0.020 MG/L	U	0.020	1

Quanterra-Richland
3350 George Washington Way
Richland, WA 99352

Project: 550.184

Category: Anions
Method: EPA 300.0
Matrix: LIQUID

Sample Date : 11/03/98
Receipt Date : 11/04/98
Report Date : 01/13/99

Client ID: B0T156

Quanterra ID : 19291-004

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result Unit	Qual.	Detection	
							Limit	Dilution
Fluoride	16984-48-8	QCBLK193269-1	11/04/98	11/04/98	0.10 MG/L	U	0.10	1
Chloride	16887-00-6	QCBLK193269-1	11/04/98	11/04/98	20.3 MG/L		1.00	5
Sulfate	14808-79-8	QCBLK193269-1	11/04/98	11/04/98	51.1 MG/L		2.50	5
Nitrate	NO3-N	QCBLK193269-1	11/04/98	11/04/98	6.96 MG/L		0.20	10
Nitrite	NO2-N	QCBLK193269-1	11/04/98	11/04/98	0.020 MG/L	U	0.020	1

Quanterra-Richland
1150 George Washington Way
Richland, WA 99352

Project: 550.134

Category: Anions
Method: EPA 300.0
Matrix: LIQUID

Sample Date : 11/03/98
Receipt Date : 11/04/98
Report Date : 01/13/99

Client ID: 20T137

Quanterra ID : 19291-005

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection	
								Limit	Dilution
Fluoride	16984-48-8	QCBLK193269-1	11/04/98	11/04/98	0.17	MG/L		0.10	1
Chloride	16887-00-6	QCBLK193269-1	11/04/98	11/04/98	13.9	MG/L		1.00	5
Sulfate	14808-79-8	QCBLK193269-1	11/04/98	11/04/98	56.2	MG/L		2.50	5
Nitrate	NO3-N	QCBLK193269-1	11/04/98	11/04/98	3.70	MG/L		0.10	5
Nitrite	NO2-N	QCBLK193269-1	11/04/98	11/04/98	0.020	MG/L	U	0.020	1

Quanterra-Richland
3350 George Washington Way
Richland, WA 99352

Project: 550.184

Category: Anions
Method: EPA 300.0
Matrix: LIQUID

Sample Date : 11/04/98
Receipt Date : 11/05/98
Report Date : 01/13/99

Client ID: BOT123

Quanterra ID : 19300-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result Unit	Qual.	Detection Limit	Dilution
Fluoride	16984-48-8	QCBLK191228-1	11/05/98	11/05/98	0.20 MG/L		0.10	1
Chloride	16887-00-6	QCBLK191228-1	11/05/98	11/05/98	12.9 MG/L		1.00	5
Sulfate	14808-79-8	QCBLK191228-1	11/05/98	11/05/98	69.0 MG/L		2.50	5
Nitrate	NO3-N	QCBLK191228-1	11/05/98	11/05/98	10.7 MG/L		0.20	20
Nitrite	NO2-N	QCBLK191228-1	11/05/98	11/05/98	0.020 MG/L	U	0.020	1

Quanterra-Richland
3350 George Washington Way
Richland, WA 99352

Project: 550.184

Category: Anions
Method: EPA 300.0
Matrix: LIQUID

Sample Date : 11/10/98
Receipt Date : 11/11/98
Report Date : 01/13/99

Client ID: BOT172

Quanterra ID : 19355-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Fluoride	16984-48-8	QCBLK192736-1	11/11/98	11/11/98	0.27	MG/L		0.10	1
Chloride	16887-00-6	QCBLK192736-1	11/11/98	11/11/98	21.1	MG/L		1.00	5
Sulfate	14808-79-8	QCBLK192736-1	11/11/98	11/11/98	56.0	MG/L		2.50	5
Nitrate	NO3-N	QCBLK192736-1	11/11/98	11/11/98	9.49	MG/L		0.40	20
Nitrite	NO2-N	QCBLK192736-1	11/11/98	11/11/98	0.020	MG/L	U	0.020	1

Quanterra-Richland
3350 George Washington Way
Richland, WA 99352

Project: 5E0.184

Category: Anions
Method: EPA 300.0
Matrix: LIQUID

Sample Date : 11/17/98
Receipt Date : 11/18/98
Report Date : 01/13/99

Client ID: BOT1B0

Quanterra ID : 19413-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result Unit	Qual.	Detection Limit	Dilution
Fluoride	16984-48-8	QCBLK192658-1	11/18/98	11/18/98	0.12 MG/L		0.10	1
Chloride	16887-00-6	QCBLK192658-1	11/18/98	11/18/98	2.59 MG/L		0.20	1
Sulfate	14808-79-8	QCBLK192658-1	11/18/98	11/18/98	23.7 MG/L		1.00	2
Nitrate	NO3-N	QCBLK192658-1	11/18/98	11/18/98	1.29 MG/L		0.040	2
Nitrite	NO2-N	QCBLK192658-1	11/18/98	11/18/98	0.020 MG/L	J	0.020	1

Quanterra-Richland
3350 George Washington Way
Richland, WA 99352

Project: S50.184

Category: Anions
Method: EPA 300.0
Matrix: LIQUID

Sample Date : 11/17/98
Receipt Date : 11/18/98
Report Date : 01/13/99

Client ID: B0T1F3

Quanterra ID : 19413-002

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Fluoride	16984-48-8	QCBLK192658-1	11/18/98	11/18/98	0.18	MG/L		0.10	1
Chloride	16887-00-6	QCBLK192658-1	11/18/98	11/18/98	12.4	MG/L		1.00	5
Sulfate	14808-79-8	QCBLK192658-1	11/18/98	11/18/98	76.9	MG/L		2.50	5
Nitrate	NO3-N	QCBLK192658-1	11/18/98	11/18/98	22.7	MG/L		1.00	50
Nitrite	NO2-N	QCBLK192658-1	11/18/98	11/18/98	0.020	MG/L	U	0.020	1

Quanterra-Richland
3350 George Washington Way
Richland, WA 99352

Project: 550.184

Category: Anions
Method: EPA 300.0
Matrix: LIQUID

Sample Date : 11/17/98
Receipt Date : 11/18/98
Report Date : 01/13/99

Client ID: BOT129

Quanterra ID : 19413-003

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Fluoride	16984-48-8	QCBLK192658-1	11/18/98	11/18/98	0.24	MG/L		0.10	1
Chloride	16887-00-6	QCBLK192658-1	11/18/98	11/18/98	32.3	MG/L		2.00	10
Sulfate	14808-79-8	QCBLK192658-1	11/18/98	11/18/98	66.2	MG/L		5.00	10
Nitrate	NO3-N	QCBLK192658-1	11/18/98	11/18/98	6.18	MG/L		0.20	10
Nitrite	NO2-N	QCBLK192658-1	11/18/98	11/18/98	0.020	MG/L	U	0.020	1

Quanterra-Richland
1350 George Washington Way
Richland, WA 99352

Project: 550.184

Category: Anions
Method: EPA 300.0
Matrix: LIQUID

Sample Date : 11/16/98
Receipt Date : 11/17/98
Report Date : 01/13/99

Client ID: BOT126

Quanterra ID : 19410-007

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result Unit	Qual.	Detection Limit	Dilution
Fluoride	16984-48-8	QCBLK193689-1	11/17/98	11/17/98	0.19 MG/L		0.10	1
Chloride	16887-00-6	QCBLK193689-1	11/17/98	11/17/98	11.7 MG/L		1.00	5
Sulfate	14808-79-8	QCBLK193689-1	11/17/98	11/17/98	74.5 MG/L		2.50	5
Nitrate	NO3-N	QCBLK193689-1	11/17/98	11/17/98	14.4 MG/L		0.40	20
Nitrite	NO2-N	QCBLK193689-1	11/17/98	11/17/98	0.020 MG/L	U	0.020	1

Quanterra-Richland
3150 George Washington Way
Richland, WA 99352

Project: 550.184

Category: Anions
Method: EPA 300.0
Matrix: LIQUID

Sample Date : 11/16/98
Receipt Date : 11/17/98
Report Date : 01/13/99

Client ID: BOT433

Quanterra ID : 19410-008

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result Unit	Qual.	Detection Limit	Dilution
Fluoride	16984-48-8	QCBLK193689-1	11/17/98	11/17/98	0.10 MG/L	U	0.10	1
Chloride	16887-00-6	QCBLK193689-1	11/17/98	11/17/98	0.20 MG/L	U	0.20	1
Sulfate	14808-79-8	QCBLK193689-1	11/17/98	11/17/98	0.50 MG/L	U	0.50	1
Nitrate	NO3-N	QCBLK193689-1	11/17/98	11/17/98	0.020 MG/L	U	0.020	1
Nitrite	NO2-N	QCBLK193689-1	11/17/98	11/17/98	0.020 MG/L	U	0.020	1

Quanterra-Richland
3350 George Washington Way
Richland, WA 99352

Project: 550.184

Category: Anions
Method: EPA 300.0
Matrix: LIQUID

Sample Date : 11/16/98
Receipt Date : 11/17/98
Report Date : 01/13/99

Client ID: B0T1H2

Quanterra ID : 19410-009

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Fluoride	16984-48-8	QCBLK193689-1	11/17/98	11/17/98	0.16	MG/L		0.10	1
Chloride	16887-00-6	QCBLK193689-1	11/17/98	11/17/98	10.3	MG/L		1.00	5
Sulfate	14808-79-8	QCBLK193689-1	11/17/98	11/17/98	57.4	MG/L		2.50	5
Nitrate	NO3-N	QCBLK193689-1	11/17/98	11/17/98	13.3	MG/L		0.40	20
Nitrite	NO2-N	QCBLK193689-1	11/17/98	11/17/98	0.020	MG/L	U	0.020	1

Quanterra-Richland
3350 George Washington Way
Richland, WA 99352

Project: 550.184

Category: Anions
Method: EPA 300.0
Matrix: LIQUID

Sample Date : 11/16/98
Receipt Date : 11/17/98
Report Date : 01/13/99

Client ID: BOTLH5

Quanterra ID : 19410-010

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result Unit	Qual.	Detection Limit	Dilution
Fluoride	16984-48-8	QCBLK193689-1	11/17/98	11/17/98	0.23 MG/L		0.10	1
Chloride	16887-00-6	QCBLK193689-1	11/17/98	11/17/98	18.6 MG/L		1.00	5
Sulfate	14808-79-8	QCBLK193689-1	11/17/98	11/17/98	64.7 MG/L		2.50	5
Nitrate	NO3-N	QCBLK193689-1	11/17/98	11/17/98	12.2 MG/L		0.40	20
Nitrite	NO2-N	QCBLK193689-1	11/17/98	11/17/98	0.020 MG/L	U	0.020	1

Quanterra-Richland
1350 George Washington Way
Richland, WA 99352

Project: 550.184

Category: Anions
Method: EPA 300.0
Matrix: LIQUID

Sample Date : 11/16/98
Receipt Date : 11/17/98
Report Date : 01/13/99

Client ID: B0TIC4

Quanterra ID : 19410-011

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result Unit	Qual.	Detection Limit	Dilution
Fluoride	16984-48-8	QCBLK193689-1	11/17/98	11/17/98	0.19 MG/L		0.10	1
Chloride	16887-00-6	QCBLK193689-1	11/17/98	11/17/98	11.6 MG/L		1.00	5
Sulfate	14808-79-8	QCBLK193689-1	11/17/98	11/17/98	64.2 MG/L		2.50	5
Nitrate	NO3-N	QCBLK193689-1	11/17/98	11/17/98	8.96 MG/L		0.40	20
Nitrite	NO2-N	QCBLK193689-1	11/17/98	11/17/98	0.020 MG/L	U	0.020	1

Quanterra-Richland
3350 George Washington Way
Richland, WA 99352

Project: 550.184

Category: Anions
Method: EPA 300.0
Matrix: LIQUID

Sample Date : 11/16/98
Receipt Date : 11/17/98
Report Date : 01/13/99

Client ID: BOTIF0

Quanterra ID : 19410-012

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Fluoride	16984-48-8	QCBLK193689-1	11/17/98	11/17/98	0.19	MG/L		0.10	1
Chloride	16887-00-6	QCBLK193689-1	11/17/98	11/17/98	12.7	MG/L		1.00	5
Sulfate	14808-79-8	QCBLK193689-1	11/17/98	11/17/98	63.5	MG/L		2.50	5
Nitrate	NO3-N	QCBLK193689-1	11/17/98	11/17/98	10.6	MG/L		0.40	20
Nitrite	NO2-N	QCBLK193689-1	11/17/98	11/17/98	0.020	MG/L	U	0.020	1

Quanterra-Richland
3350 George Washington Way
Richland, WA 99352

Project: 550.184

Category: Anions
Method: EPA 300.0
Matrix: LIQUID

Sample Date : 11/16/98
Receipt Date : 11/17/98
Report Date : 01/13/99

Client ID: BOT1FO

Quanterra ID : 19410-012DUP

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result Unit	Qual.	Detection Limit	Dilution
Fluoride	16984-48-8	QCBLK193689-1	11/17/98	11/17/98	0.19 MG/L		0.10	1
Chloride	16887-00-6	QCBLK193689-1	11/17/98	11/17/98	13.0 MG/L		1.00	5
Sulfate	14808-79-8	QCBLK193689-1	11/17/98	11/17/98	63.8 MG/L		2.50	5
Nitrate	NO3-N	QCBLK193689-1	11/17/98	11/17/98	10.5 MG/L		0.40	20
Nitrite	NO2-N	QCBLK193689-1	11/17/98	11/17/98	0.020 MG/L	U	0.020	1

Quanterra-Richland
3350 George Washington Way
Richland, WA 99352

Project: 550.184

Category: Anions
Method: EPA 300.0
Matrix: LIQUID

Sample Date : 11/16/98
Receipt Date : 11/17/98
Report Date : 01/13/99

Client ID: B0T1F0

Quanterra ID : 19410-012MS

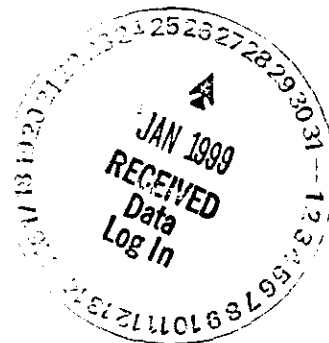
Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Fluoride	16984-48-8	QCBLK193689-1	11/17/98	11/17/98	100	%REC			1
Chloride	16887-00-6	QCBLK193689-1	11/17/98	11/17/98	100	%REC			10
Sulfate	14808-79-8	QCBLK193689-1	11/17/98	11/17/98	93	%REC			10
Nitrate	NO3-N	QCBLK193689-1	11/17/98	11/17/98	80	%REC			20
Nitrite	NO2-N	QCBLK193689-1	11/17/98	11/17/98	118	%REC			10

CERTIFICATE OF ANALYSIS

Bechtel Hanford, Inc.
3350 George Washington Way
Richland, WA 99352

January 27, 1999

Attention: Joan Kessner



SAF Number	:	C99-009
Date SDG Closed	:	November 17, 1998
Number of Samples	:	Nineteen (19)
Sample Type	:	Water
SDG Number	:	W02593
Data Deliverable	:	45-Day Summary

I. Introduction

Between November 3, and November 17, 1998, nineteen water samples were received by the Quanterra Environmental Services Richland Laboratory (QTESRL) for radiochemical analysis.

Upon receipt, the samples were assigned the following laboratory ID number to correspond with the Bechtel Hanford (BHI) specific ID:

<u>QTESRL ID#</u>	<u>BHI ID#</u>	<u>MATRIX</u>	<u>DATE OF RECEIPT</u>
81103501	B0T1J7	Water	11-3-98
81103502	B0T151	Water	11-3-98
81103503	B0T154	Water	11-3-98
81103504	B0T157	Water	11-3-98
81103505	B0T138	Water	11-3-98
81106001	B0T124	Water	11-4-98
81106002	B0T1F7	Water	11-4-98
81106003	B0T1F8	Water	11-4-98
81105201	B0T174	Water	11-10-98
81124201	B0T1H6	Water	11-10-98
81124202	B0T1H3	Water	11-10-98
81124203	B0T127	Water	11-10-98
81124204	B0T434	Water	11-10-98
81124205	B0T1H9	Water	11-10-98
81124206	B0T1C9	Water	11-10-98

Bechtel Hanford Inc.
January 27, 1999
Page 2

81124207	BOT1F1	Water	11-16-98
81126301	BOT1B2	Water	11-17-98
81126302	BOT1F4	Water	11-17-98
81126303	BOT130	Water	11-17-98

II. Analytical Results/Methodology

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information: analytical results and the appropriate associated statistical errors.

The requested analyses were:

Gas Proportional Counting
Gross Alpha by method RICH-RC-5014
Gross Beta by method RICH-RC-5014
Liquid Scintillation Counting
Tritium by method RICH-RC-5037

III. Quality Control

The analytical results for each analysis performed under SDG W02593 include a minimum of one Laboratory Control Sample (LCS), one method (reagent) blank, and one duplicate. Any exceptions have been noted in the "Comments" section.

Quality control sample results are reported in the same units as sample results.

IV. Comments

Gas Proportional Counting

Gross Alpha by method RICH-RC-5014

The LCS, batch blank, sample and sample duplicate (BOT1J7) results are within contractual requirements.

Gross Beta by method RICH-RC-5014

The LCS, batch blank, sample and sample duplicate (BOT151) results are within contractual requirements.

Bechtel Hanford Inc.

January 27, 1999

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Liquid Scintillation Counting

Tritium by method RICH-RC-5037

The LCS, batch blank, sample and sample duplicates (B0T1J7, B0T151) results are within contractual requirements.

I certify that this Certificate of Analysis 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:



Doug Swenson
Project Manager

SAMPLE RESULTS

LAB NAME: QUANTERRA, Richland SDG: /RPT GRP: W02593 / 6929
LAB SAMPLE ID: 81103501 MATRIX: WATER
CLIENT ID: B0T1J7 DATE RECEIVED: 11/3/98 2:15:00 PM

ANALYTE	RESULT	Q	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA/IDL	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	2.45E+00	J	1.8E+00	1.8E+00	2.09E+00	pCi/L	100.00%	RICHRC5014
BETA	1.44E+01		2.3E+00	2.7E+00	3.13E+00	pCi/L	100.00%	RICHRC5014-B
TRITIUM	2.83E+04		7.4E+02	2.2E+03	3.23E+02	pCi/L	88.10%	RICHRC5007

Number of Results: 3

SAMPLE RESULTS

LAB NAME: QUANTERRA, Richland SDG: /RPT GRP: W02593 / 6929
LAB SAMPLE ID: 81103502 MATRIX: WATER
CLIENT ID: B0T151 DATE RECEIVED: 11/3/98 2:15:00 PM

ANALYTE	RESULT	Q	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA/IDL	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	2.05E+00	U	1.6E+00	1.6E+00	2.14E+00	pCi/L	100.00%	RICHRC5014
BETA	7.27E+00		1.8E+00	1.9E+00	2.70E+00	pCi/L	100.00%	RICHRC5014-B
TRITIUM	-8.17E+01	U	1.3E+02	2.1E+02	3.23E+02	pCi/L	88.10%	RICHRC5007

Number of Results: 3

SAMPLE RESULTS

LAB NAME: QUANTERRA, Richland SDG: /RPT GRP: W02593 / 6929
LAB SAMPLE ID: 81103503 MATRIX: WATER
CLIENT ID: BOT154 DATE RECEIVED: 11/3/98 2:15:00 PM

ANALYTE	RESULT	Q	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA/IDL	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	8.55E-01	U	8.9E-01	9.0E-01	1.31E+00	pCi/L	100.00%	RICHRC5014
BETA	5.08E+00		1.6E+00	1.7E+00	2.77E+00	pCi/L	100.00%	RICHRC5014-B
TRITIUM	1.21E+02	U	1.4E+02	2.2E+02	3.23E+02	pCi/L	88.10%	RICHRC5007

Number of Results: 3

Result = IDL When Not Detected

(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result <

Quanterra Analytical Services, Inc
rptChemRadSample; v3.41

0007

SAMPLE RESULTS

LAB NAME: QUANTERRA, Richland SDG: /RPT GRP: W02593 / 6929
LAB SAMPLE ID: 81103504 MATRIX: WATER
CLIENT ID: B0T157 DATE RECEIVED: 11/3/98 2:15:00 PM

ANALYTE	RESULT	Q	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA/IDL	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	4.84E-01	U	8.2E-01	8.2E-01	1.73E+00	pCi/L	100.00%	RICHRC5014
BETA	4.19E+00		1.6E+00	1.7E+00	2.92E+00	pCi/L	100.00%	RICHRC5014-B
TRITIUM	1.11E+02	U	1.4E+02	2.2E+02	3.23E+02	pCi/L	88.10%	RICHRC5007

Number of Results: 3

SAMPLE RESULTS

LAB NAME: QUANTERRA, Richland SDG: /RPT GRP: W02593 / 6929
LAB SAMPLE ID: 81103505 MATRIX: WATER
CLIENT ID: BOT138 DATE RECEIVED: 11/3/98 2:15:00 PM

ANALYTE	RESULT	Q	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA/IDL	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	1.46E+00	J	1.1E+00	1.1E+00	1.03E+00	pCi/L	100.00%	RICHRC5014
BETA	4.90E+00		1.7E+00	1.7E+00	2.89E+00	pCi/L	100.00%	RICHRC5014-B
TRITIUM	3.73E+03		3.0E+02	4.7E+02	3.23E+02	pCi/L	88.10%	RICHRC5007

Number of Results: 3

SAMPLE RESULTS

LAP NAME: QUANTERRA, Richland SDG: /RPT GRP: W02593 / 6929
LAB SAMPLE ID: 81106001 MATRIX: WATER
CLIENT ID: B0T124 DATE RECEIVED: 11/4/98 2:30:00 PM

ANALYTE	RESULT	Q	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA/IDL	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	4.15E+00		2.2E+00	2.3E+00	2.38E+00	pCi/L	100.00%	RICHRC5014
BETA	1.55E+01		2.3E+00	2.7E+00	3.01E+00	pCi/L	100.00%	RICHRC5014-B
TRITIUM	3.07E+03		2.8E+02	4.2E+02	3.23E+02	pCi/L	88.10%	RICHRC5007

Number of Results: 3

Result = IDL When Not Detected

(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result <

Quanterra Analytical Services, Inc
rptChemRadSample; v3.41

0010

SAMPLE RESULTS

LAB NAME: QUANTERRA, Richland SDG: /RPT GRP: W02593 / 6929
LAB SAMPLE ID: 81106002 MATRIX: WATER
CLIENT ID: B0T1F7 DATE RECEIVED: 11/4/98 2:30:00 PM

ANALYTE	RESULT	Q	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA/IDL	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	3.79E+01		7.1E+00	8.4E+00	2.17E+00	pCi/L	100.00%	RICHRC5014
BETA	2.00E+02		7.1E+00	1.9E+01	3.05E+00	pCi/L	100.00%	RICHRC5014-B

Number of Results: 2

SAMPLE RESULTS

LAB NAME: QUANTERRA, Richland SDG: /RPT GRP: W02593 / 6929
LAB SAMPLE ID: 81106003 MATRIX: WATER
CLIENT ID: B0T1F8 DATE RECEIVED: 11/4/98 2:30:00 PM

ANALYTE	RESULT	Q	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA/IDL	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	4.20E+01		8.8E+00	9.7E+00	3.86E+00	pCi/L	100.00%	RICHRC5014
BETA	1.82E+02		6.9E+00	1.8E+01	3.11E+00	pCi/L	100.00%	RICHRC5014-B

Number of Results: 2

SAMPLE RESULTS

LAB NAME:	QUANTERRA, Richland	SDG: /RPT GRP:	W02593 / 6929
LAB SAMPLE ID:	81115201	MATRIX:	WATER
CLIENT ID:	B0T174	DATE RECEIVED:	11/10/98 2:25:00 PM

ANALYTE	RESULT	Q	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA/IDL	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	1.37E+00	U	1.3E+00	1.3E+00	2.12E+00	pCi/L	100.00%	RICHRC5014
BETA	6.99E+00		1.8E+00	1.9E+00	2.92E+00	pCi/L	100.00%	RICHRC5014-B
TRITIUM	3.58E+03		2.9E+02	4.6E+02	3.23E+02	pCi/L	88.10%	RICHRC5007

Number of Results: 3

SAMPLE RESULTS

LAB NAME: QUANTERRA, Richland SDG: /RPT GRP: W02593 / 6929
LAB SAMPLE ID: 81124201 MATRIX: WATER
CLIENT ID: B0T1H6 DATE RECEIVED: 11/16/98 1:45:00 PM

ANALYTE	RESULT	Q	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA/IDL	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	4.91E+00		2.2E+00	2.3E+00	1.19E+00	pCi/L	100.00%	RICHRC5014
BETA	1.21E+01		2.2E+00	2.4E+00	3.08E+00	pCi/L	100.00%	RICHRC5014-B
TRITIUM	6.37E+03		3.7E+02	6.6E+02	3.23E+02	pCi/L	88.10%	RICHRC5007

Number of Results: 3

SAMPLE RESULTS

LAB NAME: QUANTERRA, Richland SDG: /RPT GRP: W02593 / 6929
LAB SAMPLE ID: 81124202 MATRIX: WATER
CLIENT ID: B0T1H3 DATE RECEIVED: 11/16/98 1:45:00 PM

ANALYTE	RESULT	Q	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA/IDL	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	3.11E+00		1.8E+00	1.8E+00	2.06E+00	pCi/L	100.00%	RICHRC5014
BETA	4.33E+01		3.4E+00	5.2E+00	2.78E+00	pCi/L	100.00%	RICHRC5014-B
TRITIUM	5.40E+03		3.5E+02	5.9E+02	3.23E+02	pCi/L	88.10%	RICHRC5007

Number of Results: 3

SAMPLE RESULTS

LAB NAME: QUANTERRA, Richland SDG: /RPT GRP: W02593 / 6929
LAB SAMPLE ID: 81124203 MATRIX: WATER
CLIENT ID: B0T127 DATE RECEIVED: 11/16/98 1:45:00 PM

ANALYTE	RESULT	Q	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA/IDL	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	5.25E+00		2.4E+00	2.4E+00	2.16E+00	pCi/L	100.00%	RICHRC5014
BETA	2.62E+01		2.8E+00	3.7E+00	3.04E+00	pCi/L	100.00%	RICHRC5014-B
TRITIUM	5.89E+03		3.6E+02	6.2E+02	3.23E+02	pCi/L	88.10%	RICHRC5007

Number of Results: 3

Result = IDL When Not Detected

(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result <

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rptChemRadSample; v3.41

0016

SAMPLE RESULTS

LAB NAME: QUANTERRA, Richland SDG: /RPT GRP: W02593 / 6929
LAB SAMPLE ID: 81124204 MATRIX: WATER
CLIENT ID: B0T434 DATE RECEIVED: 11/16/98 1:45:00 PM

ANALYTE	RESULT	Q	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA/IDL	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	3.02E-02	U	2.1E-01	2.1E-01	6.64E-01	pCi/L	100.00%	RICHRC5014
BETA	2.53E-01	U	1.2E+00	1.2E+00	2.67E+00	pCi/L	100.00%	RICHRC5014-B
TRITIUM	5.68E+01	U	1.4E+02	2.1E+02	3.23E+02	pCi/L	88.10%	RICHRC5007

Number of Results: 3

Result = IDL When Not Detected

(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result <

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rptChemRadSample; v3.41

001

SAMPLE RESULTS

LAB NAME: QUANTERRA, Richland SDG: /RPT GRP: W02593 / 6929
LAB SAMPLE ID: 81124205 MATRIX: WATER
CLIENT ID: B0T1H9 DATE RECEIVED: 11/16/98 1:45:00 PM

ANALYTE	RESULT	Q	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA/IDL	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	-1.67E-01	U	8.3E-02	8.5E-02	8.95E-01	pCi/L	100.00%	RICHRC5014
BETA	2.75E+01		2.8E+00	3.6E+00	2.86E+00	pCi/L	100.00%	RICHRC5014-B

Number of Results: 2

SAMPLE RESULTS

LAB NAME: QUANTERRA, Richland SDG: /RPT GRP: W02593 / 6929
LAB SAMPLE ID: 81124206 MATRIX: WATER
CLIENT ID: B0T1C9 DATE RECEIVED: 11/16/98 1:45:00 PM

ANALYTE	RESULT	Q	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA/IDL	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	2.36E+00	J	1.5E+00	1.5E+00	1.15E+00	pCi/L	100.00%	RICHRC5014
BETA	8.10E+00		1.9E+00	2.0E+00	2.87E+00	pCi/L	100.00%	RICHRC5014-B
TRITIUM	3.54E+03		2.9E+02	4.6E+02	3.23E+02	pCi/L	88.10%	RICHRC5007

Number of Results: 3

SAMPLE RESULTS

LAB NAME: QUANTERRA, Richland SDG: /RPT GRP: W02593 / 6929
LAB SAMPLE ID: 81124207 MATRIX: WATER
CLIENT ID: B0T1F1 DATE RECEIVED: 11/16/98 1:45:00 PM

ANALYTE	RESULT	Q	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA/IDL	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	7.88E-01	U	1.2E+00	1.2E+00	2.44E+00	pCi/L	100.00%	RICHRC5014
BETA	1.67E+01		2.4E+00	2.8E+00	2.97E+00	pCi/L	100.00%	RICHRC5014-B
TRITIUM	3.77E+03		3.0E+02	4.7E+02	3.23E+02	pCi/L	88.10%	RICHRC5007

Number of Results: 3

SAMPLE RESULTS

LAB NAME: QUANTERRA, Richland SDG: /RPT GRP: W02593 / 6929
LAB SAMPLE ID: 81126301 MATRIX: WATER
CLIENT ID: B0T1B2 DATE RECEIVED: 11/17/98 2:50:00 PM

ANALYTE	RESULT	Q	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA/IDL	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	6.10E-02	U	6.0E-01	6.0E-01	1.78E+00	pCi/L	100.00%	RICHRC5014
BETA	4.52E+00		1.6E+00	1.6E+00	2.74E+00	pCi/L	100.00%	RICHRC5014-B
TRITIUM	-3.97E+01	U	1.3E+02	2.1E+02	3.23E+02	pCi/L	88.10%	RICHRC5007

Number of Results: 3

SAMPLE RESULTS

LAB NAME: QUANTERRA, Richland SDG: /RPT GRP: W02593 / 6929
LAB SAMPLE ID: 81126302 MATRIX: WATER
CLIENT ID: B0T1F4 DATE RECEIVED: 11/17/98 2:50:00 PM

ANALYTE	RESULT	Q	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA/IDL	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	1.10E+01		3.7E+00	3.9E+00	2.00E+00	pCi/L	100.00%	RICHRC5014
BETA	6.35E+01		4.2E+00	7.1E+00	3.11E+00	pCi/L	100.00%	RICHRC5014-B
TRITIUM	2.64E+03		2.6E+02	3.9E+02	3.23E+02	pCi/L	88.10%	RICHRC5007

Number of Results: 3

SAMPLE RESULTS

LAB NAME: QUANTERRA, Richland SDG: /RPT GRP: W02593 / 6929
LAB SAMPLE ID: 81126303 MATRIX: WATER
CLIENT ID: BOT130 DATE RECEIVED: 11/17/98 2:50:00 PM

ANALYTE	RESULT	Q	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA/IDL	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	1.36E+00	U	1.3E+00	1.4E+00	2.16E+00	pCi/L	100.00%	RICHRC5014
BETA	8.98E+00		1.9E+00	2.1E+00	2.89E+00	pCi/L	100.00%	RICHRC5014-B
TRITIUM	8.37E+03		4.2E+02	8.0E+02	3.23E+02	pCi/L	88.10%	RICHRC5007

Number of Results: 3

DUPLICATE RESULTS

LAB NAME: QUANTERRA, Richland **SDG: /RPT GRP:** W02593 / 6929
LAB SAMPLE ID: D1103501 **MATRIX:** WATER
CLIENT ID: B0T1J7 **DATE RECEIVED:** 11/3/98 2:15:00 PM
ORIG LAB SAMPLE ID: 81103501

ANALYTE	DUP RESULT	Q	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA/ IDL	REPORT UNIT	YIELD	METHOD NUMBER	ORIG RESULT	RPD
ALPHA	1.93E+00	U	1.5E+00	1.5E+00	1.93E+00	pCi/L	100.00%	RICHRC5014	2.45E+00	23.94%
TRITIUM	2.86E+04		7.5E+02	2.3E+03	3.23E+02	pCi/L	88.10%	RICHRC5007	2.83E+04	0.99%

Number of Results: 2

DUPLICATE RESULTS

LAB NAME: QUANTERRA, Richland **SDG: /RPT GRP:** W02593 / 6929
LAB SAMPLE ID: D1103502 **MATRIX:** WATER
CLIENT ID: B0T151 **DATE RECEIVED:** 11/3/98 2:15:00 PM
ORIG LAB SAMPLE ID: 81103502

ANALYTE	DUP RESULT	Q	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA/ IDL	REPORT UNIT	YIELD	METHOD NUMBER	ORIG RESULT	RPD
BETA	6.65E+00		1.8E+00	1.9E+00	2.91E+00	pCi/L	100.00%	RICHRC5014-B	7.27E+00	8.90%
TRITIUM	9.05E+01	U	1.4E+02	2.2E+02	3.23E+02	pCi/L	88.10%	RICHRC5007	-8.17E+01	3917.64%

Number of Results: 2

BLANK RESULTS

LAB NAME: QUANTERRA, Richland SDG /RPT GRP: W02593 / 6929
LAB SAMPLE ID: J110351B MATRIX: WATER

ANALYTE	RESULT	Q	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA/IDL	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	-2.10E-02	U	3.0E-02	3.0E-02	5.03E-01	pCi/L	100.00%	RICHRC5014
BETA	3.01E-01	U	1.2E+00	1.2E+00	2.65E+00	pCi/L	100.00%	RICHRC5014-B

Number of Results: 2

BLANK RESULTS

LAB NAME: QUANTERRA, Richland

SDG /RPT GRP: W02593 / 6929

LAB SAMPLE ID: J110351X

MATRIX: WATER

ANALYTE	RESULT	Q	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA/IDL	REPORT UNIT	YIELD	METHOD NUMBER
TRITIUM	-9.35E+01	U	1.3E+02	2.0E+02	3.23E+02	pCi/L	88.10%	RICHRC5007

Number of Results: 1

Result = IDL When Not Detected

(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result < RDL

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0027

LABORATORY CONTROL SAMPLE

LAB NAME: QUANTERRA, Richland SDG: /RPT GRP: W02593 / 6929
LAB SAMPLE ID: J110351M MATRIX: WATER

ANALYTE	RESULT	Q	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA/ IDL	REPORT UNIT	YIELD	EXPECTED	RECOVERY
TRITIUM	2.76E+03		2.6E+02	4.0E+02	3.23E+02	pCi/L	88.10%	2.74E+03	100.87%

Number of Results: 1

Result = IDL When Not Detected

(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result < RDL.

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rptChemRadLcs; v3.41

0028

LABORATORY CONTROL SAMPLE

LAB NAME: QUANTERRA, Richland SDG: /RPT GRP: W02593 / 6929
LAB SAMPLE ID: J110351S MATRIX: WATER

ANALYTE	RESULT	Q	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA/ IDL	REPORT UNIT	YIELD	EXPECTED	RECOVERY
ALPHA	1.98E+01		2.8E+00	3.7E+00	9.25E-01	pCi/L	100.00%	2.26E+01	87.86%
BETA	2.31E+01		2.5E+00	3.2E+00	2.73E+00	pCi/L	100.00%	2.27E+01	101.85%
TRITIUM	2.59E+03		2.6E+02	3.9E+02	3.23E+02	pCi/L	88.10%	2.74E+03	94.48%

Number of Results: 3

**Quanterra Data Review Checklist
RADIOCHEMISTRY**

Work Order number(s): <u>811035, 811152, 811060, 811242, 811263</u>				
Client ID: <u>BNI</u>				
Due Date: <u>1/1/99</u>				
Lab Sample Number or SDG: <u>W02593</u>				
Method Test Parameters: <u>Alpha</u>				
Matrix: <u>urine</u>				
Review Item	Yes (✓)	No (✗)	NA (✓)	2 nd Level Review (✓)
A. Calibration				
1. Is the calibration documentation included where applicable?			X	
B. Sample Analysis				
1. Are the sample yields within acceptance criteria?	X <u>1/1/99</u>		X	
2. Were all sample holding times met?	X			✓
3. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	X			✓
C. QC Samples				
1. Is the blank yield within acceptance criteria?			X	
2. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	X			✓
3. Is the blank result < 1/2 the Contract Detection Limit?	X			✓
4. Is the blank > 1/2 the Contract Detection Limit but < Contract Detection Limit?			X	
5. Is the blank > the Contract Detection Limit but the sample result < the Contract Detection Limit?			X	
6. Is the LCS result within acceptance criteria?	X			✓
7. Is the LCS yield within acceptance criteria?	X			✓
8. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	X			✓
9. MS/MSD results and yield meet acceptance criteria?			X	
10. Duplicate sample results and yield meet acceptance criteria?	X			✓
D. Other				
1. Are all Nonconformances included and noted?			X	
2. Are all required forms filed out?	X			✓
3. Correct methodology used?	X			✓
4. Transcription checked? <u>SCW, 1/21/99</u>	X			✓
5. Were all calculations checked at a minimum frequency?	X			✓
6. Units checked?	X			✓

Comments on any "No" response: _____

First Level Review: _____

Second Level Review: _____

Form #: LS-038.2 /96, Rev. 4

Date: 1/21/99

Date: 1/27/99

**Quanterra Data Review Checklist
RADIOCHEMISTRY**

Work Order number(s): <u>811035, 811152, 811060, 811242, 811263</u>				
Client ID: <u>BNI</u>				
Due Date: <u>1-1-99</u>				
Lab Sample Number or SDG: <u>W02593</u>				
Method Test Parameters: <u>Butan</u>				
Matrix: <u>Water</u>				
Review Item	Yes (✓)	No (✓)	N/A (✓)	2 nd Level Review (✓)
A. Calibration				
1. Is the calibration documentation included where applicable?			X	
B. Sample Analysis				
1. Are the sample yields within acceptance criteria?			X	
2. Were all sample holding times met?	X			✓
3. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	X			✓
C. QC Samples				
1. Is the blank yield within acceptance criteria?			X	
2. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	X			✓
3. Is the blank result < 1/2 the Contract Detection Limit?	X			✓
4. Is the blank > 1/2 the Contract Detection Limit but < Contract Detection Limit?	✓		X	
5. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			X	
6. Is the LCS result within acceptance criteria?	X			✓
7. Is the LCS yield within acceptance criteria?	X			✓
8. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	X			✓
9. MS/MSD results and yield meet acceptance criteria?			X	
10. Duplicate sample results and yield meet acceptance criteria?	X			✓
D. Other				
1. Are all Nonconformances included and noted?			X	
2. Are all required forms filled out?	X			✓
3. Correct methodology used?	X			✓
4. Transcription checked? <u>sm 1-21-99</u>	X			✓
5. Were all calculations checked at a minimum frequency?	X			✓
6. Units checked?	X			✓

Comments on any "No" response: _____

First Level Review: _____

Date: 1/4/99

Second Level Review: _____

Date: 1/27/99

Form #: LS-058.2 /96, Rev. 4

0031

**Quantara Data Review Checklist
RADIOCHEMISTRY**

Work Order number(s):	811035, 811060, 811152, 811242, 811263				
Client ID:	BNT				
Due Date:	11/19/99				
Lab Sample Number or SDG:	W02593				
Method Test Parameters:	Tritium				
Matrix:	Water				
Review Item	Yes (✓)	No (✓)	NA (✓)	2 nd Level Review (✓)	
A. Calibration			X		
1. Is the calibration documentation included where applicable?			X		
B. Sample Analysis			X		
1. Are the sample yields within acceptance criteria?			X	✓	
2. Were all sample holding times met?	X			✓	
3. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	X			✓	
C. QC Samples			X		
1. Is the blank yield within acceptance criteria?			X		
2. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	X			✓	
3. Is the blank result < 1/2 the Contract Detection Limit?	X			✓	
4. Is the blank > 1/2 the Contract Detection Limit but < Contract Detection Limit?			X		
5. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			X		
6. Is the LCS result within acceptance criteria?	X			✓	
7. Is the LCS yield within acceptance criteria?	X			✓	
8. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	X			✓	
9. MS/MSD results and yield meet acceptance criteria?			X		
10. Duplicate sample results and yield meet acceptance criteria?	X			✓	
D. Other			X		
1. Are all Nonconformances included and noted?			X		
2. Are all required forms filed out?	X			✓	
3. Correct methodology used?	X			✓	
4. Transcription checked?	X			✓	
5. Were all calculations checked at a minimum frequency?	X			✓	
6. Cass checked?	X			✓	

Comments on any "No" response:

First Level Review:

Adrian E. G. [Signature]

Date:

1/24/99

Second Level Review:

[Signature]

Date:

1/27/99

Form #: LS-033.2/96, Rev. 4

CHAIN OF CUSTODY FORMS

PNNL		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				C.O.C. # C99-009-46	
Collector RT SICKLE (RFS)		Contact/Requester JH KESSNER		Telephone No. (509) 372-9538		MSIN FAX	
SAF No. C99-009		Sampling Origin HANFORD SITE		Purchase Order/Charge Code			
Project Title 100-HR3-1AM (2) GW SAMPLING NOVEMBER 1998		Logbook No. LWH-SMIL H 10, PAGE 47		Ice Chest No. SMIL 4420		Temp. C10/40C	
Shipped To (Lab) Quanterra Incorporated		Method of Shipment GOVT VEHICLE		Bill of Lading/Air Bill No.		N/A	
Protocol CERCLA		Data Turnaround 45 Days		Offsite Property No.			
POSSIBLE SAMPLE HAZARDS/REMARKS * *				SPECIAL INSTRUCTIONS HOLD TIME FAX COPIES OF TMA & QES LOG-IN TO DL STEWART (372-1704) & JM DUNCAN (372-9052).			
				Total Activity Exemption: Yes ☒ No ☐			
Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
BOT174		W	11-10-98	1007	1x1000-mL P	Gross Alpha & Gross Beta	HNO3 to pH <2
BOT174		W	↓	↓	1x20-mL P	Activity Scan	None
BOT174		W	↓	↓	1x1000-mL P	Tritium - H3	None
81115201							
W02593							
Relinquished By RT SICKLE (RFS)				Date/Time NOV 10 1998		Received By Karin Steward	
Relinquished By				Date/Time		Received By 1000 PM	
Relinquished By				Date/Time		Received By	
Relinquished By				Date/Time		Received By	
FINAL SAMPLE DISPOSITION		Disposal Method (e.g., Return to customer, per lab procedure, used in process)				Disposed By	
						Date/Time	

Figure 1

SAMPLE CHECK-IN LIST

Date/Time Received: 11-10-98 1425 SG#: W02593
Work Order Number: 811152 SAF #: C99-009
Shipping Container ID: 5ML541 Chain of Custody #: C99-009-46

1. Custody Seals on shipping container intact? Yes ☒ No ☐
2. Custody Seals dated and signed? Yes ☒ No ☐
3. Chain-of-Custody record present? Yes ☒ No ☐
4. Cooler temperature 4°C
5. Vermiculite/packing materials is Wet ☐ Dry ☒
6. Number of samples in shipping container: 27
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. Where any anomalies identified in sample receipt? Yes ☐ No ☒

11. Description of anomalies (include sample numbers):
~~Coal~~ Coal T.D. on paper not
what I saw in coal -

Sample Custodian/Laboratory: K. G. Bentley Date: 11-10-98

Telephoned To: _____ On _____ By _____

0034

811152 Rad.

Client Sample Screening Results

13-Nov-98

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
PGW B0R412✓		11/10/98	QUAD24C✓	11/12/98 9:41:15 AM	B0R412	30	2	-0.0113333	33	0.108
	LIQUID		Bkg:	11/12/98 3:11:32 AM	BKG	500	39	0.078	496	0.992
And Date: 11/12/98	Tot Sa, Alq: 2.00E+00✓	, 1.00E+01	Alp; (Dpm/	-3.76E-02	(uCV/ -3.39E-06	(pCV/ -1.69E+00	± 2.0E+01	CAT	2.0E+00	Lab
Ppt mg: 1✓	Units: L	, ml	Bet; Alq): 2.11E-01	Sa): 1.90E-05	I.g): 9.48E+00	± 1.7E+01	I	5.3E+00	Alq	L.g
PGW B0R4Y7✓		11/10/98	QUAD24D✓	11/12/98 9:41:15 AM	B0R4Y7	30	2	0.01666667	42	0.26
	LIQUID		Bkg:	11/12/98 3:11:32 AM	BKG	500	25	0.05	570	1.14
And Date: 11/12/98	Tot Sa, Alq: 1.60E+01✓	, 1.00E+01	Alp; (Dpm/	4.28E-02	(uCV/ 3.08E-05	(pCV/ 1.93E+00	± 2.3E+01	CAT	1.3E+01	Lab
Ppt mg: 4✓	Units: L	, ml	Bet; Alq): 4.95E-01	Sa): 3.56E-04	I.g): 2.23E+01	± 1.9E+01	I	2.2E+00	Alq	L.g
PGW B0R507✓		11/10/98	QUAD21B✓	11/13/98 9:44:34 AM	B0R507	30	2	0.0052381	42	0.3985714
	LIQUID		Bkg:	11/13/98 2:54:09 AM	BKG	700	43	0.06142857	701	1.0014286
And Date: 11/13/98	Tot Sa, Alq: 1.70E+01✓	, 1.00E+01	Alp; (Dpm/	3.82E-03	(uCV/ 2.92E-06	(pCV/ 1.72E-01	± 2.1E+01	CAT	1.5E+02	Lab
Ppt mg: 0.5✓	Units: L	, ml	Bet; Alq): 7.68E-01	Sa): 5.88E-04	I.g): 3.46E+01	± 1.9E+01	I	1.4E+00	Alq	L.g
PGW B0R514✓		11/10/98	QUAD21C✓	11/13/98 9:44:34 AM	B0R514	30	6	0.11571429	49	0.4733333
	LIQUID		Bkg:	11/13/98 2:54:09 AM	BKG	700	59	0.08428571	812	1.16
And Date: 11/13/98	Tot Sa, Alq: 2.00E-02✓	, 1.00E+01	Alp; (Dpm/	3.23E-01	(uCV/ 2.91E-07	(pCV/ 1.45E+01	± 2.2E+01	CAT	1.7E+00	Lab
Ppt mg: 0.4✓	Units: L	, ml	Bet; Alq): 8.62E-01	Sa): 7.77E-07	I.g): 3.88E+01	± 2.1E+01	I	1.3E+00	Alq	L.g
PGW B0T174✓		11/10/98	QUAD21D✓	11/13/98 9:44:34 AM	B0T174	30	6	0.13	50	0.6895238
01	LIQUID		Bkg:	11/13/98 2:54:09 AM	BKG	700	49	0.07	684	0.9771429
And Date: 11/13/98	Tot Sa, Alq: 2.00E+00✓	, 1.00E+01	Alp; (Dpm/	4.04E-01	(uCV/ 3.64E-05	(pCV/ 1.82E+01	± 2.3E+01	CAT	1.4E+00	Lab
Ppt mg: 5✓	Units: L	, ml	Bet; Alq): 1.29E+00	Sa): 1.17E-04	I.g): 5.83E+01	± 2.1E+01	I	8.6E-01	Alq	L.g
PGW B0T2D6✓		11/10/98	QUAD22A✓	11/13/98 9:44:38 AM	B0T2D6	30	5	0.11095238	47	0.4166667
	LIQUID		Bkg:	11/13/98 2:54:18 AM	BKG	700	39	0.05571429	805	1.15
And Date: 11/13/98	Tot Sa, Alq: 1.35E+01✓	, 1.00E+01	Alp; (Dpm/	3.17E-01	(uCV/ 1.93E-04	(pCV/ 1.43E+01	± 2.2E+01	CAT	1.8E+00	Lab
Ppt mg: 2.6✓	Units: L	, ml	Bet; Alq): 7.12E-01	Sa): 4.33E-04	I.g): 3.21E+01	± 1.9E+01	I	1.6E+00	Alq	L.g

Reviewed 11/13/98

003

13-Nov-98

[illegible]

[illegible]

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						C.O.C.# C99-009-101		
							Page 1 of 1		
Collector AG RIZZO	Contact/Requester JH KESSNER			Telephone No. (509) 372-9538			MSIN FAX		
SAF No. C99-009	Sampling Origin HANFORD SITE			Purchase Order/Charge Code					
Project Title 100-HR3-1AM(2) GW SAMPLING NOVEMBER 1998	Logbook No. IDM-SML-H21			Ice Chest No. EML-418 Temp. 4°C					
Shipped To (Lab) Quanterra Incorporated	Method of Shipment GOVT VEHICLE			Bill of Lading/Air Bill No.					
Protocol CERCLA	Data Turnaround 45 Days			Offsite Property No.					
POSSIBLE SAMPLE HAZARDS/REMARKS ** **				SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☒ No ☐ FAX COPIES OF TMA & QES LOG-IN TO DL STEWART (372-1704) & JM DUNCAN (372-9052).					
81126303									
Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis		Preservative	
BOT130		W	11/17/98	1047	1x1000-mL P	Gross Alpha & Gross Beta		HNO3 to pH <2	
BOT130		W			1x20-mL P	Activity Scan		None	
BOT130		W			1x1000-mL P	Tritium - H3		None	
Relinquished By AG RIZZO	Print [Signature]	Sign [Signature]	Date/Time 11/17/98	1400	Received By [Signature]	Print [Signature]	Date/Time 11-17-98	1400	Matrix * S = Soil DS = Drum Solid SE = Sediment DL = Drum Liquid SO = Solid T = Tissue SI = Sludge WI = Wine W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other
Relinquished By			Date/Time		Received By		Date/Time		
Relinquished By			Date/Time		Received By		Date/Time		
Relinquished By			Date/Time		Received By		Date/Time		
FINAL SAMPLE DISPOSITION Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time									

Figure 1

SAMPLE CHECK-IN LIST

Date/Time Received: 11/17 1400 SG#: W02593
Work Order Number: 811263 SAF #: S99-011 C99-009-
Shipping Container ID: SML418 Chain of Custody # S99-011-57 +63
C99-009-101
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 na
5. Vermiculite/packing materials is Wet [☐] Dry [☒]
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. Where any anomalies identified in sample receipt? Yes [☐] No [☒]
11. Description of anomalies (include sample numbers): _____

Sample Custodian/Laboratory: Stadlerburg Date: 11-17-98
Telephoned To: _____ On _____ By _____

0039

Figure 1

SAMPLE CHECK-IN LIST

Date/Time Received: 11/17 1450 SG#: W02593
Work Order Number: 811263 SAF #: W99-011 ^{S99-011} C99-009
Shipping Container ID: ER40 Chain of Custody # W99-011-3+1+5
1. Custody Seals on shipping container intact? C99-009-50+63 Yes ☒ No ☐
S99-011-32
2. Custody Seals dated and signed? Yes ☒ No ☐
3. Chain-of-Custody record present? Yes ☒ No ☐
4. Cooler temperature 4°C
5. Vermiculite/packing materials is Wet ☐ Dry ☒
6. Number of samples in shipping container: 37
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. Where any anomalies identified in sample receipt? Yes ☐ No ☒
11. Description of anomalies (include sample numbers): _____

Sample Custodian/Laboratory: Hudenberg Date: 11-17-98
Telephoned To: _____ On _____ By _____

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Client Sample Screening Results

18-Nov-98

② 11/18/98

CLIENT CODE	ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B	
BHI	B0T130		11/17/98 5:19:00 PM	QUAD22A	11/18/98 11:03:40 AM	B0T130	30	7	0.18083333	38	0.0466667	
	03	LIQUID		Bkg:	11/18/98 12:39:34 AM	BKG	400	21	0.0525	488	1.22	
Anl Date: 11/18/98		Tot Sa, Alq: 2.00E+00		, 1.00E+01		Alp; (Dpm/ 5.46E-01	(uCV/ 4.92E-05	(pCV/ 2.46E+01	± 2.4E+01	CAT	1.0E+00	Lab
Ppt mg: 3.9		Units: L		, ml		Bet; Alq: -2.00E-02	Sa): -1.80E-06	L(g): -9.00E-01	± 1.8E+01	I	2.0E+00	Alq
BHI	B0T1B2		11/17/98 5:19:00 PM	QUAD22B	11/18/98 11:03:40 AM	B0T1B2	30	7	0.13583333	50	0.1841667	
	01	LIQUID		Bkg:	11/18/98 12:39:34 AM	BKG	400	39	0.0975	593	1.4825	
Anl Date: 11/18/98		Tot Sa, Alq: 2.00E+00		, 1.00E+01		Alp; (Dpm/ 4.16E-01	(uCV/ 3.75E-05	(pCV/ 1.88E+01	± 2.6E+01	CAT	1.3E+00	Lab
Ppt mg: 2.2		Units: L		, ml		Bet; Alq: 2.68E-01	Sa): 2.41E-05	L(g): 1.21E+01	± 2.1E+01	I	4.1E+00	Alq
BHI	B0T1F4		11/17/98 5:19:00 PM	QUAD22C	11/18/98 11:03:40 AM	B0T1F4	30	9	0.2225	105	2.32	
	02	LIQUID		Bkg:	11/18/98 12:39:34 AM	BKG	400	31	0.0775	472	1.18	
Anl Date: 11/18/98		Tot Sa, Alq: 2.00E+00		, 1.00E+01		Alp; (Dpm/ 6.16E-01	(uCV/ 5.55E-05	(pCV/ 2.78E+01	± 2.5E+01	CAT	9.0E-01	Lab
Ppt mg: 5.1		Units: L		, ml		Bet; Alq: 4.24E+00	Sa): 3.82E-04	L(g): 1.91E+02	± 2.9E+01	I	2.6E-01	Alq

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18-Nov-98

PNNL		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				C.O.C. # C99-009-73	
						Page 1 of 1	
Collector AG RIZZO		Contact/Requester JH KESSNER		Telephone No. (509) 372-9538		MSIN FAX	
SAF No. C99-009		Sampling Origin HANFORD SITE		Purchase Order/Charge Code			
Project Title 100-HR3-1AM(2) GW SAMPLING NOVEMBER 1998		Logbook No. 1014-SML-#21		Ice Chest No. SML-418		Temp. 40	
Shipped To (Lab) Quanterra Incorporated		Method of Shipment GOVT. VEHICLE		Bill of Lading/Air Bill No.			
Protocol CERCLA		Data Turnaround 45 Days		Offsite Property No.			
POSSIBLE SAMPLE HAZARDS/REMARKS * * 81124201 SDU W02593				SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☒ No ☐ FAX COPIES OF TMA & QES LOG-IN TO DL STEWART (372-1704) & JM DUNCAN (372-9052).			
Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B0T1H6		W	11/16/98	1130	1x1000-mL P	Gross Alpha & Gross Beta	HNO3 to pH <2
B0T1H6		W	↓	↓	1x20-mL P	Activity Scan	None
B0T1H6		W	↓	↓	1x1000-mL P	Tritium - H3	None
Relinquished By AG RIZZO	Print	Sign <i>AG RIZZO</i>	Date/Time 11-16-98 1345	Received By <i>Heidellberg</i>	Print	Sign <i>Heidellberg</i>	Date/Time 11-16-98 1345
Relinquished By			Date/Time	Received By <i>L100Cpm</i>			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Matrix *				S = Soil DS = Drum Solid SE = Sediment DL = Drum Liquid SO = Solid T = Tissue SL = Sludge WI = Wine W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other			
FINAL SAMPLE DISPOSITION		Disposal Method (e.g., Return to customer, per lab procedure, used in process)				Disposed By	
						Date/Time	

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PNNL		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				C.O.C. # C99-009-77	
						Page 1 of 1	
Collector RR FOX (RFS)		Contact/Requester JH KESSNER		Telephone No. (509) 372-9538		MSIN FAX	
SAF No. C99-009		Sampling Origin HANFORD SITE		Purchase Order/Charge Code			
Project Title 100-HR3-IAM (2) GW SAMPLING NOVEMBER 1998		Logbook No. WIN. 5112.418		Ice Chest No. 51240		Temp. 4 °C	
Shipped To (Lab) Quanterra Incorporated		Method of Shipment GOVT VEHICLE		Bill of Lading/Air Bill No.			
Protocol CERCLA		Data Turnaround 45 Days		Offsite Property No. 1-17			
POSSIBLE SAMPLE HAZARDS/REMARKS ** ** 81124205				SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☒ No ☐ FAX COPIES OF TMA & QES LOG-IN TO DL STEWART (372-1704) & JM DUNCAN (372-9052).			
Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B0T1H9		W	11-16-98	1102	1x4000-mL P 500 R28	Gross Alpha & Gross Beta	HNO3 to pH <2
B0T1H9		W	11-16-98	1102	1x20-mL P	Activity Scan	None
Relinquished By RR FOX (RFS)		Print	Sign	Date/Time 11/10	Received By <i>[Signature]</i>		Date/Time 11/10
Relinquished By				Date/Time NOV 16 1998	Received By 21004pm		Date/Time NOV 16 1998
Relinquished By				Date/Time	Received By		Date/Time
Relinquished By				Date/Time	Received By		Date/Time
Relinquished By				Date/Time	Received By		Date/Time
FINAL SAMPLE DISPOSITION		Disposal Method (e.g., Return to customer, per lab procedure, used in process)				Disposed By	
						Date/Time	

- Matrix *
- | | |
|---------------|------------------|
| S = Soil | DS = Drum Solid |
| SE = Sediment | DL = Drum Liquid |
| SO = Solid | T = Tissue |
| SL = Sludge | WI = Wine |
| W = Water | L = Liquid |
| O = Oil | V = Vegetation |
| A = Air | X = Other |

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CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C99-009-61

Page 1 of 1

Collector RR FOX (RFS)	Contact/Requester JH KESSNER	Telephone No. (509) 372-9538	MSIN	FAX
SAF No. C99-009	Sampling Origin HANFORD SITE	Purchase Order/Charge Code		
Project Title 100-HR3-IAM (2) GW SAMPLING NOVEMBER 1998	Logbook No. WIN-3172-H18	Ice Chest No. F-240	Temp. 4 °C	
Shipped To (Lab) Quanterra Incorporated	Method of Shipment GOVT VEHICLE	Bill of Lading/Air Bill No. 117		
Protocol CERCLA	Data Turnaround 45 Days	Offsite Property No.		

POSSIBLE SAMPLE HAZARDS/REMARKS	
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SPECIAL INSTRUCTIONS Hold Time _____ Total Activity Exemption: Yes ☒ No ☐
FAX COPIES OF TMA & QES LOG-IN TO DL STEWART (372-1704) & JM DUNCAN (372-9052).

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Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time	Matrix *
RR FOX (RFS)			NOV 16 1998				NOV 16 1998	
Relinquished By			Date/Time	Received By			Date/Time	S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air
Relinquished By			Date/Time	Received By			Date/Time	DS = Drum Solid DL = Drum Liquid T = Tissue WI = Wine L = Liquid V = Vegetation X = Other
Relinquished By			Date/Time	Received By			Date/Time	

FINAL SAMPLE DISPOSITION

Disposal Method (e.g., Return to customer, per lab procedure, used in process)

Disposed By

Date/Time

Figure 1

SAMPLE CHECK-IN LIST

- Date/Time Received: 11/16 1410 SG#: W02593
Work Order Number: 811242 SAF #: C99-009 S99-011
Shipping Container ID: ER 40 Chain of Custody # C99-009-77 + 54 + 61
1. Custody Seals on shipping container intact? Yes ☒ Yes ☐ No ☐
2. Custody Seals dated and signed? Yes ☒ Yes ☐ No ☐
3. Chain-of-Custody record present? Yes ☒ Yes ☐ No ☐
4. Cooler temperature na
5. Vermiculite/packing materials is Wet ☐ Wet ☒ Dry na
6. Number of samples in shipping container: 24
7. Sample holding times exceeded? Yes ☐ 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 ☐ Yes ☒ No ☐
11. Description of anomalies (include sample numbers): _____

Sample Custodian/Laboratory: Heidelberg Date: 11-16-98
Telephoned To: _____ On _____ By _____

Figure 1

SAMPLE CHECK-IN LIST

Date/Time Received: 11/16 1345 SG#: W02593

Work Order Number: 811242 SAF #: S99-011 C99-009

Shipping Container ID: SML 418 Chain of Custody # S99-011-34 + 26 + 69 + 73
C99-009-47 + 117 + 69 + 73 11/16/98

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 3°
5. Vermiculite/packing materials is Wet [☐] Dry [☒]
6. Number of samples in shipping container: 21
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. Where any anomalies identified in sample receipt? Yes [☐] No [☒]

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

Sample Custodian/Laboratory: Heidelberg Date: 11-16-98

Telephoned To: _____ On _____ By _____

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Client Sample Screening Results

17-Nov-98

R 11/17/98

CLIENT CODE	ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B			
BHI	B0M4H6		11/16/98 1:45:00 PM	QUAD21C	11/17/98 11:04:09 AM	B0M4H6	30	6	0.125	270	7.9275			
		LIQUID		Bkg:	11/17/98 12:47:16 AM	BKG	400	30	0.075	429	1.0725			
Anl Date:	11/17/98	Tot Sa, Alq:	5.00E-01	, 1.00E+01	Alp; (Dpm/	1.37E-01	(uCi/	3.09E-06	(pCi/	6.17E+00	± 2.2E+01	CAT 1	4.0E+00	Lab
Ppt mg:	2.8	Units:	L	, ml	Bet; Alq):	1.56E+01	Sa):	3.50E-04	L/g):	7.01E+02	± 4.9E+01	1	7.1E-02	Alq
BHI	B0M4H7		11/16/98 1:45:00 PM	QUAD22A	11/17/98 11:04:13 AM	B0M4H7	30	16	0.44333333	1334	43.336667			
		LIQUID		Bkg:	11/17/98 12:47:24 AM	BKG	400	36	0.09	452	1.13			
Anl Date:	11/17/98	Tot Sa, Alq:	5.00E-01	, 1.00E+01	Alp; (Dpm/	6.33E-02	(uCi/	1.43E-06	(pCi/	2.85E+00	± 2.1E+01	CAT 1	8.8E+00	Lab
Ppt mg:	2.6	Units:	L	, ml	Bet; Alq):	8.07E+01	Sa):	1.82E-03	L/g):	3.64E+03	± 1.0E+02	1	1.4E-02	Alq
BHI	B0M4H8		11/16/98 1:45:00 PM	QUAD22B	11/17/98 11:04:13 AM	B0M4H8	30	7	0.14083333	264	7.4125			
		LIQUID		Bkg:	11/17/98 12:47:24 AM	BKG	400	37	0.0925	555	1.3875			
Anl Date:	11/17/98	Tot Sa, Alq:	5.00E-01	, 1.00E+01	Alp; (Dpm/	2.27E-01	(uCi/	5.11E-06	(pCi/	1.02E+01	± 2.5E+01	CAT 1	2.4E+00	Lab
Ppt mg:	2.9	Units:	L	, ml	Bet; Alq):	1.41E+01	Sa):	3.17E-04	L/g):	6.34E+02	± 4.7E+01	1	7.9E-02	Alq
BHI	B0T042		11/16/98 1:45:00 PM	QUAD22C	11/17/98 11:04:13 AM	B0T042	30	4	0.03083333	53	0.5416667			
		LIQUID		Bkg:	11/17/98 12:47:24 AM	BKG	400	41	0.1025	490	1.225			
Anl Date:	11/17/98	Tot Sa, Alq:	7.50E+00	, 1.00E+01	Alp; (Dpm/	7.58E-02	(uCi/	2.56E-05	(pCi/	3.41E+00	± 2.3E+01	CAT 1	7.3E+00	Lab
Ppt mg:	3.8	Units:	L	, ml	Bet; Alq):	9.99E-01	Sa):	3.38E-04	L/g):	4.50E+01	± 2.1E+01	1	1.1E+00	Alq
BHI	B0T127		11/16/98 1:45:00 PM	QUAD23A	11/17/98 11:04:17 AM	B0T127	30	4	0.06583333	61	1.0683333			
	03	LIQUID		Bkg:	11/17/98 12:47:32 AM	BKG	400	27	0.0675	386	0.965			
Anl Date:	11/17/98	Tot Sa, Alq:	2.00E+00	, 1.00E+01	Alp; (Dpm/	1.75E-01	(uCi/	1.58E-05	(pCi/	7.89E+00	± 2.1E+01	CAT 1	3.2E+00	Lab
Ppt mg:	4.2	Units:	L	, ml	Bet; Alq):	2.00E+00	Sa):	1.80E-04	L/g):	9.00E+01	± 2.3E+01	1	5.6E-01	Alq
BHI	B0T1C9		11/16/98 1:45:00 PM	QUAD23D	11/17/98 11:04:17 AM	B0T1C9	30	3	0.06	38	0.2766667			
	06	LIQUID		Bkg:	11/17/98 12:47:32 AM	BKG	400	16	0.04	396	0.99			
Anl Date:	11/17/98	Tot Sa, Alq:	2.00E+00	, 1.00E+01	Alp; (Dpm/	1.80E-01	(uCi/	1.62E-05	(pCi/	8.11E+00	± 2.1E+01	CAT 1	3.1E+00	Lab
Ppt mg:	3.8	Units:	L	, ml	Bet; Alq):	4.93E-01	Sa):	4.44E-05	L/g):	2.22E+01	± 1.8E+01	1	2.3E+00	Alq

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17-Nov-98

(R) 11/17/98

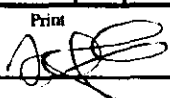
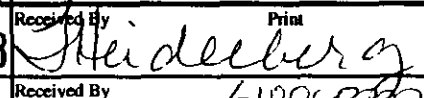
CLIENT CODE	ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
BHI	B0T1F1		11/16/98 1:45:00 PM	QUAD24A	11/17/98 11:04:06 AM	B0T1F1	30	8	0.184166667	48	0.47
	07	LIQUID		Bkg:	11/17/98 12:47:20 AM	BKG	400	33	0.0825	452	1.13
Anl Date:	11/17/98	Tot Sa, Alq:	2.00E+00 / , 1.00E+01	Alp;	(Dpm/ 5.87E-01	(uCi/ 5.29E-05	(pCi/ 2.64E+01	± 2.6E+01	CAT	9.5E-01	Lab
Ppt mg:	3.8	Units:	L , ml	Bet;	Alq): 8.15E-01	Sa): 7.34E-05	Ljg): 3.67E+01	± 2.1E+01	I	1.4E+00	Alq Ljg
BHI	B0T1H3		11/16/98 1:45:00 PM	QUAD24B	11/17/98 11:04:06 AM	B0T1H3	30	7	0.153333333	53	0.73916667
	02	LIQUID		Bkg:	11/17/98 12:47:20 AM	BKG	400	32	0.08	411	1.0275
Anl Date:	11/17/98	Tot Sa, Alq:	2.00E+00 / , 1.00E+01	Alp;	(Dpm/ 4.59E-01	(uCi/ 4.13E-05	(pCi/ 2.07E+01	± 2.3E+01	CAT	1.2E+00	Lab
Ppt mg:	3.7	Units:	L , ml	Bet;	Alq): 1.35E+00	Sa): 1.22E-04	Ljg): 6.10E+01	± 2.2E+01	I	8.2E-01	Alq Ljg
BHI	B0T1H6		11/16/98 1:45:00 PM	QUAD24D	11/17/98 11:04:06 AM	B0T1H6	30	2	-0.000833333	37	0.23583333
	01	LIQUID		Bkg:	11/17/98 12:47:20 AM	BKG	400	27	0.0675	399	0.9975
Anl Date:	11/17/98	Tot Sa, Alq:	2.00E+00 / , 1.00E+01	Alp;	(Dpm/ -9.97E-03	(uCi/ -8.98E-07	(pCi/ -4.49E-01	± 2.1E+01	CAT	2.0E+00	Lab
Ppt mg:	4.2	Units:	L , ml	Bet;	Alq): 4.57E-01	Sa): 4.11E-05	Ljg): 2.06E+01	± 1.8E+01	I	2.4E+00	Alq Ljg
BHI	B0T1H9		11/16/98 1:45:00 PM	QUAD21C	11/17/98 11:45:40 AM	B0T1H9	30	2	-0.008333333	52	0.66083333
	05	LIQUID		Bkg:	11/17/98 12:47:16 AM	BKG	400	30	0.075	429	1.0725
Anl Date:	11/17/98	Tot Sa, Alq:	5.00E-01 / , 1.00E+01	Alp;	(Dpm/ -4.64E-02	(uCi/ -1.04E-06	(pCi/ -2.09E+00	± 2.2E+01	CAT	5.0E-01	Lab
Ppt mg:	4.1	Units:	L , ml	Bet;	Alq): 1.31E+00	Sa): 2.95E-05	Ljg): 5.90E+01	± 2.2E+01	I	8.5E-01	Alq Ljg
BHI	B0T434		11/17/98 1:45:00 PM	QUAD23C	11/17/98 11:04:17 AM	B0T434	30	2	0.004166667	38	0.11666667
	04	LIQUID		Bkg:	11/17/98 12:47:32 AM	BKG	400	25	0.0625	460	1.15
Anl Date:	11/17/98	Tot Sa, Alq:	2.00E+00 / , 1.00E+01	Alp;	(Dpm/ 8.90E-03	(uCi/ 8.02E-07	(pCi/ 4.01E-01	± 2.0E+01	CAT	6.2E+01	Lab
Ppt mg:	0	Units:	L , ml	Bet;	Alq): 2.23E-01	Sa): 2.01E-05	Ljg): 1.01E+01	± 1.9E+01	I	5.0E+00	Alq Ljg

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17-Nov-98

Quanterra Environment Services, SCP V2.03

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PNNL		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				C.O.C. # C99-009-65	
						Page 1 of 1	
Collector AG RIZZO		Contact/Requester JH KESSNER		Telephone No. (509) 372-9538		MSIN FAX	
SAF No. C99-009		Sampling Origin HANFORD SITE		Purchase Order/Charge Code			
Project Title 100-HR3-IAM (2) GW SAMPLING NOVEMBER 1998		Logbook No. WIN-SMIL H16, PAGE 97		Ice Chest No. SMIL 341		Temp. COOL 4°C	
Shipped To (Lab) Quanterra Incorporated		Method of Shipment GOVT. VEHICLE		Bill of Lading/Air Bill No. N/A			
Protocol CERCLA		Data Turnaround 45 Days		Offsite Property No.			
POSSIBLE SAMPLE HAZARDS/REMARKS				SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☒ No ☐			
				FAX COPIES OF TMA & QES LOG-IN TO DL STEWART (372-1704) & JM DUNCAN (372-9052).			
Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B0T1F7		W	11-4-98	0909	1x1000-mL P	Gross Alpha & Gross Beta 81106002	HNO3 to pH <2
B0T1F7		W	↓	↓	1x20-mL P	Activity Scan	None
Relinquished By AG RIZZO	Print 	Sign	Date/Time NOV 04 1998	1300	Received By Heideberg	Print 	Sign NOV 04 1998
Relinquished By	Date/Time				Received By L100CPR	Date/Time	
Relinquished By	Date/Time				Received By	Date/Time	
Relinquished By	Date/Time				Received By	Date/Time	
FINAL SAMPLE DISPOSITION		Disposal Method (e.g., Return to customer, per lab procedure, used in process)				Disposed By	
						Date/Time	

Matrix *

S = Soil	DS = Drum Solid
SE = Sediment	DL = Drum Liquid
SO = Solid	T = Tissue
SL = Sludge	WI = Wine
W = Water	L = Liquid
O = Oil	V = Vegetation
A = Air	X = Other

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						
C.O.C.# C99-009-66 Page 1 of 1							
Collector AG RIZZO	Contact/Requester IH KESSNER	Telephone No. (509) 372-9538 MSIN FAX					
SAT No. C99-009	Sampling Origin HANFORD SITE	Purchase Order/Charge Code					
Project Title 100-HR3-IAM (2) GW SAMPLING NOVEMBER 1998	Logbook No. WIN-SML HIG PAGE 93	Ice Chest No. SNIL 341 Temp. COOL 4°C					
Shipped To (Lab) Quanterra Incorporated	Method of Shipment GOVT VEHICLE	Bill of Lading/Air Bill No.		N/A			
Protocol CERCLA	Data Turnaround 45 Days	Offsite Property No.					
POSSIBLE SAMPLE HAZARDS/REMARKS				SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes [X] No [] FAX COPIES OF TMA & QES LOG-IN TO DL STEWART (372-1704) & JM DUNCAN (372-9052).			
Sample No.	Lab ID	*	Date	Time	No./Type Container	Sample Analysis	Preservative
BOT1F8		W	11-4-98	0909	1x1000-mL P	Gross Alpha & Gross Beta 81106003	HNO3 to pH <2
BOT1F8		W	↓	↓	1x20-mL P	Activity Scan	None
Relinquished By AG RIZZO Print Sign Date/Time NOV 04 1998	Received By Heideberg Print Sign Date/Time NOV 04 1998		Matrix * S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air DS = Drum Solid DL = Drum Liqui T = Tissue WI = Wine LI = Liquid V = Vegetation X = Other				
Relinquished By Date/Time	Received By Date/Time						
Relinquished By Date/Time	Received By Date/Time						
Relinquished By Date/Time	Received By Date/Time						
FINAL SAMPLE DISPOSITION Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By		Date/Time				

Figure 1

SAMPLE CHECK-IN LIST

Date/Time Received: 11/4 1300 SG#: W02593
Work Order Number: 811060 SAF #: C99-009 C99-008
Shipping Container ID: SML341 Chain of Custody # C99-009-93+65+66
C99-008-40+39
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 YNA
5. Vermiculite/packing materials is Wet ☐ Dry ☒ YNA
6. Number of samples in shipping container: 25
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: Heidelberg Date: 11-4-98
Telephoned To: _____ On _____ By _____

811060 Rad.

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
PGW B0T031 ✓		11/4/98 2:30:00 PM	QUAD23C ✓	11/6/98 11:10:22 AM	B0T031	30	40	1.274761905	241	6.92761905
	LIQUID		Bkg:	11/6/98 4:18:57 AM	BKG	700	41	0.058571429	774	1.10571429
Anl Date: 11/6/98	Tot Sa, Alq: 7.50E+00 ✓	, 1.00E+01 ✓	Alp; (Dpm/ 3.75E+00	(uCi/ 1.27E-03	(pCi/ 1.69E+02	± 3.3E+01	CAT	1.5E-01	Lab	
Ppt mg: 5 ✓	Units: L	, ml	Bet; Alq: 1.28E+01	Sa): 4.31E-03	Ljg): 5.75E+02	± 4.4E+01	I	8.7E-02	Alq Ljg	
PGW B0T032 ✓		11/4/98 2:30:00 PM	QUAD23D ✓	11/6/98 11:10:22 AM	B0T032	30	43	1.394761905	190	5.36619048
	LIQUID		Bkg:	11/6/98 4:18:57 AM	BKG	700	27	0.038571429	677	0.96714286
Anl Date: 11/6/98	Tot Sa, Alq: 7.50E+00 ✓	, 1.00E+01 ✓	Alp; (Dpm/ 4.27E+00	(uCi/ 1.44E-03	(pCi/ 1.92E+02	± 3.3E+01	CAT	1.3E-01	Lab	
Ppt mg: 4.8 ✓	Units: L	, ml	Bet; Alq: 9.45E+00	Sa): 3.19E-03	Ljg): 4.26E+02	± 3.8E+01	I	1.2E-01	Alq Ljg	
PGW B0T124 ✓		11/4/98 2:30:00 PM	QUAD24A ✓	11/6/98 11:10:10 AM	B0T124	30	19	0.559047619	72	1.23
	LIQUID		Bkg:	11/6/98 4:18:43 AM	BKG	700	52	0.074285714	819	1.17
Anl Date: 11/6/98	Tot Sa, Alq: 2.00E+00 ✓	, 1.00E+01 ✓	Alp; (Dpm/ 1.78E+00	(uCi/ 1.61E-04	(pCi/ 8.03E+01	± 2.9E+01	CAT	3.1E-01	Lab	
Ppt mg: 3.6 ✓	Units: L	, ml	Bet; Alq: 2.09E+00	Sa): 1.88E-04	Ljg): 9.41E+01	± 2.5E+01	I	5.3E-01	Alq Ljg	
pgw B0T154 ✓		11/3/98	QUAD24D ✓	11/6/98 11:10:10 AM	B0T154	30	18	0.548571429	70	1.25476190
	LIQUID		Bkg:	11/6/98 4:18:43 AM	BKG	700	36	0.051428571	755	1.07857143
Anl Date: 11/6/98	Tot Sa, Alq: 2.00E-02 ✓	, 1.00E+01 ✓	Alp; (Dpm/ 1.60E+00	(uCi/ 1.44E-06	(pCi/ 7.22E+01	± 2.6E+01	CAT	3.5E-01	Lab	
Ppt mg: 2.0 ✓	Units: L	, ml	Bet; Alq: 2.14E+00	Sa): 1.93E-06	Ljg): 9.65E+01	± 2.4E+01	I	5.2E-01	Alq Ljg	
PGW B0T1F7 ✓		11/4/98 2:30:00 PM	QUAD24B ✓	11/6/98 11:10:10 AM	B0T1F7	30	29	0.880952381	182	4.81666667
	LIQUID		Bkg:	11/6/98 4:18:43 AM	BKG	700	60	0.085714286	875	1.25
Anl Date: 11/6/98	Tot Sa, Alq: 1.00E+00 ✓	, 1.00E+01 ✓	Alp; (Dpm/ 2.67E+00	(uCi/ 1.20E-04	(pCi/ 1.20E+02	± 3.2E+01	CAT	2.1E-01	Lab	
Ppt mg: 5 ✓	Units: L	, ml	Bet; Alq: 8.92E+00	Sa): 4.02E-04	Ljg): 4.02E+02	± 3.9E+01	I	1.2E-01	Alq Ljg	
PGW B0T1F8 ✓		11/4/98 2:30:00 PM	QUAD24C ✓	11/6/98 11:10:10 AM	B0T1F8	30	31	0.940476190	164	4.43666667
	LIQUID		Bkg:	11/6/98 4:18:43 AM	BKG	700	65	0.092857143	721	1.03
Anl Date: 11/6/98	Tot Sa, Alq: 1.00E+00 ✓	, 1.00E+01 ✓	Alp; (Dpm/ 2.82E+00	(uCi/ 1.27E-04	(pCi/ 1.27E+02	± 3.0E+01	CAT	2.0E-01	Lab	
Ppt mg: 4.7 ✓	Units: L	, ml	Bet; Alq: 7.90E+00	Sa): 3.56E-04	Ljg): 3.56E+02	± 3.6E+01	I	1.4E-01	Alq Ljg	

Reviewed 11/6/98

0057

PNNL		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				C.O.C. # C99-009-27	
						Page 1 of 1	
Collector RT SICKLE (RFS)			Contact/Requester JH KESSNER			Telephone No. MSIN FAX (509) 372-9538	
SAF No. C99-009			Sampling Origin HANFORD SITE			Purchase Order/Charge Code	
Project Title 100-HR3-1AM (2) GW SAMPLING NOVEMBER 1998			Logbook No. WM-SWIL H 18 PAGE 43			Ice Chest No. SWIL 4420 Temp. 600/400	
Shipped To (Lab) Quanterra Incorporated			Method of Shipment GOVT VEHICLE			Bill of Lading/Air Bill No.	
Protocol CERCLA			Data Turnaround 45 Days			Offsite Property No. N/A	
POSSIBLE SAMPLE HAZARDS/REMARKS			SIX W02593		SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☒ No ☐ FAX COPIES OF TMA & QES LOG-IN TO DL STEWART (372-1704) & JM DUNCAN (372-9052).		
Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B0T1J7		W	11-3-98	1040	1x1000-mL P	Gross Alpha & Gross Beta 81103501	HNO3 to pH <2
B0T1J7		W	↓	↓	1x20-mL P	Activity Scan	None
B0T1J7		W	↓	↓	1x1000-mL P	Tritium - H3	None
Relinquished By RT SICKLE (RFS)		Print	Sign	Date/Time NOV 03 1998	Received By <i>Karen Stettin</i>		Date/Time NOV 03 1998
Relinquished By				Date/Time	Received By 2100cpm		Date/Time
Relinquished By				Date/Time	Received By		Date/Time
Relinquished By				Date/Time	Received By		Date/Time
FINAL SAMPLE DISPOSITION		Disposal Method (e.g., Return to customer, per lab procedure, used in process)				Disposed By	
						Date/Time	

- Matrix *
- | | |
|---------------|------------------|
| S = Soil | DS = Drum Solid |
| SE = Sediment | DL = Drum Liquid |
| SO = Solid | T = Tissue |
| SL = Sludge | WI = Wine |
| W = Water | L = Liquid |
| O = Oil | V = Vegetation |
| A = Air | X = Other |

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PNNL		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						C.O.C. # C99-009-35			
		Page 1 of 1									
Collector AG RIZZO			Contact/Requester JH KESSNER			Telephone No. (509) 372-9538			MSIN FAX		
SAF No. C99-009			Sampling Origin HANFORD SITE			Purchase Order/Charge Code					
Project Title 100-HR3-IAM(2) GW SAMPLING NOVEMBER 1998			Logbook No. W M SML - H16			Ice Chest No. SML-322			Temp. 4°C		
Shipped To (Lab) Quanterra Incorporated			Method of Shipment GOVT VEHICLE			Bill of Lading/Air Bill No.			NA		
Protocol CERCLA			Data Turnaround 45 Days			Offsite Property No.			NA		
POSSIBLE SAMPLE HAZARDS/REMARKS ** **						SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☒ No ☐ FAX COPIES OF TMA & QES LOG-IN TO DL STEWART (372-1704) & JM DUNCAN (372-9052).					
Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis					Preservative
BOT151		W	11/3/98	1148	1x1000-mL P	Gross Alpha & Gross Beta 81103502					HNO3 to pH <2
BOT151		W	↓	↓	1x20-mL P	Activity Scan					None
BOT151		W	↓	↓	1x1000-mL P	Tritium - H3					None
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time	Matrix *			
AG RIZZO	[Signature]	[Signature]	11/3/98 1415	Laura Gathenling	[Signature]	[Signature]	11/3/98 1415	S = Soil	DS = Drum Solid		
Relinquished By			Date/Time	Received By			Date/Time	SE = Sediment	DL = Drum Liquid		
								SO = Solid	T = Tissue		
								SL = Sludge	WI = Wine		
								W = Water	L = Liquid		
								O = Oil	V = Vegetation		
								A = Air	X = Other		
Relinquished By			Date/Time	Received By			Date/Time				
Relinquished By			Date/Time	Received By			Date/Time				
FINAL SAMPLE DISPOSITION		Disposal Method (e.g., Return to customer, per lab procedure, used in process)					Disposed By		Date/Time		

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PNNL		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						C.O.C. # C99-009-37 Page 1 of 1	
Collector AG RIZZO			Contact/Requester JH KESSNER			Telephone No. MSIN FAX (509) 372-9538			
SAF No. C99-009			Sampling Origin HANFORD SITE			Purchase Order/Charge Code			
Project Title 100-HR3-1AM(2) GW SAMPLING NOVEMBER 1998			Logbook No. WIM-SML-11/6			Ice Chest No. Temp. 4°C			
Shipped To (Lab) Quanterra Incorporated			Method of Shipment GOVT VEHICLE			Bill of Lading/Air Bill No.			
Protocol CERCLA			Data Turnaround 45 Days			Offsite Property No.			
POSSIBLE SAMPLE HAZARDS/REMARKS ** **						SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☒ No ☐ FAX COPIES OF TMA & QES LOG-IN TO DL STEWART (372-1704) & JM DUNCAN (372-9052).			
Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis		Preservative	
BOT154		W	11/3/98	1239	1x1000-mL P	Gross Alpha & Gross Beta 81103503		HNO3 to pH <2	
BOT154		W			1x20-mL P	Activity Scan		None	
BOT154		W			1x1000-mL P	Tritium - H3		None	
Relinquished By AG RIZZO	Print 	Sign	Date/Time 11/3/98 1415	Received By 	Print James Sutherland	Sign	Date/Time 11/3/98 1415	Matrix *	
Relinquished By			Date/Time	Received By			Date/Time	S = Soil DS = Drum Solid SE = Sediment DI = Drum Liqui SO = Solid T = Tissue SL = Sludge WI = Wine W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other	
Relinquished By			Date/Time	Received By			Date/Time		
Relinquished By			Date/Time	Received By			Date/Time		
FINAL SAMPLE DISPOSITION		Disposal Method (e.g., Return to customer, per lab procedure, used in process)				Disposed By		Date/Time	

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # C99-009-39					
Page 1 of 1							
Collector RT SICKLE (RFS)	Contact/Requester JH KESSNER	Telephone No. (509) 372-9538 MSIN FAX					
SAF No. C99-009	Sampling Origin HANFORD SITE	Purchase Order/Charge Code					
Project Title 100 HR3-IAM (2) GW SAMPLING NOVEMBER 1998	Logbook No. CUM-SML H 18, PAGE 43	Ice Chest No. SML 4480 Temp. Cool 4°I					
Shipped To (Lab) Quanterra Incorporated	Method of Shipment GOVT VEHICLE	Bill of Lading/Air Bill No.					
Protocol CERCLA	Data Turnaround 45 Days	Offsite Property No. ALIA					
POSSIBLE SAMPLE HAZARDS/REMARKS		SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☒ No ☐ FAX COPIES OF TMA & QES LOG-IN TO DL STEWART (372-1704) & JM DUNCAN (372-9052).					
Sample No.	Lab ID	*	Date	Time	No./Type Container	Sample Analysis	Preservative
BOT157		W	11-3-98	0950	1x1000-mL P	Gross Alpha & Gross Beta 81103504	HNO3 to pH <2
BOT157		W	↓	↓	1x20-mL P	Activity Scan	None
BOT157		W	↓	↓	1x1000-mL P	Tritium - H3	None
Relinquished By RT SICKLE (RFS)	Print Sign	Date/Time NOV 03 1998	Received By James Stuttering	Print Sign	Date/Time NOV 03 1998	Matrix *	
Relinquished By	Date/Time	Received By	Date/Time	S = Soil DS = Drum Solid SE = Sediment DL = Drum Liqui SO = Solid T = Tissue SL = Sludge WL = Wine W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other			
Relinquished By	Date/Time	Received By	Date/Time				
Relinquished By	Date/Time	Received By	Date/Time				
FINAL SAMPLE DISPOSITION						Disposal Method (e.g., Return to customer, per lab procedure, used in process)	
						Disposed By Date/Time	

PNNL		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				C.O.C. # C99-009-111	
		Page 1 of 1					
Collector RT SICKLE (RFS)		Contact/Requester JH KESSNER		Telephone No. MSIN FAX (509) 372-9538			
SAF No. C99-009		Sampling Origin HANFORD SITE		Purchase Order/Charge Code			
Project Title 100-HR3-IAM (2) GW SAMPLING NOVEMBER 1998		Logbook No. WMM-SMIL-H 18, PAGES 43:44		Ice Chest No. SMIL 4420 Temp. COOL 4°C			
Shipped To (Lab) Quanterra Incorporated		Method of Shipment GOVT. VEHICLE		Bill of Lading/Air Bill No. N/A			
Protocol CERCLA		Data Turnaround 45 Days		Offsite Property No.			
POSSIBLE SAMPLE HAZARDS/REMARKS * *			SPECIAL INSTRUCTIONS Hold Time FAX COPIES OF TMA & QES LOG-IN TO DL STEWART (372-1704) & JM DUNCAN (372-9052).				
						Total Activity Exemption: Yes ☒ No ☐	
Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B0T138		W	11-3-98	1126	1x1000-mL P	Gross Alpha & Gross Beta 81103505	HNO3 to pH <2
B0T138		W	↓	↓	1x20-mL P	Activity Scan	None
B0T138		W	↓	↓	1x1000-mL P	Tritium - H3	None
Relinquished By RT SICKLE (RFS)		Print <i>[Signature]</i>	Sign <i>[Signature]</i>	Date/Time NOV 03 1998	Received By <i>[Signature]</i>	Print <i>[Signature]</i>	Sign <i>[Signature]</i>
Relinquished By		Date/Time	Received By	Date/Time	Matrix *		
Relinquished By		Date/Time	Received By	Date/Time	S = Soil DS = Drum Solid SE = Sediment DL = Drum Liquid SO = Solid T = Tissue SL = Sludge WI = Wine W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other		
Relinquished By		Date/Time	Received By	Date/Time			
Relinquished By		Date/Time	Received By	Date/Time			
FINAL SAMPLE DISPOSITION		Disposal Method (e.g., Return to customer, per lab procedure, used in process)			Disposed By		Date/Time

Figure 1

SAMPLE CHECK-IN LIST

Date/Time Received: 11-3-98 1415 SG#: W02593
Work Order Number: 811035 SAF #: C99-008 C99-009 -
Shipping Container ID: SML322 Chain of Custody # (C99-008-10)+35+9111 11/3/98
C99-009-35+35 C99-008-10

1. Custody Seals on shipping container intact? Yes ☒ No ☐ +9
2. Custody Seals dated and signed? Yes ☒ No ☐
3. Chain-of-Custody record present? Yes ☒ No ☐
4. Cooler temperature 40°
5. Vermiculite/packing materials is Wet ☐ Dry ☒
6. Number of samples in shipping container: 22
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. Where any anomalies identified in sample receipt? Yes ☐ No ☒
11. Description of anomalies (include sample numbers): _____

Sample Custodian/Laboratory: L. J. [Signature] Date: 11-3-98
Telephoned To: _____ On: _____ By: _____

Figure 1

SAMPLE CHECK-IN LIST

Date/Time Received: 11-3-98 1415 SG#: W02593
Work Order Number: 811035 SAF #: C99-008- C99-009
Shipping Container ID: SML 4420 Chain of Custody #: C99-008-4+6
C99-009-27+39+111
1. Custody Seals on shipping container intact? Yes ☐ No ☒
2. Custody Seals dated and signed? Yes ☒ No ☐
3. Chain-of-Custody record present? Yes ☐ No ☒
4. Cooler temperature 4°C
5. Vermiculite/packing materials is Wet ☐ Dry ☒
6. Number of samples in shipping container: 19
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. Where any anomalies identified in sample receipt? Yes ☐ No ☒
11. Description of anomalies (include sample numbers): _____

Sample Custodian/Laboratory: K. D. Henderson Date: 11-3-98
Telephoned To: _____ On _____ By _____

811035 Rad.

R 11/4/98

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B	
PGW B0R505		11/3/98	QUAD21D	11/4/98 1:04:03 PM	B0R505	30	3	0.04142857	39	0.38	
	LIQUID		Bkg:	11/4/98 2:56:55 AM	BKG	700	41	0.05857143	644	0.92	
Anl Date: 11/4/98	Tot Sa, Alq: 1.60E+01	, 1.00E+01	Alp; (Dpm/ 1.17E-01	(uCV/ 8.42E-05	(pCV/ 5.26E+00	± 2.0E+01	CAT	4.7E+00	Lab		
Ppt mg: 0.5	Units: L	, ml	Bet; Alq: 7.22E-01	Sa: 5.21E-04	L/g: 3.25E+01	± 1.9E+01	I	1.5E+00	Alq		
									L/g		
PGW B0T008		11/3/98	QUAD22A	11/4/98 1:04:06 PM	B0T008	30	8	0.18666667	50	0.4466667	
	LIQUID		Bkg:	11/4/98 2:57:02 AM	BKG	700	56	0.08	854	1.22	
Anl Date: 11/4/98	Tot Sa, Alq: 4.00E+00	, 1.00E+01	Alp; (Dpm/ 6.10E-01	(uCV/ 1.10E-04	(pCV/ 2.75E+01	± 2.7E+01	CAT	9.1E-01	Lab		
Ppt mg: 10.7	Units: L	, ml	Bet; Alq: 7.42E-01	Sa: 1.34E-04	L/g: 3.34E+01	± 2.0E+01	I	1.5E+00	Alq		
									L/g		
PGW B0T010		11/3/98	QUAD22C	11/4/98 1:04:06 PM	B0T010	30	2	-0.0219048	51	0.4985714	
	LIQUID		Bkg:	11/4/98 2:57:02 AM	BKG	700	62	0.08857143	841	1.2014286	
Anl Date: 11/4/98	Tot Sa, Alq: 4.00E+00	, 1.00E+01	Alp; (Dpm/ -8.47E-02	(uCV/ -1.53E-05	(pCV/ -3.81E+00	± 2.2E+01	CAT	4.0E+00	Lab		
Ppt mg: 2.5	Units: L	, ml	Bet; Alq: 9.47E-01	Sa: 1.71E-04	L/g: 4.27E+01	± 2.1E+01	I	1.2E+00	Alq		
									L/g		
PGW B0T013		11/3/98	QUAD22D	11/4/98 1:04:06 PM	B0T013	30	10	0.25476190	58	0.6904762	
	LIQUID		Bkg:	11/4/98 2:57:02 AM	BKG	700	55	0.07857143	870	1.2428571	
Anl Date: 11-4-98	Tot Sa, Alq: 4.00E+00	, 1.00E+01	Alp; (Dpm/ 7.64E-01	(uCV/ 1.38E-04	(pCV/ 3.44E+01	± 2.5E+01	CAT	7.3E-01	Lab		
Ppt mg: 2.7	Units: L	, ml	Bet; Alq: 1.15E+00	Sa: 2.08E-04	L/g: 5.20E+01	± 2.2E+01	I	9.6E-01	Alq		
									L/g		
PGW B0T014		11/3/98	QUAD23C	11/4/98 1:04:10 PM	B0T014	30	8	0.20095238	52	0.6033333	
	LIQUID		Bkg:	11/4/98 2:57:10 AM	BKG	700	46	0.06571429	791	1.13	
Anl Date: 11-4-98	Tot Sa, Alq: 4.00E+00	, 1.00E+01	Alp; (Dpm/ 5.85E-01	(uCV/ 1.05E-04	(pCV/ 2.63E+01	± 2.3E+01	CAT	9.5E-01	Lab		
Ppt mg: 2.9	Units: L	, ml	Bet; Alq: 1.05E+00	Sa: 1.90E-04	L/g: 4.74E+01	± 2.1E+01	I	1.1E+00	Alq		
									L/g		
PGW B0T138		11/3/98	QUAD23D	11/4/98 1:04:10 PM	B0T138	30	9	0.23571429	43	0.5319048	
05	LIQUID		Bkg:	11/4/98 2:57:10 AM	BKG	700	45	0.06428571	631	0.9014286	
Anl Date: 11-4-98	Tot Sa, Alq: 2.00E+00	, 1.00E+01	Alp; (Dpm/ 7.08E-01	(uCV/ 6.38E-05	(pCV/ 3.19E+01	± 2.2E+01	CAT	7.8E-01	Lab		
Ppt mg: 2.3	Units: L	, ml	Bet; Alq: 8.68E-01	Sa: 7.82E-05	L/g: 3.91E+01	± 1.9E+01	I	1.3E+00	Alq		
									L/g		
PGW B0T151		11/3/98	QUAD24B	11/4/98 1:03:59 PM	B0T151	30	7	0.13761905	46	0.2690476	
02	LIQUID		Bkg:	11/4/98 2:56:51 AM	BKG	700	67	0.09571429	885	1.2642857	
Anl Date: 11/4/98	Tot Sa, Alq: 2.00E+00	, 1.00E+01	Alp; (Dpm/ 4.19E-01	(uCV/ 3.77E-05	(pCV/ 1.89E+01	± 2.5E+01	CAT	1.3E+00	Lab		
Ppt mg: 2.9	Units: L	, ml	Bet; Alq: 4.44E-01	Sa: 4.00E-05	L/g: 2.00E+01	± 2.0E+01	I	2.5E+00	Alq		
									L/g		

0065

04-Nov-98

Quanterra Environment Services, SCP V2.03

2

11/4/98

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
PGW B0T157		11/3/98	QUAD24C	11/4/98 1:03:59 PM	B0T157	30	8	0.20095238	45	0.4914286
04	LIQUID		Bkg:	11/4/98 2:56:51 AM	BKG	700	46	0.06571429	706	1.0085714
Anal Date: 11/4/98	Tot Sa, Alq: 2.00E+00		1.00E+01	Alp; (Dpm/ 5.94E-01	(uCV/ 5.36E-05	(pCV/ 2.68E+01	± 2.2E+01	CAT	9.3E-01	Lab
Ppt mg: 1.9	Units: L		ml	Bet; Alq): 8.11E-01	Sa): 7.30E-05	Llg): 3.65E+01	± 1.9E+01	I	1.4E+00	Alq Llg
PGW B0T1J7		11/3/98	QUAD24D	11/4/98 1:03:59 PM	B0T1J7	30	8	0.22380952	47	0.5752381
01	LIQUID		Bkg:	11/4/98 2:56:51 AM	BKG	700	30	0.04285714	694	0.9914286
Anal Date: 11/4/98	Tot Sa, Alq: 2.00E+00		1.00E+01	Alp; (Dpm/ 6.84E-01	(uCV/ 6.16E-05	(pCV/ 3.08E+01	± 2.4E+01	CAT	8.1E-01	Lab
Ppt mg: 5.8	Units: L		ml	Bet; Alq): 1.01E+00	Sa): 9.07E-05	Llg): 4.53E+01	± 2.0E+01	I	1.1E+00	Alq Llg
PGW B0T4X9		11/3/98	QUAD23A	11/4/98 1:04:10 PM	B0T4X9	30	4	0.05333333	40	0.3161905
	LIQUID		Bkg:	11/4/98 2:57:10 AM	BKG	700	56	0.08	712	1.0171429
Anal Date: 11/4/98	Tot Sa, Alq: 4.00E+00		1.00E+01	Alp; (Dpm/ 1.52E-01	(uCV/ 2.74E-05	(pCV/ 6.86E+00	± 2.1E+01	CAT	3.6E+00	Lab
Ppt mg: 3.1	Units: L		ml	Bet; Alq): 5.69E-01	Sa): 1.03E-04	Llg): 2.57E+01	± 1.9E+01	I	1.9E+00	Alq Llg
PGW B0T4Y4		11/3/98	QUAD23B	11/4/98 1:04:10 PM	B0T4Y4	30	4	0.05761905	52	0.7604762
	LIQUID		Bkg:	11/4/98 2:57:10 AM	BKG	700	53	0.07571429	681	0.9728571
Anal Date: 11/4/98	Tot Sa, Alq: 4.00E+00		1.00E+01	Alp; (Dpm/ 1.61E-01	(uCV/ 2.89E-05	(pCV/ 7.24E+00	± 2.1E+01	CAT	3.5E+00	Lab
Ppt mg: 2.9	Units: L		ml	Bet; Alq): 1.42E+00	Sa): 2.55E-04	Llg): 6.39E+01	± 2.1E+01	I	7.8E-01	Alq Llg

9900

811035 Rad.

CLIENT CODE	ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B			
PGW	B0T031	LIQUID	11/4/98 2:30:00 PM	QUAD23C	11/6/98 11:10:22 AM	B0T031	30	40	1.274761905	241	6.92761905			
				Bkg:	11/6/98 4:18:57 AM	BKG	700	41	0.058571429	774	1.10571429			
Anl Date:	11/6/98	Tot Sa, Alq:	7.50E+00	1.00E+01	Alp; (Dpm/	3.75E+00	(uCi/	1.27E-03	(pCi/	1.69E+02	± 3.3E+01	CAT	1.5E-01	Lab
Ppt mg:	5	Units:	L	ml	Bet; Alq:	1.28E+01	Sa):	4.31E-03	L(g):	5.75E+02	± 4.4E+01	I	8.7E-02	Alq
PGW	B0T032	LIQUID	11/4/98 2:30:00 PM	QUAD23D	11/6/98 11:10:22 AM	B0T032	30	43	1.394761905	190	5.36619048			
				Bkg:	11/6/98 4:18:57 AM	BKG	700	27	0.038571429	677	0.96714286			
Anl Date:	11/6/98	Tot Sa, Alq:	7.50E+00	1.00E+01	Alp; (Dpm/	4.27E+00	(uCi/	1.44E-03	(pCi/	1.92E+02	± 3.3E+01	CAT	1.3E-01	Lab
Ppt mg:	4.8	Units:	L	ml	Bet; Alq:	9.45E+00	Sa):	3.19E-03	L(g):	4.26E+02	± 3.8E+01	I	1.2E-01	Alq
PGW	B0T124	LIQUID	11/4/98 2:30:00 PM	QUAD24A	11/6/98 11:10:10 AM	B0T124	30	19	0.559047619	72	1.23			
				Bkg:	11/6/98 4:18:43 AM	BKG	700	52	0.074285714	819	1.17			
Anl Date:	11/6/98	Tot Sa, Alq:	2.00E+00	1.00E+01	Alp; (Dpm/	1.78E+00	(uCi/	1.61E-04	(pCi/	8.03E+01	± 2.9E+01	CAT	3.1E-01	Lab
Ppt mg:	3.6	Units:	L	ml	Bet; Alq:	2.09E+00	Sa):	1.88E-04	L(g):	9.41E+01	± 2.5E+01	I	5.3E-01	Alq
pgw	B0T154	LIQUID	11/3/98	QUAD24D	11/6/98 11:10:10 AM	B0T154	30	18	0.548571429	70	1.25476190			
				Bkg:	11/6/98 4:18:43 AM	BKG	700	36	0.051428571	755	1.07857143			
Anl Date:	11/6/98	Tot Sa, Alq:	2.00E-02	1.00E+01	Alp; (Dpm/	1.60E+00	(uCi/	1.44E-06	(pCi/	7.22E+01	± 2.6E+01	CAT	3.5E-01	Lab
Ppt mg:	2.0	Units:	L	ml	Bet; Alq:	2.14E+00	Sa):	1.93E-06	L(g):	9.65E+01	± 2.4E+01	I	5.2E-01	Alq
PGW	B0T1F7	LIQUID	11/4/98 2:30:00 PM	QUAD24B	11/6/98 11:10:10 AM	B0T1F7	30	29	0.880952381	182	4.81666667			
				Bkg:	11/6/98 4:18:43 AM	BKG	700	60	0.085714286	875	1.25			
Anl Date:	11/6/98	Tot Sa, Alq:	1.00E+00	1.00E+01	Alp; (Dpm/	2.67E+00	(uCi/	1.20E-04	(pCi/	1.20E+02	± 3.2E+01	CAT	2.1E-01	Lab
Ppt mg:	5	Units:	L	ml	Bet; Alq:	8.92E+00	Sa):	4.02E-04	L(g):	4.02E+02	± 3.9E+01	I	1.2E-01	Alq
PGW	B0T1F8	LIQUID	11/4/98 2:30:00 PM	QUAD24C	11/6/98 11:10:10 AM	B0T1F8	30	31	0.940476190	164	4.43666667			
				Bkg:	11/6/98 4:18:43 AM	BKG	700	65	0.092857143	721	1.03			
Anl Date:	11/6/98	Tot Sa, Alq:	1.00E+00	1.00E+01	Alp; (Dpm/	2.82E+00	(uCi/	1.27E-04	(pCi/	1.27E+02	± 3.0E+01	CAT	2.0E-01	Lab
Ppt mg:	4.7	Units:	L	ml	Bet; Alq:	7.90E+00	Sa):	3.56E-04	L(g):	3.56E+02	± 3.6E+01	I	1.4E-01	Alq

Reviewed 11/6/98

W.O. 2593

BATCH SUMMARY/CHAIN OF CUSTODY

ANALYSIS 2 MATRIX H₂O DUE DATE 1-1-99

WORK ORDER	SEQUENCE #	CLIENT	COMMENTS
<u>111035</u>	<u>-1B</u>		QC BATCH REAGENT BLANK
<u>J</u>	<u>-1X</u>		QC BATCH MATRIX BLANK
<u>111035</u>	<u>-1M or 1S</u> (circle)		QC BATCH MATRIX/REAGENT SPIKE
<u>J</u>	<u>-2M or 2S</u> (circle)		QC BATCH MATRIX/REAGENT SPIKE
<u>D1103501</u>	<u>-</u>		Duplicate of Sample # <u>81103501</u>
<u>81103501</u>	<u>05</u>		
<u>81115201</u>	<u>N/A</u>		
<u>81106001</u>	<u>03</u>		
<u>81124201</u>	<u>07</u>		
<u>81126301</u>	<u>03</u>		
	<u>-</u>		
	<u>-</u>		

Batched and QC updated by EPS on 1/18/99

Rec'd in Prep Lab by EPS on 1/7/99

Sop# 5016.1 + 5014.0 Rev#

Rec'd in Sep Lab by on

Sop# Rev#

Rec'd in Sep lab by on

Sop# Rev#

ED/CPPT by on

Sop# Rev#

Rec'd in C.R. by OR on 1/19/99

Sop# RICHARD0003 Rev# 2

Data Reviewed by WTR on 1/21/99

Sop# RICHARD0002 Rev# 2

Original batch sheet and complete calculation file to be filed with the FIRST listed work order number.

FORM NO.: RC-52, 1/98, Rev. 8

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

4-Nov-1998

Page 1

CUSTOMER: BHI

SAMPLE DELIVERY GROUP

W02593

MATRIX : WATER

C99-009

BATCH NUMBER

11-035

	GES ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	B1103501		BHI	BOT1J7	
	D1103501				
2)	B1103502		BHI	BOT151	
3)	B1103503		BHI	BOT154	TH 11/14/98
	81103503			BOT154	OR
4)	B1103504		BHI	BOT157	
5)	B1103505		BHI	BOT138	

ACTIONS (Initial & Date)

1) INITIATED

TH 11/14/98

5) COUNTING/MEASUREMENT LAB

SOP(S) #

RD 8800

SOP(S) #

2) PREP LAB RECEIVED

EPS 1/7/99

6) DATA REVIEWED AND
ANALYTICAL PREP STORED

SOP(S) # RICHRC5016.1+5014.0

SOP(S) #

3) SAMPLE REMAINDER STORED

EPS 1/7/99

SOP(S) #

N/A

4) SEPARATION LAB RECEIVED

SOP(S) #

0069

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

11-Nov-1998

Page 1

CUSTOMER: BHI

SAMPLE DELIVERY GROUP

MATRIX : WATER

BATCH NUMBER

W02593
11-152

GES ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
--------	-----	---------	-------------	----------

1)	B1115201	BHI	B01174	
-----	----------	-----	--------	--

ACTIONS (Initial & Date)

1) INITIATED

SOP(S) #

KBA/HH/98
FD2800

5) COUNTING/MEASUREMENT LAB

SOP(S) #

2) PREP LAB RECEIVED

SOP(S) #

EPS 1/7/99RICHRC5016.1+5014.0

6) DATA REVIEWED AND

ANALYTICAL PREP STORED

SOP(S) #

3) SAMPLE REMAINDER STORED

SOP(S) #

EPS 1/7/99
N/A

4) SEPARATION LAB RECEIVED

SOP(S) #

0070

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

5-Nov-1998

Page 1

CUSTOMER: BHI

SAMPLE DELIVERY GROUP

MATRIX : WATER

BATCH NUMBER

C99-009

W02593

11-060

QES ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)		BHI	B0T124	
2)		BHI	B0T1F7	
3)		BHI	B0T1F8	

ACTIONS (Initial & Date)

1) INITIATED

SOP(S) #

JH 11/5/98

R078000

5) COUNTING/MEASUREMENT LAB

SOP(S) #

2) PREP LAB RECEIVED

SOP(S) #

EB 1/7/99

RICH 5016.1 + 5014.0

6) DATA REVIEWED AND
ANALYTICAL PREP STORED

SOP(S) #

3) SAMPLE REMAINDER STORED

SOP(S) #

EPS 1/7/99

N/A

4) SEPARATION LAB RECEIVED

SOP(S) #

0071

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

17-Nov-1998

Page 1

CUSTOMER: BHI

SAMPLE DELIVERY GROUP

W02593

MATRIX : WATER

BATCH NUMBER

11-242C99-009

QES ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)		BHI	B0T1H6	
2)		BHI	B0T1H3	
3)		BHI	B0T127	
4)		BHI	B0T434	
5)		BHI	B0T1H9	
6)		BHI	B0T1C9	
7)		BHI	B0T1F1	

ACTIONS (Initial & Date)

1) INITIATED

SOP(S) #

JK 11/17/98
RDY800

5) COUNTING/MEASUREMENT LAB

SOP(S) #

2) PREP LAB RECEIVED

SOP(S) #

EPS 1/7/99RICHRC 5016.1+5017.06) DATA REVIEWED AND
ANALYTICAL PREP STORED

SOP(S) #

3) SAMPLE REMAINDER STORED

SOP(S) #

EPS 1/7/99N/A

4) SEPARATION LAB RECEIVED

SOP(S) #

0072

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

18-Nov-1998

Page 1

CUSTOMER: BHI

SAMPLE DELIVERY GROUP

W02593

MATRIX : WATER

C99-009

BATCH NUMBER

11-263

GES ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)		81126301	BHI	BOT1B2
2)		81126302	BHI	BOT1F4
3)		81126303	BHI	BOT130
		J1103513		
		J1103515		

ACTIONS (Initial & Date)

1) INITIATED

JH 11/18/98
RD 3800

5) COUNTING/MEASUREMENT LAB

SOP(S) #

SOP(S) #

2) PREP LAB RECEIVED

EPS 4/7/99

6) DATA REVIEWED AND
ANALYTICAL PREP STORED

SOP(S) # RICHRC 5016.1 + 5014.0

SOP(S) #

3) SAMPLE REMAINDER STORED

EPS 4/7/99

SOP(S) #

N/A

4) SEPARATION LAB RECEIVED

SOP(S) #

0073

BATCH SUMMARY/CHAIN OF CUSTODY

ANALYSIS B MATRIX H₂O DUE DATE 1/1/99

WORK ORDER	SEQUENCE #	CLIENT	COMMENTS
J <u>11035</u>	<u>-1B</u>		QC BATCH REAGENT BLANK
J _____	-1X		QC BATCH MATRIX BLANK
J <u>11035</u>	-1M or <u>1S</u> (circle)		QC BATCH MATRIX/REAGENT SPIKE
J _____	-2M or 2S (circle)		QC BATCH MATRIX/REAGENT SPIKE
D <u>1103502</u>	-		Duplicate of Sample # <u>81103502</u>
<u>81103501</u>	<u>05</u>		
<u>81115201</u>	<u>N/A</u>		
<u>81106001</u>	<u>03</u>		
<u>81124201</u>	<u>07</u>		
<u>81126301</u>	<u>03</u>		
	-		
	-		

Batched and QC updated by EPS on 1/18/99

Rec'd in Prep Lab by EPS on 1/7/99 Sop# 5016.1 + 5014.0 Rev# _____

Rec'd in Sep Lab by _____ on _____ Sop# _____ Rev# _____

Rec'd in Sep lab by _____ on _____ Sop# _____ Rev# _____

ED/CPPT by _____ on _____ Sop# _____ Rev# _____

Rec'd in C.R. by RR on 1/19/99 Sop# RICHARD0003 Rev# 2

Data Reviewed by ger on 1/21/99 Sop# RICHARD0002 Rev# 2

Original batch sheet and complete calculation file to be filed with the FIRST listed work order number.

FORM NO.: RC-52, 1/98, Rev. 8

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

4-Nov-1998

Page 1

CUSTOMER: BHI

SAMPLE DELIVERY GROUP

W02593

MATRIX : WATER

BATCH NUMBER

11-035C99-009

QES ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)		BHI	BOT1J7	
2)		BHI	BOT151	
3)		BHI	BOT154	
		81103503	BOT154	<u>TH 11/4/98</u>
4)		BHI	BOT157	
5)		BHI	BOT138	

ACTIONS (Initial & Date)

1) INITIATED

SOP(S) #

TH 11/4/98
RD 8800

5) COUNTING/MEASUREMENT LAB

SOP(S) #

2) PREP LAB RECEIVED

SOP(S) #

EPS 1/7/996) DATA REVIEWED AND
ANALYTICAL PREP STORED

SOP(S) #

3) SAMPLE REMAINDER STORED

SOP(S) #

EPS 1/7/99N/A

4) SEPARATION LAB RECEIVED

SOP(S) #

0075

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

11-Nov-1998

Page 1

CUSTOMER: BHI

SAMPLE DELIVERY GROUP

MATRIX : WATER

BATCH NUMBER

W02593
11-152

QES ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
=====				
1)	81115201	BHI	BOT174	

ACTIONS (Initial & Date)

1) INITIATED

SOP(S) #

EPD 11/1/98
EPD 2800

5) COUNTING/MEASUREMENT LAB

SOP(S) #

2) PREP LAB RECEIVED

SOP(S) #

EPS 1/7/99
RICHRC 5016.1+5014.06) DATA REVIEWED AND
ANALYTICAL PREP STORED

SOP(S) #

3) SAMPLE REMAINDER STORED

SOP(S) #

EPS 1/7/99
N/A

4) SEPARATION LAB RECEIVED

SOP(S) #

0076

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

5-Nov-1998

Page 1

CUSTOMER: BHI

SAMPLE DELIVERY GROUP

W02593

MATRIX : WATER

BATCH NUMBER

11-060

C99-009

GES ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)		BHI	BOT124	
2)		BHI	BOT1F7	
3)		BHI	BOT1F8	

ACTIONS (Initial & Date)

1) INITIATED

SOP(S) #

JA 11/5/98
RD 3800

5) COUNTING/MEASUREMENT LAB

SOP(S) #

2) PREP LAB RECEIVED

SOP(S) #

EPS 1/7/99
RICH 5016.1/5014.06) DATA REVIEWED AND
ANALYTICAL PREP STORED

SOP(S) #

3) SAMPLE REMAINDER STORED

SOP(S) #

EPS 1/7/99
N/A

4) SEPARATION LAB RECEIVED

SOP(S) #

0077

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

17-Nov-1998

Page 1

CUSTOMER: BHI

SAMPLE DELIVERY GROUP

W02593

MATRIX : WATER

BATCH NUMBER

11-242C99-009

	GES ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	B1124201		BHI	BOT1H6	
2)	B1124202		BHI	BOT1H3	
3)	B1124203		BHI	BOT127	
4)	B1124204		BHI	BOT434	
5)	B1124205		BHI	BOT1H9	
6)	B1124206		BHI	BOT1C9	
7)	B1124207		BHI	BOT1F1	

ACTIONS (Initial & Date)

1) INITIATED

JA 11/17/98

5) COUNTING/MEASUREMENT LAB

SOP(S) #

RD 8800

SOP(S) #

2) PREP LAB RECEIVED

EPS 1/7/996) DATA REVIEWED AND
ANALYTICAL PREP STORED

SOP(S) #

RICHRC 5016.1 + 5014.0

SOP(S) #

3) SAMPLE REMAINDER STORED

EPS 1/7/99

SOP(S) #

N/A

4) SEPARATION LAB RECEIVED

SOP(S) #

0078

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

18-Nov-1998

Page 1

CUSTOMER: BHI

SAMPLE DELIVERY GROUP

W02593

MATRIX : WATER

C99-009

BATCH NUMBER

11-263

GES ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
--------	-----	---------	-------------	----------

1)	B1126301	BHI	BOT1B2	
-----	----------	-----	--------	--

2)	B1126302	BHI	BOT1F4	
-----	----------	-----	--------	--

3)	B1126303	BHI	BOT130	
-----	----------	-----	--------	--

J110351B

J110351S

ACTIONS (Initial & Date)

1) INITIATED

JH 11/18/98

5) COUNTING/MEASUREMENT LAB

SOP(S) #

RD8800

SOP(S) #

2) PREP LAB RECEIVED

EPS 1/7/99

6) DATA REVIEWED AND

ANALYTICAL PREP STORED

SOP(S) #

RICHRC5016.1+5014.0

SOP(S) #

3) SAMPLE REMAINDER STORED

EPS 1/7/99

SOP(S) #

N/A

4) SEPARATION LAB RECEIVED

SOP(S) #

0079

BATCH SUMMARY/CHAIN OF CUSTODY

ANALYSIS Tritium MATRIX water DUE DATE 1-1-99

WORK ORDER	SEQUENCE #	CLIENT	COMMENTS
J <u>11035</u>	1B <u>INTO 3N</u>	BHE W02593	QC BATCH REAGENT BLANK
J <u>11035</u>	-1X		QC BATCH MATRIX BLANK
J <u>11035</u>	1M <u>1S</u> (circle)		QC BATCH MATRIX/REAGENT SPIKE
J <u>NA</u>	-2M or 2S (circle)		QC BATCH MATRIX/REAGENT SPIKE
D <u>1103501</u>	-		Duplicate of Sample # <u>81103501</u>
D <u>1103502</u>	-		" " " # <u>81103502</u>
<u>81103501</u>	- 05		
<u>81106001</u>	-		
<u>81115201</u>	-		
<u>81124201</u>	- 04		
<u>81124206</u>	- 07		
<u>81126301</u>	- 03		

Batched and QC updated by BAB on 1-19-99

Rec'd in Prep Lab by NA on NA

Sop# RC5007 Rev# 1

Rec'd in Sep Lab by NA on NA

Sop# NA Rev# NA

Rec'd in Sep lab by NA on NA

Sop# NA Rev# NA

ED/CPPT by NA on NA

Sop# NA Rev# NA

Rec'd in C.R. by NA on 1/19/99

Sop# RICHR0001 Rev# 0

Data Reviewed by SE on 1/1/99

Sop# RICHR0002 Rev# 2

Original batch sheet and complete calculation file to be filed with the FIRST listed work order number.

FORM NO.: RC-52, 1/98, Rev. 8

due
1-1-99

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

4-Nov-1998
Page 1

CUSTOMER: BHI
MATRIX : WATER

C99-009

SAMPLE DELIVERY GROUP

W02593

BATCH NUMBER

11-035

	GES ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
	J110351N				
	J110352N				
	J110353N				
1)	81103501		BHI	BOT1J7	
	D1103501	dup			
2)	81103502		BHI	BOT151	
	D1103502	dup			
3)	81103503		BHI	BOT154	or 11/14/98
	81103503			BOT154	
4)	81103504		BHI	BOT157	
5)	81103505		BHI	BOT138	

ACTIONS (Initial & Date)

1) INITIATED

JH 11/4/98

5) COUNTING/MEASUREMENT LAB

SOP(S) #

RD 8800

SOP(S) #

2) PREP LAB RECEIVED

BAB 1-13-99

6) DATA REVIEWED AND
ANALYTICAL PREP STORED

SOP(S) # RC 5007

SOP(S) #

3) SAMPLE REMAINDER STORED

NA

SOP(S) #

4) SEPARATION LAB RECEIVED

SOP(S) #

J110351 X

J110351 S

J110351 m

60.774 ± 0.6388 dpm/10 ml #4202

0081

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

5-Nov-1998

Page 1

CUSTOMER: BHI

SAMPLE DELIVERY GROUP

MATRIX : WATER

BATCH NUMBER

C99-009

W02593

11-060

GES ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
--------	-----	---------	-------------	----------

1)	B1106001	BHI	BOT124	
-----	----------	-----	--------	--

ACTIONS (Initial & Date)

1) INITIATED

SOP(S) #

JH 11/5/98
RD 8800

5) COUNTING/MEASUREMENT LAB

SOP(S) #

2) PREP LAB RECEIVED

SOP(S) #

6) DATA REVIEWED AND
ANALYTICAL PREP STORED

SOP(S) #

3) SAMPLE REMAINDER STORED

SOP(S) #

4) SEPARATION LAB RECEIVED

SOP(S) #

0082

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

11-Nov-1998

Page 1

CUSTOMER: BHI

SAMPLE DELIVERY GROUP

MATRIX : WATER

BATCH NUMBER

W02593
1-152

QES ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
=====				
1)	81115201	BHI	BOT174	
=====				

ACTIONS (Initial & Date)

1) INITIATED

DA 11/1/98

5) COUNTING/MEASUREMENT LAB

SOP(S) #

RD2800

SOP(S) #

2) PREP LAB RECEIVED

6) DATA REVIEWED AND
ANALYTICAL PREP STORED

SOP(S) #

SOP(S) #

3) SAMPLE REMAINDER STORED

SOP(S) #

4) SEPARATION LAB RECEIVED

SOP(S) #

0083

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

17-Nov-1998

Page 1

CUSTOMER: BHI

SAMPLE DELIVERY GROUP W02593

MATRIX : WATER

C99-009BATCH NUMBER 11-242

	GES ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	81124201		BHI	BOT1H6	
2)	81124202		BHI	BOT1H3	
3)	81124203		BHI	BOT127	
4)	81124204		BHI	BOT434	
5)	81124206		BHI	BOT1C9	
6)	81124207		BHI	BOT1F1	

ACTIONS (Initial & Date)

1) INITIATED

SOP(S) #

JH 11/17/98
RO2800

5) COUNTING/MEASUREMENT LAB

SOP(S) #

2) PREP LAB RECEIVED

SOP(S) #

6) DATA REVIEWED AND
ANALYTICAL PREP STORED

SOP(S) #

3) SAMPLE REMAINDER STORED

SOP(S) #

4) SEPARATION LAB RECEIVED

SOP(S) #

0084

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

18-Nov-1998
Page 1

CUSTOMER: BHI

SAMPLE DELIVERY GROUP

W02593

MATRIX : WATER

C99-009

BATCH NUMBER

11-263

GES ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
--------	-----	---------	-------------	----------

1)	81126301	BHI	BOT1B2	
2)	81126302	BHI	BOT1F4	
3)	81126303	BHI	BOT130	

ACTIONS (Initial & Date)

1) INITIATED

JH 11/18/98
RD 7800

SOP(S) #

5) COUNTING/MEASUREMENT LAB

SOP(S) #

2) PREP LAB RECEIVED

SOP(S) #

6) DATA REVIEWED AND
ANALYTICAL PREP STORED

SOP(S) #

3) SAMPLE REMAINDER STORED

SOP(S) #

4) SEPARATION LAB RECEIVED

SOP(S) #

0085