Quanterra
Environmental Services

0049892

CERTIFICATE OF ANALYSIS

JUN 1998
RECEIVED
Data
Log In

Pacific Northwest National Laboratories
Sigma V Building
Richland, WA 99352

June 11, 1998

Attention: Dot Stewart

SAF Number	:	N98-005, S98-003, W98-003,
Date SDG Closed	:	March 25, 1998
Number of Samples	:	Twenty (20)
Sample Type	:	Water
SDG Number	:	W02288
Data Deliverable	:	Summary

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I. Introduction

Between March 19 and March 25, 1998, 20 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 numbers to correspond with the Pacific Northwest National Laboratories (PGW) specific IDs:

QTESRL ID#	PGW ID#	MATRIX	DATE OF RECEIPT
80333901	B0N840	WATER	3/19/98
80333902	B0N848	WATER	3/19/98
80333903	B0N852	WATER	3/19/98
80338301	B0N846	WATER	3/23/98
80338302	B0N850	WATER	3/23/98
80338501	B0N4K5	WATER	3/23/98
80338502	B0N4L1	WATER	3/23/98
80338503	B0N4L7	WATER	3/23/98
80338504	B0N4L9	WATER	3/23/98
80338505	B0N4M9	WATER	3/23/98
80338506	B0N579	WATER	3/23/98
80338701	B0N460	WATER	3/23/98
80340001	B0N842	WATER	3/24/98
80340002	B0N844	WATER	3/24/98

80340201	B0N470	WATER	3/24/98
80340301	B0N4J7	WATER	3/24/98
80342701	B0N834	WATER	3/25/98
80342702	B0N472	WATER	3/25/98
80342703	B0N449	WATER	3/25/98
80342704	B0N489	WATER	3/25/98

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:

Alpha Spectroscopy
Plutonium-238, -239/40 by method RICH-RC-5010
Uranium-234, -235, -238 by method RICH-RC-5030
Gamma Spectroscopy
Low Level Gamma Scan by method RICH-RC-5017
Iodine-129 by method RICH-RC-5025
Gas Proportional Counting
Gross Alpha by method RICH-RC-5014
Gross Beta by method RICH-RC-5014
Strontium-90 by method RICH-RC-5071
Total Radium Alpha by method ITAS-RD-3231
Liquid Scintillation Counting
Carbon-14 by method RICH-RC-5022
Technetium-99 by method RICH-RC-5029
Tritium by method RICH-RC-5007
Total Uranium
Total Uranium by method RICH-RC-5058

III. Quality Control

The analytical results for each analysis performed under SDG W02288 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.

W02288

The following samples from SDG W02288 belong to Cercla SAF-C98-043. The package includes samples that belong to PNNL.

B0N839
B0N840
B0N841
B0N842
B0N843
B0N844
B0N845
B0N846
B0N847
B0N848
B0N849
B0N850
B0N851
B0N852
B0N853
B0N854
B0N855
B0N856

Quanterra
Environmental Services

Analytical Data Package Prepared For

Pacific Northwest National Lab

Analysis By

Quanterra Analytical Services
Richland Laboratory

Report Nbr: 5083

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SDG No.	SAF No.	CLIENT ID No.	QUANTERRA ID No.
W02288		B0N840	80333901
		B0N848	80333902
		B0N852	80333903
		B0N846	80338301
		B0N850	80338302
		B0N4K5	80338501
		B0N4L1	80338502
		B0N4L7	80338503
		B0N4L9	80338504
		B0N4M9	80338505
		B0N579	80338506
		B0N460	80338701
		B0N842	80340001
		B0N844	80340002
		B0N470	80340201
		B0N4J7	80340301
		B0N834	80342701
		B0N472	80342702
		B0N449	80342703
		B0N489	80342704

Comments:

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

IV. Comments

Alpha Spectroscopy

Plutonium-238, -239/40 by method RICH-RC-5010

The LCS, batch blank, sample and sample duplicate (B0N472) results are within contractual requirements. Sample B0N470 did not meet the RDL due to the reduced volume analyzed based on the CAT II screen result.

Uranium-234, -235, -238 by method RICH-RC-5030

The LCS, batch blank, sample and sample duplicate (B0N472) results are within contractual requirements. Sample B0N470 did not meet the RDL due to the reduced volume analyzed based on the CAT II screen result.

Gamma Spectroscopy

Gamma Scan by method RICH-RC-5017

The LCS, batch blank, sample and sample duplicate (B0N472) results are within contractual requirements.

Iodine-129 by method RICH-RC-5017

The LCS, batch blank, sample and sample duplicate (B0N470 and B0N844) results are within contractual requirements.

Gas Proportional Counting

Gross Alpha by method RICH-RC-5014

The LCS, batch blank, sample and sample duplicate (B0N842) results are within contractual requirements.

Gross Beta by method RICH-RC-5014

The LCS, batch blank, sample and sample duplicate (B0N844) results are within contractual requirements.

Strontium-90 by method RICH-RC-5071

This SDG was batched with SDG 2193. The LCS, batch blank and sample duplicate (B0N470) results are within contractual requirements.

Total Radium Alpha by method ITAS-RD-3231
The LCS, batch blank, sample and sample duplicate (B0N852) results are within contractual requirements.

Liquid Scintillation Counting
Carbon-14 by method RICH-RC-5022
The LCS, batch blank, sample and sample duplicate (B0N840) results are within contractual requirements.

Technetium-99 by method RICH-RC-5029
The LCS, batch blank, matrix spike (B0N489), sample and sample duplicate (B0N840) results are within contractual requirements.

Tritium by method RICH-RC-5007
The matrix spike, LCS, sample and sample duplicate (B0N579) results are within contractual requirements.

Total Uranium

Total Uranium by method RICH-RC-5058
The matrix spike, LCS, batch blank, sample and sample duplicate (B0N840) 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:

Andy Kopriva
Project Manager

Quanterra
Environmental Services

SAMPLE RESULTS

LAB NAME:	QUANTERRA, Richland	SDG: /RPT GRP:	W02288 / 5083
LAB SAMPLE ID:	80333901	MATRIX:	WATER
CLIENT ID:	B0N840	DATE RECEIVED:	3/19/1998 2:50:00 PM

ANALYTE	RESULT	Q	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA/IDL	REPORT UNIT	YIELD	METHOD NUMBER
TC-99	2.32E+01		5.7E+00	1.8E+01	1.20E+01	pCi/L	95.10%	RICHRC5078
I129	4.54E+00	U	1.4E+00	1.4E+00	3.01E+00	pCi/L	93.80%	RICHRC5025
ALPHA	1.32E+00	J	6.7E-01	7.1E-01	6.84E-01	pCi/L	100.00%	RICHRC5014
BETA	1.05E+01		2.0E+00	2.2E+00	2.91E+00	pCi/L	100.00%	RICHRC5014-E
TOTAL RA	7.80E-02	U	9.6E-02	9.7E-02	1.79E-01	pCi/L	100.00%	ITASRD3231
C-14	1.94E+01	J	3.9E+00	5.8E+00	7.72E+00	pCi/L	100.00%	RICHRC5022
TOTAL-URANIUM	2.33E+00		N/A	3.1E-01	1.59E-02	ug/L	N/A	RICHRC5058

Number of Results: 7

Result = IDL When Not Detected
(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result < RDL.

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Environmental Services

SAMPLE RESULTS

LAB NAME:	QUANTERRA, Richland	SDG: /RPT GRP:	W02288 / 5083
LAB SAMPLE ID:	80333902	MATRIX:	WATER
CLIENT ID:	B0N848	DATE RECEIVED:	3/19/1998 2:50:00 PM

ANALYTE	RESULT	Q	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA/IDL	REPORT UNIT	YIELD	METHOD NUMBER
TC-99	2.35E+01		5.7E+00	1.8E+01	1.20E+01	pCi/L	95.10%	RICHRC5078
I129	1.62E+00	U	8.1E-01	8.2E-01	1.85E+00	pCi/L	98.90%	RICHRC5025
ALPHA	6.83E-01	U	7.8E-01	7.8E-01	1.44E+00	pCi/L	100.00%	RICHRC5014
BETA	1.45E+01		2.2E+00	2.5E+00	2.80E+00	pCi/L	100.00%	RICHRC5014-B
TOTAL RA	1.14E-01	U	1.1E-01	1.1E-01	1.78E-01	pCi/L	100.00%	ITASRD3231
C-14	-1.49E+00	U	3.2E+00	5.0E+00	7.72E+00	pCi/L	100.00%	RICHRC5022
TOTAL-URANIUM	2.32E+00		N/A	3.1E-01	1.59E-02	ug/L	N/A	RICHRC5058

Number of Results: 7

Result = IDL When Not Detected
(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result < RDL.

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Environmental Services

SAMPLE RESULTS

LAB NAME:	QUANTERRA, Richland	SDG: /RPT GRP:	W02288 / 5083
LAB SAMPLE ID:	80333903	MATRIX:	WATER
CLIENT ID:	B0N852	DATE RECEIVED:	3/19/1998 2:50:00 PM

ANALYTE	RESULT	Q	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA/IDL	REPORT UNIT	YIELD	METHOD NUMBER
TC-99	-8.72E-01	U	5.1E+00	1.6E+01	1.20E+01	pCi/L	95.10%	RICHRC5078
I129	5.42E-01	U	3.6E-01	3.7E-01	1.00E+00	pCi/L	98.10%	RICHRC5025
ALPHA	-1.22E-01	U	7.1E-02	7.5E-02	5.06E-01	pCi/L	100.00%	RICHRC5014
BETA	3.26E+00	J	1.5E+00	1.6E+00	2.92E+00	pCi/L	100.00%	RICHRC5014-B
TOTAL RA	7.63E-02	U	9.1E-02	9.2E-02	1.65E-01	pCi/L	100.00%	ITASRD3231
C-14	9.23E-01	U	3.3E+00	5.1E+00	7.72E+00	pCi/L	100.00%	RICHRC5022
TOTAL-URANIUM	3.30E-02	J	N/A	7.3E-03	1.59E-02	ug/L	N/A	RICHRC5058

Number of Results: 7

Result = IDL When Not Detected
(Q)ualifiers: U = Analyte result < MDA/IDL.
J = No U qualifier and result < RDL.

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SAMPLE RESULTS

LAB NAME:	QUANTERRA, Richland	SDG: /RPT GRP:	W02288 / 5083
LAB SAMPLE ID:	80338301	MATRIX:	WATER
CLIENT ID:	B0N846	DATE RECEIVED:	3/23/1998 3:00:00 PM

ANALYTE	RESULT	Q	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA/IDL	REPORT UNIT	YIELD	METHOD NUMBER
TC-99	7.82E+01		6.9E+00	2.3E+01	1.20E+01	pCi/L	95.10%	RICHRC5078
I129	1.52E+01		2.4E+00	2.9E+00	N/A	pCi/L	100.30%	RICHRC5025
ALPHA	2.17E+00	J	1.1E+00	1.1E+00	1.12E+00	pCi/L	100.00%	RICHRC5014
BETA	2.02E+01		2.5E+00	3.1E+00	2.89E+00	pCi/L	100.00%	RICHRC5014-B
TOTAL RA	1.48E-01	U	1.1E-01	1.1E-01	1.59E-01	pCi/L	100.00%	ITASRD3231
C-14	3.69E+00	U	3.4E+00	5.2E+00	7.72E+00	pCi/L	100.00%	RICHRC5022
TOTAL-URANIUM	2.99E+00		N/A	6.6E-01	1.59E-02	ug/L	N/A	RICHRC5058

Number of Results: 7

Result = IDL When Not Detected

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

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Environmental Services

SAMPLE RESULTS

LAB NAME:	QUANTERRA, Richland	**SDG: /RPT GRP:**	W02288 / 5083
LAB SAMPLE ID:	80338302	**MATRIX:**	WATER
CLIENT ID:	B0N850	**DATE RECEIVED:**	3/23/1998 3:00:00 PM

ANALYTE	RESULT	Q	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA/IDL	REPORT UNIT	YIELD	METHOD NUMBER
TC-99	1.52E+00	U	5.1E+00	1.6E+01	1.20E+01	pCi/L	95.10%	RICHRC5078
I129	0.00E+00	U	5.4E-01	5.4E-01	1.03E+00	pCi/L	N/A	RICHRC5025
ALPHA	1.68E-01	U	2.7E-01	2.7E-01	5.50E-01	pCi/L	100.00%	RICHRC5014
BETA	3.54E-01	U	1.2E+00	1.2E+00	2.64E+00	pCi/L	100.00%	RICHRC5014-B
TOTAL RA	9.61E-03	U	6.0E-02	6.0E-02	1.59E-01	pCi/L	100.00%	ITASRD3231
C-14	-9.23E-01	U	3.2E+00	5.0E+00	7.72E+00	pCi/L	100.00%	RICHRC5022
TOTAL-URANIUM	5.21E-02	J	N/A	1.1E-02	1.59E-02	ug/L	N/A	RICHRC5058

Number of Results: 7

Result = IDL When Not Detected
(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result < RDL.

Quanterra
Environmental Services

SAMPLE RESULTS

LAB NAME:	QUANTERRA, Richland	SDG: /RPT GRP:	W02288 / 5083
LAB SAMPLE ID:	80340001	MATRIX:	WATER
CLIENT ID:	B0N842	DATE RECEIVED:	3/24/1998 3:05:00 PM

ANALYTE	RESULT	Q	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA/IDL	REPORT UNIT	YIELD	METHOD NUMBER
TC-99	6.86E+01		6.6E+00	2.2E+01	1.20E+01	pCi/L	95.10%	RICHRC5078
I129	1.32E+01		2.3E+00	2.7E+00	N/A	pCi/L	83.90%	RICHRC5025
ALPHA	6.59E-01	U	5.7E-01	5.8E-01	9.46E-01	pCi/L	100.00%	RICHRC5014
BETA	2.54E+01		2.8E+00	3.6E+00	2.89E+00	pCi/L	100.00%	RICHRC5014-
TOTAL RA	1.03E-01	U	9.9E-02	1.0E-01	1.67E-01	pCi/L	100.00%	ITASRD3231
C-14	7.16E+00	U	3.5E+00	5.3E+00	7.72E+00	pCi/L	100.00%	RICHRC5022
TOTAL-URANIUM	2.44E+00		N/A	3.3E-01	1.59E-02	ug/L	N/A	RICHRC5058

Number of Results: 7

Result = IDL When Not Detected
(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result < RDL.

Quanterra
Environmental Services

SAMPLE RESULTS

LAB NAME:	QUANTERRA, Richland	SDG: /RPT GRP:	W02288 / 5083
LAB SAMPLE ID:	80340002	MATRIX:	WATER
CLIENT ID:	B0N844	DATE RECEIVED:	3/24/1998 3:05:00 PM

ANALYTE	RESULT	Q	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA/IDL	REPORT UNIT	YIELD	METHOD NUMBER
TC-99	7.54E+01		6.8E+00	2.3E+01	1.20E+01	pCi/L	95.10%	RICHRC5078
I129	9.83E+00	U	1.6E+00	1.9E+00	3.82E+00	pCi/L	98.70%	RICHRC5025
ALPHA	1.40E+00	J	8.1E-01	8.4E-01	9.29E-01	pCi/L	100.00%	RICHRC5014
BETA	2.64E+01		2.8E+00	3.6E+00	2.80E+00	pCi/L	100.00%	RICHRC5014-E
TOTAL RA	2.10E-01	J	1.3E-01	1.3E-01	1.68E-01	pCi/L	100.00%	ITASRD3231
C-14	4.50E+00	U	3.4E+00	5.2E+00	7.72E+00	pCi/L	100.00%	RICHRC5022
TOTAL-URANIUM	2.49E+00		N/A	3.3E-01	1.59E-02	ug/L	N/A	RICHRC5058

Number of Results: 7

Result = IDL When Not Detected
(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result < RDL.

Quanterra Data Review Checklist
RADIOCHEMISTRY

Work Order number (s):	803427 803402
Client ID:	PGW
Due Date:	5-9-98
Lab Sample Number or SDG:	W02288
Method Test Parameters:	Plutonium
Matrix:	Water

Review Item	Yes (✓)	No (✓)	N/A (✓)	2nd Level Review (✓)
A. Calibration				
1. Is the calibration documentation included where applicable?			✓	
B. Sample Analysis				
1. Are the sample yields within acceptance criteria?	✓			✓
2. Were all sample holding times met?	✓			✓
3. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓	✓	see below	✓
C. QC Samples				
1. Is the blank yield within acceptance criteria	✓			✓
2. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓			✓
3. Is the blank result < 1/2 the Contract Detection Limit?	✓			✓
4. Is the blank > 1/2 the Contract Detection Limit but < Contract Detection Limit?			✓	
5. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓	
6. Is the LCS result within acceptance criteria?	✓			✓
7. Is the LCS yield within acceptance criteria	✓			✓
8. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓			✓
9. MS/MSD results and yield meet acceptance criteria?			✓	
10. Duplicate sample results and yield meet acceptance criteria?	✓			✓
D. Other				
1. Are all Nonconformances included and noted?			✓	
2. Are all required forms filed out?	✓			✓
3. Correct methodology used?	✓			✓
4. Transcription checked? JM 5-5-98	✓			✓
5. Were all calculations checked at a minimum frequency?	✓			
6. Units checked?	✓			✓

Comments on any "No" response: Sample 80340201 MDA does not meet RDL due to Reduced volume analyzed based on CAT II screen result. Data accepted.

First Level Review: Jacqueline Waddell Date: 5/5/98

Second Level Review: [signature] Date: 5/11/98

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

0049A

QUANTERRA LABORATORY NONCONFORMANCE MEMO (NCM)

LOG #: RD-98-_____

Project ID: PGW NCM Initiated by: JTK 5-8-98

Sample Numbers: 80340201

Tests: Uiso / Pu150

Matrix: Water

Analytical Area (check appropriate area):

- ☐ Sample control
- ☐ Organic preparation
- ☐ Inorganic preparation
- ☐ GC
- ☐ HPLC
- ☐ GC/MS
- ☐ Wet chemistry
- ☐ Metals
- ☐ Reporting
- ☒ Data review
- ☒ Radiochemistry
- ☐ Bioassay

Nonconformance (check appropriate area):

Holding Time Violations (exceeded by _____ days)

Category I: Laboratory Independent

- ☐ 1. Holding time expired in transit
- ☐ 2. Sample received > 48 hrs. or 1/2 holding time has expired
- ☐ 3. Test added by client after expiration

Category II: Laboratory Dependent

- ☐ 4. Instrument failure
- ☐ 5. Analyst error
- ☐ 6. Login error
- ☐ 7. Miscommunication
- ☐ 8. Other (complete description required)

Category III: Analysis Reruns (QA/QC)

- ☐ 9. Surrogates
- ☐ 10. Internal Standards
- ☐ 11. Spike Recoveries
- ☐ 12. Blank Contamination

Category IV: Analysis Reruns (Confirmation)

- ☐ 13. Second column
- ☐ 14. Contamination check
- ☐ 15. Confirmation of matrix effects
- ☐ 16. Other (complete description required)

Quality Assurance/Quality Control

- ☐ 17. QC data reported outside of controls
- ☐ 18. Incorrect procedure used
- ☐ 19. SOP intentionally modified with QA and Tech. approval
- ☐ 20. Invalid instrument calibration
- ☐ 21. Insufficient sample received for proper analysis

Incorrect or Incomplete Client Deliverable

- ☐ 22. Hardcopy deliverable error
- ☐ 23. Electronic deliverable error

Reported detection limits elevated due to:

- ☒ 24. Sample matrix
- ☐ 25. Insufficient sample volume
- ☒ 26. Other (complete description required)
- ☐ 27. *Other (specify):* _____

Comments/Explanation: _____

Notification (check appropriate area):

Client notified by (name and date): _____

- ☑ in writing CN
- ☐ by telephone
- ☐ by facsimile
- ☐ other (explain)

Client's name and response: _____

- ☐ process "as is"
- ☐ on hold until _____
- ☐ re-sample
- ☐ other (explain)

Project Manager (signature and date): [signature] 5/10/98

QUANTERRA LABORATORY NONCONFORMANCE MEMO (NCM)

LOG#: RD-98-_____

Corrective Action

Root Cause Initial and date: JK 5-8-98

Reduced sample volume analyzed due to high rad screening results.

Corrective Action Initial and Date: JMC 5-8-98

Data accepted with MDAs achieved

Responsibility for performing CA assigned to: _____

Actions to prevent recurrence Initial and Date: _____

N/A

First Level Supervisor: Joel Kenzema Date: 5-8-98

Responsible Manager: Jacqueline Waddell Date: 5/11/98

Quality Assurance Review

☒ Anomaly ☐ Deficiency ☐ Rerun

☐ Further action required: _____

Assigned to: _____

QA signature: Jodie Ca Date: 5/11/98

Corrective Action Verification

☐ Verified

☐ Cannot Verify (specify reason): N/A

Nonconformance Memo Closure

QA signature/date: Jodie Ca 5/11/98

Quanterra Data Review Checklist
RADIOCHEMISTRY

Work Order number (s): 803427 803402

Client ID: PGW

Due Date: 5-9-98

Lab Sample Number or SDG: W0 2258

Method Test Parameters: U ISO

Matrix: Water

Review item	Yes (✓)	No (✓)	NA (✓)	2nd Level Review (✓)
A. Calibration				
1. Is the calibration documentation included where applicable?			—	
B. Sample Analysis				
1. Are the sample yields within acceptance criteria?	—			✓
2. Were all sample holding times met?	—			✓
3. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	—	— NCM		✓
C. QC Samples				
1. Is the blank yield within acceptance criteria	—			✓
2. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	—			✓
3. Is the blank result < 1/2 the Contract Detection Limit?	—			✓
4. Is the blank > 1/2 the Contract Detection Limit but < Contract Detection Limit?				✓
5. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			—	
6. Is the LCS result within acceptance criteria?			—	
7. Is the LCS yield within acceptance criteria	—			✓
8. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	—			✓
9. MS/MSD results and yield meet acceptance criteria?	—			✓
10. Duplicate sample results and yield meet acceptance criteria?			—	
D. Other				
1. Are all Nonconformances included and noted?	—			✓
2. Are all required forms filed out?	NCM			✓
3. Correct methodology used?	—			✓
4. Transcription checked? JM 5-8-98	—			✓
5. Were all calculations checked at a minimum frequency?	—			
6. Units checked?	—			✓

Comments on any "No" response:

First Level Review: Joel Kempema Date: 5-8-98

Second Level Review: [illegible] Date: 5/9/98

Form #: LS-038.2 /96, Rev 4

Quanterra Data Review Checklist
RADIOCHEMISTRY

Work Order number (s): 803400, 803339, 803383

Client ID: PGW

Due Date: 5-9-98

Lab Sample Number or SDG: W02288

Method Test Parameters: I-129

Matrix: Water

Review Item	Yes (✓)	No (✓)	NA (✓)	2nd Level Review (✓)
A. Calibration				
1. Is the calibration documentation included where applicable?			✓	
B. Sample Analysis				
1. Are the sample yields within acceptance criteria?	✓			✓
2. Were all sample holding times met?	✓			✓
3. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓			✓
C. QC Samples				
1. Is the blank yield within acceptance criteria	✓			✓
2. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓			✓
3. Is the blank result < 1/2 the Contract Detection Limit?	✓			✓
4. Is the blank > 1/2 the Contract Detection Limit but < Contract Detection Limit?			—	
5. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			—	
6. Is the LCS result within acceptance criteria?	✓			✓
7. Is the LCS yield within acceptance criteria	✓			✓
8. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?				✓
9. MS/MSD results and yield meet acceptance criteria?			✓	
10. Duplicate sample results and yield meet acceptance criteria?	✓			✓
D. Other				
1. Are all Nonconformances included and noted?	✓			✓
2. Are all required forms filled out?	✓			✓
3. Correct methodology used?	✓			✓
4. Transcription checked? dm 4-30-98	✓			
5. Were all calculations checked at a minimum frequency?	✓			
6. Units checked?	✓			✓

Comments on any "No" response: _____

First Level Review: [signature] Date: 5-8-98

Second Level Review: [signature] Date: 5/11/98

Form #: LS-038.2/96, Rev. 1

Quanterra Data Review Checklist
RADIOCHEMISTRY

Work Order number (s): 803402 803427

Client ID: PGW

Due Date: 5-9-98

Lab Sample Number or SDG: W9 2288

Method Test Parameters: I-129

Matrix: Water

Review Item	Yes (✓)	No (✓)	N/A (✓)	2nd Level Review (✓)
A. Calibration				
1. Is the calibration documentation included where applicable?			—	
B. Sample Analysis				
1. Are the sample yields within acceptance criteria?	—	NA		✓
2. Were all sample holding times met?	—			✓
3. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	—	Activity > MDA		✓
C. QC Samples				
1. Is the blank yield within acceptance criteria	—			✓
2. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	—			✓
3. Is the blank result < 1/2 the Contract Detection Limit?	—			✓
4. Is the blank > 1/2 the Contract Detection Limit but < Contract Detection Limit?			—	
5. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			—	
6. Is the LCS result within acceptance criteria?	—			✓
7. Is the LCS yield within acceptance criteria	—			✓
8. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?			—	
9. MS/MSD results and yield meet acceptance criteria?			—	
10. Duplicate sample results and yield meet acceptance criteria?	—			✓
D. Other				
1. Are all Nonconformances included and noted?	INm			
2. Are all required forms filed out?	—			✓
3. Correct methodology used?	—			✓
4. Transcription checked? Jm 5-4-98	—			
5. Were all calculations checked at a minimum frequency?	—			
6. Units checked?	—			✓

Comments on any "No" response: _____

First Level Review: [signature] Date: 5-8-98

Second Level Review: [signature] Date: 5/11/98

Form #: LS-038.2 /96, Rev 4

QUANTERRA LABORATORY NONCONFORMANCE MEMO (NCM)

LOG #: RD-98-

Project ID: 2288 3402 P6W NCM Initiated by: Sjh 5-1-98

Sample Numbers: J0340215 D0340201, 80342701

Tests: I129L

Matrix: H_2O

Analytical Area (check appropriate area):

- ☐ Sample control
- ☐ Organic preparation
- ☐ Inorganic preparation
- ☐ GC
- ☐ HPLC
- ☐ GC/MS
- ☐ Wet chemistry
- ☐ Metals
- ☐ Reporting
- ☐ Data review
- ☒ Radiochemistry
- ☐ Bioassay

Nonconformance (check appropriate area):

Holding Time Violations (exceeded by _____ days)

Category I: Laboratory Independent

- ☐ 1. Holding time expired in transit
- ☐ 2. Sample received > 48 hrs. or 1/2 holding time has expired
- ☐ 3. Test added by client after expiration

Category II: Laboratory Dependent

- ☐ 4. Instrument failure
- ☒ 5. Analyst error
- ☐ 6. Login error
- ☐ 7. Miscommunication
- ☐ 8. Other (complete description required)

Category III: Analysis Reruns (QA/QC)

- ☐ 9. Surrogates
- ☐ 10. Internal Standards
- ☐ 11. Spike Recoveries
- ☐ 12. Blank Contamination

Category IV: Analysis Reruns (Confirmation)

- ☐ 13. Second column
- ☐ 14. Contamination check
- ☐ 15. Confirmation of matrix effects
- ☐ 16. Other (complete description required)

Quality Assurance/Quality Control

- ☐ 17. QC data reported outside of controls
- ☐ 18. Incorrect procedure used
- ☐ 19. SOP intentionally modified with QA and Tech. approval
- ☐ 20. Invalid instrument calibration
- ☐ 21. Insufficient sample received for proper analysis

Incorrect or Incomplete Client Deliverable

- ☐ 22. Hardcopy deliverable error
- ☐ 23. Electronic deliverable error

Reported detection limits elevated due to:

- ☐ 24. Sample matrix
- ☐ 25. Insufficient sample volume
- ☐ 26. Other (complete description required)
- ☐ 27. *Other (specify):* _____

Comments/Explanation: Samples went dry on hot plate. I ran another spk and reran 80342701 as a dup. 80342704 was also run ~~with~~ as A dup

Sjh 5-1-98

Notification (check appropriate area):

Client notified by (name and date): N/A

- ☐ in writing
- ☐ by telephone
- ☐ by facsimile
- ☐ other (explain)

Client's name and response:

- ☐ process "as is"
- ☐ on hold until _____
- ☐ re-sample
- ☐ other (explain)

Project Manager (signature and date): [signature] 5/11/98

QUANTERRA LABORATORY NONCONFORMANCE MEMO (NCM)

LOG#: RD-98-

Corrective Action

Root Cause Initial and date:

See front of NCM

Corrective Action Initial and Date: 5-8-98

All QC + Samples + Duplicates accepted within criteria.

Responsibility for performing CA assigned to:

Actions to prevent recurrence Initial and Date: 5/11/98

Cautioned technician to use more care when watching samples on hot plate.

First Level Supervisor: Joel Kingsmore Date: 5-8-98

Responsible Manager: Jacqueline Wadelle Date: 5/11/98

Quality Assurance Review

☐ Anomaly ☒ Deficiency ☐ Rerun

☐ Further action required:

Assigned to:

QA signature: Jodie Co Date: 5/11/98

Corrective Action Verification

☒ Verified

☐ Cannot Verify (specify reason):

Nonconformance Memo Closure

QA signature/date: Jodie Co 5/11/98

Quanterra Data Review Checklist
RADIOCHEMISTRY

Work Order number (s): 803427, 803402

Client ID: PGW

Due Date: 5-9-98

Lab Sample Number or SDG: W92288

Method Test Parameters: Gamma

Matrix: Water

Review Item	Yes (✓)	No (✓)	NA (✓)	2nd Level Review (✓)
A. Calibration				
1. Is the calibration documentation included where applicable?				✓
B. Sample Analysis				
1. Are the sample yields within acceptance criteria?				✓
2. Were all sample holding times met?	✓			
3. Is the sample Minimum Detectable Activity < the Contract Detection Limit?				
C. QC Samples				
1. Is the blank yield within acceptance criteria				✓
2. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓			
3. Is the blank result < 1/2 the Contract Detection Limit?	✓			
4. Is the blank > 1/2 the Contract Detection Limit but < Contract Detection Limit?				✓
5. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?				✓
6. Is the LCS result within acceptance criteria?	✓			
7. Is the LCS yield within acceptance criteria			✓	
8. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?			✓	
9. MS/MSD results and yield meet acceptance criteria?			✓	
10. Duplicate sample results and yield meet acceptance criteria?	✓			✓
D. Other				
1. Are all Nonconformances included and noted?	✓			✓
2. Are all required forms filed out?	✓			✓
3. Correct methodology used?	✓			✓
4. Transcription checked?	✓			
5. Were all calculations checked at a minimum frequency?	✓			
6. Units checked?	✓			✓

Comments on any "No" response:

First Level Review: Mat Landy Date: 5/8/98

Second Level Review: [signature] Date: 5/8/98

Form #: LS-038.2/96, Rev 4

Quanterra Data Review Checklist
RADIOCHEMISTRY

Work Order number (s): 803400, 803339, 803385, 803383, 803427, 803402

Client ID: PGW

Due Date: 5-9-98

Lab Sample Number or SDG: W02288

Method Test Parameters: Alpha

Matrix: Water

Review Item	Yes (✓)	No (✓)	N/A (✓)	2nd Level Review (✓)
A. Calibration				
1. Is the calibration documentation included where applicable?			—	
B. Sample Analysis				
1. Are the sample yields within acceptance criteria?			—	
2. Were all sample holding times met?	—			
3. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	—			✓
C. QC Samples				✓
1. Is the blank yield within acceptance criteria			—	
2. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	—			✓
3. Is the blank result < 1/2 the Contract Detection Limit?	—			✓
4. Is the blank > 1/2 the Contract Detection Limit but < Contract Detection Limit?			—	
5. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			—	
6. Is the LCS result within acceptance criteria?	—			✓
7. Is the LCS yield within acceptance criteria			—	
8. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	—			✓
9. MS/MSD results and yield meet acceptance criteria?			—	
10. Duplicate sample results and yield meet acceptance criteria?	—			✓
D. Other				
1. Are all Nonconformances included and noted?			—	
2. Are all required forms filed out?	—			✓
3. Correct methodology used?	—			✓
4. Transcription checked? JM 5-7-98	—			
5. Were all calculations checked at a minimum frequency?	—			
6. Units checked?	—			✓

Comments on any "No" response:

First Level Review: Joel Kempema Date: 5-8-98

Second Level Review: [signature] Date: 5/10/98

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

Quanterra Data Review Checklist
RADIOCHEMISTRY

Work Order number(s): 803400, 803403, 803339, 803385, 803383, 803427

Client ID: PGW

Due Date: 5-9-98

Lab Sample Number or SDG: WQ2288

Method Test Parameters: Beta

Matrix: Water

Review Item	Yes (✓)	No (✓)	NA (✓)	2nd Level Review (✓)
A. Calibration				
1. Is the calibration documentation included where applicable?			—	
B. Sample Analysis				
1. Are the sample yields within acceptance criteria?			—	
2. Were all sample holding times met?	—			
3. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	—			✓
C. QC Samples				
1. Is the blank yield within acceptance criteria			—	
2. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	—			✓
3. Is the blank result < 1/2 the Contract Detection Limit?	—			✓
4. Is the blank > 1/2 the Contract Detection Limit but < Contract Detection Limit?			—	
5. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			—	
6. Is the LCS result within acceptance criteria?	—			✓
7. Is the LCS yield within acceptance criteria			—	
8. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	—			✓
9. MS/MSD results and yield meet acceptance criteria?			—	
10. Duplicate sample results and yield meet acceptance criteria?	—			✓
D. Other				
1. Are all Nonconformances included and noted?			—	
2. Are all required forms filled out?	—			✓
3. Correct methodology used?	—			✓
4. Transcription checked? JM 5-7-98	—			
5. Were all calculations checked at a minimum frequency?	—			
6. Units checked?	—			✓

Comments on any "No" response:

First Level Review: [signature] Date: 5-8-98

Second Level Review: [signature] Date: 5/10/98

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

Quanterra Data Review Checklist
RADIOCHEMISTRY

Work Order number (s): 803402 803427

Client ID: PGW

Due Date: 5-9-98

Lab Sample Number or SDG: W02288

Method Test Parameters: Sr-90

Matrix: Water

Review Item	Yes (✓)	No (✓)	NA (✓)	2nd Level Review (✓)
A. Calibration				
1. Is the calibration documentation included where applicable?			✓	
B. Sample Analysis				
1. Are the sample yields within acceptance criteria?	✓			✓
2. Were all sample holding times met?	✓			✓
3. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓	✓ See below		✓
C. QC Samples				
1. Is the blank yield within acceptance criteria	✓			✓
2. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓			✓
3. Is the blank result < 1/2 the Contract Detection Limit?	✓			✓
4. Is the blank > 1/2 the Contract Detection Limit but < Contract Detection Limit?			✓	
5. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓	
6. Is the LCS result within acceptance criteria?	✓			✓
7. Is the LCS yield within acceptance criteria	✓			✓
8. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓			✓
9. MS/MSD results and yield meet acceptance criteria?			✓	
10. Duplicate sample results and yield meet acceptance criteria?	✓			✓
D. Other				
1. Are all Nonconformances included and noted?			✓	
2. Are all required forms filed out?	✓			✓
3. Correct methodology used?	✓			✓
4. Transcription checked? JM 5-4-98	✓			
5. Were all calculations checked at a minimum frequency?	✓			
6. Units checked?	✓			

Comments on any "No" response: Sample 8034020I + D034020I have elevated MDAs due to reduced volume analyzed. Both have detected activity exceeding achieved MDA - data accepted.

First Level Review: Jacqueline Waddell Date: 5/5/98

Second Level Review: [signature] Date: 5/9/98

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

Quanterra Data Review Checklist
RADIOCHEMISTRY

Work Order number(s): 803339, 803383, 803400

Client ID: PGW

Due Date: 5-9-98

Lab Sample Number or SDG: W922588

Method Test Parameter: Total Radium

Matrix: Water

Review Item	Yes (✓)	No (✓)	NA (✓)	2nd Level Review (✓)
A. Calibration				
1. Is the calibration documentation included where applicable?			✓	
B. Sample Analysis				
1. Are the sample yields within acceptance criteria?	✓			✓
2. Were all sample holding times met?	✓			✓
3. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓			✓
C. QC Samples				
1. Is the blank yield within acceptance criteria	✓			✓
2. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓			✓
3. Is the blank result < 1/2 the Contract Detection Limit?	✓			✓
4. Is the blank > 1/2 the Contract Detection Limit but < Contract Detection Limit?			✓	
5. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓	
6. Is the LCS result within acceptance criteria?	✓			✓
7. Is the LCS yield within acceptance criteria	✓			✓
8. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓			✓
9. MS/MSD results and yield meet acceptance criteria?			✓	
10. Duplicate sample results and yield meet acceptance criteria?	✓			✓
D. Other				
1. Are all Nonconformances included and noted?			✓	
2. Are all required forms filed out?	✓			✓
3. Correct methodology used?	✓			✓
4. Transcription checked? SM 4-9-98	✓			
5. Were all calculations checked at a minimum frequency?	✓			
6. Units checked?	✓			✓

Comments on any "No" response: _____

First Level Review: Jacqueline Waddell Date: 5/5/98

Second Level Review: [illegible] Date: 5/9/98

Form #: LS-038.2/96, Rev 4

Quanterra Data Review Checklist
RADIOCHEMISTRY

Work Order number(s): 803339, 803383, 803400, 803402, 803427

Client ID: PGW

Due Date: 5-9-98

Lab Sample Number or SDG: W02288

Method Test Parameters: Carbon 14

Matrix: Water

Review Item	Yes (✓)	No (✓)	NA (✓)	2nd Level Review (✓)
A. Calibration				
1. Is the calibration documentation included where applicable?			✓	
B. Sample Analysis				
1. Are the sample yields within acceptance criteria?	✓			✓
2. Were all sample holding times met?	✓			✓
3. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓			✓
C. QC Samples				
1. Is the blank yield within acceptance criteria	✓			✓
2. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓			✓
3. Is the blank result < 1/2 the Contract Detection Limit?	✓			✓
4. Is the blank > 1/2 the Contract Detection Limit but < Contract Detection Limit?			✓	
5. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓	
6. Is the LCS result within acceptance criteria?	✓			✓
7. Is the LCS yield within acceptance criteria	✓			✓
8. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓			✓
9. MS/MSD results and yield meet acceptance criteria?			✓	
10. Duplicate sample results and yield meet acceptance criteria?	✓			✓
D. Other				
1. Are all Nonconformances included and noted?			✓	
2. Are all required forms filed out?	✓			✓
3. Correct methodology used?	✓			✓
4. Transcription checked? JM 4-18-98	✓			
5. Were all calculations checked at a minimum frequency?	✓			
6. Units checked?	✓			✓

Comments on any "No" response: _____

First Level Review: Jacqueline Wadelee Date: 5/5/98

Second Level Review: [signature] Date: 5/10/98

Form #: LS-038.2/96, Rev 4

Quanterra Data Review Checklist
RADIOCHEMISTRY

Work Order number (s): 803339, 803383, 803400, 803402, 803427

Client ID: PGW

Due Date: 5-11-98

Lab Sample Number or SDG: WØ2288

Method Test Parameters: Tc-99

Matrix: Water

Review Item	Yes (✓)	No (✓)	NA (✓)	2nd Level Review (✓)
A. Calibration				
1. Is the calibration documentation included where applicable?			✓	
B. Sample Analysis				
1. Are the sample yields within acceptance criteria?	✓			✓
2. Were all sample holding times met?	✓			✓
3. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓			✓
C. QC Samples				
1. Is the blank yield within acceptance criteria	✓			✓
2. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓			✓
3. Is the blank result < 1/2 the Contract Detection Limit?	✓			✓
4. Is the blank > 1/2 the Contract Detection Limit but < Contract Detection Limit?			✓	
5. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓	
6. Is the LCS result within acceptance criteria?	✓			✓
7. Is the LCS yield within acceptance criteria	✓			✓
8. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓			✓
9. MS/MSD results and yield meet acceptance criteria?	✓		~~✓~~ JM 5/5/98	✓
10. Duplicate sample results and yield meet acceptance criteria?	✓			✓
D. Other				
1. Are all Nonconformances included and noted?			✓	
2. Are all required forms filed out?	✓			✓
3. Correct methodology used?	✓			✓
4. Transcription checked? JM 4-29-98	✓			
5. Were all calculations checked at a minimum frequency?	✓			
6. Units checked?	✓			✓

Comments on any "No" response:

First Level Review: Jacqueline Waddell Date: 5/5/98

Second Level Review: [signature] Date: 5/10/98

Form #: LS-038.2 /96, Rev 4

Quanterra Data Review Checklist
RADIOCHEMISTRY

Work Order number(s): 803385, 803387, 803402, 803427

Client ID: PGW

Due Date: 5-9-98

Lab Sample Number or SDG: W92288

Method Test Parameters: Tritium

Matrix: Water

Review Item	Yes (✓)	No (✓)	NA (✓)	2nd Level Review (✓)
A. Calibration				
1. Is the calibration documentation included where applicable?			✓	
B. Sample Analysis				
1. Are the sample yields within acceptance criteria?	✓			✓
2. Were all sample holding times met?	✓			✓
3. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓			✓
C. QC Samples				
1. Is the blank yield within acceptance criteria	✓			✓
2. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓			✓
3. Is the blank result < 1/2 the Contract Detection Limit?	✓			✓
4. Is the blank > 1/2 the Contract Detection Limit but < Contract Detection Limit?			✓	
5. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓	
6. Is the LCS result within acceptance criteria?	✓			✓
7. Is the LCS yield within acceptance criteria	✓			✓
8. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓			✓
9. MS/MSD results and yield meet acceptance criteria?			✓	
10. Duplicate sample results and yield meet acceptance criteria?	✓			✓
D. Other				
1. Are all Nonconformances included and noted?			✓	
2. Are all required forms filed out?	✓			✓
3. Correct methodology used?	✓			✓
4. Transcription checked? JM 4-27-98	✓			
5. Were all calculations checked at a minimum frequency?	✓			
6. Units checked?	✓			✓

Comments on any "No" response:

First Level Review: Jacqueline Waddell Date: 5/5/98

Second Level Review: [signature] Date: 5/10/98

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

Quanterra Data Review Checklist
RADIOCHEMISTRY

Work Order number (s):	803339, 803383, 803427, 803400
Client ID:	PGW
Due Date:	5-9-98
Lab Sample Number or SDG:	W02288
Method Test Parameters:	Uranium
Matrix:	Water

Review Item	Yes (✓)	No (✓)	N/A (✓)	2nd Level Review (✓)
A. Calibration				
1. Is the calibration documentation included where applicable?			✓	
B. Sample Analysis				
1. Are the sample yields within acceptance criteria?			✓	
2. Were all sample holding times met?	✓			✓
3. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓			✓
C. QC Samples				
1. Is the blank yield within acceptance criteria			✓	
2. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓			✓
3. Is the blank result < 1/2 the Contract Detection Limit?	✓			✓
4. Is the blank > 1/2 the Contract Detection Limit but < Contract Detection Limit?			✓	
5. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓	
6. Is the LCS result within acceptance criteria?	✓			✓
7. Is the LCS yield within acceptance criteria			✓	
8. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓			✓
9. MS/MSD results and yield meet acceptance criteria?	✓			✓
10. Duplicate sample results and yield meet acceptance criteria?	✓			✓
D. Other				
1. Are all Nonconformances included and noted?			✓	
2. Are all required forms filed out?	✓			✓
3. Correct methodology used?	✓			✓
4. Transcription checked? JM 5-8-98	✓			
5. Were all calculations checked at a minimum frequency?	✓			
6. Units checked?	✓			✓

Comments on any "No" response: _____

First Level Review: Joel Kempenza Date: 5-8-98

Second Level Review: [signature] Date: 5/11/98

Form #: LS-038.2/96, Rev 4

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	N98-005-1	Page 1 of 2

Collector HT SICKLE (RFS)	**Company Contact** DL STEWART	**Telephone No.** (509)376-5056	**Project Coordinator** VAN SICKLE, GE	**Data Turnaround** 45 Days
Project Designation ERDF Groundwater Monitoring, March 1998	**Sampling Location** HANFORD SITE		**SAF No.** N98-005	
Ice Chest No. SML 465	**Field Logbook No.** WM - SML H 11, PAGE 71		**Method of Shipment** GOVT. VEHICLE	
Shipped To Quanterra Incorporated	**Offsite Property No.** N/A		**Bill of Lading/Air Bill No.** N/A	
POSSIBLE SAMPLE HAZARDS/REMARKS N/A				
Special Handling and/or Storage COOL 4°C				

SAMPLE ANALYSIS 803338 SDC W002288

Preservation	None	Cool 4C	Cool 4C	Cool 4C	H2SO4 to pH <2 Cool 4C	HNO3 to pH <2	H2SO4 to pH <2 Cool 4C	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2
Type of Container	G/P	G/P	G/P	G/P	G/P	G/P	aGs*	G/P	G/P	G/P
No. of Container(s)	1	1	1	1	1	1	1	1	1	1
Volume	20ml	500ml	500ml	500ml	500ml	500ml	1000ml	1000ml	1000ml	1000ml
	Activity Scan	Alkalinity - 310.1	IC Anions - 300.0 (Chloride, Fluoride, Sulfate)	TDS - 160.1	NO2/NO3 - 353.1	Total Uranium 803339 01	TOX - 9020	Gross Alpha & Gross Beta 803339 01	See Item (1) in Special Instructions. (U) (F)	Total Radium 803339 01
Sample No. / Matrix * / Sample Date / Sample Time										
B0N839 01 (F) / Water / MAR 19 1998 / 1152									✓	
B0N840 02 / Water / MAR 19 1998 / 1152	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: HT SICKLE (RFS)	Date/Time: 3-19-98 1450	Received By: L Wagar	Date/Time: 3-19-98 1450
Relinquished By	Date/Time	Received By: 2100pm	Date/Time
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS
TOTAL ACTIVITY EXEMPTION APPLIES
SEE SAF "COC Comments" for batching instructions without exceeding 14 day closure.

(1) ICP Metals - 6010A (SW-846) (Barium, Chromium, Lead, Tin, Vanadium, Zinc); Arsenic - 7060 - (GFAA); Selenium - 7740 - (GFAA)

Matrix *
- S = Soil
- SE = Sediment
- SO = Solid
- Sl. = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

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

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	N98-005-1	Page 2 of 2

Collector: HT SICKLE (RFS)	Company Contact: DL STEWART	Telephone No.: (509)376-5056	Project Coordinator: VAN SICKLE, GE
Project Designation: ERDF Groundwater Monitoring, March 1998	Sampling Location: HANFORD SITE		SAF No.: N98-005
Ice Chest No.: SML 465	Field Logbook No.: WM - SML H 11, PAGE 31		Method of Shipment: GOVT. VEHICLE
Shipped To: Quanterra Incorporated	Offsite Property No.: N/A		Bill of Lading/Air Bill No.: N/A
POSSIBLE SAMPLE HAZARDS/REMARKS: N/A			
Special Handling and/or Storage: COO / 4°C			

Data Turnaround: **45 Days**

Preservation	None	HCl or H2SO4 to pH <2 Coo	HCl to pH <2	None						
Type of Container	G/P	Gs*	G/P	G/P						
No. of Container(s)	2	3	3	3						
Volume	1000ml	40ml	1000ml	1000ml						
SAMPLE ANALYSIS: 803338	Carbon 14 803339 01	VOA - 8240A (TCL)	Technetium 99 80333	Iodine 129 3901						

Sample No.	Matrix *	Sample Date	Sample Time										
B0N839 01 (F)	Water												
B0N840 02	Water	MAR 19 1998	1152	✓	✓	✓	✓						

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
HT SICKLE (RFS)	3-19-98 1450	Wilson	3-19-98 1450
			1100cpm

SPECIAL INSTRUCTIONS
TOTAL ACTIVITY EXEMPTION APPLIES
SEE SAF "COC Comments" for batching instructions without exceeding 14 day closure.

Matrix *

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

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

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	N98-005-6	Page 1 of 2

Collector: HT SICKLE (RFS)	Company Contact: DL STEWART — Telephone No.: (509)376-5056	Project Coordinator: VAN SICKLE, GE	Data Turnaround: 45 Days
Project Designation: ERDF Groundwater Monitoring, March 1998	Sampling Location: HANFORD SITE	SAF No.: N98-005	
Ice Chest No.: SML ~~349~~ 471 RHS 3-19-98	Field Logbook No.: WM - SML H 11, PAGE 31	Method of Shipment: GOVT. VEHICLE	
Shipped To: Quanterra Incorporated	Offsite Property No.: N/A	Bill of Lading/Air Bill No.: N/A	

POSSIBLE SAMPLE HAZARDS/REMARKS: N/A

Special Handling and/or Storage: cool 4°C

Preservation	None	Cool 4C	Cool 4C	Cool 4C	H2SO4 to pH <2 Cool 4C	HNO3 to pH <2	H2SO4 to pH <2 Cool 4C	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2
Type of Container	G/P	G/P	G/P	G/P	G/P	G/P	aGs*	G/P	G/P	G/P
No. of Container(s)	1	1	1	1	1	1	1	1	1	1
Volume	20ml	500ml	500ml	500ml	500ml	500ml	1000ml	1000ml	1000ml	1000ml
SAMPLE ANALYSIS 803338	Activity Scan	Alkalinity - 310.1	IC Anions - 300.0 (Chloride, Fluoride, Sulfate)	TDS - 160.1	NO2/NO3 - 353.1	Total Uranium 803339 02	TOX - 9020	Gross Alpha & Gross Beta 803339 02	See item (1) in Special Instructions. (U F)	Total Radium 803339 02

Sample No.	Matrix *	Sample Date	Sample Time	Activity Scan	Alkalinity - 310.1	IC Anions - 300.0	TDS - 160.1	NO2/NO3 - 353.1	Total Uranium	TOX - 9020	Gross Alpha & Gross Beta	See item (1)	Total Radium
B0N847 03 (F)	Water	MAR 19 1998	0948									✓	
B0N848 04	Water	MAR 19 1998	0948	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
HT SICKLE (RFS)	3-19-98 1450	Wagan	3-19-98 1450
Relinquished By	Date/Time	Received By	Date/Time
			<100 ppm
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS
TOTAL ACTIVITY EXEMPTION APPLIES
SEE SAF "COC Comments" for batching instructions without exceeding 14 day closure.

(1) ICP Metals - 6010A (SW-846) [Barium, Chromium, Lead, Tin, Vanadium, Zinc]; Arsenic - 7060 - (GFAA), Selenium - 7740 - (GFAA)

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

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

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	N98-005-6	Page 2 of 2

Collector: RT SICKLE (RFS)	Company Contact: DL STEWART — Telephone No.: (509)376 5056	Project Coordinator: VAN SICKLE, GE	Data Turnaround: 45 Days
Project Designation: ERDF Groundwater Monitoring, March 1998	Sampling Location: HANFORD SITE	SAF No.: N98-005	
Ice Chest No.: SML ~~349~~ 471 RDF 3-19-98	Field Logbook No.: LWM - SML H 11, PAGE 31	Method of Shipment: GOVT. VEHICLE	
Shipped To: Quanterra Incorporated	Offsite Property No.: N/A	Bill of Lading/Air Bill No.: N/A	

POSSIBLE SAMPLE HAZARDS/REMARKS: N/A

Special Handling and/or Storage: cool 4°C

Preservation	None	HCl or H2SO4 to pH <2 Coo	HCl to pH <2	None									
Type of Container	G/P	Gs*	G/P	G/P									
No. of Container(s)	2	3	3	3									
Volume	1000ml	40ml	1000ml	1000ml									
SAMPLE ANALYSIS 803338	Carbon 14 803339 02	VOA - 8240A (TCL)	Technetium 99 8033	Iodine-129 3902									

Sample No.	Matrix *	Sample Date	Sample Time										
B0N847 03	Water												
B0N848 04	Water	MAR 19 1998	0948	✓	✓	✓	✓						

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
RT SICKLE (RFS) [signature]	3-19-98 1450	[signature] Wagon	3/19/98 1450
			<100cpm

SPECIAL INSTRUCTIONS
TOTAL ACTIVITY EXEMPTION APPLIES
SEE SAF "COC Comments" for batching instructions without exceeding 14 day closure.

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

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

0400

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	N98-005-8	Page 1 of 2

Collector HT SICKLE (RFS)	Company Contact DL STEWART	Telephone No. (509)376-5056	Project Coordinator VAN SICKLE, GE
Data Turnaround 45 Days			
Project Designation ERDF Groundwater Monitoring, March 1998	Sampling Location HANFORD SITE		SAF No. N98-005
Ice Chest No. SML 349	Field Logbook No. WM-SML H 11 PAGE 31		Method of Shipment GOVT. VEHICLE
Shipped To Quanterra Incorporated	Offsite Property No. N/A		Bill of Lading/Air Bill No. N/A
POSSIBLE SAMPLE HAZARDS/REMARKS N/A			
Special Handling and/or Storage cool 4°C			

Preservation	None	Cool 4C	Cool 4C	Cool 4C	H2SO4 to pH <2 Cool 4C	HNO3 to pH <2	H2SO4 to pH <2 Cool 4C	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2
Type of Container	G/P	G/P	G/P	G/P	G/P	G/P	aGs*	G/P	G/P	G/P
No. of Container(s)	1	1	1	1	1	1	1	1	1	1
Volume	20ml	500ml	500ml	500ml	500ml	500ml	1000ml	1000ml	1000ml	1000ml
SAMPLE ANALYSIS 803338	Activity Scan	Alkalinity - 310.1	IC Anions - 300.0 (Chloride, Fluoride, Sulfate)	TDS - 160.1	NO2/NO3 - 353.1	Total Uranium 803339 03	TOX - 9020	Gross Alpha & Gross Beta 803339 03	See item (1) in Special Instructions. (W F)	Total Radium 803339 03

Sample No.	Matrix *	Sample Date	Sample Time										
B0N851 05 (E)	Water	MAR 19 1998	0905									✓	
B0N852 06	Water	MAR 19 1998	0905	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By HT SICKLE (RFS)	Date/Time 3-19-98 1450	Received By Wagar	Date/Time 3-19-98 1450
Relinquished By	Date/Time	Received By <100cpm	Date/Time
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS

TOTAL ACTIVITY EXEMPTION APPLIES

SEE SAF "COC Comments" for batching instructions without exceeding 14 day closure.

(1) ICP Metals - 6010A (SW-846) [Barium, Chromium, Lead, Tin, Vanadium, Zinc]; Arsenic - 7060 - (GFAA); Selenium - 7740 - (GFAA)

Matrix *

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

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

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	N98-005-8	Page 2 of 2

Collector: HT SICKLE (RFS)	Company Contact: DL STEWART	Telephone No.: (509)376-5056	Project Coordinator: VAN SICKLE, GE
Project Designation: ERDF Groundwater Monitoring, March 1998	Sampling Location: HANFORD SITE		SAF No.: N98-005
Ice Chest No.: SML 349	Field Logbook No.: WM-SML H 11, PAGE 31		Method of Shipment: GOVT. VEHICLE
Shipped To: Quanterra Incorporated	Offsite Property No.: N/A		Bill of Lading/Air Bill No.: N/A

Data Turnaround: **45 Days**

POSSIBLE SAMPLE HAZARDS/REMARKS: N/A

Special Handling and/or Storage: COO/4°C

Preservation	None	HCl or H2SO4 to pH <2 Coo	HCl to pH <2	None								
Type of Container	G/P	Gs*	G/P	G/P								
No. of Container(s)	2	3	3	3								
Volume	1000ml	40ml	1000ml	1000ml								
SAMPLE ANALYSIS	Carbon 14	VOA - 8240A (TCL)	Technetium 99	Iodine-129								
803338	803339 03		80333	3903								

Sample No.	Matrix *	Sample Date	Sample Time										
B0N851 05	Water												
B0N852 06	Water	MAR 19 1998	0905	✓	✓	✓	✓						

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
HT SICKLE (RFS) [signature]	3-19-98 1450	[signature]	3-19-98 1450
			<100 Cpm

SPECIAL INSTRUCTIONS
TOTAL ACTIVITY EXEMPTION APPLIES
SEE SAF "COC Comments" for batching instructions without exceeding 14 day closure.

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

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

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	N98-005-9	Page 1 of 1

Collector: HT SICKLE (RFS)	Company Contact: DL STEWART	Telephone No.: (509)376-5056	Project Coordinator: VAN SICKLE, GE
Project Designation: ERDF Groundwater Monitoring, March 1998	Sampling Location: HANFORD SITE		SAF No.: N98-005
Ice Chest No.: SML 349	Field Logbook No.: WM-SML H 11, PAGE 11		Method of Shipment: GOVT. VEHICLE
Shipped To: Quanterra Incorporated	Offsite Property No.: N/A		Bill of Lading/Air Bill No.: N/A
POSSIBLE SAMPLE HAZARDS/REMARKS: N/A			
Special Handling and/or Storage: cool 4°C			

Data Turnaround: **45 Days**

Preservation	None	HCl or H2SO4 to pH <2 Cool										
Type of Container	G/P	G*										
No. of Container(s)	1	3										
Volume	20ml	40ml										
SAMPLE ANALYSIS: 80333807	Activity Scan	VOA - 8240A (TCL)										

Sample No.	Matrix *	Sample Date	Sample Time										
B0N853	Water	MAR 19 1998	0800	✓	✓								

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
HT SICKLE (RFS)	3-19-98 1450		3-19-98 1450
			5100pm

SPECIAL INSTRUCTIONS
TOTAL ACTIVITY EXEMPTION APPLIES
SEE SAF "COC Comments" for batching instructions without exceeding 14 day closure.

Matrix *

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

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

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	N98-005-10	Page 1 of 1

Collector: RT SICKLE (RFS)	Company Contact: DL STEWART	Telephone No.: (509)376 5056	Project Coordinator: VAN SICKLE, GE
Project Designation: ERDF Groundwater Monitoring, March 1998	Sampling Location: HANFORD SITE		SAF No.: N98-005
Ice Chest No.: SML 349	Field Logbook No.: WM-SML H 11, PAGE 31		Method of Shipment: GOVT. VEHICLE
Shipped To: Quanterra Incorporated	Offsite Property No.: N/A		Bill of Lading/Air Bill No.: N/A

Data Turnaround: **45 Days**

POSSIBLE SAMPLE HAZARDS/REMARKS: N/A

Special Handling and/or Storage: Cool/4°C

Preservation	None	HCl or H2SO4 to pH <2 Coo										
Type of Container	G/P	Gs*										
No. of Container(s)	1	3										
Volume	20ml	40ml										
	Activity Scan	VOA - 8240A (TCL)										

SAMPLE ANALYSIS: 80333808

Sample No.	Matrix *	Sample Date	Sample Time										
B0N854	Water	MAR 19 1998	0800	✓	✓								

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
RT SICKLE (RFS)	3-19-98 1450	L Wagar	3-19-98 1450
			<100cpm

SPECIAL INSTRUCTIONS
TOTAL ACTIVITY EXEMPTION APPLIES
SEE SAF "COC Comments" for batching instructions without exceeding 14 day closure.

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

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

Figure 1

SAMPLE CHECK-IN LIST

Date/Time Received: 3/19/98 1450 SG#: W02288

Work Order Number: 803338 + 339 SAF #: N98-005

Shipping Container ID: SMC-349 Chain of Custody # N98-005-8, 9 & 10

1. Custody Seals on shipping container intact? Yes [✓] No [ ]
2. Custody Seals dated and signed? Yes [✓] No [ ]
3. Chain-of-Custody record present? Yes [✓] No [ ]
4. Cooler temperature 2°C
5. Vermiculite/packing materials is Wet [ ] Dry [ ] N/A
6. Number of samples in shipping container: 30
7. Sample holding times exceeded? Yes [ ] No [✓]

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

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

10. Where any anomalies identified in sample receipt? Yes [ ] No [✓]
11. Description of anomalies (include sample numbers): _____

Sample Custodian/Laboratory: [signature] Date: 3-19-98

Telephoned To: _____ On _____ By _____

0075

Figure 1

SAMPLE CHECK-IN LIST

Date/Time Received: 3-19-98 1450 SGS: W02288

Work Order Number: 803338 + 339 SAF #: N 98-005

Shipping Container ID: SMC-471 Chain of Custody # N98-005-6

1. Custody Seals on shipping container intact? Yes [✓] No [ ]
2. Custody Seals dated and signed? Yes [✓] No [ ]
3. Chain-of-Custody record present? Yes [✓] No [ ]
4. Cooler temperature 2°C
5. Vermiculite/packing materials is Wet [ ] Dry [ ] N/A
6. Number of samples in shipping container: 22
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: R Wagen Date: 3/19/98

Telephoned To: _____ On _____ By _____

Figure 1

SAMPLE CHECK-IN LIST

Date/Time Received: 3-19-98 1450 SG#: W02288

Work Order Number: 803338 + 339 SAF #: S98-003; N98-005; W98-003

Shipping Container ID: SML 465 Chain of Custody # S98-003-31; W98-003-123+ N98-005-1

1. Custody Seals on shipping container intact? Yes [✓] No [ ]
2. Custody Seals dated and signed? Yes [✓] No [ ]
3. Chain-of-Custody record present? Yes [✓] No [ ]
4. Cooler temperature 2°C
5. Vermiculite/packing materials is Wet [ ] Dry [ ] N/A
6. Number of samples in shipping container: 32
7. Sample holding times exceeded? Yes [ ] No [✓]

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

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

10. Where any anomalies identified in sample receipt? Yes [ ] No [✓]
11. Description of anomalies (include sample numbers): _____

Sample Custodian/Laboratory: [signature] Date: 3-19-98

Telephoned To: _____ On _____ By _____

0077

803338 Chem (803339 Rad)

3/20/98

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
PGW B0N840 (01) 01+02	LIQUID	3/20/1998	QUAD22C	3/20/1998 9:47:43 AM	B0N840	30	19	0.57761905	71	1.4038095
			Bkg:	3/20/1998 1:28:46 AM	BKG	700	39	0.05571429	674	0.9628571
Anl Date: 3/20/1998	Tot Sa, Alq: 1.00E+01	, 1.00E+01	Alp; (Dpm/ 1.71E+00	(uCi/ 7.70E-04	(pCi/ 7.70E+01	± 2.5E+01	CAT I	3.2E-01	Lab	
Ppt mg: 2.5	Units: L	, ml	Bet; Alq): 2.27E+00	Sa): 1.02E-03	L|g): 1.02E+02	± 2.3E+01		4.9E-01	Alq L|g	
PGW B0N848 (02) 03+04	LIQUID	3/20/1998	QUAD22D	3/20/1998 9:47:43 AM	B0N848	30	20	0.6252381	94	2.1604762
			Bkg:	3/20/1998 1:28:46 AM	BKG	700	29	0.04142857	681	0.9728571
Anl Date: 3/20/1998	Tot Sa, Alq: 1.00E+01	, 1.00E+01	Alp; (Dpm/ 1.90E+00	(uCi/ 8.58E-04	(pCi/ 8.58E+01	± 2.7E+01	CAT I	2.9E-01	Lab	
Ppt mg: 4.5	Units: L	, ml	Bet; Alq): 3.73E+00	Sa): 1.68E-03	L|g): 1.68E+02	± 2.7E+01		3.0E-01	Alq L|g	
PGW B0N852 (03) 05+06	LIQUID	3/20/1998	QUAD23A	3/20/1998 9:47:52 AM	B0N852	30	14	0.42095238	61	1.1947619
			Bkg:	3/20/1998 1:28:54 AM	BKG	700	32	0.04571429	587	0.8385714
Anl Date: 3/20/1998	Tot Sa, Alq: 1.00E+01	, 1.00E+01	Alp; (Dpm/ 1.17E+00	(uCi/ 5.28E-04	(pCi/ 5.28E+01	± 2.1E+01	CAT I	4.7E-01	Lab	
Ppt mg: 0	Units: L	, ml	Bet; Alq): 2.00E+00	Sa): 9.01E-04	L|g): 9.01E+01	± 2.2E+01		5.6E-01	Alq L|g	
PGW B0N853 07	LIQUID	3/20/1998	QUAD23B	3/20/1998 9:47:52 AM	B0N853	30	14	0.42095238	41	0.3852381
			Bkg:	3/20/1998 1:28:54 AM	BKG	700	32	0.04571429	687	0.9814286
Anl Date: 3/20/1998	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp; (Dpm/ 1.25E+00	(uCi/ 5.63E-05	(pCi/ 5.63E+01	± 2.3E+01	CAT I	4.4E-01	Lab	
Ppt mg: 0	Units: L	, ml	Bet; Alq): 4.60E-01	Sa): 2.07E-05	L|g): 2.07E+01	± 1.8E+01		2.4E+00	Alq L|g	
PGW B0N854 08	LIQUID	3/20/1998	QUAD23C	3/20/1998 9:47:52 AM	B0N854	30	27	0.84	89	2.052381
			Bkg:	3/20/1998 1:28:54 AM	BKG	700	42	0.06	640	0.9142857
Anl Date: 3/20/1998	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp; (Dpm/ 2.34E+00	(uCi/ 1.05E-04	(pCi/ 1.05E+02	± 2.6E+01	CAT I	2.4E-01	Lab	
Ppt mg: 0	Units: L	, ml	Bet; Alq): 3.45E+00	Sa): 1.56E-04	L|g): 1.56E+02	± 2.6E+01		3.2E-01	Alq L|g	
PGW B0N8B4	LIQUID	3/20/1998	QUAD23D	3/20/1998 9:47:52 AM	B0N8B4	30	14	0.4152381	206	5.9538095
			Bkg:	3/20/1998 1:28:54 AM	BKG	700	36	0.05142857	639	0.9128571
Anl Date: 3/20/1998	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp; (Dpm/ 1.20E+00	(uCi/ 5.40E-05	(pCi/ 5.40E+01	± 2.5E+01	CAT I	4.6E-01	Lab	
Ppt mg: 7.9	Units: L	, ml	Bet; Alq): 1.13E+01	Sa): 5.07E-04	L|g): 5.07E+02	± 4.1E+01		9.9E-02	Alq L|g	
PGW TEDF0319981	LIQUID	3/20/1998	QUAD24A	3/20/1998 9:47:47 AM	TEDF0319981	30	18	0.54	66	1.2928571
			Bkg:	3/20/1998 1:28:35 AM	BKG	700	42	0.06	635	0.9071429
Anl Date: 3/20/1998	Tot Sa, Alq: 2.00E+00	, 1.00E+01	Alp; (Dpm/ 2.22E+00	(uCi/ 2.00E-04	(pCi/ 9.98E+01	± 3.6E+01	CAT I	2.5E-01	Lab	
Ppt mg: 25.2	Units: L	, ml	Bet; Alq): 2.36E+00	Sa): 2.13E-04	L|g): 1.06E+02	± 2.4E+01		4.7E-01	Alq L|g	

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PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	N98-005-4	Page 1 of 2

Collector: AG RIZZO (RFS)	Company Contact: DL STEWART	Telephone No.: (509)376-5056	Project Coordinator: VAN SICKLE, GE
Data Turnaround: 45 Days			
Project Designation: ERDF Groundwater Monitoring, March 1998	Sampling Location: HANFORD SITE		SAF No.: N98-005
Ice Chest No.: SML-348	Field Logbook No.: WM-SML-H4		Method of Shipment: GOVT. VEHICLE
Shipped To: Quanterra Incorporated	Offsite Property No.: NA		Bill of Lading/Air Bill No.: NA

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage: 4°C

SAMPLE ANALYSIS: 803382 SDG W022288

Preservation	None	Cool 4C	Cool 4C	Cool 4C	H2SO4 to pH <2 Cool 4C	HNO3 to pH <2	H2SO4 to pH <2 Cool 4C	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2
Type of Container	G/P	G/P	G/P	G/P	G/P	G/P	aGs*	G/P	G/P	G/P
No. of Container(s)	1	1	1	1	1	1	1	1	1	1
Volume	20ml	500ml	500ml	500ml	500ml	500ml	1000ml	1000ml	1000ml	1000ml
	Activity Scan	Alkalinity - 310.1	IC Anions - 300.0 (Chloride, Fluoride, Sulfate)	TDS - 160.1	NO2/NO3 - 353.1	Total Uranium 803383 01	TOX - 9020	Gross Alpha & Gross Beta 803383 01	See Item (1) in Special Instructions. (u F)	Total Radium 803383 01
Sample No.	Matrix *	Sample Date	Sample Time							
B0N845 01 (F)	Water	3/23/98	1328							✓
B0N846 02	Water	3/23/98	1328	✓	✓	✓	✓	✓	✓	✓

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
AG RIZZO (RFS)	3-23-98 1500	R. Hetherington	3-23-98 1500
			2100 CPM

SPECIAL INSTRUCTIONS
TOTAL ACTIVITY EXEMPTION APPLIES
SEE SAF "COC Comments" for batching instructions without exceeding 14 day closure.

(1) ICP Metals - 6010A (SW 846) (Barium, Chromium, Lead, Tin, Vanadium, Zinc); Arsenic - 7060 - (GFAA); Selenium - 7740 - (GFAA)

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

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

007

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	N98-005-4	Page 2 of 2

Collector: AG RIZZO (RFS)	Company Contact: DL STEWART	Telephone No.: (509)376-5056	Project Coordinator: VAN SICKLE, GE
Project Designation: ERDF Groundwater Monitoring, March 1998	Sampling Location: HANFORD SITE		SAF No.: N98-005
Ice Chest No.: SML-348	Field Logbook No.: WM-SML-H4		Method of Shipment: GOVT. VEHICLE
Shipped To: Quanterra Incorporated	Offsite Property No.: NA		Bill of Lading/Air Bill No.: NA

Data Turnaround: 45 Days

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage: 4°C

Preservation	None	HCl or H2SO4 to pH <2 Coo	HCl to pH <2	None
Type of Container	G/P	Gs*	G/P	G/P
No. of Container(s)	2	3	3	3
Volume	1000ml	40ml	1000ml	1000ml
SAMPLE ANALYSIS	Carbon 14	VOA - 8240A (TCL)	Technetium 99	Iodine 129
803382	803383 01		80338301	

Sample No.	Matrix *	Sample Date	Sample Time										
B0N845 01	Water												
B0N846 02	Water	3/23/98	1328	✓	✓	✓	✓						

CHAIN OF POSSESSION

Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
AG RIZZO (RFS)	1500 3-23-98	R. Schlenberg	1500 3-23-98 2100 CPM

SPECIAL INSTRUCTIONS
TOTAL ACTIVITY EXEMPTION APPLIES
SEE SAF "COC Comments" for batching instructions without exceeding 14 day closure.

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

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

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	N98-005-7	Page 1 of 2

Collector: AG RIZZO (RFS)	Company Contact: DL STEWART — Telephone No.: (509)376-5056	Project Coordinator: VAN SICKLE, GE	Data Turnaround: 45 Days
Project Designation: ERDF Groundwater Monitoring, March 1998	Sampling Location: HANFORD SITE	SAF No.: N98-005	
Ice Chest No.: SML-559	Field Logbook No.: WM-SML-H4	Method of Shipment: GOVT. VEHICLE	
Shipped To: Quanterra Incorporated	Offsite Property No.: NA	Bill of Lading/Air Bill No.: NA	

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage: 4°C

Preservation	None	Cool 4C	Cool 4C	Cool 4C	H2SO4 to pH <2 Cool 4C	HNO3 to pH <2	H2SO4 to pH <2 Cool 4C	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2
Type of Container	G/P	G/P	G/P	G/P	G/P	G/P	aGs*	G/P	G/P	G/P
No. of Container(s)	1	1	1	1	1	1	1	1	1	1
Volume	20ml	500ml	500ml	500ml	500ml	500ml	1000ml	1000ml	1000ml	1000ml
SAMPLE ANALYSIS 803382	Activity Scan	Alkalinity - 310.1	IC Anions - 300.0 (Chloride, Fluoride, Sulfate)	TDS - 160.1	NO2/NO3 - 353.1	Total Uranium 803383 02	TOX - 9020	Gross Alpha & Gross Beta 803383 02	See item (1) in Special Instructions. (U F)	Total Radium 803383 02

Sample No.	Matrix *	Sample Date	Sample Time	Activity Scan	Alkalinity - 310.1	IC Anions - 300.0	TDS - 160.1	NO2/NO3 - 353.1	Total Uranium	TOX - 9020	Gross Alpha & Gross Beta	See item (1) in Special Instructions.	Total Radium
B0N849 03 (F)	Water	3/23/98	0745									✓	
B0N850 04	Water	3/23/98	0745	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
AG RIZZO (RFS)	3-23-98 1500	L. Stettinius	3-23-98 1500
			2100 CPM

SPECIAL INSTRUCTIONS
TOTAL ACTIVITY EXEMPTION APPLIES
SEE SAF "COC Comments" for batching instructions without exceeding 14 day closure.

(1) ICP Metals - 6010A (SW 846) (Barium, Chromium, Lead, Tin, Vanadium, Zinc); Arsenic - 7060 (GFAA), Selenium - 7740 (GFAA)

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

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

008

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	N98-005-7	Page 2 of 2

Collector: AG RIZZO (RFS)	Company Contact: DL STEWART — Telephone No.: (509)376 5056	Project Coordinator: VAN SICKLE, GE	Data Turnaround: 45 Days
Project Designation: ERDF Groundwater Monitoring, March 1998	Sampling Location: HANFORD SITE	SAF No.: N98-005	
Ice Chest No.: SML-559	Field Logbook No.: WM-SML-H4	Method of Shipment: GOVT. VEHICLE	
Shipped To: Quanterra Incorporated	Offsite Property No.: NA	Bill of Lading/Air Bill No.: NA	

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage: 4°C

Preservation	None	HCl or H2SO4 to pH <2 Coo	HCl to pH <2	None							
Type of Container	G/P	Gs*	G/P	G/P							
No. of Container(s)	2	3	3	3							
Volume	1000ml	40ml	1000ml	1000ml							
SAMPLE ANALYSIS	Carbon 14	VOA - 8240A (TCL)	Technetium 99	Iodine-129							
803382	80338302		80338302								

Sample No.	Matrix *	Sample Date	Sample Time										
B0N849 03	Water	~~3/23/98~~	~~0745~~										
B0N850 04	Water	3/23/98	0745	✓	✓	✓	✓						

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: AG RIZZO (RFS)	Date/Time: 3-23-98 1500	Received By: R. Achterberg	Date/Time: 3-23-98 1500
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS
TOTAL ACTIVITY EXEMPTION APPLIES
SEE SAF "COC Comments" for batching instructions without exceeding 14 day closure.

<100CPM

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

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

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	N98-005-12	Page 1 of 1

Collector: AG RIZZO (PTS)	Company Contact: DL STEWART	Telephone No.: (509)376-5056	Project Coordinator: VAN SICKLE, GE
Project Designation: ERDF Groundwater Monitoring, March 1998	Sampling Location: HANFORD SITE		SAF No.: N98-005
Ice Chest No.: SMIL-348	Field Logbook No.: WM-SMIL-44		Method of Shipment: GOVT. VEHICLE
Shipped To: Quanterra Incorporated	Offsite Property No.: NA		Bill of Lading/Air Bill No.: NA

Data Turnaround: **45 Days**

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage: 4°C

Preservation	None	HCl or H2SO4 to pH <2 Coo										
Type of Container	G/P	Gs*										
No. of Container(s)	1	3										
Volume	20ml	40ml										
SAMPLE ANALYSIS 80338205	Activity Scan	VOA - 8240A (TCL)										

Sample No.	Matrix *	Sample Date	Sample Time											
B0N856	Water	3/23/98	1328	✓	✓									

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
AG RIZZO (PTS)	1500 3/23/98	L. Stirling	1500 3-23-98

SPECIAL INSTRUCTIONS
TOTAL ACTIVITY EXEMPTION APPLIES
SEE SAF "COC Comments" for batching instructions without exceeding 14 day closure.

Matrix *

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

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

0038

Figure 1

SAMPLE CHECK-IN LIST

Date/Time Received: 3-23-98 1500 SG#: W02288

Work Order Number: 803382 + 383 SAF #: N98-005

Shipping Container ID: SML-559 Chain of Custody # N98-005-7

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: 22
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: Karen A. Ahnling Date: 3-23-98

Telephoned To: _____ On _____ By _____

0084

Figure 1

SAMPLE CHECK-IN LIST

Date/Time Received: 3-23-98/1500 SG#: W02288

Work Order Number: 803382 + 383 SAF #: N98-005 W98-003

Shipping Container ID: SML348 Chain of Custody # N98-005-4 W98-003-111 N98-005-12

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: 29
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: Karen Ethridge Date: 3-23-98

Telephoned To: _____ On _____ By _____

0085

803382 Chem. 803383 Rad.

(B) 3/24/98

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
PGW B0N4M9		3/24/1998	QUAD22D	3/24/1998 9:51:54 AM	B0N4M9	30	22	0.66619048	92	2.1280952
	LIQUID		Bkg:	3/24/1998 12:44:53 AM	BKG	700	47	0.06714286	657	0.9385714

Anl Date: 3/24/1998	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp;	(Dpm/ 1.95E+00	(uCi/ 8.80E-05	(pCi/ 8.80E+01	± 2.6E+01	CAT	2.8E-01	Lab
Ppt mg: 1.5	Units: L	, ml	Bet;	Alq): 3.61E+00	Sa): 1.63E-04	L|g): 1.63E+02	± 2.6E+01	I	3.1E-01	Alq L|g

PGW B0N579		3/24/1998	QUAD23A	3/24/1998 9:51:57 AM	B0N579	30	31	0.96476190	123	3.16
	LIQUID		Bkg:	3/24/1998 12:45:02 AM	BKG	700	48	0.06857143	658	0.94

Anl Date: 3/24/1998	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp;	(Dpm/ 2.86E+00	(uCi/ 1.29E-04	(pCi/ 1.29E+02	± 2.9E+01	CAT	1.9E-01	Lab
Ppt mg: 4.1	Units: L	, ml	Bet;	Alq): 5.45E+00	Sa): 2.46E-04	L|g): 2.46E+02	± 3.1E+01	I	2.0E-01	Alq L|g

PGW B0N846 (01) 01 + 2		3/24/1998	QUAD23B	3/24/1998 9:51:57 AM	B0N846	30	14	0.39809524	79	1.6633333
	LIQUID		Bkg:	3/24/1998 12:45:02 AM	BKG	700	48	0.06857143	679	0.97

Anl Date: 3/24/1998	Tot Sa, Alq: 1.10E+01	, 1.00E+01	Alp;	(Dpm/ 1.24E+00	(uCi/ 6.12E-04	(pCi/ 5.57E+01	± 2.5E+01	CAT	4.5E-01	Lab
Ppt mg: 5	Units: L	, ml	Bet;	Alq): 2.95E+00	Sa): 1.46E-03	L|g): 1.33E+02	± 2.5E+01	I	3.8E-01	Alq L|g

PGW B0N850 (02) 03 + 4		3/24/1998	QUAD23C	3/24/1998 9:51:57 AM	B0N850	30	26	0.7852381	87	1.99
	LIQUID		Bkg:	3/24/1998 12:45:02 AM	BKG	700	57	0.08142857	637	0.91

Anl Date: 3/24/1998	Tot Sa, Alq: 1.10E+01	, 1.00E+01	Alp;	(Dpm/ 2.27E+00	(uCi/ 1.13E-03	(pCi/ 1.02E+02	± 2.6E+01	CAT	2.4E-01	Lab
Ppt mg: 2.3	Units: L	, ml	Bet;	Alq): 3.39E+00	Sa): 1.68E-03	L|g): 1.53E+02	± 2.6E+01	I	3.3E-01	Alq L|g

PGW B0N856 05		3/24/1998	QUAD23D	3/24/1998 9:51:57 AM	B0N856	30	4	0.08333333	51	0.7485714
	LIQUID		Bkg:	3/24/1998 12:45:02 AM	BKG	700	35	0.05	666	0.9514286

Anl Date: 3/24/1998	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp;	(Dpm/ 2.28E-01	(uCi/ 1.03E-05	(pCi/ 1.03E+01	± 1.9E+01	CAT	2.4E+00	Lab
Ppt mg: 0	Units: L	, ml	Bet;	Alq): 1.37E+00	Sa): 6.18E-05	L|g): 6.18E+01	± 2.1E+01	I	8.1E-01	Alq L|g

PGW B0N9K8		3/24/1998	QUAD21A	3/24/1998 10:54:23 AM	B0N9K8	30	3	0.04571429	46	0.6190476
	LIQUID		Bkg:	3/24/1998 12:44:44 AM	BKG	700	38	0.05428571	640	0.9142857

Anl Date: 3/24/1998	Tot Sa, Alq: 5.00E-01	, 1.00E+01	Alp;	(Dpm/ 1.14E-01	(uCi/ 2.57E-06	(pCi/ 5.14E+00	± 2.0E+01	CAT	4.9E+00	Lab
Ppt mg: 0.7	Units: L	, ml	Bet;	Alq): 1.21E+00	Sa): 2.73E-05	L|g): 5.45E+01	± 2.1E+01	I	9.2E-01	Alq L|g

PGW B0N9K9		3/24/1998	QUAD21B	3/24/1998 10:54:23 AM	B0N9K9	30	7	0.16047619	41	0.5038095
	LIQUID		Bkg:	3/24/1998 12:44:44 AM	BKG	700	51	0.07285714	604	0.8628571

Anl Date: 3/24/1998	Tot Sa, Alq: 5.00E-01	, 1.00E+01	Alp;	(Dpm/ 4.88E-01	(uCi/ 1.10E-05	(pCi/ 2.20E+01	± 2.1E+01	CAT	1.1E+00	Lab
Ppt mg: 0.6	Units: L	, ml	Bet;	Alq): 8.76E-01	Sa): 1.97E-05	L|g): 3.95E+01	± 1.9E+01	I	1.3E+00	Alq L|g

0086

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	N98-005-2	Page 1 of 2

Collector: RR FOX (RFS)	Company Contact: DL STEWART	Telephone No.: (509)376-5056	Project Coordinator: VAN SICKLE, GE
Project Designation: ERDF Groundwater Monitoring, March 1998	Sampling Location: HANFORD SITE		SAF No.: N98-005
Ice Chest No.: SMF-349/465	Field Logbook No.: WM-SMF-H11		Method of Shipment: GOVT. VEHICLE
Shipped To: Quanterra Incorporated	Offsite Property No.: N/A		Bill of Lading/Air Bill No.: N/A

Data Turnaround: **45 Days**

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

Preservation	None	Cool 4C	Cool 4C	Cool 4C	H2SO4 to pH <2 Cool 4C	HNO3 to pH <2	H2SO4 to pH <2 Cool 4C	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2
Type of Container	G/P	G/P	G/P	G/P	G/P	G/P	aGs*	G/P	G/P	G/P
No. of Container(s)	1	1	1	1	1	1	1	1	1	1
Volume	20ml	500ml	500ml	500ml	500ml	500ml	1000ml	1000ml	1000ml	1000ml
SAMPLE ANALYSIS	Activity Scan	Alkalinity - 310.1	IC Anions - 300.0 (Chloride, Fluoride, Sulfate)	TDS - 160.1	NO2/NO3 - 353.1	Total Uranium 803400 01	TOX - 9020	Gross Alpha & Gross Beta 803400 01	See item (1) in Special Instructions. (LF)	Total Radium 803400 01

803399 SDG W02288

Sample No.	Matrix *	Sample Date	Sample Time	Activity Scan	Alkalinity - 310.1	IC Anions - 300.0 (Chloride, Fluoride, Sulfate)	TDS - 160.1	NO2/NO3 - 353.1	Total Uranium	TOX - 9020	Gross Alpha & Gross Beta	See item (1) in Special Instructions.	Total Radium
B0N841 01 (F)	Water	3-24-98	1005									✓	
B0N842 02	Water	3-24-98	1005	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
RR FOX (RFS)	1505 3-24-98	[signature]	1505 3-24-98

SPECIAL INSTRUCTIONS
TOTAL ACTIVITY EXEMPTION APPLIES
SEE SAF "COC Comments" for batching instructions without exceeding 14 day closure.

(1) ICP Metals - 6010A (SW 846) (Barium, Chromium, Lead, Tin, Vanadium, Zinc); Arsenic - 7060 - (GFAA); Selenium - 7740 - (GFAA)

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

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

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	N98-005-2	Page 2 of 2

Collector RR FOX (RFS)	**Company Contact** DL STEWART	**Telephone No.** (509)376-5056	**Project Coordinator** VAN SICKLE, GE	**Data Turnaround** 45 Days
Project Designation ERDF Groundwater Monitoring, March 1998	**Sampling Location** HANFORD SITE		**SAF No.** N98-005	
Ice Chest No. SML 342 / 465	**Field Logbook No.** WM-SML-H11		**Method of Shipment** GOVT. VEHICLE	
Shipped To Quanterra Incorporated	**Offsite Property No.** N/A		**Bill of Lading/Air Bill No.** N/A	

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

Preservation	None	HCl or H2SO4 to pH <2 Coo	HCl to pH < 2	None
Type of Container	G/P	Gs*	G/P	G/P
No. of Container(s)	2	3	3	3
Volume	1000ml	40ml	1000ml	1000ml
SAMPLE ANALYSIS 803399	Carbon-14 803400 01	VOA - 8240A (TCL)	Technetium-99 8034 0001	Iodine-129

Sample No.	Matrix *	Sample Date	Sample Time	Carbon-14	VOA - 8240A (TCL)	Technetium-99	Iodine-129
B0N841 01	Water						
B0N842 02	Water	3-24-98	1005	✓	✓	✓	✓

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By RR FOX (RFS)	Date/Time 1505 3-24-98	Received By L. Stewart	Date/Time 1505 3-24-98
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS
TOTAL ACTIVITY EXEMPTION APPLIES
SEE SAF "COC Comments" for batching instructions without exceeding 14 day closure.

2100 (AM)

Matrix *

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

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

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	N98-005-3	Page 1 of 2

Collector: RR FOX (RFS)	Company Contact: DL STEWART	Telephone No.: (509)376-5056	Project Coordinator: VAN SICKLE, GE
Project Designation: ERDF Groundwater Monitoring, March 1998	Sampling Location: HANFORD SITE		SAF No.: N98-005
Ice Chest No.: SML 349/465	Field Logbook No.: WM-SML-H11		Method of Shipment: GOVT. VEHICLE
Shipped To: Quanterra Incorporated	Offsite Property No.: N/A		Bill of Lading/Air Bill No.: N/A

Data Turnaround: **45 Days**

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

Preservation	None	Cool 4C	Cool 4C	Cool 4C	H2SO4 to pH <2 Cool 4C	HNO3 to pH <2	H2SO4 to pH <2 Cool 4C	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2
Type of Container	G/P	G/P	G/P	G/P	G/P	G/P	aGs*	G/P	G/P	G/P
No. of Container(s)	1	1	1	1	1	1	1	1	1	1
Volume	20ml	500ml	500ml	500ml	500ml	500ml	1000ml	1000ml	1000ml	1000ml
SAMPLE ANALYSIS 803399	Activity Scan	Alkalinity - 310.1	IC Anions - 300.0 (Chloride, Fluoride, Sulfate)	TDS - 160.1	NO2/NO3 - 353.1	Total Uranium 803400 02	TOX - 9020	Gross Alpha & Gross Beta 803400 02	See item (1) in Special Instructions. (U F)	Total Radium 803400 02

Sample No.	Matrix *	Sample Date	Sample Time										
B0N843 03 (F)	Water	3-24-98	1005									✓	
B0N844 04	Water	3-24-98	1005	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
RR FOX (RFS)	1505 3-24-98	[signature]	3-24-98 1505
			2100 CPM

SPECIAL INSTRUCTIONS
TOTAL ACTIVITY EXEMPTION APPLIES
SEE SAF "COC Comments" for batching instructions without exceeding 14 day closure.

(1) ICP Metals - 6010A (SW-846) (Barium, Chromium, Lead, Tin, Vanadium, Zinc); Arsenic - 7060 - (GFAA), Selenium - 7740 - (GFAA)

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

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

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	N98-005-3	Page 2 of 2

Collector: RR FOX (RFS)	Company Contact: DL STEWART	Telephone No.: (509)376 5056	Project Coordinator: VAN SICKLE, GE
Data Turnaround: 45 Days			
Project Designation: ERDF Groundwater Monitoring, March 1998	Sampling Location: HANFORD SITE		SAF No.: N98 005
Ice Chest No.: SIML 344/465	Field Logbook No.: WM-SML-H 11		Method of Shipment: GOVT. VEHICLE
Shipped To: Quanterra Incorporated	Offsite Property No.: N/A		Bill of Lading/Air Bill No.: N/A
POSSIBLE SAMPLE HAZARDS/REMARKS			
Special Handling and/or Storage			

Preservation	None	HCl or H2SO4 to pH <2 Cro	HCl to pH <2	None
Type of Container	G/P	Gs*	G/P	G/P
No. of Container(s)	2	3	3	3
Volume	1000ml	40ml	1000ml	1000ml
SAMPLE ANALYSIS 803399	Carbon 14 803400 02	VOA - 8240A (TCL)	Technetium 99	Iodine 129

Sample No.	Matrix *	Sample Date	Sample Time	Carbon 14	VOA - 8240A (TCL)	Technetium 99	Iodine 129
B0N843 03	Water						
B0N844 04	Water	3-24-98	1005	✓	✓	✓	✓

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: RR FOX (RFS)	Date/Time: 1505 3-24-98	Received By: L. Addleman	Date/Time: 1505 3-24-98
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS
TOTAL ACTIVITY EXEMPTION APPLIES
SEE SAF "COC Comments" for batching instructions without exceeding 14 day closure.

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

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

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	N98-005-11	Page 1 of 1

Collector: FOX	Company Contact: DL STEWART	Telephone No.: (509)376-5056	Project Coordinator: VAN SICKLE, GE
Project Designation: ERDF Groundwater Monitoring, March 1998	Sampling Location: HANFORD SITE		SAF No.: N98-005
Ice Chest No.	Field Logbook No.: WM-SML-H 11		Method of Shipment: GOVT. VEHICLE
Shipped To: Quanterra Incorporated	Offsite Property No.: N/A		Bill of Lading/Air Bill No.: N/A

Data Turnaround: **45 Days**

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

Preservation	None	HCl or H2SO4 to pH <2 Coo										
Type of Container	G/P	Gs*										
No. of Container(s)	1	3										
Volume	20ml	40ml										
	Activity Scan	VOA - 8240A (TCL)										

SAMPLE ANALYSIS

803399

Sample No.	Matrix *	Sample Date	Sample Time										
B0N855 05	Water	3-24-98	0800	✓	✓								

CHAIN OF POSSESSION

Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
FOX [signature]	1505 3-24-98	[signature]	1505 3-24-98

SPECIAL INSTRUCTIONS
TOTAL ACTIVITY EXEMPTION APPLIES
SEE SAF "COC Comments" for batching instructions without exceeding 14 day closure.

2100 CPM

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

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

Figure 1

SAMPLE CHECK-IN LIST

Date/Time Received: 3-24-98 1505 SG#: W02288

Work Order Number: 803399+400 SAF #: N98-005

Shipping Container ID: SML-465 Chain of Custody # N98-005-2 +3

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: 20
7. Sample holding times exceeded? Yes [] No [ ]

8. Samples have:
   - ___ tape
   - ___ custody seals
   - ___ hazard labels
   - ___ appropriate sample labels

9. Samples are:
   - ___ in good condition
   - ___ broken
   - ___ leaking
   - ___ have air bubbles

10. Where any anomalies identified in sample receipt? Yes [] No [ ]
11. Description of anomalies (include sample numbers): _____

Sample Custodian/Laboratory: [signature] Date: 3-24-98

Telephoned To: _____ On _____ By _____

Figure 1

SAMPLE CHECK-IN LIST

Date/Time Received: 3-24-98 1505 SG#: W02288

Work Order Number: 803399+400 SAF #: N98-005

Shipping Container ID: SML-349 Chain of Custody # N98-005-2+3+11

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: 28
7. Sample holding times exceeded? Yes [ ] No [✓]

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

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

10. Where any anomalies identified in sample receipt? Yes [ ] No [✓]
11. Description of anomalies (include sample numbers): _____

Sample Custodian/Laboratory: [signature] Date: 3-24-98

Telephoned To: _____ On _____ By _____

803399 Chem 803400 Rad.

Client Sample Screening Results

25-Mar-98

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
PGW B0N470		3/25/1998	QUAD22A	3/25/1998 9:01:23 AM	B0N470	30	96	3.10833333	2491	82.068333
	LIQUID		Bkg:	3/25/1998 12:09:22 AM	BKG	600	55	0.09166667	579	0.965
Anl Date: 3/25/1998	Tot Sa, Alq: 2.00E+01	, 1.00E+01	Alp; (Dpm/ 7.02E+00	(uCi/ 6.33E-03	(pCi/ 3.16E+02	± 3.9E+01	CAT II	7.9E-02	Lab	
Ppt mg: 4.3	Units: L	, ml	Bet; Alq): 1.52E+02	Sa): 1.37E-01	L|g): 6.85E+03	± 1.4E+02		7.3E-03	Alq L|g	
PGW B0N4J7		3/25/1998	QUAD22B	3/25/1998 9:01:23 AM	B0N4J7	30	71	2.31666667	2331	76.696667
	LIQUID		Bkg:	3/25/1998 12:09:22 AM	BKG	600	30	0.05	602	1.0033333
Anl Date: 3/25/1998	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp; (Dpm/ 5.14E+00	(uCi/ 2.31E-04	(pCi/ 2.31E+02	± 3.6E+01	CAT I	1.1E-01	Lab	
Ppt mg: 4.5	Units: L	, ml	Bet; Alq): 1.46E+02	Sa): 6.55E-03	L|g): 6.55E+03	± 1.4E+02		7.6E-03	Alq L|g	
PGW B0N668		3/25/1998	QUAD22C	3/25/1998 9:01:23 AM	B0N668	30	8	0.20666667	45	0.3766667
	LIQUID		Bkg:	3/25/1998 12:09:22 AM	BKG	600	36	0.06	674	1.1233333
Anl Date: 3/25/1998	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp; (Dpm/ 5.94E-01	(uCi/ 2.68E-05	(pCi/ 2.68E+01	± 2.2E+01	CAT I	9.3E-01	Lab	
Ppt mg: 0.1	Units: L	, ml	Bet; Alq): 5.69E-01	Sa): 2.56E-05	L|g): 2.56E+01	± 1.9E+01		2.0E+00	Alq L|g	
PGW B0N842 (01)		3/25/1998	QUAD22D	3/25/1998 9:01:23 AM	B0N842	30	18	0.55333333	88	1.9816667
01 + 02	LIQUID		Bkg:	3/25/1998 12:09:22 AM	BKG	600	28	0.04666667	571	0.9516667
Anl Date: 3/25/1998	Tot Sa, Alq: 1.00E+01	, 1.00E+01	Alp; (Dpm/ 1.68E+00	(uCi/ 7.57E-04	(pCi/ 7.57E+01	± 2.6E+01	CAT I	3.3E-01	Lab	
Ppt mg: 4.4	Units: L	, ml	Bet; Alq): 3.43E+00	Sa): 1.55E-03	L|g): 1.55E+02	± 2.6E+01		3.2E-01	Alq L|g	
PGW B0N844 (02)		3/25/1998	QUAD23A	3/25/1998 9:01:27 AM	B0N844	30	14	0.41	71	1.4833333
03 + 04	LIQUID		Bkg:	3/25/1998 12:09:28 AM	BKG	600	34	0.05666667	530	0.8833333
Anl Date: 3/25/1998	Tot Sa, Alq: 1.00E+01	, 1.00E+01	Alp; (Dpm/ 1.22E+00	(uCi/ 5.49E-04	(pCi/ 5.49E+01	± 2.4E+01	CAT I	4.6E-01	Lab	
Ppt mg: 4.5	Units: L	, ml	Bet; Alq): 2.59E+00	Sa): 1.17E-03	L|g): 1.17E+02	± 2.4E+01		4.3E-01	Alq L|g	
PGW B0N855		3/25/1998	QUAD23B	3/25/1998 9:01:27 AM	B0N855	30	1	-0.0216667	31	0.035
05	LIQUID		Bkg:	3/25/1998 12:09:28 AM	BKG	600	33	0.055	599	0.9983333
Anl Date: 3/25/1998	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp; (Dpm/ -6.57E-02	(uCi/ -2.96E-06	(pCi/ -2.96E+00	± 2.0E+01	CAT I	1.0E+00	Lab	
Ppt mg: 0	Units: L	, ml	Bet; Alq): 8.04E-02	Sa): 3.62E-06	L|g): 3.62E+00	± 1.7E+01		1.4E+01	Alq L|g	

0113

803401 Chem 803402 Rad.

Client Sample Screening Results

25-Mar-98

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
PGW B0N470		3/25/1998	QUAD22A	3/25/1998 9:01:23 AM	B0N470	30	96	3.10833333	2491	82.068333
01	LIQUID		Bkg:	3/25/1998 12:09:22 AM	BKG	600	55	0.09166667	579	0.965

Anl Date: 3/25/1998	Tot Sa, Alq: 2.00E+01	, 1.00E+01	Alp;	(Dpm/ 7.02E+00	(uCi/ 6.33E-03	(pCi/ 3.16E+02	± 3.9E+01	CAT II	7.9E-02	Lab
Ppt mg: 4.3	Units: L	, ml	Bet;	Alq): 1.52E+02	Sa): 1.37E-01	L|g): 6.85E+03	± 1.4E+02		7.3E-03	Alq L|g

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
PGW B0N4J7		3/25/1998	QUAD22B	3/25/1998 9:01:23 AM	B0N4J7	30	71	2.31666667	2331	76.696667
	LIQUID		Bkg:	3/25/1998 12:09:22 AM	BKG	600	30	0.05	602	1.0033333

Anl Date: 3/25/1998	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp;	(Dpm/ 5.14E+00	(uCi/ 2.31E-04	(pCi/ 2.31E+02	± 3.6E+01	CAT I	1.1E-01	Lab
Ppt mg: 4.5	Units: L	, ml	Bet;	Alq): 1.46E+02	Sa): 6.55E-03	L|g): 6.55E+03	± 1.4E+02		7.6E-03	Alq L|g

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
PGW B0N668		3/25/1998	QUAD22C	3/25/1998 9:01:23 AM	B0N668	30	8	0.20666667	45	0.3766667
02	LIQUID		Bkg:	3/25/1998 12:09:22 AM	BKG	600	36	0.06	674	1.1233333

Anl Date: 3/25/1998	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp;	(Dpm/ 5.94E-01	(uCi/ 2.68E-05	(pCi/ 2.68E+01	± 2.2E+01	CAT I	9.3E-01	Lab
Ppt mg: 0.1	Units: L	, ml	Bet;	Alq): 5.69E-01	Sa): 2.56E-05	L|g): 2.56E+01	± 1.9E+01		2.0E+00	Alq L|g

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
PGW B0N842		3/25/1998	QUAD22D	3/25/1998 9:01:23 AM	B0N842	30	18	0.55333333	88	1.9816667
	LIQUID		Bkg:	3/25/1998 12:09:22 AM	BKG	600	28	0.04666667	571	0.9516667

Anl Date: 3/25/1998	Tot Sa, Alq: 1.00E+01	, 1.00E+01	Alp;	(Dpm/ 1.68E+00	(uCi/ 7.57E-04	(pCi/ 7.57E+01	± 2.6E+01	CAT I	3.3E-01	Lab
Ppt mg: 4.4	Units: L	, ml	Bet;	Alq): 3.43E+00	Sa): 1.55E-03	L|g): 1.55E+02	± 2.6E+01		3.2E-01	Alq L|g

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
PGW B0N844		3/25/1998	QUAD23A	3/25/1998 9:01:27 AM	B0N844	30	14	0.41	71	1.4833333
	LIQUID		Bkg:	3/25/1998 12:09:28 AM	BKG	600	34	0.05666667	530	0.8833333

Anl Date: 3/25/1998	Tot Sa, Alq: 1.00E+01	, 1.00E+01	Alp;	(Dpm/ 1.22E+00	(uCi/ 5.49E-04	(pCi/ 5.49E+01	± 2.4E+01	CAT I	4.6E-01	Lab
Ppt mg: 4.5	Units: L	, ml	Bet;	Alq): 2.59E+00	Sa): 1.17E-03	L|g): 1.17E+02	± 2.4E+01		4.3E-01	Alq L|g

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
PGW B0N855		3/25/1998	QUAD23B	3/25/1998 9:01:27 AM	B0N855	30	1	-0.0216667	31	0.035
	LIQUID		Bkg:	3/25/1998 12:09:28 AM	BKG	600	33	0.055	599	0.9983333

Anl Date: 3/25/1998	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp;	(Dpm/ -6.57E-02	(uCi/ -2.96E-06	(pCi/ -2.96E+00	± 2.0E+01	CAT I	1.0E+00	Lab
Ppt mg: 0	Units: L	, ml	Bet;	Alq): 8.04E-02	Sa): 3.62E-06	L|g): 3.62E+00	± 1.7E+01		1.4E+01	Alq L|g

0113

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	W98-003-11	Page 1 of 1

0119

Collector: RR FOX (RFS)	Company Contact: DL STEWART, PNNL — Telephone No.: (509) 376-5056	Project Coordinator: STEWART, DL	Data Turnaround: 45 Days
Project Designation: RCRA/Operational GW Monitoring, March 1998	Sampling Location: HANFORD SITE	SAF No.: W98-003	
Ice Chest No.: SML 471	Field Logbook No.: WM-SML-411	Method of Shipment: GOVT. VEHICLE	
Shipped To: Quanterra Incorporated	Offsite Property No.: N/A	Bill of Lading/Air Bill No.:	

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

Preservation	None	HNO3 to pH <2										
Type of Container	G/P	G/P										
No. of Container(s)	1	1										
Volume	20ml	1000ml										
	Activity Scan	Gross Beta										

SAMPLE ANALYSIS

80340301 W02288 SDG

Sample No.	Matrix *	Sample Date	Sample Time										
B0N4J7	Water	3-24-98	1200	✓	✓								

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
RR FOX (RFS)	1505 3-24-98	K. [signature]	1505 3-24-98

SPECIAL INSTRUCTIONS

TOTAL ACTIVITY EXEMPTION APPLIES SEE SAF 'COC Comments" for batching instructions while not exceeding maximum SDG closure of 14 days.

Matrix *

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

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

Figure 1

SAMPLE CHECK-IN LIST

Date/Time Received: 3-24-98 1505 SG#: W02288

Work Order Number: 803403 SAF #: S98-003 W98-003

Shipping Container ID: SMC-471 Chain of Custody # S98-003-4 W98-003-11 S98-003-63

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: 28
7. Sample holding times exceeded? Yes [ ] No [✓]

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

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

10. Where any anomalies identified in sample receipt? Yes [ ] No [✓]
11. Description of anomalies (include sample numbers): _____

Sample Custodian/Laboratory: [signature] Date: 3-24-98

Telephoned To: _____ On _____ By _____

803403 Rad.

0121

Client Sample Screening Results

25-Mar-98

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
PGW B0N470	LIQUID	3/25/1998	QUAD22A	3/25/1998 9:01:23 AM	B0N470	30	96	3.10833333	2491	82.068333
			Bkg:	3/25/1998 12:09:22 AM	BKG	600	55	0.09166667	579	0.965
Anl Date: 3/25/1998	Tot Sa, Alq: 2.00E+01	, 1.00E+01	Alp; (Dpm/ 7.02E+00	(uCi/ 6.33E-03	(pCi/ 3.16E+02	± 3.9E+01	CAT II	7.9E-02	Lab Alq L/g	
Ppt mg: 4.3	Units: L	, ml	Bet; Alq): 1.52E+02	Sa): 1.37E-01	L/g): 6.85E+03	± 1.4E+02		7.3E-03		
PGW B0N4J7	LIQUID	3/25/1998	QUAD22B	3/25/1998 9:01:23 AM	B0N4J7	30	71	2.31666667	2331	76.696667
01			Bkg:	3/25/1998 12:09:22 AM	BKG	600	30	0.05	602	1.0033333
Anl Date: 3/25/1998	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp; (Dpm/ 5.14E+00	(uCi/ 2.31E-04	(pCi/ 2.31E+02	± 3.6E+01	CAT I	1.1E-01	Lab Alq L/g	
Ppt mg: 4.5	Units: L	, ml	Bet; Alq): 1.46E+02	Sa): 6.55E-03	L/g): 6.55E+03	± 1.4E+02		7.6E-03		
PGW B0N668	LIQUID	3/25/1998	QUAD22C	3/25/1998 9:01:23 AM	B0N668	30	8	0.20666667	45	0.3766667
			Bkg:	3/25/1998 12:09:22 AM	BKG	600	36	0.06	674	1.1233333
Anl Date: 3/25/1998	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp; (Dpm/ 5.94E-01	(uCi/ 2.68E-05	(pCi/ 2.68E+01	± 2.2E+01	CAT I	9.3E-01	Lab Alq L/g	
Ppt mg: 0.1	Units: L	, ml	Bet; Alq): 5.69E-01	Sa): 2.56E-05	L/g): 2.56E+01	± 1.9E+01		2.0E+00		
PGW B0N842	LIQUID	3/25/1998	QUAD22D	3/25/1998 9:01:23 AM	B0N842	30	18	0.55333333	88	1.9816667
			Bkg:	3/25/1998 12:09:22 AM	BKG	600	28	0.04666667	571	0.9516667
Anl Date: 3/25/1998	Tot Sa, Alq: 1.00E+01	, 1.00E+01	Alp; (Dpm/ 1.68E+00	(uCi/ 7.57E-04	(pCi/ 7.57E+01	± 2.6E+01	CAT I	3.3E-01	Lab Alq L/g	
Ppt mg: 4.4	Units: L	, ml	Bet; Alq): 3.43E+00	Sa): 1.55E-03	L/g): 1.55E+02	± 2.6E+01		3.2E-01		
PGW B0N844	LIQUID	3/25/1998	QUAD23A	3/25/1998 9:01:27 AM	B0N844	30	14	0.41	71	1.4833333
			Bkg:	3/25/1998 12:09:28 AM	BKG	600	34	0.05666667	530	0.8833333
Anl Date: 3/25/1998	Tot Sa, Alq: 1.00E+01	, 1.00E+01	Alp; (Dpm/ 1.22E+00	(uCi/ 5.49E-04	(pCi/ 5.49E+01	± 2.4E+01	CAT I	4.6E-01	Lab Alq L/g	
Ppt mg: 4.5	Units: L	, ml	Bet; Alq): 2.59E+00	Sa): 1.17E-03	L/g): 1.17E+02	± 2.4E+01		4.3E-01		
PGW B0N855	LIQUID	3/25/1998	QUAD23B	3/25/1998 9:01:27 AM	B0N855	30	1	-0.0216667	31	0.035
			Bkg:	3/25/1998 12:09:28 AM	BKG	600	33	0.055	599	0.9983333
Anl Date: 3/25/1998	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp; (Dpm/ -6.57E-02	(uCi/ -2.96E-06	(pCi/ -2.96E+00	± 2.0E+01	CAT I	1.0E+00	Lab Alq L/g	
Ppt mg: 0	Units: L	, ml	Bet; Alq): 8.04E-02	Sa): 3.62E-06	L/g): 3.62E+00	± 1.7E+01		1.4E+01		

fic Northwest National Labora	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	S98-003-76	Page 1 of 1

Collector: AG RIZZO (RFS)	Company Contact: DL STEWART, PNNL — Telephone No.: (509) 376-5056	Project Coordinator: DRESEL, PE	Data Turnaround: 45 Days
Project Designation: SURVEILLANCE GW MONITORING, MARCH 1998	Sampling Location: HANFORD SITE	SAF No.: S98-003	
Ice Chest No.: INORG	Field Logbook No.: WM-SMC-H4	Method of Shipment: GOVT. VEHICLE	
Shipped To: Quanterra Incorporated	Offsite Property No.: NA	Bill of Lading/Air Bill No.: NA	

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage: 4 °C

Preservation	None	Cool 4C	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	None	None		
Type of Container	G/P	G/P	G/P	G/P	G/P	G/P	P	G/P		
No. of Container(s)	1	1	1	1	1	1	1	4		
Volume	20ml	500ml	500ml	500ml	1000ml	1000ml	1000ml	1L		
SAMPLE ANALYSIS	Activity Scan	See item (1) in Special Instructions	Arsenic - 7060 - (GFAA) (F)	ICP Metals - 6010A RCRA GW (F)	Gross Alpha	Gross Beta	Tritium - H3	I-129 Low Level		

803426 SDG W02288 80342701

Sample No.	Matrix *	Sample Date	Sample Time	Activity Scan	See item (1) in Special Instructions	Arsenic - 7060 - (GFAA) (F)	ICP Metals - 6010A RCRA GW (F)	Gross Alpha	Gross Beta	Tritium - H3	I-129 Low Level		
B0N833 (F) 01	Water	3/24/98	1221			✓	✓						
B0N834 02	Water	3/24/98	1221	✓	✓			✓	✓	✓	✓		

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
AG RIZZO (RFS)	3/25/98 1505	[signature]	3-25-98 1505
		L100 cpm	

SPECIAL INSTRUCTIONS

TOTAL ACTIVITY ~~EXEMPTION APPLIES~~ Required

SEE SAF; 'COC Comments' for batching instructions while not exceeding maximum SDG closure of 14 days.

(1) IC Anions - 300.0 (Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate)

Matrix *

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

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

0123

Quanterra Environmental Services

BATCH SUMMARY/CHAIN OF CUSTODY

ANALYSIS Pu/so MATRIX H_2O DUE DATE 5-9-98

WORK ORDER	SEQUENCE #	CLIENT	COMMENTS
J 03427	-1B	PGW	QC BATCH REAGENT BLANK
J	-1X		QC BATCH MATRIX BLANK
J 03427	-1M or 1S (circle)		QC BATCH MATRIX/REAGENT SPIKE
J	-2M or 2S (circle)		QC BATCH MATRIX/REAGENT SPIKE
D 0342702	-		Duplicate of Sample # 80342702
803427	- 02		
803402	- 01		
	-		
	-		
	-		
	-		
	-		

Batched and QC updated by SBC on 4/30/98

Rec'd in Prep Lab by SBC on 4/30/98 Sop# RICHRC5016 Rev#

Rec'd in Sep Lab by CB/KC on 4/30/98 Sop# RICHRC5010 Rev#

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

ED/CPPT by [signature] on 5-4-98 Sop# RICHRC5039 Rev# 1

Rec'd in C.R. by [signature] on 5-4-98 Sop# RICHRC5008 Rev# 0

Data Reviewed by JW on 5/5/98 Sop# RICHRC0002 Rev# 1

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 5-9-98

*** PUISO ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

26-Mar-1998
Page 1

CUSTOMER: PGW

MATRIX : WATER

S98-003

SAMPLE DELIVERY GROUP W02288

BATCH NUMBER 03-427

	QES ID	DUP	ACCOUNT	CUSTOMER ID	ALIQ (L)	COMMENTS
	J0342715B	ISH4406 Pr.7/10/97			0.2001	
	J0342715				0.2006	
1)	80342702	ISH4407 Pr.7/10/97 Ex.7/10/98	GW	BON472	0.2009	
	D0342702	ISH4408 Pr.7/10/97 Ex.7/10/98			0.2003	

ACTIONS (Initial & Date)

1) INITIATED SH 3/26/98

SOP(S) # RD7500

2) PREP LAB RECEIVED 4/29/98 SBC

SOP(S) # RICHRC5016

3) SAMPLE REMAINDER STORED _____

SOP(S) # _____

4) SEPARATION LAB RECEIVED _____

SOP(S) # _____

5) COUNTING/MEASUREMENT LAB _____

SOP(S) # _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

SOP(S) # _____

pCi/L
200min

*** PUISO ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

25-Mar-1998
Page 1

CUSTOMER: PGW

MATRIX : WATER S98-003

SAMPLE DELIVERY GROUP W02288

BATCH NUMBER 03402

ALIQ(L)

	QES ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	80340201	ISH4409 Pr.7/10/97 Ex.7/10/98	PGW	BON470	0.0154

ACTIONS (Initial & Date)

1) INITIATED JH 3/25/98

SOP(S) # RD 3800

2) PREP LAB RECEIVED batched

SOP(S) # _____

3) SAMPLE REMAINDER STORED _____

SOP(S) # _____

4) SEPARATION LAB RECEIVED _____

SOP(S) # _____

5) COUNTING/MEASUREMENT LAB _____

SOP(S) # _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

SOP(S) # _____

pCi/L
200min

Quanterra Environmental Services

BATCH SUMMARY/CHAIN OF CUSTODY

ANALYSIS Viso MATRIX H_2O DUE DATE 5-9-98

WORK ORDER	SEQUENCE #	CLIENT	COMMENTS
J03427	-1B	PGW	QC BATCH REAGENT BLANK
J	-1X		QC BATCH MATRIX BLANK
J03427	-1M or 1S (circle)		QC BATCH MATRIX/REAGENT SPIKE
J	-2M or 2S (circle)		QC BATCH MATRIX/REAGENT SPIKE
D0342704	-		Duplicate of Sample # 80342704
80342702	04	W#2288	2 samples
80340201	-	↓	
	-		
	-		
	-		
	-		
	-		

Batched and QC updated by SBC on 4/30/98

Rec'd in Prep Lab by SBC on 4/30/98 Sop# RICHRC5067 Rev# ____

Rec'd in Sep Lab by [illegible] on 05/05/98 Sop# RICHRC 5067 Rev# 1

Rec'd in Sep lab by N/A on ____ Sop# ____ Rev# ____

ED/CPPT by [illegible] on 5-6-98 Sop# RICHRC5039 Rev# 1

Rec'd in C.R. by MR for OD on 5-6-98 Sop# RICHRD0008 Rev# ____

Data Reviewed by MR on 5-8-98 Sop# RICHRC0002 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

D.U. 5-9-98

*** UISO ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

26-Mar-1998
Page 1

CUSTOMER: PGW

MATRIX : WATER

S98-003

SAMPLE DELIVERY GROUP W02288

BATCH NUMBER 03-427

	QES ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
pH2	J0342718			0.2009	
	J0342715			0.2007	
1)	80342702		GW	BON472	
				0.2012	
2)	80342704		GW	BON489	
				0.2004	
	D0342704			0.2002	

ACTIONS (Initial & Date)

1) INITIATED JH 3/26/98

SOP(S) # RD7500

2) PREP LAB RECEIVED ~~batched~~ 4/30/98 Sec 4/29/98 SBC

SOP(S) # RICHRC5067

3) SAMPLE REMAINDER STORED _____

SOP(S) # _____

4) SEPARATION LAB RECEIVED _____

SOP(S) # _____

5) COUNTING/MEASUREMENT LAB _____

SOP(S) # _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

SOP(S) # _____

pCi/L
200 min

*** UISO ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

25-Mar-1998
Page 1

CUSTOMER: PGW

MATRIX : WATER S98-003

SAMPLE DELIVERY GROUP W02288

BATCH NUMBER 03-402

	QES ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	80340201	[illegible]	[illegible]W	BON470	0.0156

pH<2

ACTIONS (Initial & Date)

1) INITIATED FH 3/25/98

SOP(S) # RD7800

2) PREP LAB RECEIVED 4/29/98 BBC

SOP(S) # RICHRC5067

3) SAMPLE REMAINDER STORED _____

SOP(S) # _____

4) SEPARATION LAB RECEIVED _____

SOP(S) # _____

5) COUNTING/MEASUREMENT LAB _____

SOP(S) # _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

SOP(S) # _____

pCi/L
200 min

volume reduced due to rad screen

Quanterra

BATCH SUMMARY/CHAIN OF CUSTODY

ANALYSIS I 129 MATRIX H_2O DUE DATE 5-9-98

WORK ORDER	SEQUENCE #	CLIENT	COMMENTS
J 03400	1B	PGW	QC BATCH REAGENT BLANK
J	-1X		QC BATCH MATRIX BLANK
J 03400	-1M or 1S (circle)		QC BATCH MATRIX/REAGENT SPIKE
J	-2M or 2S (circle)		QC BATCH MATRIX/REAGENT SPIKE
D 0340002	-		Duplicate of Sample # 80340002
3-400	01→2		pH>2
3-339	01→3		
3-383	01→2		
	-		
	-		
	-		
	-		

Batched and QC updated by JH on 4-21-98

Rec'd in Prep Lab by ↓ on ↓ Sop# RICHRCS025 Rev# 0

Rec'd in Sep Lab by ↓ on 4-28-98 Sop# ↓ Rev# ↓

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

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

Rec'd in C.R. by [illegible] on 4/29/98 Sop# RICHR00007 Rev# 0

Data Reviewed by _____ on _____ Sop# _____ Rev# _____

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 5.9.98

*** I-129 ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

25-Mar-1998
Page 1

CUSTOMER: PGW N98-005 SAMPLE DELIVERY GROUP W02288

MATRIX : WATER BATCH NUMBER 03-400

	QES ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
	J034001B				
	J034001S				
1)	80340001		PGW	BON842	
2)	80340002		PGW	BON844	
	D0340002				

ACTIONS (Initial & Date)

1) INITIATED JH 3/25/98

SOP(S) # RDDD

2) PREP LAB RECEIVED na

SOP(S) #

3) SAMPLE REMAINDER STORED

SOP(S) #

4) SEPARATION LAB RECEIVED

SOP(S) #

5) COUNTING/MEASUREMENT LAB na

SOP(S) #

6) DATA REVIEWED AND ANALYTICAL PREP STORED

SOP(S) #

Due 5-9-98

*** I-129 ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

20-Mar-1998
Page 1

CUSTOMER: PGW

N98-005

SAMPLE DELIVERY GROUP W02288

MATRIX : WATER

BATCH NUMBER 03.339

	GES ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	80333901		PGW	BON840	
2)	80333902		PGW	BON848	
3)	80333903		PGW	BON852	

ACTIONS (Initial & Date)

1) INITIATED 3/20/98

SOP(S) # RD 8507

2) PREP LAB RECEIVED na

SOP(S) # _____

3) SAMPLE REMAINDER STORED _____

SOP(S) # _____

4) SEPARATION LAB RECEIVED _____

SOP(S) # _____

5) COUNTING/MEASUREMENT LAB na

SOP(S) # _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

SOP(S) # _____

Due 5.9.98

*** I-129 ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

24-Mar-1998
Page 1

CUSTOMER: PGW

MATRIX : WATER N98-005

SAMPLE DELIVERY GROUP W02288

BATCH NUMBER 03383

	GES ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	80338301		PGW	BON846	
2)	80338302		PGW	BON850	

ACTIONS (Initial & Date)

1) INITIATED JH 3/24/98

SOP(S) # RD 3800

2) PREP LAB RECEIVED ma

SOP(S) #

3) SAMPLE REMAINDER STORED

SOP(S) #

4) SEPARATION LAB RECEIVED

SOP(S) #

5) COUNTING/MEASUREMENT LAB ma

SOP(S) #

6) DATA REVIEWED AND ANALYTICAL PREP STORED

SOP(S) #

Quanterra

BATCH SUMMARY/CHAIN OF CUSTODY

ANALYSIS I129 L MATRIX H_2O DUE DATE 5-9-98

WORK ORDER	SEQUENCE #	CLIENT	COMMENTS
J 03402	-1B	PGW	QC BATCH REAGENT BLANK
J	-1X		QC BATCH MATRIX BLANK
J 03402	-1M or 1S (circle)		QC BATCH MATRIX/REAGENT SPIKE
J 03402	-2M or 2S (circle)		QC BATCH MATRIX/REAGENT SPIKE
D 0340201	-		Duplicate of Sample # 80340201
3-402	01		
3-427	01, 2, 4		pH > 2 D0342701, D0342704
	-		
	-		
	-		
	-		
	-		

Batched and QC updated by Sjh on 4.21.98

Rec'd in Prep Lab by ↓ on ↓ Sop# RICHRC502S Rev# 0

Rec'd in Sep Lab by Sjh on 4.5.1.98 Sjh 5-1-98 Sop# ↓ Rev# ↓

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

ED/CPPT by NA on Sop# Rev#

Rec'd in C.R. by DO on 5/2/98 Sop# RICHRD0001 Rev# 1

Data Reviewed by JK on 5-8-98 Sop# RICHRC0002 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: 5-9-98

*** I-129L ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

25-Mar-1998
Page 1

CUSTOMER: PGW

SAMPLE DELIVERY GROUP W02288

MATRIX : WATER S98-002

BATCH NUMBER 03-402

	QES ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
	J034021B				#1
	J034021S		J034022S		spk went dry
1)	80340201		PGW	BON470	100 ml a/q
	D0340201				dup went dry

ACTIONS (Initial & Date)

1) INITIATED [initials] 3/25/98

SOP(S) # RD [illegible]

2) PREP LAB RECEIVED na

SOP(S) #

3) SAMPLE REMAINDER STORED

SOP(S) #

4) SEPARATION LAB RECEIVED

SOP(S) #

5) COUNTING/MEASUREMENT LAB na

SOP(S) #

6) DATA REVIEWED AND ANALYTICAL PREP STORED

SOP(S) #

Due 5-9-98

*** I-129L ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

26-Mar-1998
Page 1

CUSTOMER: PGW

SAMPLE DELIVERY GROUP W02288

MATRIX : WATER S98-003

BATCH NUMBER 03-427

	QES ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	80342701		PGW	BON834	
	D0342701				#01 Sample went dry
2)	80342702		PGW	BON472	
3)	80342704		PGW	BON489	1.0L aliquot
	D0342704				

ACTIONS (Initial & Date)

1) INITIATED JH 3/26/98

SOP(S) # RD8820

2) PREP LAB RECEIVED na

SOP(S) #

3) SAMPLE REMAINDER STORED

SOP(S) #

4) SEPARATION LAB RECEIVED

SOP(S) #

5) COUNTING/MEASUREMENT LAB na

SOP(S) #

6) DATA REVIEWED AND ANALYTICAL PREP STORED

SOP(S) #

Quanterra Environmental Services

BATCH SUMMARY/CHAIN OF CUSTODY

ANALYSIS 8 MATRIX H_2O DUE DATE 5-9-98

WORK ORDER	SEQUENCE #	CLIENT	COMMENTS
J03427	-1B	PGLC	QC BATCH REAGENT BLANK
J	-1X		QC BATCH MATRIX BLANK
J03427	-1M or 1S (circle)		QC BATCH MATRIX/REAGENT SPIKE
J	-2M or 2S (circle)		QC BATCH MATRIX/REAGENT SPIKE
D0342702	-		Duplicate of Sample # 80342702
80342702	-		
80340301	-		
	-		
	-		
	-		
	-		
	-		

Batched and QC updated by SBC on 4/30/98.

Rec'd in Prep Lab by SBC on 4/29/98 Sop# RICHRC5017 Rev# 1

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 [illegible] on 5/4/98 Sop# RICHRD0007 Rev# 0

Data Reviewed by [illegible] on 5/8/98 Sop# RICHRC0007 Rev# 1

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

*** GAMMA ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

26-Mar-1998
Page 1

Due 5.9.98

CUSTOMER: PGW

SAMPLE DELIVERY GROUP W02288

MATRIX : WATER S98-003

BATCH NUMBER 03-427

QES ID	DUP	ACCOUNT	CUSTOMER ID (simple dt? time)	ALIQ (L)	COMMENTS
J034271B		5/1/98 1200		1.0066	61 05MAY98 1034
J034271S	SCAG380	1/13/98 1200		1.0103	64 05MAY98 1035
1) 80342702		PGW 3/25/98 1025	BON472	1.0027	65 05MAY98 1036
DC342702		3/25/98 1025		1.0015	67 05MAY98 1037

ACTIONS (Initial & Date)

1) INITIATED JH 3/26/98

SOP(S) # RD7800

2) PREP LAB RECEIVED 4/29/98 SBC

SOP(S) # RICHRC5017r1

3) SAMPLE REMAINDER STORED _____

SOP(S) # _____

4) SEPARATION LAB RECEIVED _____

SOP(S) # _____

5) COUNTING/MEASUREMENT LAB _____

SOP(S) # _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

SOP(S) # _____

CO-60 171.61 ± 1.0533 DPM

CS-137 110.64 ± 1.8009

EU-152 340.16 ± 13.685

100 ml geo

pCi/L

100 min

*** GAMMA ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

25-Mar-1998
Page 1

CUSTOMER: PGW

SAMPLE DELIVERY GROUP W02288

MATRIX : WATER S98-003

BATCH NUMBER 03-402

QES ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1) 80340201		PGW 3/24/98 1200 BON470	1.0083 GT 05MAY98 0844	

ACTIONS (Initial & Date)

1) INITIATED JH 3/25/98

SOP(S) # RD3170

2) PREP LAB RECEIVED batched

SOP(S) # _____

3) SAMPLE REMAINDER STORED _____

SOP(S) # _____

4) SEPARATION LAB RECEIVED _____

SOP(S) # _____

5) COUNTING/MEASUREMENT LAB _____

SOP(S) # _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

SOP(S) # _____

100ml geo
pCi/L
100mins

Quanterra Environmental Services

BATCH SUMMARY/CHAIN OF CUSTODY

ANALYSIS ∝ MATRIX H_2O DUE DATE 5-9-98

WORK ORDER	SEQUENCE #	CLIENT	COMMENTS
J03400	-1B	PGW	QC BATCH REAGENT BLANK
J	-1X		QC BATCH MATRIX BLANK
J03400	-1M or 1S (circle)		QC BATCH MATRIX/REAGENT SPIKE
J	-2M or 2S (circle)		QC BATCH MATRIX/REAGENT SPIKE
D03400D1	-		Duplicate of Sample # 80340001
80340001	- 02		WQ2288
80333901	- 03		
80338501	- 05		
80338301	- 02		
80342701	- 02		
803402	- 01		
	-		

Batched and QC updated by SBC on 4/29/98

Rec'd in Prep Lab by SBC on 4/29/98 Sop# RICHRC5014 Rev# 0

Rec'd in Sep Lab by N/A on Sop# N/A Rev#

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

ED/CPPT by on Sop# Rev#

Rec'd in C.R. by on 5/5/98 Sop# RICHRD0063 Rev# 0

Data Reviewed by JK on 5-8-98 Sop# RICHRC0002 Rev# 2

Original batch sheet and complete calculation file to be filed with the FIRST listed work order number. JK 5-8-98

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

So 80340201 Count Time 200 min.

*** ALPHA ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

25-Mar-1998
Page 1

CUSTOMER: PGW

MATRIX : WATER

N98.005

SAMPLE DELIVERY GROUP W02288

BATCH NUMBER 03-400

QES ID	DUP	ACCOUNT	CUSTOMER ID	res weight (mg)	aliq (L)	COMMENTS
J034001B	10.067 ± 0.089198 DPM		0.4	0.1980	10A	05MAY98 1548
J034001S			0.3	0.1993	10B	
1) 80340001		PGW	30.7 BON842	0.2032	10C	
DC340001			47.2	0.2011	10D	
2) 80340002		PGW	BON844 27.3	0.1538	10F	

pH<2

ACTIONS (Initial & Date)

1) INITIATED JH 3/25/98

SOP(S) # RD 8/07

2) PREP LAB RECEIVED 4-29-98 SBC

SOP(S) # RICHRC5014r0

3) SAMPLE REMAINDER STORED _____

SOP(S) # _____

4) SEPARATION LAB RECEIVED _____

SOP(S) # _____

5) COUNTING/MEASUREMENT LAB _____

SOP(S) # _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

SOP(S) # _____

1.5"
pCi/L
100 min

0150

*** ALPHA ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

20-Mar-1998
Page 1

CUSTOMER: PGW

MATRIX : WATER N98-005

SAMPLE DELIVERY GROUP W02288

BATCH NUMBER 03-339

pH<2

	GES ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	80333901		PGW 27.3	BON840 0.2012	10F 05MAY98 1548
2)	80333902		PGW 52.9	BON848 0.1982	10 A 05 MAY 98 1802 (B)
3)	80333903		PGW 0.2	BON852 0.2050	10 B ↓ ↓ ↓

ACTIONS (Initial & Date)

1) INITIATED 3/20/98

SOP(S) # RD 3800

2) PREP LAB RECEIVED batched

SOP(S) # _____

3) SAMPLE REMAINDER STORED _____

SOP(S) # _____

4) SEPARATION LAB RECEIVED _____

SOP(S) # _____

5) COUNTING/MEASUREMENT LAB _____

SOP(S) # _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

SOP(S) # _____

1.5"
pCi/L
100min

*** ALPHA ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

24-Mar-1998
Page 1

CUSTOMER: PGW

W98-003

SAMPLE DELIVERY GROUP W002288

MATRIX : WATER

BATCH NUMBER 03-385

pH<2

	GES ID	DUP	ACCOUNT	(es weight (mg))	CUSTOMER ID	aliq (L)	COMMENTS
1)	80338501		PGW	41.4	BON4K5	0.1706	10C 05 MAY 98 1802
2)	80338502		PGW	37.5	BON4L1	0.1984	10D
3)	80338503		PGW	28.7	BON4L7	0.2027	10E
4)	80338504		PGW	25.3	BON4L9	0.2013	10F
5)	80338505		PGW	38.0	BON4M9	0.1988	10A 07MAY98 0843

ACTIONS (Initial & Date)

1) INITIATED JH 3/24/98

SOP(S) # RD 7800

2) PREP LAB RECEIVED batched

SOP(S) # _____

3) SAMPLE REMAINDER STORED _____

SOP(S) # _____

4) SEPARATION LAB RECEIVED _____

SOP(S) # _____

5) COUNTING/MEASUREMENT LAB _____

SOP(S) # _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

SOP(S) # _____

1.5"
pCi/L
100min

*** ALPHA ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

24-Mar-1998
Page 1

CUSTOMER: PGW

SAMPLE DELIVERY GROUP W02288

MATRIX : WATER N98-005

BATCH NUMBER 03-383

	QES ID	DUP	ACCOUNT	(res wght (mg))	CUSTOMER ID	aliq (L)	COMMENTS
1)	80338301		PGW	55.3	BON846	0.1996	10B 07MAY98 0843
2)	80338302		PGW	0.5	BON850	0.1999	10C 07MAY98 0843

pHc2

ACTIONS (Initial & Date)

1) INITIATED JH 3/24/98

SOP(S) # RD[illegible]

2) PREP LAB RECEIVED batched

SOP(S) # _____

3) SAMPLE REMAINDER STORED _____

SOP(S) # _____

4) SEPARATION LAB RECEIVED _____

SOP(S) # _____

5) COUNTING/MEASUREMENT LAB _____

SOP(S) # _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

SOP(S) # _____

1.5"
pCi/L
100 min

Due 5-9-98

*** ALPHA ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

26-Mar-1998
Page 1

CUSTOMER: PGW

MATRIX : WATER S98-003

SAMPLE DELIVERY GROUP W02288

BATCH NUMBER 03-427

pH<2

	QES ID	DUP	ACCOUNT	res wght (mg)	CUSTOMER ID	alig (L)	COMMENTS
1)	80342701		PGW	62.5	BON834	0.1904	10D 07MAY98 0843
2)	80342702		PGW	43.0	BON472	0.2018	10E 07MAY98 0843

ACTIONS (Initial & Date)

1) INITIATED JH 3/26/98

SOP(S) # RD2800

2) PREP LAB RECEIVED batched

SOP(S) # _____

3) SAMPLE REMAINDER STORED _____

SOP(S) # _____

4) SEPARATION LAB RECEIVED _____

SOP(S) # _____

5) COUNTING/MEASUREMENT LAB _____

SOP(S) # _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

SOP(S) # _____

1.5"
pCi/L
100min

0154

*** ALPHA ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

25-Mar-1998
Page 1

CUSTOMER: PGW

MATRIX : WATER

S98-003

SAMPLE DELIVERY GROUP LW02288

BATCH NUMBER 03402

GES ID	DUP	ACCOUNT	RES wgt (mg)	CUSTOMER ID	aliq (L)	COMMENTS
1) 80340201		PGW	45.1	BON470	204.1	10C 05MAY98 1330

pH<2

ACTIONS (Initial & Date)

1) INITIATED JH 3/25/98

SOP(S) # RD 8810

2) PREP LAB RECEIVED batched

SOP(S) # _____

3) SAMPLE REMAINDER STORED _____

SOP(S) # _____

4) SEPARATION LAB RECEIVED _____

SOP(S) # _____

5) COUNTING/MEASUREMENT LAB _____

SOP(S) # _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

SOP(S) # _____

1.5"
pCi/L
200 min

Quanterra Environmental Services

BATCH SUMMARY/CHAIN OF CUSTODY

ANALYSIS β MATRIX H_2O DUE DATE 5-9-98

WORK ORDER	SEQUENCE #	CLIENT	COMMENTS
J03400	-1B	PGW	QC BATCH REAGENT BLANK
J	-1X		QC BATCH MATRIX BLANK
J03400	-1M or (S) (circle)		QC BATCH MATRIX/REAGENT SPIKE
J	-2M or 2S (circle)		QC BATCH MATRIX/REAGENT SPIKE
D0340002	-		Duplicate of Sample # 80340002
80340001	- 02		
80340301	-		
80333901	- 03		
80338501	- 05		
80338301	- 02		
80342701	- 02		
	-		

Batched and QC updated by SBC on 4/29/98

Rec'd in Prep Lab by SBC on 4/29/98 Sop# RICHRC5014 Rev# 0

Rec'd in Sep Lab by N/A on Sop# N/A Rev#

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

ED/CPPT by on Sop# Rev#

Rec'd in C.R. by on 5/5/98 Sop# RICHRD0003 Rev# 0

Data Reviewed by on 5-9-98 Sop# RICHRC0002 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

Sample 80340301 has a 200 min count time.
Recounted for 50 min at pm Request 5/6/98

*** BETA ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

25-Mar-1998
Page 1

CUSTOMER: PGW

MATRIX : WATER

N98-005

SAMPLE DELIVERY GROUP W02288

BATCH NUMBER 03-400

~~res~~ SBC 4/29/98 res wght (mg) Aliq (L)

QES ID	DUP	ACCOUNT	CUSTOMER ID	SBC 9/4/98	COMMENTS
J034001B	10.069 ± 0.15885	0.2		~~0.1980~~	0.1992
J034001S	EQAH3668	0.4		~~0.1993~~	0.1999
1) 80340001		PGW 78.9	BON842	~~0.2032~~	0.1995
2) 80340002		PGW 68.1	BON844	~~0.2041~~	0.1995
DC340002		80.1			0.1993

PHC?

ACTIONS (Initial & Date)

1) INITIATED JH 3/25/98

SOP(S) # RD 2100

2) PREP LAB RECEIVED 4/29/98 SBC

SOP(S) # RICHRC5014r0

3) SAMPLE REMAINDER STORED _____

SOP(S) # _____

4) SEPARATION LAB RECEIVED _____

SOP(S) # _____

5) COUNTING/MEASUREMENT LAB _____

SOP(S) # _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

SOP(S) # _____

1.5"
~~200 min~~ SBC 4/29
pCi/L
100 min

ABSORBER

015

*** BETA ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

25-Mar-1998
Page 1

CUSTOMER: PGW

MATRIX : WATER W98-003

SAMPLE DELIVERY GROUP W02288

BATCH NUMBER 03-403

	GES ID	DUP	ACCOUNT	res wght (mg)	CUSTOMER ID	aliq (L)	COMMENTS
1)	80340301		PGW	91.6	BON4J7	0.2045	

ACTIONS (Initial & Date)

1) INITIATED JH 3/25/98

SOP(S) # RD8D

2) PREP LAB RECEIVED batched

SOP(S) # _____

3) SAMPLE REMAINDER STORED _____

SOP(S) # _____

4) SEPARATION LAB RECEIVED _____

SOP(S) # _____

5) COUNTING/MEASUREMENT LAB _____

SOP(S) # _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

SOP(S) # _____

1.5"
200 min
pCi/L

ABSORBER

*** BETA ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

20-Mar-1998
Page 1

CUSTOMER: PGW N98-005 SAMPLE DELIVERY GROUP W002288

MATRIX : WATER BATCH NUMBER 03-339

	GES ID	DUP	ACCOUNT	res wgt (mg)	CUSTOMER ID	aliq (L)	COMMENTS
1)	80333901		PGW	64.1	BON840	0.198	
2)	80333902		PGW	88.9	BON848	0.2001	
3)	80333903		PGW	0.4	BON852	0.2016	

ACTIONS (Initial & Date)

1) INITIATED JH 3/20/98

SOP(S) # RD 7000

2) PREP LAB RECEIVED batched

SOP(S) # _____

3) SAMPLE REMAINDER STORED _____

SOP(S) # _____

4) SEPARATION LAB RECEIVED _____

SOP(S) # _____

5) COUNTING/MEASUREMENT LAB _____

SOP(S) # _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

SOP(S) # _____

1.5"

~~200 min~~ SBC 4/29/98

pCi/L

100 min

ABSORBER

0159

*** BETA ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

24-Mar-1998
Page 1

CUSTOMER: PGW

SAMPLE DELIVERY GROUP W02288

MATRIX : WATER W98-003

BATCH NUMBER 03-385

pH<2

	GES ID	DUP	ACCOUNT	resweight (mg)	CUSTOMER ID	aliq (L)	COMMENTS
1)	80338501		PGW	58.2	BON4K5	0.2010	
2)	80338502		PGW	46.2	BON4L1	0.2021	
3)	80338503		PGW	43.6	BON4L7	0.1991	
4)	80338504		PGW	33.7	BON4L9	0.2004	
5)	80338505		PGW	41.3	BON4M9	0.2011	

ACTIONS (Initial & Date)

1) INITIATED JH 3/24/98

SOP(S) # RD 3800

2) PREP LAB RECEIVED batched

SOP(S) # _____

3) SAMPLE REMAINDER STORED _____

SOP(S) # _____

4) SEPARATION LAB RECEIVED _____

SOP(S) # _____

5) COUNTING/MEASUREMENT LAB _____

SOP(S) # _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

SOP(S) # _____

1.5"
~~200~~ min SBC 4/29/98
pCi/L
100min

0160

ABSORBER

*** BETA ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

24-Mar-1998
Page 1

CUSTOMER: PGW N98-005 SAMPLE DELIVERY GROUP W02288

MATRIX : WATER BATCH NUMBER 03-383

pH<2

	GES ID	DUP	ACCOUNT	res wght (mg)	CUSTOMER ID	alia (L)	COMMENTS
1)	80338301		PGW	92.5	BON846	0.2006	
2)	80338302		PGW	0.4	BON850	0.2002	

ACTIONS (Initial & Date)

1) INITIATED JH 3/24/98

SOP(S) # RD7500

2) PREP LAB RECEIVED batched

SOP(S) # _____

3) SAMPLE REMAINDER STORED _____

SOP(S) # _____

4) SEPARATION LAB RECEIVED _____

SOP(S) # _____

5) COUNTING/MEASUREMENT LAB _____

SOP(S) # _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

SOP(S) # _____

1.5"
~~200min~~ SBC 4/29/98
pCi/L
100min

0161

ABSORBER

Due 5-9-98

*** BETA . ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

26-Mar-1998
Page 1

CUSTOMER: PGW

S98-003

SAMPLE DELIVERY GROUP W02288

MATRIX : WATER

BATCH NUMBER 03-427

pH<2

	QES ID	DUP	ACCOUNT	CS wgt (mg)	CUSTOMER ID	aliq (L)	COMMENTS
1)	80342701		PGW	80.3	BON834	0.2029	
2)	80342702		PGW	51.3	BON472	0.2007	

ACTIONS (Initial & Date)

1) INITIATED JH 3/26/98

SOP(S) # RD8820

2) PREP LAB RECEIVED batched

SOP(S) # _____

3) SAMPLE REMAINDER STORED _____

SOP(S) # _____

4) SEPARATION LAB RECEIVED _____

SOP(S) # _____

5) COUNTING/MEASUREMENT LAB _____

SOP(S) # _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

SOP(S) # _____

1.5"

~~200 min~~ 100 min

pCi/L SBC 4/24/98

0162

ABSORBER

Quanterra Environmental Services

BATCH SUMMARY/CHAIN OF CUSTODY

ANALYSIS SR-90 MATRIX WATER DUE DATE 5-9-98

WORK ORDER	SEQUENCE #	CLIENT	COMMENTS
J 03402	-1B	PGW	QC BATCH REAGENT BLANK
J	-1X		QC BATCH MATRIX BLANK
J 03402	-1M or 1S (circle)		QC BATCH MATRIX/REAGENT SPIKE
J	-2M or 2S (circle)		QC BATCH MATRIX/REAGENT SPIKE
D 0340201	-		Duplicate of Sample #
3-402	01		WO 2288
3-427	02		
	-		Sep on 4-21-98 1230
	-		
	-		
	-		
	-		

Batched and QC updated by DM on 4/4/98

Rec'd in Prep Lab by _____ on _____ Sop# RICHRC5006 Rev# 2

Rec'd in Sep Lab by RTM on 4/28/98 Sop# RichRC5071 Rev# 0

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

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

Rec'd in C.R. by [signature] on 4/30/98 Sop# RICHRD0003 Rev# 0

Data Reviewed by [signature] on 5/5/98 Sop# RICHRC0002 Rev# 1

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

SR 90 sep time 4/29/98 13:46 RTM

Due 5-9-98

*** SR-90 ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

25-Mar-1998
Page 1

CUSTOMER: PGW

MATRIX : WATER

S98-003

SAMPLE DELIVERY GROUP W02288

BATCH NUMBER 03-402

	GES ID	DUP	% ACCOUNT	CUSTOMER ID	COMMENTS	Y ppt
	J034021B		yield .7795	ESE30150	1000.0ml	23.0
	J034021S		.7872	ESE30151	1000.6ml	23.4
1)	80340201		.9380 PGW	BON470 PK3 30cmc alig	30.0ml	23.6
	D0340201		.9259	ESE30152	30.1ml	24.1

ACTIONS (Initial & Date)

1) INITIATED JH 3/25/98

SOP(S) # RD MW

2) PREP LAB RECEIVED _____

SOP(S) # _____

3) SAMPLE REMAINDER STORED _____

SOP(S) # _____

4) SEPARATION LAB RECEIVED _____

SOP(S) # _____

5) COUNTING/MEASUREMENT LAB _____

SOP(S) # _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

SOP(S) # _____

Due 5.9.98

*** SR-90 ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

26-Mar-1998
Page 1

CUSTOMER: PGW

SAMPLE DELIVERY GROUP W02288

MATRIX : WATER S98-003

BATCH NUMBER 03-427

	QES ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS	Y BB+
1)	80342702	% yield .4503	PGW	BON472 ZCE30154	1000.8 ml	23.0

ACTIONS (Initial & Date)

1) INITIATED JH 3/26/98

SOP(S) # RD 7770

2) PREP LAB RECEIVED _____

SOP(S) # _____

3) SAMPLE REMAINDER STORED _____

SOP(S) # _____

4) SEPARATION LAB RECEIVED _____

SOP(S) # _____

5) COUNTING/MEASUREMENT LAB _____

SOP(S) # _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

SOP(S) # _____

Quanterra Environmental Services

BATCH SUMMARY/CHAIN OF CUSTODY

ANALYSIS Tot Ra MATRIX H_2O DUE DATE 5-9-98

WORK ORDER	SEQUENCE #	CLIENT	COMMENTS
J 03339	-1B	PGW	QC BATCH REAGENT BLANK
J	-1X		QC BATCH MATRIX BLANK
J 03339	-1M or 1S (circle)		QC BATCH MATRIX/REAGENT SPIKE IQQL187 4.0762 ± 0.050912 DPM
J	-2M or 2S (circle)		QC BATCH MATRIX/REAGENT SPIKE
D 0333903	-		Duplicate of Sample # 03
3-339	01→3		
3-383	01→2		
3-400	01→2		
	-		
	-		
	-		
	-		

Batched and QC updated by Sh on 4-3-98

Rec'd in Prep Lab by ↓ on ↓ Sop# RD3231 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 ____ on 4/7/98 Sop# RICHRD0003 Rev# 0 4/8/98

Data Reviewed by ____ on 5/5/98 Sop# RICHRC0002 Rev# 1

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

DISH 1.5 UNITS pci/L

COUNT 1 x 100

0166

Due 5-9-98

*** TOTAL RA ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

20-Mar-1998
Page 1

CUSTOMER: PGW

MATRIX : WATER

N98-005

SAMPLE DELIVERY GROUP W02288

BATCH NUMBER 03-339

	GES ID	DUP	ACCOUNT	CUSTOMER ID	volume/ml	COMMENTS	ppt wt/mg
	J0333913				500.0	ESQ7899 IQQL187	17.6
	J0333915				500.0	Pr.12/12/97 Ex.9/17/98	18.0
1)	80333901		PGW	BON840	500.4	ESQ7900 Pr.11/17/97 Ex.9/17/98	17.3
2)	80333902		PGW	BON848	502.8	ESQ7901 Pr.11/17/97 Ex.9/17/98	17.3
3)	80333903		PGW	BON852	501.5	ESQ7902 Pr.11/17/97 Ex.9/17/98	17.8
	D0333903				513.8	ESQ7903 Pr.11/17/97 Ex.9/17/98	17.3

ACTIONS (Initial & Date)

1) INITIATED JH 3/20/98

SOP(S) # RD 7000

2) PREP LAB RECEIVED [illegible]

SOP(S) #

3) SAMPLE REMAINDER STORED

SOP(S) #

4) SEPARATION LAB RECEIVED

SOP(S) #

5) COUNTING/MEASUREMENT LAB [illegible]

SOP(S) #

6) DATA REVIEWED AND ANALYTICAL PREP STORED

SOP(S) #

Due 5-9-98

*** TOTAL RA ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

24-Mar-1998
Page 1

CUSTOMER: PGW

MATRIX : WATER N98-005

SAMPLE DELIVERY GROUP W02288

BATCH NUMBER 03-383

	QES ID	DUP	ACCOUNT	CUSTOMER ID	volume/ml	COMMENTS	pot wt/mg
1)	80338301		PGW	BON846	500.4	ESQ8004 [illegible]	17.6
2)	80338302		PGW	BON850	500.1	ESQ8005 [illegible]	18.0

ACTIONS (Initial & Date)

1) INITIATED JH 3/24/98

SOP(S) # RDMW

2) PREP LAB RECEIVED na

SOP(S) #

3) SAMPLE REMAINDER STORED

SOP(S) #

4) SEPARATION LAB RECEIVED

SOP(S) #

5) COUNTING/MEASUREMENT LAB na

SOP(S) #

6) DATA REVIEWED AND ANALYTICAL PREP STORED

SOP(S) #

Due 5-9-98

*** TOTAL RA ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

25-Mar-1998
Page 1

CUSTOMER: PGW

SAMPLE DELIVERY GROUP W02288

MATRIX : WATER N98-005

BATCH NUMBER 03-400

	QES ID	DUP	ACCOUNT	CUSTOMER ID	volume/ml	COMMENTS ppt wt/mg
1)	80340001		PGW	BON842	500.4	ESQ8006 [illegible] 17.4
2)	80340002		PGW	BON844	500.7	ESQ8007 [illegible] 18.2

ACTIONS (Initial & Date)

1) INITIATED JH 3/25/98

SOP(S) # RD 8800

2) PREP LAB RECEIVED na

SOP(S) #

3) SAMPLE REMAINDER STORED

SOP(S) #

4) SEPARATION LAB RECEIVED

SOP(S) #

5) COUNTING/MEASUREMENT LAB na

SOP(S) #

6) DATA REVIEWED AND ANALYTICAL PREP STORED

SOP(S) #

Quanterra Environmental Services

BATCH SUMMARY/CHAIN OF CUSTODY

ANALYSIS C-14 MATRIX WATER DUE DATE 5-9-98

WORK ORDER	SEQUENCE #	CLIENT	COMMENTS
J 03339	~~-1B~~ 1N, 2N	PGW	QC BATCH REAGENT BLANK
J 03339	-1X		QC BATCH MATRIX BLANK
J 03339	-1M or 1S (circle)		QC BATCH MATRIX/REAGENT SPIKE
J	-2M or 2S (circle)		QC BATCH MATRIX/REAGENT SPIKE
D 0333901	-		Duplicate of Sample #
3-339	01-3		WO 2288
3-383	01-2		
3-400	01-2		
3-402	01		
3-427	02		
	-		
	-		

Batched and QC updated by dm on 4-2-98

Rec'd in Prep Lab by _____ on _____ Sop# RICHRC5022 Rev# 1

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 [illegible] on 4/17/98 Sop# RICHRC0001 Rev# 0

Data Reviewed by JW on 5/5/98 Sop# RICHRC0002 Rev# 1

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

*** C-14 ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

20-Mar-1998
Page 1

CUSTOMER: PGW

MATRIX : WATER

N98-005

SAMPLE DELIVERY GROUP W02288

BATCH NUMBER 03.339

	GES ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	80333901		PGW	BON840	
2)	80333902		PGW	BON848	
3)	80333903		PGW	BON852	

ACTIONS (Initial & Date)

1) INITIATED SH 3/20/98

SOP(S) # R0000

2) PREP LAB RECEIVED _____

SOP(S) # _____

3) SAMPLE REMAINDER STORED _____

SOP(S) # _____

4) SEPARATION LAB RECEIVED _____

SOP(S) # _____

5) COUNTING/MEASUREMENT LAB _____

SOP(S) # _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

SOP(S) # _____

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

24-Mar-1998
Page 1

CUSTOMER: PGW

MATRIX : WATER

N98-005

SAMPLE DELIVERY GROUP W02288

BATCH NUMBER 03383

	GES ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	80338301		PGW	BON846	
2)	80338302		PGW	BON850	

ACTIONS (Initial & Date)

1) INITIATED JH 3/24/98

SOP(S) # RD0800

2) PREP LAB RECEIVED _____

SOP(S) # _____

3) SAMPLE REMAINDER STORED _____

SOP(S) # _____

4) SEPARATION LAB RECEIVED _____

SOP(S) # _____

5) COUNTING/MEASUREMENT LAB _____

SOP(S) # _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

SOP(S) # _____

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

25-Mar-1998
Page 1

CUSTOMER: PGW

MATRIX : WATER

N98-005

SAMPLE DELIVERY GROUP W02288

BATCH NUMBER 03-400

	GES ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	80340001		PGW	BON842	
2)	80340002		PGW	BON844	

ACTIONS (Initial & Date)

1) INITIATED JH 3/25/98

SOP(S) # RD 7800

2) PREP LAB RECEIVED _____

SOP(S) # _____

3) SAMPLE REMAINDER STORED _____

SOP(S) # _____

4) SEPARATION LAB RECEIVED _____

SOP(S) # _____

5) COUNTING/MEASUREMENT LAB _____

SOP(S) # _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

SOP(S) # _____

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

25-Mar-1998
Page 1

CUSTOMER: PGW

MATRIX : WATER S98-003

SAMPLE DELIVERY GROUP W02288

BATCH NUMBER 03-402

	GES ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	80340201		PGW	BON470	PK3-36ex 30ml aliq.

ACTIONS (Initial & Date)

1) INITIATED JH 3/25/98

SOP(S) # RD 88200

2) PREP LAB RECEIVED _____

SOP(S) # _____

3) SAMPLE REMAINDER STORED _____

SOP(S) # _____

4) SEPARATION LAB RECEIVED _____

SOP(S) # _____

5) COUNTING/MEASUREMENT LAB _____

SOP(S) # _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

SOP(S) # _____

1 JWC
5-9-98

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

26-Mar-1998
Page 1

CUSTOMER: PGW

MATRIX : WATER S98-003

SAMPLE DELIVERY GROUP W02288

BATCH NUMBER 03-427

	GES ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	80342702		PGW	BON472	

ACTIONS (Initial & Date)

1) INITIATED JH 3/26/98

SOP(S) # RD7800

2) PREP LAB RECEIVED _____

SOP(S) # _____

3) SAMPLE REMAINDER STORED _____

SOP(S) # _____

4) SEPARATION LAB RECEIVED _____

SOP(S) # _____

5) COUNTING/MEASUREMENT LAB _____

SOP(S) # _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

SOP(S) # _____

Quanterra

BATCH SUMMARY/CHAIN OF CUSTODY

ANALYSIS TC99 MATRIX Water DUE DATE 5-11-98

WORK ORDER	SEQUENCE #	CLIENT	COMMENTS
J033390	-1B	PGW	QC BATCH REAGENT BLANK
J	-1X		QC BATCH MATRIX BLANK
J03339	-1M or 1S (circle)		QC BATCH MATRIX/REAGENT SPIKE
J	-2M or 2S (circle)		QC BATCH MATRIX/REAGENT SPIKE
D03339 01	-		Duplicate of Sample # 80333901 W0342704
W0342704	-		
	-		
80333901	-03		
80338301	-02		
80340001	-02		
80340201	-		
80342702	-04		

Batched and QC updated by RTM on 4/22/98

Rec'd in Prep Lab by RTM on 4/22/98 Sop# RichRC5078 Rev#

Rec'd in Sep Lab by RTM on 4/22/98 Sop# RichRC5078 Rev#

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

ED/CPPT by on Sop# Rev#

Rec'd in C.R. by on 4/28/98 Sop# RICHRD0001 Rev# 0

Data Reviewed by on 5/5/98 Sop# RICHRC0002 Rev# 1

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

*** TC-99 ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

20-Mar-1998
Page 1

CUSTOMER: PGW

MATRIX : WATER N98-005

SAMPLE DELIVERY GROUP W07288

BATCH NUMBER 03.339

	GES ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
	J0333918				
	J0333915				
1)	80333901		PGW	BON840	
2)	80333902		PGW	BON848	
3)	80333903		PGW	BON852	

ACTIONS (Initial & Date)

1) INITIATED JH 3/20 F18

SOP(S) # RD 7807

2) PREP LAB RECEIVED _____

SOP(S) # _____

3) SAMPLE REMAINDER STORED _____

SOP(S) # _____

4) SEPARATION LAB RECEIVED _____

SOP(S) # _____

5) COUNTING/MEASUREMENT LAB _____

SOP(S) # _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

SOP(S) # _____

*** TC-99 ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

24-Mar-1998
Page 1

CUSTOMER: PGW

MATRIX : WATER N98-005

SAMPLE DELIVERY GROUP W02288

BATCH NUMBER 03-383

	GES ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	80338301		PGW	BON846	
2)	80338302		PGW	BON850	

ACTIONS (Initial & Date)

1) INITIATED JH 3/24/98

SOP(S) # RD8800

2) PREP LAB RECEIVED _____

SOP(S) # _____

3) SAMPLE REMAINDER STORED _____

SOP(S) # _____

4) SEPARATION LAB RECEIVED _____

SOP(S) # _____

5) COUNTING/MEASUREMENT LAB _____

SOP(S) # _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

SOP(S) # _____

*** TC-99 ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

25-Mar-1998
Page 1

CUSTOMER: PGW

MATRIX : WATER N98-005

SAMPLE DELIVERY GROUP W003288

BATCH NUMBER 03400

	GES ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	80340001		PGW	BON842	
2)	80340002		PGW	BON844	

ACTIONS (Initial & Date)

1) INITIATED JH 3/25/98

SOP(S) # RD08002

2) PREP LAB RECEIVED _____

SOP(S) # _____

3) SAMPLE REMAINDER STORED _____

SOP(S) # _____

4) SEPARATION LAB RECEIVED _____

SOP(S) # _____

5) COUNTING/MEASUREMENT LAB _____

SOP(S) # _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

SOP(S) # _____

*** TC-99 ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

25-Mar-1998
Page 1

CUSTOMER: PGW

MATRIX : WATER S98-003

SAMPLE DELIVERY GROUP W02288

BATCH NUMBER 03-402

	QES ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	80340201		PGW	BON470	Acq-2048 50ml alq

ACTIONS (Initial & Date)

1) INITIATED JH 3/25/98

SOP(S) # RD 8800

2) PREP LAB RECEIVED _____

SOP(S) # _____

3) SAMPLE REMAINDER STORED _____

SOP(S) # _____

4) SEPARATION LAB RECEIVED _____

SOP(S) # _____

5) COUNTING/MEASUREMENT LAB _____

SOP(S) # _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

SOP(S) # _____

Due 5-9-98

*** TC-99 ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

26-Mar-1998
Page 1

CUSTOMER: PGW

S98-003

SAMPLE DELIVERY GROUP W02288

MATRIX : WATER

BATCH NUMBER 03-427

	GES ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	80342702		PGW	BON472	
2)	80342703		PGW	BON449	
3)	80342704 W0342704		PGW	BON489	

ACTIONS (Initial & Date)

1) INITIATED JH 3/26/98

SOP(S) # RD7800

2) PREP LAB RECEIVED _____

SOP(S) # _____

3) SAMPLE REMAINDER STORED _____

SOP(S) # _____

4) SEPARATION LAB RECEIVED _____

SOP(S) # _____

5) COUNTING/MEASUREMENT LAB _____

SOP(S) # _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

SOP(S) # _____

Quanterra Environmental Services

BATCH SUMMARY/CHAIN OF CUSTODY

ANALYSIS Tritium MATRIX water DUE DATE 5-9-98

WORK ORDER	SEQUENCE #	CLIENT	COMMENTS
J 03385	-1B 1N to 3N	PGW W02288	QC BATCH REAGENT BLANK
J 03385	-1X		QC BATCH MATRIX BLANK
J 03385	-1M or 1S (circle)		QC BATCH MATRIX/REAGENT SPIKE
J NA	-2M or 2S (circle)		QC BATCH MATRIX/REAGENT SPIKE
D 0338506	-		Duplicate of Sample # 80338506
80338506	-		
80338701	-		
80340201	-		
80342701	- 04		
	-		
	-	BAB	4-23-98
	-		

Batched and QC updated by BAB on 4-23-98

Rec'd in Prep Lab by BAB on 4-7-98 Sop# RICHRC5007 Rev# 1

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

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

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

Rec'd in C.R. by ____ on 4/23/98 Sop# RICHRD0001 Rev# 0

Data Reviewed by ____ on 5/5/98 Sop# RICHRC0002 Rev# 1

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 5-9-98

*** TRITIUM ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

24-Mar-1998
Page 1

CUSTOMER: PGW

MATRIX : WATER

W98-003

SAMPLE DELIVERY GROUP W02288

BATCH NUMBER 03385

	QES ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
	J033851N J033852N J033853N				
1)	80338506		PGW	BON579	
	D0338506				

ACTIONS (Initial & Date)

1) INITIATED JH 3/24/98

SOP(S) # RO7800

2) PREP LAB RECEIVED BAB 4-7-98

SOP(S) # RICHRC5007

3) SAMPLE REMAINDER STORED NA

SOP(S) #

4) SEPARATION LAB RECEIVED

SOP(S) #

5) COUNTING/MEASUREMENT LAB

SOP(S) #

6) DATA REVIEWED AND ANALYTICAL PREP STORED

SOP(S) #

J033851X
J033851S
J033851m
} 60.580 ± 2.613 dpm/10 ml #3947

*** TRITIUM ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

24-Mar-1998
Page 1

CUSTOMER: PGW

MATRIX : WATER

S98-003

SAMPLE DELIVERY GROUP WD02288

BATCH NUMBER 03-387

	GES ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	80338701		PGW	BON460	

ACTIONS (Initial & Date)

1) INITIATED JH 3/24/98

SOP(S) # RD8UU

2) PREP LAB RECEIVED _____

SOP(S) # _____

3) SAMPLE REMAINDER STORED _____

SOP(S) # _____

4) SEPARATION LAB RECEIVED _____

SOP(S) # _____

5) COUNTING/MEASUREMENT LAB _____

SOP(S) # _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

SOP(S) # _____

*** TRITIUM ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

25-Mar-1998
Page 1

CUSTOMER: PGW

MATRIX : WATER

S98-003

SAMPLE DELIVERY GROUP WO2288

BATCH NUMBER 03-402

	GES ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	80340201		PGW	BON470	

ACTIONS (Initial & Date)

1) INITIATED 3/25/98

SOP(S) # RD 8/20

2) PREP LAB RECEIVED _____

SOP(S) # _____

3) SAMPLE REMAINDER STORED _____

SOP(S) # _____

4) SEPARATION LAB RECEIVED _____

SOP(S) # _____

5) COUNTING/MEASUREMENT LAB _____

SOP(S) # _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

SOP(S) # _____

Due 5-9-98

*** TRITIUM ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

26-Mar-1998
Page 1

CUSTOMER: PGW

MATRIX : WATER

S98-003

SAMPLE DELIVERY GROUP W02288

BATCH NUMBER 03-427

	GES ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	80342701		PGW	BON834	
2)	80342702		PGW	BON472	
3)	80342703		PGW	BON449	
4)	80342704		PGW	BON489	

ACTIONS (Initial & Date)

1) INITIATED JH 3/26/98

SOP(S) # RD8800

2) PREP LAB RECEIVED _____

SOP(S) # _____

3) SAMPLE REMAINDER STORED _____

SOP(S) # _____

4) SEPARATION LAB RECEIVED _____

SOP(S) # _____

5) COUNTING/MEASUREMENT LAB _____

SOP(S) # _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

SOP(S) # _____

Quanterra Environmental Services

BATCH SUMMARY/CHAIN OF CUSTODY

ANALYSIS Unat MATRIX H_2O DUE DATE 5-9-98

WORK ORDER	SEQUENCE #	CLIENT	COMMENTS
J0333913	-1B	PGW	QC BATCH REAGENT BLANK
J	-1X		QC BATCH MATRIX BLANK
J03339	-1M or 1S (circle)		QC BATCH MATRIX/REAGENT SPIKE
J	-2M or 2S (circle)		QC BATCH MATRIX/REAGENT SPIKE
D0333901	-		Duplicate of Sample # 80333901
80333901	- 03		
W03339103	-		
80338301	- 02		
80342702	- 04		
80340001	- 02	✓	
	-		
	-		

Batched and QC updated by SBC on 4/29

Rec'd in Prep Lab by SBC on 4/29 Sop# RD3215 Rev# 1

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

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

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

Rec'd in C.R. by _____ on _____ Sop# _____ Rev# _____

Data Reviewed by MC on _____ Sop# _____ Rev# _____

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

*** URANIUM ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

20-Mar-1998
Page 1

CUSTOMER: PGW

MATRIX : WATER

N98-005

SAMPLE DELIVERY GROUP W02288

BATCH NUMBER 03-339

PHC2

	QES ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
J033391B					
J033391S	EQIF696				
1)	80333901		PGW	BON840	
D0333901					
2)	80333902		PGW	BON848	
3)	80333903		PGW	BON852	
W0333903	EQIN199				

ACTIONS (Initial & Date)

1) INITIATED JH 3/20/98

SOP(S) # RD[illegible]

2) PREP LAB RECEIVED 4-29-98 SBC

SOP(S) # RD3215r1

3) SAMPLE REMAINDER STORED _____

SOP(S) # _____

4) SEPARATION LAB RECEIVED _____

SOP(S) # _____

5) COUNTING/MEASUREMENT LAB _____

SOP(S) # _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

SOP(S) # _____

ug/L

0188

*** URANIUM ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

24-Mar-1998
Page 1

CUSTOMER: PGW

MATRIX : WATER

N98-005

SAMPLE DELIVERY GROUP LC02288

BATCH NUMBER 03-383

PH<2

	QES ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	80338301		PGW	BON846	
2)	80338302		PGW	BON850	

ACTIONS (Initial & Date)

1) INITIATED 3/24/98

SOP(S) # RD3820

2) PREP LAB RECEIVED batched

SOP(S) # _____

3) SAMPLE REMAINDER STORED _____

SOP(S) # _____

4) SEPARATION LAB RECEIVED _____

SOP(S) # _____

5) COUNTING/MEASUREMENT LAB _____

SOP(S) # _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

SOP(S) # _____

ug/L

Due 5-9-98

*** URANIUM ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

26-Mar-1998
Page 1

CUSTOMER: PGW S98-003

MATRIX : WATER

SAMPLE DELIVERY GROUP W02288

BATCH NUMBER 03-427

pH<2

	GES ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	80342702		PGW	BON472	
2)	80342703		PGW	BON449	
3)	80342704		PGW	BON489	

ACTIONS (Initial & Date)

1) INITIATED JH 3/26/98

SOP(S) # RD 3000

2) PREP LAB RECEIVED batched

SOP(S) # _____

3) SAMPLE REMAINDER STORED _____

SOP(S) # _____

4) SEPARATION LAB RECEIVED _____

SOP(S) # _____

5) COUNTING/MEASUREMENT LAB _____

SOP(S) # _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

SOP(S) # _____

ug/L

0190

*** URANIUM ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

25-Mar-1998
Page 1

CUSTOMER: PGW

MATRIX : WATER N98-005

SAMPLE DELIVERY GROUP W02288

BATCH NUMBER 03470

PHC

	QES ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	80340001		PGW	BON842	
2)	80340002		PGW	BON844	

ACTIONS (Initial & Date)

1) INITIATED JH 3/25/98

SOP(S) # RD8802

2) PREP LAB RECEIVED batched

SOP(S) # _____

3) SAMPLE REMAINDER STORED _____

SOP(S) # _____

4) SEPARATION LAB RECEIVED _____

SOP(S) # _____

5) COUNTING/MEASUREMENT LAB _____

SOP(S) # _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

SOP(S) # _____

ug/L

RECORD COPY
PROJ. 28023
CAT. J3.1
WORKING COPY

6/18/98

Problems and Discrepancies

SDG W2288-CHEM-1

1. EPA160.2 (TSS) is listed in the case narrative under requested analyses. EPA 160.2 was not requested or reported. In the future, please list only those analyses requested which pertaining to the SDG.

2. Samples were shipped to the St Louis lab without proper COC documentation. In the future, please ensure all samples are shipped with the proper COC documentation.

3. The "Condition upon Receipt" (page 32) states sample number B0N8B3 was received with a pH of 4 instead of the required 2 for metals analysis. No Issue resolution form was submitted. In the future, please submit an "Issue Resolution" Form so the problem can be addressed.

4. The "Condition upon Receipt" (page 66) states the TOX bottle for sample number B0N4M5 was received broken. No Issue resolution form was submitted. In the future, please submit an "Issue Resolution" Form so the problem can be addressed.

5. The method blank (QCBLK169265-1 page 157) magnesium result is U qualified, however the associated sample magnesium results were qualified with a "C. Please remove the "C" qualifier and - report the corrected results in hardcopy and electronic form with the action code of "R".

PNNL Sample Number	Lab Sample Number	Page
B0N471	17323-005	155
B0N833	17323-008	156

SEP 1998
RECEIVED
Data
Log In

RECEIVED
JUN 19 1998
RECORDS MGMT.

Sauer, Denise R

From: Sauer, Denise R
Sent: Thursday, June 18, 1998 2:49 PM
To: 'WhiteB@quanterra.com'
Cc: Thompson, Christopher J; Stewart, Dorothy L; Julya, Janet L; 'koprivaa@quanterra.com'; 'LouvierS@quanterra.com'
Subject: New Chem P&D W2288

Importance: High

Bob,

Please acknowledge receipt of this message.

Attached is the P&D for SDG's W2288

2288 PD Chem1.doc

Attached are reports which contain the problems and discrepancies identified in the above noted SDG('s). Please review the attachments, make corrections, and/or submit modified data within seven calendar days from receipt of this letter.

Thank you,

Denise

RECORD COPY
PROJ. 28023
CAT. T3.1
WORKING COPY

August 8, 1998

Problems and Discrepancies Response
SDG W2288-CHEM-1

1. Please see the attached corrected hard-copy page (6) with the TSS removed. Although a corrected hard-copy was not requested, I am submitting a corrected hard-copy to reflect our records.

2. Applies to Quanterra, Richland.

3. An effort is being made to submit Issue resolution forms in a timely manner.

4. An effort is being made to submit Issue resolution forms in a timely manner.

5. Please refer to the attached corrected hard-copy form (pages 155 and 156) with the "C" qualifier removed from the magnesium results for samples 17323-005 and 17323-008. The electronic form with the action code of "R" was submitted by e-mail on 08/08/98.

ADDITIONAL COMMENTS

No additional comments were noted.

SEP 1998
RECEIVED
Data
Log In

RECEIVED
AUG 12 1998
SAMPLING & ANALYSIS

Louvier, Shiela

From: Louvier, Shiela
Sent: Saturday, August 08, 1998 1:35 PM
To: 'sauer, denise'
Cc: 'stewart, dot'
Subject: P&D EDD for W2288-chem-1

w02288c1.lis

EXPEDITE
Problems and Discrepancies

SDG W2288-CHEM-1

1. The samples listed below are missing the lead results for EPA 6010 analysis. Please report the lead results in hard copy and electronic form with an action code of "I".

PNNL Sample Number	Lab Sample Number	Page
B0N8B3	17285-002	130
B0N4L8	17308-026	135
B0N4K4	17308-027	138
B0N4L0	17308-028	139
B0N4L6	17308-029	140
B0N4M8	17308-030	141
B0N578	17308-031	142
B0N471	17323-005	155
B0N833	17323-008	156
	QCBLK169289-1	143

SEP 1998
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Data
Log In

2. The case narrative lists EPA160.2 under requested analysis. There was no EPA 160.2 requested or analyzed. In the future please list only those analysis that have been requested for this SDG.

3. Samples were shipped to the St Louis lab without proper COC documentation. In the future please ensure that all samples are shipped with the proper COC documentation.

4. The "Condition upon Receipt" form on page 32 states that sample number B0N8B3 was received with a pH of 4 instead of the required 2 for metals analysis. No Issue resolution form was submitted. In the future please submit an "Issue Resolution" Form so that the problem can be addressed.

5. The "Condition upon Receipt" form on page 66 states that sample number B0N4M5 was received broken. No Issue resolution form was submitted. In the future please submit an "Issue Resolution" Form so that the problem can be addressed.

6. The data for method EPA 6010 metals includes B-qualified calcium results in the blank (QCBLK169289-1 page 143). The associated sample results were qualified with a "C" for calcium. Because the blank result was below the Groundwater limit no qualifiers are needed. Please re-report the corrected results in hardcopy and electronic form with the action code of "R".

PNNL Sample Number	Lab Sample Number	Page
B0N4L8	17308-026	135
B0N4K4	17308-027	138
B0N4L0	17308-028	139
B0N4L6	17308-029	140
B0N4M8	17308-030	141
B0N578	17308-031	142

7. The data for method EPA 6010 metals includes B-qualified aluminum, sodium and calcium results and U- qualified results for magnesium in the blank (QCBLK169265-1 page 157). The associated sample results were qualified with a "C" for aluminum, sodium, magnesium and calcium. Because the blank result was below the Groundwater limit no qualifiers are needed. Please re-report the corrected results in hardcopy and electronic form with the action code of "R".

PNNL Sample Number	Lab Sample Number	Page
B0N471	17323-005	155
B0N833	17323-008	156

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Internal Corrective Actions

SDG Number:W2288 Type: [X] Chemistry [ ] Radiochemistry

Verified by: Diana Felmy, Janet L. Julya Date:6/1/98

1. "D" qualifiers were missing from one or more results from the following method(s) and were added to the hard copy for each result that has a dilution factor greater then one.

   EPA 300.0, EPA 353.1

   The "D" qualifier was added to the results during the preloading process.

2. Tentatively identified compounds were reported in the electronic file. These were deleted in order to load the data.

3. This data package was a combination of ROM and Cercla. The Cercla data has been separated from the ROM data.

RECEIVED
JUN 19 1998
RECORDS MGMT.

Louvier, Shiela

From: Louvier, Shiela
To: Sauer, Denise
Subject: W02288 EDD for package shipped 05/20/98.
Date: Wednesday, May 20, 1998 8:26PM
Priority: High

<<File Attachment: W02288.LIS>>

RECORD COPY
PROJ._____
CAT._____
WORKING COPY_____

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MAY 21 1998
J. L. DEVARY

Cercla Data

Well_Name	HEIS_Sam	Collect_Da	User_ID	COC	Method_Name	Service_List_Name	SDG_Number
699-35-66A	B0N839	3/19/98	K87490	N98-005-1	EPA7060	Arsenic - 7060 - (GFAA)	W2288
699-35-66A	B0N839	3/19/98	K87490	N98-005-1	EPA7740	Selenium - 7740 - (GFAA)	W2288
699-35-66A	B0N839	3/19/98	K87490	N98-005-1	EPA6010A	ICP Metals - 6010A (SW-846)	W2288
699-35-66A	B0N840	3/19/98	K87490	N98-005-1	EPA353.1	NO2/NO3 - 353.1	W2288
699-35-66A	B0N840	3/19/98	K87490	N98-005-1	EPA9020	TOX - 9020	W2288
699-35-66A	B0N840	3/19/98	K87490	N98-005-1	EPA8240A	VOA - 8240A (TCL)	W2288
699-35-66A	B0N840	3/19/98	K87490	N98-005-1	EPA7740	Selenium - 7740 - (GFAA)	W2288
699-35-66A	B0N840	3/19/98	K87490	N98-005-1	EPA6010A	ICP Metals - 6010A (SW-846)	W2288
699-35-66A	B0N840	3/19/98	K87490	N98-005-1	EPA310.1	Alkalinity - 310.1	W2288
699-35-66A	B0N840	3/19/98	K87490	N98-005-1	EPA300.0	IC Anions - 300.0	W2288
699-35-66A	B0N840	3/19/98	K87490	N98-005-1	9310_ALPHABETA_G	Gross Alpha & Gross Beta	W2288
699-35-66A	B0N840	3/19/98	K87490	N98-005-1	TOTALU	Total Uranium	W2288
699-35-66A	B0N840	3/19/98	K87490	N98-005-1	TC99	Technetium-99	W2288
699-35-66A	B0N840	3/19/98	K87490	N98-005-1	C14	Carbon-14	W2288
699-35-66A	B0N840	3/19/98	K87490	N98-005-1	TotalRa	Total Radium	W2288
699-35-66A	B0N840	3/19/98	K87490	N98-005-1	I129	Iodine-129	W2288
699-35-66A	B0N840	3/19/98	K87490	N98-005-1	9310_ALPHABETA_G	Gross Alpha & Gross Beta	W2288
699-35-66A	B0N840	3/19/98	K87490	N98-005-1	EPA160.1	TDS - 160.1	W2288
699-35-66A	B0N840	3/19/98	K87490	N98-005-1	EPA7060	Arsenic - 7060 - (GFAA)	W2288
699-36-67	B0N841	3/24/98	K87490	N98-005-2	EPA7740	Selenium - 7740 - (GFAA)	W2288
699-36-67	B0N841	3/24/98	K87490	N98-005-2	EPA6010A	ICP Metals - 6010A (SW-846)	W2288
699-36-67	B0N841	3/24/98	K87490	N98-005-2	EPA7060	Arsenic - 7060 - (GFAA)	W2288
699-36-67	B0N842	3/24/98	K87490	N98-005-2	EPA300.0	IC Anions - 300.0	W2288
699-36-67	B0N842	3/24/98	K87490	N98-005-2	EPA9020	TOX - 9020	W2288
699-36-67	B0N842	3/24/98	K87490	N98-005-2	EPA8240A	VOA - 8240A (TCL)	W2288
699-36-67	B0N842	3/24/98	K87490	N98-005-2	EPA6010A	ICP Metals - 6010A (SW-846)	W2288
699-36-67	B0N842	3/24/98	K87490	N98-005-2	EPA7060	Arsenic - 7060 - (GFAA)	W2288
699-36-67	B0N842	3/24/98	K87490	N98-005-2	EPA353.1	NO2/NO3 - 353.1	W2288
699-36-67	B0N842	3/24/98	K87490	N98-005-2	EPA310.1	Alkalinity - 310.1	W2288
699-36-67	B0N842	3/24/98	K87490	N98-005-2	TOTALU	Total Uranium	W2288
699-36-67	B0N842	3/24/98	K87490	N98-005-2	TC99	Technetium-99	W2288
699-36-67	B0N842	3/24/98	K87490	N98-005-2	TotalRa	Total Radium	W2288
699-36-67	B0N842	3/24/98	K87490	N98-005-2	EPA160.1	TDS - 160.1	W2288
699-36-67	B0N842	3/24/98	K87490	N98-005-2	I129	Iodine-129	W2288

Well_Name	HEIS_Sam	Collect_Da	User_ID	COC	Method_Name	Service_List_Name	SDG_Number
699-36-67	B0N842	3/24/98	K87490	N98-005-2	9310_ALPHABETA_G	Gross Alpha & Gross Beta	W2288
699-36-67	B0N842	3/24/98	K87490	N98-005-2	9310_ALPHABETA_G	Gross Alpha & Gross Beta	W2288
699-36-67	B0N842	3/24/98	K87490	N98-005-2	C14	Carbon-14	W2288
699-36-67	B0N842	3/24/98	K87490	N98-005-2	EPA7740	Selenium - 7740 - (GFAA)	W2288
699-36-67	B0N843	3/24/98	K87490	N98-005-3	EPA6010A	ICP Metals - 6010A (SW-846)	W2288
699-36-67	B0N843	3/24/98	K87490	N98-005-3	EPA7060	Arsenic - 7060 - (GFAA)	W2288
699-36-67	B0N843	3/24/98	K87490	N98-005-3	EPA7740	Selenium - 7740 - (GFAA)	W2288
699-36-67	B0N844	3/24/98	K87490	N98-005-3	TOTALU	Total Uranium	W2288
699-36-67	B0N844	3/24/98	K87490	N98-005-3	EPA8240A	VOA - 8240A (TCL)	W2288
699-36-67	B0N844	3/24/98	K87490	N98-005-3	EPA7740	Selenium - 7740 - (GFAA)	W2288
699-36-67	B0N844	3/24/98	K87490	N98-005-3	EPA7060	Arsenic - 7060 - (GFAA)	W2288
699-36-67	B0N844	3/24/98	K87490	N98-005-3	EPA6010A	ICP Metals - 6010A (SW-846)	W2288
699-36-67	B0N844	3/24/98	K87490	N98-005-3	EPA353.1	NO2/NO3 - 353.1	W2288
699-36-67	B0N844	3/24/98	K87490	N98-005-3	EPA310.1	Alkalinity - 310.1	W2288
699-36-67	B0N844	3/24/98	K87490	N98-005-3	EPA9020	TOX - 9020	W2288
699-36-67	B0N844	3/24/98	K87490	N98-005-3	TC99	Technetium-99	W2288
699-36-67	B0N844	3/24/98	K87490	N98-005-3	TotalRa	Total Radium	W2288
699-36-67	B0N844	3/24/98	K87490	N98-005-3	I129	Iodine-129	W2288
699-36-67	B0N844	3/24/98	K87490	N98-005-3	9310_ALPHABETA_G	Gross Alpha & Gross Beta	W2288
699-36-67	B0N844	3/24/98	K87490	N98-005-3	9310_ALPHABETA_G	Gross Alpha & Gross Beta	W2288
699-36-67	B0N844	3/24/98	K87490	N98-005-3	C14	Carbon-14	W2288
699-36-67	B0N844	3/24/98	K87490	N98-005-3	EPA300.0	IC Anions - 300.0	W2288
699-36-67	B0N844	3/24/98	K87490	N98-005-3	EPA160.1	TDS - 160.1	W2288
699-36-70A	B0N845	3/23/98	K87490	N98-005-4	EPA6010A	ICP Metals - 6010A (SW-846)	W2288
699-36-70A	B0N845	3/23/98	K87490	N98-005-4	EPA7060	Arsenic - 7060 - (GFAA)	W2288
699-36-70A	B0N845	3/23/98	K87490	N98-005-4	EPA7740	Selenium - 7740 - (GFAA)	W2288
699-36-70A	B0N846	3/23/98	K87490	N98-005-4	EPA310.1	Alkalinity - 310.1	W2288
699-36-70A	B0N846	3/23/98	K87490	N98-005-4	C14	Carbon-14	W2288
699-36-70A	B0N846	3/23/98	K87490	N98-005-4	9310_ALPHABETA_G	Gross Alpha & Gross Beta	W2288
699-36-70A	B0N846	3/23/98	K87490	N98-005-4	9310_ALPHABETA_G	Gross Alpha & Gross Beta	W2288
699-36-70A	B0N846	3/23/98	K87490	N98-005-4	I129	Iodine-129	W2288
699-36-70A	B0N846	3/23/98	K87490	N98-005-4	TotalRa	Total Radium	W2288
699-36-70A	B0N846	3/23/98	K87490	N98-005-4	TC99	Technetium-99	W2288
699-36-70A	B0N846	3/23/98	K87490	N98-005-4	TOTALU	Total Uranium	W2288

Well_Name	HEIS_Sam	Collect_Da	User_ID	COC	Method_Name	Service_List_Name	SDG_Number
699-36-70A	B0N846	3/23/98	K87490	N98-005-4	EPA160.1	TDS - 160.1	W2288
699-36-70A	B0N846	3/23/98	K87490	N98-005-4	EPA353.1	NO2/NO3 - 353.1	W2288
699-36-70A	B0N846	3/23/98	K87490	N98-005-4	EPA6010A	ICP Metals - 6010A (SW-846)	W2288
699-36-70A	B0N846	3/23/98	K87490	N98-005-4	EPA7060	Arsenic - 7060 - (GFAA)	W2288
699-36-70A	B0N846	3/23/98	K87490	N98-005-4	EPA7740	Selenium - 7740 - (GFAA)	W2288
699-36-70A	B0N846	3/23/98	K87490	N98-005-4	EPA8240A	VOA - 8240A (TCL)	W2288
699-36-70A	B0N846	3/23/98	K87490	N98-005-4	EPA9020	TOX - 9020	W2288
699-36-70A	B0N846	3/23/98	K87490	N98-005-4	EPA300.0	IC Anions - 300.0	W2288
699-37-68	B0N847	3/19/98	K87490	N98-005-6	EPA6010A	ICP Metals - 6010A (SW-846)	W2288
699-37-68	B0N847	3/19/98	K87490	N98-005-6	EPA7060	Arsenic - 7060 - (GFAA)	W2288
699-37-68	B0N847	3/19/98	K87490	N98-005-6	EPA7740	Selenium - 7740 - (GFAA)	W2288
699-37-68	B0N848	3/19/98	K87490	N98-005-6	EPA300.0	IC Anions - 300.0	W2288
699-37-68	B0N848	3/19/98	K87490	N98-005-6	EPA7740	Selenium - 7740 - (GFAA)	W2288
699-37-68	B0N848	3/19/98	K87490	N98-005-6	EPA8240A	VOA - 8240A (TCL)	W2288
699-37-68	B0N848	3/19/98	K87490	N98-005-6	EPA9020	TOX - 9020	W2288
699-37-68	B0N848	3/19/98	K87490	N98-005-6	EPA7060	Arsenic - 7060 - (GFAA)	W2288
699-37-68	B0N848	3/19/98	K87490	N98-005-6	EPA6010A	ICP Metals - 6010A (SW-846)	W2288
699-37-68	B0N848	3/19/98	K87490	N98-005-6	EPA353.1	NO2/NO3 - 353.1	W2288
699-37-68	B0N848	3/19/98	K87490	N98-005-6	EPA310.1	Alkalinity - 310.1	W2288
699-37-68	B0N848	3/19/98	K87490	N98-005-6	C14	Carbon-14	W2288
699-37-68	B0N848	3/19/98	K87490	N98-005-6	TOTALU	Total Uranium	W2288
699-37-68	B0N848	3/19/98	K87490	N98-005-6	TC99	Technetium-99	W2288
699-37-68	B0N848	3/19/98	K87490	N98-005-6	TotalRa	Total Radium	W2288
699-37-68	B0N848	3/19/98	K87490	N98-005-6	I129	Iodine-129	W2288
699-37-68	B0N848	3/19/98	K87490	N98-005-6	9310_ALPHABETA_G	Gross Alpha & Gross Beta	W2288
699-37-68	B0N848	3/19/98	K87490	N98-005-6	9310_ALPHABETA_G	Gross Alpha & Gross Beta	W2288
699-37-68	B0N848	3/19/98	K87490	N98-005-6	EPA160.1	TDS - 160.1	W2288
DLY126	B0N853	3/19/98	K87490	N98-005-9	EPA8240A	VOA - 8240A (TCL)	W2288
DLY127	B0N854	3/19/98	K87490	N98-005-10	EPA8240A	VOA - 8240A (TCL)	W2288
DLY128	B0N855	3/24/98	K87490	N98-005-11	EPA8240A	VOA - 8240A (TCL)	W2288
DLY129	B0N856	3/23/98	K87490	N98-005-12	EPA8240A	VOA - 8240A (TCL)	W2288
EBL/699-37-6	B0N851	3/19/98	K87490	N98-005-8	EPA7740	Selenium - 7740 - (GFAA)	W2288
EBL/699-37-6	B0N851	3/19/98	K87490	N98-005-8	EPA7060	Arsenic - 7060 - (GFAA)	W2288
EBL/699-37-6	B0N851	3/19/98	K87490	N98-005-8	EPA6010A	ICP Metals - 6010A (SW-846)	W2288

Well_Name	HEIS_Sam	Collect_Da	User_ID	COC	Method_Name	Service_List_Name	SDG_Number
EBL/699-37-6	B0N852	3/19/98	K87490	N98-005-8	EPA6010A	ICP Metals - 6010A (SW-846)	W2288
EBL/699-37-6	B0N852	3/19/98	K87490	N98-005-8	TC99	Technetium-99	W2288
EBL/699-37-6	B0N852	3/19/98	K87490	N98-005-8	TOTALU	Total Uranium	W2288
EBL/699-37-6	B0N852	3/19/98	K87490	N98-005-8	EPA160.1	TDS - 160.1	W2288
EBL/699-37-6	B0N852	3/19/98	K87490	N98-005-8	EPA300.0	IC Anions - 300.0	W2288
EBL/699-37-6	B0N852	3/19/98	K87490	N98-005-8	EPA9020	TOX - 9020	W2288
EBL/699-37-6	B0N852	3/19/98	K87490	N98-005-8	EPA353.1	NO2/NO3 - 353.1	W2288
EBL/699-37-6	B0N852	3/19/98	K87490	N98-005-8	9310_ALPHABETA_G	Gross Alpha & Gross Beta	W2288
EBL/699-37-6	B0N852	3/19/98	K87490	N98-005-8	EPA7060	Arsenic - 7060 - (GFAA)	W2288
EBL/699-37-6	B0N852	3/19/98	K87490	N98-005-8	EPA7740	Selenium - 7740 - (GFAA)	W2288
EBL/699-37-6	B0N852	3/19/98	K87490	N98-005-8	EPA8240A	VOA - 8240A (TCL)	W2288
EBL/699-37-6	B0N852	3/19/98	K87490	N98-005-8	I129	Iodine-129	W2288
EBL/699-37-6	B0N852	3/19/98	K87490	N98-005-8	C14	Carbon-14	W2288
EBL/699-37-6	B0N852	3/19/98	K87490	N98-005-8	9310_ALPHABETA_G	Gross Alpha & Gross Beta	W2288
EBL/699-37-6	B0N852	3/19/98	K87490	N98-005-8	TotalRa	Total Radium	W2288
EBL/699-37-6	B0N852	3/19/98	K87490	N98-005-8	EPA310.1	Alkalinity - 310.1	W2288
FTB/699-36-7	B0N849	3/23/98	K87490	N98-005-7	EPA7740	Selenium - 7740 - (GFAA)	W2288
FTB/699-36-7	B0N849	3/23/98	K87490	N98-005-7	EPA6010A	ICP Metals - 6010A (SW-846)	W2288
FTB/699-36-7	B0N849	3/23/98	K87490	N98-005-7	EPA7060	Arsenic - 7060 - (GFAA)	W2288
FTB/699-36-7	B0N850	3/23/98	K87490	N98-005-7	I129	Iodine-129	W2288
FTB/699-36-7	B0N850	3/23/98	K87490	N98-005-7	EPA9020	TOX - 9020	W2288
FTB/699-36-7	B0N850	3/23/98	K87490	N98-005-7	EPA8240A	VOA - 8240A (TCL)	W2288
FTB/699-36-7	B0N850	3/23/98	K87490	N98-005-7	EPA7740	Selenium - 7740 - (GFAA)	W2288
FTB/699-36-7	B0N850	3/23/98	K87490	N98-005-7	EPA7060	Arsenic - 7060 - (GFAA)	W2288
FTB/699-36-7	B0N850	3/23/98	K87490	N98-005-7	EPA6010A	ICP Metals - 6010A (SW-846)	W2288
FTB/699-36-7	B0N850	3/23/98	K87490	N98-005-7	EPA353.1	NO2/NO3 - 353.1	W2288
FTB/699-36-7	B0N850	3/23/98	K87490	N98-005-7	EPA310.1	Alkalinity - 310.1	W2288
FTB/699-36-7	B0N850	3/23/98	K87490	N98-005-7	EPA300.0	IC Anions - 300.0	W2288
FTB/699-36-7	B0N850	3/23/98	K87490	N98-005-7	EPA160.1	TDS - 160.1	W2288
FTB/699-36-7	B0N850	3/23/98	K87490	N98-005-7	TOTALU	Total Uranium	W2288
FTB/699-36-7	B0N850	3/23/98	K87490	N98-005-7	TotalRa	Total Radium	W2288
FTB/699-36-7	B0N850	3/23/98	K87490	N98-005-7	9310_ALPHABETA_G	Gross Alpha & Gross Beta	W2288
FTB/699-36-7	B0N850	3/23/98	K87490	N98-005-7	9310_ALPHABETA_G	Gross Alpha & Gross Beta	W2288
FTB/699-36-7	B0N850	3/23/98	K87490	N98-005-7	C14	Carbon-14	W2288

Well_Name	HEIS_Sam	Collect_Da	User_ID	COC	Method_Name	Service_List_Name	SDG_Number
FTB/699-36-7	B0N850	3/23/98	K87490	N98-005-7	TC99	Technetium-99	W2288

Checklist for Batch: W2288_C0

GeoDAT Report - 5/26/98

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DATA LOGIN

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SDG: W2288

Part: CHEM

Program: RCRA

Item	Received	Logged By	Logged On	Comments
EDD	5/21/98	D_FELMY	5/26/98	
HC	5/21/98	D_FELMY	5/26/98	
FAX				

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DATA PRELOAD

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Group: W2288_C0 Batch File: W2288_C0.DAT Format: FEAD Lab ID (optional):

Comments: LCTCMNT:2;LCTCMNT:60;D QUAL ADDED TO EPA300.0,EPA353.1

Activity	Date/Time	Notes
Import to Paradox	5/26/98 08:49:29	
Standard Corrections*	5/26/98 08:49:52	
Fatal Error Check*		
Non-Fatal Error Check*	5/26/98 13:07:10	
Add Review Flags		
Update LCT*	5/26/98 13:20:39	
Export to HEIS	5/26/98 13:20:42	HTrans: 1188
Print Completeness Rpt	5/26/98 13:30:35	
Print Anomalies Rpt	5/26/98 13:30:39	
Print Hold Exceeded Rpt	5/26/98 13:30:41	
Print Incident Rpt	5/26/98 13:30:42	

* See "Preload Check" file in room 1227 for specific corrections and checks.

Key to Comment Codes Used in Checksheet

Comment Code	Comment
LCTCMNT:2	Many undetects in this group do not have the MDL reported. These have been marked in the Result_comment field for future disposition with the comment 'Value_rptd<>MDL'.
LCTCMNT:60	Tentatively identified compounds were reported in the electronic file. These were deleted in order to load the data.

Completeness Report for Group: W2288_C0

GeoDAT Report - 5/26/98

SDG Number	Lab	Method Code	Constituent Group	Sample Number	Disk Name
W2288	QTESSL	EPA160.1	TDS	B0N840	W2288_C0
				B0N842	W2288_C0
				B0N844	W2288_C0
				B0N846	W2288_C0
				B0N848	W2288_C0
				B0N850	W2288_C0
				B0N852	W2288_C0
		EPA300.0	Anions	B0N445	W2288_C0
				B0N449	W2288_C0
				B0N470	W2288_C0
				B0N472	W2288_C0
				B0N489	W2288_C0
				B0N4K5	W2288_C0
				B0N4L1	W2288_C0
				B0N4L7	W2288_C0
				B0N4L9	W2288_C0
				B0N4M9	W2288_C0
				B0N834	W2288_C0
				B0N840	W2288_C0
				B0N842	W2288_C0
				B0N844	W2288_C0
				B0N846	W2288_C0
				B0N848	W2288_C0
				B0N850	W2288_C0
				B0N852	W2288_C0
				B0N8B4	W2288_C0
		EPA310.1	Alkalinity	B0N4K5	W2288_C0
				B0N4L1	W2288_C0
				B0N4L7	W2288_C0
				B0N4L9	W2288_C0
				B0N4M9	W2288_C0
				B0N840	W2288_C0
				B0N842	W2288_C0
				B0N844	W2288_C0
				B0N846	W2288_C0
				B0N848	W2288_C0
				B0N850	W2288_C0
				B0N852	W2288_C0
				B0N8B4	W2288_C0
		EPA353.1	Nitrite/Nitrate	B0N840	W2288_C0
				B0N842	W2288_C0
				B0N844	W2288_C0
				B0N846	W2288_C0
				B0N848	W2288_C0
				B0N850	W2288_C0
				B0N852	W2288_C0
		EPA6010A	ICP Metals	B0N471	W2288_C0

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Completeness Report for Group: W2288_CO

GeoDAT Report - 5/26/98

SDG Number	Lab	Method Code	Constituent Group	Sample Number	Disk Name
W2288	QTESSL	EPA6010A	ICP Metals	B0N4K4	W2288_CO
				B0N4L0	W2288_CO
				B0N4L6	W2288_CO
				B0N4L8	W2288_CO
				B0N4M8	W2288_CO
				B0N578	W2288_CO
				B0N833	W2288_CO
				B0N839	W2288_CO
				B0N840	W2288_CO
				B0N841	W2288_CO
				B0N842	W2288_CO
				B0N843	W2288_CO
				B0N844	W2288_CO
				B0N845	W2288_CO
				B0N846	W2288_CO
				B0N847	W2288_CO
				B0N848	W2288_CO
				B0N849	W2288_CO
				B0N850	W2288_CO
				B0N851	W2288_CO
				B0N852	W2288_CO
				B0N8B3	W2288_CO
		EPA7060	Arsenic	B0N833	W2288_CO
				B0N839	W2288_CO
				B0N840	W2288_CO
				B0N841	W2288_CO
				B0N842	W2288_CO
				B0N843	W2288_CO
				B0N844	W2288_CO
				B0N845	W2288_CO
				B0N846	W2288_CO
				B0N847	W2288_CO
				B0N848	W2288_CO
				B0N849	W2288_CO
				B0N850	W2288_CO
				B0N851	W2288_CO
				B0N852	W2288_CO
		EPA7470	Mercury	B0N4K4	W2288_CO
				B0N4L0	W2288_CO
				B0N4L6	W2288_CO
				B0N4L8	W2288_CO
				B0N4M8	W2288_CO
		EPA7740	Selenium	B0N839	W2288_CO
				B0N840	W2288_CO
				B0N841	W2288_CO
				B0N842	W2288_CO
				B0N843	W2288_CO
				B0N844	W2288_CO

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Completeness Report for Group: W2288_C0

GeoDAT Report - 5/26/98

SDG Number	Lab	Method Code	Constituent Group	Sample Number	Disk Name
W2288	QTESSL	EPA7740	Selenium	B0N845	W2288_C0
				B0N846	W2288_C0
				B0N847	W2288_C0
				B0N848	W2288_C0
				B0N849	W2288_C0
				B0N850	W2288_C0
				B0N851	W2288_C0
				B0N852	W2288_C0
		EPA8040	Phenols	B0N4K5	W2288_C0
				B0N4L1	W2288_C0
				B0N4L7	W2288_C0
				B0N4L9	W2288_C0
				B0N4M9	W2288_C0
		EPA8240	VOA (GC/MS)	B0N840	*** EDD MISSING ***
				B0N842	*** EDD MISSING ***
				B0N844	*** EDD MISSING ***
				B0N846	*** EDD MISSING ***
				B0N848	*** EDD MISSING ***
				B0N850	*** EDD MISSING ***
				B0N852	*** EDD MISSING ***
				B0N853	*** EDD MISSING ***
				B0N854	*** EDD MISSING ***
				B0N855	*** EDD MISSING ***
				B0N856	*** EDD MISSING ***
		EPA8260	VOA (GC/MS)	B0N449	W2288_C0
				B0N470	W2288_C0
				B0N472	W2288_C0
				B0N489	W2288_C0
				B0N668	W2288_C0
				B0N678	W2288_C0
				B0N679	W2288_C0
		EPA9020	TOX	B0N4K0	W2288_C0
				B0N4K1	W2288_C0
				B0N4K2	W2288_C0
				B0N4K3	W2288_C0
				B0N4K6	W2288_C0
				B0N4K7	W2288_C0
				B0N4K8	W2288_C0
				B0N4K9	W2288_C0
				B0N4L2	W2288_C0
				B0N4L3	W2288_C0
				B0N4L4	W2288_C0
				B0N4L5	W2288_C0
				B0N4M0	W2288_C0
				B0N4M1	W2288_C0
				B0N4M2	W2288_C0
				B0N4M3	W2288_C0

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Completeness Report for Group: W2288_C0

GeoDAT Report - 5/26/98

SDG Number	Lab	Method Code	Constituent Group	Sample Number	Disk Name
W2288	QTESSL	EPA9020	TOX	B0N4M4 ✓	W2288_C0
				B0N4M5 ✓	W2288_C0
				B0N4M6 ✓	W2288_C0
				B0N4M7 ✓	W2288_C0
				B0N840 ✓	W2288_C0
				B0N842 ✓	W2288_C0
				B0N844 ✓	W2288_C0
				B0N846 ✓	W2288_C0
				B0N848 ✓	W2288_C0
				B0N850 ✓	W2288_C0
				B0N852 ✓	W2288_C0
		EPA9060	TOC ✓	B0N4K0 ✓	W2288_C0
				B0N4K1 ✓	W2288_C0
				B0N4K2 ✓	W2288_C0
				B0N4K3 ✓	W2288_C0
				B0N4K6 ✓	W2288_C0
				B0N4K7 ✓	W2288_C0
				B0N4K8 ✓	W2288_C0
				B0N4K9 ✓	W2288_C0
				B0N4L2 ✓	W2288_C0
				B0N4L3 ✓	W2288_C0
				B0N4L4 ✓	W2288_C0
				B0N4L5 ✓	W2288_C0
				B0N4M0 ✓	W2288_C0
				B0N4M1 ✓	W2288_C0
				B0N4M2 ✓	W2288_C0
				B0N4M3 ✓	W2288_C0
				B0N4M4 ✓	W2288_C0
				B0N4M5 ✓	W2288_C0
				B0N4M6 ✓	W2288_C0
				B0N4M7 ✓	W2288_C0

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Result Summary Report for Group: W2288_CO

GeoDAT Report - 5/26/98

Method	Lab Samp ID	Samp_#	CAS_#	Constituent	Result	Qls	MDA	Units	Dil Ftr	Comment	Rsn
EPA160.1	17281-001	B0N840	TDS	Total dissolved solids	322.0000			mg/L	1		DET
	17281-002	B0N848	TDS	Total dissolved solids	456.0000			mg/L	1		DET
	17281-003	B0N852	TDS	Total dissolved solids	25.0000			mg/L	1		DET
	17310-001	B0N846	TDS	Total dissolved solids	327.0000			mg/L	1		DET
	17312-001	B0N842	TDS	Total dissolved solids	320.0000			mg/L	1		DET
	17312-002	B0N844	TDS	Total dissolved solids	309.0000			mg/L	1		DET
EPA300.0	17281-001	B0N840	14808-79-8	Sulfate	22.7000	D		mg/L	2		QAL
			16887-00-6	Chloride	16.1000	CD		mg/L	5		QAL
			16984-48-8	Fluoride	.3040			mg/L	1		DET
			NO3-N	Nitrogen in Nitrate	3.8800	D		mg/L	5		QAL
	17281-002	B0N848	14808-79-8	Sulfate	31.2000	D		mg/L	2		QAL
			16887-00-6	Chloride	19.6000	CD		mg/L	5		QAL
			16984-48-8	Fluoride	.3300			mg/L	1		DET
			NO3-N	Nitrogen in Nitrate	32.5000	D		mg/L	40		QAL
	17281-003	B0N852	16887-00-6	Chloride	.0380	BC		mg/L	1		QAL
	17285-001	B0N8B4	14808-79-8	Sulfate	.6460			mg/L	1		DET
			16887-00-6	Chloride	8.8000	CD		mg/L	2		QAL
			16984-48-8	Fluoride	.1170			mg/L	1		DET
			NO3-N	Nitrogen in Nitrate	.0140	B		mg/L	1		QAL
	17307-001	B0N445	14808-79-8	Sulfate	89.0000	D		mg/L	5		QAL
			16887-00-6	Chloride	24.6000	CD		mg/L	10		QAL
			16984-48-8	Fluoride	.1360			mg/L	1		DET
			NO3-N	Nitrogen in Nitrate	8.5300	D		mg/L	10		QAL
	17308-001	B0N4K5	14808-79-8	Sulfate	83.2000	D		mg/L	20		QAL
			16887-00-6	Chloride	25.2000	CD		mg/L	20		QAL
			16984-48-8	Fluoride	.1400			mg/L	1		DET
			NO3-N	Nitrogen in Nitrate	11.0000	D		mg/L	20		QAL
	17308-002	B0N4L1	14808-79-8	Sulfate	94.9000	D		mg/L	20		QAL
			16887-00-6	Chloride	16.8000	CD		mg/L	20		QAL
			16984-48-8	Fluoride	.1300			mg/L	1		DET
			NO3-N	Nitrogen in Nitrate	8.7100	D		mg/L	20		QAL
	17308-003	B0N4L7	14808-79-8	Sulfate	37.1000	D		mg/L	2		QAL
			16887-00-6	Chloride	12.1000	CD		mg/L	5		QAL
			16984-48-8	Fluoride	.1260			mg/L	1		DET
			NO3-N	Nitrogen in Nitrate	4.4000	D		mg/L	5		QAL
	17308-004	B0N4L9	14808-79-8	Sulfate	37.1000	D		mg/L	2		QAL
			16887-00-6	Chloride	12.7000	CD		mg/L	5		QAL
			16984-48-8	Fluoride	.1280			mg/L	1		DET
			NO3-N	Nitrogen in Nitrate	4.3000	D		mg/L	5		QAL
	17308-005	B0N4M9	14808-79-8	Sulfate	75.5000	D		mg/L	10		QAL
			16887-00-6	Chloride	33.0000	CD		mg/L	10		QAL
			16984-48-8	Fluoride	.1350			mg/L	1		DET
			NO3-N	Nitrogen in Nitrate	7.9200	D		mg/L	10		QAL
	17310-001	B0N846	14808-79-8	Sulfate	34.8000	D		mg/L	2		QAL
			16887-00-6	Chloride	20.9000	CD		mg/L	10		QAL
			16984-48-8	Fluoride	.3710			mg/L	1		DET
	17310-002	B0N850	16887-00-6	Chloride	.0220	C		mg/L	1		QAL
	17311-001	B0N470	14808-79-8	Sulfate	19.2000	D		mg/L	5		QAL
			16887-00-6	Chloride	35.5000	D		mg/L	10		QAL
			16984-48-8	Fluoride	.1250			mg/L	1		DET

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Result Summary Report for Group: W2288_CO

GeoDAT Report - 5/26/98

Method	Lab Samp ID	Samp_#	CAS_#	Constituent	Result	Qls	MDA	Units	Dil Ftr	Comment	Rsn
EPA300.0	17311-001	B0N470	NO3-N	Nitrogen in Nitrate	4.2700	D		mg/L	5		QAL
	17312-001	B0N842	14808-79-8	Sulfate	31.4000	D		mg/L	2		QAL
			16887-00-6	Chloride	21.4000	D		mg/L	25		QAL
			16984-48-8	Fluoride	.3630			mg/L	1		DET
	17312-002	B0N844	14808-79-8	Sulfate	31.6000	D		mg/L	2		QAL
			16887-00-6	Chloride	21.4000	D		mg/L	25		QAL
			16984-48-8	Fluoride	.3640			mg/L	1		DET
	17323-001	B0N834	14808-79-8	Sulfate	104.0000	D		mg/L	20		QAL
			16887-00-6	Chloride	18.3000	CD		mg/L	5		QAL
			16984-48-8	Fluoride	.4370			mg/L	1		DET
			NO3-N	Nitrogen in Nitrate	12.1000	D		mg/L	20		QAL
	17323-002	B0N472	14808-79-8	Sulfate	25.6000	D		mg/L	5		QAL
			16887-00-6	Chloride	44.0000	D		mg/L	10		QAL
			16984-48-8	Fluoride	.1360			mg/L	1		DET
			NO3-N	Nitrogen in Nitrate	6.7400	D		mg/L	10		QAL
	17323-003	B0N449	14808-79-8	Sulfate	13.7000			mg/L	1		DET
			16887-00-6	Chloride	4.7300			mg/L	1		DET
			16984-48-8	Fluoride	.4170			mg/L	1		DET
			NO3-N	Nitrogen in Nitrate	.5300			mg/L	1		DET
	17323-004	B0N489	14808-79-8	Sulfate	47.3000	D		mg/L	5		QAL
			16887-00-6	Chloride	20.3000	D		mg/L	5		QAL
			16984-48-8	Fluoride	.3970			mg/L	1		DET
			NO3-N	Nitrogen in Nitrate	49.2000	D		mg/L	100		QAL
EPA310.1	17281-001	B0N840	ALKALINITY	Alkalinity	140.0000			mg/L	1		DET
	17281-002	B0N848	ALKALINITY	Alkalinity	127.0000			mg/L	1		DET
	17285-001	B0N8B4	ALKALINITY	Alkalinity	712.0000			mg/L	1		DET
	17308-001	B0N4K5	ALKALINITY	Alkalinity	107.0000			mg/L	1		DET
	17308-002	B0N4L1	ALKALINITY	Alkalinity	22.0000			mg/L	1		DET
	17308-003	B0N4L7	ALKALINITY	Alkalinity	72.8000			mg/L	1		DET
	17308-004	B0N4L9	ALKALINITY	Alkalinity	75.3000			mg/L	1		DET
	17308-005	B0N4M9	ALKALINITY	Alkalinity	19.4000			mg/L	1		DET
	17310-001	B0N846	ALKALINITY	Alkalinity	120.0000			mg/L	1		DET
	17312-001	B0N842	ALKALINITY	Alkalinity	123.0000			mg/L	1		DET
	17312-002	B0N844	ALKALINITY	Alkalinity	122.0000			mg/L	1		DET
EPA353.1	17281-001	B0N840	NO2+NO3-N	Nitrogen in Nitrite an	4620.0000	D		ug/L	10		QAL
	17281-002	B0N848	NO2+NO3-N	Nitrogen in Nitrite an	34300.0000	D		ug/L	125		QAL
	17281-003	B0N852	NO2+NO3-N	Nitrogen in Nitrite an	9.5000			ug/L	1		DET
	17310-001	B0N846	NO2+NO3-N	Nitrogen in Nitrite an	25300.0000	D		ug/L	50		QAL
	17310-002	B0N850	NO2+NO3-N	Nitrogen in Nitrite an	9.5000			ug/L	1		DET
	17312-001	B0N842	NO2+NO3-N	Nitrogen in Nitrite an	20100.0000	D		ug/L	25		QAL
	17312-002	B0N844	NO2+NO3-N	Nitrogen in Nitrite an	20400.0000	D		ug/L	25		QAL
EPA6010A	17281-001	B0N840	7440-39-3	Barium	44.1000			ug/L	1		DET
			7440-47-3	Chromium	16.2000			ug/L	1		DET
			7440-62-2	Vanadium	29.3000			ug/L	1		DET
			7440-66-6	Zinc	5.3000	B		ug/L	1		QAL
	17281-002	B0N848	7439-92-1	Lead	3.6000			ug/L	1		DET
			7440-39-3	Barium	80.1000			ug/L	1		DET
			7440-47-3	Chromium	6.4000	B		ug/L	1		QAL

Result Summary Report for Group: W2288_CO

GeoDAT Report - 5/26/98

Method	Lab Samp ID	Samp_#	CAS_#	Constituent	Result	Qls	MDA	Units	Dil Ftr	Comment	Rsn
EPA6010A	17281-002	B0N848	7440-62-2	Vanadium	24.0000			ug/L	1		DET
			7440-66-6	Zinc	462.0000			ug/L	1		DET
	17281-003	B0N852	7440-66-6	Zinc	6.1000	B		ug/L	1		QAL
	17281-006	B0N839	7440-39-3	Barium	43.7000			ug/L	1		DET
			7440-47-3	Chromium	16.6000			ug/L	1		DET
			7440-62-2	Vanadium	29.0000			ug/L	1		DET
			7440-66-6	Zinc	5.8000	B		ug/L	1		QAL
	17281-007	B0N847	7439-92-1	Lead	2.4000	B		ug/L	1		QAL
			7440-39-3	Barium	79.0000			ug/L	1		DET
			7440-47-3	Chromium	4.1000	B		ug/L	1		QAL
			7440-62-2	Vanadium	23.0000			ug/L	1		DET
			7440-66-6	Zinc	386.0000			ug/L	1		DET
	17281-008	B0N851	7440-66-6	Zinc	5.8000	B		ug/L	1		QAL
	17285-002	B0N8B3	7429-90-5	Aluminum	45.2000	BC		ug/L	1		QAL
			7439-89-6	Iron	19600.0000	C		ug/L	1		QAL
			7439-95-4	Magnesium	38900.0000	C		ug/L	1		QAL
			7439-96-5	Manganese	4470.0000			ug/L	1		DET
			7440-09-7	Potassium	5870.0000			ug/L	1		DET
			7440-23-5	Sodium	47800.0000	C		ug/L	1		QAL
			7440-24-6	Strontium (elemental)	827.0000			ug/L	1		DET
			7440-39-3	Barium	241.0000			ug/L	1		DET
			7440-41-7	Beryllium	1.0000	B		ug/L	1		QAL
			7440-62-2	Vanadium	24.1000			ug/L	1		DET
			7440-66-6	Zinc	39.5000			ug/L	1		DET
			7440-70-2	Calcium	193000.0000	NC		ug/L	1		QAL
	17308-026	B0N4L8	7429-90-5	Aluminum	24.2000	BC		ug/L	1		QAL
			7439-89-6	Iron	27.0000	BC		ug/L	1		QAL
			7439-95-4	Magnesium	9920.0000	C		ug/L	1		QAL
			7439-96-5	Manganese	2.6000	B		ug/L	1		QAL
			7440-09-7	Potassium	4300.0000			ug/L	1		DET
			7440-23-5	Sodium	6240.0000	C		ug/L	1		QAL
			7440-24-6	Strontium (elemental)	249.0000			ug/L	1		DET
			7440-39-3	Barium	50.9000			ug/L	1		DET
			7440-47-3	Chromium	126.0000			ug/L	1		DET
			7440-50-8	Copper	7.6000	B		ug/L	1		QAL
			7440-62-2	Vanadium	10.1000			ug/L	1		DET
			7440-66-6	Zinc	9.4000	B		ug/L	1		QAL
			7440-70-2	Calcium	38800.0000	NC		ug/L	1		QAL
	17308-027	B0N4K4	7439-89-6	Iron	33.0000	C		ug/L	1		QAL
			7439-95-4	Magnesium	19600.0000	C		ug/L	1		QAL
			7439-96-5	Manganese	3.4000	B		ug/L	1		QAL
			7440-09-7	Potassium	5270.0000			ug/L	1		DET
			7440-23-5	Sodium	10100.0000	C		ug/L	1		QAL
			7440-24-6	Strontium (elemental)	462.0000			ug/L	1		DET
			7440-39-3	Barium	107.0000			ug/L	1		DET
			7440-47-3	Chromium	343.0000			ug/L	1		DET
			7440-50-8	Copper	6.6000	B		ug/L	1		QAL
			7440-62-2	Vanadium	10.8000			ug/L	1		DET
			7440-66-6	Zinc	9.6000	B		ug/L	1		QAL
			7440-70-2	Calcium	72200.0000	NC		ug/L	1		QAL
	17308-028	B0N4L0	7429-90-5	Aluminum	28.0000	BC		ug/L	1		QAL

Result Summary Report for Group: W2288_CO

GeoDAT Report - 5/26/98

Method	Lab Samp ID	Samp_#	CAS_#	Constituent	Result	Qls	MDA	Units	Dil Ftr	Comment	Rsn
EPA6010A	17308-028	B0N4L0	7439-89-6	Iron	26.3000	BC		ug/L	1		QAL
			7439-95-4	Magnesium	2240.0000	C		ug/L	1		QAL
			7439-96-5	Manganese	3.2000	B		ug/L	1		QAL
			7440-09-7	Potassium	5080.0000			ug/L	1		DET
			7440-23-5	Sodium	6660.0000	C		ug/L	1		QAL
			7440-24-6	Strontium (elemental)	566.0000			ug/L	1		DET
			7440-39-3	Barium	57.6000			ug/L	1		DET
			7440-47-3	Chromium	64.8000			ug/L	1		DET
			7440-50-8	Copper	5.8000	B		ug/L	1		QAL
			7440-62-2	Vanadium	5.0000	B		ug/L	1		QAL
			7440-66-6	Zinc	13.2000			ug/L	1		DET
			7440-70-2	Calcium	66100.0000	NC		ug/L	1		QAL
	17308-029	B0N4L6	7439-89-6	Iron	21.8000	BC		ug/L	1		QAL
			7439-95-4	Magnesium	9880.0000	C		ug/L	1		QAL
			7439-96-5	Manganese	2.4000	B		ug/L	1		QAL
			7440-09-7	Potassium	3930.0000			ug/L	1		DET
			7440-23-5	Sodium	6130.0000	C		ug/L	1		QAL
			7440-24-6	Strontium (elemental)	247.0000			ug/L	1		DET
			7440-39-3	Barium	49.4000			ug/L	1		DET
			7440-47-3	Chromium	126.0000			ug/L	1		DET
			7440-50-8	Copper	6.6000	B		ug/L	1		QAL
			7440-62-2	Vanadium	10.0000			ug/L	1		DET
			7440-66-6	Zinc	5.0000	B		ug/L	1		QAL
			7440-70-2	Calcium	38700.0000	NC		ug/L	1		QAL
	17308-030	B0N4M8	7429-90-5	Aluminum	31.5000	BC		ug/L	1		QAL
			7439-89-6	Iron	28.7000	BC		ug/L	1		QAL
			7439-95-4	Magnesium	2750.0000	C		ug/L	1		QAL
			7439-96-5	Manganese	4.0000	B		ug/L	1		QAL
			7440-09-7	Potassium	4780.0000			ug/L	1		DET
			7440-23-5	Sodium	7560.0000	C		ug/L	1		QAL
			7440-24-6	Strontium (elemental)	823.0000			ug/L	1		DET
			7440-39-3	Barium	45.7000			ug/L	1		DET
			7440-47-3	Chromium	132.0000			ug/L	1		DET
			7440-50-8	Copper	5.8000	B		ug/L	1		QAL
			7440-62-2	Vanadium	8.2000	B		ug/L	1		QAL
			7440-66-6	Zinc	6.5000	B		ug/L	1		QAL
			7440-70-2	Calcium	63400.0000	NC		ug/L	1		QAL
	17308-031	B0N578	7439-89-6	Iron	42.4000	C		ug/L	1		QAL
			7439-95-4	Magnesium	20500.0000	C		ug/L	1		QAL
			7439-96-5	Manganese	3.5000	B		ug/L	1		QAL
			7440-09-7	Potassium	7390.0000			ug/L	1		DET
			7440-23-5	Sodium	21600.0000	C		ug/L	1		QAL
			7440-24-6	Strontium (elemental)	287.0000			ug/L	1		DET
			7440-39-3	Barium	78.4000			ug/L	1		DET
			7440-47-3	Chromium	6.8000	B		ug/L	1		QAL
			7440-50-8	Copper	4.3000	B		ug/L	1		QAL
			7440-62-2	Vanadium	28.4000			ug/L	1		DET
			7440-66-6	Zinc	6.1000	B		ug/L	1		QAL
			7440-70-2	Calcium	61000.0000	NC		ug/L	1		QAL
	17310-001	B0N846	7440-39-3	Barium	84.7000			ug/L	1		DET
			7440-47-3	Chromium	107.0000			ug/L	1		DET

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Result Summary Report for Group: W2288_C0

GeoDAT Report - 5/26/98

Method	Lab Samp ID	Samp_#	CAS_#	Constituent	Result	Qls	MDA	Units	Dil Ftr	Comment	Rsn
EPA6010A	17310-001	B0N846	7440-62-2	Vanadium	28.4000			ug/L	1		DET
			7440-66-6	Zinc	4.8000	B		ug/L	1		QAL
	17310-004	B0N845	7440-39-3	Barium	82.4000			ug/L	1		DET
			7440-47-3	Chromium	5.4000	B		ug/L	1		QAL
			7440-62-2	Vanadium	26.8000			ug/L	1		DET
	17312-001	B0N842	7440-39-3	Barium	68.4000			ug/L	1		DET
			7440-47-3	Chromium	4.6000	B		ug/L	1		QAL
			7440-62-2	Vanadium	22.7000			ug/L	1		DET
			7440-66-6	Zinc	496.0000			ug/L	1		DET
	17312-002	B0N844	7439-92-1	Lead	1.2000	B		ug/L	1		QAL
			7440-39-3	Barium	69.0000			ug/L	1		DET
			7440-47-3	Chromium	5.3000	B		ug/L	1		QAL
			7440-62-2	Vanadium	22.4000			ug/L	1		DET
			7440-66-6	Zinc	506.0000			ug/L	1		DET
	17312-004	B0N841	7440-39-3	Barium	66.8000			ug/L	1		DET
			7440-47-3	Chromium	3.6000	B		ug/L	1		QAL
			7440-62-2	Vanadium	18.6000			ug/L	1		DET
			7440-66-6	Zinc	321.0000			ug/L	1		DET
	17312-005	B0N843	7440-39-3	Barium	66.6000			ug/L	1		DET
			7440-47-3	Chromium	3.3000	B		ug/L	1		QAL
			7440-62-2	Vanadium	18.3000			ug/L	1		DET
			7440-66-6	Zinc	318.0000			ug/L	1		DET
	17323-005	B0N471	7429-90-5	Aluminum	26.2000	BC		ug/L	1		QAL
			7439-89-6	Iron	196.0000	C		ug/L	1		QAL
			7439-95-4	Magnesium	15400.0000	C		ug/L	1		QAL
			7439-96-5	Manganese	13.1000			ug/L	1		DET
			7440-09-7	Potassium	5950.0000			ug/L	1		DET
			7440-23-5	Sodium	11100.0000	C		ug/L	1		QAL
			7440-24-6	Strontium (elemental)	348.0000			ug/L	1		DET
			7440-39-3	Barium	26.5000			ug/L	1		DET
			7440-41-7	Beryllium	.6600	B		ug/L	1		QAL
			7440-50-8	Copper	7.5000	B		ug/L	1		QAL
			7440-62-2	Vanadium	7.0000	B		ug/L	1		QAL
			7440-66-6	Zinc	59.6000			ug/L	1		DET
			7440-70-2	Calcium	70700.0000	NC		ug/L	1		QAL
	17323-008	B0N833	7439-89-6	Iron	42.4000	C		ug/L	1		QAL
			7439-95-4	Magnesium	26000.0000	C		ug/L	1		QAL
			7439-96-5	Manganese	3.4000	B		ug/L	1		QAL
			7440-09-7	Potassium	7780.0000			ug/L	1		DET
			7440-23-5	Sodium	32600.0000	C		ug/L	1		QAL
			7440-24-6	Strontium (elemental)	277.0000			ug/L	1		DET
			7440-39-3	Barium	61.7000			ug/L	1		DET
			7440-47-3	Chromium	9.2000	B		ug/L	1		QAL
			7440-50-8	Copper	6.8000	B		ug/L	1		QAL
			7440-62-2	Vanadium	23.1000			ug/L	1		DET
			7440-66-6	Zinc	13.4000			ug/L	1		DET
			7440-70-2	Calcium	60200.0000	NC		ug/L	1		QAL
EPA7060	17281-001	B0N840	7440-38-2	Arsenic	2.2000	B		ug/L	1		QAL
	17281-002	B0N848	7440-38-2	Arsenic	1.1000	B		ug/L	1		QAL
	17281-006	B0N839	7440-38-2	Arsenic	2.1000	B		ug/L	1		QAL

Result Summary Report for Group: W2288_CO

GeoDAT Report - 5/26/98

Method	Lab Samp ID	Samp_#	CAS_#	Constituent	Result	Qls	MDA	Units	Dil Ftr	Comment	Rsn
EPA7060	17310-001	B0N846	7440-38-2	Arsenic	2.3000	B		ug/L	1		QAL
	17310-004	B0N845	7440-38-2	Arsenic	2.6000	B		ug/L	1		QAL
	17312-002	B0N844	7440-38-2	Arsenic	1.6000	B		ug/L	1		QAL
	17312-004	B0N841	7440-38-2	Arsenic	1.6000	B		ug/L	1		QAL
	17312-005	B0N843	7440-38-2	Arsenic	1.1000	B		ug/L	1		QAL
	17323-008	B0N833	7440-38-2	Arsenic	5.3000	B		ug/L	1		QAL
EPA7740	17281-001	B0N840	7782-49-2	Selenium	2.7000	B		ug/L	1		QAL
	17281-002	B0N848	7782-49-2	Selenium	4.4000	B		ug/L	1		QAL
	17281-006	B0N839	7782-49-2	Selenium	3.2000	B		ug/L	1		QAL
	17281-007	B0N847	7782-49-2	Selenium	4.2000	B		ug/L	1		QAL
	17310-001	B0N846	7782-49-2	Selenium	4.9000	B		ug/L	1		QAL
	17310-004	B0N845	7782-49-2	Selenium	4.4000	B		ug/L	1		QAL
	17312-001	B0N842	7782-49-2	Selenium	3.1000	B		ug/L	1		QAL
	17312-002	B0N844	7782-49-2	Selenium	3.2000	B		ug/L	1		QAL
	17312-004	B0N841	7782-49-2	Selenium	3.6000	B		ug/L	1		QAL
	17312-005	B0N843	7782-49-2	Selenium	3.6000	B		ug/L	1		QAL
EPA8040	17308-001	B0N4K5	51-28-5	2,4-Dinitrophenol	1.1000	J		ug/L	1		QAL
			534-52-1	4,6-Dinitro-2methyl ph	.6000	J		ug/L	1		QAL
			88-85-7	2-secButyl-4,6-dinitro	.6000	J		ug/L	1		QAL
EPA8260	17311-001	B0N470	67-66-3	Chloroform	1.0000	J		ug/L	1		QAL
			75-09-2	Methylenechloride	.3000	BJ		ug/L	1		QAL
			79-01-6	Trichloroethene	.3000	J		ug/L	1		QAL
	17311-002	B0N668	106-46-7	1,4-Dichlorobenzene	.6000	BJ		ug/L	1		QAL
			67-66-3	Chloroform	.3000	J		ug/L	1		QAL
			75-09-2	Methylenechloride	1.0000	BJ		ug/L	1		QAL
	17323-002	B0N472	56-23-5	Carbon tetrachloride	1.0000	J		ug/L	1		QAL
			67-66-3	Chloroform	2.0000	J		ug/L	1		QAL
			75-09-2	Methylenechloride	3.0000	BJ		ug/L	1		QAL
	17323-003	B0N449	106-46-7	1,4-Dichlorobenzene	2.0000	BDJ		ug/L	5		QAL
			56-23-5	Carbon tetrachloride	58.0000	D		ug/L	5		QAL
			67-64-1	Acetone	68.0000	D		ug/L	5		QAL
			67-66-3	Chloroform	6.0000	DJ		ug/L	5		QAL
			75-09-2	Methylenechloride	40.0000	BD		ug/L	5		QAL
	17323-004	B0N489	56-23-5	Carbon tetrachloride	33.0000			ug/L	1		DET
			67-66-3	Chloroform	4.0000	J		ug/L	1		QAL
			75-09-2	Methylenechloride	2.0000	BJ		ug/L	1		QAL
			79-01-6	Trichloroethene	2.0000	J		ug/L	1		QAL
	17323-006	B0N679	67-66-3	Chloroform	1.0000	J		ug/L	1		QAL
			75-09-2	Methylenechloride	4.0000	BJ		ug/L	1		QAL
	17323-007	B0N678	67-66-3	Chloroform	.6000	J		ug/L	1		QAL
			75-09-2	Methylenechloride	5.0000	B		ug/L	1		QAL
EPA9020	17308-006	B0N4M4	59473-04-0	Total organic halides	13.1000			ug/L	1		DET
	17308-007	B0N4M5	59473-04-0	Total organic halides	7.9000			ug/L	1		DET
	17308-008	B0N4M6	59473-04-0	Total organic halides	9.7500			ug/L	1		DET
	17308-009	B0N4M7	59473-04-0	Total organic halides	10.0000			ug/L	1		DET
	17308-010	B0N4K0	59473-04-0	Total organic halides	7.8000			ug/L	1		DET
	17308-011	B0N4K1	59473-04-0	Total organic halides	9.5000			ug/L	1		DET

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Result Summary Report for Group: W2288_C0

GeoDAT Report - 5/26/98

Method	Lab Samp ID	Samp_#	CAS_#	Constituent	Result	Qls	MDA	Units	Dil Ftr	Comment	Rsn
EPA9020	17308-012	B0N4K2	59473-04-0	Total organic halides	11.2000			ug/L	1		DET
	17308-013	B0N4K3	59473-04-0	Total organic halides	11.6000			ug/L	1		DET
	17308-014	B0N4K6	59473-04-0	Total organic halides	6.8000			ug/L	1		DET
	17308-016	B0N4K8	59473-04-0	Total organic halides	11.1000			ug/L	1		DET
	17308-017	B0N4K9	59473-04-0	Total organic halides	7.7500			ug/L	1		DET
	17308-018	B0N4L2	59473-04-0	Total organic halides	16.8000			ug/L	1		DET
	17308-019	B0N4L3	59473-04-0	Total organic halides	7.0500			ug/L	1		DET
	17308-021	B0N4L5	59473-04-0	Total organic halides	19.4000			ug/L	1		DET
EPA9060	17308-006	B0N4M4	TOC	Total organic carbon	.7650	BC		mg/L	1		QAL
	17308-007	B0N4M5	TOC	Total organic carbon	.6900	BC		mg/L	1		QAL
	17308-008	B0N4M6	TOC	Total organic carbon	.8120	BC		mg/L	1		QAL
	17308-009	B0N4M7	TOC	Total organic carbon	.7220	BC		mg/L	1		QAL
	17308-010	B0N4K0	TOC	Total organic carbon	1.1700	C		mg/L	1		QAL
	17308-011	B0N4K1	TOC	Total organic carbon	1.0900	C		mg/L	1		QAL
	17308-012	B0N4K2	TOC	Total organic carbon	1.1500	C		mg/L	1		QAL
	17308-013	B0N4K3	TOC	Total organic carbon	1.0500	C		mg/L	1		QAL
	17308-014	B0N4K6	TOC	Total organic carbon	.8640	BC		mg/L	1		QAL
	17308-015	B0N4K7	TOC	Total organic carbon	.7000	BC		mg/L	1		QAL
	17308-016	B0N4K8	TOC	Total organic carbon	.7950	BC		mg/L	1		QAL
	17308-017	B0N4K9	TOC	Total organic carbon	.7480	BC		mg/L	1		QAL
	17308-018	B0N4L2	TOC	Total organic carbon	.5930	BC		mg/L	1		QAL
	17308-019	B0N4L3	TOC	Total organic carbon	.7180	BC		mg/L	1		QAL
	17308-020	B0N4L4	TOC	Total organic carbon	.6350	BC		mg/L	1		QAL
	17308-021	B0N4L5	TOC	Total organic carbon	.7380	BC		mg/L	1		QAL
	17308-022	B0N4M0	TOC	Total organic carbon	.6600	BC		mg/L	1		QAL
	17308-023	B0N4M1	TOC	Total organic carbon	.8540	BC		mg/L	1		QAL
	17308-024	B0N4M2	TOC	Total organic carbon	.6130	BC		mg/L	1		QAL
	17308-025	B0N4M3	TOC	Total organic carbon	.6370	BC		mg/L	1		QAL

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Exceeded Hold Times for Group: W2288_C0

GeoDAT Report - 5/26/98

Disk Name	Lab	HEIS_Sample_#	Analysis Method Name	ID	Extraction Due	Date	Days Late	Analysis Due	Date	Days Late	Days To Lab
W2288_C0	QTESSL	B0N470	EPA8260	1301				4/07/98	4/08/98	1	0
		B0N668	EPA8260	1301				4/07/98	4/09/98	2	0
		B0N834	EPA300.0	1083				3/26/98	3/30/98	4	1
		B0N840	EPA353.1	1114					4/10/98		0
		B0N842	EPA353.1	1114					4/10/98		0
		B0N844	EPA353.1	1114					4/10/98		0
		B0N846	EPA353.1	1114					4/10/98		0
		B0N848	EPA353.1	1114					4/10/98		0
		B0N850	EPA353.1	1114					4/10/98		0
		B0N852	EPA353.1	1114					4/10/98		0

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Issues of Resolution for Group: W2288_CO

GeoDAT Report - 5/26/98

Disk Name	Lab	Issue of Resolution	HEIS_Sample_#	Analysis Method Name	ID
W2288_CO	NONE				

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SDG Lookup Report for Group: W2288_CO

GeoDAT Report - 5/26/98

SDG Number	Lab	COC	Sample Number
W2288	QTESSL	N98-005-1	B0N839
			B0N840
		N98-005-10	B0N854
		N98-005-11	B0N855
		N98-005-12	B0N856
		N98-005-2	B0N841
			B0N842
		N98-005-3	B0N843
			B0N844
		N98-005-4	B0N845
			B0N846
		N98-005-6	B0N847
			B0N848
		N98-005-7	B0N849
			B0N850
		N98-005-8	B0N851
			B0N852
		N98-005-9	B0N853
		S98-003-2	B0N445
		S98-003-33	B0N449
		S98-003-36	B0N489
		S98-003-4	B0N470
		S98-003-5	B0N471
			B0N472
		S98-003-63	B0N668
		S98-003-71	B0N678
		S98-003-72	B0N679
		S98-003-76	B0N833
			B0N834
		W98-003-1	B0N4K0
			B0N4K1

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SDG Lookup Report for Group: W2288_CO

GeoDAT Report - 5/26/98

SDG Number	Lab	COC	Sample Number
W2288	QTESSL	W98-003-1	B0N4K2
			B0N4K3
			B0N4K4
			B0N4K5
		W98-003-111	B0N578
		W98-003-123	B0N8B3
			B0N8B4
		W98-003-2	B0N4K6
			B0N4K7
			B0N4K8
			B0N4K9
			B0N4L0
			B0N4L1
		W98-003-3	B0N4L2
			B0N4L3
			B0N4L4
			B0N4L5
			B0N4L6
			B0N4L7
		W98-003-4	B0N4L8
			B0N4L9
			B0N4M0
			B0N4M1
			B0N4M2
			B0N4M3
		W98-003-5	B0N4M4
			B0N4M5
			B0N4M6
			B0N4M7
			B0N4M8
			B0N4M9

17

Result Summary Report for Group: W2288_C1

GeoDAT Report - 8/14/98

Method	Lab Samp ID	Samp_#	CAS_#	Constituent	Result	Qls	MDA	Units	Dil Ftr	Comment	Rsn
EPA6010A	17323-005	B0N471	7439-95-4	Magnesium	15400.0000			ug/L	1		RR
	17323-008	B0N833	7439-95-4	Magnesium	26000.0000			ug/L	1		RR

Analytical Data Package Prepared For

Pacific Northwest National Laboratories

Chemical Analysis By

Quanterra Environmental Services
St. Louis Laboratory

Sample Delivery Group Number: W02288

PNNL Identification Number	Quanterra Identification Number
B0N840	17281-001
B0N848	17281-002
B0N852	17281-003
B0N853	17281-004
B0N854	17281-005
B0N839	17281-006
B0N847	17281-007
B0N851	17281-008
B0N8B4	17285-001
B0N8B3	17285-002
B0N445	17307-001
B0N4K5	17308-001
B0N4L1	17308-002
B0N4L7	17308-003
B0N4L9	17308-004
B0N4M9	17308-005
B0N4M4	17308-006
B0N4M5	17308-007
B0N4M6	17308-008
B0N4M7	17308-009
B0N4K0	17308-010
B0N4K1	17308-011
B0N4K2	17308-012

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Analytical Data Package Prepared For

Pacific Northwest National Laboratories

Chemical Analysis By

Quanterra Environmental Services
St. Louis Laboratory

Sample Delivery Group Number: W02288

PNNL Identification Number	Quanterra Identification Number
B0N4K3	17308-013
B0N4K6	17308-014
B0N4K7	17308-015
BON4K8	17308-016
B0N4K9	17308-017
B0N4L2	17308-018
B0N4L3	17308-019
B0N4L4	17308-020
BON4L5	17308-021
BON4M0	17308-022
B0N4M1	17308-023
BON4M2	17308-024
BON4M3	17308-025
BON4L8	17308-026
B0N4K4	17308-027
BON4L0	17308-028
B0N4L6	17308-029
BON4M8	17308-030
B0N578	17308-031
B0N846	17310-001
B0N850	17310-002
B0N856	17310-003
B0N845	17310-004

Analytical Data Package Prepared For

Pacific Northwest National Laboratories

Chemical Analysis By

Quanterra Environmental Services
St. Louis Laboratory

Sample Delivery Group Number: W02288

PNNL Identification Number	Quanterra Identification Number
B0N849	17310-005
B0N470	17311-001
B0N668	17311-002
B0N842	17312-001
B0N844	17312-002
B0N855	17312-003
B0N841	17312-004
B0N843	17312-005
B0N834	17323-001
B0N472	17323-002
B0N449	17323-003
B0N489	17323-004
B0N471	17323-005
B0N679	17323-006
B0N678	17323-007
B0N833	17323-008

Quanterra Incorporated
13715 Rider Trail North
Earth City, Missouri 63045

314 298-8566 Telephone
314 298-8757 Fax

Quanterra Environmental Services

CASE NARRATIVE

Pacific Northwest National Laboratories
P.O. Box 1970
Richland, Washington 99352

May 20, 1998

Attention: Dot Stewart

Project Number	:	519.145
SDG	:	W02288
Number of Samples	:	Sixty-two (62)
Sample Matrix	:	Water
Data Deliverable	:	Summary
Date SDG Closed	:	March 25, 1998

II. Introduction

Between March 19, 1998 and March 25, 1998, a total of sixty-two (62) "water" samples were received by Quanterra, Richland and transferred to Quanterra, St. Louis for chemical analysis. The metals container for sample B0N8B3 was received with a pH of 4. The TOX container for sample B0N4M5 was received at Quanterra, St. Louis broken. The TOX analysis was performed from the samples TOC container. Upon receipt, the samples were given the following laboratory ID numbers to correspond with the specific client ID's:

St. Louis ID	PNNL ID	Richland ID	Matrix	Date of Receipt
17281-001	B0N840	80333802	Water	19-MAR-98
17281-002	B0N848	80333804	Water	19-MAR-98
17281-003	B0N852	80333806	Water	19-MAR-98
17281-004	B0N853	80333807	Water	19-MAR-98
17281-005	B0N854	80333808	Water	19-MAR-98
17281-006	B0N839	80333801	Water	19-MAR-98
17281-007	B0N847	80333803	Water	19-MAR-98
17281-008	B0N851	80333805	Water	19-MAR-98
17285-001	B0N8B4	80334002	Water	19-MAR-98
17285-002	B0N8B3	80334001	Water	19-MAR-98
17307-001	B0N445	80338601	Water	23-MAR-98

Quanterra
Environmental Services

Pacific Northwest National Laboratories
May 20, 1998
Project Number: 519.145
SDG: W02288

St. Louis ID	PNNL ID	Richland ID	Matrix	Date of Receipt
17308-001	B0N4K5	80338406	Water	23-MAR-98
17308-002	B0N4L1	80338412	Water	23-MAR-98
17308-003	B0N4L7	80338418	Water	23-MAR-98
17308-004	B0N4L9	80338420	Water	23-MAR-98
17308-005	B0N4M9	80338430	Water	23-MAR-98
17308-006	B0N4M4	80338425	Water	23-MAR-98
17308-007	B0N4M5	80338426	Water	23-MAR-98
17308-008	B0N4M6	80338427	Water	23-MAR-98
17308-009	B0N4M7	80338428	Water	23-MAR-98
17308-010	B0N4K0	80338401	Water	23-MAR-98
17308-011	B0N4K1	80338402	Water	23-MAR-98
17308-012	B0N4K2	80338403	Water	23-MAR-98
17308-013	B0N4K3	80338404	Water	23-MAR-98
17308-014	B0N4K6	80338407	Water	23-MAR-98
17308-015	B0N4K7	80338408	Water	23-MAR-98
17308-016	B0N4K8	80338409	Water	23-MAR-98
17308-017	B0N4K9	80338410	Water	23-MAR-98
17308-018	B0N4L2	80338413	Water	23-MAR-98
17308-019	B0N4L3	80338414	Water	23-MAR-98
17308-020	B0N4L4	80338415	Water	23-MAR-98
17308-021	B0N4L5	80338416	Water	23-MAR-98
17308-022	B0N4M0	80338421	Water	23-MAR-98
17308-023	B0N4M1	80338422	Water	23-MAR-98
17308-024	B0N4M2	80338423	Water	23-MAR-98
17308-025	B0N4M3	80338424	Water	23-MAR-98
17308-026	B0N4L8	80338419	Water	23-MAR-98
17308-027	B0N4K4	80338405	Water	23-MAR-98
17308-028	B0N4L0	80338411	Water	23-MAR-98
17308-029	B0N4L6	80338417	Water	23-MAR-98
17308-030	B0N4M8	80338429	Water	23-MAR-98
17308-031	B0N578	80338431	Water	23-MAR-98
17310-001	B0N846	80338202	Water	23-MAR-98
17310-002	B0N850	80338204	Water	23-MAR-98
17310-003	B0N856	80338205	Water	23-MAR-98
17310-004	B0N845	80338201	Water	23-MAR-98
17310-005	B0N849	80338203	Water	23-MAR-98

Quanterra
Environmental Services

Pacific Northwest National Laboratories
May 20, 1998 (Revised 08/08/98)
Project Number: 519.145
SDG: W02288
Page 3

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St. Louis ID	PNNL ID	Richland ID	Matrix	Date of Receipt
17311-001	B0N470	80340101	Water	24-MAR-98
17311-002	B0N668	80340102	Water	24-MAR-98
17312-001	B0N842	80339902	Water	24-MAR-98
17312-002	B0N844	80339904	Water	24-MAR-98
17312-003	B0N855	80339905	Water	24-MAR-98
17312-004	B0N841	80339901	Water	24-MAR-98
17312-005	B0N843	80339903	Water	24-MAR-98
17323-001	B0N834	80342602	Water	25-MAR-98
17323-002	B0N472	80342604	Water	25-MAR-98
17323-003	B0N449	80342605	Water	25-MAR-98
17323-004	B0N486	80342606	Water	25-MAR-98
17323-005	B0N471	80342603	Water	25-MAR-98
17323-006	B0N679	80342607	Water	25-MAR-98
17323-007	B0N678	80342608	Water	25-MAR-98
17323-008	B0N833	80342601	Water	25-MAR-98

III. Analytical Results/ Methodology

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

Analyses requested:

ICP Metals by EPA method 6010A. (Filtered and Unfiltered).
Arsenic by EPA method 7060 - (Filtered and Unfiltered).
Selenium by EPA method 7740 - (Filtered and Unfiltered).
Mercury by EPA method 7470. (Filtered)
Phenol by EPA method 8040.
Volatiles by EPA method 8260 (TCL).
Volatiles by EPA method 8240 (TCL).
Alkalinity by EPA method 310.1.
Anions (Fluoride, Chloride, Sulfate, Nitrate and Nitrite) by EPA method 300.0.
Nitrate/Nitrite by EPA method 353.1.
TDS by EPA method 160.1.
TOC by EPA method 9060.
TOX by EPA method 9020.

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Quanterra
Environmental Services

Pacific Northwest National Laboratories
May 20, 1998
Project Number: 519.145
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DV 8-18-98

St. Louis ID	PNNL ID	Richland ID	Matrix	Date of Receipt
17311-001	B0N470	80340101	Water	24-MAR-98
17311-002	B0N668	80340102	Water	24-MAR-98
17312-001	B0N842	80339902	Water	24-MAR-98
17312-002	B0N844	80339904	Water	24-MAR-98
17312-003	B0N855	80339905	Water	24-MAR-98
17312-004	B0N841	80339901	Water	24-MAR-98
17312-005	B0N843	80339903	Water	24-MAR-98
17323-001	B0N834	80342602	Water	25-MAR-98
17323-002	B0N472	80342604	Water	25-MAR-98
17323-003	B0N449	80342605	Water	25-MAR-98
17323-004	B0N486	80342606	Water	25-MAR-98
17323-005	B0N471	80342603	Water	25-MAR-98
17323-006	B0N679	80342607	Water	25-MAR-98
17323-007	B0N678	80342608	Water	25-MAR-98
17323-008	B0N833	80342601	Water	25-MAR-98

III. Analytical Results/ Methodology

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

Analyses requested:

ICP Metals by EPA method 6010A. (Filtered and Unfiltered).
Arsenic by EPA method 7060 - (Filtered and Unfiltered).
Selenium by EPA method 7740 - (Filtered and Unfiltered).
Mercury by EPA method 7470. (Filtered)
Phenol by EPA method 8040.
Volatiles by EPA method 8260 (TCL).
Volatiles by EPA method 8240 (TCL).
Alkalinity by EPA method 310.1.
Anions (Fluoride, Chloride, Sulfate, Nitrate and Nitrite) by EPA method 300.0.
Nitrate/Nitrite by EPA method 353.1.
TDS by EPA method 160.1.
TOC by EPA method 9060.
TOX by EPA method 9020.
TSS by EPA method 160.2.

III. Analytical Results/ Methodology (continued)

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: No general comments were noted.

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.

Due to client instructions non-standard reporting limits were used. Client requested limits were used for all analytes except Potassium. For Potassium since the instrument detection limit was higher than the client requested reporting limit, the instrument detection limit was used in place of the client requested limit.

The Antimony result in the QCBLK169289 is reported as a negative value on the CLP Form 3. The software used to produce this datum follows the CLP protocol where all absolute values greater than the detection limit are reported, however, SW846 protocol requires that the number only be below the detection limit, regardless of sign, to be reported as undetected. The value was entered into the data reporting system as a nondetect and the result is shown as undetected at the IDL on the data entry hardcopy for this element.

Inorganics:(cont.) All analysis data was evaluated against our standard reporting limits and QC requirements. The values listed on form ten were incorporated to allow for evaluation of the qualifiers at the client proposed levels. The prep blank results for the following list of elements were greater than the client's requested limits but below Quanterra's reporting level.

PBW168924		
	Aluminum	138.35 ug/L
	Calcium	141.15 ug/L
	Iron	51.78 ug/L
	Magnesium	208.42 ug/L
PBW169265		
	Iron	39.02 ug/L
PBW169289		
	Aluminum	103.39 ug/L
	Iron	40.19 ug/L
	Sodium	468.24 ug/L

The recovery of the Calcium matrix spike duplicate (68.2%) for sample 17285-002 was less than 80%, therefore all associated data was flagged with a "N". The recovery of the Calcium matrix spike (83.7%) met criteria. The recoveries of the matrix spikes and matrix spike duplicates for Manganese and Iron were also outside the 80%-120% range but the data did not require flagging because the sample concentrations for these elements were greater than 4 X the spiking levels.

The Arsenic results for samples 17281-003, 17281-006, 17281-007, 17281-008 and QCBLK169079 were analyzed on instrument PE5100-3 and reported as not-detected with an IDL of 0.60 ug/L on the data entry reports/EDD. The form ones in the data summary package are reported 1.1 ug/L. Two instruments were used in reporting Arsenic for this sample delivery group. The software used to produce this datum defaults to the higher IDL when two instruments are used for the same element.

Inorganics:(cont.) The Chromium results for samples 17281-003, 17281-007, 17310-002, and 17310-005 were analyzed on instrument TJA61E and reported as not-detected with an IDL of 0.80 ug/L on the data entry reports/EDD. The form ones in the data summary package are reported 2.1 ug/L. Two instruments were used in reporting Chromium for this sample delivery group. The software used to produce this datum defaults to the higher IDL when two instruments are used for the same element.

Phenols

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

No comments were noted during the analyses of these samples.

Volatiles by 8240:

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

Samples 17281-001MS, 17281-001MSD, 17281-002, 17281-003, 17281-004, and 17281-005 were run two days outside holding time and sample 17281-001 was run four days outside holding time. SEE NCM# 4039

The samples requesting Volatiles by EPA method 8240 were analyzed unheated and the appropriate IDLs were used.

Volatiles by 8260:

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

Sample 17311-001 was run one day outside holding time and sample 17311-002 was run two days outside holding time. SEE the nonconformance memo included in this package.

Sample 17311-003 was analyzed with a five fold dilution to bring all compounds within calibration range.

Wet Chemistry: A Laboratory Control Sample, Method Blank, Matrix Spike or Laboratory Duplicate were analyzed with each preparation batch per the protocol for this analysis. A Laboratory Duplicate sample is required as matrix QC for Alkalinity, TDS and TSS.

Sample 17323-001 was received outside of holding time for Nitrite and Nitrate.

The Sulfate RPD of 23% for sample 17285-001DUP is outside of suggested QC guidelines of 20% RPD.

QCBLK168189, QCBLK168697, QCBLK168722, and QCBLK168803 all have Chloride at a level that is above the MDL, but below the PQL. The associated data results are flagged with a 'C.

The following samples were diluted for Nitrate to remove interference from the Chloride peak: 17281-001, 17281-002, 17285-001, 17285-001DUP, 17307-001, 17308-001, 17308-003, 17308-004, 17308-005, 17311-001, 17312-001, 17323-001, 17323-002, and 17323-004.

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

Reviewed and approved:

Robert E. White

Robert E. White
Project Manager

LOG #: 4039

LABORATORY NONCONFORMANCE MEMO (NCM)

Quanterra Incorporated

Project ID/Client: 19.145/hanford

NCM Initiated by/Date: Derek E Uman 4/28/98 Project Manager: Bob White

Sample Numbers/QC batch or lot numbers: 17281-001 (4 days), -001 MS/MSD -002, -003, -005 (2 days) VOA/8240/04

Tests:

Analytical Area (check appropriate area):

- ☐ Sample control
- ☐ Organic preparation
- ☐ Inorganic preparation
- ☐ GC
- ☐ HPLC
- ☑ GC/MS
- ☐ Wet chemistry
- ☐ Metals
- ☐ Reporting
- ☐ Data review
- ☐ Radiochemistry
- ☐ _____

Nonconformance (check appropriate area): *To be completed by analyst*

Holding Time Violations (exceeded by 42 days)

Category I: Laboratory Independent

- ☐ 1. Holding time expired in transit
- ☐ 2. Sample rec'd > 48 hrs after sampling, or ½ holding time has expired
- ☐ 3. Test added by client after expiration

Category II: Laboratory Dependent

- ☐ 4. Instrument failure
- ☐ 5. Analyst error
- ☐ 6. Log-in error
- ☐ 7. Miscommunication
- ☐ 8. Other (explanation required) _____

Category III: Analysis Reruns (QA/QC)

- ☐ 9. Surrogates
- ☐ 10. Internal standards
- ☐ 11. Spike recoveries
- ☐ 12. Blank contamination

Category IV: Analysis Reruns (Confirmation)

- ☐ 13. Second column
- ☑ 14. Contamination check
- ☐ 15. Confirmation of matrix effects
- ☐ 16. Other (explanation required) _____

Category V: Analysis Reruns (Dilution)

- ☐ 17. Over calibration
- ☐ 18. Under calibration
- ☐ 19. Other (explanation required) _____

Quality Assurance/Quality Control

- ☐ 20. QC data reported outside of controls
- ☐ 21. Incorrect procedure used
- ☐ 22. SOP intentionally modified with QA and tech approval
- ☐ 23. Invalid instrument calibration
- ☐ 24. Received insufficient sample for proper analysis

Incorrect or Incomplete Client Deliverable

- ☐ 25. Hardcopy deliverable error
- ☐ 26. Electronic deliverable error

Reported Detection Limits Elevated Due to:

- ☐ 27. Sample matrix: Does not include high analyte content
- ☐ 28. Insufficient sample volume
- ☐ 29. Other (explanation required)

Miscellaneous

- ☐ 30. Instrument/equipment Tag-out
- ☐ 31. Other (explanation required) _____

Notification (check appropriate area): ☐ Required ☐ Not Required *To be completed by project manager*

Client notified by (name and date): Bob White

- ☒ In writing
- ☐ By telephone
- ☐ By facsimile
- ☐ Other (explain)

Client's name and response: Dot Stewart

- ☐ Process "as is"
- ☐ Re-sample
- ☐ On hold until _____
- ☒ Other (explain)

Project manager (signature and date): Robert E White 5/20/98 Noted in case narrative

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QUANTERRA LABORATORY NONCONFORMANCE MEMO

LOG #: 4039

Corrective Action: *To be completed and reviewed by all associates involved*

Problem Description/Root Cause Author's initials and date: DLL 040898

17281 originally ran in hold, but not reportable due to lab contamination

Corrective Actions (Short Term) Author's initials and date: DLL 040898

NONE AS IS

Corrective Actions to Prevent Reoccurrence (Long Term) need fume hood to prepare highly contaminated samples and get all reruns within hold time

Corrective Action approved by (Supervisor/Group Leader) and date:

Additional Comments:

Corrective Action to be completed by (if other than Supervisor/Group Leader):

Date Corrective Action is to be completed:

Quality Assurance Review *To be completed by a QA associate*

☐ Anomaly ☒ Deficiency ☐ Notified Ops/Sys Manager (Initials) 4/9/98

☐ Further action required:

Further action assigned to:

QA signature: Date:

Corrective Action Verification: *To be completed by a QA associate*

☐ Verification not required or requested

☐ Verified / CA completed on: by

☐ Cannot verify (specify reason)

Verified by: Date:

Nonconformance Memo Closure:

QA signature: Date:

The Office of Quality Assurance maintains a copy of this NCM indicating its final status.

000008D

LOG #: _____

LABORATORY NONCONFORMANCE MEMO (NCM)

Quanterra Incorporated

Project ID/Client: 519.145 / hartford

NCM Initiated by/Date: Ellmea 5/20/98 Project Manager: Bob White

Sample Numbers/QC batch or lot numbers: 17311-001, -002

Tests: 169448 VOA - 8260

Analytical Area (check appropriate area):

- ☐ Sample control
- ☐ Organic preparation
- ☐ Inorganic preparation
- ☐ GC
- ☐ HPLC
- ☒ GC/MS
- ☐ Wet chemistry
- ☐ Metals
- ☐ Reporting
- ☐ Data review
- ☐ Radiochemistry
- ☐ _____

Nonconformance (check appropriate area): *To be completed by analyst*

Holding Time Violations (exceeded by 1, 2 days)

Category I: Laboratory Independent

- ☐ 1. Holding time expired in transit
- ☐ 2. Sample rec'd > 48 hrs after sampling. or ½ holding time has expired
- ☐ 3. Test added by client after expiration

Category II: Laboratory Dependent

- ☐ 4. Instrument failure
- ☐ 5. Analyst error
- ☐ 6. Log-in error
- ☐ 7. Miscommunication
- ☐ 8. Other (explanation required) _____

Category III: Analysis Reruns (QA/QC)

- ☐ 9. Surrogates
- ☐ 10. Internal standards
- ☐ 11. Spike recoveries
- ☐ 12. Blank contamination

Category IV: Analysis Reruns (Confirmation)

- ☐ 13. Second column
- ☐ 14. Contamination check
- ☐ 15. Confirmation of matrix effects
- ☐ 16. Other (explanation required) _____

Category V: Analysis Reruns (Dilution)

- ☐ 17. Over calibration
- ☐ 18. Under calibration
- ☐ 19. Other (explanation required) _____

Quality Assurance/Quality Control

- ☐ 20. QC data reported outside of controls
- ☐ 21. Incorrect procedure used
- ☐ 22. SOP intentionally modified with QA and tech approval
- ☐ 23. Invalid instrument calibration
- ☐ 24. Received insufficient sample for proper analysis

Incorrect or Incomplete Client Deliverable

- ☐ 25. Hardcopy deliverable error
- ☐ 26. Electronic deliverable error

Reported Detection Limits Elevated Due to:

- ☐ 27. Sample matrix: Does not include high analyte content
- ☐ 28. Insufficient sample volume
- ☐ 29. Other (explanation required)

Miscellaneous

- ☐ 30. Instrument/equipment Tag-out
- ☐ 31. Other (explanation required) _____

Notification (check appropriate area): ☐ Required ☐ Not Required *To be completed by project manager*

Client notified by (name and date): Bob White

- ☒ In writing
- ☐ By telephone
- ☐ By facsimile
- ☐ Other (explain)

Client's name and response: Dot Stewart

- ☐ Process "as is"
- ☐ Re-sample
- ☐ On hold until _____
- ☒ Other (explain)

Project manager (signature and date): Robert E. White 5/20/98 Noted in case narrative

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QUANTERRA LABORATORY NONCONFORMANCE MEMO

LOG #: _____

Corrective Action: *To be completed and reviewed by all associates involved*

Problem Description/Root Cause **Author's initials and date:** _____

Sample 17311-001 & 17311-002 was run 1 day & 2 days outside HT

Corrective Actions (Short Term) **Author's initials and date:** _____

NONE AS LS

Corrective Actions to Prevent Reoccurrence (Long Term) Bring one on line another MS and adding another analyst To be done by 5/30/5r

Corrective Action approved by (Supervisor/Group Leader) and date: Fillmore 5/30/5r

Additional Comments:

Corrective Action to be completed by (if other than Supervisor/Group Leader): _____

Date Corrective Action is to be completed: _____

Quality Assurance Review *To be completed by a QA associate*

☐ Anomaly ☐ Deficiency ☐ Notified Ops/Sys Manager (Initials) _____

☐ Further action required: _____

Further action assigned to: _____

QA signature: _____ Date: _____

Corrective Action Verification: *To be completed by a QA associate*

☐ Verification not required or requested

☐ Verified / CA completed on: _____ by _____

☐ Cannot verify (specify reason) _____

Verified by: _____ Date: _____

Nonconformance Memo Closure:

QA signature: _____ Date: _____

The Office of Quality Assurance maintains a copy of this NCM indicating its final status.

000008F

Quanterra March 31, 1998 11:15 am
Account: 10722 Project: 519.145 Quanterra-Richland QAS No. 519.145 Rev. 6
Master Sample Login: 17281

W02288

Project Manager: W. Price

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

Sample Header Template:

Sample No. / Comments / Data:	Client ID	C-Matrix	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No.
17281-001	BON840	Water	19-MAR-98 11:52	19-MAR-98 14:50	08-APR-98	AIR BORNE	1	Screening not Required
RICHLAND ID 80333802///ICAP = BA,CR,PB,SN,V,ZN.								

#	Container Type	Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)
3	VI - Vial-40ml	VOA/8240/Q4	S	HCL	02-APR-98	02-APR-98	109H	(365556:99 365557:98 365558:97)
1	AN - Amber Glass-1L	TOX/9020/Q4	S	H2SO4	02-APR-98	16-APR-98	R4D	(365561:99)
1	PN - Plastic-1L	AS/7060/Q4	S	HNO3	02-APR-98	15-SEP-98	R4D	(365562:99)
1		ICAP/6010/Q4	S	HNO3	02-APR-98	15-SEP-98	R4D	(365562:99)
1		SE/7740/Q4	S	HNO3	02-APR-98	15-SEP-98	R4D	(365562:99)
1	PN - Plastic-500ml	ALK/310.1/Q4	S	COLD	02-APR-98	02-APR-98	R4D	(365550:100)
1		CL/300.0/Q4	S	COLD	02-APR-98	16-APR-98	R4D	(365551:99)
1		FL/300.0/Q4	S	COLD	02-APR-98	16-APR-98	R4D	(365551:99)
1		NO2/300.0/Q4	S	COLD	02-APR-98	21-MAR-98	R4D	(365551:99)
1		NO3/300.0/Q4	S	COLD	02-APR-98	21-MAR-98	R4D	(365551:99)
1		NO3/353.1/Q4	S	H2SO4	02-APR-98	16-APR-98	R4D	(365560:99)
1		SO4/300.0/Q4	S	COLD	02-APR-98	16-APR-98	R4D	(365551:99)
1		TDS/160.1/Q4	S	COLD	02-APR-98	26-MAR-98	R4D	(365559:98)

17281-001DUP	BON840	Water	19-MAR-98 11:52	19-MAR-98 14:50	08-APR-98	AIR BORNE	1	Screening not Required
RICHLAND ID 80333802///ICAP = BA,CR,PB,SN,V,ZN.								

1	AN - Amber Glass-1L	TOX/9020/Q4	S	H2SO4	02-APR-98	16-APR-98	R4D	(365561:99)
1	PN - Plastic-500ml	ALK/310.1/Q4	S	COLD	02-APR-98	02-APR-98	R4D	(365550:100)
1		NO3/353.1/Q4	S	H2SO4	02-APR-98	16-APR-98	R4D	(365560:99)
1		TDS/160.1/Q4	S	COLD	02-APR-98	26-MAR-98	R4D	(365559:98)

17281-001MS	BON840	Water	19-MAR-98 11:52	19-MAR-98 14:50	08-APR-98	AIR BORNE	1	Screening not Required
RICHLAND ID 80333802///ICAP = BA,CR,PB,SN,V,ZN.								

3	VI - Vial-40ml	VOA/8240/Q4	S	HCL	02-APR-98	02-APR-98	109H	(365556:99 365557:98 365558:97)
1	AN - Amber Glass-1L	TOX/9020/Q4	S	H2SO4	02-APR-98	16-APR-98	R4D	(365561:99)
1	PN - Plastic-1L	AS/7060/Q4	S	HNO3	02-APR-98	15-SEP-98	R4D	(365562:99)
1		ICAP/6010/Q4	S	HNO3	02-APR-98	15-SEP-98	R4D	(365562:99)
1		SE/7740/Q4	S	HNO3	02-APR-98	15-SEP-98	R4D	(365562:99)
1	PN - Plastic-500ml	NO3/353.1/Q4	S	H2SO4	02-APR-98	16-APR-98	R4D	(365560:99)

17281-001MSD	BON840	Water	19-MAR-98 11:52	19-MAR-98 14:50	08-APR-98	AIR BORNE	1	Screening not Required
RICHLAND ID 80333802///ICAP = BA,CR,PB,SN,V,ZN.								

3	VI - Vial-40ml	VOA/8240/Q4	S	HCL	02-APR-98	02-APR-98	109H	(365556:99 365557:98 365558:97)
1	PN - Plastic-1L	AS/7060/Q4	S	HNO3	02-APR-98	15-SEP-98	R4D	(365562:99)
1		ICAP/6010/Q4	S	HNO3	02-APR-98	15-SEP-98	R4D	(365562:99)
1		SE/7740/Q4	S	HNO3	02-APR-98	15-SEP-98	R4D	(365562:99)

3*=Sample has not been rad screened.

Quanterra March 31, 1998 11:15 am
Account: 10722 Project: 519.145 Quanterra-Richland QAS No. 519.145 Rev. 6
Master Sample Login: 17281

Project Manager: W. Price

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

Sample Header Template: _____

Sample No. / Comments	Client ID	C-Matrix	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No.
17281-002	BON848	Water	19-MAR-98 09:48	19-MAR-98 14:50	08-APR-98	AIR BORNE	1	Screening not Required
RICHLAND ID 80333804///ICAP = BA,CR,PB,SN,V,ZN.								

#	Container Type	Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)
3	VI - Vial-40ml	VOA/8240/Q4	S	HCL	02-APR-98	02-APR-98	109H	(365565:99 365566:98 365567:97)
1	AN - Amber Glass-1L	TOX/9020/Q4	S	H2SO4	02-APR-98	16-APR-98	R4D	(365570:99)
1	PN - Plastic-1L	AS/7060/Q4	S	HNO3	02-APR-98	15-SEP-98	R4D	(365571:99)
1		ICAP/6010/Q4	S	HNO3	02-APR-98	15-SEP-98	R4D	(365571:99)
1		SE/7740/Q4	S	HNO3	02-APR-98	15-SEP-98	R4D	(365571:99)
1	PN - Plastic-500ml	ALK/310.1/Q4	S	COLD	02-APR-98	02-APR-98	R4D	(365563:100)
1		CL/300.0/Q4	S	COLD	02-APR-98	16-APR-98	R4D	(365564:99)
1		FL/300.0/Q4	S	COLD	02-APR-98	16-APR-98	R4D	(365564:99)
1		NO2/300.0/Q4	S	COLD	02-APR-98	21-MAR-98	R4D	(365564:99)
1		NO3/300.0/Q4	S	COLD	02-APR-98	21-MAR-98	R4D	(365564:99)
1		NO3/353.1/Q4	S	H2SO4	02-APR-98	16-APR-98	R4D	(365569:99)
1		SO4/300.0/Q4	S	COLD	02-APR-98	16-APR-98	R4D	(365564:99)
1		TDS/160.1/Q4	S	COLD	02-APR-98	26-MAR-98	R4D	(365568:98)

17281-003	BON852	Water	19-MAR-98 09:05	19-MAR-98 14:50	08-APR-98	AIR BORNE	1	Screening not Required
RICHLAND ID 80333806///ICAP = BA,CR,PB,SN,V,ZN.								

#	Container Type	Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)
3	VI - Vial-40ml	VOA/8240/Q4	S	HCL	02-APR-98	02-APR-98	109H	(365574:99 365575:98 365576:97)
1	AN - Amber Glass-1L	TOX/9020/Q4	S	H2SO4	02-APR-98	16-APR-98	R4D	(365579:99)
1	PN - Plastic-1L	AS/7060/Q4	S	HNO3	02-APR-98	15-SEP-98	R4D	(365580:99)
1		ICAP/6010/Q4	S	HNO3	02-APR-98	15-SEP-98	R4D	(365580:99)
1		SE/7740/Q4	S	HNO3	02-APR-98	15-SEP-98	R4D	(365580:99)
1	PN - Plastic-500ml	ALK/310.1/Q4	S	COLD	02-APR-98	02-APR-98	R4D	(365572:100)
1		CL/300.0/Q4	S	COLD	02-APR-98	16-APR-98	R4D	(365573:99)
1		FL/300.0/Q4	S	COLD	02-APR-98	16-APR-98	R4D	(365573:99)
1		NO2/300.0/Q4	S	COLD	02-APR-98	21-MAR-98	R4D	(365573:99)
1		NO3/300.0/Q4	S	COLD	02-APR-98	21-MAR-98	R4D	(365573:99)
1		NO3/353.1/Q4	S	H2SO4	02-APR-98	16-APR-98	R4D	(365578:99)
1		SO4/300.0/Q4	S	COLD	02-APR-98	16-APR-98	R4D	(365573:99)
1		TDS/160.1/Q4	S	COLD	02-APR-98	26-MAR-98	R4D	(365577:98)

17281-004	BON853	Water	19-MAR-98 08:00	19-MAR-98 14:50	08-APR-98	AIR BORNE	1	Screening not Required
RICHLAND ID 80333807								

#	Container Type	Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)
3	VI - Vial-40ml	VOA/8240/Q4	S	HCL	02-APR-98	02-APR-98	109H	(365583:99 365584:98 365585:97)

17281-005	BON854	Water	19-MAR-98 08:00	19-MAR-98 14:50	08-APR-98	AIR BORNE	1	Screening not Required
RICHLAND ID 80333808								

#	Container Type	Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)
3	VI - Vial-40ml	VOA/8240/Q4	S	HCL	02-APR-98	02-APR-98	109H	(365592:99 365593:98 365594:97)

3*=Sample has not been rad screened.

000010

Quanterra March 31, 1998 11:15 am
Account: 10722 Project: 519.145 Quanterra-Richland QAS No. 519.145 Rev. 6
Master Sample Login: 17281

ject Manager: W. Price

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

ple Header Template: _____

ple No. / Comments / Container Type	Client ID	C-Matrix	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No. (Container Numbers:% Filled)
a:								
31-006	B0N839	Water	19-MAR-98 11:52	19-MAR-98 14:50	08-APR-98	AIR BORNE	1	Screening not Required
RICHLAND ID 80333801///ICAP = BA,CR,PB,SN,V,ZN.								

Container Type	Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)
1 PN - Plastic-1L	ASD/7060/Q4	S	HNO3	02-APR-98	15-SEP-98	R4D	(365607:99)
1	ICAPD/6010/Q4	S	HNO3	02-APR-98	15-SEP-98	R4D	(365607:99)
1	SED/7740/Q4	S	HNO3	02-APR-98	15-SEP-98	R4D	(365607:99)

31-007	B0N847	Water	19-MAR-98 09:48	19-MAR-98 14:50	08-APR-98	AIR BORNE	1	Screening not Required
RICHLAND ID 80333803///ICAP = BA,CR,PB,SN,V,ZN.								

Container Type	Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)
1 PN - Plastic-1L	ASD/7060/Q4	S	HNO3	02-APR-98	15-SEP-98	R4D	(365608:99)
1	ICAPD/6010/Q4	S	HNO3	02-APR-98	15-SEP-98	R4D	(365608:99)
1	SED/7740/Q4	S	HNO3	02-APR-98	15-SEP-98	R4D	(365608:99)

31-008	B0N851	Water	19-MAR-98 09:05	19-MAR-98 14:50	08-APR-98	AIR BORNE	1	Screening not Required
RICHLAND ID 80333805///ICAP = BA,CR,PB,SN,V,ZN.								

Container Type	Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)
1 PN - Plastic-1L	ASD/7060/Q4	S	HNO3	02-APR-98	15-SEP-98	R4D	(365609:99)
1	ICAPD/6010/Q4	S	HNO3	02-APR-98	15-SEP-98	R4D	(365609:99)
1	SED/7740/Q4	S	HNO3	02-APR-98	15-SEP-98	R4D	(365609:99)

Sample has not been rad screened.

000011

Chain of Custody Record

K4D Tom 4°C Cur# 14582 14533 ST LOUIS

Quanterra

QUA-4124 0797

Client: PAW	Project Manager: A. Koprina	Date: 3-20-98	Chain of Custody Number: 10458
Address	Telephone Number (Area Code)/Fax Number	Lab Number	Page 1 of 1
City / State / Zip Code	Site Contact	Lab Contact	
Project Name: SAF N98-005	Carrier/Waybill Number		
Contract/Purchase Order/Quote No.			

Analysis (Attach list if more space is needed): SEE CC

Special Instructions/ Conditions of Receipt

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Aqueous	Sed.	Soil		Containers & Preservatives: Unpres.	H2SO4	HNOS	HCl	NaOH	ZnAc/ NaOH
80333801 BON839	Chemical analysis Pollen											
2 840												
3 847												
4 848												
5 851												
6 852												
7 853												
8 854												

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

Sample Disposal: ☒ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months (A fee may be assessed if samples are retained longer than 3 months)

Turn Around Time Required: ☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☒ Other ____

QC Requirements (Specify): SDG-W02288

1. Relinquished By: Heidelberg QES	Date: 3/20/98	Time: 16:00	1. Received By: Judm Ethel	Date: 3-21-98	Time: 1410
2. Relinquished By	Date	Time	2. Received By	Date	Time
3. Relinquished By	Date	Time	3. Received By	Date	Time

Comments: 030012 Amous Lvon Recv 3-20-98

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

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	N98-005-6	Page 2 of 2

Collector RT SICKLE (RFS)	**Company Contact** DL STEWART	**Telephone No.** (509)376 5056	**Project Coordinator** VAN SICKLE, CH
Project Designation ERDF Groundwater Monitoring, March 1998	**Sampling Location** HANFORD SITE		**SAF No.** N98-005
Ice Chest No. SML ~~349~~ 471	**Field Logbook No.** LUM-SML H 11, PAGE 31		**Method of Shipment** GOVT. VEHICLE
Shipped To Quanterra Incorporated	**Offsite Property No.** N/A		**Bill of Lading/Air Bill No.** N/A
POSSIBLE SAMPLE HAZARDS/REMARKS N/A			**Data Turnaround** 45 Days
Special Handling and/or Storage COOL 4°C			

Preservation	None	HCl or H2SO4 to pH <2 Coo	HCl to pH <2	None
Type of Container	G/P	Gs*	G/P	G/P
No. of Container(s)	2	3	3	3
Volume	1000ml	40ml	1000ml	1000ml
SAMPLE ANALYSIS 803338	Carbon-14 803339 02	VOA - 8240A (TCL)	Technetium-99 8033	Iodine-129 3902

Sample No.	Matrix *	Sample Date	Sample Time	Carbon-14	VOA - 8240A (TCL)	Technetium-99	Iodine-129
B0N847 03	Water						
B0N848 04	Water	MAR 19 1998	0948	✓	✓	✓	✓
					3X100		
					3-20		

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

Relinquished By	Date/Time	Received By	Date/Time
RT SICKLE (RFS)	3-19-98 1450	Wagar	3/19/98 1450
			<100cpm

SPECIAL INSTRUCTIONS
TOTAL ACTIVITY EXEMPTION APPLIES
SEE SAF "COC Comments" for batching instructions without exceeding 14 day closure.

Matrix *

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

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

000013

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	N98-005-8	Page 1 of 2

Collector: RT SICKLE (RFS)	Company Contact: DL STEWART	Telephone No.: (509)376 5056	Project Coordinator: VAN SICKLE, CH
Project Designation: ERDF Groundwater Monitoring, March 1998	Sampling Location: HANFORD SITE		SAF No.: N98-005
Ice Chest No.: SML 349	Field Logbook No.: WM-SML H 11, PAGE 31		Method of Shipment: GOVT. VEHICLE
Shipped To: Quanterra Incorporated	Offsite Property No.: N/A		Bill of Lading/Air Bill No.: N/A
POSSIBLE SAMPLE HAZARDS/REMARKS: N/A			
Special Handling and/or Storage: cool / 4°C			

Data Turnaround: 45 Days

Preservation	None	Cool 4C	Cool 4C	Cool 4C	H2SO4 to pH <2 Cool 4C	HNO3 to pH <2	H2SO4 to pH <2 Cool 4C	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2
Type of Container	G/P	G/P	G/P	G/P	G/P	G/P	aGs*	G/P	G/P	G/P
No. of Container(s)	1	1	1	1	1	1	1	1	1	1
Volume	20ml	500ml	500ml	500ml	500ml	500ml	1000ml	1000ml	1000ml	1000ml
SAMPLE ANALYSIS 803338	Activity Scan	Alkalinity - 310.1	IC Anions - 300.0 (Chloride, Fluoride, Sulfate)	TDS - 160.1	NO2/NO3 - 353.1	Total Uranium 803339 03	TOX - 9020	Gross Alpha & Gross Beta 803339 03	See Item (1) in Special Instructions (W F)	Total Radium 803339 03
B0N851 05 (F)										
B0N852 06										

Sample No.	Matrix *	Sample Date	Sample Time	Activity Scan	Alkalinity - 310.1	IC Anions - 300.0	TDS - 160.1	NO2/NO3 - 353.1	Total Uranium	TOX - 9020	Gross Alpha & Gross Beta	See Item (1) in Special Instructions	Total Radium
B0N851 05 (F)	Water	MAR 19 1998	0905									✓	
B0N852 06	Water	MAR 19 1998	0905	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
					100	100	100	100		100		100	
						3-20		3-20					

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
RT SICKLE (RFS)	3-19-98 1450	Wagar	3-19-98 1450
Relinquished By	Date/Time	Received By	Date/Time
		<100cpm	
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS

TOTAL ACTIVITY EXEMPTION APPLIES

SEE SAF "COC Comments" for batching instructions without exceeding 14 day closure.

(1) ICP Metals - 6010A (SW-846) (Barium, Chromium, Lead, Tin, Vanadium, Zinc); Arsenic - 7060 - (GFAA); Selenium - 7740 - (GFAA)

Matrix *

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

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

000014

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	N98-005-8	Page 2 of 2

Collector: HT SICKLE (RFS)	Company Contact: DL STEWART	Telephone No.: (509)376-5056	Project Coordinator: VAN SICKLE, GE
Project Designation: ERDF Groundwater Monitoring, March 1998	Sampling Location: HANFORD SITE		SAF No.: N98-005
Ice Chest No.: SML 349	Field Logbook No.: WM-SML H 11, PAGE 31		Method of Shipment: GOVT. VEHICLE
Shipped To: Quanterra Incorporated	Offsite Property No.: N/A		Bill of Lading/Air Bill No.: N/A
POSSIBLE SAMPLE HAZARDS/REMARKS: N/A			
Special Handling and/or Storage: COO/4°C			

Data Turnaround: 45 Days

Preservation	None	HCl or H2SO4 to pH <2 Coo	HCl to pH <2	None
Type of Container	G/P	Gs*	G/P	G/P
No. of Container(s)	2	3	3	3
Volume	1000ml	40ml	1000ml	1000ml
SAMPLE ANALYSIS	Carbon-14	VOA - 8240A (TCL)	Technetium-99	Iodine-129
803338	803339 03		80333903	

Sample No.	Matrix *	Sample Date	Sample Time	Carbon-14	VOA - 8240A (TCL)	Technetium-99	Iodine-129
30N851 05	Water						
30N852 06	Water	MAR 19 1998	0905	✓	✓	✓	✓
					3x100 3-20		

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
HT SICKLE (RFS)	3-19-98 1450	[signature]	3-19-98 1450
		<100 cpm	

SPECIAL INSTRUCTIONS
TOTAL ACTIVITY EXEMPTION APPLIES
SEE SAF "COC Comments" for batching instructions without exceeding 14 day closure.

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

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

000015

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	N98-005-9	Page 1 of 1

Collector: RT SICKLE (RFS)	Company Contact: DL STEWART	Telephone No.: (509)376-5056	Project Coordinator: VAN SICKLE, GH
Project Designation: ERDF Groundwater Monitoring, March 1998	Sampling Location: HANFORD SITE		SAF No.: N98-005
Ice Chest No.: SML 349	Field Logbook No.: WM-SML H 11, PAGE 11		Method of Shipment: GOVT. VEHICLE
Shipped To: Quanterra Incorporated	Offsite Property No.: N/A		Bill of Lading/Air Bill No.: N/A
POSSIBLE SAMPLE HAZARDS/REMARKS: N/A			Date Turnaround: 45 Days
Special Handling and/or Storage: cool 4°C			

SAMPLE ANALYSIS: 80333807

Preservation	None	HCl or H2SO4 to pH <2 Coo								
Type of Container	G/P	Gs*								
No. of Container(s)	1	3								
Volume	20ml	40ml								
Activity Scan		VOA - 8240A (TCL)								

Sample No.	Matrix *	Sample Date	Sample Time											
B0N853	Water	MAR 19 1998	0800	X	✓									
					3x100									
					3-28									

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
RT SICKLE (RFS)	3-19-98 1450	[signature]	3-19-98 1450
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS
TOTAL ACTIVITY EXEMPTION APPLIES
SEE SAF "COC Comments" for batching instructions without exceeding 14 day closure.

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

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

000016

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	N98-005-10	Page 1 of 1

Collector: RT SICKLE (RFS)	Company Contact: DL STEWART	Telephone No.: (509)376 5056	Project Coordinator: VAN SICKLE, GE
Project Designation: ERDF Groundwater Monitoring, March 1998	Sampling Location: HANFORD SITE		SAF No.: N98-005
Ice Chest No.: SML 349	Field Logbook No.: WM-SML H 11, PAGE 31		Method of Shipment: GOVT. VEHICLE
Shipped To: Quanterra Incorporated	Offsite Property No.: N/A		Bill of Lading/Air Bill No.: N/A
POSSIBLE SAMPLE HAZARDS/REMARKS: N/A			
Special Handling and/or Storage: COO/4°C			

Data Turnaround: 45 Days

Preservation	None	HCl or H2SO4 to pH <2 Coo										
Type of Container	G/P	Gs*										
No. of Container(s)	1	3										
Volume	20ml	40ml										
	Activity Scan	VOA - 8240A (TCL)										

SAMPLE ANALYSIS

80333808

Sample No.	Matrix *	Sample Date	Sample Time										
30N854 5	Water	MAR 19 1998	0800	✓	✓								
					3X100								
					3-20								

CHAIN OF POSSESSION

Relinquished By	Date/Time	Received By	Date/Time
RT SICKLE (RFS)	3-19-98 1450	L Wagar	3-19-98 1450
		<100cpm	

Sign/Print Names

SPECIAL INSTRUCTIONS
TOTAL ACTIVITY EXEMPTION APPLIES
SEE SAF "COC Comments" for batching instructions without exceeding 14 day closure.

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

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method: 000017	Disposed By	Date/Time

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	N98-005-6	Page 1 of 2

Collector HT SICKLE (RFS)	**Company Contact** DL STEWART	**Telephone No.** (509)376-5056	**Project Coordinator** VAN SICKLE, GH	**Data Turnaround** 45 Days
Project Designation BRDF Groundwater Monitoring, March 1998	**Sampling Location** HANFORD SITE		**SAF No.** N98-005	
Ice Chest No. SML 344 RHF 3-19-98 471	**Field Logbook No.** WM - SML H 11, PAGE 31		**Method of Shipment** GOVT. VEHICLE	
Shipped To Quanterra Incorporated	**Offsite Property No.** N/A PH -		**Bill of Lading/Air Bill No.** N/A	
POSSIBLE SAMPLE HAZARDS/REMARKS N/A				
Special Handling and/or Storage Cool 4°C				

Preservation	None	Cool 4C	Cool 4C	Cool 4C	H2SO4 to pH <2 Cool 4C	HNO3 to pH <2	H2SO4 to pH <2 Cool 4C	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2
Type of Container	G/P	G/P	G/P	G/P	G/P	G/P	aGa*	G/P	G/P	G/P
No. of Container(s)	1	1	1	1	1	1	1	1	1	1
Volume	20ml	500ml	500ml	500ml	500ml	500ml	1000ml	1000ml	1000ml	1000ml
SAMPLE ANALYSIS 803338	Activity Scan	Alkalinity - 310.1	IC Anions - 300.0 (Chloride, Fluoride, Sulfate)	TDS - 160.1	NO2/NO3 - 353.1	Total Uranium 803339 02	TOX - 9020	Gross Alpha & Gross Beta 803339 02	See Item (1) in Special Instructions. (4 F)	Total Radium 803339 02

Sample No.	Matrix *	Sample Date	Sample Time											
B0N847 03 (F)	Water	MAR 19 1998	0948										✓	
B0N848 04	Water	MAR 19 1998	0948	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
					100	100	100	100		100			100	
						3-20								

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By HT SICKLE (RFS)	Date/Time 3-19-98 1450	Received By C Wagar	Date/Time 3-19-98 1450
Relinquished By	Date/Time	Received By <100ppm	Date/Time
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS
TOTAL ACTIVITY EXEMPTION APPLIES
SEE SAF "COC Comments" for batching instructions without exceeding 14 day closure.

(1) ICP Metals - 6010A (SW-846) (Barium, Chromium, Lead, Tin, Vanadium, Zinc); Arsenic - 7060 - (GFAA); Selenium - 7740 - (GFAA)

Matrix *

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

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method 000018	Disposed By	Date/Time

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	N98-005-1	Page 1 of 2

Collector: RT SICKLE (RFS)	Company Contact: DL STEWART	Telephone No.: (509)376-5056	Project Coordinator: VAN SICKLE, CH
Project Designation: BRDF Groundwater Monitoring, March 1998	Sampling Location: HANFORD SITE		SAF No.: N98-005
Ice Chest No.: SML 465	Field Logbook No.: WM - SML H 11, PAGE 71		Method of Shipment: GOVT. VEHICLE
Shipped To: Quanterra Incorporated	Offsite Property No.: N/A PH =		Bill of Lading/Air Bill No.: N/A
POSSIBLE SAMPLE HAZARDS/REMARKS: N/A			Data Turnaround: 45 Days
Special Handling and/or Storage: COOL 4°C			

SAMPLE ANALYSIS: 803338 SDL W02288

Sample No.	Matrix *	Sample Date	Sample Time	Activity Scan	Alkalinity - 310.1	IC Anions - 300.0 (Chloride, Fluoride, Sulfate)	TDS - 160.1	NO2/NO3 - 353.1	Total Uranium	TOX - 9020	Gross Alpha & Gross Beta	See Item (1) in Special Instructions.	Total Radium
Preservation				None	Cool 4C	Cool 4C	Cool 4C	H2SO4 to pH <2 Cool 4C	HNO3 to pH <2	H2SO4 to pH <2 Cool 4C	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2
Type of Container				G/P	G/P	G/P	G/P	G/P	G/P	aCis*	G/P	G/P	G/P
No. of Container(s)				1	1	1	1	1	1	1	1	1	1
Volume				20ml	500ml	500ml	500ml	500ml	500ml	1000ml	1000ml	1000ml	1000ml
30N839 01 (F)	Water	MAR 19 1998	1152						803339 01		803339 01	(U) (F)	803339 01
30N840 02	Water	MAR 19 1998	1152	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
					100	100	100	100		100		100	
						3-20		3-20					

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
RT SICKLE (RFS)	3-19-98 1450	L Wagar	3-19-98 1450
			1100pm

SPECIAL INSTRUCTIONS
TOTAL ACTIVITY EXEMPTION APPLIES
SEE SAF "COC Comments" for batching instructions without exceeding 14 day closure.

(1) ICP Metals - 6010A (SW-846) (Barium, Chromium, Lead, Tin, Vanadium, Zinc); Arsenic - 7060 - (GFAA); Selenium - 7740 - (GFAA)

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

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method: 000019	Disposed By	Date/Time

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	N98-005-1	Page 2 of 2

Collector: RT SICKLE (RFS)	Company Contact: DL STEWART	Telephone No.: (509)376-5056	Project Coordinator: VAN SICKLE, GE
Project Designation: ERDF Groundwater Monitoring, March 1998	Sampling Location: HANFORD SITE		SAF No.: N98-005
Ice Chest No.: SML 465	Field Logbook No.: WM - SML H 11, PAGE 31		Method of Shipment: GOVT. VEHICLE
Shipped To: Quanterra Incorporated	Offsite Property No.: N/A		Bill of Lading/Air Bill No.: N/A
POSSIBLE SAMPLE HAZARDS/REMARKS: N/A			
Special Handling and/or Storage: 200 / 4°C			

Preservation	None	HCl or H2SO4 to pH <2 Coo	HCl to pH <2	None
Type of Container	G/P	Gs*	G/P	G/P
No. of Container(s)	2	3	3	3
Volume	1000ml	40ml	1000ml	1000ml
	Carbon-14	VOA - 8240A (TCL)	Technetium-99	Iodine-129

SAMPLE ANALYSIS: 803338

803339 01 — 80333901

Sample No.	Matrix *	Sample Date	Sample Time	Carbon-14	VOA - 8240A (TCL)	Technetium-99	Iodine-129
0N839 01 (E)	Water						
0N840 02	Water	MAR 19 1998	1152	✓	✓	✓	✓
					3X100		
					3-20		

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
T SICKLE (RFS)	3-19-98 1450	Wagon	3-19-98 1450
		<100cpm	

SPECIAL INSTRUCTIONS
TOTAL ACTIVITY EXEMPTION APPLIES
SEE SAF "COC Comments" for batching instructions without exceeding 14 day closure.

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

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method 000020	Disposed By	Date/Time

Figure 1

SAMPLE CHECK-IN LIST

Date/Time Received: 3/19/98 1450 SG#: W02288

Work Order Number: 803338 + 339 SAF #: N98-005

Shipping Container ID: SMC-349 Chain of Custody # N98-005-8, 9 & 10

1. Custody Seals on shipping container intact? Yes [✓] No [ ]
2. Custody Seals dated and signed? Yes [✓] No [ ]
3. Chain-of-Custody record present? Yes [✓] No [ ]
4. Cooler temperature 2°C
5. Vermiculite/packing materials is Wet [ ] Dry [ ] N/A
6. Number of samples in shipping container: 30
7. Sample holding times exceeded? Yes [ ] No [✓]

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

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

10. Where any anomalies identified in sample receipt? Yes [ ] No [✓]
11. Description of anomalies (include sample numbers): _____

Sample Custodian/Laboratory: [signature] Date: 3-1998

Telephoned To: _____ On _____ By _____

000021

Figure 1

SAMPLE CHECK-IN LIST

Date/Time Received: 3-19-98 1450 SG#: W02288

Work Order Number: 803338 + 339 SAF #: N 98-005

Shipping Container ID: SMC-471 Chain of Custody #: N98-005-6

1. Custody Seals on shipping container intact? Yes [✓] No [ ]
2. Custody Seals dated and signed? Yes [✓] No [ ]
3. Chain-of-Custody record present? Yes [✓] No [ ]
4. Cooler temperature 2°C
5. Vermiculite/packing materials is Wet [ ] Dry [ ] N/A
6. Number of samples in shipping container: 22
7. Sample holding times exceeded? Yes [ ] No [✓]

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

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

10. Where any anomalies identified in sample receipt? Yes [ ] No [✓]
11. Description of anomalies (include sample numbers): ____

Sample Custodian/Laboratory: [signature] Date: 3/19/98

Telephoned To: ____ On ____ By ____

000022

Figure 1

SAMPLE CHECK-IN LIST

Date/Time Received: 3-19-98 1450 SG#: W02288

Work Order Number: 803338 + 339 SAF #: S98-003; N98-005; W 98-0

Shipping Container ID: SML 465 Chain of Custody # S98-003-31; W98-003-123; N98-005-1

1. Custody Seals on shipping container intact? Yes [✓] No []
2. Custody Seals dated and signed? Yes [✓] No []
3. Chain-of-Custody record present? Yes [✓] No []
4. Cooler temperature 2°C
5. Vermiculite/packing materials is Wet [] Dry [] N/A
6. Number of samples in shipping container: 32
7. Sample holding times exceeded? Yes [] No [✓]

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

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

10. Where any anomalies identified in sample receipt? Yes [] No [✓]
11. Description of anomalies (include sample numbers): _____

Sample Custodian/Laboratory: [signature] Date: 3-19-98

Telephoned To: _____ On _____ By _____

000023

(B) 3/20/98

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
PGW B0N840		3/20/1998	QUAD22C	3/20/1998 9:47:43 AM	B0N840	30	19	0.57761905	71	1.4038095
	LIQUID		Bkg:	3/20/1998 1:28:46 AM	BKG	700	39	0.05571429	674	0.9628571

Anl Date: 3/20/1998	Tot Sa, Alq: 1.00E+01	, 1.00E+01	Alp;	(Dpm/ 1.71E+00	(uCi/ 7.70E-04	(pCi/ 7.70E+01	± 2.5E+01	CAT	3.2E-01	Lab
Ppt mg: 2.5	Units: L	, ml	Bet;	Alq): 2.27E+00	Sa): 1.02E-03	L/g): 1.02E+02	± 2.3E+01	I	4.9E-01	Alq L/g

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
PGW B0N848		3/20/1998	QUAD22D	3/20/1998 9:47:43 AM	B0N848	30	20	0.6252381	94	2.1604762
	LIQUID		Bkg:	3/20/1998 1:28:46 AM	BKG	700	29	0.04142857	681	0.9728571

Anl Date: 3/20/1998	Tot Sa, Alq: 1.00E+01	, 1.00E+01	Alp;	(Dpm/ 1.90E+00	(uCi/ 8.58E-04	(pCi/ 8.58E+01	± 2.7E+01	CAT	2.9E-01	Lab
Ppt mg: 4.5	Units: L	, ml	Bet;	Alq): 3.73E+00	Sa): 1.68E-03	L/g): 1.68E+02	± 2.7E+01	I	3.0E-01	Alq L/g

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
PGW B0N852		3/20/1998	QUAD23A	3/20/1998 9:47:52 AM	B0N852	30	14	0.42095238	61	1.1947619
	LIQUID		Bkg:	3/20/1998 1:28:54 AM	BKG	700	32	0.04571429	587	0.8385714

Anl Date: 3/20/1998	Tot Sa, Alq: 1.00E+01	, 1.00E+01	Alp;	(Dpm/ 1.17E+00	(uCi/ 5.28E-04	(pCi/ 5.28E+01	± 2.1E+01	CAT	4.7E-01	Lab
Ppt mg: 0	Units: L	, ml	Bet;	Alq): 2.00E+00	Sa): 9.01E-04	L/g): 9.01E+01	± 2.2E+01	I	5.6E-01	Alq L/g

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
PGW B0N853		3/20/1998	QUAD23B	3/20/1998 9:47:52 AM	B0N853	30	14	0.42095238	41	0.3852381
	LIQUID		Bkg:	3/20/1998 1:28:54 AM	BKG	700	32	0.04571429	687	0.9814286

Anl Date: 3/20/1998	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp;	(Dpm/ 1.25E+00	(uCi/ 5.63E-05	(pCi/ 5.63E+01	± 2.3E+01	CAT	4.4E-01	Lab
Ppt mg: 0	Units: L	, ml	Bet;	Alq): 4.60E-01	Sa): 2.07E-05	L/g): 2.07E+01	± 1.8E+01	I	2.4E+00	Alq L/g

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
PGW B0N854		3/20/1998	QUAD23C	3/20/1998 9:47:52 AM	B0N854	30	27	0.84	89	2.052381
	LIQUID		Bkg:	3/20/1998 1:28:54 AM	BKG	700	42	0.06	640	0.9142857

Anl Date: 3/20/1998	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp;	(Dpm/ 2.34E+00	(uCi/ 1.05E-04	(pCi/ 1.05E+02	± 2.6E+01	CAT	2.4E-01	Lab
Ppt mg: 0	Units: L	, ml	Bet;	Alq): 3.45E+00	Sa): 1.56E-04	L/g): 1.56E+02	± 2.6E+01	I	3.2E-01	Alq L/g

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
PGW B0N8B4		3/20/1998	QUAD23D	3/20/1998 9:47:52 AM	B0N8B4	30	14	0.4152381	206	5.9538095
	LIQUID		Bkg:	3/20/1998 1:28:54 AM	BKG	700	36	0.05142857	639	0.9128571

Anl Date: 3/20/1998	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp;	(Dpm/ 1.20E+00	(uCi/ 5.40E-05	(pCi/ 5.40E+01	± 2.5E+01	CAT	4.6E-01	Lab
Ppt mg: 7.9	Units: L	, ml	Bet;	Alq): 1.13E+01	Sa): 5.07E-04	L/g): 5.07E+02	± 4.1E+01	I	9.9E-02	Alq L/g

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
PGW TEDF0319981		3/20/1998	QUAD24A	3/20/1998 9:47:47 AM	TEDF0319981	30	18	0.54	66	1.2928571
	LIQUID		Bkg:	3/20/1998 1:28:35 AM	BKG	700	42	0.06	635	0.9071429

Anl Date: 3/20/1998	Tot Sa, Alq: 2.00E+00	, 1.00E+01	Alp;	(Dpm/ 2.22E+00	(uCi/ 2.00E-04	(pCi/ 9.98E+01	± 3.6E+01	CAT	2.5E-01	Lab
Ppt mg: 25.2	Units: L	, ml	Bet;	Alq): 2.36E+00	Sa): 2.13E-04	L/g): 1.06E+02	± 2.4E+01	I	4.7E-01	Alq L/g

Quanterra Environmental Services

BW&SL

014582

Login No.: 17281

Condition Upon Receipt Variance Report
St. Louis Laboratory

Client: Richland

Date: 3-21-98 Time: 2:10

Project No: 519.145

Initiated by: Barbara S. Dell

Shipper/No: AB 4719400416

RFA/COC Numbers: 10458

Condition/Variance (Check all that apply):

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

☑ No variances were noted during sample receipt. Cooler Temperature Upon Receipt: 4

Notes: Amons & VOA Rec 3-20-98

Corrective Action:

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

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

☐ Sample(s) processed "as is". _____

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

Sample Control Supervisor Review: (or designate) [signature] Date: 3-23-98

Project Management Review: [signature] Date: 3-26-98

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

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

000025

Quanterra
Environmental Services

BW&SL

014568

Login No.: _____

Condition Upon Receipt Variance Report
St. Louis Laboratory

Client: Richland

Date: 3-20-98 Time: 0830

Project No: 519.145

Initiated by: Fred Mitchell

Shipper/No: A/B 471 9399 414

RFA/COC Numbers: N98-005

Condition/Variance (Check all that apply):

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

☐ No variances were noted during sample receipt. Cooler Temperature Upon Receipt: 4°C

Notes: Anions ~~only~~ + NO2/NO3 + VOA

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) Fred Mitchell Date: 3-20-98

Project Management Review: [signature] Date: 3-26-98

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

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

000026

Quanterra March 31, 1998 11:11 am
Account: 10722 Project: 519.145 Quanterra-Richland QAS No. 519.145 Rev. 4
Master Sample Login: 17285

W02208

Project Manager: W. Price

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

Sample Header Template:

Sample No. / Comments	Client ID	C-Matrix	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No.
17285-001	BON8B4	Water	19-MAR-98 12:45	19-MAR-98 14:50	08-APR-98	AIRBORNE	1	Screening not Required
RICHLAND I.D. 80334002								

#	Container Type	Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)
1	PN - Plastic-500ml	ALK/310.1/Q4	S	COLD	02-APR-98	02-APR-98	R4D	(365690:98)
1		CL/300.0/Q4	S	COLD	02-APR-98	16-APR-98	R4D	(365689:99)
1		FL/300.0/Q4	S	COLD	02-APR-98	16-APR-98	R4D	(365689:99)
1		NO2/300.0/Q4	S	COLD	02-APR-98	21-MAR-98	R4D	(365689:99)
1		NO3/300.0/Q4	S	COLD	02-APR-98	21-MAR-98	R4D	(365689:99)
1		SO4/300.0/Q4	S	COLD	02-APR-98	16-APR-98	R4D	(365689:99)

17285-001DUP	BON8B4	Water	19-MAR-98 12:45	19-MAR-98 14:50	08-APR-98	AIRBORNE	1	Screening not Required
RICHLAND I.D. 80334002								

#	Container Type	Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)
1	PN - Plastic-500ml	CL/300.0/Q4	S	COLD	02-APR-98	16-APR-98	R4D	(365689:99)
1		FL/300.0/Q4	S	COLD	02-APR-98	16-APR-98	R4D	(365689:99)
1		NO2/300.0/Q4	S	COLD	02-APR-98	21-MAR-98	R4D	(365689:99)
1		NO3/300.0/Q4	S	COLD	02-APR-98	21-MAR-98	R4D	(365689:99)
1		SO4/300.0/Q4	S	COLD	02-APR-98	16-APR-98	R4D	(365689:99)

17285-001MS	BON8B4	Water	19-MAR-98 12:45	19-MAR-98 14:50	08-APR-98	AIRBORNE	1	Screening not Required
RICHLAND I.D. 80334002								

#	Container Type	Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)
1	PN - Plastic-500ml	CL/300.0/Q4	S	COLD	02-APR-98	16-APR-98	R4D	(365689:99)
1		FL/300.0/Q4	S	COLD	02-APR-98	16-APR-98	R4D	(365689:99)
1		NO2/300.0/Q4	S	COLD	02-APR-98	21-MAR-98	R4D	(365689:99)
1		NO3/300.0/Q4	S	COLD	02-APR-98	21-MAR-98	R4D	(365689:99)
1		SO4/300.0/Q4	S	COLD	02-APR-98	16-APR-98	R4D	(365689:99)

17285-002	BON8B3	Water	19-MAR-98 12:45	19-MAR-98 14:50	08-APR-98	AIRBORNE	1	Screening not Required
RICHLAND I.D. 80334001								

#	Container Type	Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)
1	PN - Plastic-500ml	ICAPD/6010/Q4	S	HNO3	02-APR-98	15-SEP-98	R4D	(365693:99)

17285-002MS	BON8B3	Water	19-MAR-98 12:45	19-MAR-98 14:50	08-APR-98	AIRBORNE	1	Screening not Required
RICHLAND I.D. 80334001								

#	Container Type	Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)
1	PN - Plastic-500ml	ICAPD/6010/Q4	S	HNO3	02-APR-98	15-SEP-98	R4D	(365693:99)

17285-002MSD	BON8B3	Water	19-MAR-98 12:45	19-MAR-98 14:50	08-APR-98	AIRBORNE	1	Screening not Required
RICHLAND I.D. 80334001								

#	Container Type	Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)
1	PN - Plastic-500ml	ICAPD/6010/Q4	S	HNO3	02-APR-98	15-SEP-98	R4D	(365693:99)

3*=Sample has not been rad screened.

000027

[redacted] RYU Temp 7 C Cur# 14591
ST LOUIS 14569

Chain of Custody Record

Quanterra

QUA-4124 0797

Client: PGW	Project Manager: A. Kopriwa	Date: 3-20-98	Chain of Custody Number: 10459
Address:	Telephone Number (Area Code)/Fax Number:	Lab Number:	Page 1 of 1
City: / State: / Zip Code:	Site Contact: / Lab Contact:	Analysis (Attach list if more space is needed): SEE COC	
Project Name: SAF W98-003	Carrier/Waybill Number:		
Contract/Purchase Order/Quote No.:			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Aqueous	Sed.	Soil		Containers & Preservatives: Unpres.	H2SO4	HNOS	HCl	NaOH	ZnAc/NaOH		Special Instructions/ Conditions of Receipt
80334001 BON 8B3	all Bottles													
↓ 02 ↓ 8B4														

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

Sample Disposal: ☒ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 3 months)

Turn Around Time Required: ☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☒ Other _____

QC Requirements (Specify): SPG W02288

	Date	Time		Date	Time
1. Relinquished By: Heidelberg QES	3/20/98	16:00	1. Received By: [signature]	3-21-98	1410
2. Relinquished By:			2. Received By:		
3. Relinquished By: 000028			3. Received By:		

Comments: Anion Recv 3-20-98

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

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	W98-003-123	Page 1 of 1

Collector: RT SICKLE (RPS)	Company Contact: DL STEWART, PNNL — Telephone No.: (509) 376 5056	Project Coordinator: STEWART, DL	Data Turnaround: 45 Days
Project Designation: RCRA/Operational GW Monitoring, March 1998	Sampling Location: HANFORD SITE	SAF No.: W98 003	
Ice Chest No.: SML 465	Field Logbook No.: WM-SML H 11, PAGE 31	Method of Shipment: GOVT. VEHICLE	
Shipped To: Quanterra Incorporated	Offsite Property No.: N/A pH= 4	Bill of Lading/Air Bill No.: N/A	
POSSIBLE SAMPLE HAZARDS/REMARKS: N/A			
Special Handling and/or Storage: Cool 4°C			

Preservation	None	Cool 4C	Cool 4C	HNO3 to pH <2
Type of Container	G/P	G/P	G/P	G/P
No. of Container(s)	1	1	1	1
Volume	20ml	500ml	500ml	500ml
SAMPLE ANALYSIS	Activity Scan	Alkalinity - 310.1	See Item (1) in Special Instructions	ICP Metals - 6010A RCRA GW

SDG W022288

8033400

Sample No.	Matrix *	Sample Date	Sample Time	Activity Scan	Alkalinity - 310.1	See Item (1) in Special Instructions	ICP Metals - 6010A RCRA GW
B0N8B3 (F) 1	Water	MAR 19 1998	1245				✓
B0N8B4 2	Water	MAR 19 1998	1245	✓	✓	✓	✓
					100	100, 3-20	100

CHAIN OF POSSESSION	Sign/Print Names	Date/Time	Received By	Date/Time
Relinquished By	RT SICKLE (RPS)	3-19-98 1450	Received By	3-19-98 1450
Relinquished By			Received By	<100cpm
Relinquished By			Received By	
Relinquished By			Received By	

SPECIAL INSTRUCTIONS

TOTAL ACTIVITY EXEMPTION APPLIES SEE SAF COC Comments" for batching instructions while not exceeding maximum SDG closure of 14 days.

(1) IC Anions - 300.0 (Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate)

Matrix *

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

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method: 000029	Disposed By	Date/Time

Figure 1

SAMPLE CHECK-IN LIST

Date/Time Received: 3-19-98 1450 SG#: W02288

Work Order Number: 803340 SAF #: S98-003; N98-005; W98-0

Shipping Container ID: SML465 Chain of Custody # S98-003-31; W98-003-123; N98-005-1

1. Custody Seals on shipping container intact? Yes [✓] No []
2. Custody Seals dated and signed? Yes [✓] No []
3. Chain-of-Custody record present? Yes [✓] No []
4. Cooler temperature 2°C
5. Vermiculite/packing materials is Wet [] Dry [] N/A
6. Number of samples in shipping container: 32
7. Sample holding times exceeded? Yes [] No [✓]

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

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

10. Where any anomalies identified in sample receipt? Yes [] No [✓]
11. Description of anomalies (include sample numbers): _____

Sample Custodian/Laboratory: [signature] Date: 3-19-98

Telephoned To: _____ On _____ By _____

000030

3/20/98

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
PGW B0N840		3/20/1998	QUAD22C	3/20/1998 9:47:43 AM	B0N840	30	19	0.57761905	71	1.4038095
	LIQUID		Bkg:	3/20/1998 1:28:46 AM	BKG	700	39	0.05571429	674	0.9628571

Anl Date: 3/20/1998	Tot Sa, Alq: 1.00E+01	, 1.00E+01	Alp;	(Dpm/ 1.71E+00	(uCi/ 7.70E-04	(pCi/ 7.70E+01	± 2.5E+01	CAT	3.2E-01	Lab
Ppt mg: 2.5	Units: L	, ml	Bet;	Alq): 2.27E+00	Sa): 1.02E-03	L|g): 1.02E+02	± 2.3E+01	I	4.9E-01	Alq L|g

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
PGW B0N848		3/20/1998	QUAD22D	3/20/1998 9:47:43 AM	B0N848	30	20	0.6252381	94	2.1604762
	LIQUID		Bkg:	3/20/1998 1:28:46 AM	BKG	700	29	0.04142857	681	0.9728571

Anl Date: 3/20/1998	Tot Sa, Alq: 1.00E+01	, 1.00E+01	Alp;	(Dpm/ 1.90E+00	(uCi/ 8.58E-04	(pCi/ 8.58E+01	± 2.7E+01	CAT	2.9E-01	Lab
Ppt mg: 4.5	Units: L	, ml	Bet;	Alq): 3.73E+00	Sa): 1.68E-03	L|g): 1.68E+02	± 2.7E+01	I	3.0E-01	Alq L|g

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
PGW B0N852		3/20/1998	QUAD23A	3/20/1998 9:47:52 AM	B0N852	30	14	0.42095238	61	1.1947619
	LIQUID		Bkg:	3/20/1998 1:28:54 AM	BKG	700	32	0.04571429	587	0.8385714

Anl Date: 3/20/1998	Tot Sa, Alq: 1.00E+01	, 1.00E+01	Alp;	(Dpm/ 1.17E+00	(uCi/ 5.28E-04	(pCi/ 5.28E+01	± 2.1E+01	CAT	4.7E-01	Lab
Ppt mg: 0	Units: L	, ml	Bet;	Alq): 2.00E+00	Sa): 9.01E-04	L|g): 9.01E+01	± 2.2E+01	I	5.6E-01	Alq L|g

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
PGW B0N853		3/20/1998	QUAD23B	3/20/1998 9:47:52 AM	B0N853	30	14	0.42095238	41	0.3852381
	LIQUID		Bkg:	3/20/1998 1:28:54 AM	BKG	700	32	0.04571429	687	0.9814286

Anl Date: 3/20/1998	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp;	(Dpm/ 1.25E+00	(uCi/ 5.63E-05	(pCi/ 5.63E+01	± 2.3E+01	CAT	4.4E-01	Lab
Ppt mg: 0	Units: L	, ml	Bet;	Alq): 4.60E-01	Sa): 2.07E-05	L|g): 2.07E+01	± 1.8E+01	I	2.4E+00	Alq L|g

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
PGW B0N854		3/20/1998	QUAD23C	3/20/1998 9:47:52 AM	B0N854	30	27	0.84	89	2.052381
	LIQUID		Bkg:	3/20/1998 1:28:54 AM	BKG	700	42	0.06	640	0.9142857

Anl Date: 3/20/1998	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp;	(Dpm/ 2.34E+00	(uCi/ 1.05E-04	(pCi/ 1.05E+02	± 2.6E+01	CAT	2.4E-01	Lab
Ppt mg: 0	Units: L	, ml	Bet;	Alq): 3.45E+00	Sa): 1.56E-04	L|g): 1.56E+02	± 2.6E+01	I	3.2E-01	Alq L|g

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
PGW B0N8B4		3/20/1998	QUAD23D	3/20/1998 9:47:52 AM	B0N8B4	30	14	0.4152381	206	5.9538095
	LIQUID		Bkg:	3/20/1998 1:28:54 AM	BKG	700	36	0.05142857	639	0.9128571

Anl Date: 3/20/1998	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp;	(Dpm/ 1.20E+00	(uCi/ 5.40E-05	(pCi/ 5.40E+01	± 2.5E+01	CAT	4.6E-01	Lab
Ppt mg: 7.9	Units: L	, ml	Bet;	Alq): 1.13E+01	Sa): 5.07E-04	L|g): 5.07E+02	± 4.1E+01	I	9.9E-02	Alq L|g

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
PGW TEDF0319981		3/20/1998	QUAD24A	3/20/1998 9:47:47 AM	TEDF0319981	30	18	0.54	66	1.2928571
	LIQUID		Bkg:	3/20/1998 1:28:35 AM	BKG	700	42	0.06	635	0.9071429

Anl Date: 3/20/1998	Tot Sa, Alq: 2.00E+00	, 1.00E+01	Alp;	(Dpm/ 2.22E+00	(uCi/ 2.00E-04	(pCi/ 9.98E+01	± 3.6E+01	CAT	2.5E-01	Lab
Ppt mg: 25.2	Units: L	, ml	Bet;	Alq): 2.36E+00	Sa): 2.13E-04	L|g): 1.06E+02	± 2.4E+01	I	4.7E-01	Alq L|g

Quanterra Environmental Services

BW-5L

014591

Login No.: 17285

Condition Upon Receipt Variance Report
St. Louis Laboratory

Client: Richland

Date: 3-21-98 Time: 1710

Project No: 579.145

Initiated by: [illegible]

Shipper/No: A/B 471 9400 416

RFA/COC Numbers: 10459

Condition/Variance (Check all that apply):

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

☐ No variances were noted during sample receipt. Cooler Temperature Upon Receipt: _____

Notes: BON8B3; metals container has pH level = 4

Corrective Action:

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

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

☐ Sample(s) processed "as is". _____

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

Sample Control Supervisor Review: (or designate) [illegible] Date: 3-23-98

Project Management Review: [illegible] Date: 3-26-98

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

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

000032

Quanterra
Environmental Services

BW+SL

014569

Login No.:_____

Condition Upon Receipt Variance Report
St. Louis Laboratory

Client:_____

Project No: 519.145

Shipper/No: AB 4719399 414

Date: 3-20-98 Time: 08:30

Initiated by: Fred Mitchell

RFA/COC Numbers: W98-003

Condition/Variance (Check all that apply):

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

☐ No variances were noted during sample receipt. Cooler Temperature Upon Receipt: 4°C

Notes:

Corrective Action:

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

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

☐ Sample(s) processed "as is".

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

Sample Control Supervisor Review: (or designate) Fred Mitchell Date: 3-20-98

Project Management Review: Dan Nt Date: 3-26-98

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

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

000033

W02288

Quanterra March 26, 1998 04:24 pm
Account: 10722 Project: 519.145 Quanterra-Richland QAS No. 519.145 Rev. 4
Master Sample Login: 17307

Project Manager: W. Price

Draft: Final: Entered and Reviewed by: Sue Wilson PM Review: Robert E. White

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:% Filled)
Data:							
17307-001	B0N445	Water	23-MAR-98 09:40	23-MAR-98 15:20	13-APR-98	AIRBORNE 1	Screening not Required
RICHLAND I.D. 80338601							
1 PN - Plastic-500ml		CL/300.0/Q4	S	COLD	07-APR-98	20-APR-98 R2D	(366110:99)
1		FL/300.0/Q4	S	COLD	07-APR-98	20-APR-98 R2D	(366110:99)
1		NO2/300.0/Q4	S	COLD	07-APR-98	25-MAR-98 R2D	(366110:99)
1		NO3/300.0/Q4	S	COLD	07-APR-98	25-MAR-98 R2D	(366110:99)
1		SO4/300.0/Q4	S	COLD	07-APR-98	20-APR-98 R2D	(366110:99)

3*=Sample has not been rad screened.

000034

R2D Temp 4°C Cur# 14606
ST Louis

Chain of Custody Record

Quanterra

NO QC

QUA-4124 0797

Client	Project Manager	Date	Chain of Custody Number
PWW	A. Koprwa	3-24-98	10472

Address	Telephone Number (Area Code)/Fax Number	Lab Number	Page 1 of 1

City	State	Zip Code	Site Contact	Lab Contact

Project Name	Carrier/Waybill Number
SAF S98-003	

Contract/Purchase Order/Quote No.

Analysis (Attach list if more space is needed): SEE COC

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Aqueous	Matrix: Sed.	Matrix: Soil	Containers & Preservatives: Unpres.	H2SO4	HNOS	HCl	NaOH	ZnAc/NaOH	Analysis	Special Instructions/ Conditions of Receipt
80338601 BON445	Chemical Analysis Bottles												

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

Sample Disposal: ☒ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 3 months)

Turn Around Time Required: ☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☒ Other _____

QC Requirements (Specify): SDG W02288

	Date	Time		Date	Time
1. Relinquished By: Heidelberg QES	3/24/98	16:00	1. Received By: [signature]	3-25-98	0820
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By		

Comments: 000035

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

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	S98-003-2	Page 1 of 1

Collector: RR FOX (RFS)	Company Contact: DL STEWART, PNNL — Telephone No.: (509) 376-5056	Project Coordinator: DRESEL, PE	Data Turnaround: 45 Days
Project Designation: SURVEILLANCE GW MONITORING, MARCH 1998	Sampling Location: HANFORD SITE	SAF No.: S98-003	
Ice Chest No.: SML 349	Field Logbook No.: WM-SML-H11	Method of Shipment: GOVT. VEHICLE	
Shipped To: Quanterra Incorporated	Offsite Property No.: N/A	Bill of Lading/Air Bill No.: N/A	

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

Preservation	None	Cool 4C
Type of Container	G/P	G/P
No. of Container(s)	1	1
Volume	20ml	500ml
	Activity Scan	See item (1) in Special Instructions.

SAMPLE ANALYSIS

80338601

SDG W02288

Sample No.	Matrix *	Sample Date	Sample Time		
B0N445	Water	3-23-98	0940	✓	✓ 100

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
RR FOX (RFS)	1520 3-23-98	K. Schlenberg	1520 3-23-98
			<1000 pm

SPECIAL INSTRUCTIONS

TOTAL ACTIVITY EXEMPTION APPLIES

SEE SAF; 'COC Comments' for batching instructions while not exceeding maximum SDG closure of 14 days.

(1) IC Anions - 300.0 (Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate)

Matrix *

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

LABORATORY SECTION	Received By: 000036	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

Figure 1

SAMPLE CHECK-IN LIST

Date/Time Received: 3-23-98 1500 SG#: W02288

Work Order Number: 803386 + 387 SAF #: W98-003 S98-003

Shipping Container ID: SMC-225 Chain of Custody # W98-003-1 S98-003-1

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: 20
7. Sample holding times exceeded? Yes [] No []

8. Samples have:
   - ___ tape
   - ___ custody seals
   - ___ hazard labels
   - ___ appropriate sample labels

9. Samples are:
   - ___ in good condition
   - ___ broken
   - ___ leaking
   - ___ have air bubbles

10. Where any anomalies identified in sample receipt? Yes [] No []
11. Description of anomalies (include sample numbers): _____

Sample Custodian/Laboratory: [signature] Date: 3-23-98

Telephoned To: _____ On _____ By _____

Figure 1

SAMPLE CHECK-IN LIST

Date/Time Received: 3-23-98 1520 SG#: W02288

Work Order Number: 803386 + 387 SAF #: S98-003 W98-003

Shipping Container ID: SMC-349 Chain of Custody # S98-003-2 W98-003-4

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: 20
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: Karen Schterling Date: 3-23-98

Telephoned To: _____ On _____ By _____

000038

Client Sample Screening Results

24-Mar-98

(B) 3/24/98

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
PGW B0N445		3/24/1998	QUAD21A	3/24/1998 9:51:50 AM	B0N445	30	10	0.27904762	58	1.0190476
	LIQUID		Bkg:	3/24/1998 12:44:44 AM	BKG	700	38	0.05428571	640	0.9142857

Anl Date: 3/24/1998	Tot Sa, Alq: 5.00E-01	, 1.00E+01	Alp;	(Dpm/ 8.31E-01	(uCi/ 1.87E-05	(pCi/ 3.74E+01	± 2.4E+01	CAT	6.7E-01	Lab
Ppt mg: 3.8	Units: L	, ml	Bet;	Alq): 1.91E+00	Sa): 4.29E-05	L|g): 8.58E+01	± 2.3E+01	I	5.8E-01	Alq L|g

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
PGW B0N460		3/24/1998	QUAD21B	3/24/1998 9:51:50 AM	B0N460	30	35	1.09380952	119	3.1038095
	LIQUID		Bkg:	3/24/1998 12:44:44 AM	BKG	700	51	0.07285714	604	0.8628571

Anl Date: 3/24/1998	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp;	(Dpm/ 3.43E+00	(uCi/ 1.55E-04	(pCi/ 1.55E+02	± 3.1E+01	CAT	1.6E-01	Lab
Ppt mg: 2.7	Units: L	, ml	Bet;	Alq): 5.37E+00	Sa): 2.42E-04	L|g): 2.42E+02	± 3.1E+01	I	2.1E-01	Alq L|g

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
PGW B0N4K5		3/24/1998	QUAD21C	3/24/1998 9:51:50 AM	B0N4K5	30	22	0.65476190	67	1.2604762
	LIQUID		Bkg:	3/24/1998 12:44:44 AM	BKG	700	55	0.07857143	681	0.9728571

Anl Date: 3/24/1998	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp;	(Dpm/ 2.00E+00	(uCi/ 9.00E-05	(pCi/ 9.00E+01	± 2.8E+01	CAT	2.8E-01	Lab
Ppt mg: 4.5	Units: L	, ml	Bet;	Alq): 2.12E+00	Sa): 9.57E-05	L|g): 9.57E+01	± 2.4E+01	I	5.2E-01	Alq L|g

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
PGW B0N4L1		3/24/1998	QUAD21D	3/24/1998 9:51:50 AM	B0N4L1	30	26	0.80666667	89	1.8809524
	LIQUID		Bkg:	3/24/1998 12:44:44 AM	BKG	700	42	0.06	760	1.0857143

Anl Date: 3/24/1998	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp;	(Dpm/ 2.54E+00	(uCi/ 1.14E-04	(pCi/ 1.14E+02	± 3.1E+01	CAT	2.2E-01	Lab
Ppt mg: 3.7	Units: L	, ml	Bet;	Alq): 3.26E+00	Sa): 1.47E-04	L|g): 1.47E+02	± 2.7E+01	I	3.4E-01	Alq L|g

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
PGW B0N4L7		3/24/1998	QUAD22A	3/24/1998 9:51:54 AM	B0N4L7	30	50	1.60666667	173	4.7666667
	LIQUID		Bkg:	3/24/1998 12:44:53 AM	BKG	700	42	0.06	700	1

Anl Date: 3/24/1998	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp;	(Dpm/ 4.60E+00	(uCi/ 2.07E-04	(pCi/ 2.07E+02	± 3.3E+01	CAT	1.2E-01	Lab
Ppt mg: 2.3	Units: L	, ml	Bet;	Alq): 7.94E+00	Sa): 3.58E-04	L|g): 3.58E+02	± 3.5E+01	I	1.4E-01	Alq L|g

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
PGW B0N4L9		3/24/1998	QUAD22C	3/24/1998 9:51:54 AM	B0N4L9	30	36	1.14571429	126	3.1957143
	LIQUID		Bkg:	3/24/1998 12:44:53 AM	BKG	700	38	0.05428571	703	1.0042857

Anl Date: 3/24/1998	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp;	(Dpm/ 3.37E+00	(uCi/ 1.52E-04	(pCi/ 1.52E+02	± 3.0E+01	CAT	1.6E-01	Lab
Ppt mg: 2.4	Units: L	, ml	Bet;	Alq): 5.27E+00	Sa): 2.37E-04	L|g): 2.37E+02	± 3.0E+01	I	2.1E-01	Alq L|g

000039

Quanterra Environmental Services

BWS SL

014606

Login No.: 17307

Condition Upon Receipt Variance Report
St. Louis Laboratory

Client: Richland

Date: 3-25-98 Time: 0820

Project No: ~~550.257~~ 519.145

Initiated by: Fred M Mitchell

Shipper/No: A/B 4719402 914

RFA/COC Numbers: 10472

Condition/Variance (Check all that apply):

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

☑ No variances were noted during sample receipt.

Cooler Temperature Upon Receipt: 4°C

Notes:

Corrective Action:

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

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

☐ Sample(s) processed "as is". _____

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

Sample Control Supervisor Review: (or designate) Fred Mitchell Date: 3-25-98

Project Management Review: Robert E. White Date: 4-1-98

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

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

000040

WD2288

Quanterra March 27, 1998 10:21 am
Account: 10722 Project: 519.145 Quanterra-Richland QAS No. 519.145 Rev. 4
Master Sample Login: 17308

Project Manager: W. Price

Draft: (Final:) Entered and Reviewed by: Susan Moss PM Review: Robert E. White

Sample Header Template:

Sample No. / Comments / # / Data:	Client ID / Container Type	C-Matrix / Analysis	Date: Collected / Class	Received / Preservative	Due / Anal. Due Date	Shipper / Hold Date	Rad Category / Site	Rad Sample No. / (Container Numbers:% Filled)
17308-001	BON4K5	Water	23-MAR-98 10:47	23-MAR-98 15:00	13-APR-98	AIR BORNE	1	Screening not Required
RICHLAND ID 80338406								
4	AN - Amber Glass-1L	PHENOL/8040/Q4	S	COLD	07-APR-98	30-MAR-98	R9F	(366156:99 366157:98 366158:97 366159:96)
1	PN - Plastic-500ml	ALK/310.1/Q4	S	COLD	07-APR-98	06-APR-98	R9F	(366154:100)
1		CL/300.0/Q4	S	COLD	07-APR-98	20-APR-98	R9F	(366155:99)
1		FL/300.0/Q4	S	COLD	07-APR-98	20-APR-98	R9F	(366155:99)
1		NO2/300.0/Q4	S	COLD	07-APR-98	25-MAR-98	R9F	(366155:99)
1		NO3/300.0/Q4	S	COLD	07-APR-98	25-MAR-98	R9F	(366155:99)
1		SO4/300.0/Q4	S	COLD	07-APR-98	20-APR-98	R9F	(366155:99)
17308-001MS	BON4K5	Water	23-MAR-98 10:47	23-MAR-98 15:00	13-APR-98	AIR BORNE	1	Screening not Required
RICHLAND ID 80338406								
4	AN - Amber Glass-1L	PHENOL/8040/Q4	S	COLD	07-APR-98	30-MAR-98	R9F	(366156:99 366157:98 366158:97 366159:96)
17308-001MSD	BON4K5	Water	23-MAR-98 10:47	23-MAR-98 15:00	13-APR-98	AIR BORNE	1	Screening not Required
RICHLAND ID 80338406								
4	AN - Amber Glass-1L	PHENOL/8040/Q4	S	COLD	07-APR-98	30-MAR-98	R9F	(366156:99 366157:98 366158:97 366159:96)
17308-002	BON4L1	Water	23-MAR-98 12:00	23-MAR-98 15:20	13-APR-98	AIR BORNE	1	Screening not Required
RICHLAND ID 80338412								
4	AN - Amber Glass-1L	PHENOL/8040/Q4	S	COLD	07-APR-98	30-MAR-98	R9F	(366170:99 366171:98 366172:97 366173:96)
1	PN - Plastic-500ml	ALK/310.1/Q4	S	COLD	07-APR-98	06-APR-98	R9F	(366168:100)
1		CL/300.0/Q4	S	COLD	07-APR-98	20-APR-98	R9F	(366169:99)
1		FL/300.0/Q4	S	COLD	07-APR-98	20-APR-98	R9F	(366169:99)
1		NO2/300.0/Q4	S	COLD	07-APR-98	25-MAR-98	R9F	(366169:99)
1		NO3/300.0/Q4	S	COLD	07-APR-98	25-MAR-98	R9F	(366169:99)
1		SO4/300.0/Q4	S	COLD	07-APR-98	20-APR-98	R9F	(366169:99)
17308-003	BON4L7	Water	23-MAR-98 10:40	23-MAR-98 15:20	13-APR-98	AIR BORNE	1	Screening not Required
RICHLAND ID 80338418								
4	AN - Amber Glass-1L	PHENOL/8040/Q4	S	COLD	07-APR-98	30-MAR-98	R9F	(366176:99 366177:98 366178:97 366179:96)
1	PN - Plastic-500ml	ALK/310.1/Q4	S	COLD	07-APR-98	06-APR-98	R9F	(366174:100)
1		CL/300.0/Q4	S	COLD	07-APR-98	20-APR-98	R9F	(366175:99)

3*=Sample has not been rad screened.

000041

Quanterra March 27, 1998 10:21 am
Account: 10722 Project: 519.145 Quanterra-Richland QAS No. 519.145 Rev. 4
Master Sample Login: 17308

ct Manager: W. Price

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

e Header Template: _____

e No. / Comments / Container Type	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)
		FL/300.0/Q4	S	COLD	07-APR-98	20-APR-98	R9F	(366175:99)
		NO2/300.0/Q4	S	COLD	07-APR-98	25-MAR-98	R9F	(366175:99)
		NO3/300.0/Q4	S	COLD	07-APR-98	25-MAR-98	R9F	(366175:99)
		SO4/300.0/Q4	S	COLD	07-APR-98	20-APR-98	R9F	(366175:99)
3-004	BON4L9	Water	23-MAR-98 10:40	23-MAR-98 15:20	13-APR-98	AIR BORNE	1	Screening not Required
RICHLAND ID 80338420								
AN - Amber Glass-1L		PHENOL/8040/Q4	S	COLD	07-APR-98	30-MAR-98	R9F	(366183:99 366184:98 366185:97 366186:96)
PN - Plastic-500ml		ALK/310.1/Q4	S	COLD	07-APR-98	06-APR-98	R9F	(366181:100)
		CL/300.0/Q4	S	COLD	07-APR-98	20-APR-98	R9F	(366182:99)
		FL/300.0/Q4	S	COLD	07-APR-98	20-APR-98	R9F	(366182:99)
		NO2/300.0/Q4	S	COLD	07-APR-98	25-MAR-98	R9F	(366182:99)
		NO3/300.0/Q4	S	COLD	07-APR-98	25-MAR-98	R9F	(366182:99)
		SO4/300.0/Q4	S	COLD	07-APR-98	20-APR-98	R9F	(366182:99)
3-005	BON4M9	Water	23-MAR-98 13:17	23-MAR-98 15:20	13-APR-98	AIR BORNE	1	Screening not Required
RICHLAND ID 80338430								
AN - Amber Glass-1L		PHENOL/8040/Q4	S	COLD	07-APR-98	30-MAR-98	R9F	(366189:99 366190:98 366191:97 366192:96)
PN - Plastic-500ml		ALK/310.1/Q4	S	COLD	07-APR-98	06-APR-98	R9F	(366187:100)
		CL/300.0/Q4	S	COLD	07-APR-98	20-APR-98	R9F	(366188:99)
		FL/300.0/Q4	S	COLD	07-APR-98	20-APR-98	R9F	(366188:99)
		NO2/300.0/Q4	S	COLD	07-APR-98	25-MAR-98	R9F	(366188:99)
		NO3/300.0/Q4	S	COLD	07-APR-98	25-MAR-98	R9F	(366188:99)
		SO4/300.0/Q4	S	COLD	07-APR-98	20-APR-98	R9F	(366188:99)
3-006	BON4M4	Water	23-MAR-98 13:17	23-MAR-98 15:20	13-APR-98	AIR BORNE	1	Screening not Required
RICHLAND ID 80338425								
AN - Amber Glass-1L		TOX/9020/Q4	S	H2SO4	07-APR-98	20-APR-98	R9F	(366198:99)
AN - Amber Glass-250ML		TOC/9060/Q4	S	H2SO4	07-APR-98	20-APR-98	R9F	(366199:99)
8-006DUP	BON4M4	Water	23-MAR-98 13:17	23-MAR-98 15:20	13-APR-98	AIR BORNE	1	Screening not Required
RICHLAND ID 80338425								
AN - Amber Glass-1L		TOX/9020/Q4	S	H2SO4	07-APR-98	20-APR-98	R9F	(366198:99)
AN - Amber Glass-250ML		TOC/9060/Q4	S	H2SO4	07-APR-98	20-APR-98	R9F	(366199:99)
8-006MS	BON4M4	Water	23-MAR-98 13:17	23-MAR-98 15:20	13-APR-98	AIR BORNE	1	Screening not Required
RICHLAND ID 80338425								

ample has not been rad screened.

000042

Quanterra March 27, 1998 10:21 am
Account: 10722 Project: 519.145 Quanterra-Richland QAS No. 519.145 Rev. 4
Master Sample Login: 17308

Project Manager: W. Price

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

Sample Header Template: _____

Sample No. / Comments	Client ID	C-Matrix	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No.
Data:								

#	Container Type	Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)
1	AN - Amber Glass-1L	TOX/9020/Q4	S	H2SO4	07-APR-98	20-APR-98	R9F	(366198:99)
1	AN - Amber Glass-250ML	TOC/9060/Q4	S	H2SO4	07-APR-98	20-APR-98	R9F	(366199:99)

17308-007 BON4M5 Water 23-MAR-98 13:17 23-MAR-98 15:20 13-APR-98 AIR BORNE 1 Screening not Required
RICHLAND ID 80338426

1	AN - Amber Glass-250ML	TOC/9060/Q4	S	H2SO4	07-APR-98	20-APR-98	R9F	(366201:99)
1		TOX/9020/Q4	S	H2SO4	07-APR-98	20-APR-98	R9F	(366201:99)

17308-008 BON4M6 Water 23-MAR-98 13:17 23-MAR-98 15:20 13-APR-98 AIR BORNE 1 Screening not Required
RICHLAND ID 80338427

1	AN - Amber Glass-1L	TOX/9020/Q4	S	H2SO4	07-APR-98	20-APR-98	R9F	(366202:99)
1	AN - Amber Glass-250ML	TOC/9060/Q4	S	H2SO4	07-APR-98	20-APR-98	R9F	(366203:99)

17308-009 BON4M7 Water 23-MAR-98 13:17 23-MAR-98 15:20 13-APR-98 AIR BORNE 1 Screening not Required
RICHLAND ID 80338428

1	AN - Amber Glass-1L	TOX/9020/Q4	S	H2SO4	07-APR-98	20-APR-98	R9F	(366204:99)
1	AN - Amber Glass-250ML	TOC/9060/Q4	S	H2SO4	07-APR-98	20-APR-98	R9F	(366205:99)

17308-010 BON4K0 Water 23-MAR-98 10:47 23-MAR-98 15:00 13-APR-98 AIR BORNE 1 Screening not Required
RICHLAND ID 80338401

1	AN - Amber Glass-1L	TOX/9020/Q4	S	H2SO4	07-APR-98	20-APR-98	R9F	(366206:99)
1	AN - Amber Glass-250ML	TOC/9060/Q4	S	H2SO4	07-APR-98	20-APR-98	R9F	(366207:99)

17308-011 BON4K1 Water 23-MAR-98 10:47 23-MAR-98 15:00 13-APR-98 AIR BORNE 1 Screening not Required
RICHLAND ID 80338402

1	AN - Amber Glass-1L	TOX/9020/Q4	S	H2SO4	07-APR-98	20-APR-98	R9F	(366208:99)
1	AN - Amber Glass-250ML	TOC/9060/Q4	S	H2SO4	07-APR-98	20-APR-98	R9F	(366209:99)

17308-012 BON4K2 Water 23-MAR-98 10:47 23-MAR-98 15:00 13-APR-98 AIR BORNE 1 Screening not Required
RICHLAND ID 80338403

1	AN - Amber Glass-1L	TOX/9020/Q4	S	H2SO4	07-APR-98	20-APR-98	R9F	(366210:99)
1	AN - Amber Glass-250ML	TOC/9060/Q4	S	H2SO4	07-APR-98	20-APR-98	R9F	(366211:99)

17308-013 BON4K3 Water 23-MAR-98 10:47 23-MAR-98 15:00 13-APR-98 AIR BORNE 1 Screening not Required
RICHLAND ID 80338404

1	AN - Amber Glass-1L	TOX/9020/Q4	S	H2SO4	07-APR-98	20-APR-98	R9F	(366212:99)
1	AN - Amber Glass-250ML	TOC/9060/Q4	S	H2SO4	07-APR-98	20-APR-98	R9F	(366213:99)

3*=Sample has not been rad screened.

000043

Quanterra March 27, 1998 10:21 am
Account: 10722 Project: 519.145 Quanterra-Richland QAS No. 519.145 Rev. 4
Master Sample Login: 17308

Project Manager: W. Price

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

Sample Header Template: _____

Sample No. / #	Client ID / Container Type	C-Matrix / Analysis	Date: Collected / Class	Received / Preservative	Due / Anal. Due Date	Shipper / Hold Date	Site	Rad Category / (Container Numbers:% Filled)	Rad Sample No.
17308-014	BON4K6	Water	23-MAR-98 12:00	23-MAR-98 15:20	13-APR-98	AIR BORNE		1	Screening not Required
RICHLAND ID 80338407									
1	AN - Amber Glass-1L	TOX/9020/Q4	S	H2SO4	07-APR-98	20-APR-98	R9F	(366214:99)	
1	AN - Amber Glass-250ML	TOC/9060/Q4	S	H2SO4	07-APR-98	20-APR-98	R9F	(366215:99)	
17308-015	BON4K7	Water	23-MAR-98 12:00	23-MAR-98 15:20	13-APR-98	AIR BORNE		1	Screening not Required
RICHLAND ID 80338408									
1	AN - Amber Glass-1L	TOX/9020/Q4	S	H2SO4	07-APR-98	20-APR-98	R9F	(366216:99)	
1	AN - Amber Glass-250ML	TOC/9060/Q4	S	H2SO4	07-APR-98	20-APR-98	R9F	(366217:99)	
17308-016	BON4K8	Water	23-MAR-98 12:00	23-MAR-98 15:20	13-APR-98	AIR BORNE		1	Screening not Required
RICHLAND ID 80338409									
1	AN - Amber Glass-1L	TOX/9020/Q4	S	H2SO4	07-APR-98	20-APR-98	R9F	(366218:99)	
1	AN - Amber Glass-250ML	TOC/9060/Q4	S	H2SO4	07-APR-98	20-APR-98	R9F	(366219:99)	
17308-017	BON4K9	Water	23-MAR-98 12:00	23-MAR-98 15:20	13-APR-98	AIR BORNE		1	Screening not Required
RICHLAND ID 80338410									
1	AN - Amber Glass-1L	TOX/9020/Q4	S	H2SO4	07-APR-98	20-APR-98	R9F	(366220:99)	
1	AN - Amber Glass-250ML	TOC/9060/Q4	S	H2SO4	07-APR-98	20-APR-98	R9F	(366221:99)	
17308-018	BON4L2	Water	23-MAR-98 10:40	23-MAR-98 15:20	13-APR-98	AIR BORNE		1	Screening not Required
RICHLAND ID 80338413									
1	AN - Amber Glass-1L	TOX/9020/Q4	S	H2SO4	07-APR-98	20-APR-98	R9F	(366222:99)	
1	AN - Amber Glass-250ML	TOC/9060/Q4	S	H2SO4	07-APR-98	20-APR-98	R9F	(366223:99)	
17308-019	BON4L3	Water	23-MAR-98 10:40	23-MAR-98 15:20	13-APR-98	AIR BORNE		1	Screening not Required
RICHLAND ID 80338414									
1	AN - Amber Glass-1L	TOX/9020/Q4	S	H2SO4	07-APR-98	20-APR-98	R9F	(366224:99)	
1	AN - Amber Glass-250ML	TOC/9060/Q4	S	H2SO4	07-APR-98	20-APR-98	R9F	(366225:99)	
17308-020	BON4L4	Water	23-MAR-98 10:40	23-MAR-98 15:20	13-APR-98	AIR BORNE		1	Screening not Required
RICHLAND ID 80338415									
1	AN - Amber Glass-1L	TOX/9020/Q4	S	H2SO4	07-APR-98	20-APR-98	R9F	(366226:99)	
1	AN - Amber Glass-250ML	TOC/9060/Q4	S	H2SO4	07-APR-98	20-APR-98	R9F	(366227:99)	

3*=Sample has not been rad screened.

000044

Quanterra March 27, 1998 10:21 am
Account: 10722 Project: 519.145 Quanterra-Richland QAS No. 519.145 Rev. 4
Master Sample Login: 17308

Project Manager: W. Price

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

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:							
17308-021 BON4L5	Water	23-MAR-98 10:40	23-MAR-98 15:20	13-APR-98	AIR BORNE	1	Screening not Required
RICHLAND ID 80338416							
1 AN - Amber Glass-1L	TOX/9020/Q4	S	H2SO4	07-APR-98	20-APR-98	R9F	(366228:99)
1 AN - Amber Glass-250ML	TOC/9060/Q4	S	H2SO4	07-APR-98	20-APR-98	R9F	(366229:99)
17308-022 BON4M0	Water	23-MAR-98 10:40	23-MAR-98 15:20	13-APR-98	AIR BORNE	1	Screening not Required
RICHLAND ID 80338421							
1 AN - Amber Glass-1L	TOX/9020/Q4	S	H2SO4	07-APR-98	20-APR-98	R9F	(366230:99)
1 AN - Amber Glass-250ML	TOC/9060/Q4	S	H2SO4	07-APR-98	20-APR-98	R9F	(366231:99)
17308-023 BON4M1	Water	23-MAR-98 10:40	23-MAR-98 15:20	13-APR-98	AIR BORNE	1	Screening not Required
RICHLAND ID 80338422							
1 AN - Amber Glass-1L	TOX/9020/Q4	S	H2SO4	07-APR-98	20-APR-98	R9F	(366232:99)
1 AN - Amber Glass-250ML	TOC/9060/Q4	S	H2SO4	07-APR-98	20-APR-98	R9F	(366233:99)
17308-024 BON4M2	Water	23-MAR-98 10:40	23-MAR-98 15:20	13-APR-98	AIR BORNE	1	Screening not Required
RICHLAND ID 80338423							
1 AN - Amber Glass-1L	TOX/9020/Q4	S	H2SO4	07-APR-98	20-APR-98	R9F	(366234:99)
1 AN - Amber Glass-250ML	TOC/9060/Q4	S	H2SO4	07-APR-98	20-APR-98	R9F	(366235:99)
17308-025 BON4M3	Water	23-MAR-98 10:40	23-MAR-98 15:20	13-APR-98	AIR BORNE	1	Screening not Required
RICHLAND ID 80338424							
1 AN - Amber Glass-1L	TOX/9020/Q4	S	H2SO4	07-APR-98	20-APR-98	R9F	(366236:99)
1 AN - Amber Glass-250ML	TOC/9060/Q4	S	H2SO4	07-APR-98	20-APR-98	R9F	(366237:99)
17308-026 BON4L8	Water	23-MAR-98 10:40	23-MAR-98 15:20	13-APR-98	AIR BORNE	1	Screening not Required
RICHLAND ID 80338419							
1 AN - Amber Glass-500ml	HGD/7470/Q4	S	HNO3	07-APR-98	20-APR-98	R9F	(366240:99)
1 PN - Plastic-500ml	ICAPD/6010/Q4	S	HNO3	07-APR-98	19-SEP-98	R9F	(366241:99)
17308-026MS BON4L8	Water	23-MAR-98 10:40	23-MAR-98 15:20	13-APR-98	AIR BORNE	1	Screening not Required
RICHLAND ID 80338419							
1 AN - Amber Glass-500ml	HGD/7470/Q4	S	HNO3	07-APR-98	20-APR-98	R9F	(366240:99)
1 PN - Plastic-500ml	ICAPD/6010/Q4	S	HNO3	07-APR-98	19-SEP-98	R9F	(366241:99)

3*=Sample has not been rad screened.

000045

Quanterra March 27, 1998 10:21 am
Account: 10722 Project: 519.145 Quanterra-Richland QAS No. 519.145 Rev. 4
Master Sample Login: 17308

Project Manager: W. Price

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

Sample Header Template: _____

Sample No. / Comments	Client ID	C-Matrix	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No.
# Container Type	Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)	
Data:								
17308-026MSD	BON4L8	Water	23-MAR-98 10:40	23-MAR-98 15:20	13-APR-98	AIR BORNE	1	Screening not Required
RICHLAND ID 80338419								
1 AN - Amber Glass-500ml	HGD/7470/Q4	S	HNO3	07-APR-98	20-APR-98	R9F	(366240:99)	
1 PN - Plastic-500ml	ICAPD/6010/Q4	S	HNO3	07-APR-98	19-SEP-98	R9F	(366241:99)	
17308-027	BON4K4	Water	23-MAR-98 10:47	23-MAR-98 15:00	13-APR-98	AIR BORNE	1	Screening not Required
RICHLAND ID 80338405								
1 AN - Amber Glass-500ml	HGD/7470/Q4	S	HNO3	07-APR-98	20-APR-98	R9F	(366242:99)	
1 PN - Plastic-500ml	ICAPD/6010/Q4	S	HNO3	07-APR-98	19-SEP-98	R9F	(366243:99)	
17308-028	BON4L0	Water	23-MAR-98 12:00	23-MAR-98 15:20	13-APR-98	AIR BORNE	1	Screening not Required
RICHLAND ID 80338411								
1 AN - Amber Glass-500ml	HGD/7470/Q4	S	HNO3	07-APR-98	20-APR-98	R9F	(366244:99)	
1 PN - Plastic-500ml	ICAPD/6010/Q4	S	HNO3	07-APR-98	19-SEP-98	R9F	(366245:99)	
17308-029	BON4L6	Water	23-MAR-98 10:40	23-MAR-98 15:20	13-APR-98	AIR BORNE	1	Screening not Required
RICHLAND ID 80338417								
1 AN - Amber Glass-500ml	HGD/7470/Q4	S	HNO3	07-APR-98	20-APR-98	R9F	(366246:99)	
1 PN - Plastic-500ml	ICAPD/6010/Q4	S	HNO3	07-APR-98	19-SEP-98	R9F	(366247:99)	
17308-030	BON4M8	Water	23-MAR-98 13:17	23-MAR-98 15:20	13-APR-98	AIR BORNE	1	Screening not Required
RICHLAND ID 80338429								
1 AN - Amber Glass-500ml	HGD/7470/Q4	S	HNO3	07-APR-98	20-APR-98	R9F	(366248:99)	
1 PN - Plastic-500ml	ICAPD/6010/Q4	S	HNO3	07-APR-98	19-SEP-98	R9F	(366249:99)	
17308-031	BON578	Water	23-MAR-98 13:28	23-MAR-98 15:00	13-APR-98	AIR BORNE	1	Screening not Required
RICHLAND ID 80338431								
1 PN - Plastic-500ml	ICAPD/6010/Q4	S	HNO3	07-APR-98	19-SEP-98	R9F	(366251:99)	

3*=Sample has not been rad screened.

[redacted] KYF Temp 4°C, CUR# 14605 14601 ST LOUIS

TOC

Chain of Custody Record

Quanterra

QUA-4124 0797

Client: PAW	Project Manager: A. Koprwa	Date: 3-24-98	Chain of Custody Number: 10469
Address:	Telephone Number (Area Code)/Fax Number:	Lab Number:	Page 1 of 3
City: / State: / Zip Code:	Site Contact: / Lab Contact:		TH 3/24/98
Project Name: SAF W98-003	Carrier/Waybill Number:		
Contract/Purchase Order/Quote No.:			

Analysis (Attach list if more space is needed): SEE COC

Special Instructions/ Conditions of Receipt

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNOS	HCl	NaOH	ZnAc/NaOH	Special Instructions/ Conditions of Receipt
80338401 BON4KO												
2 1												
3 2												
4 3												
5 4												
6 5												
7 6												
8 7												
9 8												
10 9												
11 L0												
12 L1												

Chemical Analysis Bottles

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

Sample Disposal: ☒ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 3 months)

Turn Around Time Required: ☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☒ Other_____

QC Requirements (Specify): SDG W02288

	Date	Time		Date	Time
1. Relinquished By: Heidelberg QES	3/24/98	16:00	1. Received By: [signature]	3-25-98	0820
2. Relinquished By:			2. Received By:		
3. Relinquished By: 000047			3. Received By:		

Comments: BON4KY; Anion Recv 3-24-98

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

Chain of Custody Record

Quanterra

QUA-4124 0797

Client: PCW	Project Manager: A Koprivia	Date: 3/24/98	Chain of Custody Number: 10470
Address	Telephone Number (Area Code)/Fax Number	Lab Number	Page 2 of 3
City / State / Zip Code	Site Contact	Lab Contact	
Project Name: SAF W98-003	Carrier/Waybill Number		
Contract/Purchase Order/Quote No.			

Analysis (Attach list if more space is needed): SEE CoC

Special Instructions/ Conditions of Receipt

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Aqueous	Sed.	Soil		Containers & Preservatives: Unpres.	H2SO4	HNOS	HCl	NaOH	ZnAc/ NaOH
80338413 BON4L2												
14 3												
15 4												
16 5												
17 6												
18 7												
19 8												
20 9												
21 MO												
22 1												
23 2												
24 3												

Chemical Analysis Bottles

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

Sample Disposal: ☒ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 3 months)

Turn Around Time Required: ☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☒ Other _____

QC Requirements (Specify): SDG W02288

	Date	Time		Date	Time
1. Relinquished By: Heidelberg QES	3/24/98	16:00	1. Received By: [illegible]	3-25-98	0820
2. Relinquished By			2. Received By		
3. Relinquished By: 000018			3. Received By		

Comments

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

[redacted]

Chain of Custody Record

Quanterra

QUA-4124 0797

Client: PGW	Project Manager: A Koprwa	Date:	Chain of Custody Number: 10471
Address:	Telephone Number (Area Code)/Fax Number:	Lab Number:	Page 3 of 3
City: / State: / Zip Code:	Site Contact: / Lab Contact:		
Project Name: SAF W98-003	Carrier/Waybill Number:		
Contract/Purchase Order/Quote No.:			

Analysis (Attach list if more space is needed): SEE WC

Special Instructions/ Conditions of Receipt

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNOS	HCl	NaOH	ZnAc/NaOH	Analysis	Special Instructions/ Conditions of Receipt
80338425 B0N4M4													
26 5													
27 6													
28 7													
29 8													
30 9													
31 578													

Chemical analysis Bottles

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

Sample Disposal: ☒ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 3 months)

Turn Around Time Required: ☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☒ Other_____

QC Requirements (Specify): SDG W02288

	Date	Time		Date	Time
1. Relinquished By: Heidelberg QES	3/24/98	16:00	1. Received By: Fred M Mitchell	3-25-98	0820
2. Relinquished By:			2. Received By:		
3. Relinquished By: 000019			3. Received By:		

Comments

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

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	W98-003-1	Page 1 of 1

Collector AG RIZZO (RFS)	**Company Contact** DL STEWART, PNNL	**Telephone No.** (509) 376-5056	**Project Coordinator** STEWART, DL
Project Designation RCRA/Operational GW Monitoring, March 1998	**Sampling Location** HANFORD SITE		**SAF No.** W98-003
Ice Chest No. SMC-225	**Field Logbook No.** WM-SMC-H4		**Method of Shipment** GOVT. VEHICLE
Shipped To Quanterra Incorporated	**Offsite Property No.** NA		**Bill of Lading/Air Bill No.** NA

Data Turnaround 45 Days

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage 4°C

Preservation	None	HCl or H2SO4 to pH <2 Coo	HNO3 to pH <2	Cool 4C	Cool 4C	HNO3 to pH <2	H2SO4 to pH <2 Cool 4C	HNO3 to pH <2	Residual Chlorine
Type of Container	G/P	aGs*	G	G/P	G/P	G/P	aGs*	G/P	aG
No. of Container(s)	1	1	1	1	1	1	1	1	4
Volume	20ml	250ml	500ml	500ml	500ml	500ml	1000ml	1000ml	1000ml
SAMPLE ANALYSIS	Activity Scan	TOC - 9060	Mercury - 7470 - (CV) (F)	Alkalinity - 310.1	See item (1) in Special Instructions.	ICP Metals - 6010A RCRA GW (F)	TOX - 9020	Gross Alpha; Gross Beta	Phenols - 8040A

Sample No.	Matrix *	Sample Date	Sample Time	Activity Scan	TOC - 9060	Mercury - 7470 - (CV)	Alkalinity - 310.1	See item (1) in Special Instructions.	ICP Metals - 6010A RCRA GW	TOX - 9020	Gross Alpha; Gross Beta	Phenols - 8040A
B0N4K0	Water	3/23/98	1047		✓					✓		
B0N4K1	Water	3/23/98	1047		✓					✓		
B0N4K2	Water	3/23/98	1047		✓					✓		
B0N4K3	Water	3/23/98	1047		✓					✓		
B0N4K4 (F)	Water	3/23/98	1047			✓			✓			
B0N4K5	Water	3/23/98	1047	✓			✓	✓			✓	✓
								100%				

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished AG RIZZO (RFS)	Date/Time 1500 3-23-98	Received By L. Stewart	Date/Time 1500 3-23-98
Relinquished By L. Stewart	Date/Time 3-23-98	Received By Brad Mitchell	Date/Time 3-24-98 845
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS

TOTAL ACTIVITY EXEMPTION APPLIES SEE SAF 'COC Comments" for batching instructions while not exceeding maximum SDG closure of 14 days.

(1) IC Anions - 300.0 (Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate)

Matrix *

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

LABORATORY SECTION	Received By 000050	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

Quanterra Environmental Services

BW&SL

014601

Login No.: 17308

Condition Upon Receipt Variance Report
St. Louis Laboratory

Client: PNNL

Date: 3-24-98 Time: 0815

Project No: 519.145

Initiated by:

Shipper/No: A/B 471 9402 111

RFA/COC Numbers: W98-003-1

Condition/Variance (Check all that apply):

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

☑ No variances were noted during sample receipt. Cooler Temperature Upon Receipt: 4°C

Notes: Anion Only

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) Fred Mitchell Date: 3-24-98

Project Management Review: Robert E. White Date: 4-01-98

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

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

000051

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	W98-003-1	Page 1 of 1

Collector AG RIZZO (RFS)	**Company Contact** DL STEWART, PNNL **Telephone No.** (509) 376-5056	**Project Coordinator** STEWART, DL	**Data Turnaround** 45 Days
Project Designation RCRA/Operational GW Monitoring, March 1998	**Sampling Location** HANFORD SITE	**SAF No.** W98-003	
Ice Chest No. SML-225	**Field Logbook No.** WM-SML-114	**Method of Shipment** GOVT. VEHICLE	
Shipped To Quanterra Incorporated	**Offsite Property No.** N/A PH-1 1	**Bill of Lading/Air Bill No.** N/A 1 1	
POSSIBLE SAMPLE HAZARDS/REMARKS			
Special Handling and/or Storage 4°C			

Preservation	None	HCl or H2SO4 to pH <2 Con	HNO3 to pH <2	Cool 4C	Cool 4C	HNO3 to pH <2	H2SO4 to pH <2 Cool 4C	HNO3 to pH <2	Residual Chlorine
Type of Container	G/P	aGs*	G	G/P	G/P	G/P	aGs*	G/P	aG
No. of Container(s)	1	1	1	1	1	1	1	1	4
Volume	20ml	250ml	500ml	500ml	500ml	500ml	1000ml	1000ml	1000ml
SAMPLE ANALYSIS SDG W02288	Activity Scan	TOC - 9060	Mercury - 7470 - (CV)	Alkalinity - 310.1	See item (1) in Special Instructions.	ICP Metals - 6010A RCRA GW	TOX - 9020	Gross Alpha; Gross Beta	Phenols - 8040A
803384			(F)			(F)		803385 01	

Sample No.	Matrix *	Sample Date	Sample Time										
B0N4K0 01	Water	3/23/98	1047		✓					✓			
B0N4K1 02	Water	3/23/98	1047		✓					✓			
B0N4K2 03	Water	3/23/98	1047		✓					✓			
B0N4K3 04	Water	3/23/98	1047		✓					✓			
B0N4K4 05 (F)	Water	3/23/98	1047		100	✓		3-24	✓	100			
B0N4K5 06	Water	3/23/98	1047	✓			✓	✓			✓	✓	
						100	100	100	100			4x100	

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By AG RIZZO (RFS)	Date/Time 1500 3-23-98	Received By	Date/Time 1500 3-23-98
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS

TOTAL ACTIVITY EXEMPTION APPLIES SEE SAF 'COC Comments" for batching instructions while not exceeding maximum SDG closure of 14 days.

(1) IC Anions - 300.0 {Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate}

<100CPM

Matrix *

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

LABORATORY SECTION	Received By 000052	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	W98-003-2	Page 1 of 1

Collector RR FOX (RFS)	**Company Contact** DL STEWART, PNNL **Telephone No.** (509) 376-5056	**Project Coordinator** STEWART, DL	**Data Turnaround** 45 Days
Project Designation RCRA/Operational GW Monitoring, March 1998	**Sampling Location** HANFORD SITE	**SAF No.** W98-003	
Ice Chest No. SML 465	**Field Logbook No.** WM-SML-H11	**Method of Shipment** GOVT. VEHICLE	
Shipped To Quanterra Incorporated	**Offsite Property No.** N/A PH= 1 1	**Bill of Lading/Air Bill No.** 1 N/A 1	

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

Preservation	None	HCl or H2SO4 to pH <2 Coo	HNO3 to pH <2	Cool 4C	Cool 4C	HNO3 to pH <2	H2SO4 to pH <2 Cool 4C	HNO3 to pH <2	Residual Chlorine	
Type of Container	G/P	aGs*	G	G/P	G/P	G/P	aGs*	G/P	aG	
No. of Container(s)	1	1	1	1	1	1	1	1	4	
Volume	20ml	250ml	500ml	500ml	500ml	500ml	1000ml	1000ml	1000ml	
SAMPLE ANALYSIS 803384	Activity Scan	TOC - 9060	Mercury - 7470 - (CV) (F)	Alkalinity - 310.1	See item (1) in Special Instructions.	ICP Metals - 6010A RCRA GW (F)	TOX - 9020	Gross Alpha; Gross Beta 803385 02	Phenols - 8040A	

Sample No.	Matrix *	Sample Date	Sample Time										
B0N4K6 07	Water	3-23-98	1200		✓					✓			
B0N4K7 08	Water				✓					✓			
B0N4K8 09	Water				✓					✓			
B0N4K9 10	Water				✓					✓			
B0N4L0 1.1 (=)	Water				100	✓			✓	100			
B0N4L1 12	Water			✓			✓	✓			✓	✓	
						100	100	100	100			4X100	

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

Relinquished By	Date/Time	Received By	Date/Time
RR FOX (RFS)	1520 3-23-98	[signature]	1520 3-23-98
		L100CPM	

SPECIAL INSTRUCTIONS

TOTAL ACTIVITY EXEMPTION APPLIES SEE SAF 'COC Comments" for batching instructions while not exceeding maximum SDG closure of 14 days.

(1) IC Anions - 300.0 [Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate]

Matrix *

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

LABORATORY SECTION	Received By 000053	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	W98-003-3	Page 1 of 1

Collector RR FOX (RFS)	**Company Contact** DL STEWART, PNNL	**Telephone No.** (509) 376-5056	**Project Coordinator** STEWART, DL	**Data Turnaround** 45 Days
Project Designation RCRA/Operational GW Monitoring, March 1998	**Sampling Location** HANFORD SITE		**SAF No.** W98-003	
Ice Chest No. SMI T48/471	**Field Logbook No.** WM-SMI-1411		**Method of Shipment** GOVT. VEHICLE	
Shipped To Quanterra Incorporated	**Offsite Property No.** NW PH-1 1		**Bill of Lading/Air Bill No.** WIR 1	

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

Preservation	None	HCl or H2SO4 to pH <2 Coo	HNO3 to pH <2	Cool 4C	Cool 4C	HNO3 to pH <2	H2SO4 to pH <2 Cool 4C	HNO3 to pH <2	Residual Chlorine
Type of Container	G/P	aGs*	G	G/P	G/P	G/P	aGs*	G/P	aG
No. of Container(s)	1	1	1	1	1	1	1	1	4
Volume	20ml	250ml	500ml	500ml	500ml	500ml	1000ml	1000ml	1000ml
SAMPLE ANALYSIS 803784	Activity Scan	TOC - 9060	Mercury - 7470 - (CV) (F)	Alkalinity - 310.1	See item (1) in Special Instructions.	ICP Metals - 6010A RCRA GW (F)	TOX - 9020	Gross Alpha; Gross Beta 803785 03	Phenols - 8040A

	Sample No.	Matrix *	Sample Date	Sample Time	Activity Scan	TOC - 9060	Mercury - 7470 - (CV)	Alkalinity - 310.1	See item (1) in Special Instructions.	ICP Metals - 6010A RCRA GW	TOX - 9020	Gross Alpha; Gross Beta	Phenols - 8040A
8	B0N4L2 13	Water	3-23-98	1040		✓					✓		
9	B0N4L3 14	Water	↓	↓		✓					✓		
10	B0N4L4 15	Water				✓					✓		
11	B0N4L5 16	Water				✓					✓		
9	B0N4L6 17 (F)	Water				100	✓			✓	100		
3	B0N4L7 18	Water	↓	↓	✓		↓	✓	✓	↓		✓	✓
							100	100	100	100			4X100

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

Relinquished By	Date/Time	Received By	Date/Time
RR FOX (RFS)	3-23-98 1520	[signature]	3-23-98 1520
		[signature]	

SPECIAL INSTRUCTIONS
TOTAL ACTIVITY EXEMPTION APPLIES SEE SAF "COC Comments" for batching instructions while not exceeding maximum SDG closure of 14 days.

(1) IC Anions - 300.0 (Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate)

AIR IN SAMPLES

Matrix *

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

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

000054

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	W98-003-4	Page 1 of 1

Collector: RR FOX (RFS)	Company Contact: DL STEWART, PNNL — Telephone No.: (509) 376-5056	Project Coordinator: STEWART, DL	Data Turnaround: 45 Days
Project Designation: RCRA/Operational GW Monitoring, March 1998	Sampling Location: HANFORD SITE	SAF No.: W98-003	
Ice Chest No.: SRI 749 / 471	Field Logbook No.: WM-SMF-411	Method of Shipment: GOVT. VEHICLE	
Shipped To: Quanterra Incorporated	Offsite Property No.: NA PH= 1 1	Bill of Lading/Air Bill No.: N/A 1 1	

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

Preservation	None	HCl or H2SO4 to pH <2 Coo	HNO3 to pH <2	Cool 4C	Cool 4C	HNO3 to pH <2	H2SO4 to pH <2 Cool 4C	HNO3 to pH <2	Residual Chlorine
Type of Container	G/P	aGs*	G	G/P	G/P	G/P	aGs*	G/P	aG
No. of Container(s)	1	1	1	1	1	1	1	1	4
Volume	20ml	250ml	500ml	500ml	500ml	500ml	1000ml	1000ml	1000ml
SAMPLE ANALYSIS	Activity Scan	TOC - 9060	Mercury - 7470 - (CV) (F)	Alkalinity - 310.1	See item (1) in Special Instructions.	ICP Metals - 6010A RCRA GW (F)	TOX - 9020	Gross Alpha; Gross Beta 803385 04	Phenols - 8040A

803384

Sample No.	Matrix *	Sample Date	Sample Time	Activity Scan	TOC - 9060	Mercury - 7470 - (CV)	Alkalinity - 310.1	See item (1) in Special Instructions.	ICP Metals - 6010A RCRA GW	TOX - 9020	Gross Alpha; Gross Beta	Phenols - 8040A
B0N4L8 19 (F)	Water	3-23-98	1040			✓			✓			
B0N4L9 20	Water			✓			✓	✓			✓	✓
B0N4M0 21	Water				✓	100	100	100	100	✓		4x100
B0N4M1 22	Water				✓					✓		
B0N4M2 23	Water				✓					✓		
B0N4M3 24	Water				✓					✓		
					100					100		

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
RR FOX (RFS)	1520 3-23-98	[signature]	1520 3-23-98
			2100 cm AIR IN SAMPLES

SPECIAL INSTRUCTIONS

TOTAL ACTIVITY EXEMPTION APPLIES SEE SAF "COC Comments" for batching instructions while not exceeding maximum SDG closure of 14 days.

(1) IC Anions - 300.0 [Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate]

Matrix *

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

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method 000055	Disposed By	Date/Time

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	W98-003-5	Page 1 of 1

Collector: RR FOX (RFS)	Company Contact: DL STEWART, PNNL — Telephone No.: (509) 376-5056	Project Coordinator: STEWART, DL	Data Turnaround: 45 Days
Project Designation: RCRA/Operational GW Monitoring, March 1998	Sampling Location: HANFORD SITE	SAF No.: W98-003	
Ice Chest No.: SML 395	Field Logbook No.: WM-SML-H11	Method of Shipment: GOVT. VEHICLE	
Shipped To: Quanterra Incorporated	Offsite Property No.: N/A PH= 1 1	Bill of Lading/Air Bill No.: N/A 1 1	

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

Preservation	None	HCl or H2SO4 to pH <2 Coo	HNO3 to pH <2	Cool 4C	Cool 4C	HNO3 to pH <2	H2SO4 to pH <2 Cool 4C	HNO3 to pH <2	Residual Chlorine
Type of Container	G/P	aGs*	G	G/P	G/P	G/P	aGs*	G/P	aG
No. of Container(s)	1	1	1	1	1	1	1	1	4
Volume	20ml	250ml	500ml	500ml	500ml	500ml	1000ml	1000ml	1000ml
SAMPLE ANALYSIS	Activity Scan	TOC - 9060	Mercury - 7470 - (CV)	Alkalinity - 310.1	See item (1) in Special Instructions.	ICP Metals - 6010A RCRA GW	TOX - 9020	Gross Alpha; Gross Beta	Phenols - 8040A
803384			(F)			(F)		803385 05	

	Sample No.	Matrix *	Sample Date	Sample Time	Activity Scan	TOC - 9060	Mercury - 7470 - (CV)	Alkalinity - 310.1	See item (1) in Special Instructions.	ICP Metals - 6010A RCRA GW	TOX - 9020	Gross Alpha; Gross Beta	Phenols - 8040A
6	B0N4M4 25	Water	3-23-98	1317		✓					✓		
7	B0N4M5 26	Water				✓	Recv Broken →				✓		
8	B0N4M6 27	Water				✓					✓		
9	B0N4M7 28	Water				✓					✓		
30	B0N4M8 29 (F)	Water				100	✓			✓	100		
5	B0N4M9 30	Water			✓			✓	✓			✓	✓
							100	100	100	100			4x100

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
RR FOX (RFS)	1520 3-23-98	[signature]	1520 3-23-98
			2100 CPM

SPECIAL INSTRUCTIONS

TOTAL ACTIVITY EXEMPTION APPLIES SEE SAF "COC Comments" for batching instructions while not exceeding maximum SDG closure of 14 days.

(1) IC Anions - 300.0 (Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate)

Matrix *

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

LABORATORY SECTION	Received By: 000056	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	W98-003-111	Page 1 of 1

Collector: AG RIZZO (RFS)	Company Contact: DL STEWART, PNNL — Telephone No.: (509) 376-5056	Project Coordinator: STEWART, DL	Data Turnaround: 45 Days
Project Designation: RCRA/Operational GW Monitoring, March 1998	Sampling Location: HANFORD SITE	SAF No.: W98-003	
Ice Chest No.: SML-348	Field Logbook No.: WM SML-H4	Method of Shipment: GOVT. VEHICLE	
Shipped To: Quanterra Incorporated	Offsite Property No.: NA PH = 1	Bill of Lading/Air Bill No.: NA	

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

Preservation	None	HNO3 to pH <2	None								
Type of Container	G/P	G/P	P								
No. of Container(s)	1	1	1								
Volume	20ml	500ml	1000ml								
SAMPLE ANALYSIS	Activity Scan	ICP Metals - 6010A RCRA GW	Tritium - H3								
803384		(F)	803385 06								

Sample No.	Matrix *	Sample Date	Sample Time										
B0N578 31 (F)	Water	3/23/98	1328		✓								
B0N579	Water	3/23/98	1328	✓	1	✓							
					100								

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: AG RIZZO (RFS)	Date/Time: 3-23-98 1500	Received By: K. Hettenburg	Date/Time: 3-23-98 1500
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS
TOTAL ACTIVITY EXEMPTION APPLIES SEE SAF 'COC Comments" for batching instructions while not exceeding maximum SDG closure of 14 days.

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

LABORATORY SECTION	Received By: 000057	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

Figure 1

SAMPLE CHECK-IN LIST

Date/Time Received: 3-23-98 1520 SG#: W02288

Work Order Number: 803384 + 385 SAF #: W98-003

Shipping Container ID: SML395 Chain of Custody # W98-003-5

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: 18
7. Sample holding times exceeded? Yes [] No []

8. Samples have:
   - ___ ~~tape~~
   - ___ custody seals
   - ___ hazard labels
   - ___ appropriate sample labels

9. Samples are:
   - ___ in good condition
   - ___ broken
   - ___ leaking
   - ___ have air bubbles

10. Where any anomalies identified in sample receipt? Yes [] No []
11. Description of anomalies (include sample numbers): _____

Sample Custodian/Laboratory: [signature] Date: 3-23-98

Telephoned To: _____ On _____ By _____

000058

Figure 1

SAMPLE CHECK-IN LIST

Date/Time Received: 3-23-98 1520 SG#: W02288

Work Order Number: 803384 + 385 SAF #: W98-005

Shipping Container ID: SMC-465 Chain of Custody # W98-003-2

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: 18
7. Sample holding times exceeded? Yes [] No [✓]

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

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

10. Where any anomalies identified in sample receipt? Yes [] No [✓]
11. Description of anomalies (include sample numbers): _____

Sample Custodian/Laboratory: [signature] Date: 3-23-98

Telephoned To: _____ On _____ By _____

000059

Figure 1

SAMPLE CHECK-IN LIST

Date/Time Received: 3-23-98 1520 SG#: W02288

Work Order Number: 80384 + 385 SAF #: W98-003

Shipping Container ID: SML-471 Chain of Custody # W98-003-3 + 4

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: 18
7. Sample holding times exceeded? Yes [ ] No [✓]

8. Samples have:
   - [✓] tape
   - [ ] custody seals
   - [ ] hazard labels
   - [ ] appropriate sample labels

9. Samples are:
   - [✓] in good condition
   - [ ] broken
   - [ ] leaking
   - [ ] have air bubbles

10. Where any anomalies identified in sample receipt? Yes [ ] No [✓]
11. Description of anomalies (include sample numbers): _____

Sample Custodian/Laboratory: [signature] Date: 3-23-98

Telephoned To: _____ On _____ By _____

000000

Figure 1

SAMPLE CHECK-IN LIST

Date/Time Received: 3-23-98 1500 SG#: W02288

Work Order Number: 803384 + 385 SAF #: W98-003 S98-003

Shipping Container ID: SMC-225 Chain of Custody # W98-003-1 S98-003-1

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: 20
7. Sample holding times exceeded? Yes [] No []

8. Samples have:
   - ___ tape
   - ___ custody seals
   - ___ hazard labels
   - ___ appropriate sample labels

9. Samples are:
   - ___ in good condition
   - ___ broken
   - ___ leaking
   - ___ have air bubbles

10. Where any anomalies identified in sample receipt? Yes [] No []
11. Description of anomalies (include sample numbers): _____

Sample Custodian/Laboratory: [signature] Date: 3-23-98

Telephoned To: _____ On _____ By _____

000061

Figure 1

SAMPLE CHECK-IN LIST

Date/Time Received: 3-23-98 1500 SG#: W02288

Work Order Number: 803384 + 385 SAF #: N98-005 W98-003

Shipping Container ID: SML348 Chain of Custody # N98-005-4 W98-003-111 N98-005-12

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: 29
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: Karen Henling Date: 3-23-98

Telephoned To: _____ On _____ By _____

000062

Figure 1

SAMPLE CHECK-IN LIST

Date/Time Received: 3-23-98 1520 SG#: 1002288

Work Order Number: 803384 + 385 SAF #: S98-003 W98-003

Shipping Container ID: SMC-349 Chain of Custody # S98-003-2 W98-003-4

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: 20
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: Karen Letterly Date: 3-23-98

Telephoned To: _____ On _____ By _____

000063

Client Sample Screening Results

24-Mar-98

(B) 3/24/98

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
PGW B0N445		3/24/1998	QUAD21A	3/24/1998 9:51:50 AM	B0N445	30	10	0.27904762	58	1.0190476
	LIQUID		Bkg:	3/24/1998 12:44:44 AM	BKG	700	38	0.05428571	640	0.9142857

Anl Date: 3/24/1998	Tot Sa, Alq: 5.00E-01	, 1.00E+01	Alp;	(Dpm/ 8.31E-01	(uCi/ 1.87E-05	(pCi/ 3.74E+01	± 2.4E+01	CAT	6.7E-01	Lab
Ppt mg: 3.8	Units: L	, ml	Bet;	Alq): 1.91E+00	Sa): 4.29E-05	L/g): 8.58E+01	± 2.3E+01	I	5.8E-01	Alq L/g

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
PGW B0N460		3/24/1998	QUAD21B	3/24/1998 9:51:50 AM	B0N460	30	35	1.09380952	119	3.1038095
	LIQUID		Bkg:	3/24/1998 12:44:44 AM	BKG	700	51	0.07285714	604	0.8628571

Anl Date: 3/24/1998	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp;	(Dpm/ 3.43E+00	(uCi/ 1.55E-04	(pCi/ 1.55E+02	± 3.1E+01	CAT	1.6E-01	Lab
Ppt mg: 2.7	Units: L	, ml	Bet;	Alq): 5.37E+00	Sa): 2.42E-04	L/g): 2.42E+02	± 3.1E+01	I	2.1E-01	Alq L/g

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
PGW B0N4K5		3/24/1998	QUAD21C	3/24/1998 9:51:50 AM	B0N4K5	30	22	0.65476190	67	1.2604762
	LIQUID		Bkg:	3/24/1998 12:44:44 AM	BKG	700	55	0.07857143	681	0.9728571

Anl Date: 3/24/1998	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp;	(Dpm/ 2.00E+00	(uCi/ 9.00E-05	(pCi/ 9.00E+01	± 2.8E+01	CAT	2.8E-01	Lab
Ppt mg: 4.5	Units: L	, ml	Bet;	Alq): 2.12E+00	Sa): 9.57E-05	L/g): 9.57E+01	± 2.4E+01	I	5.2E-01	Alq L/g

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
PGW B0N4L1		3/24/1998	QUAD21D	3/24/1998 9:51:50 AM	B0N4L1	30	26	0.80666667	89	1.8809524
	LIQUID		Bkg:	3/24/1998 12:44:44 AM	BKG	700	42	0.06	760	1.0857143

Anl Date: 3/24/1998	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp;	(Dpm/ 2.54E+00	(uCi/ 1.14E-04	(pCi/ 1.14E+02	± 3.1E+01	CAT	2.2E-01	Lab
Ppt mg: 3.7	Units: L	, ml	Bet;	Alq): 3.26E+00	Sa): 1.47E-04	L/g): 1.47E+02	± 2.7E+01	I	3.4E-01	Alq L/g

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
PGW B0N4L7		3/24/1998	QUAD22A	3/24/1998 9:51:54 AM	B0N4L7	30	50	1.60666667	173	4.7666667
	LIQUID		Bkg:	3/24/1998 12:44:53 AM	BKG	700	42	0.06	700	1

Anl Date: 3/24/1998	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp;	(Dpm/ 4.60E+00	(uCi/ 2.07E-04	(pCi/ 2.07E+02	± 3.3E+01	CAT	1.2E-01	Lab
Ppt mg: 2.3	Units: L	, ml	Bet;	Alq): 7.94E+00	Sa): 3.58E-04	L/g): 3.58E+02	± 3.5E+01	I	1.4E-01	Alq L/g

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
PGW B0N4L9		3/24/1998	QUAD22C	3/24/1998 9:51:54 AM	B0N4L9	30	36	1.14571429	126	3.1957143
	LIQUID		Bkg:	3/24/1998 12:44:53 AM	BKG	700	38	0.05428571	703	1.0042857

Anl Date: 3/24/1998	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp;	(Dpm/ 3.37E+00	(uCi/ 1.52E-04	(pCi/ 1.52E+02	± 3.0E+01	CAT	1.6E-01	Lab
Ppt mg: 2.4	Units: L	, ml	Bet;	Alq): 5.27E+00	Sa): 2.37E-04	L/g): 2.37E+02	± 3.0E+01	I	2.1E-01	Alq L/g

000064

(13) 3/24/98

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
PGW B0N4M9		3/24/1998	QUAD22D	3/24/1998 9:51:54 AM	B0N4M9	30	22	0.66619048	92	2.1280952
	LIQUID		Bkg:	3/24/1998 12:44:53 AM	BKG	700	47	0.06714286	657	0.9385714

Anl Date: 3/24/1998	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp;	(Dpm/ 1.95E+00	(uCi/ 8.80E-05	(pCi/ 8.80E+01	± 2.6E+01	CAT	2.8E-01	Lab
Ppt mg: 1.5	Units: L	, ml	Bet;	Alq): 3.61E+00	Sa): 1.63E-04	L|g): 1.63E+02	± 2.6E+01	I	3.1E-01	Alq L|g

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
PGW B0N579		3/24/1998	QUAD23A	3/24/1998 9:51:57 AM	B0N579	30	31	0.96476190	123	3.16
	LIQUID		Bkg:	3/24/1998 12:45:02 AM	BKG	700	48	0.06857143	658	0.94

Anl Date: 3/24/1998	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp;	(Dpm/ 2.86E+00	(uCi/ 1.29E-04	(pCi/ 1.29E+02	± 2.9E+01	CAT	1.9E-01	Lab
Ppt mg: 4.1	Units: L	, ml	Bet;	Alq): 5.45E+00	Sa): 2.46E-04	L|g): 2.46E+02	± 3.1E+01	I	2.0E-01	Alq L|g

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
PGW B0N846		3/24/1998	QUAD23B	3/24/1998 9:51:57 AM	B0N846	30	14	0.39809524	79	1.6633333
	LIQUID		Bkg:	3/24/1998 12:45:02 AM	BKG	700	48	0.06857143	679	0.97

Anl Date: 3/24/1998	Tot Sa, Alq: 1.10E+01	, 1.00E+01	Alp;	(Dpm/ 1.24E+00	(uCi/ 6.12E-04	(pCi/ 5.57E+01	± 2.5E+01	CAT	4.5E-01	Lab
Ppt mg: 5	Units: L	, ml	Bet;	Alq): 2.95E+00	Sa): 1.46E-03	L|g): 1.33E+02	± 2.5E+01	I	3.8E-01	Alq L|g

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
PGW B0N850		3/24/1998	QUAD23C	3/24/1998 9:51:57 AM	B0N850	30	26	0.7852381	87	1.99
	LIQUID		Bkg:	3/24/1998 12:45:02 AM	BKG	700	57	0.08142857	637	0.91

Anl Date: 3/24/1998	Tot Sa, Alq: 1.10E+01	, 1.00E+01	Alp;	(Dpm/ 2.27E+00	(uCi/ 1.13E-03	(pCi/ 1.02E+02	± 2.6E+01	CAT	2.4E-01	Lab
Ppt mg: 2.3	Units: L	, ml	Bet;	Alq): 3.39E+00	Sa): 1.68E-03	L|g): 1.53E+02	± 2.6E+01	I	3.3E-01	Alq L|g

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
PGW B0N856		3/24/1998	QUAD23D	3/24/1998 9:51:57 AM	B0N856	30	4	0.08333333	51	0.7485714
	LIQUID		Bkg:	3/24/1998 12:45:02 AM	BKG	700	35	0.05	666	0.9514286

Anl Date: 3/24/1998	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp;	(Dpm/ 2.28E-01	(uCi/ 1.03E-05	(pCi/ 1.03E+01	± 1.9E+01	CAT	2.4E+00	Lab
Ppt mg: 0	Units: L	, ml	Bet;	Alq): 1.37E+00	Sa): 6.18E-05	L|g): 6.18E+01	± 2.1E+01	I	8.1E-01	Alq L|g

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
PGW B0N9K8		3/24/1998	QUAD21A	3/24/1998 10:54:23 AM	B0N9K8	30	3	0.04571429	46	0.6190476
	LIQUID		Bkg:	3/24/1998 12:44:44 AM	BKG	700	38	0.05428571	640	0.9142857

Anl Date: 3/24/1998	Tot Sa, Alq: 5.00E-01	, 1.00E+01	Alp;	(Dpm/ 1.14E-01	(uCi/ 2.57E-06	(pCi/ 5.14E+00	± 2.0E+01	CAT	4.9E+00	Lab
Ppt mg: 0.7	Units: L	, ml	Bet;	Alq): 1.21E+00	Sa): 2.73E-05	L|g): 5.45E+01	± 2.1E+01	I	9.2E-01	Alq L|g

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
PGW B0N9K9		3/24/1998	QUAD21B	3/24/1998 10:54:23 AM	B0N9K9	30	7	0.16047619	41	0.5038095
	LIQUID		Bkg:	3/24/1998 12:44:44 AM	BKG	700	51	0.07285714	604	0.8628571

Anl Date: 3/24/1998	Tot Sa, Alq: 5.00E-01	, 1.00E+01	Alp;	(Dpm/ 4.88E-01	(uCi/ 1.10E-05	(pCi/ 2.20E+01	± 2.1E+01	CAT	1.1E+00	Lab
Ppt mg: 0.6	Units: L	, ml	Bet;	Alq): 8.76E-01	Sa): 1.97E-05	L|g): 3.95E+01	± 1.9E+01	I	1.3E+00	Alq L|g

Quanterra Environmental Services

BW & SL

014605

Login No.: 17308

Condition Upon Receipt Variance Report
St. Louis Laboratory

Client: Richland

Date: 3-25-98 Time: 0820

Project No: 519.145

Initiated by: Fred Mitchell

Shipper/No: A/B 4719402914 9403 216

RFA/COC Numbers: 10469-71

Condition/Variance (Check all that apply):

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

☐ No variances were noted during sample receipt. Cooler Temperature Upon Receipt: 4°C

Notes: BON4M5; Tox Container Recv'ed Broken
BON4K4; Anion Recv'ed 3-24-98

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) Fred Mitchell Date: 3-25-98

Project Management Review: Robert E. White Date: 4-1-98

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

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

000056

WO2288

Quanterra April 02, 1998 09:04 am
Account: 10722 Project: 519.145 Quanterra-Richland QAS No. 519.145 Rev. 4
Master Sample Login: 17310

Project Manager: W. Price

Draft: Final: Entered and Reviewed by: Sue Nelson PM Review: Robert E White

Sample Header Template:

Sample No. / #	Client ID / Container Type	C-Matrix / Analysis	Date: Collected / Class	Received / Preservative	Due / Anal. Due Date	Shipper / Hold Date	Site	Rad Category / (Container Numbers:% Filled)	Rad Sample No.
17310-001	BON846	Water	23-MAR-98 13:28	23-MAR-98 15:00	13-APR-98	AIR BORNE	1	Screening not Required	
RICHLAND ID 80338202///ICAP = BA,CR,PB,SN,V,ZN.									
3	VI - Vial-40ml	VOA/8240/Q4	S	HCL	07-APR-98	06-APR-98	109H	(366282:99 366283:98 366284:97)	
1	AN - Amber Glass-1L	TOX/9020/Q4	S	H2SO4	07-APR-98	20-APR-98	R7B	(366287:99)	
1	PN - Plastic-1L	AS/7060/Q4	S	HNO3	07-APR-98	19-SEP-98	R7B	(366288:99)	
1		ICAP/6010/Q4	S	HNO3	07-APR-98	19-SEP-98	R7B	(366288:99)	
1		SE/7740/Q4	S	HNO3	07-APR-98	19-SEP-98	R7B	(366288:99)	
1	PN - Plastic-500ml	ALK/310.1/Q4	S	COLD	07-APR-98	06-APR-98	R7B	(366280:100)	
1		CL/300.0/Q4	S	COLD	07-APR-98	20-APR-98	R7B	(366281:99)	
1		FL/300.0/Q4	S	COLD	07-APR-98	20-APR-98	R7B	(366281:99)	
1		NO3/353.1/Q4	S	H2SO4	07-APR-98	20-APR-98	R7B	(366286:99)	
1		SO4/300.0/Q4	S	COLD	07-APR-98	20-APR-98	R7B	(366281:99)	
1		TDS/160.1/Q4	S	COLD	07-APR-98	30-MAR-98	R7B	(366285:98)	
17310-002	BON850	Water	23-MAR-98 07:45	23-MAR-98 15:00	13-APR-98	AIR BORNE	1	Screening not Required	
RICHLAND ID 80338204///ICAP = BA,CR,PB,SN,V,ZN.									
3	VI - Vial-40ml	VOA/8240/Q4	S	HCL	07-APR-98	06-APR-98	109H	(366291:99 366292:98 366293:97)	
1	AN - Amber Glass-1L	TOX/9020/Q4	S	H2SO4	07-APR-98	20-APR-98	R7B	(366296:99)	
1	PN - Plastic-1L	AS/7060/Q4	S	HNO3	07-APR-98	19-SEP-98	R7B	(366297:99)	
1		ICAP/6010/Q4	S	HNO3	07-APR-98	19-SEP-98	R7B	(366297:99)	
1		SE/7740/Q4	S	HNO3	07-APR-98	19-SEP-98	R7B	(366297:99)	
1	PN - Plastic-500ml	ALK/310.1/Q4	S	COLD	07-APR-98	06-APR-98	R7B	(366289:100)	
1		CL/300.0/Q4	S	COLD	07-APR-98	20-APR-98	R7B	(366290:99)	
1		FL/300.0/Q4	S	COLD	07-APR-98	20-APR-98	R7B	(366290:99)	
1		NO3/353.1/Q4	S	H2SO4	07-APR-98	20-APR-98	R7B	(366295:99)	
1		SO4/300.0/Q4	S	COLD	07-APR-98	20-APR-98	R7B	(366290:99)	
1		TDS/160.1/Q4	S	COLD	07-APR-98	30-MAR-98	R7B	(366294:98)	
17310-003	BON856	Water	23-MAR-98 13:28	23-MAR-98 15:00	13-APR-98	AIR BORNE	1	Screening not Required	
RICHLAND ID 80338205									
3	VI - Vial-40ml	VOA/8240/Q4	S	HCL	07-APR-98	06-APR-98	109H	(366300:99 366301:98 366302:97)	
17310-004	BON845	Water	23-MAR-98 13:28	23-MAR-98 15:00	13-APR-98	AIR BORNE	1	Screening not Required	
RICHLAND ID 80338201///ICAP = BA,CR,PB,SN,V,ZN.									
1	PN - Plastic-1L	ASD/7060/Q4	S	HNO3	07-APR-98	19-SEP-98	R7B	(366310:99)	
1		ICAPD/6010/Q4	S	HNO3	07-APR-98	19-SEP-98	R7B	(366310:99)	
1		SED/7740/Q4	S	HNO3	07-APR-98	19-SEP-98	R7B	(366310:99)	

Data:

3*=Sample has not been rad screened.

000067

Quanterra April 02, 1998 09:04 am
Account: 10722 Project: 519.145 Quanterra-Richland QAS No. 519.145 Rev. 4
Master Sample Login: 17310

Project Manager: W. Price

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

Sample Header Template: _____

Sample No.	Client ID	C-Matrix	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No.
17310-005	BON849	Water	23-MAR-98 07:45	23-MAR-98 15:00	13-APR-98	AIR BORNE	1	Screening not Required

Comments
RICHLAND ID 80338203///ICAP = BA,CR,PB,SN,V,ZN.

#	Container Type	Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)
1	PN - Plastic-1L	ASD/7060/Q4	S	HNO3	07-APR-98	19-SEP-98	R7B	(366311:99)
1		ICAPD/6010/Q4	S	HNO3	07-APR-98	19-SEP-98	R7B	(366311:99)
1		SED/7740/Q4	S	HNO3	07-APR-98	19-SEP-98	R7B	(366311:99)

Data:

3*=Sample has not been rad screened.

000068

Chain of Custody Record

ST LOUIS 14600

Quanterra

QUA-4124 0797

Client: PLW	Project Manager: A. Kopriva	Date: 3-24-98	Chain of Custody Number: 10468
Address	Telephone Number (Area Code)/Fax Number	Lab Number	Page 1 of 1
City / State / Zip Code	Site Contact	Lab Contact	
Project Name: SAFN98-005	Carrier/Waybill Number		
Contract/Purchase Order/Quote No.			

Analysis (Attach list if more space is needed): SEE CoC

Special Instructions/ Conditions of Receipt

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Aqueous	Sed.	Soil		Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH
810338201 BON845												
2 846												
3 849												
4 850												
5 856												

Chemical analysis Bottles

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

Sample Disposal: ☒ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months (A fee may be assessed if samples are retained longer than 3 months)

Turn Around Time Required: ☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☒ Other ____

QC Requirements (Specify): SDG W02288

1. Relinquished By: Heidelberg QES	Date: 3/24/98	Time: 16:00	1. Received By: [signature]	Date: 3-25-98	Time: 0820
2. Relinquished By	Date	Time	2. Received By	Date	Time
3. Relinquished By: 000069	Date	Time	3. Received By	Date	Time

Comments: Anion, VOA & no2/no3 Recv 3-24-98

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

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	N98-005-4	Page 1 of 2

Collector: AG RIZZO (RFS)	Company Contact: DL STEWART	Telephone No.: (509)376-5056	Project Coordinator: VAN SICKLE, GE
Project Designation: EKDF Groundwater Monitoring, March 1998	Sampling Location: HANFORD SITE		SAF No.: N98 005
Ice Chest No.: SML-348	Field Logbook No.: WM-SML-H4		Method of Shipment: GOVT. VEHICLE
Shipped To: Quanterra Incorporated	Offsite Property No.: NA	PH =	Bill of Lading/Air Bill No.: NA
POSSIBLE SAMPLE HAZARDS/REMARKS			
Special Handling and/or Storage: 4°C			

Data Turnaround: **45 Days**

Preservation	None	Cool 4C	Cool 4C	Cool 4C	H2SO4 to pH <2 Cool 4C	HNO3 to pH <2	H2SO4 to pH <2 Cool 4C	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2
Type of Container	G/P	G/P	G/P	G/P	G/P	G/P	aGs*	G/P	G/P	G/P
No. of Container(s)	1	1	1	1	1	1	1	1	1	1
Volume	20ml	500ml	500ml	500ml	500ml	500ml	1000ml	1000ml	1000ml	1000ml
SAMPLE ANALYSIS	Activity Scan	Alkalinity - 310.1	IC Anions - 300.0 [Chloride, Fluoride, Sulfate]	TDS - 160.1	NO2/NO3 - 353.1	Total Uranium	TOX - 9020	Gross Alpha & Gross Beta	See item (1) in Special Instructions. (U F)	Total Radium

Sample No.	Matrix *	Sample Date	Sample Time	Activity Scan	Alkalinity - 310.1	IC Anions - 300.0 [Chloride, Fluoride, Sulfate]	TDS - 160.1	NO2/NO3 - 353.1	Total Uranium	TOX - 9020	Gross Alpha & Gross Beta	See item (1) in Special Instructions.	Total Radium
B0N845 (F)	Water	3/23/98	1328									✓	
B0N846	Water	3/23/98	1328	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
						100		100					

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
AG RIZZO (RFS)	3-23-98 1500	K. Lettenlug	3-23-98 1500
K. Lettenlug	3-25-98 1600	[illegible]	3-24-98 815

SPECIAL INSTRUCTIONS

TOTAL ACTIVITY EXEMPTION APPLIES

SEE SAF "COC Comments" for batching instructions without exceeding 14 day closure.

(1) ICP Metals - 6010A (SW 846) [Barium, Chromium, Lead, Tin, Vanadium, Zinc]; Arsenic - 7060 - (GFAA); Selenium - 7740 - (GFAA)

Matrix *

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

LABORATORY SECTION	Received By: 000070	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	N98-005-4	Page 2 of 2

Collector: AG RIZZO (RFS)	Company Contact: DL STEWART	Telephone No.: (509)376-5056	Project Coordinator: VAN SICKLE, GE
Project Designation: ERDF Groundwater Monitoring, March 1998	Sampling Location: HANFORD SITE		SAF No.: N98-005
Ice Chest No.: SML-348	Field Logbook No.: WM-SML-H4		Method of Shipment: GOVT. VEHICLE
Shipped To: Quanterra Incorporated	Offsite Property No.: NA		Bill of Lading/Air Bill No.: NA

Data Turnaround: **45 Days**

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage: 4°C

Preservation	None	HCl or H2SO4 to pH < 2 Coo	HCl to pH < 2	None
Type of Container	G/P	Gs*	G/P	G/P
No. of Container(s)	2	3	3	3
Volume	1000ml	40ml	1000ml	1000ml
SAMPLE ANALYSIS	Carbon 14	VOA - 8240A (TCL)	Technetium 99	Iodine 129

Sample No.	Matrix *	Sample Date	Sample Time										
B0N845	Water												
B0N846	Water	3/23/98	1328	✓	✓ 3x100	✓	✓						

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
AG RIZZO (RFS)	323-98 1500	R. Schlenberg	323-98 1500
R. Schlenberg	323-98 1600	[illegible]	3-24-98 815

SPECIAL INSTRUCTIONS
TOTAL ACTIVITY EXEMPTION APPLIES
SEE SAF "COC Comments" for batching instructions without exceeding 14 day closure.

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

LABORATORY SECTION	Received By 000071	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	N98-005-7	Page 1 of 2

Collector: AG RIZZO (RFS)	Company Contact: DL STEWART	Telephone No.: (509)376-5056	Project Coordinator: VAN SICKLE, GE
Data Turnaround: 45 Days			
Project Designation: ERDF Groundwater Monitoring, March 1998	Sampling Location: HANFORD SITE		SAF No.: N98-005
Ice Chest No.: SMC-559	Field Logbook No.: WM-SMC-44		Method of Shipment: GOVT. VEHICLE
Shipped To: Quanterra Incorporated	Offsite Property No.: N/A	PH -	Bill of Lading/Air Bill No.: N/A
POSSIBLE SAMPLE HAZARDS/REMARKS			
Special Handling and/or Storage: 4°C			

SAMPLE ANALYSIS												
Preservation	None	Cool 4C	Cool 4C	Cool 4C	H2SO4 to pH <2 Cool 4C	HNO3 to pH <2	H2SO4 to pH <2 Cool 4C	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	
Type of Container	G/P	G/P	G/P	G/P	G/P	G/P	aGs*	G/P	G/P	G/P	
No. of Container(s)	1	1	1	1	1	1	1	1	1	1	
Volume	20ml	500ml	500ml	500ml	500ml	500ml	1000ml	1000ml	1000ml	1000ml	
	Activity Scan	Alkalinity - 310.1	IC Anions - 300.0 [Chloride, Fluoride, Sulfate]	TDS - 160.1	NO2/NO3 - 353.1	Total Uranium	TOX - 9020	Gross Alpha & Gross Beta	See item (1) in Special Instructions. (U F)	Total Radium	
Sample No.	Matrix *	Sample Date	Sample Time								
B0N849 (F)	Water	3/23/98	0745							✓	
B0N850	Water	3/23/98	0745	✓	✓	✓	✓	✓	✓	✓	✓
						100		100			

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: AG RIZZO (RFS)	Date/Time: 3-23-98 1500	Received By: L. Stetterburg	Date/Time: 3-23-98 1500
Relinquished By: L. Stetterburg	Date/Time: 3-23-98 600	Received By: [illegible]	Date/Time: 3-24-98 0815
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS
TOTAL ACTIVITY EXEMPTION APPLIES
SEE SAF "COC Comments" for batching instructions without exceeding 14 day closure.

(1) ICP Metals - 6010A (SW-846) [Barium, Chromium, Lead, Tin, Vanadium, Zinc]; Arsenic - 7060 (GFAA); Selenium - 7740 (GFAA)

Matrix *

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

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method: 0000072	Disposed By	Date/Time

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	N98-005-7	Page 2 of 2

Collector: AG RIZZO (RFS)	Company Contact: DL STEWART — Telephone No.: (509)376 5056	Project Coordinator: VAN SICKLE, GE	Data Turnaround: 45 Days
Project Designation: ERDF Groundwater Monitoring, March 1998	Sampling Location: HANFORD SITE	SAF No.: N98 005	
Ice Chest No.: SML-559	Field Logbook No.: WM-SML-H4	Method of Shipment: GOVT. VEHICLE	
Shipped To: Quanterra Incorporated	Offsite Property No.: NA	Bill of Lading/Air Bill No.: NA	

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage: 4°C

Preservation	None	HCl or H2SO4 to pH <2 Con	HCl to pH <2	None								
Type of Container	G/P	Gs*	G/P	G/P								
No. of Container(s)	2	3	3	3								
Volume	1000ml	40ml	1000ml	1000ml								
SAMPLE ANALYSIS	Carbon-14	VOA - 8240A (TCL)	Technetium 99	Iodine 129								

Sample No.	Matrix *	Sample Date	Sample Time										
B0N849	Water	~~3/23/98~~	~~0745~~										
B0N850	Water	3/23/98	0745	✓	✓ 3X100	✓	✓						

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
AG RIZZO (RFS)	3-23-98 1500	R. Schlenberg	3-23-98 1500
R. Schlenberg	3-23-98 1600	Fred Mitchell	3-24-98 8:15

SPECIAL INSTRUCTIONS
TOTAL ACTIVITY EXEMPTION APPLIES
SEE SAF "COC Comments" for batching instructions without exceeding 14 day closure.

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

LABORATORY SECTION	Received By: 000073	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	N98-005-12	Page 1 of 1

Collector: AG RIZZO (RES)	Company Contact: DL STEWART	Telephone No.: (509)376-5056	Project Coordinator: VAN SICKLE, GE
Project Designation: ERDF Groundwater Monitoring, March 1998	Sampling Location: HANFORD SITE		SAF No.: N98-005
Ice Chest No.: SMIL-348	Field Logbook No.: WM-SMIL-H4		Method of Shipment: GOVT. VEHICLE
Shipped To: Quanterra Incorporated	Offsite Property No.: NA		Bill of Lading/Air Bill No.: NA
POSSIBLE SAMPLE HAZARDS/REMARKS			
Special Handling and/or Storage: 4°C			

Data Turnaround: **45 Days**

Preservation	None	HCl or H2SO4 to pH <2 Coo										
Type of Container	G/P	Gs*										
No. of Container(s)	1	3										
Volume	20ml	40ml										
SAMPLE ANALYSIS	Activity Scan	VOA - 8240A (TCL)										

Sample No.	Matrix *	Sample Date	Sample Time											
B0N856	Water	3/23/98	1328	✓	✓ 3x100									

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
AG RIZZO (RES)	3-23-98 1500	L. Stebeling	3-23-98 1500
L. Stebeling	3-23-98 1600	Fred Mitchell	3-24-98 8:15

SPECIAL INSTRUCTIONS
TOTAL ACTIVITY EXEMPTION APPLIES
SEE SAF "COC Comments" for batching instructions without exceeding 14 day closure.

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

LABORATORY SECTION	Received By: 000074	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

Quanterra
Environmental Services

Bwt SL

014600

Login No.: 17311

Condition Upon Receipt Variance Report
St. Louis Laboratory

Client: PNNL

Project No: 519.145

Shipper/No: A/B 471 9402 111

Date: 3-24-98 Time: 0815

Initiated by: Fred M [illegible]

RFA/COC Numbers: N98-005

Condition/Variance (Check all that apply):

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

☑ No variances were noted during sample receipt. Cooler Temperature Upon Receipt: 4°C

Notes: Anions, VOA & NO2/NO3 only

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) Fred M [illegible] Date: 3-24-98

Project Management Review: Robert E. White Date: 4-01-98

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

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

000075

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	N98-005-4	Page 1 of 2

Collector: AG RIZZO (RFS)	Company Contact: DL STEWART — Telephone No.: (509)376-5056	Project Coordinator: VAN SICKLE, GE	Data Turnaround: 45 Days
Project Designation: ERDF Groundwater Monitoring, March 1998	Sampling Location: HANFORD SITE	SAF No.: N98-005	
Ice Chest No.: SML-348	Field Logbook No.: WM-SML-H4	Method of Shipment: GOVT. VEHICLE	
Shipped To: Quanterra Incorporated	Offsite Property No.: NA PH =	Bill of Lading/Air Bill No.: 1 NA 1 1	

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage: 4°C

Preservation	None	Cool 4C	Cool 4C	Cool 4C	H2SO4 to pH <2 Cool 4C	HNO3 to pH <2	H2SO4 to pH <2 Cool 4C	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2
Type of Container	G/P	G/P	G/P	G/P	G/P	G/P	aGs*	G/P	G/P	G/P
No. of Container(s)	1	1	1	1	1	1	1	1	1	1
Volume	20ml	500ml	500ml	500ml	500ml	500ml	1000ml	1000ml	1000ml	1000ml
SAMPLE ANALYSIS	Activity Scan	Alkalinity - 310.1	IC Anions - 300.0 (Chloride, Fluoride, Sulfate)	TDS - 160.1	NO2/NO3 - 353.1	Total Uranium	TOX - 9020	Gross Alpha & Gross Beta	See item (1) in Special Instructions.	Total Radium
803383 SDG W02288		1		1	1	803383 01	1	803383 01	(U F)	803383 01

Sample No.	Matrix *	Sample Date	Sample Time	Activity Scan	Alkalinity - 310.1	IC Anions - 300.0	TDS - 160.1	NO2/NO3 - 353.1	Total Uranium	TOX - 9020	Gross Alpha & Gross Beta	See item (1) in Special Instructions.	Total Radium
4 B0N845 01 (F)	Water	3/23/98	1328									✓	
1 B0N846 02	Water	3/23/98	1328	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
					100	100	100	100		100		100	
						3-24		3-24					

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
AG RIZZO (RFS)	1500 3-23-98	R. Schlenberg	1500 3-23-98
			2100 CPM

SPECIAL INSTRUCTIONS
TOTAL ACTIVITY EXEMPTION APPLIES
SEE SAF "COC Comments" for batching instructions without exceeding 14 day closure.

(1) ICP Metals - 6010A (SW 846) [Barium, Chromium, Lead, Tin, Vanadium, Zinc]; Arsenic - 7060 - (GFAA); Selenium - 7740 - (GFAA)

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

LABORATORY SECTION	Received By: 000076	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	N98-005-4	Page 2 of 2

Collector: AG RIZZO (RFS)	Company Contact: DL STEWART	Telephone No.: (509)376-5056	Project Coordinator: VAN SICKLE, GE
Project Designation: ERDF Groundwater Monitoring, March 1998	Sampling Location: HANFORD SITE		SAF No.: N98-005
Ice Chest No.: SMC-348	Field Logbook No.: WM-SMC-H4		Method of Shipment: GOVT. VEHICLE
Shipped To: Quanterra Incorporated	Offsite Property No.: NA		Bill of Lading/Air Bill No.: NA
POSSIBLE SAMPLE HAZARDS/REMARKS			Data Turnaround: 45 Days
Special Handling and/or Storage: 4°C			

Preservation	None	HCl or H2SO4 to pH < 2 Cool	HCl to pH < 2	None						
Type of Container	G/P	G*	G/P	G/P						
No. of Container(s)	2	3	3	3						
Volume	1000ml	40ml	1000ml	1000ml						
SAMPLE ANALYSIS 803382	Carbon 14 803383 01	VOA 8240A (FCL)	Technetium 99	Iodine 129 80338301						
Sample No.	Matrix *	Sample Date	Sample Time							
H0N845 01	Water									
H0N846 02	Water	3/23/98	1328	✓	✓ 3x100	✓	✓			

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By	Date/Time
Relinquished By: AG RIZZO (RFS)	3-23-98 1500	K. Hetherington	3-23-98 1500
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS
TOTAL ACTIVITY EXEMPTION APPLIES
SEE SAF "COC Comments" for batching instructions without exceeding 14 day closure.

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

LABORATORY SECTION	Received By: 000077	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	N98 005-7	Page 1 of 2

Collector: AG RIZZO (RFS)	Company Contact: DL STEWART — Telephone No.: (509)376 5056	Project Coordinator: VAN SICKLE, GE	Data Turnaround: 45 Days
Project Designation: ERDF Groundwater Monitoring, March 1998	Sampling Location: HANFORD SITE	SAF No.: N98 005	
Ice Chest No.: SML-559	Field Logbook No.: WM-SML-H4	Method of Shipment: GOVT. VEHICLE	
Shipped To: Quanterra Incorporated	Offsite Property No.: NA	Bill of Lading/Air Bill No.: NA	

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage: 4°C

Preservation	None	Cool 4C	Cool 4C	Cool 4C	H2SO4 to pH <2 Cool 4C	HNO3 to pH <2	H2SO4 to pH <2 Cool 4C	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2
Type of Container	G/P	G/P	G/P	G/P	G/P	G/P	aGs*	G/P	G/P	G/P
No. of Container(s)	1	1	1	1	1	1	1	1	1	1
Volume	20ml	500ml	500ml	500ml	500ml	500ml	1000ml	1000ml	1000ml	1000ml
SAMPLE ANALYSIS	Activity Scan	Alkalinity - 310.1	IC Anions - 300.0 (Chloride, Fluoride, Sulfate)	TDS - 160.1	NO2/NO3 - 353.1	Total Uranium 803383 02	TOX - 9020	Gross Alpha & Gross Beta 803383 02	See item (1) in Special Instructions. (U F)	Total Radium 803383 02

803383

Sample No.	Matrix *	Sample Date	Sample Time	Activity Scan	Alkalinity - 310.1	IC Anions - 300.0	TDS - 160.1	NO2/NO3 - 353.1	Total Uranium	TOX - 9020	Gross Alpha & Gross Beta	See item (1) in Special Instructions.	Total Radium
5 B0N849 03 (F)	Water	3/23/98	0745									✓	
2 B0N850 04	Water	3/23/98	0745	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
					100	100	100	100		100		100	
						3-24		3-24					

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
AG RIZZO (RFS)	3-23-98 1500	K. Aetterling	3-23-98 1500
			2100 CPM

SPECIAL INSTRUCTIONS
TOTAL ACTIVITY EXEMPTION APPLIES
SEE SAF "COC Comments" for batching instructions without exceeding 14 day closure.

(1) ICP Metals - 6010A (SW-846) [Barium, Chromium, Lead, Tin, Vanadium, Zinc]; Arsenic - 7060 - (GFAA); Selenium - 7740 - (GFAA)

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

LABORATORY SECTION	Received By: 000078	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	N98-005-7	Page 2 of 2

Collector: AG RIZZO (RFS)	Company Contact: DL STEWART	Telephone No.: (509)376-5056	Project Coordinator: VAN SICKLE, GE
Project Designation: FRDF Groundwater Monitoring, March 1998	Sampling Location: HANFORD SITE		SAF No.: N98-005
Ice Chest No.: SML-559	Field Logbook No.: WM-SML-H4		Method of Shipment: GOVT. VEHICLE
Shipped To: Quanterra Incorporated	Offsite Property No.: NA		Bill of Lading/Air Bill No.: NA
POSSIBLE SAMPLE HAZARDS/REMARKS			
Special Handling and/or Storage: 4-°C			

Data Turnaround: 45 Days

Preservation	None	HCl or H2SO4 to pH < 2 Coo	HCl to pH < 2	None
Type of Container	G/P	Gs*	G/P	G/P
No. of Container(s)	2	3	3	3
Volume	1000ml	40ml	1000ml	1000ml
SAMPLE ANALYSIS	Carbon-14	VOA - 8240A (TCL)	Technetium-99	Iodine-129
803383	803383 02		803383	02

Sample No	Matrix *	Sample Date	Sample Time	Carbon-14	VOA - 8240A (TCL)	Technetium-99	Iodine-129
B0N849 0.3	Water	3/23/98	0745				
B0N850 01	Water	3/23/98	0745	✓	✓ 3X100	✓	✓

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
AG RIZZO (RFS)	3-23-98 1500	R. Achterberg	3-23-98 1500

SPECIAL INSTRUCTIONS
TOTAL ACTIVITY EXEMPTION APPLIES
SEE SAF "COC Comments" for batching instructions without exceeding 14 day closure.

< 100 CPM

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

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method 000079	Disposed By	Date/Time

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	N98-005-12	Page 1 of 1

Collector: AG RIZZO (RES)	Company Contact: DL STEWART — Telephone No.: (509)376 5056	Project Coordinator: VAN SICKLE, GE	Data Turnaround: 45 Days
Project Designation: ERDF Groundwater Monitoring, March 1998	Sampling Location: HANFORD SITE	SAF No.: N98-005	
Ice Chest No.: SML-348	Field Logbook No.: WM-SML-H4	Method of Shipment: GOVT. VEHICLE	
Shipped To: Quanterra Incorporated	Offsite Property No.: NA	Bill of Lading/Air Bill No.: NA	

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage: 4°C

Preservation	None	HCl or H2SO4 to pH <2 Coo										
Type of Container	G/P	Gs*										
No. of Container(s)	1	3										
Volume	20ml	40ml										
	Activity Scan	VOA - 8240A (TCL)										

SAMPLE ANALYSIS

80338205

Sample No.	Matrix *	Sample Date	Sample Time										
3 B0N856	Water	3/23/98	1328	✓	✓ 3x100								

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
AG RIZZO (RES)	3-23-98 1500	[signature]	3-23-98 1500

SPECIAL INSTRUCTIONS
TOTAL ACTIVITY EXEMPTION APPLIES
SEE SAF "COC Comments" for batching instructions without exceeding 14 day closure.

2100 CPM

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

LABORATORY SECTION	Received By: 000030	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

Figure 1

SAMPLE CHECK-IN LIST

Date/Time Received: 3-23-98 1500 SG#: W02288

Work Order Number: 803382 + 383 SAF #: N98-005

Shipping Container ID: SML-559 Chain of Custody # N98-005-7

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: 22
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: Karen A. Henley Date: 3-23-98

Telephoned To: _____ On _____ By _____

000081

Figure 1

SAMPLE CHECK-IN LIST

Date/Time Received: 3-23-98 1500 SG#: W02288

Work Order Number: 803382 + 383 SAF #: N98-005 W98-003

Shipping Container ID: SML348 Chain of Custody # N98-005-4 W98-003-111 N98-005-12

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: 29
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: Karen Henling Date: 3-23-98

Telephoned To: _____ On _____ By _____

000082

(B) 3/24/98

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
PGW B0N4M9		3/24/1998	QUAD22D	3/24/1998 9:51:54 AM	B0N4M9	30	22	0.66619048	92	2.1280952
	LIQUID		Bkg:	3/24/1998 12:44:53 AM	BKG	700	47	0.06714286	657	0.9385714

Anl Date: 3/24/1998	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp;	(Dpm/ 1.95E+00	(uCi/ 8.80E-05	(pCi/ 8.80E+01	± 2.6E+01	CAT	2.8E-01	Lab
Ppt mg: 1.5	Units: L	, ml	Bet;	Alq): 3.61E+00	Sa): 1.63E-04	L|g): 1.63E+02	± 2.6E+01	I	3.1E-01	Alq L|g

PGW B0N579		3/24/1998	QUAD23A	3/24/1998 9:51:57 AM	B0N579	30	31	0.96476190	123	3.16			
	LIQUID		Bkg:	3/24/1998 12:45:02 AM	BKG	700	48	0.06857143	658	0.94			
Anl Date: 3/24/1998	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp;	(Dpm/ 2.86E+00	(uCi/ 1.29E-04	(pCi/ 1.29E+02	± 2.9E+01	CAT	1.9E-01	Lab
Ppt mg: 4.1	Units: L	, ml	Bet;	Alq): 5.45E+00	Sa): 2.46E-04	L|g): 2.46E+02	± 3.1E+01	I	2.0E-01	Alq L|g

PGW B0N846		3/24/1998	QUAD23B	3/24/1998 9:51:57 AM	B0N846	30	14	0.39809524	79	1.6633333			
	LIQUID		Bkg:	3/24/1998 12:45:02 AM	BKG	700	48	0.06857143	679	0.97			
Anl Date: 3/24/1998	Tot Sa, Alq: 1.10E+01	, 1.00E+01	Alp;	(Dpm/ 1.24E+00	(uCi/ 6.12E-04	(pCi/ 5.57E+01	± 2.5E+01	CAT	4.5E-01	Lab
Ppt mg: 5	Units: L	, ml	Bet;	Alq): 2.95E+00	Sa): 1.46E-03	L|g): 1.33E+02	± 2.5E+01	I	3.8E-01	Alq L|g

PGW B0N850		3/24/1998	QUAD23C	3/24/1998 9:51:57 AM	B0N850	30	26	0.7852381	87	1.99			
	LIQUID		Bkg:	3/24/1998 12:45:02 AM	BKG	700	57	0.08142857	637	0.91			
Anl Date: 3/24/1998	Tot Sa, Alq: 1.10E+01	, 1.00E+01	Alp;	(Dpm/ 2.27E+00	(uCi/ 1.13E-03	(pCi/ 1.02E+02	± 2.6E+01	CAT	2.4E-01	Lab
Ppt mg: 2.3	Units: L	, ml	Bet;	Alq): 3.39E+00	Sa): 1.68E-03	L|g): 1.53E+02	± 2.6E+01	I	3.3E-01	Alq L|g

PGW B0N856		3/24/1998	QUAD23D	3/24/1998 9:51:57 AM	B0N856	30	4	0.08333333	51	0.7485714			
	LIQUID		Bkg:	3/24/1998 12:45:02 AM	BKG	700	35	0.05	666	0.9514286			
Anl Date: 3/24/1998	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp;	(Dpm/ 2.28E-01	(uCi/ 1.03E-05	(pCi/ 1.03E+01	± 1.9E+01	CAT	2.4E+00	Lab
Ppt mg: 0	Units: L	, ml	Bet;	Alq): 1.37E+00	Sa): 6.18E-05	L|g): 6.18E+01	± 2.1E+01	I	8.1E-01	Alq L|g

PGW B0N9K8		3/24/1998	QUAD21A	3/24/1998 10:54:23 AM	B0N9K8	30	3	0.04571429	46	0.6190476			
	LIQUID		Bkg:	3/24/1998 12:44:44 AM	BKG	700	38	0.05428571	640	0.9142857			
Anl Date: 3/24/1998	Tot Sa, Alq: 5.00E-01	, 1.00E+01	Alp;	(Dpm/ 1.14E-01	(uCi/ 2.57E-06	(pCi/ 5.14E+00	± 2.0E+01	CAT	4.9E+00	Lab
Ppt mg: 0.7	Units: L	, ml	Bet;	Alq): 1.21E+00	Sa): 2.73E-05	L|g): 5.45E+01	± 2.1E+01	I	9.2E-01	Alq L|g

PGW B0N9K9		3/24/1998	QUAD21B	3/24/1998 10:54:23 AM	B0N9K9	30	7	0.16047619	41	0.5038095			
	LIQUID		Bkg:	3/24/1998 12:44:44 AM	BKG	700	51	0.07285714	604	0.8628571			
Anl Date: 3/24/1998	Tot Sa, Alq: 5.00E-01	, 1.00E+01	Alp;	(Dpm/ 4.88E-01	(uCi/ 1.10E-05	(pCi/ 2.20E+01	± 2.1E+01	CAT	1.1E+00	Lab
Ppt mg: 0.6	Units: L	, ml	Bet;	Alq): 8.76E-01	Sa): 1.97E-05	L|g): 3.95E+01	± 1.9E+01	I	1.3E+00	Alq L|g

Quanterra Environmental Services

BW & SL

014607

Login No.: 17310

Condition Upon Receipt Variance Report
St. Louis Laboratory

Client: Richland

Date: 3-25-98 Time: 0820

Project No: 519.145

Initiated by: [illegible]

Shipper/No: A/B 4719403 216

RFA/COC Numbers: 10468

Condition/Variance (Check all that apply):

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

☐ No variances were noted during sample receipt. Cooler Temperature Upon Receipt: 4°C

Notes: Anions, VOA & No2/No3 Rcvd 3-24-98

Corrective Action:

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

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

☐ Sample(s) processed "as is". _____

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

Sample Control Supervisor Review: (or designate) [illegible] Date: 3-25-98

Project Management Review: Robert E. White Date: 4-01-98

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

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

000094

WO2288

Quanterra April 02, 1998 08:48 am
Account: 10722 Project: 519.145 Quanterra-Richland QAS No. 519.145 Rev. 0
Master Sample Login: 17311

Project Manager: W. Price

Draft: Final Entered and Reviewed by: [signature] PM Review: [signature]

Sample Header Template:

Sample No. / Comments / Data	Client ID	C-Matrix	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No.
17311-001	BON470 RICHLAND I.D. 80340101	Water	24-MAR-98 12:00	24-MAR-98 15:05	13-APR-98	AIRBORNE	1	Screening not Required

#	Container Type	Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)
3	VI - Vial-40ml	VOA/8260/Q4	S	HCL	07-APR-98	07-APR-98	109H	(366315:99 366316:98 366317:97)
1	PN - Plastic-500ml	CL/300.0/Q4	S	COLD	07-APR-98	21-APR-98	T5C	(366312:99)
1		FL/300.0/Q4	S	COLD	07-APR-98	21-APR-98	T5C	(366312:99)
1		NO2/300.0/Q4	S	COLD	07-APR-98	26-MAR-98	T5C	(366312:99)
1		NO3/300.0/Q4	S	COLD	07-APR-98	26-MAR-98	T5C	(366312:99)
1		SO4/300.0/Q4	S	COLD	07-APR-98	21-APR-98	T5C	(366312:99)

17311-002	BON668 RICHLAND I.D. 80340102	Water	24-MAR-98 12:00	24-MAR-98 15:05	13-APR-98	AIRBORNE	1	Screening not Required

3	VI - Vial-40ml	VOA/8260/Q4	S	HCL	07-APR-98	07-APR-98	109H	(366319:99 366320:98 366321:97)

3*=Sample has not been rad screened.

000085

[redacted]

1°C Temp 4°C Cust# 14621
ST LOUIS

Chain of Custody Record

Quanterra

QUA-4124 0797

Client: PAW	Project Manager: A. Koprowa	Date: 3-25-98	Chain of Custody Number: 10475
Address	Telephone Number (Area Code)/Fax Number	Lab Number	Page 1 of 1
City / State / Zip Code	Site Contact	Lab Contact	
Project Name: SAF S98-003	Carrier/Waybill Number		
Contract/Purchase Order/Quote No.			

Analysis (Attach list if more space is needed): SEE CC

Special Instructions/ Conditions of Receipt

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Aqueous	Sed.	Soil		Containers & Preservatives: Unpres.	H2SO4	HNOS	HCl	NaOH	ZnAc/ NaOH
80340101 BON470	Chemical	Analysis	Bottles									
↓ 02 ↓ 668												

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

Sample Disposal: ☒ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 3 months)

Turn Around Time Required: ☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☒ Other

QC Requirements (Specify): SDG-W02288

1. Relinquished By: Heidelberg QES	Date: 3/25/98	Time: 1600	1. Received By: [illegible]	Date: 3-26-98	Time: 0820
2. Relinquished By	Date	Time	2. Received By	Date	Time
3. Relinquished By: 000086	Date	Time	3. Received By	Date	Time

Comments

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

PNNL

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

S98-003-4

Collector: RR FOX (RFS)	Company Contact: DL STEWART, PNNL	Telephone No.: (509) 376-5056	Project Coordinator: DRESEL, PB
Project Designation: SURVEILLANCE GW MONITORING, MARCH 1998	Sampling Location: HANFORD SITE		SAF No.: S98-003
Ice Chest No.: SML 471	Field Logbook No.: WM-SML-H11		Method of Shipment: GOVT. VEHICLE
Shipped To: Quanterra Incorporated	Offsite Property No.: N/A		Bill of Lading/Air Bill No.: N/A

Data Turnaround: 45 Days

POSSIBLE SAMPLE HAZARDS/REMARKS:

Special Handling and/or Storage:

SAMPLE ANALYSIS: 80340101 SDG W02288

Preservation	None	Cool 4C	Cool 4C	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	None	HNO3 to pH <2	None	HCl or H2SO4 to pH <2 Coo
Type of Container	G/P	G/P	G/P	G/P	G/P	G/P	P	G/P	G/P	Gs*
No. of Container(s)	1	1	1	1	1	1	1	1	2	3
Volume	20ml	500ml	500ml	1000ml	1000ml	1000ml	1000ml	4000ml	1000ml	40ml
	Activity Scan	See Item (1) in Special Instructions.	IC Anions - 300.0 (Phosphate)	Gross Alpha	Isotopic Plutonium	Isotopic Uranium	Tritium - H3	Gamma Spec - Low Level	Carbon-14	VOA - 8260A (RCRA)
			2-24-98	80340201						

Sample No.	Matrix *	Sample Date	Sample Time	Activity Scan	See Item (1)	IC Anions - 300.0 (Phosphate)	Gross Alpha	Isotopic Plutonium	Isotopic Uranium	Tritium - H3	Gamma Spec - Low Level	Carbon-14	VOA - 8260A (RCRA)
B0N470	Water	3-24-98	1200	✓	✓		✓	✓	✓	✓	✓	✓	✓
					100								3X100

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
RR FOX (RFS)	3-24-98 1505	Darren Lethbridge	3-24-98 1505
			2/100 CPM

SPECIAL INSTRUCTIONS
TOTAL ACTIVITY EXEMPTION APPLIES
SEE SAF: 'COC Comments' for batching instructions while not exceeding maximum SDG closure of 14 days.

(1) IC Anions - 300.0 (Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate)

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

LABORATORY SECTION — Received By: 000087 — Title — Date/Time

FINAL SAMPLE DISPOSITION — Disposal Method — Disposed By — Date/Time

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	S98-003-4	Page 2 of 2

Collector: RR FOX (RFS)	Company Contact: DL STEWART, PNNL — Telephone No.: (509) 376-5056	Project Coordinator: DRESEL, PB	Data Turnaround: 45 Days
Project Designation: SURVEILLANCE GW MONITORING, MARCH 1998	Sampling Location: HANFORD SITE	SAF No.: S98-003	
Ice Chest No.: SML 471	Field Logbook No.: WM-SML-HII	Method of Shipment: GOVT. VEHICLE	
Shipped To: Quanterra Incorporated	Offsite Property No.: N/A	Bill of Lading/Air Bill No.: N/A	

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

Preservation	HCl to pH <2	HNO3 to pH <2	None
Type of Container	G/P	G/P	G/P
No. of Container(s)	3	3	4
Volume	1000ml	1000ml	1L
	Technetium-99	Strontium-89,90 -- Sr-90	I-129 Low Level

SAMPLE ANALYSIS

80340201

Sample No.	Matrix *	Sample Date	Sample Time			
30N470	Water	3-24-98	1200	✓	✓	✓

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
RR FOX (RFS)	1505 3-24-98	[signature]	1505 3-24-98
			2100 4/7/

SPECIAL INSTRUCTIONS
TOTAL ACTIVITY EXEMPTION APPLIES
SEE SAF; 'COC Comments' for batching instructions while not exceeding maximum SDG closure of 14 days.

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

LABORATORY SECTION	Received By: 000088	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	S98-003-63	Page 1 of 1

Collector: RR FOX (RPS)	Company Contact: DL STEWART, PNNL	Telephone No.: (509) 376-5056	Project Coordinator: DRESEL, PB
Data Turnaround: 45 Days			
Project Designation: SURVEILLANCE GW MONITORING, MARCH 1998	Sampling Location: HANFORD SITE		SAF No.: S98-003
Ice Chest No.: SAL 471	Field Logbook No.: WM-SAL-411		Method of Shipment: GOVT. VEHICLE
Shipped To: Quanterra Incorporated	Offsite Property No.: NA		Bill of Lading/Air Bill No.: NA

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

Preservation	None	HCl or H2SO4 to pH <2 Coo										
Type of Container	G/P	Gs*										
No. of Container(s)	1	3										
Volume	20ml	40ml										
	Activity Scan	VOA - 8260A (RCRA)										

SAMPLE ANALYSIS

80340102

Sample No.	Matrix *	Sample Date	Sample Time											
B0N668	Water	3-24-98	1200	✓	✓									
					3x100									

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
RR FOX (RPS)	7-24-98 1505	L. Schlenburg	3-24-98 1505
		L.HOCAM	

SPECIAL INSTRUCTIONS
TOTAL ACTIVITY EXEMPTION APPLIES
SEE SAF; 'COC Comments' for batching instructions while not exceeding maximum SDG closure of 14 days.

Matrix *

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

LABORATORY SECTION	Received By: 000089	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

Figure 1

SAMPLE CHECK-IN LIST

Date/Time Received: 3-24-98 1505 SG#: W02288

Work Order Number: 803401 + 402 SAF #: S98-003 W98-003

Shipping Container ID: SMC-471 Chain of Custody # S98-003-4 W98-003-11 S98-003-63

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: 28
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: Karen Schlenberg Date: 3-24-98

Telephoned To: _____ On _____ By _____

000030

Client Sample Screening Results

25-Mar-98

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
PGW B0N470		3/25/1998	QUAD22A	3/25/1998 9:01:23 AM	B0N470	30	96	3.10833333	2491	82.068333
	LIQUID		Bkg:	3/25/1998 12:09:22 AM	BKG	600	55	0.09166667	579	0.965

Anl Date: 3/25/1998	Tot Sa, Alq: 2.00E+01	, 1.00E+01	Alp; (Dpm/ 7.02E+00	(uCi/ 6.33E-03	(pCi/ 3.16E+02	± 3.9E+01	CAT	7.9E-02	Lab
Ppt mg: 4.3	Units: L	, ml	Bet; Alq): 1.52E+02	Sa): 1.37E-01	L|g): 6.85E+03	± 1.4E+02	II	7.3E-03	Alq L|g

PGW B0N4J7		3/25/1998	QUAD22B	3/25/1998 9:01:23 AM	B0N4J7	30	71	2.31666667	2331	76.696667	
	LIQUID		Bkg:	3/25/1998 12:09:22 AM	BKG	600	30	0.05	602	1.0033333	
Anl Date: 3/25/1998	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp; (Dpm/ 5.14E+00	(uCi/ 2.31E-04	(pCi/ 2.31E+02	± 3.6E+01	CAT	1.1E-01	Lab		
Ppt mg: 4.5	Units: L	, ml	Bet; Alq): 1.46E+02	Sa): 6.55E-03	L|g): 6.55E+03	± 1.4E+02	I	7.6E-03	Alq L|g		

PGW B0N668		3/25/1998	QUAD22C	3/25/1998 9:01:23 AM	B0N668	30	8	0.20666667	45	0.3766667	
	LIQUID		Bkg:	3/25/1998 12:09:22 AM	BKG	600	36	0.06	674	1.1233333	
Anl Date: 3/25/1998	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp; (Dpm/ 5.94E-01	(uCi/ 2.68E-05	(pCi/ 2.68E+01	± 2.2E+01	CAT	9.3E-01	Lab		
Ppt mg: 0.1	Units: L	, ml	Bet; Alq): 5.69E-01	Sa): 2.56E-05	L|g): 2.56E+01	± 1.9E+01	I	2.0E+00	Alq L|g		

PGW B0N842		3/25/1998	QUAD22D	3/25/1998 9:01:23 AM	B0N842	30	18	0.55333333	88	1.9816667	
	LIQUID		Bkg:	3/25/1998 12:09:22 AM	BKG	600	28	0.04666667	571	0.9516667	
Anl Date: 3/25/1998	Tot Sa, Alq: 1.00E+01	, 1.00E+01	Alp; (Dpm/ 1.68E+00	(uCi/ 7.57E-04	(pCi/ 7.57E+01	± 2.6E+01	CAT	3.3E-01	Lab		
Ppt mg: 4.4	Units: L	, ml	Bet; Alq): 3.43E+00	Sa): 1.55E-03	L|g): 1.55E+02	± 2.6E+01	I	3.2E-01	Alq L|g		

PGW B0N844		3/25/1998	QUAD23A	3/25/1998 9:01:27 AM	B0N844	30	14	0.41	71	1.4833333	
	LIQUID		Bkg:	3/25/1998 12:09:28 AM	BKG	600	34	0.05666667	530	0.8833333	
Anl Date: 3/25/1998	Tot Sa, Alq: 1.00E+01	, 1.00E+01	Alp; (Dpm/ 1.22E+00	(uCi/ 5.49E-04	(pCi/ 5.49E+01	± 2.4E+01	CAT	4.6E-01	Lab		
Ppt mg: 4.5	Units: L	, ml	Bet; Alq): 2.59E+00	Sa): 1.17E-03	L|g): 1.17E+02	± 2.4E+01	I	4.3E-01	Alq L|g		

PGW B0N855		3/25/1998	QUAD23B	3/25/1998 9:01:27 AM	B0N855	30	1	-0.0216667	31	0.035	
	LIQUID		Bkg:	3/25/1998 12:09:28 AM	BKG	600	33	0.055	599	0.9983333	
Anl Date: 3/25/1998	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp; (Dpm/ -6.57E-02	(uCi/ -2.96E-06	(pCi/ -2.96E+00	± 2.0E+01	CAT	1.0E+00	Lab		
Ppt mg: 0	Units: L	, ml	Bet; Alq): 8.04E-02	Sa): 3.62E-06	L|g): 3.62E+00	± 1.7E+01	I	1.4E+01	Alq L|g		

000091

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
PGW B0N9J8		3/25/1998	QUAD23C	3/25/1998 9:01:27 AM	B0N9J8	30	6	0.16	43	0.495
	LIQUID		Bkg:	3/25/1998 12:09:28 AM	BKG	600	24	0.04	563	0.9383333

Anl Date: 3/25/1998	Tot Sa, Alq: 5.00E-01	, 1.00E+01	Alp;	(Dpm/ 4.49E-01	(uCi/ 1.01E-05	(pCi/ 2.02E+01	± 2.0E+01	CAT	1.2E+00	Lab
Ppt mg: 0.8	Units: L	, ml	Bet;	Alq): 8.62E-01	Sa): 1.94E-05	L|g): 3.88E+01	± 1.9E+01	I	1.3E+00	Alq L|g

PGW B0N9J9		3/25/1998	QUAD23D	3/25/1998 9:01:27 AM	B0N9J9	30	9	0.26666667	28	0.0516667
	LIQUID		Bkg:	3/25/1998 12:09:28 AM	BKG	600	20	0.03333333	529	0.8816667

Anl Date: 3/25/1998	Tot Sa, Alq: 5.00E-01	, 1.00E+01	Alp;	(Dpm/ 7.98E-01	(uCi/ 1.80E-05	(pCi/ 3.59E+01	± 2.1E+01	CAT	7.0E-01	Lab
Ppt mg: 0.7	Units: L	, ml	Bet;	Alq): -7.26E-02	Sa): -1.63E-06	L|g): -3.27E+00	± 1.5E+01	I	5.0E-01	Alq L|g

PGW B0N9K0		3/25/1998	QUAD22A	3/25/1998 10:00:38 AM	B0N9K0	30	4	0.04166667	30	0.035
	LIQUID		Bkg:	3/25/1998 12:09:22 AM	BKG	600	55	0.09166667	579	0.965

Anl Date: 3/25/1998	Tot Sa, Alq: 5.00E-01	, 1.00E+01	Alp;	(Dpm/ 1.19E-01	(uCi/ 2.67E-06	(pCi/ 5.34E+00	± 1.9E+01	CAT	4.7E+00	Lab
Ppt mg: 0.7	Units: L	, ml	Bet;	Alq): 3.98E-02	Sa): 8.97E-07	L|g): 1.79E+00	± 1.6E+01	I	2.8E+01	Alq L|g

PGW B0N9K1		3/25/1998	QUAD22B	3/25/1998 10:00:38 AM	B0N9K1	30	8	0.21666667	47	0.5633333
	LIQUID		Bkg:	3/25/1998 12:09:22 AM	BKG	600	30	0.05	602	1.0033333

Anl Date: 3/25/1998	Tot Sa, Alq: 5.00E-01	, 1.00E+01	Alp;	(Dpm/ 6.44E-01	(uCi/ 1.45E-05	(pCi/ 2.90E+01	± 2.2E+01	CAT	8.6E-01	Lab
Ppt mg: 0.9	Units: L	, ml	Bet;	Alq): 9.39E-01	Sa): 2.11E-05	L|g): 4.23E+01	± 2.0E+01	I	1.2E+00	Alq L|g

PGW B0N9K2		3/25/1998	QUAD22C	3/25/1998 10:00:38 AM	B0N9K2	30	3	0.04	29	-0.156667
	LIQUID		Bkg:	3/25/1998 12:09:22 AM	BKG	600	36	0.06	674	1.1233333

Anl Date: 3/25/1998	Tot Sa, Alq: 5.00E-01	, 1.00E+01	Alp;	(Dpm/ 1.25E-01	(uCi/ 2.81E-06	(pCi/ 5.61E+00	± 2.1E+01	CAT	4.5E+00	Lab
Ppt mg: 1	Units: L	, ml	Bet;	Alq): -3.17E-01	Sa): -7.15E-06	L|g): -1.43E+01	± 1.8E+01	I	5.0E-01	Alq L|g

PGW B0N9K3		3/25/1998	QUAD22D	3/25/1998 10:00:38 AM	B0N9K3	30	9	0.25333333	33	0.1483333
	LIQUID		Bkg:	3/25/1998 12:09:22 AM	BKG	600	28	0.04666667	571	0.9516667

Anl Date: 3/25/1998	Tot Sa, Alq: 5.00E-01	, 1.00E+01	Alp;	(Dpm/ 7.57E-01	(uCi/ 1.71E-05	(pCi/ 3.41E+01	± 2.2E+01	CAT	7.3E-01	Lab
Ppt mg: 0.7	Units: L	, ml	Bet;	Alq): 1.29E-01	Sa): 2.90E-06	L|g): 5.80E+00	± 1.6E+01	I	8.6E+00	Alq L|g

PGW B0N9K4		3/25/1998	QUAD23A	3/25/1998 10:00:43 AM	B0N9K4	30	4	0.07666667	34	0.25
	LIQUID		Bkg:	3/25/1998 12:09:28 AM	BKG	600	34	0.05666667	530	0.8833333

Anl Date: 3/25/1998	Tot Sa, Alq: 5.00E-01	, 1.00E+01	Alp;	(Dpm/ 2.17E-01	(uCi/ 4.89E-06	(pCi/ 9.79E+00	± 1.9E+01	CAT	2.6E+00	Lab
Ppt mg: 1.3	Units: L	, ml	Bet;	Alq): 4.27E-01	Sa): 9.62E-06	L|g): 1.92E+01	± 1.7E+01	I	2.6E+00	Alq L|g

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
PGW B0N9K5		3/25/1998	QUAD23B	3/25/1998 10:00:43 AM	B0N9K5	30	4	0.07833333	46	0.535
	LIQUID		Bkg:	3/25/1998 12:09:28 AM	BKG	600	33	0.055	599	0.9983333

Anl Date: 3/25/1998	Tot Sa, Alq:	5.00E-01	, 1.00E+01	Alp;	(Dpm/	2.26E-01	(uCi/	5.09E-06	(pCi/	1.02E+01	± 2.1E+01	CAT	2.5E+00	Lab
Ppt mg: 1.4	Units:	L	, ml	Bet;	Alq):	9.69E-01	Sa):	2.18E-05	L|g):	4.36E+01	± 2.0E+01	I	1.1E+00	Alq L|g

PGW B0N9K6		3/25/1998	QUAD23C	3/25/1998 10:00:43 AM	B0N9K6	30	3	0.06	31	0.095				
	LIQUID		Bkg:	3/25/1998 12:09:28 AM	BKG	600	24	0.04	563	0.9383333				

Anl Date: 3/25/1998	Tot Sa, Alq:	5.00E-01	, 1.00E+01	Alp;	(Dpm/	1.72E-01	(uCi/	3.87E-06	(pCi/	7.75E+00	± 1.9E+01	CAT	3.2E+00	Lab
Ppt mg: 1.2	Units:	L	, ml	Bet;	Alq):	1.48E-01	Sa):	3.32E-06	L|g):	6.64E+00	± 1.7E+01	I	7.5E+00	Alq L|g

PGW B0N9K7		3/25/1998	QUAD23D	3/25/1998 10:00:43 AM	B0N9K7	30	4	0.1	27	0.0183333				
	LIQUID		Bkg:	3/25/1998 12:09:28 AM	BKG	600	20	0.03333333	529	0.8816667				

Anl Date: 3/25/1998	Tot Sa, Alq:	5.00E-01	, 1.00E+01	Alp;	(Dpm/	3.02E-01	(uCi/	6.80E-06	(pCi/	1.36E+01	± 1.9E+01	CAT	1.8E+00	Lab
Ppt mg: 1.4	Units:	L	, ml	Bet;	Alq):	-2.87E-02	Sa):	-6.46E-07	L|g):	-1.29E+00	± 1.5E+01	I	5.0E-01	Alq L|g

000093

Quanterra Environmental Services

BW&SL

014621

Login No.: 17311

Condition Upon Receipt Variance Report
St. Louis Laboratory

Client: Richland

Date: 3-26-98 Time: 08:20

Project No: 550.257

Initiated by: Fred Mitchell

Shipper/No: A/B 4719404 815

RFA/COC Numbers: 10475

Condition/Variance (Check all that apply):

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

☑ No variances were noted during sample receipt. Cooler Temperature Upon Receipt: 4°

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) Fred Mitchell Date: 3-26-98

Project Management Review: Robert E. White Date: 4-01-98

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

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

000094

W02288

Quanterra April 02, 1998 01:06 pm
Account: 10722 Project: 519.145 Quanterra-Richland QAS No. 519.145 Rev. 4
Master Sample Login: 17312

Project Manager: W. Price

Draft: (Final) Entered and Reviewed by: Susan Son PM Review: Robert E. White

Sample Header Template:

Sample No. / #	Client ID / Container Type	C-Matrix / Analysis	Date: Collected / Class	Received / Preservative	Due / Anal. Due Date	Shipper / Hold Date	Site	Rad Category / (Container Numbers:% Filled)	Rad Sample No.
17312-001	BON842	Water	24-MAR-98 10:05	24-MAR-98 15:05	13-APR-98	AIR BORNE	1	Screening not Required	
RICHLAND ID 80339902///ICAP = BA,CR,PB,SN,V,ZN.									
3	VI - Vial-40ml	VOA/8240/Q4	S	HCL	07-APR-98	07-APR-98	109H	(366324:99 366325:98 366326:97)	
1	AN - Amber Glass-1L	TOX/9020/Q4	S	H2SO4	07-APR-98	21-APR-98	T5C	(366329:99)	
1	PN - Plastic-1L	AS/7060/Q4	S	HNO3	07-APR-98	20-SEP-98	T5C	(366330:99)	
1		ICAP/6010/Q4	S	HNO3	07-APR-98	20-SEP-98	T5C	(366330:99)	
1		SE/7740/Q4	S	HNO3	07-APR-98	20-SEP-98	T5C	(366330:99)	
1	PN - Plastic-500ml	ALK/310.1/Q4	S	COLD	07-APR-98	07-APR-98	T5C	(366322:100)	
1		CL/300.0/Q4	S	COLD	07-APR-98	21-APR-98	T5C	(366323:99)	
1		FL/300.0/Q4	S	COLD	07-APR-98	21-APR-98	T5C	(366323:99)	
1		NO3/353.1/Q4	S	H2SO4	07-APR-98	21-APR-98	T5C	(366328:99)	
1		SO4/300.0/Q4	S	COLD	07-APR-98	21-APR-98	T5C	(366323:99)	
1		TDS/160.1/Q4	S	COLD	07-APR-98	31-MAR-98	T5C	(366327:98)	
17312-002	BON844	Water	24-MAR-98 10:05	24-MAR-98 15:05	13-APR-98	AIR BORNE	1	Screening not Required	
RICHLAND ID 80339904///ICAP = BA,CR,PB,SN,V,ZN.									
3	VI - Vial-40ml	VOA/8240/Q4	S	HCL	07-APR-98	07-APR-98	109H	(366333:99 366334:98 366335:97)	
1	AN - Amber Glass-1L	TOX/9020/Q4	S	H2SO4	07-APR-98	21-APR-98	T5C	(366338:99)	
1	PN - Plastic-1L	AS/7060/Q4	S	HNO3	07-APR-98	20-SEP-98	T5C	(366339:99)	
1		ICAP/6010/Q4	S	HNO3	07-APR-98	20-SEP-98	T5C	(366339:99)	
1		SE/7740/Q4	S	HNO3	07-APR-98	20-SEP-98	T5C	(366339:99)	
1	PN - Plastic-500ml	ALK/310.1/Q4	S	COLD	07-APR-98	07-APR-98	T5C	(366331:100)	
1		CL/300.0/Q4	S	COLD	07-APR-98	21-APR-98	T5C	(366332:99)	
1		FL/300.0/Q4	S	COLD	07-APR-98	21-APR-98	T5C	(366332:99)	
1		NO3/353.1/Q4	S	H2SO4	07-APR-98	21-APR-98	T5C	(366337:99)	
1		SO4/300.0/Q4	S	COLD	07-APR-98	21-APR-98	T5C	(366332:99)	
1		TDS/160.1/Q4	S	COLD	07-APR-98	31-MAR-98	T5C	(366336:98)	
17312-003	BON855	Water	24-MAR-98 08:00	24-MAR-98 15:05	13-APR-98	AIR BORNE	1	Screening not Required	
RICHLAND ID 80339905									
3	VI - Vial-40ml	VOA/8240/Q4	S	HCL	07-APR-98	07-APR-98	109H	(366342:99 366343:98 366344:97)	
17312-004	BON841	Water	24-MAR-98 10:05	24-MAR-98 15:05	13-APR-98	AIR BORNE	1	Screening not Required	
RICHLAND ID 80339901///ICAP = BA,CR,PB,SN,V,ZN.									
1	PN - Plastic-1L	ASD/7060/Q4	S	HNO3	07-APR-98	20-SEP-98	T5C	(366352:99)	
1		ICAPD/6010/Q4	S	HNO3	07-APR-98	20-SEP-98	T5C	(366352:99)	
1		SED/7740/Q4	S	HNO3	07-APR-98	20-SEP-98	T5C	(366352:99)	

3*=Sample has not been rad screened.

000095

Quanterra April 02, 1998 01:06 pm
Account: 10722 Project: 519.145 Quanterra-Richland QAS No. 519.145 Rev. 4
Master Sample Login: 17312

ect Manager: W. Price

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

le Header Template: _____

le No. / Comments / Container Type	Client ID	C-Matrix	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No. (Container Numbers:% Filled)
2-005	BON843	Water	24-MAR-98 10:05	24-MAR-98 15:05	13-APR-98	AIR BORNE	1	Screening not Required
RICHLAND ID 80339903///ICAP = BA,CR,PB,SN,V,ZN.								

Container Type	Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)
PN - Plastic-1L	ASD/7060/Q4	S	HNO3	07-APR-98	20-SEP-98	T5C	(366353:99)
	ICAPD/6010/Q4	S	HNO3	07-APR-98	20-SEP-98	T5C	(366353:99)
	SED/7740/Q4	S	HNO3	07-APR-98	20-SEP-98	T5C	(366353:99)

2-005MS	BON843	Water	24-MAR-98 10:05	24-MAR-98 15:05	13-APR-98	AIR BORNE	1	Screening not Required
RICHLAND ID 80339903///ICAP = BA,CR,PB,SN,V,ZN.								

Container Type	Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)
PN - Plastic-1L	ASD/7060/Q4	S	HNO3	07-APR-98	20-SEP-98	T5C	(366353:99)
	ICAPD/6010/Q4	S	HNO3	07-APR-98	20-SEP-98	T5C	(366353:99)
	SED/7740/Q4	S	HNO3	07-APR-98	20-SEP-98	T5C	(366353:99)

2-005MSD	BON843	Water	24-MAR-98 10:05	24-MAR-98 15:05	13-APR-98	AIR BORNE	1	Screening not Required
RICHLAND ID 80339903///ICAP = BA,CR,PB,SN,V,ZN.								

Container Type	Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)
PN - Plastic-1L	ASD/7060/Q4	S	HNO3	07-APR-98	20-SEP-98	T5C	(366353:99)
	ICAPD/6010/Q4	S	HNO3	07-APR-98	20-SEP-98	T5C	(366353:99)
	SED/7740/Q4	S	HNO3	07-APR-98	20-SEP-98	T5C	(366353:99)

Sample has not been rad screened.

000096

TSC Temp 4°C CUR# 14633
ST LOUIS

Chain of Custody Record

Quanterra

NO QC

QUA-4124 0797

Client: PAW	Project Manager: A. Koprwa	Date: 3-25-98	Chain of Custody Number: 10474
Address:	Telephone Number (Area Code)/Fax Number:	Lab Number:	Page 1 of 1
City: / State: / Zip Code:	Site Contact: / Lab Contact:	Analysis (Attach list if more space is needed): SEE COC	
Project Name: SAF N98-005	Carrier/Waybill Number:		
Contract/Purchase Order/Quote No.:			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNOS	HCl	NaOH	ZnAc/NaOH	Special Instructions/ Conditions of Receipt
80339901 BON 841												
2 842												
3 843												
4 844												
5 855												

Chemical Analysis Bottles

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

Sample Disposal: ☒ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 3 months)

Turn Around Time Required: ☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☒ Other _____

QC Requirements (Specify): SDG-W02288

	Date	Time		Date	Time
1. Relinquished By: S Hildelberg QES	3/25/98	16:00	1. Received By: Fred Mitchell	3-26-98	0820
2. Relinquished By:			2. Received By:		
3. Relinquished By: 000097			3. Received By:		

Comments:

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

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	N98-005-2	Page 1 of 2

Collector: RR FOX (RFS)	Company Contact: DL STEWART — Telephone No.: (509)376-5056	Project Coordinator: VAN SICKLE, GE	Data Turnaround: 45 Days
Project Designation: ERDF Groundwater Monitoring, March 1998	Sampling Location: HANFORD SITE	SAF No.: N98-005	
Ice Chest No.: SML-349/465	Field Logbook No.: WM-SML-H11	Method of Shipment: GOVT. VEHICLE	
Shipped To: Quanterra Incorporated	Offsite Property No.: N/A	Bill of Lading/Air Bill No.: N/A	

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

Preservation	None	Cool 4C	Cool 4C	Cool 4C	H2SO4 to pH <2 Cool 4C	HNO3 to pH <2	H2SO4 to pH <2 Cool 4C	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2
Type of Container	G/P	G/P	G/P	G/P	G/P	G/P	aGs*	G/P	G/P	G/P
No. of Container(s)	1	1	1	1	1	1	1	1	1	1
Volume	20ml	500ml	500ml	500ml	500ml	500ml	1000ml	1000ml	1000ml	1000ml

SAMPLE ANALYSIS: 803399 SDG W02288

Sample No.	Matrix *	Sample Date	Sample Time	Activity Scan	Alkalinity - 310.1	IC Anions - 300.0 (Chloride, Fluoride, Sulfate)	TDS - 160.1	NO2/NO3 - 353.1	Total Uranium 803400 01	TOX - 9020	Gross Alpha & Gross Beta 803400 01	See item (1) in Special Instructions. (LF)	Total Radium 803400 01
B0N841 01 (F)	Water	3-24-98	1005									✓	
B0N842 02	Water	3-24-98	1005	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
					100	100	100	100		100		100	

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
RR FOX (RFS)	1505 3-24-98	[signature]	1505 3-24-98
			2100 cm

SPECIAL INSTRUCTIONS
TOTAL ACTIVITY EXEMPTION APPLIES
SEE SAF "COC Comments" for batching instructions without exceeding 14 day closure.

(1) ICP Metals - 6010A (SW-846) (Barium, Chromium, Lead, Tin, Vanadium, Zinc); Arsenic - 7060 - (GFAA); Selenium - 7740 - (GFAA)

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

LABORATORY SECTION	Received By: 000098	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	N98-005-2	Page 2 of 2

Collector: RR FOX (RFS)	Company Contact: DL STEWART	Telephone No.: (509)376-5056	Project Coordinator: VAN SICKLE, GE
Project Designation: ERDF Groundwater Monitoring, March 1998	Sampling Location: HANFORD SITE		SAF No.: N98 005
Ice Chest No.: SML 349 / 465	Field Logbook No.: WM-SML-H11		Method of Shipment: GOVT. VEHICLE
Shipped To: Quanterra Incorporated	Offsite Property No.: NA		Bill of Lading/Air Bill No.: N/A

Data Turnaround: 45 Days

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

Preservation	None	HCl or H2SO4 to pH <2 Coo	HCl to pH <2	None
Type of Container	G/P	Gs*	G/P	G/P
No. of Container(s)	2	3	3	3
Volume	1000ml	40ml	1000ml	1000ml

SAMPLE ANALYSIS: 803399

Sample No.	Matrix *	Sample Date	Sample Time	Carbon-14	VOA - 8240A (TCL)	Technetium-99	Iodine-129
				803400 01		8034	0001
B0N841 01	Water						
B0N842 02	Water	3-24-98	1005	✓	1 ✓ 3x100	✓	✓

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
RR FOX (RFS)	3-24-98 1505	[signature]	3-24-98 1505
			2100 LAM

SPECIAL INSTRUCTIONS
TOTAL ACTIVITY EXEMPTION APPLIES
SEE SAF "COC Comments" for batching instructions without exceeding 14 day closure.

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

LABORATORY SECTION	Received By: 000099	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	N98-005-3	Page 1 of 2

Collector: RR FOX (RFS)	Company Contact: DL STEWART	Telephone No.: (509)376-5056	Project Coordinator: VAN SICKLE, GE
Project Designation: ERDF Groundwater Monitoring, March 1998	Sampling Location: HANFORD SITE		SAF No.: N98-005
Ice Chest No.: SIRL 349/465	Field Logbook No.: WM-SML-H11		Method of Shipment: GOVT. VEHICLE
Shipped To: Quanterra Incorporated	Offsite Property No.: N/A PH =		Bill of Lading/Air Bill No.: 1 N/A 1 1

Data Turnaround: 45 Days

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

Preservation	None	Cool 4C	Cool 4C	Cool 4C	H2SO4 to pH <2 Cool 4C	HNO3 to pH <2	H2SO4 to pH <2 Cool 4C	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2
Type of Container	G/P	G/P	G/P	G/P	G/P	G/P	aGs*	G/P	G/P	G/P
No. of Container(s)	1	1	1	1	1	1	1	1	1	1
Volume	20ml	500ml	500ml	500ml	500ml	500ml	1000ml	1000ml	1000ml	1000ml
SAMPLE ANALYSIS 803399	Activity Scan	Alkalinity - 310.1	IC Anions - 300.0 (Chloride, Fluoride, Sulfate)	TDS - 160.1	NO2/NO3 - 353.1	Total Uranium 803400 02	TOX - 9020	Gross Alpha & Gross Beta 803400 02	See item (1) in Special Instructions. (U F)	Total Radium 803400 02

Sample No.	Matrix *	Sample Date	Sample Time										
0N843 03 (F)	Water	3-24-98	1005									✓	
0N844 04	Water	3-24-98	1005	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
					100	100	100	100	100	100		100	

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
RR FOX (RFS)	1505 3-24-98	R. [signature]	1505 3-24-98
			<100 CPM

SPECIAL INSTRUCTIONS
TOTAL ACTIVITY EXEMPTION APPLIES
SEE SAF "COC Comments" for batching instructions without exceeding 14 day closure.

(1) ICP Metals - 6010A (SW-846) (Barium, Chromium, Lead, Tin, Vanadium, Zinc); Arsenic - 7060 - (GFAA); Selenium - 7740 - (GFAA)

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

LABORATORY SECTION	Received By: 000100	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	N98-005-3	Page 2 of 2

ollector RR FOX (RFS)	Company Contact DL STEWART / Telephone No. (509)376 5056	Project Coordinator VAN SICKLE, GE	Data Turnaround 45 Days
roject Designation ERDF Groundwater Monitoring, March 1998	Sampling Location HANFORD SITE	SAF No. N98 005	
e Chest No. SML 349/465	Field Logbook No. WM-SML-H 11	Method of Shipment GOVT. VEHICLE	
ipped To Quanterra Incorporated	Offsite Property No. N/A	Bill of Lading/Air Bill No. N/A	

OSSIBLE SAMPLE HAZARDS/REMARKS

ecial Handling and/or Storage

Preservation	None	HCl or H2SO4 to pH <2 Coo	HCl to pH <2	None
Type of Container	G/P	Gs*	G/P	G/P
No. of Container(s)	2	3	3	3
Volume	1000ml	40ml	1000ml	1000ml
	Carbon-14	VOA - 8240A (TCL)	Technetium-99	Iodine-129

SAMPLE ANALYSIS 803399

803400 02 — 80340C02

Sample No.	Matrix *	Sample Date	Sample Time	Carbon-14	VOA - 8240A (TCL)	Technetium-99	Iodine-129
N843 03	Water						
N844 04	Water	3-24-98	1005	✓	✓	✓	✓
					3x100		

HAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
RR FOX (RFS)	3-24-98 1505	R. [signature]	3-24-98 1505

SPECIAL INSTRUCTIONS
TOTAL ACTIVITY EXEMPTION APPLIES
SEE SAF "COC Comments" for batching instructions without exceeding 14 day closure.

2100 CPM

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

ABORATORY SECTION	Received By 000101	Title	Date/Time
NAL SAMPLE ISPOSITION	Disposal Method	Disposed By	Date/Time

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	N98-005-11	Page 1 of 1

Collector: Fox	Company Contact: DL STEWART — Telephone No.: (509)376-5056	Project Coordinator: VAN SICKLE, GE	Data Turnaround: 45 Days
Project Designation: ERDF Groundwater Monitoring, March 1998	Sampling Location: HANFORD SITE	SAF No.: N98-005	
Ice Chest No.	Field Logbook No.: WM-SML-H 11	Method of Shipment: GOVT. VEHICLE	
Shipped To: Quanterra Incorporated	Offsite Property No.: N/A	Bill of Lading/Air Bill No.: N/A	

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

Preservation	None	HCl or H2SO4 to pH <2 Coo									
Type of Container	G/P	Gs*									
No. of Container(s)	1	3									
Volume	20ml	40ml									
	Activity Scan	VOA - 8240A (TCL)									

SAMPLE ANALYSIS

803399

Sample No.	Matrix *	Sample Date	Sample Time										
N855 (3) 05	Water	3-24-98	0800	✓	✓ 3x100								

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: Fox	Date/Time: 3-24-98 1505	Received By: [signature]	Date/Time: 3-24-98 1505
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS
TOTAL ACTIVITY EXEMPTION APPLIES
SEE SAF "COC Comments" for batching instructions without exceeding 14 day closure.

2100CPM

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

LABORATORY SECTION	Received By: 000102	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

Figure 1

SAMPLE CHECK-IN LIST

Date/Time Received: 3-24-98 1505 SG#: W02288

Work Order Number: 803399 + 400 SAF #: N98-005

Shipping Container ID: SML-465 Chain of Custody # N98-005-2 +3

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: 20
7. Sample holding times exceeded? Yes [] No [] ✓

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

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

10. Where any anomalies identified in sample receipt? Yes [] No [] ✓
11. Description of anomalies (include sample numbers): _____

Sample Custodian/Laboratory: [signature] Date: 3-24-98

Telephoned To: _____ On _____ By _____

000103

Figure 1

SAMPLE CHECK-IN LIST

Date/Time Received: 3-24-98 1505 SG#: 1002288

Work Order Number: 803399 + 400 SAF #: N98-005

Shipping Container ID: SMC-349 Chain of Custody # N98-005-2+3+11

1. Custody Seals on shipping container intact? Yes [X] 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: 28
7. Sample holding times exceeded? Yes [ ] No [✓]

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

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

10. Where any anomalies identified in sample receipt? Yes [ ] No [✓]
11. Description of anomalies (include sample numbers): _____

Sample Custodian/Laboratory: [signature] Date: 3-24-98

Telephoned To: _____ On _____ By _____

000104

Quanterra Environmental Services

BWS SL

014633

Login No.: 17312

Condition Upon Receipt Variance Report
St. Louis Laboratory

Client: Richland

Date: 3-26-98 Time: 0820

Project No: 519.145

Initiated by: Fred M Mitchell

Shipper/No: AB 4719404815

RFA/COC Numbers: L0474

Condition/Variance (Check all that apply):

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

☐ No variances were noted during sample receipt. Cooler Temperature Upon Receipt: 4°C

Notes: Recv; Bon844 Total URANIUM

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) Fred M Mitchell Date: 3-26-98

Project Management Review: Robert E. White Date: 4-01-98

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

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

000105

Quanterra March 31, 1998 01:58 pm
Account: 10722 Project: 519.145 Quanterra-Richland QAS No. 519.145 Rev. 6
Master Sample Login: 17323

W02288

Project Manager: W. Price

Draft: Final: Entered and Reviewed by: [signature] PM Review: [signature]

Sample Header Template:

Sample No. / # Comments / Data:	Client ID / Container Type	C-Matrix / Analysis	Date: Collected / Class	Received / Preservative	Due / Anal. Due Date	Shipper / Hold Date	Site	Rad Category	Rad Sample No. / (Container Numbers:% Filled)
17323-001	BON834	Water	24-MAR-98 12:21	25-MAR-98 15:05	14-APR-98	AIRBORNE		1	Screening not Required
RICHLAND I.D. 80342602									
1	PN - Plastic-500ml	CL/300.0/Q4	S	COLD	08-APR-98	21-APR-98	T5C		(366461:99)
1		FL/300.0/Q4	S	COLD	08-APR-98	21-APR-98	T5C		(366461:99)
1		NO2/300.0/Q4	S	COLD	08-APR-98	26-MAR-98	T5C		(366461:99)
1		NO3/300.0/Q4	S	COLD	08-APR-98	26-MAR-98	T5C		(366461:99)
1		SO4/300.0/Q4	S	COLD	08-APR-98	21-APR-98	T5C		(366461:99)
17323-002	BON472	Water	25-MAR-98 10:25	25-MAR-98 15:20	14-APR-98	AIRBORNE		1	Screening not Required
RICHLAND I.D. 80342604									
3	VI - Vial-40ml	VOA/8260APPIX-25/Q4	S	HCL	08-APR-98	08-APR-98	109H		(366488:99 366489:98 366490:97)
1	PN - Plastic-500ml	CL/300.0/Q4	S	COLD	08-APR-98	22-APR-98	T5C		(366466:99)
1		FL/300.0/Q4	S	COLD	08-APR-98	22-APR-98	T5C		(366466:99)
1		NO2/300.0/Q4	S	COLD	08-APR-98	27-MAR-98	T5C		(366466:99)
1		NO3/300.0/Q4	S	COLD	08-APR-98	27-MAR-98	T5C		(366466:99)
1		SO4/300.0/Q4	S	COLD	08-APR-98	22-APR-98	T5C		(366466:99)
17323-002MS	BON472	Water	25-MAR-98 10:25	25-MAR-98 15:20	14-APR-98	AIRBORNE		1	Screening not Required
RICHLAND I.D. 80342604									
3	VI - Vial-40ml	VOA/8260APPIX-25/Q4	S	HCL	08-APR-98	08-APR-98	109H		(366488:99 366489:98 366490:97)
17323-002MSD	BON472	Water	25-MAR-98 10:25	25-MAR-98 15:20	14-APR-98	AIRBORNE		1	Screening not Required
RICHLAND I.D. 80342604									
3	VI - Vial-40ml	VOA/8260APPIX-25/Q4	S	HCL	08-APR-98	08-APR-98	109H		(366488:99 366489:98 366490:97)
17323-003	BON449	Water	25-MAR-98 11:48	25-MAR-98 15:05	14-APR-98	AIRBORNE		1	Screening not Required
RICHLAND I.D. 80342605									
3	VI - Vial-40ml	VOA/8260APPIX-25/Q4	S	HCL	08-APR-98	08-APR-98	109H		(366471:99 366472:98 366473:97)
1	PN - Plastic-500ml	CL/300.0/Q4	S	COLD	08-APR-98	22-APR-98	T5C		(366470:99)
1		FL/300.0/Q4	S	COLD	08-APR-98	22-APR-98	T5C		(366470:99)
1		NO2/300.0/Q4	S	COLD	08-APR-98	27-MAR-98	T5C		(366470:99)
1		NO3/300.0/Q4	S	COLD	08-APR-98	27-MAR-98	T5C		(366470:99)
1		SO4/300.0/Q4	S	COLD	08-APR-98	22-APR-98	T5C		(366470:99)
17323-004	BON489	Water	25-MAR-98 13:27	25-MAR-98 15:05	14-APR-98	AIRBORNE		1	Screening not Required
RICHLAND I.D. 80342606									
3	VI - Vial-40ml	VOA/8260APPIX-25/Q4	S	HCL	08-APR-98	08-APR-98	109H		(366475:99 366476:98 366477:97)

3*=Sample has not been rad screened.

000106

Quanterra March 31, 1998 01:58 pm
Account: 10722 Project: 519.145 Quanterra-Richland QAS No. 519.145 Rev. 6
Master Sample Login: 17323

Project Manager: W. Price

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

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	08-APR-98	22-APR-98	T5C		(366474:99)
1		FL/300.0/Q4	S	COLD	08-APR-98	22-APR-98	T5C		(366474:99)
1		NO2/300.0/Q4	S	COLD	08-APR-98	27-MAR-98	T5C		(366474:99)
1		NO3/300.0/Q4	S	COLD	08-APR-98	27-MAR-98	T5C		(366474:99)
1		SO4/300.0/Q4	S	COLD	08-APR-98	22-APR-98	T5C		(366474:99)
17323-005	B0N471	Water	25-MAR-98 10:25	25-MAR-98 15:20	14-APR-98	AIRBORNE	1		Screening not Required
RICHLAND I.D. 80342603									
1	PN - Plastic-500ml	ICAPD/6010/Q4	S	HNO3	08-APR-98	21-SEP-98	T5C		(366496:99)
17323-006	B0N679	Water	25-MAR-98 10:25	25-MAR-98 15:20	14-APR-98	AIRBORNE	1		Screening not Required
RICHLAND I.D. 80342607									
3	VI - Vial-40ml	VOA/8260APPIX-25/Q4	S	HCL	08-APR-98	08-APR-98	109H		(366482:99 366483:98 366484:97)
17323-007	B0N678	Water	25-MAR-98 11:48	25-MAR-98 15:05	14-APR-98	AIRBORNE	1		Screening not Required
RICHLAND I.D. 80342608									
3	VI - Vial-40ml	VOA/8260APPIX-25/Q4	S	HCL	08-APR-98	08-APR-98	109H		(366485:99 366486:98 366487:97)
17323-008	B0N833	Water	24-MAR-98 12:21	25-MAR-98 15:05	14-APR-98	AIRBORNE	1		Screening not Required
RICHLAND I.D. 80342601									
1	PN - Plastic-500ml	ASD/7060/Q4	S	HNO3	08-APR-98	20-SEP-98	T5C		(366495:98)
1		ICAPD/6010/Q4	S	HNO3	08-APR-98	20-SEP-98	T5C		(366494:99)

3*=Sample has not been rad screened.

000107

TSC Temp Y-L Cuk# 17613
ST Louis

Chain of Custody Record

Quanterra

QUA-4124 0797

Client: PCW	Project Manager: A. Koprucu	Date: 3/26/98	Chain of Custody Number: 10478
Address	Telephone Number (Area Code)/Fax Number	Lab Number	Page 1 of 1
City / State / Zip Code	Site Contact	Lab Contact	
Project Name: SAF S98-003	Carrier/Waybill Number		
Contract/Purchase Order/Quote No.			

Analysis (Attach list if more space is needed): SEE COC

Special Instructions/ Conditions of Receipt

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Aqueous	Sed.	Soil		Containers & Preservatives: Unpres.	H2SO4	HNOS	HCl	NaOH	ZnAc/NaOH
80342601 BON833												
2 834												
3 471												
4 472												
5 449												
6 489												
7 679												
8 678												

Chemical Analysis Pottles

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

Sample Disposal: ☒ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months (A fee may be assessed if samples are retained longer than 3 months)

Turn Around Time Required: ☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☒ Other Due 5-9-98

QC Requirements (Specify): STD W02288

1. Relinquished By: Heidelberg QES	Date: 3/26/98	Time: 1610	1. Received By: [signature]	Date: 3-27-98	Time: 0900
2. Relinquished By	Date	Time	2. Received By	Date	Time
3. Relinquished By	Date	Time	3. Received By	Date	Time

Comments: 000108

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

fic Northwest National Labora

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

S98-003-76

Collector: AG RIZZO (RFS)	Company Contact: DL STEWART, PNNL	Telephone No.: (509) 376-5056	Project Coordinator: DRESEL, PE
Project Designation: SURVEILLANCE GW MONITORING, MARCH 1998	Sampling Location: HANFORD SITE		SAF No.: S98-003
Ice Chest No.: INORG	Field Logbook No.: WM-SMC-H4		Method of Shipment: GOVT. VEHICLE
Shipped To: Quanterra Incorporated	Offsite Property No.: NA PH =		Bill of Lading/Air Bill No.: NA
POSSIBLE SAMPLE HAZARDS/REMARKS			
Special Handling and/or Storage: 4°C			

Data Turnaround: 45 Days

Preservation	None	Cool 4C	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	None	None		
Type of Container	G/P	G/P	G/P	G/P	G/P	G/P	P	G/P		
No. of Container(s)	1	1	1	1	1	1	1	4		
Volume	20ml	500ml	500ml	500ml	1000ml	1000ml	1000ml	1L		
SAMPLE ANALYSIS	Activity Scan	See item (1) in Special Instructions	Arsenic - 7060 - (GFAA) (F)	ICP Metals - 6010A RCRA GW (F)	Gross Alpha	Gross Beta	Tritium - H3	I-129 Low Level		
803426 SDL W02288					80342701					

	Sample No.	Matrix *	Sample Date	Sample Time										
4	B0N833 (F) 01	Water	3/24/98	1221			✓	✓						
1	B0N834 02	Water	3/24/98	1221	✓	✓			✓	✓	✓	✓		
						100	100	100						

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: AG RIZZO (RFS)	Date/Time: 3/25/98 1505	Received By: Lauren DeSteiling	Date/Time: 3-25-98 1505
Relinquished By	Date/Time	Received By: L100CPM	Date/Time
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS

TOTAL ACTIVITY ~~EXEMPTION APPLIES~~ Required

SEE SAF; 'COC Comments' for batching instructions while not exceeding maximum SDG closure of 14 days.

(1) IC Anions - 300.0 (Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate)

Matrix *

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

LABORATORY SECTION	Received By: 000109	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	S98-003-5	Page 1 of 2

Collector RR FOX (RFS)	**Company Contact** DL STEWART, PNNL **Telephone No.** (509) 376-5056	**Project Coordinator** DRESEL, PE	**Data Turnaround** 45 Days
Project Designation SURVEILLANCE GW MONITORING, MARCH 1998	**Sampling Location** HANFORD SITE	**SAF No.** S98-003	
Ice Chest No. SML 471	**Field Logbook No.** WM-SML-H11	**Method of Shipment** GOVT. VEHICLE	
Shipped To Quanterra Incorporated	**Offsite Property No.** N/A	**Bill of Lading/Air Bill No.** 1 N/A	

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

Preservation	None	Cool 4C	Cool 4C	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	None
Type of Container	G/P	G/P	G/P	G/P	G/P	G/P	G/P	G/P	G/P	P
No. of Container(s)	1	1	1	1	1	1	1	1	1	1
Volume	20ml	500ml	500ml	500ml	500ml	1000ml	1000ml	1000ml	1000ml	1000ml
SAMPLE ANALYSIS 803426	Activity Scan	See item (1) in Special Instructions.	IC Anions - 300.0 (Phosphate) 2-24-98	ICP Metals - 6010A RCRA GW (F)	Total Uranium 8	Gross Alpha 0	Gross Beta 3	Isotopic Plutonium 4	Isotopic Uranium 2	Tritium - H3 7 0 2

Sample No.	Matrix *	Sample Date	Sample Time	Activity Scan	See item (1) in Special Instructions.	IC Anions - 300.0 (Phosphate)	ICP Metals - 6010A RCRA GW	Total Uranium	Gross Alpha	Gross Beta	Isotopic Plutonium	Isotopic Uranium	Tritium - H3
B0N471 03 (F)	Water	3-25-98	1025				✓						
B0N472 04	Water	3-25-98	1025	✓	✓ 100	✓	✓ 100	✓ 100	✓	✓	✓	✓	✓

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

Relinquished By	Date/Time	Received By	Date/Time
RR FOX (RFS)	1520 3-25-98	Karen de Hendy	1520 3-25-98
		L100	

SPECIAL INSTRUCTIONS
TOTAL ACTIVITY EXEMPTION APPLIES
SEE SAF; 'COC Comments' for batching instructions while not exceeding maximum SDG closure of 14 days.

(1) IC Anions - 300.0 (Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate)

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

LABORATORY SECTION	Received By 000110	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	S98-003-5	Page 2 of 2

Collector AR FOX (RFS)	**Company Contact** DL STEWART, PNNL	**Telephone No.** (509) 376-5056	**Project Coordinator** DRIESEL, PE
Data Turnaround 45 Days			
Project Designation SURVEILLANCE GW MONITORING, MARCH 1998	**Sampling Location** HANFORD SITE		**SAF No.** S98-003
Ice Chest No. SML 471	**Field Logbook No.** WM-SML-HV		**Method of Shipment** GOVT. VEHICLE
Shipped To Quanterra Incorporated	**Offsite Property No.** N/A		**Bill of Lading/Air Bill No.** WM
POSSIBLE SAMPLE HAZARDS/REMARKS			
Special Handling and/or Storage			

Preservation	HNO3 to pH <2	None	HCl or H2SO4 to pH <2 Coo	HCl to pH <2	HNO3 to pH <2	None				
Type of Container	G/P	G/P	Gs*	G/P	G/P	G/P				
No. of Container(s)	1	2	3	3	3	4				
Volume	4000ml	1000ml	40ml	1000ml	1000ml	1L				
SAMPLE ANALYSIS 803426	Gamma Spec - Low Level 80342702	Carbon-14	VOA - 8260A (RCRA)	Technetium-99	Strontium-89,90 -- Sr-90 80342702	I-129 Low Level				

Sample No.	Matrix *	Sample Date	Sample Time										
B0N471 03	Water												
B0N472 04	Water	3-25-98	1225	✓	✓	✓	✓	✓	✓				
2						3 x 100							

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By AR FOX (RFS)	Date/Time 1520 3-25-98	Received By	Date/Time 1520 3-25-98
Relinquished By	Date/Time	Received By 1100am	Date/Time
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS
TOTAL ACTIVITY EXEMPTION APPLIES
SEE SAF; 'COC Comments' for batching instructions while not exceeding maximum SDG closure of 14 days.

Matrix *

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

LABORATORY SECTION	Received By 000111	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	S98-003-33	Page 1 of 1

Collector AG RIZZO (RFS)	**Company Contact** DL STEWART, PNNL	**Telephone No.** (509) 376-5056	**Project Coordinator** DRESEL, PE
Project Designation SURVEILLANCE GW MONITORING, MARCH 1998	**Sampling Location** HANFORD SITE		**SAF No.** S98-003
Ice Chest No. ER-10	**Field Logbook No.** WM-SMC-114		**Method of Shipment** GOVT. VEHICLE
Shipped To Quanterra Incorporated	**Offsite Property No.** NA		**Bill of Lading/Air Bill No.** NA

Date Turnaround 45 Days

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage 4°C

Preservation	None	Cool 4C	HNO3 to pH <2	None	HCl or H2SO4 to pH <2 Coo	HCl to pH <2				
Type of Container	G/P	G/P	G/P	P	Gs*	G/P				
No. of Container(s)	1	1	1	1	3	3				
Volume	20ml	500ml	500ml	1000ml	40ml	1000ml				
SAMPLE ANALYSIS 803426	Activity Scan	See item (1) in Special Instructions.	Total Uranium 8034	Tritium - H3 2703	VOA - 8260A (RCRA)	Technetium-99 803427 03				

Sample No.	Matrix *	Sample Date	Sample Time										
B0N449 05	Water	3/25/98	1146	✓	✓	✓	✓	✓	✓				
					100			3x100					

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

Relinquished By	Date/Time	Received By	Date/Time
AG RIZZO (RFS)	3/25/98 1505	Karen A. Hinkley	3-25-98 1505
		2100 pm	

SPECIAL INSTRUCTIONS
TOTAL ACTIVITY EXEMPTION APPLIES
SEE SAF; 'COC Comments' for batching instructions while not exceeding maximum SDG closure of 14 days.

(1) IC Anions - 300.0 (Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate)

Matrix *
S = Soil
SB = Sediment
SO = Solid
SL = Sludge
W = Water
O = Oil
A = Air
DS = Drum Solids
DL = Drum Liquids
T = Tissue
WI = Wipe
L = Liquid
V = Vegetation
X = Other

LABORATORY SECTION	Received By 000112	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	S98-003-36	Page 1 of 1

Collector: AG RIZZO (RFS)	Company Contact: DL STEWART, PNNL — Telephone No.: (509) 376-5056	Project Coordinator: DRESEL, PE	Data Turnaround: 45 Days
Project Designation: SURVEILLANCE GW MONITORING, MARCH 1998	Sampling Location: HANFORD SITE	SAF No.: S98-003	
Ice Chest No.: ER-10	Field Logbook No.: WM-SML-H4	Method of Shipment: GOVT. VEHICLE	
Shipped To: Quanterra Incorporated	Offsite Property No.: NA	Bill of Lading/Air Bill No.: NA	

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage: 4°C

Preservation	None	Cool 4C	HNO3 to pH <2	HNO3 to pH <2	None	HCl or H2SO4 to pH <2 Coo	HCl to pH <2	None		
Type of Container	G/P	G/P	G/P	G/P	P	Gs*	G/P	G/P		
No. of Container(s)	1	1	1	1	1	3	3	4		
Volume	20ml	500ml	500ml	1000ml	1000ml	40ml	1000ml	1L		
SAMPLE ANALYSIS	Activity Scan	See Item (1) in Special Instructions.	Total Uranium	Isotopic Uranium	Tritium - H3	VOA - 8260A (RCRA)	Technetium-99	I-129 Low Level		
803426			80342704				80342704			

Sample No.	Matrix *	Sample Date	Sample Time										
B0N489 06	Water	3/25/98	1327	✓	✓ 100	✓	✓	✓	✓ 3x100	✓	✓		

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: AG RIZZO (RFS)	Date/Time: 3/25/98 1505	Received By: Karen de Denling	Date/Time: 3/25/98 1505
Relinquished By	Date/Time	Received By: <100CPM	Date/Time
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS
TOTAL ACTIVITY EXEMPTION APPLIES
SEE SAF; 'COC Comments' for batching instructions while not exceeding maximum SDG closure of 14 days.

(1) IC Anions - 300.0 (Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate)

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

LABORATORY SECTION	Received By: 000113	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	S98-003-72	Page 1 of 1

Collector: RR FOX (RFS)	Company Contact: DL STEWART, PNNL — Telephone No.: (509) 376-5056	Project Coordinator: DRESEL, PE	Data Turnaround: 45 Days
Project Designation: SURVEILLANCE GW MONITORING, MARCH 1998	Sampling Location: HANFORD SITE	SAF No.: S98-003	
Ice Chest No.: SML 471	Field Logbook No.: WM-SML-1111	Method of Shipment: GOVT. VEHICLE	
Shipped To: Quanterra Incorporated	Offsite Property No.: N/A	Bill of Lading/Air Bill No.: N/A	

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

Preservation	None	HCl or H2SO4 to pH <2 Coo										
Type of Container	G/P	Gs*										
No. of Container(s)	1	3										
Volume	20ml	40ml										
	Activity Scan	VOA - 8260A (RCRA)										

SAMPLE ANALYSIS

803426

Sample No.	Matrix *	Sample Date	Sample Time										
B0N679 07	Water	3-25-98	1025	✓	✓								
					3x100								

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: RR FOX (RFS)	Date/Time: 1520 3-25-98	Received By: [signature]	Date/Time: 1520 3-25-98
Relinquished By	Date/Time	Received By: LIDOLPHY	Date/Time
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS
TOTAL ACTIVITY EXEMPTION APPLIES
SEE SAF; 'COC Comments' for batching instructions while not exceeding maximum SDG closure of 14 days.

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

LABORATORY SECTION	Received By: 000114	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	S98-003-71	Page 1 of 1

Collector: AG RIZZO (RFS)	Company Contact: DL STEWART, PNNL	Telephone No.: (509) 376-5056	Project Coordinator: DRESEL, PE
Project Designation: SURVEILLANCE GW MONITORING, MARCH 1998	Sampling Location: HANFORD SITE		SAF No.: S98-003
Ice Chest No.: ER-10	Field Logbook No.: WM-SML-114		Method of Shipment: GOVT. VEHICLE
Shipped To: Quanterra Incorporated	Offsite Property No.: NA		Bill of Lading/Air Bill No.: NA
POSSIBLE SAMPLE HAZARDS/REMARKS			
Special Handling and/or Storage: 4°C			

Data Turnaround: **45 Days**

Preservation	None	HCl or H2SO4 to pH <2 Coo											
Type of Container	G/P	Gs*											
No. of Container(s)	1	3											
Volume	20ml	40ml											
SAMPLE ANALYSIS 803426	Activity Scan	VOA - 8260A (RCRA)											
Sample No. / Matrix * / Sample Date / Sample Time													
B0N678 08 / Water / 3/25/98 / 1146	✓	✓ 3X(a)											

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: AG RIZZO (RFS)	Date/Time: 3/25/97 1505	Received By: Maxim Stetkevich	Date/Time: 3-25-98 1505
Relinquished By	Date/Time	Received By: 2100 pm	Date/Time
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS
TOTAL ACTIVITY EXEMPTION APPLIES
~~SEE~~ SAF; 'COC Comments' for batching instructions while not exceeding maximum SDG closure of 14 days.

Matrix *

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

LABORATORY SECTION	Received By: 000115	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

VALIDATED RESULTS SHORT REPORT

25 Mar 1998

Customer ID: BON863
Lab Sample#: S98E000205

Sample Date: 03/24/98 13:20
Recv. Date: 03/24/98 13:46

PARAMETER	RESULTS	UNITS
Total Activity by LSC		
Total Act. by LSC: % Uncert.	7.27	%Uncertainty
Total Activity by LSC (Solid)	8.03e-5	uCi/g

911009

Figure 1

SAMPLE CHECK-IN LIST

Date/Time Received: 3/25 1520 SG#: W02288

Work Order Number: 803426 + 427 SAF #: S98-003

Shipping Container ID: SMC471 Chain of Custody # S98-003-5 + 72

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 [✓] na
6. Number of samples in shipping container: 29
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: 3/25/98

Telephoned To: _____ On _____ By _____

Figure 1

SAMPLE CHECK-IN LIST

Date/Time Received: 32598 1505 SG#: W02288

Work Order Number: 803426 +427 SAF #: S98-003

Shipping Container ID: FORNC Chain of Custody # S98-003-76

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 [✓] n/a
6. Number of samples in shipping container: 11
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: 3/25/98

Telephoned To: _____ On _____ By _____

Figure 1

SAMPLE CHECK-IN LIST

Date/Time Received: 3-25-98 1505 SG#: W02288

Work Order Number: 803426 + 427 SAF #: S98-003

Shipping Container ID: ER-10 Chain of Custody # S98-003-71 + 33 + 36

1. Custody Seals on shipping container intact? Yes [✓] No [ ]
2. Custody Seals dated and signed? Yes [✓] No [ ]
3. Chain-of-Custody record present? Yes [✓] No [ ]
4. Cooler temperature 4
5. Vermiculite/packing materials is Wet [ ] Dry [✓] n/a
6. Number of samples in shipping container: 29
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: 3/25/98

Telephoned To: _____ On _____ By _____

001119

Quanterra Environmental Services

BW & SL

014613

Login No.: 17323

Condition Upon Receipt Variance Report
St. Louis Laboratory

Client: Richland

Date: 3-27-98 Time: 0900

Project No: 519.145

Initiated by: Fred M Mitchell

Shipper/No: A/B 4719405 412

RFA/COC Numbers: 10478

Condition/Variance (Check all that apply):

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

☑ No variances were noted during sample receipt. Cooler Temperature Upon Receipt: 4°C

Notes:

Corrective Action:

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

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

☐ Sample(s) processed "as is". _____

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

Sample Control Supervisor Review: (or designate) Fred M Mitchell Date: 3-27-98

Project Management Review: [illegible] Date: 3-31-98

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

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

000120

METALS

000121

Pacific Northwest National Lab
P.O. Box 1970
Richland, WA 99352

Project: 519.145

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

Client ID: BON840

Sample Date : 03/19/98
Receipt Date : 03/19/98
Report Date : 05/19/98

Quanterra ID : 17281-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Barium	7440-39-3	QCBLK168924-1	04/01/98	04/01/98	44.1	UG/L		10.0	1
Chromium	7440-47-3	QCBLK168924-1	04/01/98	04/01/98	16.2	UG/L		10.0	1
Lead	7439-92-1	QCBLK168924-1	04/01/98	04/01/98	1.1	UG/L	U	3.0	1
Vanadium	7440-62-2	QCBLK168924-1	04/01/98	04/01/98	29.3	UG/L		10.0	1
Zinc	7440-66-6	QCBLK168924-1	04/01/98	04/01/98	5.3	UG/L	B	10.0	1
Tin	7440-31-5	QCBLK168924-1	04/01/98	04/01/98	4.9	UG/L	U	100	1

6001122

Pacific Northwest National Lab
P.O. Box 1970
Richland, WA 99352

Project: 519.145

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

Client ID: BON840

Sample Date : 03/19/98
Receipt Date : 03/19/98
Report Date : 05/19/98

Quanterra ID : 17281-001MS

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Barium	7440-39-3	QCBLK168924-1	04/01/98	04/01/98	104	%REC			1
Chromium	7440-47-3	QCBLK168924-1	04/01/98	04/01/98	97	%REC			1
Lead	7439-92-1	QCBLK168924-1	04/01/98	04/01/98	98	%REC			1
Vanadium	7440-62-2	QCBLK168924-1	04/01/98	04/01/98	100	%REC			1
Zinc	7440-66-6	QCBLK168924-1	04/01/98	04/01/98	100	%REC			1
Tin	7440-31-5	QCBLK168924-1	04/01/98	04/01/98	92	%REC			1

Pacific Northwest National Lab
P.O. Box 1970
Richland, WA 99352

Project: 519.145

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

Client ID: BON840

Sample Date : 03/19/98
Receipt Date : 03/19/98
Report Date : 05/19/98

Quanterra ID : 17281-001MSD

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Barium	7440-39-3	QCBLK168924-1	04/01/98	04/01/98	104	%REC			1
Chromium	7440-47-3	QCBLK168924-1	04/01/98	04/01/98	97	%REC			1
Lead	7439-92-1	QCBLK168924-1	04/01/98	04/01/98	97	%REC			1
Vanadium	7440-62-2	QCBLK168924-1	04/01/98	04/01/98	99	%REC			1
Zinc	7440-66-6	QCBLK168924-1	04/01/98	04/01/98	99	%REC			1
Tin	7440-31-5	QCBLK168924-1	04/01/98	04/01/98	92	%REC			1

Pacific Northwest National Lab
P.O. Box 1970
Richland, WA 99352

Project: 519.145

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

Client ID: BON848

Sample Date : 03/19/98
Receipt Date : 03/19/98
Report Date : 05/19/98

Quanterra ID : 17281-002

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Barium	7440-39-3	QCBLK168924-1	04/01/98	04/01/98	80.1	UG/L		10.0	1
Chromium	7440-47-3	QCBLK168924-1	04/01/98	04/01/98	6.4	UG/L	B	10.0	1
Lead	7439-92-1	QCBLK168924-1	04/01/98	04/01/98	3.6	UG/L		3.0	1
Vanadium	7440-62-2	QCBLK168924-1	04/01/98	04/01/98	24.0	UG/L		10.0	1
Zinc	7440-66-6	QCBLK168924-1	04/01/98	04/01/98	462	UG/L		10.0	1
Tin	7440-31-5	QCBLK168924-1	04/01/98	04/01/98	4.9	UG/L	U	100	1

Pacific Northwest National Lab
P.O. Box 1970
Richland, WA 99352

Project: 519.145

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

Client ID: BON852

Sample Date : 03/19/98
Receipt Date : 03/19/98
Report Date : 05/19/98

Quanterra ID : 17281-003

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Barium	7440-39-3	QCBLK168924-1	04/01/98	04/01/98	1.0	UG/L	U	10.0	1
Chromium	7440-47-3	QCBLK168924-1	04/01/98	04/01/98	0.80	UG/L	U	10.0	1
Lead	7439-92-1	QCBLK168924-1	04/01/98	04/01/98	1.1	UG/L	U	3.0	1
Vanadium	7440-62-2	QCBLK168924-1	04/01/98	04/01/98	4.4	UG/L	U	10.0	1
Zinc	7440-66-6	QCBLK168924-1	04/01/98	04/01/98	6.1	UG/L	B	10.0	1
Tin	7440-31-5	QCBLK168924-1	04/01/98	04/01/98	4.9	UG/L	U	100	1

000126

Pacific Northwest National Lab
P.O. Box 1970
Richland, WA 99352

Project: 519.145

Category: ICP Metals TAL - Filtered
Method: EPA 6010
Matrix: LIQUID

Client ID: BON839

Sample Date : 03/19/98
Receipt Date : 03/19/98
Report Date : 05/19/98

Quanterra ID : 17281-006

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Barium	7440-39-3	QCBLK168924-1	04/01/98	04/01/98	43.7	UG/L		10.0	1
Chromium	7440-47-3	QCBLK168924-1	04/01/98	04/01/98	16.6	UG/L		10.0	1
Lead	7439-92-1	QCBLK168924-1	04/01/98	04/01/98	1.1	UG/L	U	3.0	1
Vanadium	7440-62-2	QCBLK168924-1	04/01/98	04/01/98	29.0	UG/L		10.0	1
Zinc	7440-66-6	QCBLK168924-1	04/01/98	04/01/98	5.8	UG/L	B	10.0	1
Tin	7440-31-5	QCBLK168924-1	04/01/98	04/01/98	4.9	UG/L	U	100	1

Pacific Northwest National Lab
P.O. Box 1970
Richland, WA 99352

Project: 519.145

Category: ICP Metals TAL - Filtered
Method: EPA 6010
Matrix: LIQUID

Client ID: BON847

Sample Date : 03/19/98
Receipt Date : 03/19/98
Report Date : 05/19/98

Quanterra ID : 17281-007

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Barium	7440-39-3	QCBLK168924-1	04/01/98	04/01/98	79.0	UG/L		10.0	1
Chromium	7440-47-3	QCBLK168924-1	04/01/98	04/01/98	4.1	UG/L	B	10.0	1
Lead	7439-92-1	QCBLK168924-1	04/01/98	04/01/98	2.4	UG/L	B	3.0	1
Vanadium	7440-62-2	QCBLK168924-1	04/01/98	04/01/98	23.0	UG/L		10.0	1
Zinc	7440-66-6	QCBLK168924-1	04/01/98	04/01/98	386	UG/L		10.0	1
Tin	7440-31-5	QCBLK168924-1	04/01/98	04/01/98	4.9	UG/L	U	100	1

Pacific Northwest National Lab
P.O. Box 1970
Richland, WA 99352

Project: 519.145

Category: ICP Metals TAL - Filtered
Method: EPA 6010
Matrix: LIQUID

Client ID: BON851

Sample Date : 03/19/98
Receipt Date : 03/19/98
Report Date : 05/19/98

Quanterra ID : 17281-008

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Barium	7440-39-3	QCBLK168924-1	04/01/98	04/01/98	1.0	UG/L	U	10.0	1
Chromium	7440-47-3	QCBLK168924-1	04/01/98	04/01/98	0.80	UG/L	U	10.0	1
Lead	7439-92-1	QCBLK168924-1	04/01/98	04/01/98	1.1	UG/L	U	3.0	1
Vanadium	7440-62-2	QCBLK168924-1	04/01/98	04/01/98	4.4	UG/L	U	10.0	1
Zinc	7440-66-6	QCBLK168924-1	04/01/98	04/01/98	5.8	UG/L	B	10.0	1
Tin	7440-31-5	QCBLK168924-1	04/01/98	04/01/98	4.9	UG/L	U	100	1

Pacific Northwest National Lab
P.O. Box 1970
Richland, WA 99352

Project: 519.145

Category: ICP Metals TAL - Filtered
Method: EPA 6010
Matrix: LIQUID

Client ID: BON8B3

Sample Date : 03/19/98
Receipt Date : 03/19/98
Report Date : 05/19/98

Quanterra ID : 17285-002

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK168924-1	04/01/98	04/02/98	45.2	UG/L	BC	100	1
Antimony	7440-36-0	QCBLK168924-1	04/01/98	04/02/98	45.7	UG/L	U	100	1
Barium	7440-39-3	QCBLK168924-1	04/01/98	04/02/98	241	UG/L		10.0	1
Beryllium	7440-41-7	QCBLK168924-1	04/01/98	04/02/98	1.0	UG/L	B	2.0	1
Cadmium	7440-43-9	QCBLK168924-1	04/01/98	04/02/98	4.6	UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK168924-1	04/01/98	04/02/98	193000	UG/L	NC	100	1
Chromium	7440-47-3	QCBLK168924-1	04/01/98	04/02/98	2.1	UG/L	U	10.0	1
Cobalt	7440-48-4	QCBLK168924-1	04/01/98	04/02/98	3.8	UG/L	U	20.0	1
Copper	7440-50-8	QCBLK168924-1	04/01/98	04/02/98	3.6	UG/L	U	20.0	1
Iron	7439-89-6	QCBLK168924-1	04/01/98	04/02/98	19600	UG/L	C	30.0	1
Magnesium	7439-95-4	QCBLK168924-1	04/01/98	04/02/98	38900	UG/L	C	100	1
Manganese	7439-96-5	QCBLK168924-1	04/01/98	04/02/98	4470	UG/L		5.0	1
Nickel	7440-02-0	QCBLK168924-1	04/01/98	04/02/98	14.2	UG/L	U	25.0	1
Potassium	7440-09-7	QCBLK168924-1	04/01/98	04/02/98	5870	UG/L		2150	1
Silver	7440-22-4	QCBLK168924-1	04/01/98	04/02/98	5.1	UG/L	U	10.0	1
Sodium	7440-23-5	QCBLK168924-1	04/01/98	04/02/98	47800	UG/L	C	300	1
Vanadium	7440-62-2	QCBLK168924-1	04/01/98	04/02/98	24.1	UG/L		10.0	1
Zinc	7440-66-6	QCBLK168924-1	04/01/98	04/02/98	39.5	UG/L		10.0	1
Strontium	7440-24-6	QCBLK168924-1	04/01/98	04/02/98	827	UG/L		20.0	1

000130

Pacific Northwest National Lab
P.O. Box 1970
Richland, WA 99352

Project: 519.145

Category: ICP Metals TAL - Filtered
Method: EPA 6010
Matrix: LIQUID

Client ID: B0N8B3

Sample Date : 03/19/98
Receipt Date : 03/19/98
Report Date : 05/19/98

Quanterra ID : 17285-002MS

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK168924-1	04/01/98	04/02/98	98	%REC			1
Antimony	7440-36-0	QCBLK168924-1	04/01/98	04/02/98	99	%REC			1
Barium	7440-39-3	QCBLK168924-1	04/01/98	04/02/98	92	%REC			1
Beryllium	7440-41-7	QCBLK168924-1	04/01/98	04/02/98	101	%REC			1
Cadmium	7440-43-9	QCBLK168924-1	04/01/98	04/02/98	97	%REC			1
Calcium	7440-70-2	QCBLK168924-1	04/01/98	04/02/98	84	%REC			1
Chromium	7440-47-3	QCBLK168924-1	04/01/98	04/02/98	89	%REC			1
Cobalt	7440-48-4	QCBLK168924-1	04/01/98	04/02/98	91	%REC			1
Copper	7440-50-8	QCBLK168924-1	04/01/98	04/02/98	94	%REC			1
Iron	7439-89-6	QCBLK168924-1	04/01/98	04/02/98	25	%REC			1
Magnesium	7439-95-4	QCBLK168924-1	04/01/98	04/02/98	99	%REC			1
Manganese	7439-96-5	QCBLK168924-1	04/01/98	04/02/98	67	%REC			1
Nickel	7440-02-0	QCBLK168924-1	04/01/98	04/02/98	94	%REC			1
Potassium	7440-09-7	QCBLK168924-1	04/01/98	04/02/98	98	%REC			1
Silver	7440-22-4	QCBLK168924-1	04/01/98	04/02/98	99	%REC			1
Sodium	7440-23-5	QCBLK168924-1	04/01/98	04/02/98	94	%REC			1
Vanadium	7440-62-2	QCBLK168924-1	04/01/98	04/02/98	95	%REC			1
Zinc	7440-66-6	QCBLK168924-1	04/01/98	04/02/98	94	UG/L			1
Strontium	7440-24-6	QCBLK168924-1	04/01/98	04/02/98	91	UG/L			1

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Project: 519.145

Category: ICP Metals TAL - Filtered
Method: EPA 6010
Matrix: LIQUID

Client ID: BON8B3

Sample Date : 03/19/98
Receipt Date : 03/19/98
Report Date : 05/19/98

Quanterra ID : 17285-002MSD

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK168924-1	04/01/98	04/02/98	94	%REC			1
Antimony	7440-36-0	QCBLK168924-1	04/01/98	04/02/98	92	%REC			1
Barium	7440-39-3	QCBLK168924-1	04/01/98	04/02/98	88	%REC			1
Beryllium	7440-41-7	QCBLK168924-1	04/01/98	04/02/98	97	%REC			1
Cadmium	7440-43-9	QCBLK168924-1	04/01/98	04/02/98	93	%REC			1
Calcium	7440-70-2	QCBLK168924-1	04/01/98	04/02/98	68	%REC	N		1
Chromium	7440-47-3	QCBLK168924-1	04/01/98	04/02/98	85	%REC			1
Cobalt	7440-48-4	QCBLK168924-1	04/01/98	04/02/98	88	%REC			1
Copper	7440-50-8	QCBLK168924-1	04/01/98	04/02/98	91	%REC			1
Iron	7439-89-6	QCBLK168924-1	04/01/98	04/02/98	-55	%REC			1
Magnesium	7439-95-4	QCBLK168924-1	04/01/98	04/02/98	93	%REC			1
Manganese	7439-96-5	QCBLK168924-1	04/01/98	04/02/98	30	%REC			1
Nickel	7440-02-0	QCBLK168924-1	04/01/98	04/02/98	91	%REC			1
Potassium	7440-09-7	QCBLK168924-1	04/01/98	04/02/98	92	%REC			1
Silver	7440-22-4	QCBLK168924-1	04/01/98	04/02/98	89	%REC			1
Sodium	7440-23-5	QCBLK168924-1	04/01/98	04/02/98	88	%REC			1
Vanadium	7440-62-2	QCBLK168924-1	04/01/98	04/02/98	92	%REC			1
Zinc	7440-66-6	QCBLK168924-1	04/01/98	04/02/98	90	%REC			1
Strontium	7440-24-6	QCBLK168924-1	04/01/98	04/02/98	88	%REC			1

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Project: 519.145

Category: ICAP Metals
Method: EPA 6010
Matrix: LIQUID

Client ID: NA

Sample Date : NA
Receipt Date : NA
Report Date : 05/19/98

Quanterra ID : QCBLK168924-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK168924-1	04/01/98	04/02/98	138	UG/L		100	1
Antimony	7440-36-0	QCBLK168924-1	04/01/98	04/02/98	45.7	UG/L	U	100	1
Barium	7440-39-3	QCBLK168924-1	04/01/98	04/02/98	1.0	UG/L	U	10.0	1
Beryllium	7440-41-7	QCBLK168924-1	04/01/98	04/02/98	0.60	UG/L	U	2.0	1
Cadmium	7440-43-9	QCBLK168924-1	04/01/98	04/02/98	4.6	UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK168924-1	04/01/98	04/02/98	141	UG/L		100	1
Chromium	7440-47-3	QCBLK168924-1	04/01/98	04/02/98	2.1	UG/L	U	10.0	1
Cobalt	7440-48-4	QCBLK168924-1	04/01/98	04/02/98	3.8	UG/L	U	20.0	1
Copper	7440-50-8	QCBLK168924-1	04/01/98	04/02/98	3.6	UG/L	U	20.0	1
Iron	7439-89-6	QCBLK168924-1	04/01/98	04/02/98	51.8	UG/L		30.0	1
Lead	7439-92-1	QCBLK168924-1	04/01/98	04/01/98	1.1	UG/L	U	3.0	1
Magnesium	7439-95-4	QCBLK168924-1	04/01/98	04/02/98	208	UG/L		100	1
Manganese	7439-96-5	QCBLK168924-1	04/01/98	04/02/98	1.6	UG/L	B	5.0	1
Nickel	7440-02-0	QCBLK168924-1	04/01/98	04/02/98	14.2	UG/L	U	25.0	1
Potassium	7440-09-7	QCBLK168924-1	04/01/98	04/02/98	2150	UG/L	U	2150	1
Silver	7440-22-4	QCBLK168924-1	04/01/98	04/02/98	6.6	UG/L	B	10.0	1
Sodium	7440-23-5	QCBLK168924-1	04/01/98	04/02/98	209	UG/L	B	300	1
Vanadium	7440-62-2	QCBLK168924-1	04/01/98	04/02/98	8.0	UG/L	B	10.0	1
Zinc	7440-66-6	QCBLK168924-1	04/01/98	04/02/98	2.2	UG/L	U	10.0	1
Strontium	7440-24-6	QCBLK168924-1	04/01/98	04/02/98	2.1	UG/L	U	20.0	1
Tin	7440-31-5	QCBLK168924-1	04/01/98	04/01/98	4.9	UG/L	U	100	1

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Project: 519.145

Category: ICAP Metals
Method: EPA 6010
Matrix: LIQUID

Client ID: NA

Sample Date : NA
Receipt Date : NA
Report Date : 05/19/98

Quanterra ID : QCLCS168924-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK168924-1	04/01/98	04/02/98	112	%REC			1
Antimony	7440-36-0	QCBLK168924-1	04/01/98	04/02/98	103	%REC			1
Barium	7440-39-3	QCBLK168924-1	04/01/98	04/02/98	92	%REC			1
Beryllium	7440-41-7	QCBLK168924-1	04/01/98	04/02/98	99	%REC			1
Cadmium	7440-43-9	QCBLK168924-1	04/01/98	04/02/98	99	%REC			1
Calcium	7440-70-2	QCBLK168924-1	04/01/98	04/02/98	103	%REC			1
Chromium	7440-47-3	QCBLK168924-1	04/01/98	04/02/98	98	%REC			1
Cobalt	7440-48-4	QCBLK168924-1	04/01/98	04/02/98	96	%REC			1
Copper	7440-50-8	QCBLK168924-1	04/01/98	04/02/98	99	%REC			1
Iron	7439-89-6	QCBLK168924-1	04/01/98	04/02/98	102	%REC			1
Lead	7439-92-1	QCBLK168924-1	04/01/98	04/01/98	100	%REC			1
Magnesium	7439-95-4	QCBLK168924-1	04/01/98	04/02/98	101	%REC			1
Manganese	7439-96-5	QCBLK168924-1	04/01/98	04/02/98	96	%REC			1
Nickel	7440-02-0	QCBLK168924-1	04/01/98	04/02/98	99	%REC			1
Potassium	7440-09-7	QCBLK168924-1	04/01/98	04/02/98	92	%REC			1
Silver	7440-22-4	QCBLK168924-1	04/01/98	04/02/98	72	%REC			1
Sodium	7440-23-5	QCBLK168924-1	04/01/98	04/02/98	99	%REC			1
Vanadium	7440-62-2	QCBLK168924-1	04/01/98	04/02/98	98	%REC			1
Zinc	7440-66-6	QCBLK168924-1	04/01/98	04/02/98	98	%REC			1
Strontium	7440-24-6	QCBLK168924-1	04/01/98	04/02/98	94	%REC			1
Tin	7440-31-5	QCBLK168924-1	04/01/98	04/01/98	98	%REC			1

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Category: ICP Metals TAL - Filtered
Method: EPA 6010
Matrix: LIQUID

Client ID: BON4L8

Sample Date : 03/23/98
Receipt Date : 03/23/98
Report Date : 05/19/98

Quanterra ID : 17308-026

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK169289-1	04/07/98	04/07/98	24.2	UG/L	BC	100	1
Antimony	7440-36-0	QCBLK169289-1	04/07/98	04/07/98	45.7	UG/L	U	100	1
Barium	7440-39-3	QCBLK169289-1	04/07/98	04/07/98	50.9	UG/L		10.0	1
Beryllium	7440-41-7	QCBLK169289-1	04/07/98	04/07/98	0.60	UG/L	U	2.0	1
Cadmium	7440-43-9	QCBLK169289-1	04/07/98	04/07/98	4.6	UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK169289-1	04/07/98	04/07/98	38800	UG/L	NC	100	1
Chromium	7440-47-3	QCBLK169289-1	04/07/98	04/07/98	126	UG/L		10.0	1
Cobalt	7440-48-4	QCBLK169289-1	04/07/98	04/07/98	3.8	UG/L	U	20.0	1
Copper	7440-50-8	QCBLK169289-1	04/07/98	04/07/98	7.6	UG/L	B	20.0	1
Iron	7439-89-6	QCBLK169289-1	04/07/98	04/07/98	27.0	UG/L	BC	30.0	1
Magnesium	7439-95-4	QCBLK169289-1	04/07/98	04/07/98	9920	UG/L	C	100	1
Manganese	7439-96-5	QCBLK169289-1	04/07/98	04/07/98	2.6	UG/L	B	5.0	1
Nickel	7440-02-0	QCBLK169289-1	04/07/98	04/07/98	14.2	UG/L	U	25.0	1
Potassium	7440-09-7	QCBLK169289-1	04/07/98	04/07/98	4300	UG/L		2150	1
Silver	7440-22-4	QCBLK169289-1	04/07/98	04/07/98	5.1	UG/L	U	10.0	1
Sodium	7440-23-5	QCBLK169289-1	04/07/98	04/07/98	6240	UG/L	C	300	1
Vanadium	7440-62-2	QCBLK169289-1	04/07/98	04/07/98	10.1	UG/L		10.0	1
Zinc	7440-66-6	QCBLK169289-1	04/07/98	04/07/98	9.4	UG/L	B	10.0	1
Strontium	7440-24-6	QCBLK169289-1	04/07/98	04/07/98	249	UG/L		20.0	1

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Category: ICP Metals TAL - Filtered
Method: EPA 6010
Matrix: LIQUID

Client ID: BON4L8

Sample Date : 03/23/98
Receipt Date : 03/23/98
Report Date : 05/19/98

Quanterra ID : 17308-026MS

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK169289-1	04/07/98	04/07/98	102	%REC			1
Antimony	7440-36-0	QCBLK169289-1	04/07/98	04/07/98	83	%REC			1
Barium	7440-39-3	QCBLK169289-1	04/07/98	04/07/98	96	%REC			1
Beryllium	7440-41-7	QCBLK169289-1	04/07/98	04/07/98	105	%REC			1
Cadmium	7440-43-9	QCBLK169289-1	04/07/98	04/07/98	93	%REC			1
Calcium	7440-70-2	QCBLK169289-1	04/07/98	04/07/98	101	%REC			1
Chromium	7440-47-3	QCBLK169289-1	04/07/98	04/07/98	95	%REC			1
Cobalt	7440-48-4	QCBLK169289-1	04/07/98	04/07/98	95	%REC			1
Copper	7440-50-8	QCBLK169289-1	04/07/98	04/07/98	94	%REC			1
Iron	7439-89-6	QCBLK169289-1	04/07/98	04/07/98	92	%REC			1
Magnesium	7439-95-4	QCBLK169289-1	04/07/98	04/07/98	106	%REC			1
Manganese	7439-96-5	QCBLK169289-1	04/07/98	04/07/98	95	%REC			1
Nickel	7440-02-0	QCBLK169289-1	04/07/98	04/07/98	96	%REC			1
Potassium	7440-09-7	QCBLK169289-1	04/07/98	04/07/98	101	%REC			1
Silver	7440-22-4	QCBLK169289-1	04/07/98	04/07/98	86	%REC			1
Sodium	7440-23-5	QCBLK169289-1	04/07/98	04/07/98	102	%REC			1
Vanadium	7440-62-2	QCBLK169289-1	04/07/98	04/07/98	98	%REC			1
Zinc	7440-66-6	QCBLK169289-1	04/07/98	04/07/98	97	%REC			1
Strontium	7440-24-6	QCBLK169289-1	04/07/98	04/07/98	100	%REC			1

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Category: ICP Metals TAL - Filtered
Method: EPA 6010
Matrix: LIQUID

Sample Date : 03/23/98
Receipt Date : 03/23/98
Report Date : 05/19/98

Client ID: BON4L8

Quanterra ID : 17308-026MSD

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK169289-1	04/07/98	04/07/98	102	%REC			1
Antimony	7440-36-0	QCBLK169289-1	04/07/98	04/07/98	86	%REC			1
Barium	7440-39-3	QCBLK169289-1	04/07/98	04/07/98	95	%REC			1
Beryllium	7440-41-7	QCBLK169289-1	04/07/98	04/07/98	105	%REC			1
Cadmium	7440-43-9	QCBLK169289-1	04/07/98	04/07/98	94	%REC			1
Calcium	7440-70-2	QCBLK169289-1	04/07/98	04/07/98	100	%REC			1
Chromium	7440-47-3	QCBLK169289-1	04/07/98	04/07/98	92	%REC			1
Cobalt	7440-48-4	QCBLK169289-1	04/07/98	04/07/98	95	%REC			1
Copper	7440-50-8	QCBLK169289-1	04/07/98	04/07/98	96	%REC			1
Iron	7439-89-6	QCBLK169289-1	04/07/98	04/07/98	94	%REC			1
Magnesium	7439-95-4	QCBLK169289-1	04/07/98	04/07/98	104	%REC			1
Manganese	7439-96-5	QCBLK169289-1	04/07/98	04/07/98	95	%REC			1
Nickel	7440-02-0	QCBLK169289-1	04/07/98	04/07/98	97	%REC			1
Potassium	7440-09-7	QCBLK169289-1	04/07/98	04/07/98	100	%REC			1
Silver	7440-22-4	QCBLK169289-1	04/07/98	04/07/98	96	%REC			1
Sodium	7440-23-5	QCBLK169289-1	04/07/98	04/07/98	101	%REC			1
Vanadium	7440-62-2	QCBLK169289-1	04/07/98	04/07/98	99	%REC			1
Zinc	7440-66-6	QCBLK169289-1	04/07/98	04/07/98	97	%REC			1
Strontium	7440-24-6	QCBLK169289-1	04/07/98	04/07/98	99	%REC			1

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Category: ICP Metals TAL - Filtered
Method: EPA 6010
Matrix: LIQUID

Client ID: BON4K4

Sample Date : 03/23/98
Receipt Date : 03/23/98
Report Date : 05/19/98

Quanterra ID : 17308-027

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK169289-1	04/07/98	04/07/98	20.6	UG/L	UC	100	1
Antimony	7440-36-0	QCBLK169289-1	04/07/98	04/07/98	45.7	UG/L	U	100	1
Barium	7440-39-3	QCBLK169289-1	04/07/98	04/07/98	107	UG/L		10.0	1
Beryllium	7440-41-7	QCBLK169289-1	04/07/98	04/07/98	0.60	UG/L	U	2.0	1
Cadmium	7440-43-9	QCBLK169289-1	04/07/98	04/07/98	4.6	UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK169289-1	04/07/98	04/07/98	72200	UG/L	NC	100	1
Chromium	7440-47-3	QCBLK169289-1	04/07/98	04/07/98	343	UG/L		10.0	1
Cobalt	7440-48-4	QCBLK169289-1	04/07/98	04/07/98	3.8	UG/L	U	20.0	1
Copper	7440-50-8	QCBLK169289-1	04/07/98	04/07/98	6.6	UG/L	B	20.0	1
Iron	7439-89-6	QCBLK169289-1	04/07/98	04/07/98	33.0	UG/L	C	30.0	1
Magnesium	7439-95-4	QCBLK169289-1	04/07/98	04/07/98	19600	UG/L	C	100	1
Manganese	7439-96-5	QCBLK169289-1	04/07/98	04/07/98	3.4	UG/L	B	5.0	1
Nickel	7440-02-0	QCBLK169289-1	04/07/98	04/07/98	14.2	UG/L	U	25.0	1
Potassium	7440-09-7	QCBLK169289-1	04/07/98	04/07/98	5270	UG/L		2150	1
Silver	7440-22-4	QCBLK169289-1	04/07/98	04/07/98	5.1	UG/L	U	10.0	1
Sodium	7440-23-5	QCBLK169289-1	04/07/98	04/07/98	10100	UG/L	C	300	1
Vanadium	7440-62-2	QCBLK169289-1	04/07/98	04/07/98	10.8	UG/L		10.0	1
Zinc	7440-66-6	QCBLK169289-1	04/07/98	04/07/98	9.6	UG/L	B	10.0	1
Strontium	7440-24-6	QCBLK169289-1	04/07/98	04/07/98	462	UG/L		20.0	1

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Project: 519.145

Category: ICP Metals TAL - Filtered
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Matrix: LIQUID

Client ID: BON4LO

Sample Date : 03/23/98
Receipt Date : 03/23/98
Report Date : 05/19/98

Quanterra ID : 17308-028

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK169289-1	04/07/98	04/07/98	28.0	UG/L	BC	100	1
Antimony	7440-36-0	QCBLK169289-1	04/07/98	04/07/98	45.7	UG/L	U	100	1
Barium	7440-39-3	QCBLK169289-1	04/07/98	04/07/98	57.6	UG/L		10.0	1
Beryllium	7440-41-7	QCBLK169289-1	04/07/98	04/07/98	0.60	UG/L	U	2.0	1
Cadmium	7440-43-9	QCBLK169289-1	04/07/98	04/07/98	4.6	UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK169289-1	04/07/98	04/07/98	66100	UG/L	NC	100	1
Chromium	7440-47-3	QCBLK169289-1	04/07/98	04/07/98	64.8	UG/L		10.0	1
Cobalt	7440-48-4	QCBLK169289-1	04/07/98	04/07/98	3.8	UG/L	U	20.0	1
Copper	7440-50-8	QCBLK169289-1	04/07/98	04/07/98	5.8	UG/L	B	20.0	1
Iron	7439-89-6	QCBLK169289-1	04/07/98	04/07/98	26.3	UG/L	BC	30.0	1
Magnesium	7439-95-4	QCBLK169289-1	04/07/98	04/07/98	2240	UG/L	C	100	1
Manganese	7439-96-5	QCBLK169289-1	04/07/98	04/07/98	3.2	UG/L	B	5.0	1
Nickel	7440-02-0	QCBLK169289-1	04/07/98	04/07/98	14.2	UG/L	U	25.0	1
Potassium	7440-09-7	QCBLK169289-1	04/07/98	04/07/98	5080	UG/L		2150	1
Silver	7440-22-4	QCBLK169289-1	04/07/98	04/07/98	5.1	UG/L	U	10.0	1
Sodium	7440-23-5	QCBLK169289-1	04/07/98	04/07/98	6660	UG/L	C	300	1
Vanadium	7440-62-2	QCBLK169289-1	04/07/98	04/07/98	5.0	UG/L	B	10.0	1
Zinc	7440-66-6	QCBLK169289-1	04/07/98	04/07/98	13.2	UG/L		10.0	1
Strontium	7440-24-6	QCBLK169289-1	04/07/98	04/07/98	566	UG/L		20.0	1

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Project: 519.145

Category: ICP Metals TAL - Filtered
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Matrix: LIQUID

Client ID: BON4L6

Sample Date : 03/23/98
Receipt Date : 03/23/98
Report Date : 05/19/98

Quanterra ID : 17308-029

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK169289-1	04/07/98	04/07/98	20.6	UG/L	UC	100	1
Antimony	7440-36-0	QCBLK169289-1	04/07/98	04/07/98	45.7	UG/L	U	100	1
Barium	7440-39-3	QCBLK169289-1	04/07/98	04/07/98	49.4	UG/L		10.0	1
Beryllium	7440-41-7	QCBLK169289-1	04/07/98	04/07/98	0.60	UG/L	U	2.0	1
Cadmium	7440-43-9	QCBLK169289-1	04/07/98	04/07/98	4.6	UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK169289-1	04/07/98	04/07/98	38700	UG/L	NC	100	1
Chromium	7440-47-3	QCBLK169289-1	04/07/98	04/07/98	126	UG/L		10.0	1
Cobalt	7440-48-4	QCBLK169289-1	04/07/98	04/07/98	3.8	UG/L	U	20.0	1
Copper	7440-50-8	QCBLK169289-1	04/07/98	04/07/98	6.6	UG/L	B	20.0	1
Iron	7439-89-6	QCBLK169289-1	04/07/98	04/07/98	21.8	UG/L	BC	30.0	1
Magnesium	7439-95-4	QCBLK169289-1	04/07/98	04/07/98	9880	UG/L	C	100	1
Manganese	7439-96-5	QCBLK169289-1	04/07/98	04/07/98	2.4	UG/L	B	5.0	1
Nickel	7440-02-0	QCBLK169289-1	04/07/98	04/07/98	14.2	UG/L	U	25.0	1
Potassium	7440-09-7	QCBLK169289-1	04/07/98	04/07/98	3930	UG/L		2150	1
Silver	7440-22-4	QCBLK169289-1	04/07/98	04/07/98	5.1	UG/L	U	10.0	1
Sodium	7440-23-5	QCBLK169289-1	04/07/98	04/07/98	6130	UG/L	C	300	1
Vanadium	7440-62-2	QCBLK169289-1	04/07/98	04/07/98	10.0	UG/L		10.0	1
Zinc	7440-66-6	QCBLK169289-1	04/07/98	04/07/98	5.0	UG/L	B	10.0	1
Strontium	7440-24-6	QCBLK169289-1	04/07/98	04/07/98	247	UG/L		20.0	1

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Project: 519.145

Category: ICP Metals TAL - Filtered
Method: EPA 6010
Matrix: LIQUID

Client ID: BON4M8

Sample Date : 03/23/98
Receipt Date : 03/23/98
Report Date : 05/19/98

Quanterra ID : 17308-030

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK169289-1	04/07/98	04/07/98	31.5	UG/L	BC	100	1
Antimony	7440-36-0	QCBLK169289-1	04/07/98	04/07/98	45.7	UG/L	U	100	1
Barium	7440-39-3	QCBLK169289-1	04/07/98	04/07/98	45.7	UG/L		10.0	1
Beryllium	7440-41-7	QCBLK169289-1	04/07/98	04/07/98	0.60	UG/L	U	2.0	1
Cadmium	7440-43-9	QCBLK169289-1	04/07/98	04/07/98	4.6	UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK169289-1	04/07/98	04/07/98	63400	UG/L	NC	100	1
Chromium	7440-47-3	QCBLK169289-1	04/07/98	04/07/98	132	UG/L		10.0	1
Cobalt	7440-48-4	QCBLK169289-1	04/07/98	04/07/98	3.8	UG/L	U	20.0	1
Copper	7440-50-8	QCBLK169289-1	04/07/98	04/07/98	5.8	UG/L	B	20.0	1
Iron	7439-89-6	QCBLK169289-1	04/07/98	04/07/98	28.7	UG/L	BC	30.0	1
Magnesium	7439-95-4	QCBLK169289-1	04/07/98	04/07/98	2750	UG/L	C	100	1
Manganese	7439-96-5	QCBLK169289-1	04/07/98	04/07/98	4.0	UG/L	B	5.0	1
Nickel	7440-02-0	QCBLK169289-1	04/07/98	04/07/98	14.2	UG/L	U	25.0	1
Potassium	7440-09-7	QCBLK169289-1	04/07/98	04/07/98	4780	UG/L		2150	1
Silver	7440-22-4	QCBLK169289-1	04/07/98	04/07/98	5.1	UG/L	U	10.0	1
Sodium	7440-23-5	QCBLK169289-1	04/07/98	04/07/98	7560	UG/L	C	300	1
Vanadium	7440-62-2	QCBLK169289-1	04/07/98	04/07/98	8.2	UG/L	B	10.0	1
Zinc	7440-66-6	QCBLK169289-1	04/07/98	04/07/98	6.5	UG/L	B	10.0	1
Strontium	7440-24-6	QCBLK169289-1	04/07/98	04/07/98	823	UG/L		20.0	1

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Category: ICP Metals TAL - Filtered
Method: EPA 6010
Matrix: LIQUID

Client ID: BON578

Sample Date : 03/23/98
Receipt Date : 03/23/98
Report Date : 05/19/98

Quanterra ID : 17308-031

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK169289-1	04/07/98	04/07/98	20.6	UG/L	UC	100	1
Antimony	7440-36-0	QCBLK169289-1	04/07/98	04/07/98	45.7	UG/L	U	100	1
Barium	7440-39-3	QCBLK169289-1	04/07/98	04/07/98	78.4	UG/L		10.0	1
Beryllium	7440-41-7	QCBLK169289-1	04/07/98	04/07/98	0.60	UG/L	U	2.0	1
Cadmium	7440-43-9	QCBLK169289-1	04/07/98	04/07/98	4.6	UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK169289-1	04/07/98	04/07/98	61000	UG/L	NC	100	1
Chromium	7440-47-3	QCBLK169289-1	04/07/98	04/07/98	6.8	UG/L	B	10.0	1
Cobalt	7440-48-4	QCBLK169289-1	04/07/98	04/07/98	3.8	UG/L	U	20.0	1
Copper	7440-50-8	QCBLK169289-1	04/07/98	04/07/98	4.3	UG/L	B	20.0	1
Iron	7439-89-6	QCBLK169289-1	04/07/98	04/07/98	42.4	UG/L	C	30.0	1
Magnesium	7439-95-4	QCBLK169289-1	04/07/98	04/07/98	20500	UG/L	C	100	1
Manganese	7439-96-5	QCBLK169289-1	04/07/98	04/07/98	3.5	UG/L	B	5.0	1
Nickel	7440-02-0	QCBLK169289-1	04/07/98	04/07/98	14.2	UG/L	U	25.0	1
Potassium	7440-09-7	QCBLK169289-1	04/07/98	04/07/98	7390	UG/L		2150	1
Silver	7440-22-4	QCBLK169289-1	04/07/98	04/07/98	5.1	UG/L	U	10.0	1
Sodium	7440-23-5	QCBLK169289-1	04/07/98	04/07/98	21600	UG/L	C	300	1
Vanadium	7440-62-2	QCBLK169289-1	04/07/98	04/07/98	28.4	UG/L		10.0	1
Zinc	7440-66-6	QCBLK169289-1	04/07/98	04/07/98	6.1	UG/L	B	10.0	1
Strontium	7440-24-6	QCBLK169289-1	04/07/98	04/07/98	287	UG/L		20.0	1

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Project: 519.145

Category: ICAP Metals
Method: EPA 6010
Matrix: LIQUID

Client ID: NA

Sample Date : NA
Receipt Date : NA
Report Date : 05/19/98

Quanterra ID : QCBLK169289-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK169289-1	04/07/98	04/07/98	103	UG/L		100	1
Antimony	7440-36-0	QCBLK169289-1	04/07/98	04/07/98	45.7	UG/L	U	100	1
Barium	7440-39-3	QCBLK169289-1	04/07/98	04/07/98	1.0	UG/L	U	10.0	1
Beryllium	7440-41-7	QCBLK169289-1	04/07/98	04/07/98	0.60	UG/L	U	2.0	1
Cadmium	7440-43-9	QCBLK169289-1	04/07/98	04/07/98	4.6	UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK169289-1	04/07/98	04/07/98	98.1	UG/L	B	100	1
Chromium	7440-47-3	QCBLK169289-1	04/07/98	04/07/98	2.1	UG/L	U	10.0	1
Cobalt	7440-48-4	QCBLK169289-1	04/07/98	04/07/98	3.8	UG/L	U	20.0	1
Copper	7440-50-8	QCBLK169289-1	04/07/98	04/07/98	4.6	UG/L	B	20.0	1
Iron	7439-89-6	QCBLK169289-1	04/07/98	04/07/98	40.2	UG/L		30.0	1
Magnesium	7439-95-4	QCBLK169289-1	04/07/98	04/07/98	64.1	UG/L	U	100	1
Manganese	7439-96-5	QCBLK169289-1	04/07/98	04/07/98	1.1	UG/L	U	5.0	1
Nickel	7440-02-0	QCBLK169289-1	04/07/98	04/07/98	14.2	UG/L	U	25.0	1
Potassium	7440-09-7	QCBLK169289-1	04/07/98	04/07/98	2150	UG/L	U	2150	1
Silver	7440-22-4	QCBLK169289-1	04/07/98	04/07/98	5.1	UG/L	U	10.0	1
Sodium	7440-23-5	QCBLK169289-1	04/07/98	04/07/98	468	UG/L		300	1
Vanadium	7440-62-2	QCBLK169289-1	04/07/98	04/07/98	4.4	UG/L	U	10.0	1
Zinc	7440-66-6	QCBLK169289-1	04/07/98	04/07/98	3.1	UG/L	B	10.0	1
Strontium	7440-24-6	QCBLK169289-1	04/07/98	04/07/98	2.1	UG/L	U	20.0	1

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Project: 519.145

Category: ICAP Metals
Method: EPA 6010
Matrix: LIQUID

Client ID: NA

Sample Date : NA
Receipt Date : NA
Report Date : 05/19/98

Quanterra ID : QCLCS169289-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK169289-1	04/07/98	04/07/98	110	%REC			1
Antimony	7440-36-0	QCBLK169289-1	04/07/98	04/07/98	92	%REC			1
Barium	7440-39-3	QCBLK169289-1	04/07/98	04/07/98	92	%REC			1
Beryllium	7440-41-7	QCBLK169289-1	04/07/98	04/07/98	98	%REC			1
Cadmium	7440-43-9	QCBLK169289-1	04/07/98	04/07/98	97	%REC			1
Calcium	7440-70-2	QCBLK169289-1	04/07/98	04/07/98	102	%REC			1
Chromium	7440-47-3	QCBLK169289-1	04/07/98	04/07/98	97	%REC			1
Cobalt	7440-48-4	QCBLK169289-1	04/07/98	04/07/98	96	%REC			1
Copper	7440-50-8	QCBLK169289-1	04/07/98	04/07/98	98	%REC			1
Iron	7439-89-6	QCBLK169289-1	04/07/98	04/07/98	101	%REC			1
Magnesium	7439-95-4	QCBLK169289-1	04/07/98	04/07/98	100	%REC			1
Manganese	7439-96-5	QCBLK169289-1	04/07/98	04/07/98	95	%REC			1
Nickel	7440-02-0	QCBLK169289-1	04/07/98	04/07/98	97	%REC			1
Potassium	7440-09-7	QCBLK169289-1	04/07/98	04/07/98	107	%REC			1
Silver	7440-22-4	QCBLK169289-1	04/07/98	04/07/98	71	%REC			1
Sodium	7440-23-5	QCBLK169289-1	04/07/98	04/07/98	101	%REC			1
Vanadium	7440-62-2	QCBLK169289-1	04/07/98	04/07/98	96	%REC			1
Zinc	7440-66-6	QCBLK169289-1	04/07/98	04/07/98	98	%REC			1
Strontium	7440-24-6	QCBLK169289-1	04/07/98	04/07/98	96	%REC			1

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Project: 519.145

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

Client ID: B0N846

Sample Date : 03/23/98
Receipt Date : 03/23/98
Report Date : 05/19/98

Quanterra ID : 17310-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Barium	7440-39-3	QCBLK169265-1	04/07/98	04/07/98	84.7	UG/L		10.0	1
Chromium	7440-47-3	QCBLK169265-1	04/07/98	04/07/98	107	UG/L		10.0	1
Lead	7439-92-1	QCBLK169265-1	04/07/98	04/07/98	1.1	UG/L	U	3.0	1
Vanadium	7440-62-2	QCBLK169265-1	04/07/98	04/07/98	28.4	UG/L		10.0	1
Zinc	7440-66-6	QCBLK169265-1	04/07/98	04/07/98	4.8	UG/L	B	10.0	1
Tin	7440-31-5	QCBLK169265-1	04/07/98	04/07/98	4.9	UG/L	U	100	1

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Project: 519.145

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

Client ID: BON850

Sample Date : 03/23/98
Receipt Date : 03/23/98
Report Date : 05/20/98

Quanterra ID : 17310-002

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Barium	7440-39-3	QCBLK169265-1	04/07/98	04/07/98	1.0	UG/L	U	10.0	1
Chromium	7440-47-3	QCBLK169265-1	04/07/98	04/07/98	0.80	UG/L	U	10.0	1
Lead	7439-92-1	QCBLK169265-1	04/07/98	04/07/98	1.1	UG/L	U	3.0	1
Vanadium	7440-62-2	QCBLK169265-1	04/07/98	04/07/98	4.4	UG/L	U	10.0	1
Zinc	7440-66-6	QCBLK169265-1	04/07/98	04/07/98	2.2	UG/L	U	10.0	1
Tin	7440-31-5	QCBLK169265-1	04/07/98	04/07/98	4.9	UG/L	U	100	1

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Project: 519.145

Category: ICP Metals TAL - Filtered
Method: EPA 6010
Matrix: LIQUID

Client ID: BON845

Sample Date : 03/23/98
Receipt Date : 03/23/98
Report Date : 05/19/98

Quanterra ID : 17310-004

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Barium	7440-39-3	QCBLK169265-1	04/07/98	04/07/98	82.4	UG/L		10.0	1
Chromium	7440-47-3	QCBLK169265-1	04/07/98	04/07/98	5.4	UG/L	B	10.0	1
Lead	7439-92-1	QCBLK169265-1	04/07/98	04/07/98	1.1	UG/L	U	3.0	1
Vanadium	7440-62-2	QCBLK169265-1	04/07/98	04/07/98	26.8	UG/L		10.0	1
Zinc	7440-66-6	QCBLK169265-1	04/07/98	04/07/98	2.2	UG/L	U	10.0	1
Tin	7440-31-5	QCBLK169265-1	04/07/98	04/07/98	4.9	UG/L	U	100	1

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Project: 519.145

Category: ICP Metals TAL - Filtered
Method: EPA 6010
Matrix: LIQUID

Client ID: BON849

Sample Date : 03/23/98
Receipt Date : 03/23/98
Report Date : 05/20/98

Quanterra ID : 17310-005

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Barium	7440-39-3	QCBLK169265-1	04/07/98	04/07/98	1.0	UG/L	U	10.0	1
Chromium	7440-47-3	QCBLK169265-1	04/07/98	04/07/98	0.80	UG/L	U	10.0	1
Lead	7439-92-1	QCBLK169265-1	04/07/98	04/07/98	1.1	UG/L	U	3.0	1
Vanadium	7440-62-2	QCBLK169265-1	04/07/98	04/07/98	4.4	UG/L	U	10.0	1
Zinc	7440-66-6	QCBLK169265-1	04/07/98	04/07/98	2.2	UG/L	U	10.0	1
Tin	7440-31-5	QCBLK169265-1	04/07/98	04/07/98	4.9	UG/L	U	100	1

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Project: 519.145

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

Client ID: BON842

Sample Date : 03/24/98
Receipt Date : 03/24/98
Report Date : 05/19/98

Quanterra ID : 17312-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Barium	7440-39-3	QCBLK169265-1	04/07/98	04/07/98	68.4	UG/L		10.0	1
Chromium	7440-47-3	QCBLK169265-1	04/07/98	04/07/98	4.6	UG/L	B	10.0	1
Lead	7439-92-1	QCBLK169265-1	04/07/98	04/07/98	1.1	UG/L	U	3.0	1
Vanadium	7440-62-2	QCBLK169265-1	04/07/98	04/07/98	22.7	UG/L		10.0	1
Zinc	7440-66-6	QCBLK169265-1	04/07/98	04/07/98	496	UG/L		10.0	1
Tin	7440-31-5	QCBLK169265-1	04/07/98	04/07/98	4.9	UG/L	U	100	1

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Project: 519.145

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

Client ID: BON844

Sample Date : 03/24/98
Receipt Date : 03/24/98
Report Date : 05/19/98

Quanterra ID : 17312-002

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Barium	7440-39-3	QCBLK169265-1	04/07/98	04/07/98	69.0	UG/L		10.0	1
Chromium	7440-47-3	QCBLK169265-1	04/07/98	04/07/98	5.3	UG/L	B	10.0	1
Lead	7439-92-1	QCBLK169265-1	04/07/98	04/07/98	1.2	UG/L	B	3.0	1
Vanadium	7440-62-2	QCBLK169265-1	04/07/98	04/07/98	22.4	UG/L		10.0	1
Zinc	7440-66-6	QCBLK169265-1	04/07/98	04/07/98	506	UG/L		10.0	1
Tin	7440-31-5	QCBLK169265-1	04/07/98	04/07/98	4.9	UG/L	U	100	1

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Project: 519.145

Category: ICP Metals TAL - Filtered
Method: EPA 6010
Matrix: LIQUID

Client ID: BON841

Sample Date : 03/24/98
Receipt Date : 03/24/98
Report Date : 05/19/98

Quanterra ID : 17312-004

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Barium	7440-39-3	QCBLK169265-1	04/07/98	04/07/98	66.8	UG/L		10.0	1
Chromium	7440-47-3	QCBLK169265-1	04/07/98	04/07/98	3.6	UG/L	B	10.0	1
Lead	7439-92-1	QCBLK169265-1	04/07/98	04/07/98	1.1	UG/L	U	3.0	1
Vanadium	7440-62-2	QCBLK169265-1	04/07/98	04/07/98	18.6	UG/L		10.0	1
Zinc	7440-66-6	QCBLK169265-1	04/07/98	04/07/98	321	UG/L		10.0	1
Tin	7440-31-5	QCBLK169265-1	04/07/98	04/07/98	4.9	UG/L	U	100	1

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Project: 519.145

Category: ICP Metals TAL - Filtered
Method: EPA 6010
Matrix: LIQUID

Client ID: BON843

Sample Date : 03/24/98
Receipt Date : 03/24/98
Report Date : 05/19/98

Quanterra ID : 17312-005

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Barium	7440-39-3	QCBLK169265-1	04/07/98	04/07/98	66.6	UG/L		10.0	1
Chromium	7440-47-3	QCBLK169265-1	04/07/98	04/07/98	3.3	UG/L	B	10.0	1
Lead	7439-92-1	QCBLK169265-1	04/07/98	04/07/98	1.1	UG/L	U	3.0	1
Vanadium	7440-62-2	QCBLK169265-1	04/07/98	04/07/98	18.3	UG/L		10.0	1
Zinc	7440-66-6	QCBLK169265-1	04/07/98	04/07/98	318	UG/L		10.0	1
Tin	7440-31-5	QCBLK169265-1	04/07/98	04/07/98	4.9	UG/L	U	100	1

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Project: 519.145

Category: ICP Metals TAL - Filtered
Method: EPA 6010
Matrix: LIQUID

Client ID: BON843

Sample Date : 03/24/98
Receipt Date : 03/24/98
Report Date : 05/19/98

Quanterra ID : 17312-005MS

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Barium	7440-39-3	QCBLK169265-1	04/07/98	04/07/98	101	%REC			1
Chromium	7440-47-3	QCBLK169265-1	04/07/98	04/07/98	95	%REC			1
Lead	7439-92-1	QCBLK169265-1	04/07/98	04/07/98	95	%REC			1
Vanadium	7440-62-2	QCBLK169265-1	04/07/98	04/07/98	97	%REC			1
Zinc	7440-66-6	QCBLK169265-1	04/07/98	04/07/98	96	%REC			1
Tin	7440-31-5	QCBLK169265-1	04/07/98	04/07/98	90	%REC			1

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Category: ICP Metals TAL - Filtered
Method: EPA 6010
Matrix: LIQUID

Client ID: BON843

Sample Date : 03/24/98
Receipt Date : 03/24/98
Report Date : 05/19/98

Quanterra ID : 17312-005MSD

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Barium	7440-39-3	QCBLK169265-1	04/07/98	04/07/98	102	%REC			1
Chromium	7440-47-3	QCBLK169265-1	04/07/98	04/07/98	95	%REC			1
Lead	7439-92-1	QCBLK169265-1	04/07/98	04/07/98	95	%REC			1
Vanadium	7440-62-2	QCBLK169265-1	04/07/98	04/07/98	98	%REC			1
Zinc	7440-66-6	QCBLK169265-1	04/07/98	04/07/98	97	%REC			1
Tin	7440-31-5	QCBLK169265-1	04/07/98	04/07/98	90	%REC			1

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Project: 519.145

Category: ICP Metals TAL - Filtered
Method: EPA 6010
Matrix: LIQUID

Client ID: B0N471

Sample Date : 03/25/98
Receipt Date : 03/25/98
Report Date : 08/08/98

Quanterra ID : 17323-005

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK169265-1	04/07/98	04/07/98	26.2	UG/L	BC	100	1
Antimony	7440-36-0	QCBLK169265-1	04/07/98	04/07/98	45.7	UG/L	U	100	1
Barium	7440-39-3	QCBLK169265-1	04/07/98	04/07/98	26.5	UG/L		10.0	1
Beryllium	7440-41-7	QCBLK169265-1	04/07/98	04/07/98	0.66	UG/L	B	2.0	1
Cadmium	7440-43-9	QCBLK169265-1	04/07/98	04/07/98	4.6	UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK169265-1	04/07/98	04/07/98	70700	UG/L	NC	100	1
Chromium	7440-47-3	QCBLK169265-1	04/07/98	04/07/98	2.1	UG/L	U	10.0	1
Cobalt	7440-48-4	QCBLK169265-1	04/07/98	04/07/98	3.8	UG/L	U	20.0	1
Copper	7440-50-8	QCBLK169265-1	04/07/98	04/07/98	7.5	UG/L	B	20.0	1
Iron	7439-89-6	QCBLK169265-1	04/07/98	04/07/98	196	UG/L	C	30.0	1
Magnesium	7439-95-4	QCBLK169265-1	04/07/98	04/07/98	15400	UG/L		100	1
Manganese	7439-96-5	QCBLK169265-1	04/07/98	04/07/98	13.1	UG/L		5.0	1
Nickel	7440-02-0	QCBLK169265-1	04/07/98	04/07/98	14.2	UG/L	U	25.0	1
Potassium	7440-09-7	QCBLK169265-1	04/07/98	04/07/98	5950	UG/L		2150	1
Silver	7440-22-4	QCBLK169265-1	04/07/98	04/07/98	5.1	UG/L	U	10.0	1
Sodium	7440-23-5	QCBLK169265-1	04/07/98	04/07/98	11100	UG/L	C	300	1
Vanadium	7440-62-2	QCBLK169265-1	04/07/98	04/07/98	7.0	UG/L	B	10.0	1
Zinc	7440-66-6	QCBLK169265-1	04/07/98	04/07/98	59.6	UG/L		10.0	1
Strontium	7440-24-6	QCBLK169265-1	04/07/98	04/07/98	348	UG/L		20.0	1

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Project: 519.145

Category: ICP Metals TAL - Filtered
Method: EPA 6010
Matrix: LIQUID

Client ID: BON471

Sample Date : 03/25/98
Receipt Date : 03/25/98
Report Date : 05/19/98

Quanterra ID : 17323-005

SUPERSEDED

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK169265-1	04/07/98	04/07/98	26.2	UG/L	BC	100	1
Antimony	7440-36-0	QCBLK169265-1	04/07/98	04/07/98	45.7	UG/L	U	100	1
Barium	7440-39-3	QCBLK169265-1	04/07/98	04/07/98	26.5	UG/L		10.0	1
Beryllium	7440-41-7	QCBLK169265-1	04/07/98	04/07/98	0.66	UG/L	B	2.0	1
Cadmium	7440-43-9	QCBLK169265-1	04/07/98	04/07/98	4.6	UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK169265-1	04/07/98	04/07/98	70700	UG/L	NC	100	1
Chromium	7440-47-3	QCBLK169265-1	04/07/98	04/07/98	2.1	UG/L	U	10.0	1
Cobalt	7440-48-4	QCBLK169265-1	04/07/98	04/07/98	3.8	UG/L	U	20.0	1
Copper	7440-50-8	QCBLK169265-1	04/07/98	04/07/98	7.5	UG/L	B	20.0	1
Iron	7439-89-6	QCBLK169265-1	04/07/98	04/07/98	196	UG/L	C	30.0	1
Magnesium	7439-95-4	QCBLK169265-1	04/07/98	04/07/98	15400	UG/L	C	100	1
Manganese	7439-96-5	QCBLK169265-1	04/07/98	04/07/98	13.1	UG/L		5.0	1
Nickel	7440-02-0	QCBLK169265-1	04/07/98	04/07/98	14.2	UG/L	U	25.0	1
Potassium	7440-09-7	QCBLK169265-1	04/07/98	04/07/98	5950	UG/L		2150	1
Silver	7440-22-4	QCBLK169265-1	04/07/98	04/07/98	5.1	UG/L	U	10.0	1
Sodium	7440-23-5	QCBLK169265-1	04/07/98	04/07/98	11100	UG/L	C	300	1
Vanadium	7440-62-2	QCBLK169265-1	04/07/98	04/07/98	7.0	UG/L	B	10.0	1
Zinc	7440-66-6	QCBLK169265-1	04/07/98	04/07/98	59.6	UG/L		10.0	1
Strontium	7440-24-6	QCBLK169265-1	04/07/98	04/07/98	348	UG/L		20.0	1

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Category: ICP Metals TAL - Filtered
Method: EPA 6010
Matrix: LIQUID

Client ID: B0N833

Sample Date : 03/24/98
Receipt Date : 03/25/98
Report Date : 08/08/98

Quanterra ID : 17323-008

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK169265-1	04/07/98	04/07/98	20.6	UG/L	UC	100	1
Antimony	7440-36-0	QCBLK169265-1	04/07/98	04/07/98	45.7	UG/L	U	100	1
Barium	7440-39-3	QCBLK169265-1	04/07/98	04/07/98	61.7	UG/L		10.0	1
Beryllium	7440-41-7	QCBLK169265-1	04/07/98	04/07/98	0.60	UG/L	U	2.0	1
Cadmium	7440-43-9	QCBLK169265-1	04/07/98	04/07/98	4.6	UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK169265-1	04/07/98	04/07/98	60200	UG/L	NC	100	1
Chromium	7440-47-3	QCBLK169265-1	04/07/98	04/07/98	9.2	UG/L	B	10.0	1
Cobalt	7440-48-4	QCBLK169265-1	04/07/98	04/07/98	3.8	UG/L	U	20.0	1
Copper	7440-50-8	QCBLK169265-1	04/07/98	04/07/98	6.8	UG/L	B	20.0	1
Iron	7439-89-6	QCBLK169265-1	04/07/98	04/07/98	42.4	UG/L	C	30.0	1
Magnesium	7439-95-4	QCBLK169265-1	04/07/98	04/07/98	26000	UG/L		100	1
Manganese	7439-96-5	QCBLK169265-1	04/07/98	04/07/98	3.4	UG/L	B	5.0	1
Nickel	7440-02-0	QCBLK169265-1	04/07/98	04/07/98	14.2	UG/L	U	25.0	1
Potassium	7440-09-7	QCBLK169265-1	04/07/98	04/07/98	7780	UG/L		2150	1
Silver	7440-22-4	QCBLK169265-1	04/07/98	04/07/98	5.1	UG/L	U	10.0	1
Sodium	7440-23-5	QCBLK169265-1	04/07/98	04/07/98	32600	UG/L	C	300	1
Vanadium	7440-62-2	QCBLK169265-1	04/07/98	04/07/98	23.1	UG/L		10.0	1
Zinc	7440-66-6	QCBLK169265-1	04/07/98	04/07/98	13.4	UG/L		10.0	1
Strontium	7440-24-6	QCBLK169265-1	04/07/98	04/07/98	277	UG/L		20.0	1

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Project: 519.145

Category: ICP Metals TAL - Filtered
Method: EPA 6010
Matrix: LIQUID

Client ID: BON833

Sample Date : 03/24/98
Receipt Date : 03/25/98
Report Date : 05/19/98

Quanterra ID : 17323-008

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK169265-1	04/07/98	04/07/98	20.6	UG/L	UC	100	1
Antimony	7440-36-0	QCBLK169265-1	04/07/98	04/07/98	45.7	UG/L	U	100	1
Barium	7440-39-3	QCBLK169265-1	04/07/98	04/07/98	61.7	UG/L		10.0	1
Beryllium	7440-41-7	QCBLK169265-1	04/07/98	04/07/98	0.60	UG/L	U	2.0	1
Cadmium	7440-43-9	QCBLK169265-1	04/07/98	04/07/98	4.6	UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK169265-1	04/07/98	04/07/98	60200	UG/L	NC	100	1
Chromium	7440-47-3	QCBLK169265-1	04/07/98	04/07/98	9.2	UG/L	B	10.0	1
Cobalt	7440-48-4	QCBLK169265-1	04/07/98	04/07/98	3.8	UG/L	U	20.0	1
Copper	7440-50-8	QCBLK169265-1	04/07/98	04/07/98	6.8	UG/L	B	20.0	1
Iron	7439-89-6	QCBLK169265-1	04/07/98	04/07/98	42.4	UG/L	C	30.0	1
Magnesium	7439-95-4	QCBLK169265-1	04/07/98	04/07/98	26000	UG/L	C	100	1
Manganese	7439-96-5	QCBLK169265-1	04/07/98	04/07/98	3.4	UG/L	B	5.0	1
Nickel	7440-02-0	QCBLK169265-1	04/07/98	04/07/98	14.2	UG/L	U	25.0	1
Potassium	7440-09-7	QCBLK169265-1	04/07/98	04/07/98	7780	UG/L		2150	1
Silver	7440-22-4	QCBLK169265-1	04/07/98	04/07/98	5.1	UG/L	U	10.0	1
Sodium	7440-23-5	QCBLK169265-1	04/07/98	04/07/98	32600	UG/L	C	300	1
Vanadium	7440-62-2	QCBLK169265-1	04/07/98	04/07/98	23.1	UG/L		10.0	1
Zinc	7440-66-6	QCBLK169265-1	04/07/98	04/07/98	13.4	UG/L		10.0	1
Strontium	7440-24-6	QCBLK169265-1	04/07/98	04/07/98	277	UG/L		20.0	1

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Project: 519.145

Category: ICAP Metals
Method: EPA 6010
Matrix: LIQUID

Client ID: NA

Sample Date : NA
Receipt Date : NA
Report Date : 05/19/98

Quanterra ID : QCBLK169265-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK169265-1	04/07/98	04/07/98	81.8	UG/L	B	100	1
Antimony	7440-36-0	QCBLK169265-1	04/07/98	04/07/98	45.7	UG/L	U	100	1
Barium	7440-39-3	QCBLK169265-1	04/07/98	04/07/98	1.0	UG/L	U	10.0	1
Beryllium	7440-41-7	QCBLK169265-1	04/07/98	04/07/98	0.60	UG/L	U	2.0	1
Cadmium	7440-43-9	QCBLK169265-1	04/07/98	04/07/98	4.6	UG/L	U	5.0	1
Calcium	7440-70-2	QCBLK169265-1	04/07/98	04/07/98	88.5	UG/L	B	100	1
Chromium	7440-47-3	QCBLK169265-1	04/07/98	04/07/98	2.1	UG/L	U	10.0	1
Cobalt	7440-48-4	QCBLK169265-1	04/07/98	04/07/98	3.8	UG/L	U	20.0	1
Copper	7440-50-8	QCBLK169265-1	04/07/98	04/07/98	3.6	UG/L	B	20.0	1
Iron	7439-89-6	QCBLK169265-1	04/07/98	04/07/98	39.0	UG/L		30.0	1
Lead	7439-92-1	QCBLK169265-1	04/07/98	04/07/98	1.1	UG/L	B	3.0	1
Magnesium	7439-95-4	QCBLK169265-1	04/07/98	04/07/98	64.1	UG/L	U	100	1
Manganese	7439-96-5	QCBLK169265-1	04/07/98	04/07/98	1.1	UG/L	U	5.0	1
Nickel	7440-02-0	QCBLK169265-1	04/07/98	04/07/98	14.2	UG/L	U	25.0	1
Potassium	7440-09-7	QCBLK169265-1	04/07/98	04/07/98	2150	UG/L	U	2150	1
Silver	7440-22-4	QCBLK169265-1	04/07/98	04/07/98	5.1	UG/L	U	10.0	1
Sodium	7440-23-5	QCBLK169265-1	04/07/98	04/07/98	48.2	UG/L	B	300	1
Vanadium	7440-62-2	QCBLK169265-1	04/07/98	04/07/98	4.4	UG/L	U	10.0	1
Zinc	7440-66-6	QCBLK169265-1	04/07/98	04/07/98	2.2	UG/L	U	10.0	1
Strontium	7440-24-6	QCBLK169265-1	04/07/98	04/07/98	2.1	UG/L	U	20.0	1
Tin	7440-31-5	QCBLK169265-1	04/07/98	04/07/98	4.9	UG/L	U	100	1

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Project: 519.145

Category: ICAP Metals
Method: EPA 6010
Matrix: LIQUID

Client ID: NA

Sample Date : NA
Receipt Date : NA
Report Date : 05/19/98

Quanterra ID : QCLCS169265-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK169265-1	04/07/98	04/07/98	114	%REC			1
Antimony	7440-36-0	QCBLK169265-1	04/07/98	04/07/98	99	%REC			1
Barium	7440-39-3	QCBLK169265-1	04/07/98	04/07/98	95	%REC			1
Beryllium	7440-41-7	QCBLK169265-1	04/07/98	04/07/98	100	%REC			1
Cadmium	7440-43-9	QCBLK169265-1	04/07/98	04/07/98	99	%REC			1
Calcium	7440-70-2	QCBLK169265-1	04/07/98	04/07/98	104	%REC			1
Chromium	7440-47-3	QCBLK169265-1	04/07/98	04/07/98	99	%REC			1
Cobalt	7440-48-4	QCBLK169265-1	04/07/98	04/07/98	97	%REC			1
Copper	7440-50-8	QCBLK169265-1	04/07/98	04/07/98	100	%REC			1
Iron	7439-89-6	QCBLK169265-1	04/07/98	04/07/98	104	%REC			1
Lead	7439-92-1	QCBLK169265-1	04/07/98	04/07/98	99	%REC			1
Magnesium	7439-95-4	QCBLK169265-1	04/07/98	04/07/98	103	%REC			1
Manganese	7439-96-5	QCBLK169265-1	04/07/98	04/07/98	96	%REC			1
Nickel	7440-02-0	QCBLK169265-1	04/07/98	04/07/98	98	%REC			1
Potassium	7440-09-7	QCBLK169265-1	04/07/98	04/07/98	108	%REC			1
Silver	7440-22-4	QCBLK169265-1	04/07/98	04/07/98	71	%REC			1
Sodium	7440-23-5	QCBLK169265-1	04/07/98	04/07/98	101	%REC			1
Vanadium	7440-62-2	QCBLK169265-1	04/07/98	04/07/98	98	%REC			1
Zinc	7440-66-6	QCBLK169265-1	04/07/98	04/07/98	99	%REC			1
Strontium	7440-24-6	QCBLK169265-1	04/07/98	04/07/98	99	%REC			1
Tin	7440-31-5	QCBLK169265-1	04/07/98	04/07/98	97	%REC			1

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Project: 519.145

Category: Arsenic-7060
Method: EPA 7060
Matrix: LIQUID

Sample Date : 03/19/98
Receipt Date : 03/19/98
Report Date : 05/19/98

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
BON840	17281-001	Arsenic	7440-38-2	QCBLK169079-1	04/02/98	04/03/98	2.2	UG/L	B	10.0	1
BON840	17281-001MS	Arsenic	7440-38-2	QCBLK169079-1	04/02/98	04/03/98	99	%REC			1
BON840	17281-001MSD	Arsenic	7440-38-2	QCBLK169079-1	04/02/98	04/03/98	100	%REC			1
BON848	17281-002	Arsenic	7440-38-2	QCBLK169079-1	04/02/98	04/03/98	1.1	UG/L	B	10.0	1
BON852	17281-003	Arsenic	7440-38-2	QCBLK169079-1	04/02/98	04/03/98	0.60	UG/L	U	10.0	1
BON846	17310-001	Arsenic	7440-38-2	QCBLK169395-1	04/08/98	04/09/98	2.3	UG/L	B	10.0	1
BON850	17310-002	Arsenic	7440-38-2	QCBLK169395-1	04/08/98	04/09/98	1.1	UG/L	U	10.0	1
BON842	17312-001	Arsenic	7440-38-2	QCBLK169395-1	04/08/98	04/09/98	1.1	UG/L	U	10.0	1
BON844	17312-002	Arsenic	7440-38-2	QCBLK169395-1	04/08/98	04/09/98	1.6	UG/L	B	10.0	1
BON839	17281-006	Arsenic	7440-38-2	QCBLK169079-1	04/02/98	04/03/98	2.1	UG/L	B	10.0	1
BON847	17281-007	Arsenic	7440-38-2	QCBLK169079-1	04/02/98	04/03/98	0.60	UG/L	U	10.0	1
BON851	17281-008	Arsenic	7440-38-2	QCBLK169079-1	04/02/98	04/03/98	0.60	UG/L	U	10.0	1
BON845	17310-004	Arsenic	7440-38-2	QCBLK169395-1	04/08/98	04/09/98	2.6	UG/L	B	10.0	1
BON849	17310-005	Arsenic	7440-38-2	QCBLK169395-1	04/08/98	04/09/98	1.1	UG/L	U	10.0	1
BON841	17312-004	Arsenic	7440-38-2	QCBLK169395-1	04/08/98	04/09/98	1.6	UG/L	B	10.0	1
BON843	17312-005	Arsenic	7440-38-2	QCBLK169395-1	04/08/98	04/09/98	1.1	UG/L	B	10.0	1
BON843	17312-005MS	Arsenic	7440-38-2	QCBLK169395-1	04/08/98	04/09/98	102	%REC			1
BON843	17312-005MSD	Arsenic	7440-38-2	QCBLK169395-1	04/08/98	04/09/98	101	%REC			1
BON833	17323-008	Arsenic	7440-38-2	QCBLK169395-1	04/08/98	04/09/98	5.3	UG/L	B	10.0	1
NA	QCBLK169079-1	Arsenic	7440-38-2	QCBLK169079-1	04/02/98	04/03/98	0.60	UG/L	U	10.0	1
NA	QCLCS169079-1	Arsenic	7440-38-2	QCBLK169079-1	04/02/98	04/03/98	98	%REC			1
NA	QCLCS169395-1	Arsenic	7440-38-2	QCBLK169395-1	04/08/98	04/09/98	96	%REC			1
NA	QCBLK169395-1	Arsenic	7440-38-2	QCBLK169395-1	04/08/98	04/09/98	1.1	UG/L	U	10.0	1

Pacific Northwest National Lab
P.O. Box 1970
Richland, WA 99352

Project: 519.145

Category: Selenium-7740
Method: EPA 7000 Series
Matrix: LIQUID

Sample Date : 03/19/98
Receipt Date : 03/19/98
Report Date : 05/19/98

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
BON840	17281-001	Selenium	7782-49-2	QCBLK169079-1	04/02/98	04/02/98	2.7	UG/L	B	5.0	1
BON840	17281-001MS	Selenium	7782-49-2	QCBLK169079-1	04/02/98	04/02/98	86	%REC			1
BON840	17281-001MSD	Selenium	7782-49-2	QCBLK169079-1	04/02/98	04/02/98	83	%REC			1
BON848	17281-002	Selenium	7782-49-2	QCBLK169079-1	04/02/98	04/02/98	4.4	UG/L	B	5.0	1
BON852	17281-003	Selenium	7782-49-2	QCBLK169079-1	04/02/98	04/02/98	1.4	UG/L	U	5.0	1
BON846	17310-001	Selenium	7782-49-2	QCBLK169395-1	04/08/98	04/09/98	4.9	UG/L	B	5.0	1
BON850	17310-002	Selenium	7782-49-2	QCBLK169395-1	04/08/98	04/09/98	1.4	UG/L	U	5.0	1
BON842	17312-001	Selenium	7782-49-2	QCBLK169395-1	04/08/98	04/09/98	3.1	UG/L	B	5.0	1
BON844	17312-002	Selenium	7782-49-2	QCBLK169395-1	04/08/98	04/09/98	3.2	UG/L	B	5.0	1
BON839	17281-006	Selenium	7782-49-2	QCBLK169079-1	04/02/98	04/02/98	3.2	UG/L	B	5.0	1
BON847	17281-007	Selenium	7782-49-2	QCBLK169079-1	04/02/98	04/02/98	4.2	UG/L	B	5.0	1
BON851	17281-008	Selenium	7782-49-2	QCBLK169079-1	04/02/98	04/02/98	1.4	UG/L	U	5.0	1
BON845	17310-004	Selenium	7782-49-2	QCBLK169395-1	04/08/98	04/09/98	4.4	UG/L	B	5.0	1
BON849	17310-005	Selenium	7782-49-2	QCBLK169395-1	04/08/98	04/09/98	1.4	UG/L	U	5.0	1
BON841	17312-004	Selenium	7782-49-2	QCBLK169395-1	04/08/98	04/09/98	3.6	UG/L	B	5.0	1
BON843	17312-005	Selenium	7782-49-2	QCBLK169395-1	04/08/98	04/09/98	3.6	UG/L	B	5.0	1
BON843	17312-005MS	Selenium	7782-49-2	QCBLK169395-1	04/08/98	04/09/98	86	%REC			1
BON843	17312-005MSD	Selenium	7782-49-2	QCBLK169395-1	04/08/98	04/09/98	92	%REC			1
NA	QCBLK169395-1	Selenium	7782-49-2	QCBLK169395-1	04/08/98	04/09/98	1.4	UG/L	U	5.0	1
NA	QCLCS169079-1	Selenium	7782-49-2	QCBLK169079-1	04/02/98	04/02/98	96	%REC			1
NA	QCLCS169395-1	Selenium	7782-49-2	QCBLK169395-1	04/08/98	04/09/98	95	%REC			1
NA	QCBLK169079-1	Selenium	7782-49-2	QCBLK169079-1	04/02/98	04/02/98	1.4	UG/L	U	5.0	1

Pacific Northwest National Lab
P.O. Box 1970
Richland, WA 99352

Project: 519.145

Category: Hg-7470 Filtered
Method: EPA 7470
Matrix: LIQUID

Sample Date : 03/23/98
Receipt Date : 03/23/98
Report Date : 05/20/98

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
BON4L8	17308-026	Mercury	7439-97-6	QCBLK169132-1	04/03/98	04/03/98	0.10	UG/L	U	0.20	1
BON4L8	17308-026MS	Mercury	7439-97-6	QCBLK169132-1	04/03/98	04/03/98	106	%REC			1
BON4L8	17308-026MSD	Mercury	7439-97-6	QCBLK169132-1	04/03/98	04/03/98	100	%REC			1
BON4K4	17308-027	Mercury	7439-97-6	QCBLK169132-1	04/03/98	04/03/98	0.10	UG/L	U	0.20	1
BON4L0	17308-028	Mercury	7439-97-6	QCBLK169132-1	04/03/98	04/03/98	0.10	UG/L	U	0.20	1
BON4L6	17308-029	Mercury	7439-97-6	QCBLK169132-1	04/03/98	04/03/98	0.10	UG/L	U	0.20	1
BON4M8	17308-030	Mercury	7439-97-6	QCBLK169132-1	04/03/98	04/03/98	0.10	UG/L	U	0.20	1
NA	QCLCS169132-1	Mercury	7439-97-6	QCBLK169132-1	04/03/98	04/03/98	105	%REC			1
NA	QCBLK169132-1	Mercury	7439-97-6	QCBLK169132-1	04/03/98	04/03/98	0.10	UG/L	U	0.20	1

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Lab Name: QUANTERRA_MO Contract: 519.145

Lab Code: ITMO Case No.: _____ SAS No.: _____ SDG No.: W02288

SOW No.: SW846

EPA Sample No.	Lab Sample ID
B0N4L0	17308-028
B0N4L8	17308-026
B0N4L8SD	17308-026SD
B0N4L8S	17308-026S
B0N4M8	17308-030
B0N4K4	17308-027
B0N4L6	17308-029
B0N471	17323-005
B0N578	17308-031
B0N8B3	17285-002
B0N8B3SD	17285-002SD
B0N8B3S	17285-002S
B0N833	17323-008
B0N839	17281-006
B0N840	17281-001
B0N840SD	17281-001SD
B0N840S	17281-001S
B0N841	17312-004
B0N842	17312-001
B0N843	17312-005

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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Lab Name: QUANTERRA_MO Contract: 519.145

Lab Code: ITMO Case No.: _____ SAS No.: _____ SDG No.: W02288

SOW No.: SW846

EPA Sample No.	Lab Sample ID
B0N843SD	17312-005SD
B0N843S	17312-005S
B0N844	17312-002
B0N845	17310-004
B0N846	17310-001
B0N847	17281-007
B0N848	17281-002
B0N849	17310-005
B0N850	17310-002
B0N851	17281-008
B0N852	17281-003

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.

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Date: _____ Title: _____

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0N471

Lab Name: QUANTERRA_MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix (soil/water): WATER Lab Sample ID: 17323-005

Level (low/med): LOW Date Received: 03/25/98

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	26.2	B	C	P
7440-36-0	Antimony	45.7	U		P
7440-38-2	Arsenic				NR
7440-39-3	Barium	26.5			P
7440-41-7	Beryllium	0.66	B		P
7440-43-9	Cadmium	4.6	U		P
7440-70-2	Calcium	70700		CN	P
7440-47-3	Chromium	2.1	U		P
7440-48-4	Cobalt	3.8	U		P
7440-50-8	Copper	7.5	B		P
7439-89-6	Iron	196		C	P
7439-92-1	Lead				NR
7439-95-4	Magnesium	15400		C	P
7439-96-5	Manganese	13.1			P
7439-97-6	Mercury				NR
7440-02-0	Nickel	14.2	U		P
7440-09-7	Potassium	5950			P
7782-49-2	Selenium				NR
7440-22-4	Silver	5.1	U		P
7440-23-5	Sodium	11100		C	P
7440-62-2	Vanadium	7.0	B		P
7440-66-6	Zinc	59.6			P
7440-24-6	Strontium	348			P
7440-31-5	Tin				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0N578

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

Contract: 519.145
SAS No.:
SDG No.: W02288
Lab Sample ID: 17308-031
Date Received: 03/23/98

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	20.6	U	C	P
7440-36-0	Antimony	45.7	U		P
7440-38-2	Arsenic				NR
7440-39-3	Barium	78.4			P
7440-41-7	Beryllium	0.60	U		P
7440-43-9	Cadmium	4.6	U		P
7440-70-2	Calcium	61000		CN	P
7440-47-3	Chromium	6.8	B		P
7440-48-4	Cobalt	3.8	U		P
7440-50-8	Copper	4.3	B		P
7439-89-6	Iron	42.4		C	P
7439-92-1	Lead				NR
7439-95-4	Magnesium	20500		C	P
7439-96-5	Manganese	3.5	B		P
7439-97-6	Mercury				NR
7440-02-0	Nickel	14.2	U		P
7440-09-7	Potassium	7390			P
7782-49-2	Selenium				NR
7440-22-4	Silver	5.1	U		P
7440-23-5	Sodium	21600		C	P
7440-62-2	Vanadium	28.4			P
7440-66-6	Zinc	6.1	B		P
7440-24-6	Strontium	287			P
7440-31-5	Tin				NR

Color Before:
Color After:

Clarity Before:
Clarity After:

Texture:
Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0N8B3

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

Contract: 519.145
SAS No.:
SDG No.: W02288
Lab Sample ID: 17285-002
Date Received: 03/19/98

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	45.2	B	C	P
7440-36-0	Antimony	45.7	U		P
7440-38-2	Arsenic				NR
7440-39-3	Barium	241			P
7440-41-7	Beryllium	1.0	B		P
7440-43-9	Cadmium	4.6	U		P
7440-70-2	Calcium	193000		CN	P
7440-47-3	Chromium	2.1	U		P
7440-48-4	Cobalt	3.8	U		P
7440-50-8	Copper	3.6	U		P
7439-89-6	Iron	19600		C	P
7439-92-1	Lead				NR
7439-95-4	Magnesium	38900		C	P
7439-96-5	Manganese	4470			P
7439-97-6	Mercury				NR
7440-02-0	Nickel	14.2	U		P
7440-09-7	Potassium	5870			P
7782-49-2	Selenium				NR
7440-22-4	Silver	5.1	U		P
7440-23-5	Sodium	47800		C	P
7440-62-2	Vanadium	24.1			P
7440-66-6	Zinc	39.5			P
7440-24-6	Strontium	827			P
7440-31-5	Tin				NR

Color Before:
Color After:

Clarity Before:
Clarity After:

Texture:
Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0N833

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

Contract: 519.145
SAS No.:
SDG No.: W02288
Lab Sample ID: 17323-008
Date Received: 03/25/98

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	20.6	U	C	P
7440-36-0	Antimony	45.7	U		P
7440-38-2	Arsenic	5.3	B		F
7440-39-3	Barium	61.7			P
7440-41-7	Beryllium	0.60	U		P
7440-43-9	Cadmium	4.6	U		P
7440-70-2	Calcium	60200		CN	P
7440-47-3	Chromium	9.2	B		P
7440-48-4	Cobalt	3.8	U		P
7440-50-8	Copper	6.8	B		P
7439-89-6	Iron	42.4		C	P
7439-92-1	Lead				NR
7439-95-4	Magnesium	26000		C	P
7439-96-5	Manganese	3.4	B		P
7439-97-6	Mercury				NR
7440-02-0	Nickel	14.2	U		P
7440-09-7	Potassium	7780			P
7782-49-2	Selenium				NR
7440-22-4	Silver	5.1	U		P
7440-23-5	Sodium	32600		C	P
7440-62-2	Vanadium	23.1			P
7440-66-6	Zinc	13.4			P
7440-24-6	Strontium	277			P
7440-31-5	Tin				NR

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

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0N839

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

Contract: 519.145
SAS No.:
SDG No.: W02288
Lab Sample ID: 17281-006
Date Received: 03/19/98

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic	2.1	B		F
7440-39-3	Barium	43.7			P
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium	16.6			P
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead	1.1	U		P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium	3.2	B		F
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-62-2	Vanadium	29.0			P
7440-66-6	Zinc	5.8	B		P
7440-24-6	Strontium				NR
7440-31-5	Tin	4.9	U		P

Color Before:
Color After:

Clarity Before:
Clarity After:

Texture:
Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0N840

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

Contract: 519.145
SAS No.:
SDG No.: W02288
Lab Sample ID: 17281-001
Date Received: 03/19/98

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic	2.2	B		F
7440-39-3	Barium	44.1			P
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium	16.2			P
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead	1.1	U		P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium	2.7	B		F
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-62-2	Vanadium	29.3			P
7440-66-6	Zinc	5.3	B		P
7440-24-6	Strontium				NR
7440-31-5	Tin	4.9	U		P

Color Before:
Color After:

Clarity Before:
Clarity After:

Texture:
Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0N841

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

Contract: 519.145
SAS No.:
SDG No.: W02288
Lab Sample ID: 17312-004
Date Received: 03/24/98

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic	1.6	B		F
7440-39-3	Barium	66.8			P
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium	3.6	B		P
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead	1.1	U		P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium	3.6	B		F
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-62-2	Vanadium	18.6			P
7440-66-6	Zinc	321			P
7440-24-6	Strontium				NR
7440-31-5	Tin	4.9	U		P

Color Before:
Color After:

Clarity Before:
Clarity After:

Texture:
Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0N842

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

Contract: 519.145
SAS No.:
SDG No.: W02288
Lab Sample ID: 17312-001
Date Received: 03/24/98

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				
7440-36-0	Antimony				NR
7440-38-2	Arsenic	1.1	U		NR
7440-39-3	Barium	68.4			F
7440-41-7	Beryllium				P
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium	4.6	B		NR
7440-48-4	Cobalt				P
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead	1.1	U		NR
7439-95-4	Magnesium				P
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium	3.1	B		NR
7440-22-4	Silver				F
7440-23-5	Sodium				NR
7440-62-2	Vanadium	22.7			NR
7440-66-6	Zinc	496			P
7440-24-6	Strontium				P
7440-31-5	Tin	4.9	U		NR
					P

Color Before:
Color After:

Clarity Before:
Clarity After:

Texture:
Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0N843

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

Contract: 519.145
SAS No.:
SDG No.: W02288
Lab Sample ID: 17312-005
Date Received: 03/24/98

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic	1.1	B		F
7440-39-3	Barium	66.6			P
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium	3.3	B		P
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead	1.1	U		P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium	3.6	B		F
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-62-2	Vanadium	18.3			P
7440-66-6	Zinc	318			P
7440-24-6	Strontium				NR
7440-31-5	Tin	4.9	U		P

Color Before:
Color After:

Clarity Before:
Clarity After:

Texture:
Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0N845

Lab Name: QUANTERRA_MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix (soil/water): WATER Lab Sample ID: 17310-004

Level (low/med): LOW Date Received: 03/23/98

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic	2.6	B		F
7440-39-3	Barium	82.4			P
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium	5.4	B		P
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead	1.1	U		P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium	4.4	B		F
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-62-2	Vanadium	26.8			P
7440-66-6	Zinc	2.2	U		P
7440-24-6	Strontium				NR
7440-31-5	Tin	4.9	U		P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0N848

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

Contract: 519.145
SAS No.:
SDG No.: W02288
Lab Sample ID: 17281-002
Date Received: 03/19/98

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic	1.1	B		F
7440-39-3	Barium	80.1			P
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium	6.4	B		P
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead	3.6			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium	4.4	B		F
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-62-2	Vanadium	24.0			P
7440-66-6	Zinc	462			P
7440-24-6	Strontium				NR
7440-31-5	Tin	4.9	U		P

Color Before:
Color After:

Clarity Before:
Clarity After:

Texture:
Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BON4L0

Lab Name: QUANTERRA_MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix (soil/water): WATER Lab Sample ID: 17308-028

Level (low/med): LOW Date Received: 03/23/98

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	28.0	B	C	P
7440-36-0	Antimony	45.7	U		P
7440-38-2	Arsenic				NR
7440-39-3	Barium	57.6			P
7440-41-7	Beryllium	0.60	U		P
7440-43-9	Cadmium	4.6	U		P
7440-70-2	Calcium	66100		CN	P
7440-47-3	Chromium	64.8			P
7440-48-4	Cobalt	3.8	U		P
7440-50-8	Copper	5.8	B		P
7439-89-6	Iron	26.3	B	C	P
7439-92-1	Lead				NR
7439-95-4	Magnesium	2240		C	P
7439-96-5	Manganese	3.2	B		P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	14.2	U		P
7440-09-7	Potassium	5080			P
7782-49-2	Selenium				NR
7440-22-4	Silver	5.1	U		P
7440-23-5	Sodium	6660		C	P
7440-62-2	Vanadium	5.0	B		P
7440-66-6	Zinc	13.2			P
7440-24-6	Strontium	566			P
7440-31-5	Tin				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BON4L8

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

Contract: 519.145
SAS No.: SDG No.: W02288
Lab Sample ID: 17308-026
Date Received: 03/23/98

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	24.2	B	C	P
7440-36-0	Antimony	45.7	U		P
7440-38-2	Arsenic				NR
7440-39-3	Barium	50.9			P
7440-41-7	Beryllium	0.60	U		P
7440-43-9	Cadmium	4.6	U		P
7440-70-2	Calcium	38800		CN	P
7440-47-3	Chromium	126			P
7440-48-4	Cobalt	3.8	U		P
7440-50-8	Copper	7.6	B		P
7439-89-6	Iron	27.0	B	C	P
7439-92-1	Lead				NR
7439-95-4	Magnesium	9920		C	P
7439-96-5	Manganese	2.6	B		P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	14.2	U		P
7440-09-7	Potassium	4300			P
7782-49-2	Selenium				NR
7440-22-4	Silver	5.1	U		P
7440-23-5	Sodium	6240		C	P
7440-62-2	Vanadium	10.1			P
7440-66-6	Zinc	9.4	B		P
7440-24-6	Strontium	249			P
7440-31-5	Tin				NR

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

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BON4M8

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

Contract: 519.145
SAS No.:
SDG No.: W02288
Lab Sample ID: 17308-030
Date Received: 03/23/98

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	31.5	B	C	P
7440-36-0	Antimony	45.7	U		P
7440-38-2	Arsenic				NR
7440-39-3	Barium	45.7			P
7440-41-7	Beryllium	0.60	U		P
7440-43-9	Cadmium	4.6	U		P
7440-70-2	Calcium	63400		CN	P
7440-47-3	Chromium	132			P
7440-48-4	Cobalt	3.8	U		P
7440-50-8	Copper	5.8	B		P
7439-89-6	Iron	28.7	B	C	P
7439-92-1	Lead				NR
7439-95-4	Magnesium	2750		C	P
7439-96-5	Manganese	4.0	B		P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	14.2	U		P
7440-09-7	Potassium	4780			P
7782-49-2	Selenium				NR
7440-22-4	Silver	5.1	U		P
7440-23-5	Sodium	7560		C	P
7440-62-2	Vanadium	8.2	B		P
7440-66-6	Zinc	6.5	B		P
7440-24-6	Strontium	823			P
7440-31-5	Tin				NR

Color Before:
Color After:

Clarity Before:
Clarity After:

Texture:
Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0N4K4

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

Contract: 519.145
SAS No.:
SDG No.: W02288
Lab Sample ID: 17308-027
Date Received: 03/23/98

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	20.6	U	C	P
7440-36-0	Antimony	45.7	U		P
7440-38-2	Arsenic				NR
7440-39-3	Barium	107			P
7440-41-7	Beryllium	0.60	U		P
7440-43-9	Cadmium	4.6	U		P
7440-70-2	Calcium	72200		CN	P
7440-47-3	Chromium	343			P
7440-48-4	Cobalt	3.8	U		P
7440-50-8	Copper	6.6	B		P
7439-89-6	Iron	33.0		C	P
7439-92-1	Lead				NR
7439-95-4	Magnesium	19600		C	P
7439-96-5	Manganese	3.4	B		P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	14.2	U		P
7440-09-7	Potassium	5270			P
7782-49-2	Selenium				NR
7440-22-4	Silver	5.1	U		P
7440-23-5	Sodium	10100		C	P
7440-62-2	Vanadium	10.8			P
7440-66-6	Zinc	9.6	B		P
7440-24-6	Strontium	462			P
7440-31-5	Tin				NR

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

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0N4L6

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

Contract: 519.145
SAS No.: SDG No.: W02288
Lab Sample ID: 17308-029
Date Received: 03/23/98

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	20.6	U	C	P
7440-36-0	Antimony	45.7	U		P
7440-38-2	Arsenic				NR
7440-39-3	Barium	49.4			P
7440-41-7	Beryllium	0.60	U		P
7440-43-9	Cadmium	4.6	U		P
7440-70-2	Calcium	38700		CN	P
7440-47-3	Chromium	126			P
7440-48-4	Cobalt	3.8	U		P
7440-50-8	Copper	6.6	B		P
7439-89-6	Iron	21.8	B	C	P
7439-92-1	Lead				NR
7439-95-4	Magnesium	9880		C	P
7439-96-5	Manganese	2.4	B		P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	14.2	U		P
7440-09-7	Potassium	3930			P
7782-49-2	Selenium				NR
7440-22-4	Silver	5.1	U		P
7440-23-5	Sodium	6130		C	P
7440-62-2	Vanadium	10.0			P
7440-66-6	Zinc	5.0	B		P
7440-24-6	Strontium	247			P
7440-31-5	Tin				NR

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

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0N849

) Name: QUANTERRA MO
) Code: ITMO Case No.:
:rix (soil/water): WATER
/el (low/med): LOW
Solids: 0.0

Contract: 519.145
SAS No.: SDG No.: W02288
Lab Sample ID: 17310-005
Date Received: 03/23/98

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic	1.1	U		F
7440-39-3	Barium	1.0	U		P
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium	2.1	U		P
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead	1.1	U		P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium	1.4	U		F
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-62-2	Vanadium	4.4	U		P
7440-66-6	Zinc	2.2	U		P
7440-24-6	Strontium				NR
7440-31-5	Tin	4.9	U		P

)lor Before:
)lor After:

Clarity Before:
Clarity After:

Texture:
Artifacts:

)mments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0N851

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

Contract: 519.145
SAS No.:
SDG No.: W02288
Lab Sample ID: 17281-008
Date Received: 03/19/98

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic	1.1	U		F
7440-39-3	Barium	1.0	U		P
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium	2.1	U		P
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead	1.1	U		P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium	1.4	U		F
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-62-2	Vanadium	4.4	U		P
7440-66-6	Zinc	5.8	B		P
7440-24-6	Strontium				NR
7440-31-5	Tin	4.9	U		P

Color Before:
Color After:

Clarity Before:
Clarity After:

Texture:
Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0N852

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

Contract: 519.145
SAS No.:
SDG No.: W02288
Lab Sample ID: 17281-003
Date Received: 03/19/98

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium	1.1	U		F
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt	2.1	U		P
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead				NR
7439-95-4	Magnesium	1.1	U		P
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver	1.4	U		F
7440-23-5	Sodium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc	4.4	U		P
7440-24-6	Strontium	6.1	B		P
7440-31-5	Tin				NR
		4.9	U		P

Color Before:
Color After:

Clarity Before:
Clarity After:

Texture:
Artifacts:

Comments:

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BLANKS

Lab Name: QUANTERRA_MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum	20.6	U	43.6	B					138.350		P
Antimony	45.7	U	45.7	U					45.700	U	P
Arsenic	1.1	U	1.1	U	1.1	U	1.1	U	1.100	U	F
Barium	1.3	B	1.0	U	1.0	U	1.0	U	1.000	U	P
Beryllium	1.2	B	1.0	B					0.600	U	P
Cadmium	4.6	U	4.6	U					4.600	U	P
Calcium	15.7	B	44.9	B					141.150		P
Chromium	2.1	U	2.1	U	2.1	U	2.1	U	2.100	U	P
Cobalt	3.8	U	3.8	U					3.800	U	P
Copper	3.6	U	3.6	U					3.600	U	P
Iron	17.5	B	26.1	B					51.780		P
Lead	1.1	U	1.1	U	1.1	U	1.1	U	1.100	U	P
Magnesium	130.0		130.0						208.420		P
Manganese	2.4	B	2.5	B					1.640	B	P
Mercury	0.1	U	0.1	U	0.1	U			0.100	U	CV
Nickel	14.2	U	14.2	U					14.200	U	P
Potassium	2150.0	U	2150.0	U					2150.000	U	P
Selenium	1.4	U	1.4	U	1.4	U	1.4	U	1.400	U	F
Silver	5.1	U	5.1	U					6.650	B	P
Sodium	89.8	B	124.1	B					208.770	B	P
Vanadium	4.4	U	4.4	U	4.4	U	4.4	U	8.050	B	P
Zinc	2.2	U	2.2	U	2.2	U	2.2	U	2.200	U	P
Strontium	2.1	U	2.1	U					2.100	U	P
Tin	5.0	B	4.9	U	4.9	U	4.9	U	4.900	U	P

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BLANKS

Lab Name: QUANTERRA_MO Contract: 519.145

Lab Code: ITMO Case No.: _____ SAS No.: _____ SDG No.: W02288

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum	20.6	U	20.6	U	28.8	B			81.790	B	P
Antimony	45.7	U	45.7	U	45.7	U			45.700	U	P
Arsenic	1.1	U	1.1	U	1.1	U	1.1	U	1.100	U	F
Barium	1.7	B	1.7	B					1.000	U	P
Beryllium	0.8	B	0.7	B	0.7	B			0.600	U	P
Cadmium	4.6	U	4.6	U	4.6	U			4.600	U	P
Calcium	10.5	U	10.5	U	11.8	B			88.520	B	P
Chromium	2.1	U	2.1	U					2.100	U	P
Cobalt	3.8	U	3.8	U	3.8	U			3.800	U	P
Copper	5.5	B	3.6	U	3.6	U			3.640	B	P
Iron	11.8	B	7.4	B	14.0	B			39.020		P
Lead	1.1	B	1.1	U	1.1	U	1.1	U	1.100	B	P
Magnesium	64.1	U	64.1	U	64.1	U			64.100	U	P
Manganese	1.7	B	1.1	B	1.1	U			1.100	U	P
Mercury											NR
Nickel	14.2	U	14.2	U	14.2	U			14.200	U	P
Potassium	2150.0	U	2150.0	U	2150.0	U			2150.000	U	P
Selenium	1.4	U	1.4	U	1.4	U	1.4	U	1.400	U	F
Silver	5.1	U	5.1	U	5.1	U			5.100	U	P
Sodium	44.1	U	44.1	U	44.1	U			48.160	B	P
Vanadium	8.1	B	8.9	B					4.400	U	P
Zinc	2.2	U	2.2	U					2.200	U	P
Strontium	2.1	U	2.1	U	2.1	U			2.100	U	P
Tin	4.9	U	4.9	U	4.9	U	4.9	U	4.900	U	P

FORM III - IN

SW-846

U.S. EPA - CLP

3
BLANKS

Lab Name: QUANTERRA_MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum	20.6	U	21.0	B	48.4	B			103.390		P
Antimony	-58.2	B	45.7	U	45.7	U			-58.210	B	P
Arsenic											NR
Barium	1.0	U	1.0	U	1.0	U	1.0	U	1.000	U	P
Beryllium	1.1	B	1.2	B	1.5	B			0.600	U	P
Cadmium	4.6	U	4.6	U	4.6	U			4.600	U	P
Calcium	10.5	U	10.5	U	32.8	B			98.130	B	P
Chromium	2.1	U	2.1	U	2.1	U	2.1	U	2.100	U	P
Cobalt	3.8	U	3.8	U	3.8	U			3.800	U	P
Copper	3.6	U	3.6	U	3.6	U			4.570	B	P
Iron	8.6	B	11.4	B	23.5	B			40.190		P
Lead											NR
Magnesium	64.1	U	64.1	U	64.1	U			64.100	U	P
Manganese	1.3	B	1.3	B	1.6	B			1.100	U	P
Mercury											NR
Nickel	14.2	U	14.2	U	14.2	U			14.200	U	P
Potassium	2150.0	U	2150.0	U	2150.0	U			2150.000	U	P
Selenium											NR
Silver	5.1	U	5.1	U	5.1	U			5.100	U	P
Sodium	44.1	U	44.1	U	44.1	U			468.240		P
Vanadium	4.4	U	4.4	U	4.4	U	4.4	U	4.400	U	P
Zinc	2.2	U	-2.3	B	2.2	U	2.2	U	3.120	B	P
Strontium	2.1	U	2.1	U	2.1	U			2.100	U	P
Tin											NR

FORM III - IN

SW-846

U.S. EPA - CLP

3
BLANKS

Lab Name: QUANTERRA_MO Contract: 519.145

Lab Code: ITMO Case No.: _____ SAS No.: _____ SDG No.: W02288

Preparation Blank Matrix (soil/water): _____

Preparation Blank Concentration Units (ug/L or mg/kg): _____

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic											NR
Barium	1.0	U	1.0	U	1.0	U					P
Beryllium											NR
Cadmium											NR
Calcium											NR
Chromium	2.1	U	2.1	U	2.1	U					P
Cobalt											NR
Copper											NR
Iron											NR
Lead											NR
Magnesium											NR
Manganese											NR
Mercury											NR
Nickel											NR
Potassium											NR
Selenium											NR
Silver											NR
Sodium											NR
Vanadium	4.4	U	4.4	U	4.4	U					P
Zinc	2.2	U	2.2	U	2.2	U					P
Strontium											NR
Tin											NR

FORM III - IN

SW-846

U.S. EPA - CLP

3
BLANKS

Lab Name: QUANTERRA_MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Preparation Blank Matrix (soil/water):

Preparation Blank Concentration Units (ug/L or mg/kg):

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic											NR
Barium	1.0	U	1.2	B	1.5	B					P
Beryllium											NR
Cadmium											NR
Calcium											NR
Chromium	2.1	U	2.1	U	2.1	U					P
Cobalt											NR
Copper											NR
Iron											NR
Lead											NR
Magnesium											NR
Manganese											NR
Mercury											NR
Nickel											NR
Potassium											NR
Selenium											NR
Silver											NR
Sodium											NR
Vanadium	4.4	U	4.4	U	4.4	U					P
Zinc	2.2	U	4.6	B	2.8	B					P
Strontium											NR
Tin											NR

FORM III - IN

SW-846

U.S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

BON4L8S

Lab Name: QUANTERRA_MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix (soil/water): WATER Level (low/med): LOW

% Solids for Sample: 0.0

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

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum	80-120	2071.0400		24.1800	B	2000.00	102.3		P
Antimony	80-120	415.8000		45.7000	U	500.00	83.2		P
Arsenic									NR
Barium	80-120	1971.3600		50.8900		2000.00	96.0		P
Beryllium	80-120	52.3600		0.6000	U	50.00	104.7		P
Cadmium	80-120	46.4300		4.6000	U	50.00	92.9		P
Calcium	80-120	89471.9200		38780.2300		50000.00	101.4		P
Chromium	80-120	317.3400		126.4400		200.00	95.4		P
Cobalt	80-120	476.9500		3.8000	U	500.00	95.4		P
Copper	80-120	242.9300		7.5500	B	250.00	94.2		P
Iron	80-120	947.9200		26.9800	B	1000.00	92.1		P
Lead									NR
Magnesium	80-120	62673.3500		9917.3000		50000.00	105.5		P
Manganese	80-120	477.9800		2.5900	B	500.00	95.1		P
Mercury	80-120	1.0600		0.1000	U	1.00	106.0		CV
Nickel	80-120	481.3600		14.2000	U	500.00	96.3		P
Potassium	80-120	54628.7500		4303.4500		50000.00	100.7		P
Selenium									NR
Silver	80-120	43.1800		5.1000	U	50.00	86.4		P
Sodium	80-120	57375.6000		6238.8900		50000.00	102.3		P
Vanadium	80-120	502.3200		10.0700		500.00	98.4		P
Zinc	80-120	494.0200		9.4500	B	500.00	96.9		P
Strontium	80-120	1250.5900		248.8900		1000.00	100.2		P
Tin									NR

Comments:

U.S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

BON4L8SD

Lab Name: QUANTERRA_MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix (soil/water): WATER Level (low/med): LOW

% Solids for Sample: 0.0

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

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum	80-120	2068.1800		24.1800	B	2000.00	102.2		P
Antimony	80-120	428.4800		45.7000	U	500.00	85.7		P
Arsenic									NR
Barium	80-120	1959.8500		50.8900		2000.00	95.4		P
Beryllium	80-120	52.6100		0.6000	U	50.00	105.2		P
Cadmium	80-120	47.2500		4.6000	U	50.00	94.5		P
Calcium	80-120	88623.7100		38780.2300		50000.00	99.7		P
Chromium	80-120	311.5100		126.4400		200.00	92.5		P
Cobalt	80-120	476.3500		3.8000	U	500.00	95.3		P
Copper	80-120	246.4300		7.5500	B	250.00	95.6		P
Iron	80-120	970.6600		26.9800	B	1000.00	94.4		P
Lead									NR
Magnesium	80-120	62152.6300		9917.3000		50000.00	104.5		P
Manganese	80-120	478.8900		2.5900	B	500.00	95.3		P
Mercury	80-120	1.0000		0.1000	U	1.00	100.0		CV
Nickel	80-120	486.1800		14.2000	U	500.00	97.2		P
Potassium	80-120	54467.8400		4303.4500		50000.00	100.3		P
Selenium									NR
Silver	80-120	47.7400		5.1000	U	50.00	95.5		P
Sodium	80-120	56876.2700		6238.8900		50000.00	101.3		P
Vanadium	80-120	504.3100		10.0700		500.00	98.8		P
Zinc	80-120	493.4400		9.4500	B	500.00	96.8		P
Strontium	80-120	1235.2600		248.8900		1000.00	98.6		P
Tin									NR

Comments:

U.S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

B0N8B3S

Lab Name: QUANTERRA_MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix (soil/water): WATER Level (low/med): LOW

% Solids for Sample: 0.0

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

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum	80-120	2003.5400		45.1800	B	2000.00	97.9		P
Antimony	80-120	494.0400		45.7000	U	500.00	98.8		P
Arsenic									NR
Barium	80-120	2078.8300		241.4300		2000.00	91.9		P
Beryllium	80-120	51.6400		1.0100	B	50.00	101.3		P
Cadmium	80-120	48.6700		4.6000	U	50.00	97.3		P
Calcium	80-120	235209.1600		193377.9100		50000.00	83.7		P
Chromium	80-120	178.8100		2.1000	U	200.00	89.4		P
Cobalt	80-120	453.9000		3.8000	U	500.00	90.8		P
Copper	80-120	235.5300		3.6000	U	250.00	94.2		P
Iron		19819.9400		19573.7000		1000.00	24.6		P
Lead									NR
Magnesium	80-120	88375.1400		38911.9700		50000.00	98.9		P
Manganese		4807.1600		4471.3200		500.00	67.2		P
Mercury									NR
Nickel	80-120	470.3300		14.2000	U	500.00	94.1		P
Potassium	80-120	54722.2500		5870.9100		50000.00	97.7		P
Selenium									NR
Silver	80-120	49.6700		5.1000	U	50.00	99.3		P
Sodium	80-120	94734.8400		47777.3600		50000.00	93.9		P
Vanadium	80-120	497.7300		24.1000		500.00	94.7		P
Zinc	80-120	506.8000		39.5000		500.00	93.5		P
Strontium	80-120	1739.9900		826.5800		1000.00	91.3		P
Tin									NR

Comments:

U.S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

B0N8B3SD

Lab Name: QUANTERRA_MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix (soil/water): WATER Level (low/med): LOW

% Solids for Sample: 0.0

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

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum	80-120	1933.6700		45.1800	B	2000.00	94.4		P
Antimony	80-120	459.7700		45.7000	U	500.00	92.0		P
Arsenic									NR
Barium	80-120	2005.3900		241.4300		2000.00	88.2		P
Beryllium	80-120	49.7200		1.0100	B	50.00	97.4		P
Cadmium	80-120	46.5600		4.6000	U	50.00	93.1		P
Calcium	80-120	227479.6600		193377.9100		50000.00	68.2	N	P
Chromium	80-120	170.2700		2.1000	U	200.00	85.1		P
Cobalt	80-120	437.3600		3.8000	U	500.00	87.5		P
Copper	80-120	228.0400		3.6000	U	250.00	91.2		P
Iron		19027.6300		19573.7000		1000.00	-54.6		P
Lead									NR
Magnesium	80-120	85511.5500		38911.9700		50000.00	93.2		P
Manganese		4623.5800		4471.3200		500.00	30.5		P
Mercury									NR
Nickel	80-120	455.7100		14.2000	U	500.00	91.1		P
Potassium	80-120	51733.9800		5870.9100		50000.00	91.7		P
Selenium									NR
Silver	80-120	44.5100		5.1000	U	50.00	89.0		P
Sodium	80-120	91940.3700		47777.3600		50000.00	88.3		P
Vanadium	80-120	481.9800		24.1000		500.00	91.6		P
Zinc	80-120	490.5300		39.5000		500.00	90.2		P
Strontium	80-120	1701.2200		826.5800		1000.00	87.5		P
Tin									NR

Comments:

U.S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

B0N840S

Lab Name: QUANTERRA_MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix (soil/water): WATER Level (low/med): LOW

% Solids for Sample: 0.0

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

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									
Antimony									NR
Arsenic	80-120	41.6700		2.1500	B	40.00	98.8		NR
Barium	80-120	2119.3800		44.0700		2000.00	103.8		F
Beryllium									P
Cadmium									NR
Calcium									NR
Chromium	80-120	210.8700		16.2200		200.00	97.3		NR
Cobalt									P
Copper									NR
Iron									NR
Lead	80-120	488.8400		1.1000	U	500.00	97.8		NR
Magnesium									P
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium	80-120	11.3400		2.7000	B	10.00	86.4		NR
Silver									F
Sodium									NR
Vanadium	80-120	527.2200		29.2600		500.00	99.6		NR
Zinc	80-120	505.3600		5.3000	B	500.00	100.0		P
Strontium									P
Tin	80-120	1830.1900		4.9000	U	2000.00	91.5		NR
									P

Comments:

U.S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

B0N840SD

Lab Name: QUANTERRA_MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix (soil/water): WATER Level (low/med): LOW

% Solids for Sample: 0.0

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

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony									NR
Arsenic	80-120	42.1500		2.1500	B	40.00	100.0		F
Barium	80-120	2120.6200		44.0700		2000.00	103.8		P
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium	80-120	209.3600		16.2200		200.00	96.6		P
Cobalt									NR
Copper									NR
Iron									NR
Lead	80-120	486.0000		1.1000	U	500.00	97.2		P
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium	80-120	11.0200		2.7000	B	10.00	83.2		F
Silver									NR
Sodium									NR
Vanadium	80-120	525.7400		29.2600		500.00	99.3		P
Zinc	80-120	501.9000		5.3000	B	500.00	99.3		P
Strontium									NR
Tin	80-120	1848.1700		4.9000	U	2000.00	92.4		P

Comments:

U.S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

B0N843S

Lab Name: QUANTERRA_MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix (soil/water): WATER Level (low/med): LOW

% Solids for Sample: 0.0

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

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony									NR
Arsenic	80-120	41.8500		1.1400	B	40.00	101.8		F
Barium	80-120	2095.3300		66.5500		2000.00	101.4		P
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium	80-120	193.2400		3.2600	B	200.00	95.0		P
Cobalt									NR
Copper									NR
Iron									NR
Lead	80-120	476.4000		1.1000	U	500.00	95.3		P
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium	80-120	12.2700		3.6300	B	10.00	86.4		F
Silver									NR
Sodium									NR
Vanadium	80-120	503.7800		18.2700		500.00	97.1		P
Zinc	80-120	795.9100		318.2500		500.00	95.5		P
Strontium									NR
Tin	80-120	1802.7300		4.9000	U	2000.00	90.1		P

Comments:

U.S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

B0N843SD

Lab Name: QUANTERRA_MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix (soil/water): WATER Level (low/med): LOW

% Solids for Sample: 0.0

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

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									
Antimony									NR
Arsenic	80-120	41.4000		1.1400	B	40.00	100.6		NR
Barium	80-120	2111.9600		66.5500		2000.00	102.3		F
Beryllium									P
Cadmium									NR
Calcium									NR
Chromium	80-120	194.0600		3.2600	B	200.00	95.4		NR
Cobalt									P
Copper									NR
Iron									NR
Lead	80-120	475.7000		1.1000	U	500.00	95.1		NR
Magnesium									P
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium	80-120	12.8200		3.6300	B	10.00	91.9		NR
Silver									F
Sodium									NR
Vanadium	80-120	506.9000		18.2700		500.00	97.7		NR
Zinc	80-120	803.7500		318.2500		500.00	97.1		P
Strontium									P
Tin	80-120	1802.1200		4.9000	U	2000.00	90.1		NR
									P

Comments:

U.S. EPA - CLP

6A
MATRIX SPIKE DUPLICATES

EPA SAMPLE NO.

BON4L8SD

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix (soil/water): WATER Level (low/med): LOW

% Solids: 0.0

Percent recoveries:

Analyte	Control Limit	Matrix Spike (S)		Matrix Spike Duplicate (SD)		RPD	Q	M
Al	20%	102.30		102.20		0.1		P
Sb	20%	83.20		85.70		3.0		P
As	20%							NR
Ba	20%	96.00		95.40		0.6		P
Be	20%	104.70		105.20		0.5		P
Cd	20%	92.90		94.50		1.7		P
Ca	20%	101.40		99.70		1.7		P
Cr	20%	95.40		92.50		3.1		P
Co	20%	95.40		95.30		0.1		P
Cu	20%	94.20		95.60		1.5		P
Fe	20%	92.10		94.40		2.5		P
Pb	20%							NR
Mg	20%	105.50		104.50		1.0		P
Mn	20%	95.10		95.30		0.2		P
Hg	20%	106.00		100.00		5.8		CV
Ni	20%	96.30		97.20		0.9		P
K	20%	100.70		100.30		0.4		P
Se	20%							NR
Ag	20%	86.40		95.50		10.0		P
Na	20%	102.30		101.30		1.0		P
V	20%	98.40		98.80		0.4		P
Zn	20%	96.90		96.80		0.1		P
Sr	20%	100.20		98.60		1.6		P
Sn	20%							NR

U.S. EPA - CLP

6A
MATRIX SPIKE DUPLICATES

EPA SAMPLE NO.

B0N8B3SD

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix (soil/water): WATER Level (low/med): LOW

% Solids: 0.0

Percent recoveries:

Analyte	Control Limit	Matrix Spike (S)		Matrix Spike Duplicate (SD)		RPD	Q	M
Al	20%	97.90		94.40		3.6		P
Sb	20%	98.80		92.00		7.1		P
As	20%							NR
Ba	20%	91.90		88.20		4.1		P
Be	20%	101.30		97.40		3.9		P
Cd	20%	97.30		93.10		4.4		P
Ca	20%	83.70		68.20		20.4		P
Cr	20%	89.40		85.10		4.9		P
Co	20%	90.80		87.50		3.7		P
Cu	20%	94.20		91.20		3.2		P
Fe	20%	24.60				200.0		P
Pb	20%							NR
Mg	20%	98.90		93.20		5.9		P
Mn	20%	67.20		30.50		75.1		P
Hg	20%							NR
Ni	20%	94.10		91.10		3.2		P
K	20%	97.70		91.70		6.3		P
Se	20%							NR
Ag	20%	99.30		89.00		10.9		P
Na	20%	93.90		88.30		6.1		P
V	20%	94.70		91.60		3.3		P
Zn	20%	93.50		90.20		3.6		P
Sr	20%	91.30		87.50		4.3		P
Sn	20%							NR

U.S. EPA - CLP

6A
MATRIX SPIKE DUPLICATES

EPA SAMPLE NO.

B0N840SD

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix (soil/water): WATER Level (low/med): LOW

% Solids: 0.0

Percent recoveries:

Analyte	Control Limit	Matrix Spike (S)		Matrix Spike Duplicate (SD)		RPD	Q	M
Al	20%							NR
Sb	20%							NR
As	20%	98.80		100.00		1.2		F
Ba	20%	103.80		103.80		0.0		P
Be	20%							NR
Cd	20%							NR
Ca	20%							NR
Cr	20%	97.30		96.60		0.7		P
Co	20%							NR
Cu	20%							NR
Fe	20%							NR
Pb	20%	97.80		97.20		0.6		P
Mg	20%							NR
Mn	20%							NR
Hg	20%							NR
Ni	20%							NR
K	20%							NR
Se	20%	86.40		83.20		3.8		F
Ag	20%							NR
Na	20%							NR
V	20%	99.60		99.30		0.3		P
Zn	20%	100.00		99.30		0.7		P
Sr	20%							NR
Sn	20%	91.50		92.40		1.0		P

FORM VI - IN

U.S. EPA - CLP

6A
MATRIX SPIKE DUPLICATES

EPA SAMPLE NO.

B0N843S

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix (soil/water): WATER Level (low/med): LOW

% Solids: 0.0

Percent recoveries:

Analyte	Control Limit	Matrix Spike (S)		Matrix Spike Duplicate (SD)		RPD	Q	M
Al	20%							NR
Sb	20%							NR
As	20%	101.80		100.60		1.2		F
Ba	20%	101.40		102.30		0.9		P
Be	20%							NR
Cd	20%							NR
Ca	20%							NR
Cr	20%	95.00		95.40		0.4		P
Co	20%							NR
Cu	20%							NR
Fe	20%							NR
Pb	20%	95.30		95.10		0.2		P
Mg	20%							NR
Mn	20%							NR
Hg	20%							NR
Ni	20%							NR
K	20%							NR
Se	20%	86.40		91.90		6.2		F
Ag	20%							NR
Na	20%							NR
V	20%	97.10		97.70		0.6		P
Zn	20%	95.50		97.10		1.7		P
Sr	20%							NR
Sn	20%	90.10		90.10		0.0		P

FORM VI - IN

U.S. EPA - CLP

7

LABORATORY CONTROL SAMPLE

Lab Name: QUANTERRA_MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Solid LCS Source:

Aqueous LCS Source: SOL+/CHEMPUR

Analyte	Aqueous (ug/L) True	Found	%R	Solid (mg/kg) True	Found	C	Limits		%R
Aluminum	1000.0	1115.51	111.6						
Antimony	1000.0	1027.08	102.7						
Arsenic									
Barium	1000.0	920.20	92.0						
Beryllium	1000.0	990.11	99.0						
Cadmium	1000.0	989.49	98.9						
Calcium	20000.0	20554.51	102.8						
Chromium	1000.0	977.39	97.7						
Cobalt	1000.0	964.04	96.4						
Copper	1000.0	985.88	98.6						
Iron	1000.0	1016.00	101.6						
Lead	1000.0	999.92	100.0						
Magnesium	20000.0	20170.06	100.9						
Manganese	1000.0	956.39	95.6						
Mercury									
Nickel	1000.0	988.91	98.9						
Potassium	20000.0	18297.48	91.5						
Selenium									
Silver	250.0	181.14	72.5						
Sodium	20000.0	19712.00	98.6						
Vanadium	1000.0	978.85	97.9						
Zinc	1000.0	975.60	97.6						
Strontium	1000.0	941.52	94.2						
Tin	2000.0	1956.86	97.8						

FORM VII - IN

SW-846

U.S. EPA - CLP

7

LABORATORY CONTROL SAMPLE

Lab Name: QUANTERRA_MO Contract: 519.145

Lab Code: ITMO Case No.: _____ SAS No.: _____ SDG No.: W02288

Solid LCS Source: _____

Aqueous LCS Source: SOL+/CHEMPUR

Analyte	Aqueous (ug/L) True	Found	%R	Solid (mg/kg) True	Found	C	Limits		%R
Aluminum	1000.0	1139.30	113.9						
Antimony	1000.0	991.23	99.1						
Arsenic									
Barium	1000.0	946.63	94.7						
Beryllium	1000.0	998.70	99.9						
Cadmium	1000.0	988.86	98.9						
Calcium	20000.0	20878.18	104.4						
Chromium	1000.0	987.42	98.7						
Cobalt	1000.0	967.87	96.8						
Copper	1000.0	996.23	99.6						
Iron	1000.0	1043.81	104.4						
Lead	1000.0	991.18	99.1						
Magnesium	20000.0	20537.54	102.7						
Manganese	1000.0	965.00	96.5						
Mercury									
Nickel	1000.0	981.91	98.2						
Potassium	20000.0	21595.23	108.0						
Selenium									
Silver	250.0	177.65	71.1						
Sodium	20000.0	20266.69	101.3						
Vanadium	1000.0	979.96	98.0						
Zinc	1000.0	991.50	99.2						
Strontium	1000.0	990.98	99.1						
Tin	2000.0	1949.00	97.4						

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U.S. EPA - CLP

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LABORATORY CONTROL SAMPLE

Lab Name: QUANTERRA_MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Solid LCS Source:

Aqueous LCS Source: SOL+/CHEMPUR

Analyte	Aqueous (ug/L) True	Found	%R	Solid (mg/kg) True	Found	C	Limits		%R
Aluminum	1000.0	1102.60	110.3						
Antimony	1000.0	921.15	92.1						
Arsenic									
Barium	1000.0	918.76	91.9						
Beryllium	1000.0	975.42	97.5						
Cadmium	1000.0	969.18	96.9						
Calcium	20000.0	20296.60	101.5						
Chromium	1000.0	973.61	97.4						
Cobalt	1000.0	958.19	95.8						
Copper	1000.0	975.81	97.6						
Iron	1000.0	1009.65	101.0						
Lead									
Magnesium	20000.0	19984.83	99.9						
Manganese	1000.0	948.81	94.9						
Mercury									
Nickel	1000.0	966.53	96.7						
Potassium	20000.0	21367.70	106.8						
Selenium									
Silver	250.0	176.46	70.6						
Sodium	20000.0	20112.15	100.6						
Vanadium	1000.0	963.98	96.4						
Zinc	1000.0	975.49	97.5						
Strontium	1000.0	962.95	96.3						
Tin									

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U.S. EPA - CLP

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LABORATORY CONTROL SAMPLE

Lab Name: QUANTERRA_MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Solid LCS Source:

Aqueous LCS Source: SOL+/CHEMPUR

Analyte	Aqueous (ug/L) True	Found	%R	Solid (mg/kg) True	Found	C	Limits		%R
Aluminum									
Antimony									
Arsenic									
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead									
Magnesium									
Manganese									
Mercury	5.0	5.27	105.4						
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Vanadium									
Zinc									
Strontium									
Tin									

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U.S. EPA - CLP

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LABORATORY CONTROL SAMPLE

Lab Name: QUANTERRA_MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Solid LCS Source:

Aqueous LCS Source: SOL+/CHEMPUR

Analyte	Aqueous (ug/L) True	Found	%R	Solid (mg/kg) True	Found	C	Limits		%R
Aluminum									
Antimony									
Arsenic	40.0	39.25	98.1						
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead									
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium	40.0	38.28	95.7						
Silver									
Sodium									
Vanadium									
Zinc									
Strontium									
Tin									

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U.S. EPA - CLP

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LABORATORY CONTROL SAMPLE

Lab Name: QUANTERRA_MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Solid LCS Source:

Aqueous LCS Source: SOL+/CHEMPUR

Analyte	Aqueous (ug/L) True	Found	%R	Solid (mg/kg) True	Found	C	Limits		%R
Aluminum									
Antimony									
Arsenic	40.0	38.58	96.4						
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead									
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium	40.0	38.03	95.1						
Silver									
Sodium									
Vanadium									
Zinc									
Strontium									
Tin									

FORM VII - IN

SW-846

GC

Pacific Northwest National Lab
P.O. Box 1970
Richland, WA 99352

Project: 519.145

Category: Phenols
Method: SW-846 8040A
Matrix: LIQUID

Client ID: B0N4K5

Sample Date : 03/23/98
Receipt Date : 03/23/98
Report Date : 05/19/98

Quanterra ID : 17308-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Phenol	108-95-2	QCBLK168645-1	03/30/98	04/03/98	0.94	UG/L	U	1.0	1
2-Chlorophenol	95-57-8	QCBLK168645-1	03/30/98	04/03/98	1.9	UG/L	U	5.0	1
2-Methylphenol	95-48-7	QCBLK168645-1	03/30/98	04/03/98	1.8	UG/L	U	5.0	1
Cresol, M&P	65794-96-9	QCBLK168645-1	03/30/98	04/03/98	3.5	UG/L	U	5.0	1
2-Nitrophenol	88-75-5	QCBLK168645-1	03/30/98	04/03/98	1.5	UG/L	U	5.0	1
2,4-Dimethylphenol	105-67-9	QCBLK168645-1	03/30/98	04/03/98	1.8	UG/L	U	5.0	1
2,4-Dichlorophenol	120-83-2	QCBLK168645-1	03/30/98	04/03/98	1.9	UG/L	U	5.0	1
2,6-Dichlorophenol	87-65-0	QCBLK168645-1	03/30/98	04/03/98	1.9	UG/L	U	5.0	1
4-Chloro-3-Methylphenol	59-50-7	QCBLK168645-1	03/30/98	04/03/98	2.0	UG/L	U	5.0	1
2,4,6-Trichlorophenol	88-06-2	QCBLK168645-1	03/30/98	04/03/98	2.4	UG/L	U	5.0	1
2,4,5-Trichlorophenol	95-95-4	QCBLK168645-1	03/30/98	04/03/98	1.8	UG/L	U	5.0	1
2,4-Dinitrophenol	51-28-5	QCBLK168645-1	03/30/98	04/03/98	1.1	UG/L	J	5.0	1
4-Nitrophenol	100-02-7	QCBLK168645-1	03/30/98	04/03/98	0.70	UG/L	U	5.0	1
2,3,4,6-Tetrachlorophenol	58-90-2	QCBLK168645-1	03/30/98	04/03/98	1.4	UG/L	U	5.0	1
4,6-Dinitro-2-Methylphenol	534-52-1	QCBLK168645-1	03/30/98	04/03/98	0.6	UG/L	J	5.0	1
Pentachlorophenol	87-86-5	QCBLK168645-1	03/30/98	04/03/98	2.2	UG/L	U	5.0	1
Dinoseb	88-85-7	QCBLK168645-1	03/30/98	04/03/98	0.6	UG/L	J	5.0	1
2-Fluorophenol	367-12-4	QCBLK168645-1	03/30/98	04/03/98	53	%REC			1
2,4,6-Tribromophenol	118-79-6	QCBLK168645-1	03/30/98	04/03/98	74	%REC			1

Pacific Northwest National Lab
P.O. Box 1970
Richland, WA 99352

Project: 519.145

Category: Phenols
Method: SW-846 8040A
Matrix: LIQUID

Client ID: B0N4K5

Sample Date : 03/23/98
Receipt Date : 03/23/98
Report Date : 05/19/98

Quanterra ID : 17308-001MS

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Phenol	108-95-2	QCBLK168645-1	03/30/98	04/03/98	39	%REC			1
2-Chlorophenol	95-57-8	QCBLK168645-1	03/30/98	04/03/98	70	%REC			1
2-Methylphenol	95-48-7	QCBLK168645-1	03/30/98	04/03/98	62	%REC			1
Cresol, M&P	65794-96-9	QCBLK168645-1	03/30/98	04/03/98	60	%REC			1
2-Nitrophenol	88-75-5	QCBLK168645-1	03/30/98	04/03/98	76	%REC			1
2,4-Dimethylphenol	105-67-9	QCBLK168645-1	03/30/98	04/03/98	62	%REC			1
2,4-Dichlorophenol	120-83-2	QCBLK168645-1	03/30/98	04/03/98	71	%REC			1
2,6-Dichlorophenol	87-65-0	QCBLK168645-1	03/30/98	04/03/98	79	%REC			1
4-Chloro-3-Methylphenol	59-50-7	QCBLK168645-1	03/30/98	04/03/98	72	%REC			1
2,4,6-Trichlorophenol	88-06-2	QCBLK168645-1	03/30/98	04/03/98	79	%REC			1
2,4,5-Trichlorophenol	95-95-4	QCBLK168645-1	03/30/98	04/03/98	80	%REC			1
2,4-Dinitrophenol	51-28-5	QCBLK168645-1	03/30/98	04/03/98	103	%REC			1
4-Nitrophenol	100-02-7	QCBLK168645-1	03/30/98	04/03/98	40	%REC			1
2,3,4,6-Tetrachlorophenol	58-90-2	QCBLK168645-1	03/30/98	04/03/98	86	%REC			1
4,6-Dinitro-2-Methylphenol	534-52-1	QCBLK168645-1	03/30/98	04/03/98	88	%REC			1
Pentachlorophenol	87-86-5	QCBLK168645-1	03/30/98	04/03/98	72	%REC			1
Dinoseb	88-85-7	QCBLK168645-1	03/30/98	04/03/98	76	%REC			1
2-Fluorophenol	367-12-4	QCBLK168645-1	03/30/98	04/03/98	48	%REC			1
2,4,6-Tribromophenol	118-79-6	QCBLK168645-1	03/30/98	04/03/98	79	%REC			1

Pacific Northwest National Lab
P.O. Box 1970
Richland, WA 99352

Project: 519.145

Sample Date : 03/23/98
Receipt Date : 03/23/98
Report Date : 05/19/98

Quanterra ID : 17308-001MSD

Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
03/30/98	04/03/98	36	%REC			1
03/30/98	04/03/98	73	%REC			1
03/30/98	04/03/98	70	%REC			1
03/30/98	04/03/98	65	%REC			1
03/30/98	04/03/98	82	%REC			1
03/30/98	04/03/98	75	%REC			1
03/30/98	04/03/98	80	%REC			1
03/30/98	04/03/98	81	%REC			1
3/30/98	04/03/98	80	%REC			1
3/30/98	04/03/98	80	%REC			1
/30/98	04/03/98	83	%REC			1
/30/98	04/03/98	112	%REC			1
30/98	04/03/98	41	%REC			1
30/98	04/03/98	89	%REC			1
0/98	04/03/98	96	%REC			1
/98	04/03/98	80	%REC			1
/98	04/03/98	82	%REC			1
98	04/03/98	52	%REC			1
8	04/03/98	80	%REC			1
	04/03/98					1
						1
						1
						1
						1
						1
						1
						1
						1
						1
						1
						1
						1
						1
						1
						1

Pacific Northwest National Lab
P.O. Box 1970
Richland, WA 99352

Project: 519.145

Category: Phenols
Method: SW-846 8040A
Matrix: LIQUID

Client ID: BON4L1

Sample Date : 03/23/98
Receipt Date : 03/23/98
Report Date : 05/19/98

Quanterra ID : 17308-002

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Phenol	108-95-2	QCBLK168645-1	03/30/98	04/03/98	0.94	UG/L	U	1.0	1
2-Chlorophenol	95-57-8	QCBLK168645-1	03/30/98	04/03/98	1.9	UG/L	U	5.0	1
2-Methylphenol	95-48-7	QCBLK168645-1	03/30/98	04/03/98	1.8	UG/L	U	5.0	1
Cresol, M&P	65794-96-9	QCBLK168645-1	03/30/98	04/03/98	3.5	UG/L	U	5.0	1
2-Nitrophenol	88-75-5	QCBLK168645-1	03/30/98	04/03/98	1.5	UG/L	U	5.0	1
2,4-Dimethylphenol	105-67-9	QCBLK168645-1	03/30/98	04/03/98	1.8	UG/L	U	5.0	1
2,4-Dichlorophenol	120-83-2	QCBLK168645-1	03/30/98	04/03/98	1.9	UG/L	U	5.0	1
2,6-Dichlorophenol	87-65-0	QCBLK168645-1	03/30/98	04/03/98	1.9	UG/L	U	5.0	1
4-Chloro-3-Methylphenol	59-50-7	QCBLK168645-1	03/30/98	04/03/98	2.0	UG/L	U	5.0	1
2,4,6-Trichlorophenol	88-06-2	QCBLK168645-1	03/30/98	04/03/98	2.4	UG/L	U	5.0	1
2,4,5-Trichlorophenol	95-95-4	QCBLK168645-1	03/30/98	04/03/98	1.8	UG/L	U	5.0	1
2,4-Dinitrophenol	51-28-5	QCBLK168645-1	03/30/98	04/03/98	0.53	UG/L	U	5.0	1
4-Nitrophenol	100-02-7	QCBLK168645-1	03/30/98	04/03/98	0.70	UG/L	U	5.0	1
2,3,4,6-Tetrachlorophenol	58-90-2	QCBLK168645-1	03/30/98	04/03/98	1.4	UG/L	U	5.0	1
4,6-Dinitro-2-Methylphenol	534-52-1	QCBLK168645-1	03/30/98	04/03/98	0.46	UG/L	U	5.0	1
Pentachlorophenol	87-86-5	QCBLK168645-1	03/30/98	04/03/98	2.2	UG/L	U	5.0	1
Dinoseb	88-85-7	QCBLK168645-1	03/30/98	04/03/98	0.52	UG/L	U	5.0	1
2-Fluorophenol	367-12-4	QCBLK168645-1	03/30/98	04/03/98	55	%REC			1
2,4,6-Tribromophenol	118-79-6	QCBLK168645-1	03/30/98	04/03/98	79	%REC			1

Pacific Northwest National Lab
P.O. Box 1970
Richland, WA 99352

Project: 519.145

Category: Phenols
Method: SW-846 8040A
Matrix: LIQUID

Client ID: B0N4L7

Sample Date : 03/23/98
Receipt Date : 03/23/98
Report Date : 05/19/98

Quanterra ID : 17308-003

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Phenol	108-95-2	QCBLK168645-1	03/30/98	04/03/98	0.94	UG/L	U	1.0	1
2-Chlorophenol	95-57-8	QCBLK168645-1	03/30/98	04/03/98	1.9	UG/L	U	5.0	1
2-Methylphenol	95-48-7	QCBLK168645-1	03/30/98	04/03/98	1.8	UG/L	U	5.0	1
Cresol, M&P	65794-96-9	QCBLK168645-1	03/30/98	04/03/98	3.5	UG/L	U	5.0	1
2-Nitrophenol	88-75-5	QCBLK168645-1	03/30/98	04/03/98	1.5	UG/L	U	5.0	1
2,4-Dimethylphenol	105-67-9	QCBLK168645-1	03/30/98	04/03/98	1.8	UG/L	U	5.0	1
2,4-Dichlorophenol	120-83-2	QCBLK168645-1	03/30/98	04/03/98	1.9	UG/L	U	5.0	1
2,6-Dichlorophenol	87-65-0	QCBLK168645-1	03/30/98	04/03/98	1.9	UG/L	U	5.0	1
4-Chloro-3-Methylphenol	59-50-7	QCBLK168645-1	03/30/98	04/03/98	2.0	UG/L	U	5.0	1
2,4,6-Trichlorophenol	88-06-2	QCBLK168645-1	03/30/98	04/03/98	2.4	UG/L	U	5.0	1
2,4,5-Trichlorophenol	95-95-4	QCBLK168645-1	03/30/98	04/03/98	1.8	UG/L	U	5.0	1
2,4-Dinitrophenol	51-28-5	QCBLK168645-1	03/30/98	04/03/98	0.53	UG/L	U	5.0	1
4-Nitrophenol	100-02-7	QCBLK168645-1	03/30/98	04/03/98	0.70	UG/L	U	5.0	1
2,3,4,6-Tetrachlorophenol	58-90-2	QCBLK168645-1	03/30/98	04/03/98	1.4	UG/L	U	5.0	1
4,6-Dinitro-2-Methylphenol	534-52-1	QCBLK168645-1	03/30/98	04/03/98	0.46	UG/L	U	5.0	1
Pentachlorophenol	87-86-5	QCBLK168645-1	03/30/98	04/03/98	2.2	UG/L	U	5.0	1
Dinoseb	88-85-7	QCBLK168645-1	03/30/98	04/03/98	0.52	UG/L	U	5.0	1
2-Fluorophenol	367-12-4	QCBLK168645-1	03/30/98	04/03/98	55	%REC			1
2,4,6-Tribromophenol	118-79-6	QCBLK168645-1	03/30/98	04/03/98	72	%REC			1

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Richland, WA 99352

Project: 519.145

Category: Phenols
Method: SW-846 8040A
Matrix: LIQUID

Client ID: BON4L9

Sample Date : 03/23/98
Receipt Date : 03/23/98
Report Date : 05/19/98

Quanterra ID : 17308-004

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Phenol	108-95-2	QCBLK168645-1	03/30/98	04/03/98	0.94	UG/L	U	1.0	1
2-Chlorophenol	95-57-8	QCBLK168645-1	03/30/98	04/03/98	1.9	UG/L	U	5.0	1
2-Methylphenol	95-48-7	QCBLK168645-1	03/30/98	04/03/98	1.8	UG/L	U	5.0	1
Cresol, M&P	65794-96-9	QCBLK168645-1	03/30/98	04/03/98	3.5	UG/L	U	5.0	1
2-Nitrophenol	88-75-5	QCBLK168645-1	03/30/98	04/03/98	1.5	UG/L	U	5.0	1
2,4-Dimethylphenol	105-67-9	QCBLK168645-1	03/30/98	04/03/98	1.8	UG/L	U	5.0	1
2,4-Dichlorophenol	120-83-2	QCBLK168645-1	03/30/98	04/03/98	1.9	UG/L	U	5.0	1
2,6-Dichlorophenol	87-65-0	QCBLK168645-1	03/30/98	04/03/98	1.9	UG/L	U	5.0	1
4-Chloro-3-Methylphenol	59-50-7	QCBLK168645-1	03/30/98	04/03/98	2.0	UG/L	U	5.0	1
2,4,6-Trichlorophenol	88-06-2	QCBLK168645-1	03/30/98	04/03/98	2.4	UG/L	U	5.0	1
2,4,5-Trichlorophenol	95-95-4	QCBLK168645-1	03/30/98	04/03/98	1.8	UG/L	U	5.0	1
2,4-Dinitrophenol	51-28-5	QCBLK168645-1	03/30/98	04/03/98	0.53	UG/L	U	5.0	1
4-Nitrophenol	100-02-7	QCBLK168645-1	03/30/98	04/03/98	0.70	UG/L	U	5.0	1
2,3,4,6-Tetrachlorophenol	58-90-2	QCBLK168645-1	03/30/98	04/03/98	1.4	UG/L	U	5.0	1
4,6-Dinitro-2-Methylphenol	534-52-1	QCBLK168645-1	03/30/98	04/03/98	0.46	UG/L	U	5.0	1
Pentachlorophenol	87-86-5	QCBLK168645-1	03/30/98	04/03/98	2.2	UG/L	U	5.0	1
Dinoseb	88-85-7	QCBLK168645-1	03/30/98	04/03/98	0.52	UG/L	U	5.0	1
2-Fluorophenol	367-12-4	QCBLK168645-1	03/30/98	04/03/98	67	%REC			1
2,4,6-Tribromophenol	118-79-6	QCBLK168645-1	03/30/98	04/03/98	95	%REC			1

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P.O. Box 1970
Richland, WA 99352

Project: 519.145

Category: Phenols
Method: SW-846 8040A
Matrix: LIQUID

Client ID: BON4M9

Sample Date : 03/23/98
Receipt Date : 03/23/98
Report Date : 05/19/98

Quanterra ID : 17308-005

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Phenol	108-95-2	QCBLK168645-1	03/30/98	04/03/98	0.94	UG/L	U	1.0	1
2-Chlorophenol	95-57-8	QCBLK168645-1	03/30/98	04/03/98	1.9	UG/L	U	5.0	1
2-Methylphenol	95-48-7	QCBLK168645-1	03/30/98	04/03/98	1.8	UG/L	U	5.0	1
Cresol, M&P	65794-96-9	QCBLK168645-1	03/30/98	04/03/98	3.5	UG/L	U	5.0	1
2-Nitrophenol	88-75-5	QCBLK168645-1	03/30/98	04/03/98	1.5	UG/L	U	5.0	1
2,4-Dimethylphenol	105-67-9	QCBLK168645-1	03/30/98	04/03/98	1.8	UG/L	U	5.0	1
2,4-Dichlorophenol	120-83-2	QCBLK168645-1	03/30/98	04/03/98	1.9	UG/L	U	5.0	1
2,6-Dichlorophenol	87-65-0	QCBLK168645-1	03/30/98	04/03/98	1.9	UG/L	U	5.0	1
4-Chloro-3-Methylphenol	59-50-7	QCBLK168645-1	03/30/98	04/03/98	2.0	UG/L	U	5.0	1
2,4,6-Trichlorophenol	88-06-2	QCBLK168645-1	03/30/98	04/03/98	2.4	UG/L	U	5.0	1
2,4,5-Trichlorophenol	95-95-4	QCBLK168645-1	03/30/98	04/03/98	1.8	UG/L	U	5.0	1
2,4-Dinitrophenol	51-28-5	QCBLK168645-1	03/30/98	04/03/98	0.53	UG/L	U	5.0	1
4-Nitrophenol	100-02-7	QCBLK168645-1	03/30/98	04/03/98	0.70	UG/L	U	5.0	1
2,3,4,6-Tetrachlorophenol	58-90-2	QCBLK168645-1	03/30/98	04/03/98	1.4	UG/L	U	5.0	1
4,6-Dinitro-2-Methylphenol	534-52-1	QCBLK168645-1	03/30/98	04/03/98	0.46	UG/L	U	5.0	1
Pentachlorophenol	87-86-5	QCBLK168645-1	03/30/98	04/03/98	2.2	UG/L	U	5.0	1
Dinoseb	88-85-7	QCBLK168645-1	03/30/98	04/03/98	0.52	UG/L	U	5.0	1
2-Fluorophenol	367-12-4	QCBLK168645-1	03/30/98	04/03/98	70	%REC			1
2,4,6-Tribromophenol	118-79-6	QCBLK168645-1	03/30/98	04/03/98	96	%REC			1

2E
WATER PHENOL SURROGATE RECOVERY

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

	EPA SAMPLE NO.	S1 (2-FL)	S2 (TRIB)#
01	PBLK01	54	64
02	PSPK01	56	83
03	BON4K5	53	74
04	BON4K5MS	48	79
05	BON4K5MSD	52	80
06	BON4L1	55	79
07	BON4L7	55	72
08	BON4L9	67	95
09	BON4M9	70	96
10			
11			

	ADVISORY QC LIMITS
S1 (2-FL) = 2-Fluorophenol	(25-66)
S2 (TRIB) = Tribromophenol	(43-114)

Column to be used to flag recovery values

* Values outside of QC limits

D Surrogates diluted out

FORM II PEST-1

1/87 Rev.

1D

PHENOL ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0N4K5

Lab Name: QUANTERRA,MO Contract: 519.145

Lab Code: ITMO Case No.: _____ SAS No.: _____ SDG No.: W02288

Matrix: (soil/water) WATER Lab Sample ID: 17308-001

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

Level: (low/med) LOW Date Sampled : 03-23-98

% Moisture: not dec._____ dec._____ Date Extracted: 03-30-98

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04-03-98

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1

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

CAS NO.	Compound		Q
108-95-2	Phenol	1.0	U
95-57-8	2-Chlorophenol	5.0	U
95-48-7	o-Cresol	5.0	U
108-39-4/106-44-5	m,p-Cresol	5.0	U
88-75-5	2-Nitrophenol	5.0	U
105-67-9	2,4-Dimethylphenol	5.0	U
120-83-2	2,4-Dichlorophenol	5.0	U
87-65-0	2,6-Dichlorophenol	5.0	U
59-50-7	4-Chloro-3-methylphenol	5.0	U
88-06-2	2,4,6-Trichlorophenol	5.0	U
25167-82-2	2,4,5-Trichlorophenol	5.0	U
51-28-5	2,4-Dinitrophenol	1.1	J
100-02-7	4-Nitrophenol	5.0	U
25167-83-3	2,3,4,6-Tetrachlorophenol	5.0	U
534-52-1	4,6-Dinitro-o-cresol	0.6	J
87-86-5	Pentachlorophenol	5.0	U
88-85-7	Dinoseb	0.6	J

U: Concentration of analyte is less than the value given.

FORM I PEST

1/87 Rev.

3F

WATER PHENOL MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: ____ SAS No.: ____ SDG No.: W02288

Matrix Spike - EPA Sample No.: B0N4K5 Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC.
Phenol	100	0	39	39	23-108
2-Chlorophenol	100	0	70	70	38-126
o-Cresol	100	0	62	62	ND
m,p-Cresol	100	0	120	60	ND
2-Nitrophenol	200	0	76	76	43-117
2,4-Dimethylphenol	100	0	62	62	24-118
2,4-Dichlorophenol	100	0	71	71	44-119
2,6-Dichlorophenol	100	0	79	79	ND
4-Chloro-3-methylphenol	100	0	72	72	48-122
2,4,6-Trichlorophenol	100	0	79	79	53-119
2,4,5-Trichlorophenol	100	0	80	80	ND
2,4-Dinitrophenol	100	0	103	103	12-145
4-Nitrophenol	100	0	40	40	13-110
2,3,4,6-Tetrachlorophen.	100	0	86	86	ND
4,6-Dinitro-o-cresol	100	0	88	88	30-136
Pentachlorophenol	100	0	72	72	36-134
Dinoseb	100	0	76	76	ND

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD	QC LIMITS RPD	QC LIMITS REC.
Phenol	100	36	36	8	16	23-108
2-Chlorophenol	100	73	73	4	20	38-126
o-Cresol	100	70	70	12	19	ND
m,p-Cresol	200	130	65	8	18	ND
2-Nitrophenol	100	82	82	8	16	43-117
2,4-Dimethylphenol	100	75	75	19	36	24-118
2,4-Dichlorophenol	100	80	80	12	19	44-119
2,6-Dichlorophenol	100	81	81	2	20	ND
4-Chloro-3-methylphenol	100	80	80	10	20	48-122
2,4,6-Trichlorophenol	100	80	80	1	17	53-119
2,4,5-Trichlorophenol	100	83	83	4	22	ND
2,4-Dinitrophenol	100	112	112	8	27	12-145
4-Nitrophenol	100	41	41	2	16	13-110
2,3,4,6-Tetrachlorophen.	100	89	89	3	20	ND
4,6-Dinitro-o-cresol	100	96	96	9	17	30-136
Pentachlorophenol	100	80	80	10	17	36-134
Dinoseb	100	82	82	8	18	ND

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 17 outside limits
Spike Recovery: 0 out of 34 outside limits

COMMENTS: QC limits not yet determined.

1D

PHENOL ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0N4K5MS

Lab Name: QUANTERRA,MO Contract: 519.145

Lab Code: ITMO Case No.: _____ SAS No.: _____ SDG No.: W02288

Matrix: (soil/water) WATER Lab Sample ID: 17308-001MS

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

Level: (low/med) LOW Date Sampled : 03-23-98

% Moisture: not dec._____ dec._____ Date Extracted: 03-30-98

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04-03-98

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1

CAS NO.	Compound	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	39	
95-57-8	2-Chlorophenol	70	
95-48-7	o-Cresol	62	
108-39-4/106-44-5	m,p-Cresol	120	
88-75-5	2-Nitrophenol	76	
105-67-9	2,4-Dimethylphenol	62	
120-83-2	2,4-Dichlorophenol	71	
87-65-0	2,6-Dichlorophenol	79	
59-50-7	4-Chloro-3-methylphenol	72	
88-06-2	2,4,6-Trichlorophenol	79	
25167-82-2	2,4,5-Trichlorophenol	80	
51-28-5	2,4-Dinitrophenol	103	
100-02-7	4-Nitrophenol	40	
25167-83-3	2,3,4,6-Tetrachlorophenol	86	
534-52-1	4,6-Dinitro-o-cresol	88	
87-86-5	Pentachlorophenol	72	
88-85-7	Dinoseb	76	

U: Concentration of analyte is less than the value given.

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1D

PHENOL ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0N4K5MSD

Lab Name: QUANTERRA,MO Contract: 519.145

Lab Code: ITMO Case No.: _____ SAS No.: _____ SDG No.: W02288

Matrix: (soil/water) WATER Lab Sample ID: 17308-001MSD

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

Level: (low/med) LOW Date Sampled : 03-23-98

% Moisture: not dec._____ dec._____ Date Extracted: 03-30-98

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04-03-98

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1

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

CAS NO.	Compound		Q
108-95-2	Phenol	36	
95-57-8	2-Chlorophenol	73	
95-48-7	o-Cresol	70	
108-39-4/106-44-5	m,p-Cresol	130	
88-75-5	2-Nitrophenol	82	
105-67-9	2,4-Dimethylphenol	75	
120-83-2	2,4-Dichlorophenol	80	
87-65-0	2,6-Dichlorophenol	81	
59-50-7	4-Chloro-3-methylphenol	80	
88-06-2	2,4,6-Trichlorophenol	80	
25167-82-2	2,4,5-Trichlorophenol	83	
51-28-5	2,4-Dinitrophenol	110	
100-02-7	4-Nitrophenol	41	
25167-83-3	2,3,4,6-Tetrachlorophenol	89	
534-52-1	4,6-Dinitro-o-cresol	96	
87-86-5	Pentachlorophenol	80	
88-85-7	Dinoseb	82	

U: Concentration of analyte is less than the value given.

FORM I PEST

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PHENOL ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0N4L1

Lab Name: QUANTERRA,MO Contract: 519.145

Lab Code: ITMO Case No.: _____ SAS No.: _____ SDG No.: W02288

Matrix: (soil/water) WATER Lab Sample ID: 17308-002

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

Level: (low/med) LOW Date Sampled : 03-23-98

% Moisture: not dec._____ dec._____ Date Extracted: 03-30-98

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04-03-98

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1

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

CAS NO.	Compound		Q
108-95-2	Phenol	1.0	U
95-57-8	2-Chlorophenol	5.0	U
95-48-7	o-Cresol	5.0	U
108-39-4/106-44-5	m,p-Cresol	5.0	U
88-75-5	2-Nitrophenol	5.0	U
105-67-9	2,4-Dimethylphenol	5.0	U
120-83-2	2,4-Dichlorophenol	5.0	U
87-65-0	2,6-Dichlorophenol	5.0	U
59-50-7	4-Chloro-3-methylphenol	5.0	U
88-06-2	2,4,6-Trichlorophenol	5.0	U
25167-82-2	2,4,5-Trichlorophenol	5.0	U
51-28-5	2,4-Dinitrophenol	5.0	U
100-02-7	4-Nitrophenol	5.0	U
25167-83-3	2,3,4,6-Tetrachlorophenol	5.0	U
534-52-1	4,6-Dinitro-o-cresol	5.0	U
87-86-5	Pentachlorophenol	5.0	U
88-85-7	Dinoseb	5.0	U

U: Concentration of analyte is less than the value given.

FORM I PEST

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PHENOL ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0N4L7

Lab Name: QUANTERRA,MO Contract: 519.145

Lab Code: ITMO Case No.: _____ SAS No.: _____ SDG No.: W02288

Matrix: (soil/water) WATER Lab Sample ID: 17308-003

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

Level: (low/med) LOW Date Sampled : 03-23-98

% Moisture: not dec._____ dec._____ Date Extracted: 03-30-98

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04-03-98

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1

CAS NO.	Compound	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	1.0	U
95-57-8	2-Chlorophenol	5.0	U
95-48-7	o-Cresol	5.0	U
108-39-4/106-44-5	m,p-Cresol	5.0	U
88-75-5	2-Nitrophenol	5.0	U
105-67-9	2,4-Dimethylphenol	5.0	U
120-83-2	2,4-Dichlorophenol	5.0	U
87-65-0	2,6-Dichlorophenol	5.0	U
59-50-7	4-Chloro-3-methylphenol	5.0	U
88-06-2	2,4,6-Trichlorophenol	5.0	U
25167-82-2	2,4,5-Trichlorophenol	5.0	U
51-28-5	2,4-Dinitrophenol	5.0	U
100-02-7	4-Nitrophenol	5.0	U
25167-83-3	2,3,4,6-Tetrachlorophenol	5.0	U
534-52-1	4,6-Dinitro-o-cresol	5.0	U
87-86-5	Pentachlorophenol	5.0	U
88-85-7	Dinoseb	5.0	U

U: Concentration of analyte is less than the value given.

FORM I PEST 1/87 Rev.

1D

PHENOL ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0N4L9

Lab Name: QUANTERRA,MO Contract: 519.145

Lab Code: ITMO Case No.: _____ SAS No.: _____ SDG No.: W02288

Matrix: (soil/water) WATER Lab Sample ID: 17308-004

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

Level: (low/med) LOW Date Sampled : 03-23-98

% Moisture: not dec._____ dec._____ Date Extracted: 03-30-98

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04-03-98

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1

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

CAS NO.	Compound		Q
108-95-2	Phenol	1.0	U
95-57-8	2-Chlorophenol	5.0	U
95-48-7	o-Cresol	5.0	U
108-39-4/106-44-5	m,p-Cresol	5.0	U
88-75-5	2-Nitrophenol	5.0	U
105-67-9	2,4-Dimethylphenol	5.0	U
120-83-2	2,4-Dichlorophenol	5.0	U
87-65-0	2,6-Dichlorophenol	5.0	U
59-50-7	4-Chloro-3-methylphenol	5.0	U
88-06-2	2,4,6-Trichlorophenol	5.0	U
25167-82-2	2,4,5-Trichlorophenol	5.0	U
51-28-5	2,4-Dinitrophenol	5.0	U
100-02-7	4-Nitrophenol	5.0	U
25167-83-3	2,3,4,6-Tetrachlorophenol	5.0	U
534-52-1	4,6-Dinitro-o-cresol	5.0	U
87-86-5	Pentachlorophenol	5.0	U
88-85-7	Dinoseb	5.0	U

U: Concentration of analyte is less than the value given.

FORM I PEST 1/87 Rev.

1D

PHENOL ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0N4M9

Lab Name: QUANTERRA,MO Contract: 519.145

Lab Code: ITMO Case No.: _____ SAS No.: _____ SDG No.: W02288

Matrix: (soil/water) WATER Lab Sample ID: 17308-005

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

Level: (low/med) LOW Date Sampled : 03-23-98

% Moisture: not dec._____ dec._____ Date Extracted: 03-30-98

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04-03-98

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1

CAS NO.	Compound	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	1.0	U
95-57-8	2-Chlorophenol	5.0	U
95-48-7	o-Cresol	5.0	U
108-39-4/106-44-5	m,p-Cresol	5.0	U
88-75-5	2-Nitrophenol	5.0	U
105-67-9	2,4-Dimethylphenol	5.0	U
120-83-2	2,4-Dichlorophenol	5.0	U
87-65-0	2,6-Dichlorophenol	5.0	U
59-50-7	4-Chloro-3-methylphenol	5.0	U
88-06-2	2,4,6-Trichlorophenol	5.0	U
25167-82-2	2,4,5-Trichlorophenol	5.0	U
51-28-5	2,4-Dinitrophenol	5.0	U
100-02-7	4-Nitrophenol	5.0	U
25167-83-3	2,3,4,6-Tetrachlorophenol	5.0	U
534-52-1	4,6-Dinitro-o-cresol	5.0	U
87-86-5	Pentachlorophenol	5.0	U
88-85-7	Dinoseb	5.0	U

U: Concentration of analyte is less than the value given.

FORM I PEST 1/87 Rev.

4C
PHENOL METHOD BLANK SUMMARY

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Lab Sample ID: BLK 168645 Lab File ID:

Matrix:(soil/water) WATER Level(low/med) LOW

Date Extracted: 03-30-98 Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed (1): 04-03-98 Date Analyzed (2):

Time Analyzed (1): 16:57 Time Analyzed (2):

Instrument ID (1): GCB Instrument ID (2):

GC Column ID (1): DB-5MS GC Column ID (2):

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

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	PSPK01	SPK 168645	04-03-98	
02	B0N4K5	17308-001	04-03-98	
03	B0N4K5MS	17308-001MS	04-03-98	
04	B0N4K5MSD	17308-001MSD	04-03-98	
05	B0N4L1	17308-002	04-03-98	
06	B0N4L7	17308-003	04-03-98	
07	B0N4L9	17308-004	04-03-98	
08	B0N4M9	17308-005	04-03-98	
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				

COMMENTS:

1D

PHENOL ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLK01

Lab Name: QUANTERRA,MO Contract: 519.145

Lab Code: ITMO Case No.: _____ SAS No.: _____ SDG No.: W02288

Matrix: (soil/water) WATER Lab Sample ID: BLK 168645

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

Level: (low/med) LOW Date Sampled : _____

% Moisture: not dec._____ dec._____ Date Extracted: 03-30-98

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04-03-98

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1

CAS NO.	Compound	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	1.0	U
95-57-8	2-Chlorophenol	5.0	U
95-48-7	o-Cresol	5.0	U
108-39-4/106-44-5	m,p-Cresol	5.0	U
88-75-5	2-Nitrophenol	5.0	U
105-67-9	2,4-Dimethylphenol	5.0	U
120-83-2	2,4-Dichlorophenol	5.0	U
87-65-0	2,6-Dichlorophenol	5.0	U
59-50-7	4-Chloro-3-methylphenol	5.0	U
88-06-2	2,4,6-Trichlorophenol	5.0	U
25167-82-2	2,4,5-Trichlorophenol	5.0	U
51-28-5	2,4-Dinitrophenol	5.0	U
100-02-7	4-Nitrophenol	5.0	U
25167-83-3	2,3,4,6-Tetrachlorophenol	5.0	U
534-52-1	4,6-Dinitro-o-cresol	5.0	U
87-86-5	Pentachlorophenol	5.0	U
88-85-7	Dinoseb	5.0	U

U: Concentration of analyte is less than the value given.

FORM I PEST

1/87 Rev.

3P

WATER PHENOL SPIKE BLANK (LCS) RECOVERY

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Spike Blank No.: SPK 168645

COMPOUND	SPIKE ADDED (ug/l)	SPIKE CONCENTRATION (ug/l)	SPK % REC #	QC LIMITS REC.
Phenol	100	41	41	23-108
2-Cholorophenol	100	77	77	38-126
o-Cresol	100	73	73	ND
m,p-Cresol	200	140	70	ND
2-Nitrophenol	100	80	80	43-117
2,4-Dimethylphenol	100	75	75	24-118
2,4-Dichlorophenol	100	81	81	44-119
2,6-Dichlorophenol	100	85	85	ND
4-Chloro-3-methylphenol	100	81	81	48-122
2,4,6-Trichlorophenol	100	83	83	53-119
2,4,5-Trichlorophenol	100	86	86	ND
2,4-Dinitrophenol	100	94	94	12-145
4-Nitrophenol	100	42	42	13-110
2,3,4,6-Tetrachlorophen.	100	87	87	ND
4,6-Dinitro-o-cresol	100	88	88	30-136
Pentachlorophenol	100	73	73	36-134
Dinoseb	100	76	76	ND

Column to be used to flag recovery values with an asterisk

* Values outside of QC limits

Spike Recovery: 0 out of 17 outside limits

COMMENTS: QC limits not determined at this time.

FORM III PEST

1D

PHENOL ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PSPK01

Lab Name: QUANTERRA,MO Contract: 519.145

Lab Code: ITMO Case No.: _____ SAS No.: _____ SDG No.: W02288

Matrix: (soil/water) WATER Lab Sample ID: SPK 168645

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

Level: (low/med) LOW Date Sampled : _____

% Moisture: not dec. _____ dec. _____ Date Extracted: 03-30-98

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04-03-98

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1

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

CAS NO.	Compound		Q
108-95-2	Phenol	41	
95-57-8	2-Chlorophenol	77	
95-48-7	o-Cresol	73	
108-39-4/106-44-5	m,p-Cresol	140	
88-75-5	2-Nitrophenol	80	
105-67-9	2,4-Dimethylphenol	75	
120-83-2	2,4-Dichlorophenol	81	
87-65-0	2,6-Dichlorophenol	85	
59-50-7	4-Chloro-3-methylphenol	81	
88-06-2	2,4,6-Trichlorophenol	83	
25167-82-2	2,4,5-Trichlorophenol	86	
51-28-5	2,4-Dinitrophenol	94	
100-02-7	4-Nitrophenol	42	
25167-83-3	2,3,4,6-Tetrachlorophenol	87	
534-52-1	4,6-Dinitro-o-cresol	88	
87-86-5	Pentachlorophenol	73	
88-85-7	Dinoseb	76	

U: Concentration of analyte is less than the value given.

FORM I PEST

1/87 Rev.

VOLATILE ORGANICS
8240

Pacific Northwest National Lab
P.O. Box 1970
Richland, WA 99352

Project: 519.145

Category: Volatiles
Method: EPA 8240
Matrix: LIQUID

Client ID: BON840

Sample Date : 03/19/98
Receipt Date : 03/19/98
Report Date : 05/19/98

Quanterra ID : 17281-001MS

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
1,1-Dichloroethene	75-35-4	QCBLK169193-1	04/04/98	04/04/98	101	%REC			1
Trichloroethene	79-01-6	QCBLK169193-1	04/04/98	04/04/98	96	%REC			1
Benzene	71-43-2	QCBLK169193-1	04/04/98	04/04/98	84	%REC			1
Toluene	108-88-3	QCBLK169193-1	04/04/98	04/04/98	90	%REC			1
Chlorobenzene	108-90-7	QCBLK169193-1	04/04/98	04/04/98	104	%REC			1
Bromofluorobenzene	460-00-4	QCBLK169193-1	04/04/98	04/04/98	91	%REC			1
Dibromofluoromethane	1868-53-7	QCBLK169193-1	04/04/98	04/04/98	113	%REC			1
Toluene-d8	2037-26-5	QCBLK169193-1	04/04/98	04/04/98	102	%REC			1

Pacific Northwest National Lab
P.O. Box 1970
Richland, WA 99352

Project: 519.145

Category: Volatiles
Method: EPA 8240
Matrix: LIQUID

Client ID: BON840

Sample Date : 03/19/98
Receipt Date : 03/19/98
Report Date : 05/19/98

Quanterra ID : 17281-001MSD

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
1,1-Dichloroethene	75-35-4	QCBLK169193-1	04/05/98	04/05/98	107	%REC			1
Trichloroethene	79-01-6	QCBLK169193-1	04/05/98	04/05/98	98	%REC			1
Benzene	71-43-2	QCBLK169193-1	04/05/98	04/05/98	84	%REC			1
Toluene	108-88-3	QCBLK169193-1	04/05/98	04/05/98	90	%REC			1
Chlorobenzene	108-90-7	QCBLK169193-1	04/05/98	04/05/98	98	%REC			1
Bromofluorobenzene	460-00-4	QCBLK169193-1	04/05/98	04/05/98	87	%REC			1
Dibromofluoromethane	1868-53-7	QCBLK169193-1	04/05/98	04/05/98	116	%REC			1
Toluene-d8	2037-26-5	QCBLK169193-1	04/05/98	04/05/98	94	%REC			1

Pacific Northwest National Lab
P.O. Box 1970
Richland, WA 99352

Project: 519.145

Category: Volatiles
Method: EPA 8240
Matrix: LIQUID

Client ID: BON848

Sample Date : 03/19/98
Receipt Date : 03/19/98
Report Date : 05/19/98

Quanterra ID : 17281-002

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	QCBLK169193-1	04/05/98	04/05/98	2.7	UG/L	U	10	1
Bromomethane	74-83-9	QCBLK169193-1	04/05/98	04/05/98	2.0	UG/L	U	10	1
Vinyl Chloride	75-01-4	QCBLK169193-1	04/05/98	04/05/98	2.6	UG/L	U	10	1
Chloroethane	75-00-3	QCBLK169193-1	04/05/98	04/05/98	1.9	UG/L	U	10	1
Methylene Chloride	75-09-2	QCBLK169193-1	04/05/98	04/05/98	1.5	UG/L	U	5	1
Acetone	67-64-1	QCBLK169193-1	04/05/98	04/05/98	4	UG/L	BJ	20	1
Carbon Disulfide	75-15-0	QCBLK169193-1	04/05/98	04/05/98	1.3	UG/L	U	5	1
1,1-Dichloroethene	75-35-4	QCBLK169193-1	04/05/98	04/05/98	1.4	UG/L	U	5	1
1,1-Dichloroethane	75-34-3	QCBLK169193-1	04/05/98	04/05/98	1.3	UG/L	U	5	1
Chloroform	67-66-3	QCBLK169193-1	04/05/98	04/05/98	1	UG/L	J	5	1
1,2-Dichloroethane	107-06-2	QCBLK169193-1	04/05/98	04/05/98	1.9	UG/L	U	5	1
2-Butanone (MEK)	78-93-3	QCBLK169193-1	04/05/98	04/05/98	6	UG/L	J	20	1
Carbon Tetrachloride	56-23-5	QCBLK169193-1	04/05/98	04/05/98	3	UG/L	J	5	1
Bromodichloromethane	75-27-4	QCBLK169193-1	04/05/98	04/05/98	1.2	UG/L	U	5	1
1,2-Dichloropropane	78-87-5	QCBLK169193-1	04/05/98	04/05/98	1.3	UG/L	U	5	1
cis-1,3-Dichloropropene	10061-01-5	QCBLK169193-1	04/05/98	04/05/98	1.3	UG/L	U	5	1
Trichloroethene	79-01-6	QCBLK169193-1	04/05/98	04/05/98	1.3	UG/L	U	5	1
1,1,2-Trichloroethane	79-00-5	QCBLK169193-1	04/05/98	04/05/98	1.2	UG/L	U	5	1
Benzene	71-43-2	QCBLK169193-1	04/05/98	04/05/98	1.6	UG/L	U	5	1
trans-1,3-Dichloropropene	10061-02-6	QCBLK169193-1	04/05/98	04/05/98	1.3	UG/L	U	5	1
Bromoform	75-25-2	QCBLK169193-1	04/05/98	04/05/98	0.97	UG/L	U	5	1
4-Methyl-2-Pentanone (MIBK)	108-10-1	QCBLK169193-1	04/05/98	04/05/98	1.6	UG/L	U	20	1
2-Hexanone	591-78-6	QCBLK169193-1	04/05/98	04/05/98	1.7	UG/L	U	20	1
Tetrachloroethene	127-18-4	QCBLK169193-1	04/05/98	04/05/98	2.0	UG/L	U	5	1
Toluene	108-88-3	QCBLK169193-1	04/05/98	04/05/98	1.7	UG/L	U	5	1
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK169193-1	04/05/98	04/05/98	1.0	UG/L	U	5	1
Chlorobenzene	108-90-7	QCBLK169193-1	04/05/98	04/05/98	2.7	UG/L	U	5	1
EthylBenzene	100-41-4	QCBLK169193-1	04/05/98	04/05/98	1.1	UG/L	U	5	1
Styrene	100-42-5	QCBLK169193-1	04/05/98	04/05/98	1.2	UG/L	U	5	1
Xylene (total)	1330-20-7	QCBLK169193-1	04/05/98	04/05/98	1	UG/L	J	5	1
1,2,4-Trimethylbenzene	95-63-6	QCBLK169193-1	04/05/98	04/05/98	6	UG/L	JN		1
Unknown Alkane	TIC-40	QCBLK169193-1	04/05/98	04/05/98	12	UG/L	J		1
Unknown Benzene	TIC-9685	QCBLK169193-1	04/05/98	04/05/98	11	UG/L	J		1
Unknown Benzene-1	TIC-9285	QCBLK169193-1	04/05/98	04/05/98	16	UG/L	J		1
Unknown Benzene-2	TIC-9286	QCBLK169193-1	04/05/98	04/05/98	6	UG/L	J		1
Unknown Benzene-3	TIC-9287	QCBLK169193-1	04/05/98	04/05/98	10	UG/L	J		1
Unknown-1	TIC-32	QCBLK169193-1	04/05/98	04/05/98	6	UG/L	J		1
Unknown Benzene-4	TIC-9288	QCBLK169193-1	04/05/98	04/05/98	5	UG/L	J		1
Unknown Benzene-5	TIC-9289	QCBLK169193-1	04/05/98	04/05/98	7	UG/L	J		1
Bromofluorobenzene	460-00-4	QCBLK169193-1	04/05/98	04/05/98	92	%REC			1
Dibromofluoromethane	1868-53-7	QCBLK169193-1	04/05/98	04/05/98	108	%REC			1
Toluene-d8	2037-26-5	QCBLK169193-1	04/05/98	04/05/98	102	%REC			1

Pacific Northwest National Lab
P.O. Box 1970
Richland, WA 99352

Project: 519.145

Category: Volatiles
Method: EPA 8240
Matrix: LIQUID

Client ID: BON852

Sample Date : 03/19/98
Receipt Date : 03/19/98
Report Date : 05/19/98

Quanterra ID : 17281-003

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	QCBLK169193-1	04/05/98	04/05/98	2.7	UG/L	U	10	1
Bromomethane	74-83-9	QCBLK169193-1	04/05/98	04/05/98	2.0	UG/L	U	10	1
Vinyl Chloride	75-01-4	QCBLK169193-1	04/05/98	04/05/98	2.6	UG/L	U	10	1
Chloroethane	75-00-3	QCBLK169193-1	04/05/98	04/05/98	1.9	UG/L	U	10	1
Methylene Chloride	75-09-2	QCBLK169193-1	04/05/98	04/05/98	1	UG/L	BJ	5	1
Acetone	67-64-1	QCBLK169193-1	04/05/98	04/05/98	1.3	UG/L	U	20	1
Carbon Disulfide	75-15-0	QCBLK169193-1	04/05/98	04/05/98	1.3	UG/L	U	5	1
1,1-Dichloroethene	75-35-4	QCBLK169193-1	04/05/98	04/05/98	1.4	UG/L	U	5	1
1,1-Dichloroethane	75-34-3	QCBLK169193-1	04/05/98	04/05/98	1.3	UG/L	U	5	1
Chloroform	67-66-3	QCBLK169193-1	04/05/98	04/05/98	1.7	UG/L	U	5	1
1,2-Dichloroethane	107-06-2	QCBLK169193-1	04/05/98	04/05/98	1.9	UG/L	U	5	1
2-Butanone (MEK)	78-93-3	QCBLK169193-1	04/05/98	04/05/98	2.2	UG/L	U	20	1
Carbon Tetrachloride	56-23-5	QCBLK169193-1	04/05/98	04/05/98	1.2	UG/L	U	5	1
Bromodichloromethane	75-27-4	QCBLK169193-1	04/05/98	04/05/98	1.2	UG/L	U	5	1
1,2-Dichloropropane	78-87-5	QCBLK169193-1	04/05/98	04/05/98	1.3	UG/L	U	5	1
cis-1,3-Dichloropropene	10061-01-5	QCBLK169193-1	04/05/98	04/05/98	1.3	UG/L	U	5	1
Trichloroethene	79-01-6	QCBLK169193-1	04/05/98	04/05/98	1.3	UG/L	U	5	1
1,1,2-Trichloroethane	79-00-5	QCBLK169193-1	04/05/98	04/05/98	1.2	UG/L	U	5	1
Benzene	71-43-2	QCBLK169193-1	04/05/98	04/05/98	1.6	UG/L	U	5	1
trans-1,3-Dichloropropene	10061-02-6	QCBLK169193-1	04/05/98	04/05/98	1.3	UG/L	U	5	1
Bromoform	75-25-2	QCBLK169193-1	04/05/98	04/05/98	0.97	UG/L	U	5	1
4-Methyl-2-Pentanone (MIBK)	108-10-1	QCBLK169193-1	04/05/98	04/05/98	1.6	UG/L	U	20	1
2-Hexanone	591-78-6	QCBLK169193-1	04/05/98	04/05/98	1.7	UG/L	U	20	1
Tetrachloroethene	127-18-4	QCBLK169193-1	04/05/98	04/05/98	2.0	UG/L	U	5	1
Toluene	108-88-3	QCBLK169193-1	04/05/98	04/05/98	1.7	UG/L	U	5	1
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK169193-1	04/05/98	04/05/98	1.0	UG/L	U	5	1
Chlorobenzene	108-90-7	QCBLK169193-1	04/05/98	04/05/98	2.7	UG/L	U	5	1
EthylBenzene	100-41-4	QCBLK169193-1	04/05/98	04/05/98	1.1	UG/L	U	5	1
Styrene	100-42-5	QCBLK169193-1	04/05/98	04/05/98	1.2	UG/L	U	5	1
Xylene (total)	1330-20-7	QCBLK169193-1	04/05/98	04/05/98	1.2	UG/L	U	5	1
Bromofluorobenzene	460-00-4	QCBLK169193-1	04/05/98	04/05/98	88	%REC			1
Dibromofluoromethane	1868-53-7	QCBLK169193-1	04/05/98	04/05/98	114	%REC			1
Toluene-d8	2037-26-5	QCBLK169193-1	04/05/98	04/05/98	95	%REC			1

Pacific Northwest National Lab
P.O. Box 1970
Richland, WA 99352

Project: 519.145

Category: Volatiles
Method: EPA 8240
Matrix: LIQUID

Client ID: BON853

Sample Date : 03/19/98
Receipt Date : 03/19/98
Report Date : 05/19/98

Quanterra ID : 17281-004

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	QCBLK169193-1	04/05/98	04/05/98	2.7	UG/L	U	10	1
Bromomethane	74-83-9	QCBLK169193-1	04/05/98	04/05/98	2.0	UG/L	U	10	1
Vinyl Chloride	75-01-4	QCBLK169193-1	04/05/98	04/05/98	2.6	UG/L	U	10	1
Chloroethane	75-00-3	QCBLK169193-1	04/05/98	04/05/98	1.9	UG/L	U	10	1
Methylene Chloride	75-09-2	QCBLK169193-1	04/05/98	04/05/98	1	UG/L	BJ	5	1
Acetone	67-64-1	QCBLK169193-1	04/05/98	04/05/98	1.3	UG/L	U	20	1
Carbon Disulfide	75-15-0	QCBLK169193-1	04/05/98	04/05/98	1.3	UG/L	U	5	1
1,1-Dichloroethene	75-35-4	QCBLK169193-1	04/05/98	04/05/98	1.4	UG/L	U	5	1
1,1-Dichloroethane	75-34-3	QCBLK169193-1	04/05/98	04/05/98	1.3	UG/L	U	5	1
Chloroform	67-66-3	QCBLK169193-1	04/05/98	04/05/98	1.7	UG/L	U	5	1
1,2-Dichloroethane	107-06-2	QCBLK169193-1	04/05/98	04/05/98	1.9	UG/L	U	5	1
2-Butanone (MEK)	78-93-3	QCBLK169193-1	04/05/98	04/05/98	2.2	UG/L	U	20	1
Carbon Tetrachloride	56-23-5	QCBLK169193-1	04/05/98	04/05/98	1.2	UG/L	U	5	1
Bromodichloromethane	75-27-4	QCBLK169193-1	04/05/98	04/05/98	1.2	UG/L	U	5	1
1,2-Dichloropropane	78-87-5	QCBLK169193-1	04/05/98	04/05/98	1.3	UG/L	U	5	1
cis-1,3-Dichloropropene	10061-01-5	QCBLK169193-1	04/05/98	04/05/98	1.3	UG/L	U	5	1
Trichloroethene	79-01-6	QCBLK169193-1	04/05/98	04/05/98	1.3	UG/L	U	5	1
1,1,2-Trichloroethane	79-00-5	QCBLK169193-1	04/05/98	04/05/98	1.2	UG/L	U	5	1
Benzene	71-43-2	QCBLK169193-1	04/05/98	04/05/98	1.6	UG/L	U	5	1
trans-1,3-Dichloropropene	10061-02-6	QCBLK169193-1	04/05/98	04/05/98	1.3	UG/L	U	5	1
Bromoform	75-25-2	QCBLK169193-1	04/05/98	04/05/98	0.97	UG/L	U	5	1
4-Methyl-2-Pentanone (MIBK)	108-10-1	QCBLK169193-1	04/05/98	04/05/98	1.6	UG/L	U	20	1
2-Hexanone	591-78-6	QCBLK169193-1	04/05/98	04/05/98	1.7	UG/L	U	20	1
Tetrachloroethene	127-18-4	QCBLK169193-1	04/05/98	04/05/98	2.0	UG/L	U	5	1
Toluene	108-88-3	QCBLK169193-1	04/05/98	04/05/98	1.7	UG/L	U	5	1
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK169193-1	04/05/98	04/05/98	1.0	UG/L	U	5	1
Chlorobenzene	108-90-7	QCBLK169193-1	04/05/98	04/05/98	2.7	UG/L	U	5	1
EthylBenzene	100-41-4	QCBLK169193-1	04/05/98	04/05/98	1.1	UG/L	U	5	1
Styrene	100-42-5	QCBLK169193-1	04/05/98	04/05/98	1.2	UG/L	U	5	1
Xylene (total)	1330-20-7	QCBLK169193-1	04/05/98	04/05/98	1.2	UG/L	U	5	1
Bromofluorobenzene	460-00-4	QCBLK169193-1	04/05/98	04/05/98	95	%REC			1
Dibromofluoromethane	1868-53-7	QCBLK169193-1	04/05/98	04/05/98	116	%REC			1
Toluene-d8	2037-26-5	QCBLK169193-1	04/05/98	04/05/98	108	%REC			1

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Project: 519.145

Category: Volatiles
Method: EPA 8240
Matrix: LIQUID

Client ID: BON854

Sample Date : 03/19/98
Receipt Date : 03/19/98
Report Date : 05/19/98

Quanterra ID : 17281-005

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	QCBLK169193-1	04/05/98	04/05/98	2.7	UG/L	U	10	1
Bromomethane	74-83-9	QCBLK169193-1	04/05/98	04/05/98	2.0	UG/L	U	10	1
Vinyl Chloride	75-01-4	QCBLK169193-1	04/05/98	04/05/98	2.6	UG/L	U	10	1
Chloroethane	75-00-3	QCBLK169193-1	04/05/98	04/05/98	1.9	UG/L	U	10	1
Methylene Chloride	75-09-2	QCBLK169193-1	04/05/98	04/05/98	1.5	UG/L	U	5	1
Acetone	67-64-1	QCBLK169193-1	04/05/98	04/05/98	4	UG/L	BJ	20	1
Carbon Disulfide	75-15-0	QCBLK169193-1	04/05/98	04/05/98	1.3	UG/L	U	5	1
1,1-Dichloroethene	75-35-4	QCBLK169193-1	04/05/98	04/05/98	1.4	UG/L	U	5	1
1,1-Dichloroethane	75-34-3	QCBLK169193-1	04/05/98	04/05/98	1.3	UG/L	U	5	1
Chloroform	67-66-3	QCBLK169193-1	04/05/98	04/05/98	1.7	UG/L	U	5	1
1,2-Dichloroethane	107-06-2	QCBLK169193-1	04/05/98	04/05/98	1.9	UG/L	U	5	1
2-Butanone (MEK)	78-93-3	QCBLK169193-1	04/05/98	04/05/98	2.2	UG/L	U	20	1
Carbon Tetrachloride	56-23-5	QCBLK169193-1	04/05/98	04/05/98	1.2	UG/L	U	5	1
Bromodichloromethane	75-27-4	QCBLK169193-1	04/05/98	04/05/98	1.2	UG/L	U	5	1
1,2-Dichloropropane	78-87-5	QCBLK169193-1	04/05/98	04/05/98	1.3	UG/L	U	5	1
cis-1,3-Dichloropropene	10061-01-5	QCBLK169193-1	04/05/98	04/05/98	1.3	UG/L	U	5	1
Trichloroethene	79-01-6	QCBLK169193-1	04/05/98	04/05/98	1.3	UG/L	U	5	1
1,1,2-Trichloroethane	79-00-5	QCBLK169193-1	04/05/98	04/05/98	1.2	UG/L	U	5	1
Benzene	71-43-2	QCBLK169193-1	04/05/98	04/05/98	1.6	UG/L	U	5	1
trans-1,3-Dichloropropene	10061-02-6	QCBLK169193-1	04/05/98	04/05/98	1.3	UG/L	U	5	1
Bromoform	75-25-2	QCBLK169193-1	04/05/98	04/05/98	0.97	UG/L	U	5	1
4-Methyl-2-Pentanone (MIBK)	108-10-1	QCBLK169193-1	04/05/98	04/05/98	1.6	UG/L	U	20	1
2-Hexanone	591-78-6	QCBLK169193-1	04/05/98	04/05/98	1.7	UG/L	U	20	1
Tetrachloroethene	127-18-4	QCBLK169193-1	04/05/98	04/05/98	2.0	UG/L	U	5	1
Toluene	108-88-3	QCBLK169193-1	04/05/98	04/05/98	1.7	UG/L	U	5	1
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK169193-1	04/05/98	04/05/98	1.0	UG/L	U	5	1
Chlorobenzene	108-90-7	QCBLK169193-1	04/05/98	04/05/98	2.7	UG/L	U	5	1
EthylBenzene	100-41-4	QCBLK169193-1	04/05/98	04/05/98	1.1	UG/L	U	5	1
Styrene	100-42-5	QCBLK169193-1	04/05/98	04/05/98	1.2	UG/L	U	5	1
Xylene (total)	1330-20-7	QCBLK169193-1	04/05/98	04/05/98	1.2	UG/L	U	5	1
Bromofluorobenzene	460-00-4	QCBLK169193-1	04/05/98	04/05/98	93	%REC			1
Dibromofluoromethane	1868-53-7	QCBLK169193-1	04/05/98	04/05/98	116	%REC			1
Toluene-d8	2037-26-5	QCBLK169193-1	04/05/98	04/05/98	96	%REC			1

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Project: 519.145

Category: Volatiles
Method: EPA 8240
Matrix: LIQUID

Client ID: NA

Sample Date : NA
Receipt Date : NA
Report Date : 05/19/98

Quanterra ID : QCBLK169193-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	QCBLK169193-1	04/04/98	04/04/98	2.7	UG/L	U	10	1
Bromomethane	74-83-9	QCBLK169193-1	04/04/98	04/04/98	2.0	UG/L	U	10	1
Vinyl Chloride	75-01-4	QCBLK169193-1	04/04/98	04/04/98	2.6	UG/L	U	10	1
Chloroethane	75-00-3	QCBLK169193-1	04/04/98	04/04/98	1.9	UG/L	U	10	1
Methylene Chloride	75-09-2	QCBLK169193-1	04/04/98	04/04/98	2	UG/L	J	5	1
Acetone	67-64-1	QCBLK169193-1	04/04/98	04/04/98	6	UG/L	J	20	1
Carbon Disulfide	75-15-0	QCBLK169193-1	04/04/98	04/04/98	1.3	UG/L	U	5	1
1,1-Dichloroethene	75-35-4	QCBLK169193-1	04/04/98	04/04/98	1.4	UG/L	U	5	1
1,1-Dichloroethane	75-34-3	QCBLK169193-1	04/04/98	04/04/98	1.3	UG/L	U	5	1
Chloroform	67-66-3	QCBLK169193-1	04/04/98	04/04/98	1.7	UG/L	U	5	1
1,2-Dichloroethane	107-06-2	QCBLK169193-1	04/04/98	04/04/98	1.9	UG/L	U	5	1
2-Butanone (MEK)	78-93-3	QCBLK169193-1	04/04/98	04/04/98	2.2	UG/L	U	20	1
Carbon Tetrachloride	56-23-5	QCBLK169193-1	04/04/98	04/04/98	1.2	UG/L	U	5	1
Bromodichloromethane	75-27-4	QCBLK169193-1	04/04/98	04/04/98	1.2	UG/L	U	5	1
1,2-Dichloropropane	78-87-5	QCBLK169193-1	04/04/98	04/04/98	1.3	UG/L	U	5	1
cis-1,3-Dichloropropene	10061-01-5	QCBLK169193-1	04/04/98	04/04/98	1.3	UG/L	U	5	1
Trichloroethene	79-01-6	QCBLK169193-1	04/04/98	04/04/98	1.3	UG/L	U	5	1
1,1,2-Trichloroethane	79-00-5	QCBLK169193-1	04/04/98	04/04/98	1.2	UG/L	U	5	1
Benzene	71-43-2	QCBLK169193-1	04/04/98	04/04/98	1.6	UG/L	U	5	1
trans-1,3-Dichloropropene	10061-02-6	QCBLK169193-1	04/04/98	04/04/98	1.3	UG/L	U	5	1
Bromoform	75-25-2	QCBLK169193-1	04/04/98	04/04/98	0.97	UG/L	U	5	1
4-Methyl-2-Pentanone (MIBK)	108-10-1	QCBLK169193-1	04/04/98	04/04/98	1.6	UG/L	U	20	1
2-Hexanone	591-78-6	QCBLK169193-1	04/04/98	04/04/98	1.7	UG/L	U	20	1
Tetrachloroethene	127-18-4	QCBLK169193-1	04/04/98	04/04/98	2.0	UG/L	U	5	1
Toluene	108-88-3	QCBLK169193-1	04/04/98	04/04/98	1.7	UG/L	U	5	1
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK169193-1	04/04/98	04/04/98	1.0	UG/L	U	5	1
Chlorobenzene	108-90-7	QCBLK169193-1	04/04/98	04/04/98	2.7	UG/L	U	5	1
EthylBenzene	100-41-4	QCBLK169193-1	04/04/98	04/04/98	1.1	UG/L	U	5	1
Styrene	100-42-5	QCBLK169193-1	04/04/98	04/04/98	1.2	UG/L	U	5	1
Xylene (total)	1330-20-7	QCBLK169193-1	04/04/98	04/04/98	1.2	UG/L	U	5	1
Unknown-1	TIC-32	QCBLK169193-1	04/04/98	04/04/98	10	UG/L	J		1
1,2,3-Trichlorobenzene	87-61-6	QCBLK169193-1	04/04/98	04/04/98	6	UG/L	JN		1
Bromofluorobenzene	460-00-4	QCBLK169193-1	04/04/98	04/04/98	88	%REC			1
Dibromofluoromethane	1868-53-7	QCBLK169193-1	04/04/98	04/04/98	114	%REC			1
Toluene-d8	2037-26-5	QCBLK169193-1	04/04/98	04/04/98	97	%REC			1

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Project: 519.145

Category: Volatiles
Method: EPA 8240
Matrix: LIQUID

Client ID: NA

Sample Date : NA
Receipt Date : NA
Report Date : 05/19/98

Quanterra ID : QCLCS169193-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
1,1-Dichloroethene	75-35-4	QCBLK169193-1	04/04/98	04/04/98	107	%REC			1
Trichloroethene	79-01-6	QCBLK169193-1	04/04/98	04/04/98	95	%REC			1
Benzene	71-43-2	QCBLK169193-1	04/04/98	04/04/98	86	%REC			1
Toluene	108-88-3	QCBLK169193-1	04/04/98	04/04/98	94	%REC			1
Chlorobenzene	108-90-7	QCBLK169193-1	04/04/98	04/04/98	109	%REC			1
Bromofluorobenzene	460-00-4	QCBLK169193-1	04/04/98	04/04/98	91	%REC			1
Dibromofluoromethane	1868-53-7	QCBLK169193-1	04/04/98	04/04/98	108	%REC			1
Toluene-d8	2037-26-5	QCBLK169193-1	04/04/98	04/04/98	102	%REC			1

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Project: 519.145

Category: Volatiles
Method: EPA 8240
Matrix: LIQUID

Client ID: BON856

Sample Date : 03/23/98
Receipt Date : 03/23/98
Report Date : 05/19/98

Quanterra ID : 17310-003

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	QCBLK169192-1	04/05/98	04/05/98	2.7	UG/L	U	10	1
Bromomethane	74-83-9	QCBLK169192-1	04/05/98	04/05/98	2.0	UG/L	U	10	1
Vinyl Chloride	75-01-4	QCBLK169192-1	04/05/98	04/05/98	2.6	UG/L	U	10	1
Chloroethane	75-00-3	QCBLK169192-1	04/05/98	04/05/98	1.9	UG/L	U	10	1
Methylene Chloride	75-09-2	QCBLK169192-1	04/05/98	04/05/98	1	UG/L	J	5	1
Acetone	67-64-1	QCBLK169192-1	04/05/98	04/05/98	7	UG/L	BJ	20	1
Carbon Disulfide	75-15-0	QCBLK169192-1	04/05/98	04/05/98	1.3	UG/L	U	5	1
1,1-Dichloroethene	75-35-4	QCBLK169192-1	04/05/98	04/05/98	1.4	UG/L	U	5	1
1,1-Dichloroethane	75-34-3	QCBLK169192-1	04/05/98	04/05/98	1.3	UG/L	U	5	1
Chloroform	67-66-3	QCBLK169192-1	04/05/98	04/05/98	1.7	UG/L	U	5	1
1,2-Dichloroethane	107-06-2	QCBLK169192-1	04/05/98	04/05/98	1.9	UG/L	U	5	1
2-Butanone (MEK)	78-93-3	QCBLK169192-1	04/05/98	04/05/98	2.2	UG/L	U	20	1
Carbon Tetrachloride	56-23-5	QCBLK169192-1	04/05/98	04/05/98	1.2	UG/L	U	5	1
Bromodichloromethane	75-27-4	QCBLK169192-1	04/05/98	04/05/98	1.2	UG/L	U	5	1
1,2-Dichloropropane	78-87-5	QCBLK169192-1	04/05/98	04/05/98	1.3	UG/L	U	5	1
cis-1,3-Dichloropropene	10061-01-5	QCBLK169192-1	04/05/98	04/05/98	1.3	UG/L	U	5	1
Trichloroethene	79-01-6	QCBLK169192-1	04/05/98	04/05/98	1.3	UG/L	U	5	1
1,1,2-Trichloroethane	79-00-5	QCBLK169192-1	04/05/98	04/05/98	1.2	UG/L	U	5	1
Benzene	71-43-2	QCBLK169192-1	04/05/98	04/05/98	1.6	UG/L	U	5	1
trans-1,3-Dichloropropene	10061-02-6	QCBLK169192-1	04/05/98	04/05/98	1.3	UG/L	U	5	1
Bromoform	75-25-2	QCBLK169192-1	04/05/98	04/05/98	0.97	UG/L	U	5	1
4-Methyl-2-Pentanone (MIBK)	108-10-1	QCBLK169192-1	04/05/98	04/05/98	1.6	UG/L	U	20	1
2-Hexanone	591-78-6	QCBLK169192-1	04/05/98	04/05/98	1.7	UG/L	U	20	1
Tetrachloroethene	127-18-4	QCBLK169192-1	04/05/98	04/05/98	2.0	UG/L	U	5	1
Toluene	108-88-3	QCBLK169192-1	04/05/98	04/05/98	1.7	UG/L	U	5	1
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK169192-1	04/05/98	04/05/98	1.0	UG/L	U	5	1
Chlorobenzene	108-90-7	QCBLK169192-1	04/05/98	04/05/98	2.7	UG/L	U	5	1
EthylBenzene	100-41-4	QCBLK169192-1	04/05/98	04/05/98	1.1	UG/L	U	5	1
Styrene	100-42-5	QCBLK169192-1	04/05/98	04/05/98	1.2	UG/L	U	5	1
Xylene (total)	1330-20-7	QCBLK169192-1	04/05/98	04/05/98	1.2	UG/L	U	5	1
Unknown-1	TIC-32	QCBLK169192-1	04/05/98	04/05/98	13	UG/L	BJ		1
Bromofluorobenzene	460-00-4	QCBLK169192-1	04/05/98	04/05/98	87	%REC			1
Dibromofluoromethane	1868-53-7	QCBLK169192-1	04/05/98	04/05/98	108	%REC			1
Toluene-d8	2037-26-5	QCBLK169192-1	04/05/98	04/05/98	103	%REC			1

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Project: 519.145

Category: Volatiles
Method: EPA 8240
Matrix: LIQUID

Client ID: BON842

Sample Date : 03/24/98
Receipt Date : 03/24/98
Report Date : 05/19/98

Quanterra ID : 17312-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	QCBLK169192-1	04/05/98	04/05/98	2.7	UG/L	U	10	1
Bromomethane	74-83-9	QCBLK169192-1	04/05/98	04/05/98	2.0	UG/L	U	10	1
Vinyl Chloride	75-01-4	QCBLK169192-1	04/05/98	04/05/98	2.6	UG/L	U	10	1
Chloroethane	75-00-3	QCBLK169192-1	04/05/98	04/05/98	1.9	UG/L	U	10	1
Methylene Chloride	75-09-2	QCBLK169192-1	04/05/98	04/05/98	1.5	UG/L	U	5	1
Acetone	67-64-1	QCBLK169192-1	04/05/98	04/05/98	4	UG/L	BJ	20	1
Carbon Disulfide	75-15-0	QCBLK169192-1	04/05/98	04/05/98	1.3	UG/L	U	5	1
1,1-Dichloroethene	75-35-4	QCBLK169192-1	04/05/98	04/05/98	1.4	UG/L	U	5	1
1,1-Dichloroethane	75-34-3	QCBLK169192-1	04/05/98	04/05/98	1.3	UG/L	U	5	1
Chloroform	67-66-3	QCBLK169192-1	04/05/98	04/05/98	1.7	UG/L	U	5	1
1,2-Dichloroethane	107-06-2	QCBLK169192-1	04/05/98	04/05/98	1.9	UG/L	U	5	1
2-Butanone (MEK)	78-93-3	QCBLK169192-1	04/05/98	04/05/98	2.2	UG/L	U	20	1
Carbon Tetrachloride	56-23-5	QCBLK169192-1	04/05/98	04/05/98	5	UG/L	J	5	1
Bromodichloromethane	75-27-4	QCBLK169192-1	04/05/98	04/05/98	1.2	UG/L	U	5	1
1,2-Dichloropropane	78-87-5	QCBLK169192-1	04/05/98	04/05/98	1.3	UG/L	U	5	1
cis-1,3-Dichloropropene	10061-01-5	QCBLK169192-1	04/05/98	04/05/98	1.3	UG/L	U	5	1
Trichloroethene	79-01-6	QCBLK169192-1	04/05/98	04/05/98	1.3	UG/L	U	5	1
1,1,2-Trichloroethane	79-00-5	QCBLK169192-1	04/05/98	04/05/98	1.2	UG/L	U	5	1
Benzene	71-43-2	QCBLK169192-1	04/05/98	04/05/98	1.6	UG/L	U	5	1
trans-1,3-Dichloropropene	10061-02-6	QCBLK169192-1	04/05/98	04/05/98	1.3	UG/L	U	5	1
Bromoform	75-25-2	QCBLK169192-1	04/05/98	04/05/98	0.97	UG/L	U	5	1
4-Methyl-2-Pentanone (MIBK)	108-10-1	QCBLK169192-1	04/05/98	04/05/98	1.6	UG/L	U	20	1
2-Hexanone	591-78-6	QCBLK169192-1	04/05/98	04/05/98	1.7	UG/L	U	20	1
Tetrachloroethene	127-18-4	QCBLK169192-1	04/05/98	04/05/98	2.0	UG/L	U	5	1
Toluene	108-88-3	QCBLK169192-1	04/05/98	04/05/98	1.7	UG/L	U	5	1
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK169192-1	04/05/98	04/05/98	1.0	UG/L	U	5	1
Chlorobenzene	108-90-7	QCBLK169192-1	04/05/98	04/05/98	2.7	UG/L	U	5	1
EthylBenzene	100-41-4	QCBLK169192-1	04/05/98	04/05/98	1.1	UG/L	U	5	1
Styrene	100-42-5	QCBLK169192-1	04/05/98	04/05/98	1.2	UG/L	U	5	1
Xylene (total)	1330-20-7	QCBLK169192-1	04/05/98	04/05/98	1.2	UG/L	U	5	1
Unknown-1	TIC-32	QCBLK169192-1	04/05/98	04/05/98	15	UG/L	BJ		1
Bromofluorobenzene	460-00-4	QCBLK169192-1	04/05/98	04/05/98	87	%REC			1
Dibromofluoromethane	1868-53-7	QCBLK169192-1	04/05/98	04/05/98	103	%REC			1
Toluene-d8	2037-26-5	QCBLK169192-1	04/05/98	04/05/98	100	%REC			1

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Project: 519.145

Category: Volatiles
Method: EPA 8240
Matrix: LIQUID

Client ID: BON844

Sample Date : 03/24/98
Receipt Date : 03/24/98
Report Date : 05/19/98

Quanterra ID : 17312-002

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	QCBLK169192-1	04/05/98	04/05/98	2.7	UG/L	U	10	1
Bromomethane	74-83-9	QCBLK169192-1	04/05/98	04/05/98	2.0	UG/L	U	10	1
Vinyl Chloride	75-01-4	QCBLK169192-1	04/05/98	04/05/98	2.6	UG/L	U	10	1
Chloroethane	75-00-3	QCBLK169192-1	04/05/98	04/05/98	1.9	UG/L	U	10	1
Methylene Chloride	75-09-2	QCBLK169192-1	04/05/98	04/05/98	1.5	UG/L	U	5	1
Acetone	67-64-1	QCBLK169192-1	04/05/98	04/05/98	8	UG/L	BJ	20	1
Carbon Disulfide	75-15-0	QCBLK169192-1	04/05/98	04/05/98	1.3	UG/L	U	5	1
1,1-Dichloroethene	75-35-4	QCBLK169192-1	04/05/98	04/05/98	1.4	UG/L	U	5	1
1,1-Dichloroethane	75-34-3	QCBLK169192-1	04/05/98	04/05/98	1.3	UG/L	U	5	1
Chloroform	67-66-3	QCBLK169192-1	04/05/98	04/05/98	1	UG/L	J	5	1
1,2-Dichloroethane	107-06-2	QCBLK169192-1	04/05/98	04/05/98	1.9	UG/L	U	5	1
2-Butanone (MEK)	78-93-3	QCBLK169192-1	04/05/98	04/05/98	2.2	UG/L	U	20	1
Carbon Tetrachloride	56-23-5	QCBLK169192-1	04/05/98	04/05/98	5	UG/L	J	5	1
Bromodichloromethane	75-27-4	QCBLK169192-1	04/05/98	04/05/98	1.2	UG/L	U	5	1
1,2-Dichloropropane	78-87-5	QCBLK169192-1	04/05/98	04/05/98	1.3	UG/L	U	5	1
cis-1,3-Dichloropropene	10061-01-5	QCBLK169192-1	04/05/98	04/05/98	1.3	UG/L	U	5	1
Trichloroethene	79-01-6	QCBLK169192-1	04/05/98	04/05/98	1.3	UG/L	U	5	1
1,1,2-Trichloroethane	79-00-5	QCBLK169192-1	04/05/98	04/05/98	1.2	UG/L	U	5	1
Benzene	71-43-2	QCBLK169192-1	04/05/98	04/05/98	1.6	UG/L	U	5	1
trans-1,3-Dichloropropene	10061-02-6	QCBLK169192-1	04/05/98	04/05/98	1.3	UG/L	U	5	1
Bromoform	75-25-2	QCBLK169192-1	04/05/98	04/05/98	0.97	UG/L	U	5	1
4-Methyl-2-Pentanone (MIBK)	108-10-1	QCBLK169192-1	04/05/98	04/05/98	1.6	UG/L	U	20	1
2-Hexanone	591-78-6	QCBLK169192-1	04/05/98	04/05/98	1.7	UG/L	U	20	1
Tetrachloroethene	127-18-4	QCBLK169192-1	04/05/98	04/05/98	2.0	UG/L	U	5	1
Toluene	108-88-3	QCBLK169192-1	04/05/98	04/05/98	1.7	UG/L	U	5	1
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK169192-1	04/05/98	04/05/98	1.0	UG/L	U	5	1
Chlorobenzene	108-90-7	QCBLK169192-1	04/05/98	04/05/98	2.7	UG/L	U	5	1
EthylBenzene	100-41-4	QCBLK169192-1	04/05/98	04/05/98	1.1	UG/L	U	5	1
Styrene	100-42-5	QCBLK169192-1	04/05/98	04/05/98	1.2	UG/L	U	5	1
Xylene (total)	1330-20-7	QCBLK169192-1	04/05/98	04/05/98	1.2	UG/L	U	5	1
Unknown-1	TIC-32	QCBLK169192-1	04/05/98	04/05/98	15	UG/L	BJ		1
Unknown-2	TIC-33	QCBLK169192-1	04/05/98	04/05/98	11	UG/L	J		1
Bromofluorobenzene	460-00-4	QCBLK169192-1	04/05/98	04/05/98	87	%REC			1
Dibromofluoromethane	1868-53-7	QCBLK169192-1	04/05/98	04/05/98	110	%REC			1
Toluene-d8	2037-26-5	QCBLK169192-1	04/05/98	04/05/98	97	%REC			1

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Project: 519.145

Category: Volatiles
Method: EPA 8240
Matrix: LIQUID

Client ID: BON855

Sample Date : 03/24/98
Receipt Date : 03/24/98
Report Date : 05/19/98

Quanterra ID : 17312-003

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	QCBLK169192-1	04/05/98	04/05/98	2.7	UG/L	U	10	1
Bromomethane	74-83-9	QCBLK169192-1	04/05/98	04/05/98	2.0	UG/L	U	10	1
Vinyl Chloride	75-01-4	QCBLK169192-1	04/05/98	04/05/98	2.6	UG/L	U	10	1
Chloroethane	75-00-3	QCBLK169192-1	04/05/98	04/05/98	1.9	UG/L	U	10	1
Methylene Chloride	75-09-2	QCBLK169192-1	04/05/98	04/05/98	23	UG/L		5	1
Acetone	67-64-1	QCBLK169192-1	04/05/98	04/05/98	8	UG/L	BJ	20	1
Carbon Disulfide	75-15-0	QCBLK169192-1	04/05/98	04/05/98	1.3	UG/L	U	5	1
1,1-Dichloroethene	75-35-4	QCBLK169192-1	04/05/98	04/05/98	1.4	UG/L	U	5	1
1,1-Dichloroethane	75-34-3	QCBLK169192-1	04/05/98	04/05/98	1.3	UG/L	U	5	1
Chloroform	67-66-3	QCBLK169192-1	04/05/98	04/05/98	1.7	UG/L	U	5	1
1,2-Dichloroethane	107-06-2	QCBLK169192-1	04/05/98	04/05/98	1.9	UG/L	U	5	1
2-Butanone (MEK)	78-93-3	QCBLK169192-1	04/05/98	04/05/98	2.2	UG/L	U	20	1
Carbon Tetrachloride	56-23-5	QCBLK169192-1	04/05/98	04/05/98	1.2	UG/L	U	5	1
Bromodichloromethane	75-27-4	QCBLK169192-1	04/05/98	04/05/98	1.2	UG/L	U	5	1
1,2-Dichloropropane	78-87-5	QCBLK169192-1	04/05/98	04/05/98	1.3	UG/L	U	5	1
cis-1,3-Dichloropropene	10061-01-5	QCBLK169192-1	04/05/98	04/05/98	1.3	UG/L	U	5	1
Trichloroethene	79-01-6	QCBLK169192-1	04/05/98	04/05/98	1.3	UG/L	U	5	1
1,1,2-Trichloroethane	79-00-5	QCBLK169192-1	04/05/98	04/05/98	1.2	UG/L	U	5	1
Benzene	71-43-2	QCBLK169192-1	04/05/98	04/05/98	1.6	UG/L	U	5	1
trans-1,3-Dichloropropene	10061-02-6	QCBLK169192-1	04/05/98	04/05/98	1.3	UG/L	U	5	1
Bromoform	75-25-2	QCBLK169192-1	04/05/98	04/05/98	0.97	UG/L	U	5	1
4-Methyl-2-Pentanone (MIBK)	108-10-1	QCBLK169192-1	04/05/98	04/05/98	1.6	UG/L	U	20	1
2-Hexanone	591-78-6	QCBLK169192-1	04/05/98	04/05/98	1.7	UG/L	U	20	1
Tetrachloroethene	127-18-4	QCBLK169192-1	04/05/98	04/05/98	2.0	UG/L	U	5	1
Toluene	108-88-3	QCBLK169192-1	04/05/98	04/05/98	1.7	UG/L	U	5	1
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK169192-1	04/05/98	04/05/98	1.0	UG/L	U	5	1
Chlorobenzene	108-90-7	QCBLK169192-1	04/05/98	04/05/98	2.7	UG/L	U	5	1
EthylBenzene	100-41-4	QCBLK169192-1	04/05/98	04/05/98	1.1	UG/L	U	5	1
Styrene	100-42-5	QCBLK169192-1	04/05/98	04/05/98	1.2	UG/L	U	5	1
Xylene (total)	1330-20-7	QCBLK169192-1	04/05/98	04/05/98	1.2	UG/L	U	5	1
Unknown-1	TIC-32	QCBLK169192-1	04/05/98	04/05/98	15	UG/L	BJ		1
Unknown-2	TIC-33	QCBLK169192-1	04/05/98	04/05/98	9	UG/L	BJ		1
Bromofluorobenzene	460-00-4	QCBLK169192-1	04/05/98	04/05/98	89	%REC			1
Dibromofluoromethane	1868-53-7	QCBLK169192-1	04/05/98	04/05/98	108	%REC			1
Toluene-d8	2037-26-5	QCBLK169192-1	04/05/98	04/05/98	100	%REC			1

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Project: 519.145

Category: Volatiles
Method: EPA 8240
Matrix: LIQUID

Client ID: NA

Sample Date : NA
Receipt Date : NA
Report Date : 05/19/98

Quanterra ID : QCBLK169192-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	QCBLK169192-1	04/05/98	04/05/98	2.7	UG/L	U	10	1
Bromomethane	74-83-9	QCBLK169192-1	04/05/98	04/05/98	2.0	UG/L	U	10	1
Vinyl Chloride	75-01-4	QCBLK169192-1	04/05/98	04/05/98	2.6	UG/L	U	10	1
Chloroethane	75-00-3	QCBLK169192-1	04/05/98	04/05/98	1.9	UG/L	U	10	1
Methylene Chloride	75-09-2	QCBLK169192-1	04/05/98	04/05/98	1.5	UG/L	U	5	1
Acetone	67-64-1	QCBLK169192-1	04/05/98	04/05/98	2	UG/L	J	20	1
Carbon Disulfide	75-15-0	QCBLK169192-1	04/05/98	04/05/98	1.3	UG/L	U	5	1
1,1-Dichloroethene	75-35-4	QCBLK169192-1	04/05/98	04/05/98	1.4	UG/L	U	5	1
1,1-Dichloroethane	75-34-3	QCBLK169192-1	04/05/98	04/05/98	1.3	UG/L	U	5	1
Chloroform	67-66-3	QCBLK169192-1	04/05/98	04/05/98	1.7	UG/L	U	5	1
1,2-Dichloroethane	107-06-2	QCBLK169192-1	04/05/98	04/05/98	1.9	UG/L	U	5	1
2-Butanone (MEK)	78-93-3	QCBLK169192-1	04/05/98	04/05/98	2.2	UG/L	U	20	1
Carbon Tetrachloride	56-23-5	QCBLK169192-1	04/05/98	04/05/98	1.2	UG/L	U	5	1
Bromodichloromethane	75-27-4	QCBLK169192-1	04/05/98	04/05/98	1.2	UG/L	U	5	1
1,2-Dichloropropane	78-87-5	QCBLK169192-1	04/05/98	04/05/98	1.3	UG/L	U	5	1
cis-1,3-Dichloropropene	10061-01-5	QCBLK169192-1	04/05/98	04/05/98	1.3	UG/L	U	5	1
Trichloroethene	79-01-6	QCBLK169192-1	04/05/98	04/05/98	1.3	UG/L	U	5	1
1,1,2-Trichloroethane	79-00-5	QCBLK169192-1	04/05/98	04/05/98	1.2	UG/L	U	5	1
Benzene	71-43-2	QCBLK169192-1	04/05/98	04/05/98	1.6	UG/L	U	5	1
trans-1,3-Dichloropropene	10061-02-6	QCBLK169192-1	04/05/98	04/05/98	1.3	UG/L	U	5	1
Bromoform	75-25-2	QCBLK169192-1	04/05/98	04/05/98	0.97	UG/L	U	5	1
4-Methyl-2-Pentanone (MIBK)	108-10-1	QCBLK169192-1	04/05/98	04/05/98	1.6	UG/L	U	20	1
2-Hexanone	591-78-6	QCBLK169192-1	04/05/98	04/05/98	1.7	UG/L	U	20	1
Tetrachloroethene	127-18-4	QCBLK169192-1	04/05/98	04/05/98	2.0	UG/L	U	5	1
Toluene	108-88-3	QCBLK169192-1	04/05/98	04/05/98	1.7	UG/L	U	5	1
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK169192-1	04/05/98	04/05/98	1.0	UG/L	U	5	1
Chlorobenzene	108-90-7	QCBLK169192-1	04/05/98	04/05/98	2.7	UG/L	U	5	1
EthylBenzene	100-41-4	QCBLK169192-1	04/05/98	04/05/98	1.1	UG/L	U	5	1
Styrene	100-42-5	QCBLK169192-1	04/05/98	04/05/98	1.2	UG/L	U	5	1
Xylene (total)	1330-20-7	QCBLK169192-1	04/05/98	04/05/98	1.2	UG/L	U	5	1
Unknown-1	TIC-32	QCBLK169192-1	04/05/98	04/05/98	13	UG/L	J		1
Unknown-2	TIC-33	QCBLK169192-1	04/05/98	04/05/98	5	UG/L	J		1
Bromofluorobenzene	460-00-4	QCBLK169192-1	04/05/98	04/05/98	86	%REC			1
Dibromofluoromethane	1868-53-7	QCBLK169192-1	04/05/98	04/05/98	117	%REC			1
Toluene-d8	2037-26-5	QCBLK169192-1	04/05/98	04/05/98	101	%REC			1

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Project: 519.145

Category: Volatiles
Method: EPA 8240
Matrix: LIQUID

Client ID: NA

Sample Date : NA
Receipt Date : NA
Report Date : 05/19/98

Quanterra ID : QCLCS169192-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
1,1-Dichloroethene	75-35-4	QCBLK169192-1	04/05/98	04/05/98	105	%REC			1
Trichloroethene	79-01-6	QCBLK169192-1	04/05/98	04/05/98	93	%REC			1
Benzene	71-43-2	QCBLK169192-1	04/05/98	04/05/98	94	%REC			1
Toluene	108-88-3	QCBLK169192-1	04/05/98	04/05/98	99	%REC			1
Chlorobenzene	108-90-7	QCBLK169192-1	04/05/98	04/05/98	109	%REC			1
Bromofluorobenzene	460-00-4	QCBLK169192-1	04/05/98	04/05/98	93	%REC			1
Dibromofluoromethane	1868-53-7	QCBLK169192-1	04/05/98	04/05/98	101	%REC			1
Toluene-d8	2037-26-5	QCBLK169192-1	04/05/98	04/05/98	102	%REC			1

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Project: 519.145

Category: Volatiles
Method: EPA 8240
Matrix: LIQUID

Client ID: BON840

Sample Date : 03/19/98
Receipt Date : 03/19/98
Report Date : 05/19/98

Quanterra ID : 17281-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	QCBLK169256-1	04/06/98	04/06/98	2.7	UG/L	U	10	1
Bromomethane	74-83-9	QCBLK169256-1	04/06/98	04/06/98	2.0	UG/L	U	10	1
Vinyl Chloride	75-01-4	QCBLK169256-1	04/06/98	04/06/98	2.6	UG/L	U	10	1
Chloroethane	75-00-3	QCBLK169256-1	04/06/98	04/06/98	1.9	UG/L	U	10	1
Methylene Chloride	75-09-2	QCBLK169256-1	04/06/98	04/06/98	7	UG/L	B	5	1
Acetone	67-64-1	QCBLK169256-1	04/06/98	04/06/98	7	UG/L	BJ	20	1
Carbon Disulfide	75-15-0	QCBLK169256-1	04/06/98	04/06/98	1.3	UG/L	U	5	1
1,1-Dichloroethene	75-35-4	QCBLK169256-1	04/06/98	04/06/98	1.4	UG/L	U	5	1
1,1-Dichloroethane	75-34-3	QCBLK169256-1	04/06/98	04/06/98	1.3	UG/L	U	5	1
Chloroform	67-66-3	QCBLK169256-1	04/06/98	04/06/98	1	UG/L	J	5	1
1,2-Dichloroethane	107-06-2	QCBLK169256-1	04/06/98	04/06/98	1.9	UG/L	U	5	1
2-Butanone (MEK)	78-93-3	QCBLK169256-1	04/06/98	04/06/98	2.2	UG/L	U	20	1
Carbon Tetrachloride	56-23-5	QCBLK169256-1	04/06/98	04/06/98	1	UG/L	J	5	1
Bromodichloromethane	75-27-4	QCBLK169256-1	04/06/98	04/06/98	1.2	UG/L	U	5	1
1,2-Dichloropropane	78-87-5	QCBLK169256-1	04/06/98	04/06/98	1.3	UG/L	U	5	1
cis-1,3-Dichloropropene	10061-01-5	QCBLK169256-1	04/06/98	04/06/98	1.3	UG/L	U	5	1
Trichloroethene	79-01-6	QCBLK169256-1	04/06/98	04/06/98	1.3	UG/L	U	5	1
1,1,2-Trichloroethane	79-00-5	QCBLK169256-1	04/06/98	04/06/98	1.2	UG/L	U	5	1
Benzene	71-43-2	QCBLK169256-1	04/06/98	04/06/98	1.6	UG/L	U	5	1
trans-1,3-Dichloropropene	10061-02-6	QCBLK169256-1	04/06/98	04/06/98	1.3	UG/L	U	5	1
Bromoform	75-25-2	QCBLK169256-1	04/06/98	04/06/98	0.97	UG/L	U	5	1
4-Methyl-2-Pentanone (MIBK)	108-10-1	QCBLK169256-1	04/06/98	04/06/98	1.6	UG/L	U	20	1
2-Hexanone	591-78-6	QCBLK169256-1	04/06/98	04/06/98	1.7	UG/L	U	20	1
Tetrachloroethene	127-18-4	QCBLK169256-1	04/06/98	04/06/98	2.0	UG/L	U	5	1
Toluene	108-88-3	QCBLK169256-1	04/06/98	04/06/98	1.7	UG/L	U	5	1
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK169256-1	04/06/98	04/06/98	1.0	UG/L	U	5	1
Chlorobenzene	108-90-7	QCBLK169256-1	04/06/98	04/06/98	2.7	UG/L	U	5	1
EthylBenzene	100-41-4	QCBLK169256-1	04/06/98	04/06/98	1.1	UG/L	U	5	1
Styrene	100-42-5	QCBLK169256-1	04/06/98	04/06/98	1.2	UG/L	U	5	1
Xylene (total)	1330-20-7	QCBLK169256-1	04/06/98	04/06/98	1.2	UG/L	U	5	1
Unknown-1	TIC-32	QCBLK169256-1	04/06/98	04/06/98	14	UG/L	BJ		1
Unknown-2	TIC-33	QCBLK169256-1	04/06/98	04/06/98	9	UG/L	J		1
Bromofluorobenzene	460-00-4	QCBLK169256-1	04/06/98	04/06/98	92	%REC			1
Dibromofluoromethane	1868-53-7	QCBLK169256-1	04/06/98	04/06/98	119	%REC			1
Toluene-d8	2037-26-5	QCBLK169256-1	04/06/98	04/06/98	109	%REC			1

Pacific Northwest National Lab
P.O. Box 1970
Richland, WA 99352

Project: 519.145

Category: Volatiles
Method: EPA 8240
Matrix: LIQUID

Client ID: BON846

Sample Date : 03/23/98
Receipt Date : 03/23/98
Report Date : 05/19/98

Quanterra ID : 17310-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	QCBLK169256-1	04/06/98	04/06/98	2.7	UG/L	U	10	1
Bromomethane	74-83-9	QCBLK169256-1	04/06/98	04/06/98	2.0	UG/L	U	10	1
Vinyl Chloride	75-01-4	QCBLK169256-1	04/06/98	04/06/98	2.6	UG/L	U	10	1
Chloroethane	75-00-3	QCBLK169256-1	04/06/98	04/06/98	1.9	UG/L	U	10	1
Methylene Chloride	75-09-2	QCBLK169256-1	04/06/98	04/06/98	11	UG/L	B	5	1
Acetone	67-64-1	QCBLK169256-1	04/06/98	04/06/98	7	UG/L	BJ	20	1
Carbon Disulfide	75-15-0	QCBLK169256-1	04/06/98	04/06/98	1.3	UG/L	U	5	1
1,1-Dichloroethene	75-35-4	QCBLK169256-1	04/06/98	04/06/98	1.4	UG/L	U	5	1
1,1-Dichloroethane	75-34-3	QCBLK169256-1	04/06/98	04/06/98	1.3	UG/L	U	5	1
Chloroform	67-66-3	QCBLK169256-1	04/06/98	04/06/98	1	UG/L	J	5	1
1,2-Dichloroethane	107-06-2	QCBLK169256-1	04/06/98	04/06/98	1.9	UG/L	U	5	1
2-Butanone (MEK)	78-93-3	QCBLK169256-1	04/06/98	04/06/98	2.2	UG/L	U	20	1
Carbon Tetrachloride	56-23-5	QCBLK169256-1	04/06/98	04/06/98	6	UG/L		5	1
Bromodichloromethane	75-27-4	QCBLK169256-1	04/06/98	04/06/98	1.2	UG/L	U	5	1
1,2-Dichloropropane	78-87-5	QCBLK169256-1	04/06/98	04/06/98	1.3	UG/L	U	5	1
cis-1,3-Dichloropropene	10061-01-5	QCBLK169256-1	04/06/98	04/06/98	1.3	UG/L	U	5	1
Trichloroethene	79-01-6	QCBLK169256-1	04/06/98	04/06/98	1.3	UG/L	U	5	1
1,1,2-Trichloroethane	79-00-5	QCBLK169256-1	04/06/98	04/06/98	1.2	UG/L	U	5	1
Benzene	71-43-2	QCBLK169256-1	04/06/98	04/06/98	1.6	UG/L	U	5	1
trans-1,3-Dichloropropene	10061-02-6	QCBLK169256-1	04/06/98	04/06/98	1.3	UG/L	U	5	1
Bromoform	75-25-2	QCBLK169256-1	04/06/98	04/06/98	0.97	UG/L	U	5	1
4-Methyl-2-Pentanone (MIBK)	108-10-1	QCBLK169256-1	04/06/98	04/06/98	1.6	UG/L	U	20	1
2-Hexanone	591-78-6	QCBLK169256-1	04/06/98	04/06/98	1.7	UG/L	U	20	1
Tetrachloroethene	127-18-4	QCBLK169256-1	04/06/98	04/06/98	2.0	UG/L	U	5	1
Toluene	108-88-3	QCBLK169256-1	04/06/98	04/06/98	1.7	UG/L	U	5	1
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK169256-1	04/06/98	04/06/98	1.0	UG/L	U	5	1
Chlorobenzene	108-90-7	QCBLK169256-1	04/06/98	04/06/98	2.7	UG/L	U	5	1
EthylBenzene	100-41-4	QCBLK169256-1	04/06/98	04/06/98	1.1	UG/L	U	5	1
Styrene	100-42-5	QCBLK169256-1	04/06/98	04/06/98	1.2	UG/L	U	5	1
Xylene (total)	1330-20-7	QCBLK169256-1	04/06/98	04/06/98	1.2	UG/L	U	5	1
Unknown-1	TIC-32	QCBLK169256-1	04/06/98	04/06/98	13	UG/L	BJ		1
Unknown-2	TIC-33	QCBLK169256-1	04/06/98	04/06/98	8	UG/L	J		1
Bromofluorobenzene	460-00-4	QCBLK169256-1	04/06/98	04/06/98	91	%REC			1
Dibromofluoromethane	1868-53-7	QCBLK169256-1	04/06/98	04/06/98	120	%REC			1
Toluene-d8	2037-26-5	QCBLK169256-1	04/06/98	04/06/98	107	%REC			1

Pacific Northwest National Lab
P.O. Box 1970
Richland, WA 99352

Project: 519.145

Category: Volatiles
Method: EPA 8240
Matrix: LIQUID

Client ID: BON850

Sample Date : 03/23/98
Receipt Date : 03/23/98
Report Date : 05/19/98

Quanterra ID : 17310-002

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	QCBLK169256-1	04/06/98	04/06/98	2.7	UG/L	U	10	1
Bromomethane	74-83-9	QCBLK169256-1	04/06/98	04/06/98	2.0	UG/L	U	10	1
Vinyl Chloride	75-01-4	QCBLK169256-1	04/06/98	04/06/98	2.6	UG/L	U	10	1
Chloroethane	75-00-3	QCBLK169256-1	04/06/98	04/06/98	1.9	UG/L	U	10	1
Methylene Chloride	75-09-2	QCBLK169256-1	04/06/98	04/06/98	10	UG/L	B	5	1
Acetone	67-64-1	QCBLK169256-1	04/06/98	04/06/98	8	UG/L	BJ	20	1
Carbon Disulfide	75-15-0	QCBLK169256-1	04/06/98	04/06/98	1.3	UG/L	U	5	1
1,1-Dichloroethene	75-35-4	QCBLK169256-1	04/06/98	04/06/98	1.4	UG/L	U	5	1
1,1-Dichloroethane	75-34-3	QCBLK169256-1	04/06/98	04/06/98	1.3	UG/L	U	5	1
Chloroform	67-66-3	QCBLK169256-1	04/06/98	04/06/98	1.7	UG/L	U	5	1
1,2-Dichloroethane	107-06-2	QCBLK169256-1	04/06/98	04/06/98	1.9	UG/L	U	5	1
2-Butanone (MEK)	78-93-3	QCBLK169256-1	04/06/98	04/06/98	2.2	UG/L	U	20	1
Carbon Tetrachloride	56-23-5	QCBLK169256-1	04/06/98	04/06/98	1.2	UG/L	U	5	1
Bromodichloromethane	75-27-4	QCBLK169256-1	04/06/98	04/06/98	1.2	UG/L	U	5	1
1,2-Dichloropropane	78-87-5	QCBLK169256-1	04/06/98	04/06/98	1.3	UG/L	U	5	1
cis-1,3-Dichloropropene	10061-01-5	QCBLK169256-1	04/06/98	04/06/98	1.3	UG/L	U	5	1
Trichloroethene	79-01-6	QCBLK169256-1	04/06/98	04/06/98	1.3	UG/L	U	5	1
1,1,2-Trichloroethane	79-00-5	QCBLK169256-1	04/06/98	04/06/98	1.2	UG/L	U	5	1
Benzene	71-43-2	QCBLK169256-1	04/06/98	04/06/98	1.6	UG/L	U	5	1
trans-1,3-Dichloropropene	10061-02-6	QCBLK169256-1	04/06/98	04/06/98	1.3	UG/L	U	5	1
Bromoform	75-25-2	QCBLK169256-1	04/06/98	04/06/98	0.97	UG/L	U	5	1
4-Methyl-2-Pentanone (MIBK)	108-10-1	QCBLK169256-1	04/06/98	04/06/98	1.6	UG/L	U	20	1
2-Hexanone	591-78-6	QCBLK169256-1	04/06/98	04/06/98	1.7	UG/L	U	20	1
Tetrachloroethene	127-18-4	QCBLK169256-1	04/06/98	04/06/98	2.0	UG/L	U	5	1
Toluene	108-88-3	QCBLK169256-1	04/06/98	04/06/98	1.7	UG/L	U	5	1
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK169256-1	04/06/98	04/06/98	1.0	UG/L	U	5	1
Chlorobenzene	108-90-7	QCBLK169256-1	04/06/98	04/06/98	2.7	UG/L	U	5	1
EthylBenzene	100-41-4	QCBLK169256-1	04/06/98	04/06/98	1.1	UG/L	U	5	1
Styrene	100-42-5	QCBLK169256-1	04/06/98	04/06/98	1.2	UG/L	U	5	1
Xylene (total)	1330-20-7	QCBLK169256-1	04/06/98	04/06/98	1.2	UG/L	U	5	1
Unknown-1	TIC-32	QCBLK169256-1	04/06/98	04/06/98	14	UG/L	BJ		1
Unknown-2	TIC-33	QCBLK169256-1	04/06/98	04/06/98	6	UG/L	J		1
Bromofluorobenzene	460-00-4	QCBLK169256-1	04/06/98	04/06/98	91	%REC			1
Dibromofluoromethane	1868-53-7	QCBLK169256-1	04/06/98	04/06/98	117	%REC			1
Toluene-d8	2037-26-5	QCBLK169256-1	04/06/98	04/06/98	113	%REC			1

Pacific Northwest National Lab
P.O. Box 1970
Richland, WA 99352

Project: 519.145

Category: Volatiles
Method: EPA 8240
Matrix: LIQUID

Client ID: NA

Sample Date : NA
Receipt Date : NA
Report Date : 05/19/98

Quanterra ID : QCBLK169256-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	QCBLK169256-1	04/06/98	04/06/98	2.7	UG/L	U	10	1
Bromomethane	74-83-9	QCBLK169256-1	04/06/98	04/06/98	2.0	UG/L	U	10	1
Vinyl Chloride	75-01-4	QCBLK169256-1	04/06/98	04/06/98	2.6	UG/L	U	10	1
Chloroethane	75-00-3	QCBLK169256-1	04/06/98	04/06/98	1.9	UG/L	U	10	1
Methylene Chloride	75-09-2	QCBLK169256-1	04/06/98	04/06/98	5	UG/L		5	1
Acetone	67-64-1	QCBLK169256-1	04/06/98	04/06/98	17	UG/L	J	20	1
Carbon Disulfide	75-15-0	QCBLK169256-1	04/06/98	04/06/98	1.3	UG/L	U	5	1
1,1-Dichloroethene	75-35-4	QCBLK169256-1	04/06/98	04/06/98	1.4	UG/L	U	5	1
1,1-Dichloroethane	75-34-3	QCBLK169256-1	04/06/98	04/06/98	1.3	UG/L	U	5	1
Chloroform	67-66-3	QCBLK169256-1	04/06/98	04/06/98	1.7	UG/L	U	5	1
1,2-Dichloroethane	107-06-2	QCBLK169256-1	04/06/98	04/06/98	1.9	UG/L	U	5	1
2-Butanone (MEK)	78-93-3	QCBLK169256-1	04/06/98	04/06/98	2.2	UG/L	U	20	1
Carbon Tetrachloride	56-23-5	QCBLK169256-1	04/06/98	04/06/98	1.2	UG/L	U	5	1
Bromodichloromethane	75-27-4	QCBLK169256-1	04/06/98	04/06/98	1.2	UG/L	U	5	1
1,2-Dichloropropane	78-87-5	QCBLK169256-1	04/06/98	04/06/98	1.3	UG/L	U	5	1
cis-1,3-Dichloropropene	10061-01-5	QCBLK169256-1	04/06/98	04/06/98	1.3	UG/L	U	5	1
Trichloroethene	79-01-6	QCBLK169256-1	04/06/98	04/06/98	1.3	UG/L	U	5	1
1,1,2-Trichloroethane	79-00-5	QCBLK169256-1	04/06/98	04/06/98	1.2	UG/L	U	5	1
Benzene	71-43-2	QCBLK169256-1	04/06/98	04/06/98	1.6	UG/L	U	5	1
trans-1,3-Dichloropropene	10061-02-6	QCBLK169256-1	04/06/98	04/06/98	1.3	UG/L	U	5	1
Bromoform	75-25-2	QCBLK169256-1	04/06/98	04/06/98	0.97	UG/L	U	5	1
4-Methyl-2-Pentanone (MIBK)	108-10-1	QCBLK169256-1	04/06/98	04/06/98	1.6	UG/L	U	20	1
2-Hexanone	591-78-6	QCBLK169256-1	04/06/98	04/06/98	1.7	UG/L	U	20	1
Tetrachloroethene	127-18-4	QCBLK169256-1	04/06/98	04/06/98	2.0	UG/L	U	5	1
Toluene	108-88-3	QCBLK169256-1	04/06/98	04/06/98	1.7	UG/L	U	5	1
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK169256-1	04/06/98	04/06/98	1.0	UG/L	U	5	1
Chlorobenzene	108-90-7	QCBLK169256-1	04/06/98	04/06/98	2.7	UG/L	U	5	1
EthylBenzene	100-41-4	QCBLK169256-1	04/06/98	04/06/98	1.1	UG/L	U	5	1
Styrene	100-42-5	QCBLK169256-1	04/06/98	04/06/98	1.2	UG/L	U	5	1
Xylene (total)	1330-20-7	QCBLK169256-1	04/06/98	04/06/98	1.2	UG/L	U	5	1
Unknown-1	TIC-32	QCBLK169256-1	04/06/98	04/06/98	13	UG/L	J		1
Bromofluorobenzene	460-00-4	QCBLK169256-1	04/06/98	04/06/98	89	%REC			1
Dibromofluoromethane	1868-53-7	QCBLK169256-1	04/06/98	04/06/98	117	%REC			1
Toluene-d8	2037-26-5	QCBLK169256-1	04/06/98	04/06/98	107	%REC			1

Pacific Northwest National Lab
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Richland, WA 99352

Project: 519.145

Category: Volatiles
Method: EPA 8240
Matrix: LIQUID

Client ID: NA

Sample Date : NA
Receipt Date : NA
Report Date : 05/19/98

Quanterra ID : QCLCS169256-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
1,1-Dichloroethene	75-35-4	QCBLK169256-1	04/06/98	04/06/98	132	%REC			1
Trichloroethene	79-01-6	QCBLK169256-1	04/06/98	04/06/98	97	%REC			1
Benzene	71-43-2	QCBLK169256-1	04/06/98	04/06/98	98	%REC			1
Toluene	108-88-3	QCBLK169256-1	04/06/98	04/06/98	95	%REC			1
Chlorobenzene	108-90-7	QCBLK169256-1	04/06/98	04/06/98	97	%REC			1
Bromofluorobenzene	460-00-4	QCBLK169256-1	04/06/98	04/06/98	89	%REC			1
Dibromofluoromethane	1868-53-7	QCBLK169256-1	04/06/98	04/06/98	120	%REC			1
Toluene-d8	2037-26-5	QCBLK169256-1	04/06/98	04/06/98	106	%REC			1

2A
WATER VOLATILE SURROGATE RECOVERY

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

	EPA SAMPLE NO.	S1 (BFB) #	S2 (DFM) #	S3 (DCE) #	OTHER (TOL) #	TOT OUT
01	VBLKG094A	88	114	110	97	0
02	VLCSG094A	91	108	116	102	0
03	BON840 MS	91	113	113	102	0
04	BON840 MSD	87	116	103	94	0
05	BON848	92	108	103	102	0
06	BON852	88	114	107	95	0
07	BON853	95	116	108	108	0
08	BON854	93	116	113	96	0
09	VBLKG095A	86	117	102	101	0
10	VLCSG095A	93	101	100	102	0
11	B0N856	87	108	88	103	0
12	B0N842	87	103	92	100	0
13	B0N844	87	110	93	97	0
14	B0N855	89	108	90	100	0
15	VBLKG096A	89	117	103	107	0
16	VLCSG096A	89	120	106	106	0
17	B0N846	91	120	104	107	0
18	B0N850	91	117	108	113	0
19	BON840	92	119	106	109	0
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

		QC LIMITS
S1 (BFB)	= 4-Bromofluorobenzene	(80-120)
S2 (DFM)	= Dibromofluoromethane	(80-120)
S3 (DCE)	= 1,2-Dichloroethane-d4	(80-120)
OTHER (TOL)	= Toluene-d8	(80-120)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

FORM II VOA-1 1/87 Rev.

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix Spike - EPA Sample No.: BON840

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
1,1-Dichloroethene	50.00	0.0000	50.62	101	1-234
Trichloroethene	50.00	0.0000	47.90	96	71-157
Benzene	50.00	0.0000	42.28	84	37-151
Toluene	50.00	0.0000	44.78	90	47-150
Chlorobenzene	50.00	0.0000	51.87	104	37-160

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	50.00	53.74	107	6	22	1-234
Trichloroethene	50.00	49.09	98	2	24	71-157
Benzene	50.00	42.18	84	0	21	37-151
Toluene	50.00	44.80	90	0	21	47-150
Chlorobenzene	50.00	49.26	98	6	21	37-160

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

COMMENTS: _____

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BON840 MS

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix: (soil/water) WATER Lab Sample ID: 17281-001 MS

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: GSMP0256

Level: (low/med) LOW Date Received: 03/19/98

% Moisture: not dec. _____ Date Analyzed: 04/04/98

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	53	
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	2	JB
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	51	
75-34-3	1,1-Dichloroethane	5	U
67-66-3	Chloroform	52	
107-06-2	1,2-Dichloroethane	59	
78-93-3	2-Butanone	38	
56-23-5	Carbon Tetrachloride	57	
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	48	
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	42	
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-pentanone	20	U
591-78-6	2-Hexanone	20	U
127-18-4	Tetrachloroethene	54	
108-88-3	Toluene	45	
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-90-7	Chlorobenzene	52	
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylenes (total)	5	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BON840 MSD

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix: (soil/water) WATER Lab Sample ID: 17281-001 MSD

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: GSMP0257

Level: (low/med) LOW Date Received: 03/19/98

% Moisture: not dec. _____ Date Analyzed: 04/05/98

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	57	
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	4	JB
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	54	
75-34-3	1,1-Dichloroethane	5	U
67-66-3	Chloroform	54	
107-06-2	1,2-Dichloroethane	52	
78-93-3	2-Butanone	42	
56-23-5	Carbon Tetrachloride	59	
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	49	
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	42	
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-pentanone	20	U
591-78-6	2-Hexanone	20	U
127-18-4	Tetrachloroethene	53	
108-88-3	Toluene	45	
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-90-7	Chlorobenzene	49	
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylenes (total)	5	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BON848

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix: (soil/water) WATER Lab Sample ID: 17281-002

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: GSMP0258

Level: (low/med) LOW Date Received: 03/19/98

% Moisture: not dec. _____ Date Analyzed: 04/05/98

Column: (pack/cap) CAP Dilution Factor: 1.0

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

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BON848

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix: (soil/water) WATER Lab Sample ID: 17281-002

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: GSMP0258

Level: (low/med) LOW Date Received: 03/19/98

% Moisture: not dec. _____ Date Analyzed: 04/05/98

Column: (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 9

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 95-63-6	Benzene, 1,2,4-trimethyl-	22.379	6	NJ
2.	Unknown Alkane	23.389	12	J
3.	Unknown Benzene	23.511	11	J
4.	Unknown Benzene	24.156	16	J
5.	Unknown Benzene	24.400	6	J
6.	Unknown Benzene	24.626	10	J
7.	Unknown	24.713	6	J
8.	Unknown Benzene	24.940	5	J
9.	Unknown Benzene	25.027	7	J
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BON852

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix: (soil/water) WATER Lab Sample ID: 17281-003

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: GSMP0259

Level: (low/med) LOW Date Received: 03/19/98

% Moisture: not dec. _____ Date Analyzed: 04/05/98

Column: (pack/cap) CAP Dilution Factor: 1.0

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

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BON852

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix: (soil/water) WATER Lab Sample ID: 17281-003

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: GSMP0259

Level: (low/med) LOW Date Received: 03/19/98

% Moisture: not dec. _____ Date Analyzed: 04/05/98

Column: (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BON853

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix: (soil/water) WATER Lab Sample ID: 17281-004

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: GSMP0260

Level: (low/med) LOW Date Received: 03/19/98

% Moisture: not dec. _____ Date Analyzed: 04/05/98

Column: (pack/cap) CAP Dilution Factor: 1.0

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

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BON853

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix: (soil/water) WATER Lab Sample ID: 17281-004

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: GSMP0260

Level: (low/med) LOW Date Received: 03/19/98

% Moisture: not dec. _____ Date Analyzed: 04/05/98

Column: (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BON854

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix: (soil/water) WATER Lab Sample ID: 17281-005

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: GSMP0261

Level: (low/med) LOW Date Received: 03/19/98

% Moisture: not dec. _____ Date Analyzed: 04/05/98

Column: (pack/cap) CAP Dilution Factor: 1.0

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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BON854

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix: (soil/water) WATER Lab Sample ID: 17281-005

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: GSMP0261

Level: (low/med) LOW Date Received: 03/19/98

% Moisture: not dec. _____ Date Analyzed: 04/05/98

Column: (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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4A
VOLATILE METHOD BLANK SUMMARY

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Lab File ID: GBLK0250 Lab Sample ID: QCBLK169193

Date Analyzed: 04/04/98 Time Analyzed: 1933

Matrix: (soil/water) WATER Level:(low/med) LOW

Instrument ID: MSG

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	VLCSG094A	QCLCS169193	GLCS0251	2009
02	BON840 MS	17281-001 MS	GSMP0256	2341
03	BON840 MSD	17281-001 MSD	GSMP0257	0013
04	BON848	17281-002	GSMP0258	0046
05	BON852	17281-003	GSMP0259	0118
06	BON853	17281-004	GSMP0260	0150
07	BON854	17281-005	GSMP0261	0323
08				
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COMMENTS:

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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKG094A

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix: (soil/water) WATER Lab Sample ID: QCBLK169193

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: GBLK0250

Level: (low/med) LOW Date Received:

% Moisture: not dec. _____ Date Analyzed: 04/04/98

Column: (pack/cap) CAP Dilution Factor: 1.0

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

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLKG094A

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix: (soil/water) WATER Lab Sample ID: QCBLK169193

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: GBLK0250

Level: (low/med) LOW Date Received:

% Moisture: not dec. _____ Date Analyzed: 04/04/98

Column: (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Unknown	2.640	10	J
2. 87-61-6	Benzene, 1,2,3-trichloro-	25.964	6	NJ
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9A
VOLATILE SPIKE RECOVERY

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

EPA Sample No.: VLCSG094A

SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
10 1,1-Dichloroethene	50.00	53.48	106.96	1-234
42 Trichloroethene	50.00	47.32	94.64	71-157
38 Benzene	50.00	42.94	85.88	37-151
52 Toluene	50.00	46.79	93.58	47-150
62 Chlorobenzene	50.00	54.38	108.76	37-160

SURROGATE COMPOUND	AMOUNT ADDED ug/L	AMOUNT RECOVERED ug/L	% RECOVERED	LIMITS
$ 31 Dibromofluorometha	50.00	54.18	108.36	80-120
$ 37 1,2-Dichloroethane	50.00	57.77	115.54	80-120
$ 51 Toluene-d8	50.00	51.11	102.22	80-120
$ 73 4-Bromofluorobenze	50.00	45.37	90.74	80-120

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1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0N846

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix (soil/water): WATER Lab Sample ID: 17310-001

Level (low/med): LOW Date Received: 03/23/98

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic	2.3	B		F
7440-39-3	Barium	84.7			P
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium	107			P
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead	1.1	U		P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium	4.9	B		F
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-62-2	Vanadium	28.4			P
7440-66-6	Zinc	4.8	B		P
7440-24-6	Strontium				NR
7440-31-5	Tin	4.9	U		P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

FORM I - IN

SW-846

U.S. EPA - CLP

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0N847

Lab Name: QUANTERRA_MO Contract: 519.145
Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288
Matrix (soil/water): WATER Lab Sample ID: 17281-007
Level (low/med): LOW Date Received: 03/19/98
% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic	1.1	U		F
7440-39-3	Barium	79.0			P
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium	4.1	B		P
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead	2.4	B		P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium	4.2	B		F
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-62-2	Vanadium	23.0			P
7440-66-6	Zinc	386			P
7440-24-6	Strontium				NR
7440-31-5	Tin	4.9	U		P

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

Comments:

FORM I - IN

SW-846

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0N856

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix: (soil/water) WATER Lab Sample ID: 17310-003

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: GSMP0278

Level: (low/med) LOW Date Received: 03/23/98

% Moisture: not dec. _____ Date Analyzed: 04/05/98

Column: (pack/cap) CAP Dilution Factor: 1.0

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

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B0N856

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix: (soil/water) WATER Lab Sample ID: 17310-003

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: GSMP0278

Level: (low/med) LOW Date Received: 03/23/98

% Moisture: not dec. _____ Date Analyzed: 04/05/98

Column: (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 1

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		Unknown	2.674	13	JB
2.					
3.					
4.					
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0N842

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix: (soil/water) WATER Lab Sample ID: 17312-001

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: GSMP0279

Level: (low/med) LOW Date Received: 03/24/98

% Moisture: not dec. _____ Date Analyzed: 04/05/98

Column: (pack/cap) CAP Dilution Factor: 1.0

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

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B0N842

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix: (soil/water) WATER Lab Sample ID: 17312-001

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: GSMP0279

Level: (low/med) LOW Date Received: 03/24/98

% Moisture: not dec. _____ Date Analyzed: 04/05/98

Column: (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Unknown	2.745	15	JB
2.				
3.				
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0N844

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix: (soil/water) WATER Lab Sample ID: 17312-002

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: GSMP0280

Level: (low/med) LOW Date Received: 03/24/98

% Moisture: not dec. _____ Date Analyzed: 04/05/98

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	8	JB
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
67-66-3	Chloroform	1	J
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	20	U
56-23-5	Carbon Tetrachloride	5	J
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-pentanone	20	U
591-78-6	2-Hexanone	20	U
127-18-4	Tetrachloroethene	5	U
108-88-3	Toluene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylenes (total)	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B0N844

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix: (soil/water) WATER Lab Sample ID: 17312-002

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: GSMP0280

Level: (low/med) LOW Date Received: 03/24/98

% Moisture: not dec. _____ Date Analyzed: 04/05/98

Column: (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Unknown	2.725	15	JB
2.	Unknown	26.607	11	J
3.				
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0N855

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix: (soil/water) WATER Lab Sample ID: 17312-003

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: GSMP0281

Level: (low/med) LOW Date Received: 03/24/98

% Moisture: not dec. _____ Date Analyzed: 04/05/98

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	23	
67-64-1	Acetone	8	JB
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	20	U
56-23-5	Carbon Tetrachloride	5	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-pentanone	20	U
591-78-6	2-Hexanone	20	U
127-18-4	Tetrachloroethene	5	U
108-88-3	Toluene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylenes (total)	5	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B0N855

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix: (soil/water) WATER Lab Sample ID: 17312-003

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: GSMP0281

Level: (low/med) LOW Date Received: 03/24/98

% Moisture: not dec. _____ Date Analyzed: 04/05/98

Column: (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Unknown	2.709	15	JB
2.	Unknown	26.799	9	JB
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4A
VOLATILE METHOD BLANK SUMMARY

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Lab File ID: GBLK0273 Lab Sample ID: QCBLK169192

Date Analyzed: 04/05/98 Time Analyzed: 1355

Matrix: (soil/water) WATER Level: (low/med) LOW

Instrument ID: MSG

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	VLCSG095A	QCLCS169192	GLCS0274	1428
02	B0N856	17310-003	GSMP0278	1638
03	B0N842	17312-001	GSMP0279	1710
04	B0N844	17312-002	GSMP0280	1742
05	B0N855	17312-003	GSMP0281	1815
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COMMENTS:

FORM IV VOA 1/87 Rev.

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKG095A

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix: (soil/water) WATER Lab Sample ID: QCBLK169192

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: GBLK0273

Level: (low/med) LOW Date Received:

% Moisture: not dec. _____ Date Analyzed: 04/05/98

Column: (pack/cap) CAP Dilution Factor: 1.0

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

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLKG095A

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix: (soil/water) WATER Lab Sample ID: QCBLK169192

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: GBLK0273

Level: (low/med) LOW Date Received:

% Moisture: not dec. _____ Date Analyzed: 04/05/98

Column: (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Unknown	2.709	13	J
2.	Unknown	26.765	5	J
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4.				
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9A
VOLATILE SPIKE RECOVERY

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

EPA Sample No.: VLCSG095A

SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
10 1,1-Dichloroethene	50.00	52.35	104.70	1-234
42 Trichloroethene	50.00	46.70	93.40	71-157
38 Benzene	50.00	47.28	94.56	37-151
52 Toluene	50.00	49.67	99.34	47-150
62 Chlorobenzene	50.00	54.56	109.12	37-160

SURROGATE COMPOUND	AMOUNT ADDED ug/L	AMOUNT RECOVERED ug/L	% RECOVERED	LIMITS
$ 31 Dibromofluorometha	50.00	50.42	100.84	80-120
$ 37 1,2-Dichloroethane	50.00	50.24	100.48	80-120
$ 51 Toluene-d8	50.00	51.12	102.24	80-120
$ 73 4-Bromofluorobenze	50.00	46.44	92.88	80-120

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VLCSG095A

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix: (soil/water) WATER Lab Sample ID: QCLCS169192

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: GLCS0274

Level: (low/med) LOW Date Received:

% Moisture: not dec. _____ Date Analyzed: 04/05/98

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	33	
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	1	J
67-64-1	Acetone	5	JB
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	52	
75-34-3	1,1-Dichloroethane	5	U
67-66-3	Chloroform	50	
107-06-2	1,2-Dichloroethane	54	
78-93-3	2-Butanone	58	
56-23-5	Carbon Tetrachloride	50	
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	47	
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	47	
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-pentanone	20	U
591-78-6	2-Hexanone	20	U
127-18-4	Tetrachloroethene	50	
108-88-3	Toluene	50	
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-90-7	Chlorobenzene	54	
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylenes (total)	5	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0N846

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix: (soil/water) WATER Lab Sample ID: 17310-001

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: GSMP0290

Level: (low/med) LOW Date Received: 03/23/98

% Moisture: not dec. _____ Date Analyzed: 04/06/98

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	11	B
67-64-1	Acetone	7	JB
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
67-66-3	Chloroform	1	J
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	20	U
56-23-5	Carbon Tetrachloride	6	
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-pentanone	20	U
591-78-6	2-Hexanone	20	U
127-18-4	Tetrachloroethene	5	U
108-88-3	Toluene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylenes (total)	5	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B0N846

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix: (soil/water) WATER Lab Sample ID: 17310-001

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: GSMP0290

Level: (low/med) LOW Date Received: 03/23/98

% Moisture: not dec. _____ Date Analyzed: 04/06/98

Column: (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Unknown	2.641	13	JB
2.	Unknown	26.279	8	J
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0N850

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix: (soil/water) WATER Lab Sample ID: 17310-002

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: GSMP0291

Level: (low/med) LOW Date Received: 03/23/98

% Moisture: not dec. _____ Date Analyzed: 04/06/98

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	B
67-64-1	Acetone	8	JB
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	20	U
56-23-5	Carbon Tetrachloride	5	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-pentanone	20	U
591-78-6	2-Hexanone	20	U
127-18-4	Tetrachloroethene	5	U
108-88-3	Toluene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylenes (total)	5	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B0N850

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix: (soil/water) WATER Lab Sample ID: 17310-002

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: GSMP0291

Level: (low/med) LOW Date Received: 03/23/98

% Moisture: not dec. _____ Date Analyzed: 04/06/98

Column: (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Unknown	2.725	14	JB
2.	Unknown	26.589	6	J
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BON840

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix: (soil/water) WATER Lab Sample ID: 17281-001

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: GSMP0292

Level: (low/med) LOW Date Received: 03/19/98

% Moisture: not dec. _____ Date Analyzed: 04/06/98

Column: (pack/cap) CAP Dilution Factor: 1.0

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

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B0N840

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix: (soil/water) WATER Lab Sample ID: 17281-001

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: GSMP0292

Level: (low/med) LOW Date Received: 03/19/98

% Moisture: not dec. _____ Date Analyzed: 04/06/98

Column: (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Unknown	2.674	14	JB
2.	Unknown	26.538	9	J
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4A
VOLATILE METHOD BLANK SUMMARY

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Lab File ID: GBLK0288 Lab Sample ID: QCBLK169256

Date Analyzed: 04/06/98 Time Analyzed: 1012

Matrix: (soil/water) WATER Level: (low/med) LOW

Instrument ID: MSG

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	VLCSG096A	QCLCS169256	GLCS0289	1115
02	B0N846	17310-001	GSMP0290	1148
03	B0N850	17310-002	GSMP0291	1220
04	BON840	17281-001	GSMP0292	1310
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COMMENTS:

FORM IV VOA 1/87 Rev.

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKG096A

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix: (soil/water) WATER Lab Sample ID: QCBLK169256

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: GBLK0288

Level: (low/med) LOW Date Received:

% Moisture: not dec. _____ Date Analyzed: 04/06/98

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	
67-64-1	Acetone	17	J
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	20	U
56-23-5	Carbon Tetrachloride	5	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-pentanone	20	U
591-78-6	2-Hexanone	20	U
127-18-4	Tetrachloroethene	5	U
108-88-3	Toluene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylenes (total)	5	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLKG096A

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix: (soil/water) WATER Lab Sample ID: QCBLK169256

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: GBLK0288

Level: (low/med) LOW Date Received:

% Moisture: not dec. _____ Date Analyzed: 04/06/98

Column: (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Unknown	2.645	13	J
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9A
VOLATILE SPIKE RECOVERY

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

EPA Sample No.: VLCSG096A

SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
10 1,1-Dichloroethene	50.00	66.11	132.22	1-234
42 Trichloroethene	50.00	48.34	96.68	71-157
38 Benzene	50.00	49.13	98.26	37-151
52 Toluene	50.00	47.36	94.72	47-150
62 Chlorobenzene	50.00	48.52	97.04	37-160

SURROGATE COMPOUND	AMOUNT ADDED ug/L	AMOUNT RECOVERED ug/L	% RECOVERED	LIMITS
$ 31 Dibromofluorometha	50.00	60.29	120.58*	80-120
$ 37 1,2-Dichloroethane	50.00	53.19	106.38	80-120
$ 51 Toluene-d8	50.00	53.23	106.46	80-120
$ 73 4-Bromofluorobenze	50.00	44.48	88.96	80-120

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VLCSG096A

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix: (soil/water) WATER Lab Sample ID: QCLCS169256

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: GLCS0289

Level: (low/med) LOW Date Received:

% Moisture: not dec. _____ Date Analyzed: 04/06/98

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	64	
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	8	B
67-64-1	Acetone	18	JB
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	66	
75-34-3	1,1-Dichloroethane	5	U
67-66-3	Chloroform	52	
107-06-2	1,2-Dichloroethane	48	
78-93-3	2-Butanone	68	
56-23-5	Carbon Tetrachloride	51	
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	48	
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	49	
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-pentanone	20	U
591-78-6	2-Hexanone	20	U
127-18-4	Tetrachloroethene	48	
108-88-3	Toluene	47	
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-90-7	Chlorobenzene	48	
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylenes (total)	5	U

VOLATILE ORGANICS
8260

Pacific Northwest National Lab
P.O. Box 1970
Richland, WA 99352

Project: 519.145

Category: Volatiles 8260-Appendix IX
Method: EPA 8260
Matrix: LIQUID

Client ID: BON470

Sample Date : 03/24/98
Receipt Date : 03/24/98
Report Date : 05/19/98

Quanterra ID : 17311-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Vinyl Chloride	75-01-4	QCBLK169448-1	04/08/98	04/08/98	0.68	UG/L	U	5	1
Methylene Chloride	75-09-2	QCBLK169448-1	04/08/98	04/08/98	0.3	UG/L	BJ	5	1
Acetone	67-64-1	QCBLK169448-1	04/08/98	04/08/98	1.9	UG/L	U	10	1
Carbon Disulfide	75-15-0	QCBLK169448-1	04/08/98	04/08/98	0.15	UG/L	U	5	1
1,1-Dichloroethane	75-34-3	QCBLK169448-1	04/08/98	04/08/98	0.20	UG/L	U	5	1
Chloroform	67-66-3	QCBLK169448-1	04/08/98	04/08/98	1	UG/L	J	5	1
1,2-Dichloroethane	107-06-2	QCBLK169448-1	04/08/98	04/08/98	0.14	UG/L	U	5	1
2-Butanone (MEK)	78-93-3	QCBLK169448-1	04/08/98	04/08/98	0.42	UG/L	U	10	1
1,1,1-Trichloroethane	71-55-6	QCBLK169448-1	04/08/98	04/08/98	0.18	UG/L	U	5	1
Carbon Tetrachloride	56-23-5	QCBLK169448-1	04/08/98	04/08/98	0.14	UG/L	U	5	1
Trichloroethene	79-01-6	QCBLK169448-1	04/08/98	04/08/98	0.3	UG/L	J	5	1
1,1,2-Trichloroethane	79-00-5	QCBLK169448-1	04/08/98	04/08/98	0.10	UG/L	U	5	1
Benzene	71-43-2	QCBLK169448-1	04/08/98	04/08/98	0.17	UG/L	U	5	1
4-Methyl-2-Pentanone (MIBK)	108-10-1	QCBLK169448-1	04/08/98	04/08/98	0.20	UG/L	U	10	1
Tetrachloroethene	127-18-4	QCBLK169448-1	04/08/98	04/08/98	0.18	UG/L	U	5	1
Toluene	108-88-3	QCBLK169448-1	04/08/98	04/08/98	0.16	UG/L	U	5	1
Xylene (total)	1330-20-7	QCBLK169448-1	04/08/98	04/08/98	0.14	UG/L	U	5	1
Propionitrile	107-12-0	QCBLK169448-1	04/08/98	04/08/98	0.96	UG/L	U	10	1
cis-1,2-Dichloroethene	156-59-2	QCBLK169448-1	04/08/98	04/08/98	0.10	UG/L	U	5	1
trans-1,2-Dichloroethene	156-60-5	QCBLK169448-1	04/08/98	04/08/98	0.13	UG/L	U	5	1
1-Butanol	71-36-3	QCBLK169448-1	04/08/98	04/08/98	2.5	UG/L	U	100	1
1,4-Dichlorobenzene	106-46-7	QCBLK169448-1	04/08/98	04/08/98	0.18	UG/L	U	5	1
Bromofluorobenzene	460-00-4	QCBLK169448-1	04/08/98	04/08/98	93	%REC			1
Dibromofluoromethane	1868-53-7	QCBLK169448-1	04/08/98	04/08/98	117	%REC			1
Toluene-d8	2037-26-5	QCBLK169448-1	04/08/98	04/08/98	93	%REC			1

Pacific Northwest National Lab
P.O. Box 1970
Richland, WA 99352

Project: 519.145

Category: Volatiles 8260-Appendix IX
Method: EPA 8260
Matrix: LIQUID

Client ID: BON472

Sample Date : 03/25/98
Receipt Date : 03/25/98
Report Date : 05/19/98

Quanterra ID : 17323-002

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Vinyl Chloride	75-01-4	QCBLK169448-1	04/08/98	04/08/98	0.68	UG/L	U	5	1
Methylene Chloride	75-09-2	QCBLK169448-1	04/08/98	04/08/98	3	UG/L	BJ	5	1
Acetone	67-64-1	QCBLK169448-1	04/08/98	04/08/98	1.9	UG/L	U	10	1
Carbon Disulfide	75-15-0	QCBLK169448-1	04/08/98	04/08/98	0.15	UG/L	U	5	1
1,1-Dichloroethane	75-34-3	QCBLK169448-1	04/08/98	04/08/98	0.20	UG/L	U	5	1
Chloroform	67-66-3	QCBLK169448-1	04/08/98	04/08/98	2	UG/L	J	5	1
1,2-Dichloroethane	107-06-2	QCBLK169448-1	04/08/98	04/08/98	0.14	UG/L	U	5	1
2-Butanone (MEK)	78-93-3	QCBLK169448-1	04/08/98	04/08/98	0.42	UG/L	U	10	1
1,1,1-Trichloroethane	71-55-6	QCBLK169448-1	04/08/98	04/08/98	0.18	UG/L	U	5	1
Carbon Tetrachloride	56-23-5	QCBLK169448-1	04/08/98	04/08/98	1	UG/L	J	5	1
Trichloroethene	79-01-6	QCBLK169448-1	04/08/98	04/08/98	0.40	UG/L	U	5	1
1,1,2-Trichloroethane	79-00-5	QCBLK169448-1	04/08/98	04/08/98	0.10	UG/L	U	5	1
Benzene	71-43-2	QCBLK169448-1	04/08/98	04/08/98	0.17	UG/L	U	5	1
4-Methyl-2-Pentanone (MIBK)	108-10-1	QCBLK169448-1	04/08/98	04/08/98	0.20	UG/L	U	10	1
Tetrachloroethene	127-18-4	QCBLK169448-1	04/08/98	04/08/98	0.18	UG/L	U	5	1
Toluene	108-88-3	QCBLK169448-1	04/08/98	04/08/98	0.16	UG/L	U	5	1
Xylene (total)	1330-20-7	QCBLK169448-1	04/08/98	04/08/98	0.14	UG/L	U	5	1
Propionitrile	107-12-0	QCBLK169448-1	04/08/98	04/08/98	0.96	UG/L	U	10	1
cis-1,2-Dichloroethene	156-59-2	QCBLK169448-1	04/08/98	04/08/98	0.10	UG/L	U	5	1
trans-1,2-Dichloroethene	156-60-5	QCBLK169448-1	04/08/98	04/08/98	0.13	UG/L	U	5	1
1-Butanol	71-36-3	QCBLK169448-1	04/08/98	04/08/98	2.5	UG/L	U	100	1
1,4-Dichlorobenzene	106-46-7	QCBLK169448-1	04/08/98	04/08/98	0.18	UG/L	U	5	1
Bromofluorobenzene	460-00-4	QCBLK169448-1	04/08/98	04/08/98	107	%REC			1
Dibromofluoromethane	1868-53-7	QCBLK169448-1	04/08/98	04/08/98	108	%REC			1
Toluene-d8	2037-26-5	QCBLK169448-1	04/08/98	04/08/98	99	%REC			1

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Project: 519.145

Category: Volatiles 8260-Appendix IX
Method: EPA 8260
Matrix: LIQUID

Client ID: BON472

Sample Date : 03/25/98
Receipt Date : 03/25/98
Report Date : 05/19/98

Quanterra ID : 17323-002MS

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
1,1-Dichloroethene	75-35-4	QCBLK169448-1	04/08/98	04/08/98	91	%REC			1
Trichloroethene	79-01-6	QCBLK169448-1	04/08/98	04/08/98	80	%REC			1
Benzene	71-43-2	QCBLK169448-1	04/08/98	04/08/98	87	%REC			1
Toluene	108-88-3	QCBLK169448-1	04/08/98	04/08/98	84	%REC			1
Chlorobenzene	108-90-7	QCBLK169448-1	04/08/98	04/08/98	92	%REC			1
Bromofluorobenzene	460-00-4	QCBLK169448-1	04/08/98	04/08/98	93	%REC			1
Dibromofluoromethane	1868-53-7	QCBLK169448-1	04/08/98	04/08/98	101	%REC			1
Toluene-d8	2037-26-5	QCBLK169448-1	04/08/98	04/08/98	98	%REC			1

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Project: 519.145

Category: Volatiles 8260-Appendix IX
Method: EPA 8260
Matrix: LIQUID

Client ID: BON472

Sample Date : 03/25/98
Receipt Date : 03/25/98
Report Date : 05/19/98

Quanterra ID : 17323-002MSD

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
1,1-Dichloroethene	75-35-4	QCBLK169448-1	04/08/98	04/08/98	93	%REC			1
Trichloroethene	79-01-6	QCBLK169448-1	04/08/98	04/08/98	89	%REC			1
Benzene	71-43-2	QCBLK169448-1	04/08/98	04/08/98	91	%REC			1
Toluene	108-88-3	QCBLK169448-1	04/08/98	04/08/98	81	%REC			1
Chlorobenzene	108-90-7	QCBLK169448-1	04/08/98	04/08/98	86	%REC			1
Bromofluorobenzene	460-00-4	QCBLK169448-1	04/08/98	04/08/98	99	%REC			1
Dibromofluoromethane	1868-53-7	QCBLK169448-1	04/08/98	04/08/98	105	%REC			1
Toluene-d8	2037-26-5	QCBLK169448-1	04/08/98	04/08/98	90	%REC			1

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Category: Volatiles 8260-Appendix IX
Method: EPA 8260
Matrix: LIQUID

Client ID: BON449

Sample Date : 03/25/98
Receipt Date : 03/25/98
Report Date : 05/19/98

Quanterra ID : 17323-003

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Vinyl Chloride	75-01-4	QCBLK169448-1	04/08/98	04/08/98	3.4	UG/L	UD	25	5
Methylene Chloride	75-09-2	QCBLK169448-1	04/08/98	04/08/98	40	UG/L	BD	25	5
Acetone	67-64-1	QCBLK169448-1	04/08/98	04/08/98	68	UG/L	D	50	5
Carbon Disulfide	75-15-0	QCBLK169448-1	04/08/98	04/08/98	0.74	UG/L	UD	25	5
1,1-Dichloroethane	75-34-3	QCBLK169448-1	04/08/98	04/08/98	1.0	UG/L	UD	25	5
Chloroform	67-66-3	QCBLK169448-1	04/08/98	04/08/98	6	UG/L	DJ	25	5
1,2-Dichloroethane	107-06-2	QCBLK169448-1	04/08/98	04/08/98	0.72	UG/L	UD	25	5
2-Butanone (MEK)	78-93-3	QCBLK169448-1	04/08/98	04/08/98	2.1	UG/L	UD	50	5
1,1,1-Trichloroethane	71-55-6	QCBLK169448-1	04/08/98	04/08/98	0.89	UG/L	UD	25	5
Carbon Tetrachloride	56-23-5	QCBLK169448-1	04/08/98	04/08/98	58	UG/L	D	25	5
Trichloroethene	79-01-6	QCBLK169448-1	04/08/98	04/08/98	2.0	UG/L	UD	25	5
1,1,2-Trichloroethane	79-00-5	QCBLK169448-1	04/08/98	04/08/98	0.50	UG/L	UD	25	5
Benzene	71-43-2	QCBLK169448-1	04/08/98	04/08/98	0.84	UG/L	UD	25	5
4-Methyl-2-Pentanone (MIBK)	108-10-1	QCBLK169448-1	04/08/98	04/08/98	1.0	UG/L	UD	50	5
Tetrachloroethene	127-18-4	QCBLK169448-1	04/08/98	04/08/98	0.92	UG/L	UD	25	5
Toluene	108-88-3	QCBLK169448-1	04/08/98	04/08/98	0.79	UG/L	UD	25	5
Xylene (total)	1330-20-7	QCBLK169448-1	04/08/98	04/08/98	0.71	UG/L	UD	25	5
Propionitrile	107-12-0	QCBLK169448-1	04/08/98	04/08/98	4.8	UG/L	UD	50	5
cis-1,2-Dichloroethene	156-59-2	QCBLK169448-1	04/08/98	04/08/98	0.51	UG/L	UD	25	5
trans-1,2-Dichloroethene	156-60-5	QCBLK169448-1	04/08/98	04/08/98	0.63	UG/L	UD	25	5
1-Butanol	71-36-3	QCBLK169448-1	04/08/98	04/08/98	13	UG/L	UD	500	5
1,4-Dichlorobenzene	106-46-7	QCBLK169448-1	04/08/98	04/08/98	2	UG/L	BDJ	25	5
Unknown-1	TIC-32	QCBLK169448-1	04/08/98	04/08/98	5	UG/L	DJ		5
2 (1H)-Naphthalenone, octahyd	1197-95-1	QCBLK169448-1	04/08/98	04/08/98	7	UG/L	DJN		5
Bromofluorobenzene	460-00-4	QCBLK169448-1	04/08/98	04/08/98	94	%REC			5
Dibromofluoromethane	1868-53-7	QCBLK169448-1	04/08/98	04/08/98	100	%REC			5
Toluene-d8	2037-26-5	QCBLK169448-1	04/08/98	04/08/98	100	%REC			5

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Category: Volatiles 8260-Appendix IX
Method: EPA 8260
Matrix: LIQUID

Client ID: BON489

Sample Date : 03/25/98
Receipt Date : 03/25/98
Report Date : 05/19/98

Quanterra ID : 17323-004

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Vinyl Chloride	75-01-4	QCBLK169448-1	04/08/98	04/08/98	0.68	UG/L	U	5	1
Methylene Chloride	75-09-2	QCBLK169448-1	04/08/98	04/08/98	2	UG/L	BJ	5	1
Acetone	67-64-1	QCBLK169448-1	04/08/98	04/08/98	1.9	UG/L	U	10	1
Carbon Disulfide	75-15-0	QCBLK169448-1	04/08/98	04/08/98	0.15	UG/L	U	5	1
1,1-Dichloroethane	75-34-3	QCBLK169448-1	04/08/98	04/08/98	0.20	UG/L	U	5	1
Chloroform	67-66-3	QCBLK169448-1	04/08/98	04/08/98	4	UG/L	J	5	1
1,2-Dichloroethane	107-06-2	QCBLK169448-1	04/08/98	04/08/98	0.14	UG/L	U	5	1
2-Butanone (MEK)	78-93-3	QCBLK169448-1	04/08/98	04/08/98	0.42	UG/L	U	10	1
1,1,1-Trichloroethane	71-55-6	QCBLK169448-1	04/08/98	04/08/98	0.18	UG/L	U	5	1
Carbon Tetrachloride	56-23-5	QCBLK169448-1	04/08/98	04/08/98	33	UG/L		5	1
Trichloroethene	79-01-6	QCBLK169448-1	04/08/98	04/08/98	2	UG/L	J	5	1
1,1,2-Trichloroethane	79-00-5	QCBLK169448-1	04/08/98	04/08/98	0.10	UG/L	U	5	1
Benzene	71-43-2	QCBLK169448-1	04/08/98	04/08/98	0.17	UG/L	U	5	1
4-Methyl-2-Pentanone (MIBK)	108-10-1	QCBLK169448-1	04/08/98	04/08/98	0.20	UG/L	U	10	1
Tetrachloroethene	127-18-4	QCBLK169448-1	04/08/98	04/08/98	0.18	UG/L	U	5	1
Toluene	108-88-3	QCBLK169448-1	04/08/98	04/08/98	0.16	UG/L	U	5	1
Xylene (total)	1330-20-7	QCBLK169448-1	04/08/98	04/08/98	0.14	UG/L	U	5	1
Propionitrile	107-12-0	QCBLK169448-1	04/08/98	04/08/98	0.96	UG/L	U	10	1
cis-1,2-Dichloroethene	156-59-2	QCBLK169448-1	04/08/98	04/08/98	0.10	UG/L	U	5	1
trans-1,2-Dichloroethene	156-60-5	QCBLK169448-1	04/08/98	04/08/98	0.13	UG/L	U	5	1
1-Butanol	71-36-3	QCBLK169448-1	04/08/98	04/08/98	2.5	UG/L	U	100	1
1,4-Dichlorobenzene	106-46-7	QCBLK169448-1	04/08/98	04/08/98	0.18	UG/L	U	5	1
Unknown-1	TIC-32	QCBLK169448-1	04/08/98	04/08/98	1	UG/L	J		1
Unknown-2	TIC-33	QCBLK169448-1	04/08/98	04/08/98	2	UG/L	J		1
Unknown-3	TIC-34	QCBLK169448-1	04/08/98	04/08/98	5	UG/L	J		1
Bromofluorobenzene	460-00-4	QCBLK169448-1	04/08/98	04/08/98	96	%REC			1
Dibromofluoromethane	1868-53-7	QCBLK169448-1	04/08/98	04/08/98	102	%REC			1
Toluene-d8	2037-26-5	QCBLK169448-1	04/08/98	04/08/98	100	%REC			1

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Category: Volatiles 8260-Appendix IX
Method: EPA 8260
Matrix: LIQUID

Client ID: BON679

Sample Date : 03/25/98
Receipt Date : 03/25/98
Report Date : 05/19/98

Quanterra ID : 17323-006

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Vinyl Chloride	75-01-4	QCBLK169448-1	04/08/98	04/08/98	0.68	UG/L	U	5	1
Methylene Chloride	75-09-2	QCBLK169448-1	04/08/98	04/08/98	4	UG/L	BJ	5	1
Acetone	67-64-1	QCBLK169448-1	04/08/98	04/08/98	1.9	UG/L	U	10	1
Carbon Disulfide	75-15-0	QCBLK169448-1	04/08/98	04/08/98	0.15	UG/L	U	5	1
1,1-Dichloroethane	75-34-3	QCBLK169448-1	04/08/98	04/08/98	0.20	UG/L	U	5	1
Chloroform	67-66-3	QCBLK169448-1	04/08/98	04/08/98	1	UG/L	J	5	1
1,2-Dichloroethane	107-06-2	QCBLK169448-1	04/08/98	04/08/98	0.14	UG/L	U	5	1
2-Butanone (MEK)	78-93-3	QCBLK169448-1	04/08/98	04/08/98	0.42	UG/L	U	10	1
1,1,1-Trichloroethane	71-55-6	QCBLK169448-1	04/08/98	04/08/98	0.18	UG/L	U	5	1
Carbon Tetrachloride	56-23-5	QCBLK169448-1	04/08/98	04/08/98	0.14	UG/L	U	5	1
Trichloroethene	79-01-6	QCBLK169448-1	04/08/98	04/08/98	0.40	UG/L	U	5	1
1,1,2-Trichloroethane	79-00-5	QCBLK169448-1	04/08/98	04/08/98	0.10	UG/L	U	5	1
Benzene	71-43-2	QCBLK169448-1	04/08/98	04/08/98	0.17	UG/L	U	5	1
4-Methyl-2-Pentanone (MIBK)	108-10-1	QCBLK169448-1	04/08/98	04/08/98	0.20	UG/L	U	10	1
Tetrachloroethene	127-18-4	QCBLK169448-1	04/08/98	04/08/98	0.18	UG/L	U	5	1
Toluene	108-88-3	QCBLK169448-1	04/08/98	04/08/98	0.16	UG/L	U	5	1
Xylene (total)	1330-20-7	QCBLK169448-1	04/08/98	04/08/98	0.14	UG/L	U	5	1
Propionitrile	107-12-0	QCBLK169448-1	04/08/98	04/08/98	0.96	UG/L	U	10	1
cis-1,2-Dichloroethene	156-59-2	QCBLK169448-1	04/08/98	04/08/98	0.10	UG/L	U	5	1
trans-1,2-Dichloroethene	156-60-5	QCBLK169448-1	04/08/98	04/08/98	0.13	UG/L	U	5	1
1-Butanol	71-36-3	QCBLK169448-1	04/08/98	04/08/98	2.5	UG/L	U	100	1
1,4-Dichlorobenzene	106-46-7	QCBLK169448-1	04/08/98	04/08/98	0.18	UG/L	U	5	1
Unknown-1	TIC-32	QCBLK169448-1	04/08/98	04/08/98	2	UG/L	J		1
Unknown-2	TIC-33	QCBLK169448-1	04/08/98	04/08/98	2	UG/L	BJ		1
Unknown-3	TIC-34	QCBLK169448-1	04/08/98	04/08/98	2	UG/L	J		1
Bromofluorobenzene	460-00-4	QCBLK169448-1	04/08/98	04/08/98	102	%REC			1
Dibromofluoromethane	1868-53-7	QCBLK169448-1	04/08/98	04/08/98	109	%REC			1
Toluene-d8	2037-26-5	QCBLK169448-1	04/08/98	04/08/98	96	%REC			1

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Category: Volatiles 8260-Appendix IX
Method: EPA 8260
Matrix: LIQUID

Client ID: BON678

Sample Date : 03/25/98
Receipt Date : 03/25/98
Report Date : 05/19/98

Quanterra ID : 17323-007

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Vinyl Chloride	75-01-4	QCBLK169448-1	04/08/98	04/08/98	0.68	UG/L	U	5	1
Methylene Chloride	75-09-2	QCBLK169448-1	04/08/98	04/08/98	5	UG/L	B	5	1
Acetone	67-64-1	QCBLK169448-1	04/08/98	04/08/98	1.9	UG/L	U	10	1
Carbon Disulfide	75-15-0	QCBLK169448-1	04/08/98	04/08/98	0.15	UG/L	U	5	1
1,1-Dichloroethane	75-34-3	QCBLK169448-1	04/08/98	04/08/98	0.20	UG/L	U	5	1
Chloroform	67-66-3	QCBLK169448-1	04/08/98	04/08/98	0.6	UG/L	J	5	1
1,2-Dichloroethane	107-06-2	QCBLK169448-1	04/08/98	04/08/98	0.14	UG/L	U	5	1
2-Butanone (MEK)	78-93-3	QCBLK169448-1	04/08/98	04/08/98	0.42	UG/L	U	10	1
1,1,1-Trichloroethane	71-55-6	QCBLK169448-1	04/08/98	04/08/98	0.18	UG/L	U	5	1
Carbon Tetrachloride	56-23-5	QCBLK169448-1	04/08/98	04/08/98	0.14	UG/L	U	5	1
Trichloroethene	79-01-6	QCBLK169448-1	04/08/98	04/08/98	0.40	UG/L	U	5	1
1,1,2-Trichloroethane	79-00-5	QCBLK169448-1	04/08/98	04/08/98	0.10	UG/L	U	5	1
Benzene	71-43-2	QCBLK169448-1	04/08/98	04/08/98	0.17	UG/L	U	5	1
4-Methyl-2-Pentanone (MIBK)	108-10-1	QCBLK169448-1	04/08/98	04/08/98	0.20	UG/L	U	10	1
Tetrachloroethene	127-18-4	QCBLK169448-1	04/08/98	04/08/98	0.18	UG/L	U	5	1
Toluene	108-88-3	QCBLK169448-1	04/08/98	04/08/98	0.16	UG/L	U	5	1
Xylene (total)	1330-20-7	QCBLK169448-1	04/08/98	04/08/98	0.14	UG/L	U	5	1
Propionitrile	107-12-0	QCBLK169448-1	04/08/98	04/08/98	0.96	UG/L	U	10	1
cis-1,2-Dichloroethene	156-59-2	QCBLK169448-1	04/08/98	04/08/98	0.10	UG/L	U	5	1
trans-1,2-Dichloroethene	156-60-5	QCBLK169448-1	04/08/98	04/08/98	0.13	UG/L	U	5	1
1-Butanol	71-36-3	QCBLK169448-1	04/08/98	04/08/98	2.5	UG/L	U	100	1
1,4-Dichlorobenzene	106-46-7	QCBLK169448-1	04/08/98	04/08/98	0.18	UG/L	U	5	1
Bromofluorobenzene	460-00-4	QCBLK169448-1	04/08/98	04/08/98	94	%REC			1
Dibromofluoromethane	1868-53-7	QCBLK169448-1	04/08/98	04/08/98	99	%REC			1
Toluene-d8	2037-26-5	QCBLK169448-1	04/08/98	04/08/98	104	%REC			1

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Project: 519.145

Category: Volatiles 8260-Appendix IX
Method: EPA 8260
Matrix: LIQUID

Client ID: NA

Sample Date : NA
Receipt Date : NA
Report Date : 05/19/98

Quanterra ID : QCBLK169448-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Vinyl Chloride	75-01-4	QCBLK169448-1	04/08/98	04/08/98	0.68	UG/L	U	5	1
Methylene Chloride	75-09-2	QCBLK169448-1	04/08/98	04/08/98	3	UG/L	J	5	1
Acetone	67-64-1	QCBLK169448-1	04/08/98	04/08/98	1.9	UG/L	U	10	1
Carbon Disulfide	75-15-0	QCBLK169448-1	04/08/98	04/08/98	0.15	UG/L	U	5	1
1,1-Dichloroethane	75-34-3	QCBLK169448-1	04/08/98	04/08/98	0.20	UG/L	U	5	1
Chloroform	67-66-3	QCBLK169448-1	04/08/98	04/08/98	0.17	UG/L	U	5	1
1,2-Dichloroethane	107-06-2	QCBLK169448-1	04/08/98	04/08/98	0.14	UG/L	U	5	1
2-Butanone (MEK)	78-93-3	QCBLK169448-1	04/08/98	04/08/98	0.42	UG/L	U	10	1
1,1,1-Trichloroethane	71-55-6	QCBLK169448-1	04/08/98	04/08/98	0.18	UG/L	U	5	1
Carbon Tetrachloride	56-23-5	QCBLK169448-1	04/08/98	04/08/98	0.14	UG/L	U	5	1
Trichloroethene	79-01-6	QCBLK169448-1	04/08/98	04/08/98	0.40	UG/L	U	5	1
1,1,2-Trichloroethane	79-00-5	QCBLK169448-1	04/08/98	04/08/98	0.10	UG/L	U	5	1
Benzene	71-43-2	QCBLK169448-1	04/08/98	04/08/98	0.17	UG/L	U	5	1
4-Methyl-2-Pentanone (MIBK)	108-10-1	QCBLK169448-1	04/08/98	04/08/98	0.20	UG/L	U	10	1
Tetrachloroethene	127-18-4	QCBLK169448-1	04/08/98	04/08/98	0.18	UG/L	U	5	1
Toluene	108-88-3	QCBLK169448-1	04/08/98	04/08/98	0.16	UG/L	U	5	1
Xylene (total)	1330-20-7	QCBLK169448-1	04/08/98	04/08/98	0.14	UG/L	U	5	1
Propionitrile	107-12-0	QCBLK169448-1	04/08/98	04/08/98	0.96	UG/L	U	10	1
cis-1,2-Dichloroethene	156-59-2	QCBLK169448-1	04/08/98	04/08/98	0.10	UG/L	U	5	1
trans-1,2-Dichloroethene	156-60-5	QCBLK169448-1	04/08/98	04/08/98	0.13	UG/L	U	5	1
1-Butanol	71-36-3	QCBLK169448-1	04/08/98	04/08/98	2.5	UG/L	U	100	1
1,4-Dichlorobenzene	106-46-7	QCBLK169448-1	04/08/98	04/08/98	0.2	UG/L	J	5	1
Unknown-1	TIC-32	QCBLK169448-1	04/08/98	04/08/98	5	UG/L	J		1
Bromofluorobenzene	460-00-4	QCBLK169448-1	04/08/98	04/08/98	97	%REC			1
Dibromofluoromethane	1868-53-7	QCBLK169448-1	04/08/98	04/08/98	104	%REC			1
Toluene-d8	2037-26-5	QCBLK169448-1	04/08/98	04/08/98	89	%REC			1

Pacific Northwest National Lab
P.O. Box 1970
Richland, WA 99352

Project: 519.145

Category: Volatiles 8260-Appendix IX
Method: EPA 8260
Matrix: LIQUID

Client ID: NA

Sample Date : NA
Receipt Date : NA
Report Date : 05/19/98

Quanterra ID : QCLCS169448-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
1,1-Dichloroethene	75-35-4	QCBLK169448-1	04/08/98	04/08/98	92	%REC			1
Trichloroethene	79-01-6	QCBLK169448-1	04/08/98	04/08/98	88	%REC			1
Benzene	71-43-2	QCBLK169448-1	04/08/98	04/08/98	93	%REC			1
Toluene	108-88-3	QCBLK169448-1	04/08/98	04/08/98	87	%REC			1
Chlorobenzene	108-90-7	QCBLK169448-1	04/08/98	04/08/98	91	%REC			1
Bromofluorobenzene	460-00-4	QCBLK169448-1	04/08/98	04/08/98	104	%REC			1
Dibromofluoromethane	1868-53-7	QCBLK169448-1	04/08/98	04/08/98	111	%REC			1
Toluene-d8	2037-26-5	QCBLK169448-1	04/08/98	04/08/98	104	%REC			1

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Project: 519.145

Category: Volatiles 8260-Appendix IX
Method: EPA 8260
Matrix: LIQUID

Client ID: BON668

Sample Date : 03/24/98
Receipt Date : 03/24/98
Report Date : 05/19/98

Quanterra ID : 17311-002

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Vinyl Chloride	75-01-4	QCBLK169479-1	04/09/98	04/09/98	0.68	UG/L	U	5	1
Methylene Chloride	75-09-2	QCBLK169479-1	04/09/98	04/09/98	1	UG/L	BJ	5	1
Acetone	67-64-1	QCBLK169479-1	04/09/98	04/09/98	1.9	UG/L	U	10	1
Carbon Disulfide	75-15-0	QCBLK169479-1	04/09/98	04/09/98	0.15	UG/L	U	5	1
1,1-Dichloroethane	75-34-3	QCBLK169479-1	04/09/98	04/09/98	0.20	UG/L	U	5	1
Chloroform	67-66-3	QCBLK169479-1	04/09/98	04/09/98	0.3	UG/L	J	5	1
1,2-Dichloroethane	107-06-2	QCBLK169479-1	04/09/98	04/09/98	0.14	UG/L	U	5	1
2-Butanone (MEK)	78-93-3	QCBLK169479-1	04/09/98	04/09/98	0.42	UG/L	U	10	1
1,1,1-Trichloroethane	71-55-6	QCBLK169479-1	04/09/98	04/09/98	0.18	UG/L	U	5	1
Carbon Tetrachloride	56-23-5	QCBLK169479-1	04/09/98	04/09/98	0.14	UG/L	U	5	1
Trichloroethene	79-01-6	QCBLK169479-1	04/09/98	04/09/98	0.40	UG/L	U	5	1
1,1,2-Trichloroethane	79-00-5	QCBLK169479-1	04/09/98	04/09/98	0.10	UG/L	U	5	1
Benzene	71-43-2	QCBLK169479-1	04/09/98	04/09/98	0.17	UG/L	U	5	1
4-Methyl-2-Pentanone (MIBK)	108-10-1	QCBLK169479-1	04/09/98	04/09/98	0.20	UG/L	U	10	1
Tetrachloroethene	127-18-4	QCBLK169479-1	04/09/98	04/09/98	0.18	UG/L	U	5	1
Toluene	108-88-3	QCBLK169479-1	04/09/98	04/09/98	0.16	UG/L	U	5	1
Xylene (total)	1330-20-7	QCBLK169479-1	04/09/98	04/09/98	0.14	UG/L	U	5	1
Propionitrile	107-12-0	QCBLK169479-1	04/09/98	04/09/98	0.96	UG/L	U	10	1
cis-1,2-Dichloroethene	156-59-2	QCBLK169479-1	04/09/98	04/09/98	0.10	UG/L	U	5	1
trans-1,2-Dichloroethene	156-60-5	QCBLK169479-1	04/09/98	04/09/98	0.13	UG/L	U	5	1
1-Butanol	71-36-3	QCBLK169479-1	04/09/98	04/09/98	2.5	UG/L	U	100	1
1,4-Dichlorobenzene	106-46-7	QCBLK169479-1	04/09/98	04/09/98	0.6	UG/L	BJ	5	1
Unknown-1	TIC-32	QCBLK169479-1	04/09/98	04/09/98	1	UG/L	BJ		1
Bromofluorobenzene	460-00-4	QCBLK169479-1	04/09/98	04/09/98	101	%REC			1
Dibromofluoromethane	1868-53-7	QCBLK169479-1	04/09/98	04/09/98	119	%REC			1
Toluene-d8	2037-26-5	QCBLK169479-1	04/09/98	04/09/98	101	%REC			1

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Project: 519.145

Category: Volatiles 8260-Appendix IX
Method: EPA 8260
Matrix: LIQUID

Client ID: NA

Sample Date : NA
Receipt Date : NA
Report Date : 05/19/98

Quanterra ID : QCBLK169479-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Vinyl Chloride	75-01-4	QCBLK169479-1	04/09/98	04/09/98	0.68	UG/L	U	5	1
Methylene Chloride	75-09-2	QCBLK169479-1	04/09/98	04/09/98	2	UG/L	J	5	1
Acetone	67-64-1	QCBLK169479-1	04/09/98	04/09/98	1.9	UG/L	U	10	1
Carbon Disulfide	75-15-0	QCBLK169479-1	04/09/98	04/09/98	0.15	UG/L	U	5	1
1,1-Dichloroethane	75-34-3	QCBLK169479-1	04/09/98	04/09/98	0.20	UG/L	U	5	1
Chloroform	67-66-3	QCBLK169479-1	04/09/98	04/09/98	0.17	UG/L	U	5	1
1,2-Dichloroethane	107-06-2	QCBLK169479-1	04/09/98	04/09/98	0.14	UG/L	U	5	1
2-Butanone (MEK)	78-93-3	QCBLK169479-1	04/09/98	04/09/98	0.42	UG/L	U	10	1
1,1,1-Trichloroethane	71-55-6	QCBLK169479-1	04/09/98	04/09/98	0.18	UG/L	U	5	1
Carbon Tetrachloride	56-23-5	QCBLK169479-1	04/09/98	04/09/98	0.14	UG/L	U	5	1
Trichloroethene	79-01-6	QCBLK169479-1	04/09/98	04/09/98	0.40	UG/L	U	5	1
1,1,2-Trichloroethane	79-00-5	QCBLK169479-1	04/09/98	04/09/98	0.10	UG/L	U	5	1
Benzene	71-43-2	QCBLK169479-1	04/09/98	04/09/98	0.17	UG/L	U	5	1
4-Methyl-2-Pentanone (MIBK)	108-10-1	QCBLK169479-1	04/09/98	04/09/98	0.20	UG/L	U	10	1
Tetrachloroethene	127-18-4	QCBLK169479-1	04/09/98	04/09/98	0.18	UG/L	U	5	1
Toluene	108-88-3	QCBLK169479-1	04/09/98	04/09/98	0.16	UG/L	U	5	1
Xylene (total)	1330-20-7	QCBLK169479-1	04/09/98	04/09/98	0.14	UG/L	U	5	1
Propionitrile	107-12-0	QCBLK169479-1	04/09/98	04/09/98	0.96	UG/L	U	10	1
cis-1,2-Dichloroethene	156-59-2	QCBLK169479-1	04/09/98	04/09/98	0.10	UG/L	U	5	1
trans-1,2-Dichloroethene	156-60-5	QCBLK169479-1	04/09/98	04/09/98	0.13	UG/L	U	5	1
1-Butanol	71-36-3	QCBLK169479-1	04/09/98	04/09/98	2.5	UG/L	U	100	1
1,4-Dichlorobenzene	106-46-7	QCBLK169479-1	04/09/98	04/09/98	0.8	UG/L	J	5	1
Unknown-1	TIC-32	QCBLK169479-1	04/09/98	04/09/98	2	UG/L	J		1
Unknown-2	TIC-33	QCBLK169479-1	04/09/98	04/09/98	1	UG/L	J		1
Unknown-3	TIC-34	QCBLK169479-1	04/09/98	04/09/98	1	UG/L	J		1
Bromofluorobenzene	460-00-4	QCBLK169479-1	04/09/98	04/09/98	92	%REC			1
Dibromofluoromethane	1868-53-7	QCBLK169479-1	04/09/98	04/09/98	117	%REC			1
Toluene-d8	2037-26-5	QCBLK169479-1	04/09/98	04/09/98	113	%REC			1

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Richland, WA 99352

Project: 519.145

Category: Volatiles 8260-Appendix IX
Method: EPA 8260
Matrix: LIQUID

Client ID: NA

Sample Date : NA
Receipt Date : NA
Report Date : 05/19/98

Quanterra ID : QCLCS169479-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
1,1-Dichloroethene	75-35-4	QCBLK169479-1	04/09/98	04/09/98	94	%REC			1
Trichloroethene	79-01-6	QCBLK169479-1	04/09/98	04/09/98	88	%REC			1
Benzene	71-43-2	QCBLK169479-1	04/09/98	04/09/98	90	%REC			1
Toluene	108-88-3	QCBLK169479-1	04/09/98	04/09/98	86	%REC			1
Chlorobenzene	108-90-7	QCBLK169479-1	04/09/98	04/09/98	95	%REC			1
Bromofluorobenzene	460-00-4	QCBLK169479-1	04/09/98	04/09/98	95	%REC			1
Dibromofluoromethane	1868-53-7	QCBLK169479-1	04/09/98	04/09/98	114	%REC			1
Toluene-d8	2037-26-5	QCBLK169479-1	04/09/98	04/09/98	108	%REC			1

2A
WATER VOLATILE SURROGATE RECOVERY

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

	EPA SAMPLE NO.	S1 (BFB) #	S2 (DFM) #	S3 (TOL) #	OTHER	TOT OUT
01	VBLKG098A	97	104	89		0
02	VLCSG098A	104	111	104		0
03	B0N472	107	108	99		0
04	B0N472MS	93	101	98		0
05	B0N472MSD	99	105	90		0
06	B0N449	94	100	100		0
07	B0N489	96	102	100		0
08	B0N679	102	109	96		0
09	B0N678	94	99	104		0
10	B0N470	93	117	93		0
11	VBLKG098B	92	117	113		0
12	VLCSG098B	95	114	108		0
13	B0N668	101	119	101		0
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		QC LIMITS
S1 (BFB)	= 4-Bromofluorobenzene	(80-120)
S2 (DFM)	= Dibromofluoromethane	(80-120)
S3 (TOL)	= Toluene-d8	(80-120)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

FORM II VOA-1 1/87 Rev.

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0N472

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix: (soil/water) WATER Lab Sample ID: 17323-002

Sample wt/vol: 25.00 (g/ml) ML Lab File ID: GSMP0324

Level: (low/med) LOW Date Received: 03/25/98

% Moisture: not dec. _____ Date Analyzed: 04/08/98

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
75-01-4	Vinyl Chloride	5	U
75-09-2	Methylene Chloride	3	BJ
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-34-3	1,1-Dichloroethane	5	U
67-66-3	Chloroform	2	J
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	1	J
79-01-6	Trichloroethene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
108-10-1	4-Methyl-2-pentanone	10	U
127-18-4	Tetrachloroethene	5	U
108-88-3	Toluene	5	U
1330-20-7	Xylenes (total)	5	U
107-12-0	Propionitrile	10	U
156-59-2	cis-1,2-Dichloroethene	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
71-36-3	n-Butanol	100	U
106-46-7	1,4-Dichlorobenzene	5	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B0N472

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix: (soil/water) WATER Lab Sample ID: 17323-002

Sample wt/vol: 25.00 (g/ml) ML Lab File ID: GSMP0324

Level: (low/med) LOW Date Received: 03/25/98

% Moisture: not dec. _____ Date Analyzed: 04/08/98

Column: (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
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3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix Spike - EPA Sample No.: B0N472

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
1,1-Dichloroethene	10.00	0.0000	9.088	91	61-145
Trichloroethene	10.00	0.0000	8.035	80	71-120
Benzene	10.00	0.0000	8.670	87	76-127
Toluene	10.00	0.0000	8.432	84	76-125
Chlorobenzene	10.00	0.0000	9.213	92	75-130

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	10.00	9.330	93	2	14	61-145
Trichloroethene	10.00	8.892	89	11	14	71-120
Benzene	10.00	9.113	91	4	11	76-127
Toluene	10.00	8.146	81	4	13	76-125
Chlorobenzene	10.00	8.584	86	7	13	75-130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

COMMENTS:

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0N472MS

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix: (soil/water) WATER Lab Sample ID: 17323-002MS

Sample wt/vol: 25.00 (g/ml) ML Lab File ID: GSMP0325

Level: (low/med) LOW Date Received: 03/25/98

% Moisture: not dec. _____ Date Analyzed: 04/08/98

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
75-01-4	Vinyl Chloride	10	
75-09-2	Methylene Chloride	4	BJ
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-34-3	1,1-Dichloroethane	5	U
67-66-3	Chloroform	11	
107-06-2	1,2-Dichloroethane	10	
78-93-3	2-Butanone	10	J
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	9	
79-01-6	Trichloroethene	8	
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	9	
108-10-1	4-Methyl-2-pentanone	10	U
127-18-4	Tetrachloroethene	9	
108-88-3	Toluene	8	
1330-20-7	Xylenes (total)	5	U
107-12-0	Propionitrile	10	U
156-59-2	cis-1,2-Dichloroethene	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
71-36-3	n-Butanol	100	U
106-46-7	1,4-Dichlorobenzene	8	B

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0N472MSD

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix: (soil/water) WATER Lab Sample ID: 17323-002MSD

Sample wt/vol: 25.00 (g/ml) ML Lab File ID: GSMP0326

Level: (low/med) LOW Date Received: 03/25/98

% Moisture: not dec. _____ Date Analyzed: 04/08/98

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
75-01-4	Vinyl Chloride	10	
75-09-2	Methylene Chloride	3	BJ
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-34-3	1,1-Dichloroethane	5	U
67-66-3	Chloroform	12	
107-06-2	1,2-Dichloroethane	10	
78-93-3	2-Butanone	10	
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	9	
79-01-6	Trichloroethene	9	
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	9	
108-10-1	4-Methyl-2-pentanone	10	U
127-18-4	Tetrachloroethene	8	
108-88-3	Toluene	8	
1330-20-7	Xylenes (total)	5	U
107-12-0	Propionitrile	10	U
156-59-2	cis-1,2-Dichloroethene	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
71-36-3	n-Butanol	100	U
106-46-7	1,4-Dichlorobenzene	8	B

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0N449

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix: (soil/water) WATER Lab Sample ID: 17323-003 5X

Sample wt/vol: 25.00 (g/ml) ML Lab File ID: GSMP0327

Level: (low/med) LOW Date Received: 03/25/98

% Moisture: not dec. _____ Date Analyzed: 04/08/98

Column: (pack/cap) CAP Dilution Factor: 5.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
75-01-4	Vinyl Chloride	25	U
75-09-2	Methylene Chloride	40	B
67-64-1	Acetone	68	
75-15-0	Carbon Disulfide	25	U
75-34-3	1,1-Dichloroethane	25	U
67-66-3	Chloroform	6	J
107-06-2	1,2-Dichloroethane	25	U
78-93-3	2-Butanone	50	U
71-55-6	1,1,1-Trichloroethane	25	U
56-23-5	Carbon Tetrachloride	58	
79-01-6	Trichloroethene	25	U
79-00-5	1,1,2-Trichloroethane	25	U
71-43-2	Benzene	25	U
108-10-1	4-Methyl-2-pentanone	50	U
127-18-4	Tetrachloroethene	25	U
108-88-3	Toluene	25	U
1330-20-7	Xylenes (total)	25	U
107-12-0	Propionitrile	50	U
156-59-2	cis-1,2-Dichloroethene	25	U
156-60-5	trans-1,2-Dichloroethene	25	U
71-36-3	n-Butanol	500	U
106-46-7	1,4-Dichlorobenzene	2	BJ

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B0N449

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix: (soil/water) WATER Lab Sample ID: 17323-003 5X

Sample wt/vol: 25.00 (g/ml) ML Lab File ID: GSMP0327

Level: (low/med) LOW Date Received: 03/25/98

% Moisture: not dec. _____ Date Analyzed: 04/08/98

Column: (pack/cap) CAP Dilution Factor: 5.0

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Unknown	2.522	5	J
2. 1197-95-1	2(1H)-Naphthalenone, octahyd	24.819	7	NJ
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0N489

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix: (soil/water) WATER Lab Sample ID: 17323-004

Sample wt/vol: 25.00 (g/ml) ML Lab File ID: GSMP0328

Level: (low/med) LOW Date Received: 03/25/98

% Moisture: not dec. _____ Date Analyzed: 04/08/98

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
75-01-4	Vinyl Chloride	5	U
75-09-2	Methylene Chloride	2	BJ
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-34-3	1,1-Dichloroethane	5	U
67-66-3	Chloroform	4	J
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	33	
79-01-6	Trichloroethene	2	J
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
108-10-1	4-Methyl-2-pentanone	10	U
127-18-4	Tetrachloroethene	5	U
108-88-3	Toluene	5	U
1330-20-7	Xylenes (total)	5	U
107-12-0	Propionitrile	10	U
156-59-2	cis-1,2-Dichloroethene	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
71-36-3	n-Butanol	100	U
106-46-7	1,4-Dichlorobenzene	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B0N489

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix: (soil/water) WATER Lab Sample ID: 17323-004

Sample wt/vol: 25.00 (g/ml) ML Lab File ID: GSMP0328

Level: (low/med) LOW Date Received: 03/25/98

% Moisture: not dec. _____ Date Analyzed: 04/08/98

Column: (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 3

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Unknown	22.985	1	J
2.	Unknown	23.821	2	J
3.	Unknown	24.135	5	J
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0N679

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix: (soil/water) WATER Lab Sample ID: 17323-006

Sample wt/vol: 25.00 (g/ml) ML Lab File ID: GSMP0329

Level: (low/med) LOW Date Received: 03/25/98

% Moisture: not dec. _____ Date Analyzed: 04/08/98

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
75-01-4	Vinyl Chloride	5	U
75-09-2	Methylene Chloride	4	BJ
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-34-3	1,1-Dichloroethane	5	U
67-66-3	Chloroform	1	J
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
79-01-6	Trichloroethene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
108-10-1	4-Methyl-2-pentanone	10	U
127-18-4	Tetrachloroethene	5	U
108-88-3	Toluene	5	U
1330-20-7	Xylenes (total)	5	U
107-12-0	Propionitrile	10	U
156-59-2	cis-1,2-Dichloroethene	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
71-36-3	n-Butanol	100	U
106-46-7	1,4-Dichlorobenzene	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B0N679

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix: (soil/water) WATER Lab Sample ID: 17323-006

Sample wt/vol: 25.00 (g/ml) ML Lab File ID: GSMP0329

Level: (low/med) LOW Date Received: 03/25/98

% Moisture: not dec. _____ Date Analyzed: 04/08/98

Column: (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 3

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Unknown	2.517	2	J
2.	Unknown	2.604	2	JB
3.	Unknown	26.573	2	J
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0N678

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix: (soil/water) WATER Lab Sample ID: 17323-007

Sample wt/vol: 25.00 (g/ml) ML Lab File ID: GSMP0330

Level: (low/med) LOW Date Received: 03/25/98

% Moisture: not dec. _____ Date Analyzed: 04/08/98

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
75-01-4	Vinyl Chloride	5	U
75-09-2	Methylene Chloride	5	B
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-34-3	1,1-Dichloroethane	5	U
67-66-3	Chloroform	0.6	J
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
79-01-6	Trichloroethene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
108-10-1	4-Methyl-2-pentanone	10	U
127-18-4	Tetrachloroethene	5	U
108-88-3	Toluene	5	U
1330-20-7	Xylenes (total)	5	U
107-12-0	Propionitrile	10	U
156-59-2	cis-1,2-Dichloroethene	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
71-36-3	n-Butanol	100	U
106-46-7	1,4-Dichlorobenzene	5	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B0N678

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix: (soil/water) WATER Lab Sample ID: 17323-007

Sample wt/vol: 25.00 (g/ml) ML Lab File ID: GSMP0330

Level: (low/med) LOW Date Received: 03/25/98

% Moisture: not dec. _____ Date Analyzed: 04/08/98

Column: (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0N470

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix: (soil/water) WATER Lab Sample ID: 17311-001

Sample wt/vol: 25.00 (g/ml) ML Lab File ID: GSMP0333

Level: (low/med) LOW Date Received: 03/24/98

% Moisture: not dec. _____ Date Analyzed: 04/08/98

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
75-01-4	Vinyl Chloride	5	U
75-09-2	Methylene Chloride	0.3	BJ
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-34-3	1,1-Dichloroethane	5	U
67-66-3	Chloroform	1	J
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
79-01-6	Trichloroethene	0.3	J
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
108-10-1	4-Methyl-2-pentanone	10	U
127-18-4	Tetrachloroethene	5	U
108-88-3	Toluene	5	U
1330-20-7	Xylenes (total)	5	U
107-12-0	Propionitrile	10	U
156-59-2	cis-1,2-Dichloroethene	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
71-36-3	n-Butanol	100	U
106-46-7	1,4-Dichlorobenzene	5	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B0N470

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix: (soil/water) WATER Lab Sample ID: 17311-001

Sample wt/vol: 25.00 (g/ml) ML Lab File ID: GSMP0333

Level: (low/med) LOW Date Received: 03/24/98

% Moisture: not dec. _____ Date Analyzed: 04/08/98

Column: (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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4A
VOLATILE METHOD BLANK SUMMARY

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Lab File ID: GBLK0319 Lab Sample ID: QCBLK169448

Date Analyzed: 04/08/98 Time Analyzed: 1218

Matrix: (soil/water) WATER Level: (low/med) LOW

Instrument ID: MSG

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	VLCSG098A	QCLCS169448	GLCS0320	1251
02	B0N472	17323-002	GSMP0324	1514
03	B0N472MS	17323-002MS	GSMP0325	1547
04	B0N472MSD	17323-002MSD	GSMP0326	1619
05	B0N449	17323-003 5X	GSMP0327	1652
06	B0N489	17323-004	GSMP0328	1724
07	B0N679	17323-006	GSMP0329	1757
08	B0N678	17323-007	GSMP0330	1829
09	B0N470	17311-001	GSMP0333	2007
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COMMENTS:

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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKG098A

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix: (soil/water) WATER Lab Sample ID: QCBLK169448

Sample wt/vol: 25.00 (g/ml) ML Lab File ID: GBLK0319

Level: (low/med) LOW Date Received:

% Moisture: not dec. _____ Date Analyzed: 04/08/98

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
75-01-4	Vinyl Chloride	5	U
75-09-2	Methylene Chloride	3	J
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-34-3	1,1-Dichloroethane	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
79-01-6	Trichloroethene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
108-10-1	4-Methyl-2-pentanone	10	U
127-18-4	Tetrachloroethene	5	U
108-88-3	Toluene	5	U
1330-20-7	Xylenes (total)	5	U
107-12-0	Propionitrile	10	U
156-59-2	cis-1,2-Dichloroethene	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
71-36-3	n-Butanol	100	U
106-46-7	1,4-Dichlorobenzene	0.2	J

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLKG098A

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix: (soil/water) WATER Lab Sample ID: QCBLK169448

Sample wt/vol: 25.00 (g/ml) ML Lab File ID: GBLK0319

Level: (low/med) LOW Date Received:

% Moisture: not dec. _____ Date Analyzed: 04/08/98

Column: (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Unknown	2.679	5	J
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9A
VOLATILE SPIKE RECOVERY

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

EPA Sample No.: VSPKG098A

SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
11 1,1-Dichloroethene	10.00	9.218	92.18	61-145
44 Trichloroethene	10.00	8.851	88.51	71-120
42 Benzene	10.00	9.288	92.88	76-127
54 Toluene	10.00	8.707	87.07	76-125
64 Chlorobenzene	10.00	9.119	91.19	75-130

SURROGATE COMPOUND	AMOUNT ADDED ug/L	AMOUNT RECOVERED ug/L	% RECOVERED	LIMITS
$ 34 Dibromofluorometha	10.00	11.15	111.47	80-120
$ 39 1,2-Dichloroethane	10.00	11.83	118.33	80-120
$ 53 Toluene-d8	10.00	10.44	104.42	80-120
$ 75 4-Bromofluorobenze	10.00	10.42	104.19	80-120

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VLCSG098A

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix: (soil/water) WATER Lab Sample ID: QCLCS169448

Sample wt/vol: 25.00 (g/ml) ML Lab File ID: GLCS0320

Level: (low/med) LOW Date Received:

% Moisture: not dec. _____ Date Analyzed: 04/08/98

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
75-01-4	Vinyl Chloride	9	
75-09-2	Methylene Chloride	3	BJ
67-64-1	Acetone	3	J
75-15-0	Carbon Disulfide	5	U
75-34-3	1,1-Dichloroethane	5	U
67-66-3	Chloroform	10	
107-06-2	1,2-Dichloroethane	10	
78-93-3	2-Butanone	11	
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	8	
79-01-6	Trichloroethene	9	
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	9	
108-10-1	4-Methyl-2-pentanone	0.2	J
127-18-4	Tetrachloroethene	8	
108-88-3	Toluene	9	
1330-20-7	Xylenes (total)	5	U
107-12-0	Propionitrile	10	U
156-59-2	cis-1,2-Dichloroethene	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
71-36-3	n-Butanol	11	J
106-46-7	1,4-Dichlorobenzene	8	B

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0N668

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix: (soil/water) WATER Lab Sample ID: 17311-002

Sample wt/vol: 25.00 (g/ml) ML Lab File ID: GSMP0340

Level: (low/med) LOW Date Received: 03/24/98

% Moisture: not dec. _____ Date Analyzed: 04/09/98

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
75-01-4	Vinyl Chloride	5	U
75-09-2	Methylene Chloride	1	BJ
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-34-3	1,1-Dichloroethane	5	U
67-66-3	Chloroform	0.3	J
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
79-01-6	Trichloroethene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
108-10-1	4-Methyl-2-pentanone	10	U
127-18-4	Tetrachloroethene	5	U
108-88-3	Toluene	5	U
1330-20-7	Xylenes (total)	5	U
107-12-0	Propionitrile	10	U
156-59-2	cis-1,2-Dichloroethene	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
71-36-3	n-Butanol	100	U
106-46-7	1,4-Dichlorobenzene	0.6	BJ

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B0N668

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix: (soil/water) WATER Lab Sample ID: 17311-002

Sample wt/vol: 25.00 (g/ml) ML Lab File ID: GSMP0340

Level: (low/med) LOW Date Received: 03/24/98

% Moisture: not dec. _____ Date Analyzed: 04/09/98

Column: (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Unknown	2.552	1	JB
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4A
VOLATILE METHOD BLANK SUMMARY

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Lab File ID: GBLK0338 Lab Sample ID: QCBLK169479

Date Analyzed: 04/09/98 Time Analyzed: 0044

Matrix: (soil/water) WATER Level:(low/med) LOW

Instrument ID: MSG

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	VLCSG098B	QCLCS169479	GLCS0339	0130
02	B0N668	17311-002	GSMP0340	0202
03				
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COMMENTS:

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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKG098B

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix: (soil/water) WATER Lab Sample ID: QCBLK169479

Sample wt/vol: 25.00 (g/ml) ML Lab File ID: GBLK0338

Level: (low/med) LOW Date Received:

% Moisture: not dec. _____ Date Analyzed: 04/09/98

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
75-01-4	Vinyl Chloride	5	U
75-09-2	Methylene Chloride	2	J
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-34-3	1,1-Dichloroethane	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
79-01-6	Trichloroethene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
108-10-1	4-Methyl-2-pentanone	10	U
127-18-4	Tetrachloroethene	5	U
108-88-3	Toluene	5	U
1330-20-7	Xylenes (total)	5	U
107-12-0	Propionitrile	10	U
156-59-2	cis-1,2-Dichloroethene	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
71-36-3	n-Butanol	100	U
106-46-7	1,4-Dichlorobenzene	0.8	J

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLKG098B

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix: (soil/water) WATER Lab Sample ID: QCBLK169479

Sample wt/vol: 25.00 (g/ml) ML Lab File ID: GBLK0338

Level: (low/med) LOW Date Received:

% Moisture: not dec. _____ Date Analyzed: 04/09/98

Column: (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 3

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Unknown	2.534	2	J
2.	Unknown	21.190	1	J
3.	Unknown	21.660	1	J
4.				
5.				
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9A
VOLATILE SPIKE RECOVERY

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

EPA Sample No.: VSPKG098B

SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
11 1,1-Dichloroethene	10.00	9.438	94.38	61-145
44 Trichloroethene	10.00	8.810	88.10	71-120
42 Benzene	10.00	8.979	89.79	76-127
54 Toluene	10.00	8.654	86.54	76-125
64 Chlorobenzene	10.00	9.478	94.78	75-130

SURROGATE COMPOUND	AMOUNT ADDED ug/L	AMOUNT RECOVERED ug/L	% RECOVERED	LIMITS
$ 34 Dibromofluorometha	10.00	11.45	114.55	80-120
$ 39 1,2-Dichloroethane	10.00	11.27	112.70	80-120
$ 53 Toluene-d8	10.00	10.84	108.36	80-120
$ 75 4-Bromofluorobenze	10.00	9.536	95.36	80-120

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VLCSG098B

Lab Name: QUANTERRA MO Contract: 519.145

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02288

Matrix: (soil/water) WATER Lab Sample ID: QCLCS169479

Sample wt/vol: 25.00 (g/ml) ML Lab File ID: GLCS0339

Level: (low/med) LOW Date Received:

% Moisture: not dec. _____ Date Analyzed: 04/09/98

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
75-01-4	Vinyl Chloride	6	
75-09-2	Methylene Chloride	2	BJ
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-34-3	1,1-Dichloroethane	5	U
67-66-3	Chloroform	9	
107-06-2	1,2-Dichloroethane	10	
78-93-3	2-Butanone	12	
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	9	
79-01-6	Trichloroethene	9	
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	9	
108-10-1	4-Methyl-2-pentanone	10	U
127-18-4	Tetrachloroethene	9	
108-88-3	Toluene	9	
1330-20-7	Xylenes (total)	5	U
107-12-0	Propionitrile	10	U
156-59-2	cis-1,2-Dichloroethene	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
71-36-3	n-Butanol	100	U
106-46-7	1,4-Dichlorobenzene	8	B

WET CHEMISTRY

Pacific Northwest National Lab
P.O. Box 1970
Richland, WA 99352

Project: 519.145

Category: Alkalinity-EPA 310.1
Method: EPA 310.1
Matrix: LIQUID

Sample Date : 03/19/98
Receipt Date : 03/19/98
Report Date : 04/21/98

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
B0N840	17281-001	Alkalinity, Tot	ALKALINITY	QCBLK168949-1	04/01/98	04/01/98	140	MG/L		5.00	1
B0N840	17281-001DUP	Alkalinity, Tot	ALKALINITY	QCBLK168949-1	04/01/98	04/01/98	142	MG/L		5.00	1
B0N848	17281-002	Alkalinity, Tot	ALKALINITY	QCBLK168949-1	04/01/98	04/01/98	127	MG/L		5.00	1
B0N852	17281-003	Alkalinity, Tot	ALKALINITY	QCBLK168949-1	04/01/98	04/01/98	0.299	MG/L	U	5.00	1
B0N8B4	17285-001	Alkalinity, Tot	ALKALINITY	QCBLK168949-1	04/01/98	04/01/98	712	MG/L		5.00	1
B0N4K5	17308-001	Alkalinity, Tot	ALKALINITY	QCBLK168949-1	04/01/98	04/01/98	107	MG/L		5.00	1
B0N4L1	17308-002	Alkalinity, Tot	ALKALINITY	QCBLK168949-1	04/01/98	04/01/98	22.0	MG/L		5.00	1
B0N4L7	17308-003	Alkalinity, Tot	ALKALINITY	QCBLK168949-1	04/01/98	04/01/98	72.8	MG/L		5.00	1
B0N4L9	17308-004	Alkalinity, Tot	ALKALINITY	QCBLK168949-1	04/01/98	04/01/98	75.3	MG/L		5.00	1
B0N4M9	17308-005	Alkalinity, Tot	ALKALINITY	QCBLK168949-1	04/01/98	04/01/98	19.4	MG/L		5.00	1
B0N846	17310-001	Alkalinity, Tot	ALKALINITY	QCBLK168949-1	04/01/98	04/01/98	120	MG/L		5.00	1
B0N850	17310-002	Alkalinity, Tot	ALKALINITY	QCBLK168949-1	04/01/98	04/01/98	0.299	MG/L	U	5.00	1
B0N842	17312-001	Alkalinity, Tot	ALKALINITY	QCBLK168949-1	04/01/98	04/01/98	123	MG/L		5.00	1
B0N844	17312-002	Alkalinity, Tot	ALKALINITY	QCBLK168949-1	04/01/98	04/01/98	122	MG/L		5.00	1
NA	QCBLK168949-1	Alkalinity, Tot	ALKALINITY	QCBLK168949-1	04/01/98	04/01/98	0.299	MG/L	U	5.00	1
NA	QCLCS168949-1	Alkalinity, Tot	ALKALINITY	QCBLK168949-1	04/01/98	04/01/98	93	%REC			1

Pacific Northwest National Lab
P.O. Box 1970
Richland, WA 99352

Project: 519.145

Category: Anions
Method: EPA 300.0
Matrix: LIQUID

Client ID: BON840

Sample Date : 03/19/98
Receipt Date : 03/19/98
Report Date : 05/19/98

Quanterra ID : 17281-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Fluoride	16984-48-8	QCBLK168697-1	03/20/98	03/20/98	0.304	MG/L		0.10	1
Chloride	16887-00-6	QCBLK168697-1	03/20/98	03/20/98	16.1	MG/L	C D	1.00	5
Sulfate	14808-79-8	QCBLK168697-1	03/20/98	03/20/98	22.7	MG/L	D	1.00	2
Nitrate	NO3-N	QCBLK168697-1	03/20/98	03/20/98	3.88	MG/L	D	0.10	5
Nitrite	NO2-N	QCBLK168697-1	03/20/98	03/20/98	0.002	MG/L	U D	0.040	2

6-1-98 PNNL

Pacific Northwest National Lab
P.O. Box 1970
Richland, WA 99352

Project: 519.145

Category: Anions
Method: EPA 300.0
Matrix: LIQUID

Client ID: BON848

Sample Date : 03/19/98
Receipt Date : 03/19/98
Report Date : 05/19/98

Quanterra ID : 17281-002

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Fluoride	16984-48-8	QCBLK168697-1	03/20/98	03/20/98	0.330	MG/L		0.10	1
Chloride	16887-00-6	QCBLK168697-1	03/20/98	03/20/98	19.6	MG/L	C D	1.00	5
Sulfate	14808-79-8	QCBLK168697-1	03/20/98	03/20/98	31.2	MG/L	D	1.00	2
Nitrate	NO3-N	QCBLK168697-1	03/20/98	03/20/98	32.5	MG/L	D	0.80	40
Nitrite	NO2-N	QCBLK168697-1	03/20/98	03/20/98	0.002	MG/L	U D	0.040	2

6-1-98 99
PNNL

Pacific Northwest National Lab
P.O. Box 1970
Richland, WA 99352

Project: 519.145

Category: Anions
Method: EPA 300.0
Matrix: LIQUID

Client ID: BON852

Sample Date : 03/19/98
Receipt Date : 03/19/98
Report Date : 05/19/98

Quanterra ID : 17281-003

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Fluoride	16984-48-8	QCBLK168697-1	03/20/98	03/20/98	0.013	MG/L	U	0.10	1
Chloride	16887-00-6	QCBLK168697-1	03/20/98	03/20/98	0.038	MG/L	BC	0.20	1
Sulfate	14808-79-8	QCBLK168697-1	03/20/98	03/20/98	0.023	MG/L	U	0.50	1
Nitrate	NO3-N	QCBLK168697-1	03/20/98	03/20/98	0.002	MG/L	U	0.020	1
Nitrite	NO2-N	QCBLK168697-1	03/20/98	03/20/98	0.001	MG/L	U	0.020	1

Pacific Northwest National Lab
P.O. Box 1970
Richland, WA 99352

Project: 519.145

Category: Anions
Method: EPA 300.0
Matrix: LIQUID

Client ID: BON8B4

Sample Date : 03/19/98
Receipt Date : 03/19/98
Report Date : 05/19/98

Quanterra ID : 17285-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Fluoride	16984-48-8	QCBLK168697-1	03/20/98	03/20/98	0.117	MG/L		0.10	1
Chloride	16887-00-6	QCBLK168697-1	03/20/98	03/20/98	8.80	MG/L	C D	0.40	2
Sulfate	14808-79-8	QCBLK168697-1	03/20/98	03/20/98	0.646	MG/L		0.50	1
Nitrate	NO3-N	QCBLK168697-1	03/20/98	03/20/98	0.014	MG/L	B	0.020	1
Nitrite	NO2-N	QCBLK168697-1	03/20/98	03/20/98	0.005	MG/L	U D	0.10	5

6-1-98 99
PNNL

Pacific Northwest National Lab
P.O. Box 1970
Richland, WA 99352

Project: 519.145

Category: Anions
Method: EPA 300.0
Matrix: LIQUID

Client ID: B0N8B4

Sample Date : 03/19/98
Receipt Date : 03/19/98
Report Date : 05/19/98

Quanterra ID : 17285-001DUP

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Fluoride	16984-48-8	QCBLK168697-1	03/20/98	03/20/98	0.013	MG/L	U	0.10	1
Chloride	16887-00-6	QCBLK168697-1	03/20/98	03/20/98	8.80	MG/L	C D	1.00	5
Sulfate	14808-79-8	QCBLK168697-1	03/20/98	03/20/98	0.511	MG/L		0.50	1
Nitrate	NO3-N	QCBLK168697-1	03/20/98	03/20/98	0.002	MG/L	U	0.020	1
Nitrite	NO2-N	QCBLK168697-1	03/20/98	03/20/98	0.005	MG/L	U D	0.10	5

6-1-98 99
PNNL

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P.O. Box 1970
Richland, WA 99352

Project: 519.145

Category: Anions
Method: EPA 300.0
Matrix: LIQUID

Client ID: B0N884

Sample Date : 03/19/98
Receipt Date : 03/19/98
Report Date : 05/19/98

Quanterra ID : 17285-001MS

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Fluoride	16984-48-8	QCBLK168697-1	03/20/98	03/20/98	97	%REC			5
Chloride	16887-00-6	QCBLK168697-1	03/20/98	03/20/98	98	%REC			10
Sulfate	14808-79-8	QCBLK168697-1	03/20/98	03/20/98	91	%REC			5
Nitrate	NO3-N	QCBLK168697-1	03/20/98	03/20/98	98	%REC			5
Nitrite	NO2-N	QCBLK168697-1	03/20/98	03/20/98	104	%REC			5

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Project: 519.145

Category: Anions
Method: EPA 300.0
Matrix: LIQUID

Client ID: NA

Sample Date : NA
Receipt Date : NA
Report Date : 05/19/98

Quanterra ID : QCBLK168697-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Fluoride	16984-48-8	QCBLK168697-1	03/20/98	03/20/98	0.013	MG/L	U	0.10	1
Chloride	16887-00-6	QCBLK168697-1	03/20/98	03/20/98	0.034	MG/L	B	0.20	1
Sulfate	14808-79-8	QCBLK168697-1	03/20/98	03/20/98	0.023	MG/L	U	0.50	1
Nitrate	NO3-N	QCBLK168697-1	03/20/98	03/20/98	0.002	MG/L	U	0.020	1
Nitrite	NO2-N	QCBLK168697-1	03/20/98	03/20/98	0.001	MG/L	U	0.020	1

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Project: 519.145

Category: Anions
Method: EPA 300.0
Matrix: LIQUID

Client ID: NA

Sample Date : NA
Receipt Date : NA
Report Date : 05/19/98

Quanterra ID : QCLCS168697-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Fluoride	16984-48-8	QCBLK168697-1	03/20/98	03/20/98	90	%REC			1
Chloride	16887-00-6	QCBLK168697-1	03/20/98	03/20/98	94	%REC			1
Sulfate	14808-79-8	QCBLK168697-1	03/20/98	03/20/98	92	%REC			1
Nitrate	NO3-N	QCBLK168697-1	03/20/98	03/20/98	98	%REC			1
Nitrite	NO2-N	QCBLK168697-1	03/20/98	03/20/98	98	%REC			1

Pacific Northwest National Lab
P.O. Box 1970
Richland, WA 99352

Project: 519.145

Category: Anions
Method: EPA 300.0
Matrix: LIQUID

Client ID: BON4K5

Sample Date : 03/23/98
Receipt Date : 03/23/98
Report Date : 04/21/98

Quanterra ID : 17308-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Fluoride	16984-48-8	QCBLK168722-1	03/24/98	03/24/98	0.140	MG/L		0.10	1
Chloride	16887-00-6	QCBLK168722-1	03/24/98	03/24/98	25.2	MG/L	C D	4.00	20
Sulfate	14808-79-8	QCBLK168722-1	03/24/98	03/24/98	83.2	MG/L	P	10.0	20
Nitrate	NO3-N	QCBLK168722-1	03/24/98	03/24/98	11.0	MG/L	P	0.40	20
Nitrite	NO2-N	QCBLK168722-1	03/24/98	03/24/98	0.002	MG/L	U D	0.040	2

6-1-98 PNNL

Pacific Northwest National Lab
P.O. Box 1970
Richland, WA 99352

Project: 519.145

Category: Anions
Method: EPA 300.0
Matrix: LIQUID

Client ID: BON846

Sample Date : 03/23/98
Receipt Date : 03/23/98
Report Date : 04/21/98

Quanterra ID : 17310-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Fluoride	16984-48-8	QCBLK168722-1	03/24/98	03/24/98	0.371	MG/L		0.10	1
Chloride	16887-00-6	QCBLK168722-1	03/24/98	03/24/98	20.9	MG/L	C D	2.00	10
Sulfate	14808-79-8	QCBLK168722-1	03/24/98	03/24/98	34.8	MG/L	D	1.00	2

6-1-98 PWL

Pacific Northwest National Lab
P.O. Box 1970
Richland, WA 99352

Project: 519.145

Category: Anions
Method: EPA 300.0
Matrix: LIQUID

Client ID: BON850

Sample Date : 03/23/98
Receipt Date : 03/23/98
Report Date : 04/21/98

Quanterra ID : 17310-002

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Fluoride	16984-48-8	QCBLK168722-1	03/24/98	03/24/98	0.013	MG/L	U	0.10	1
Chloride	16887-00-6	QCBLK168722-1	03/24/98	03/24/98	0.022	MG/L	C	0.20	1
Sulfate	14808-79-8	QCBLK168722-1	03/24/98	03/24/98	0.023	MG/L	U	0.50	1

Pacific Northwest National Lab
P.O. Box 1970
Richland, WA 99352

Project: 519.145

Category: Anions
Method: EPA 300.0
Matrix: LIQUID

Client ID: NA

Sample Date : NA
Receipt Date : NA
Report Date : 04/21/98

Quanterra ID : QCBLK168722-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Fluoride	16984-48-8	QCBLK168722-1	03/24/98	03/24/98	0.013	MG/L	U	0.10	1
Chloride	16887-00-6	QCBLK168722-1	03/24/98	03/24/98	0.023	MG/L	B	0.20	1
Sulfate	14808-79-8	QCBLK168722-1	03/24/98	03/24/98	0.023	MG/L	U	0.50	1
Nitrate	NO3-N	QCBLK168722-1	03/24/98	03/24/98	0.002	MG/L	U	0.020	1
Nitrite	NO2-N	QCBLK168722-1	03/24/98	03/24/98	0.001	MG/L	U	0.020	1

Pacific Northwest National Lab
P.O. Box 1970
Richland, WA 99352

Project: 519.145

Category: Anions
Method: EPA 300.0
Matrix: LIQUID

Client ID: NA

Sample Date : NA
Receipt Date : NA
Report Date : 04/21/98

Quanterra ID : QCLCS168722-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Fluoride	16984-48-8	QCBLK168722-1	03/24/98	03/24/98	95	%REC			1
Chloride	16887-00-6	QCBLK168722-1	03/24/98	03/24/98	97	%REC			1
Sulfate	14808-79-8	QCBLK168722-1	03/24/98	03/24/98	93	%REC			1
Nitrate	NO3-N	QCBLK168722-1	03/24/98	03/24/98	92	%REC			1
Nitrite	NO2-N	QCBLK168722-1	03/24/98	03/24/98	99	%REC			1

Pacific Northwest National Lab
P.O. Box 1970
Richland, WA 99352

Project: 519.145

Category: Anions
Method: EPA 300.0
Matrix: LIQUID

Client ID: BON445

Sample Date : 03/23/98
Receipt Date : 03/23/98
Report Date : 04/21/98

Quanterra ID : 17307-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Fluoride	16984-48-8	QCBLK168189-1	03/25/98	03/25/98	0.136	MG/L		0.10	1
Chloride	16887-00-6	QCBLK168189-1	03/25/98	03/25/98	24.6	MG/L	C D	2.00	10
Sulfate	14808-79-8	QCBLK168189-1	03/25/98	03/25/98	89.0	MG/L	D	2.50	5
Nitrate	NO3-N	QCBLK168189-1	03/25/98	03/25/98	8.53	MG/L	D	0.20	10
Nitrite	NO2-N	QCBLK168189-1	03/25/98	03/25/98	0.005	MG/L	U D	0.10	5

6-1-98 PNNL

Pacific Northwest National Lab
P.O. Box 1970
Richland, WA 99352

Project: 519.145

Category: Anions
Method: EPA 300.0
Matrix: LIQUID

Client ID: B0N4L1

Sample Date : 03/23/98
Receipt Date : 03/23/98
Report Date : 04/21/98

Quanterra ID : 17308-002

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Fluoride	16984-48-8	QCBLK168189-1	03/25/98	03/25/98	0.130	MG/L		0.10	1
Chloride	16887-00-6	QCBLK168189-1	03/25/98	03/25/98	16.8	MG/L	C D	4.00	20
Sulfate	14808-79-8	QCBLK168189-1	03/25/98	03/25/98	94.9	MG/L	D	10.0	20
Nitrate	NO3-N	QCBLK168189-1	03/25/98	03/25/98	8.71	MG/L	D	0.40	20
Nitrite	NO2-N	QCBLK168189-1	03/25/98	03/25/98	0.001	MG/L	U	0.020	1

6-1-98 99
PNNL

Pacific Northwest National Lab
P.O. Box 1970
Richland, WA 99352

Project: 519.145

Category: Anions
Method: EPA 300.0
Matrix: LIQUID

Client ID: BON4L7

Sample Date : 03/23/98
Receipt Date : 03/23/98
Report Date : 04/21/98

Quanterra ID : 17308-003

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Fluoride	16984-48-8	QCBLK168189-1	03/25/98	03/25/98	0.126	MG/L		0.10	1
Chloride	16887-00-6	QCBLK168189-1	03/25/98	03/25/98	12.1	MG/L	C D	1.00	5
Sulfate	14808-79-8	QCBLK168189-1	03/25/98	03/25/98	37.1	MG/L	A	1.00	2
Nitrate	NO3-N	QCBLK168189-1	03/25/98	03/25/98	4.40	MG/L	A	0.10	5
Nitrite	NO2-N	QCBLK168189-1	03/25/98	03/25/98	0.002	MG/L	U D	0.040	2

6-1-98 PNNL

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Project: 519.145

Category: Anions
Method: EPA 300.0
Matrix: LIQUID

Client ID: BON4L9

Sample Date : 03/23/98
Receipt Date : 03/23/98
Report Date : 04/21/98

Quanterra ID : 17308-004

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Fluoride	16984-48-8	QCBLK168189-1	03/25/98	03/25/98	0.128	MG/L		0.10	1
Chloride	16887-00-6	QCBLK168189-1	03/25/98	03/25/98	12.7	MG/L	C D	1.00	5
Sulfate	14808-79-8	QCBLK168189-1	03/25/98	03/25/98	37.1	MG/L	D	1.00	2
Nitrate	NO3-N	QCBLK168189-1	03/25/98	03/25/98	4.30	MG/L	D	0.10	5
Nitrite	NO2-N	QCBLK168189-1	03/25/98	03/25/98	0.002	MG/L	U D	0.040	2

6-1-98 PNNL

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Project: 519.145

Category: Anions
Method: EPA 300.0
Matrix: LIQUID

Client ID: BON4M9

Sample Date : 03/23/98
Receipt Date : 03/23/98
Report Date : 04/21/98

Quanterra ID : 17308-005

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Fluoride	16984-48-8	QCBLK168189-1	03/25/98	03/25/98	0.135	MG/L		0.10	1
Chloride	16887-00-6	QCBLK168189-1	03/25/98	03/25/98	33.0	MG/L	C A	2.00	10
Sulfate	14808-79-8	QCBLK168189-1	03/25/98	03/25/98	75.5	MG/L	A	5.00	10
Nitrate	NO3-N	QCBLK168189-1	03/25/98	03/25/98	7.92	MG/L	A	0.20	10
Nitrite	NO2-N	QCBLK168189-1	03/25/98	03/25/98	0.002	MG/L	U D	0.040	2

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Project: 519.145

Category: Anions
Method: EPA 300.0
Matrix: LIQUID

Client ID: NA

Sample Date : NA
Receipt Date : NA
Report Date : 04/21/98

Quanterra ID : QCBLK168189-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Fluoride	16984-48-8	QCBLK168189-1	03/25/98	03/25/98	0.013	MG/L	U	0.10	1
Chloride	16887-00-6	QCBLK168189-1	03/25/98	03/25/98	0.026	MG/L	B	0.20	1
Sulfate	14808-79-8	QCBLK168189-1	03/25/98	03/25/98	0.023	MG/L	U	0.50	1
Nitrate	NO3-N	QCBLK168189-1	03/25/98	03/25/98	0.002	MG/L	U	0.020	1
Nitrite	NO2-N	QCBLK168189-1	03/25/98	03/25/98	0.001	MG/L	U	0.020	1

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Project: 519.145

Category: Anions
Method: EPA 300.0
Matrix: LIQUID

Client ID: NA

Sample Date : NA
Receipt Date : NA
Report Date : 04/21/98

Quanterra ID : QCLCS168189-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Fluoride	16984-48-8	QCBLK168189-1	03/25/98	03/25/98	94	%REC			1
Chloride	16887-00-6	QCBLK168189-1	03/25/98	03/25/98	95	%REC			1
Sulfate	14808-79-8	QCBLK168189-1	03/25/98	03/25/98	94	%REC			1
Nitrate	NO3-N	QCBLK168189-1	03/25/98	03/25/98	99	%REC			1
Nitrite	NO2-N	QCBLK168189-1	03/25/98	03/25/98	101	%REC			1

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Project: 519.145

Category: Anions
Method: EPA 300.0
Matrix: LIQUID

Client ID: B0N470

Sample Date : 03/24/98
Receipt Date : 03/24/98
Report Date : 05/19/98

Quanterra ID : 17311-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Fluoride	16984-48-8	QCBLK168657-1	03/26/98	03/26/98	0.125	MG/L		0.10	1
Chloride	16887-00-6	QCBLK168657-1	03/26/98	03/26/98	35.5	MG/L	D	2.00	10
Sulfate	14808-79-8	QCBLK168657-1	03/26/98	03/26/98	19.2	MG/L	D	2.50	5
Nitrate	NO3-N	QCBLK168657-1	03/26/98	03/26/98	4.27	MG/L	D	0.10	5
Nitrite	NO2-N	QCBLK168657-1	03/26/98	03/26/98	0.005	MG/L	U D	0.10	5

6-1-98 PNNL

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Project: 519.145

Category: Anions
Method: EPA 300.0
Matrix: LIQUID

Client ID: BON842

Sample Date : 03/24/98
Receipt Date : 03/24/98
Report Date : 05/19/98

Quanterra ID : 17312-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Fluoride	16984-48-8	QCBLK168657-1	03/26/98	03/26/98	0.363	MG/L		0.10	1
Chloride	16887-00-6	QCBLK168657-1	03/26/98	03/26/98	21.4	MG/L	D	5.00	25
Sulfate	14808-79-8	QCBLK168657-1	03/26/98	03/26/98	31.4	MG/L	D	1.00	2

6-1-98 PNNL

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Project: 519.145

Category: Anions
Method: EPA 300.0
Matrix: LIQUID

Client ID: B0N844

Sample Date : 03/24/98
Receipt Date : 03/24/98
Report Date : 05/19/98

Quanterra ID : 17312-002

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Fluoride	16984-48-8	QCBLK168657-1	03/26/98	03/26/98	0.364	MG/L		0.10	1
Chloride	16887-00-6	QCBLK168657-1	03/26/98	03/26/98	21.4	MG/L	D	5.00	25
Sulfate	14808-79-8	QCBLK168657-1	03/26/98	03/26/98	31.6	MG/L	D	1.00	2

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Project: 519.145

Category: Anions
Method: EPA 300.0
Matrix: LIQUID

Client ID: NA

Sample Date : NA
Receipt Date : NA
Report Date : 05/19/98

Quanterra ID : QCBLK168657-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Fluoride	16984-48-8	QCBLK168657-1	03/26/98	03/26/98	0.013	MG/L	U	0.10	1
Chloride	16887-00-6	QCBLK168657-1	03/26/98	03/26/98	0.022	MG/L	U	0.20	1
Sulfate	14808-79-8	QCBLK168657-1	03/26/98	03/26/98	0.023	MG/L	U	0.50	1
Nitrate	NO3-N	QCBLK168657-1	03/26/98	03/26/98	0.002	MG/L	U	0.020	1
Nitrite	NO2-N	QCBLK168657-1	03/26/98	03/26/98	0.001	MG/L	U	0.020	1

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Project: 519.145

Category: Anions
Method: EPA 300.0
Matrix: LIQUID

Client ID: NA

Sample Date : NA
Receipt Date : NA
Report Date : 05/19/98

Quanterra ID : QCLCS168657-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Fluoride	16984-48-8	QCBLK168657-1	03/26/98	03/26/98	94	%REC			1
Chloride	16887-00-6	QCBLK168657-1	03/26/98	03/26/98	96	%REC			1
Sulfate	14808-79-8	QCBLK168657-1	03/26/98	03/26/98	93	%REC			1
Nitrate	NO3-N	QCBLK168657-1	03/26/98	03/26/98	94	%REC			1
Nitrite	NO2-N	QCBLK168657-1	03/26/98	03/26/98	99	%REC			1

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Project: 519.145

Category: Anions
Method: EPA 300.0
Matrix: LIQUID

Client ID: BON834

Sample Date : 03/24/98
Receipt Date : 03/25/98
Report Date : 04/21/98

Quanterra ID : 17323-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Fluoride	16984-48-8	QCBLK168728-1	03/27/98	03/27/98	0.437	MG/L		0.10	1
Nitrite	NO2-N	QCBLK168728-1	03/27/98	03/27/98	0.002	MG/L	U D	0.040	2

6-1-98 PNNL

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Project: 519.145

Category: Anions
Method: EPA 300.0
Matrix: LIQUID

Client ID: BON472

Sample Date : 03/25/98
Receipt Date : 03/25/98
Report Date : 04/21/98

Quanterra ID : 17323-002

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Fluoride	16984-48-8	QCBLK168728-1	03/27/98	03/27/98	0.136	MG/L		0.10	1
Chloride	16887-00-6	QCBLK168728-1	03/27/98	03/27/98	44.0	MG/L	D	2.00	10
Sulfate	14808-79-8	QCBLK168728-1	03/27/98	03/27/98	25.6	MG/L	D	2.50	5
Nitrate	NO3-N	QCBLK168728-1	03/27/98	03/27/98	6.74	MG/L	D	0.20	10
Nitrite	NO2-N	QCBLK168728-1	03/27/98	03/27/98	0.005	MG/L	U D	0.10	5

6-1-98 PNNL

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Project: 519.145

Category: Anions
Method: EPA 300.0
Matrix: LIQUID

Client ID: BON449

Sample Date : 03/25/98
Receipt Date : 03/25/98
Report Date : 04/21/98

Quanterra ID : 17323-003

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Fluoride	16984-48-8	QCBLK168728-1	03/27/98	03/27/98	0.417	MG/L		0.10	1
Chloride	16887-00-6	QCBLK168728-1	03/27/98	03/27/98	4.73	MG/L		0.20	1
Sulfate	14808-79-8	QCBLK168728-1	03/27/98	03/27/98	13.7	MG/L		0.50	1
Nitrate	NO3-N	QCBLK168728-1	03/27/98	03/27/98	0.530	MG/L		0.020	1
Nitrite	NO2-N	QCBLK168728-1	03/27/98	03/27/98	0.001	MG/L	U	0.020	1

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Project: 519.145

Category: Anions
Method: EPA 300.0
Matrix: LIQUID

Client ID: BON489

Sample Date : 03/25/98
Receipt Date : 03/25/98
Report Date : 05/19/98

Quanterra ID : 17323-004

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Fluoride	16984-48-8	QCBLK168728-1	03/27/98	03/27/98	0.397	MG/L		0.10	1
Chloride	16887-00-6	QCBLK168728-1	03/27/98	03/27/98	20.3	MG/L	D	1.00	5
Sulfate	14808-79-8	QCBLK168728-1	03/27/98	03/27/98	47.3	MG/L	B	2.50	5
Nitrate	NO3-N	QCBLK168728-1	03/27/98	03/27/98	49.2	MG/L	B	2.00	100
Nitrite	NO2-N	QCBLK168728-1	03/27/98	03/27/98	0.002	MG/L	U D	0.040	2

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Project: 519.145

Category: Anions
Method: EPA 300.0
Matrix: LIQUID

Client ID: NA

Sample Date : NA
Receipt Date : NA
Report Date : 04/21/98

Quanterra ID : QCBLK168728-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Fluoride	16984-48-8	QCBLK168728-1	03/27/98	03/27/98	0.013	MG/L	U	0.10	1
Chloride	16887-00-6	QCBLK168728-1	03/27/98	03/27/98	0.022	MG/L	U	0.20	1
Sulfate	14808-79-8	QCBLK168728-1	03/27/98	03/27/98	0.023	MG/L	U	0.50	1
Nitrate	NO3-N	QCBLK168728-1	03/27/98	03/27/98	0.002	MG/L	U	0.020	1
Nitrite	NO2-N	QCBLK168728-1	03/27/98	03/27/98	0.001	MG/L	U	0.020	1

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Project: 519.145

Category: Anions
Method: EPA 300.0
Matrix: LIQUID

Client ID: NA

Sample Date : NA
Receipt Date : NA
Report Date : 04/21/98

Quanterra ID : QCLCS168728-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Fluoride	16984-48-8	QCBLK168728-1	03/27/98	03/27/98	97	%REC			1
Chloride	16887-00-6	QCBLK168728-1	03/27/98	03/27/98	97	%REC			1
Sulfate	14808-79-8	QCBLK168728-1	03/27/98	03/27/98	93	%REC			1
Nitrate	NO3-N	QCBLK168728-1	03/27/98	03/27/98	96	%REC			1
Nitrite	NO2-N	QCBLK168728-1	03/27/98	03/27/98	95	%REC			1

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Project: 519.145

Category: Anions
Method: EPA 300.0
Matrix: LIQUID

Client ID: BON834

Sample Date : 03/24/98
Receipt Date : 03/25/98
Report Date : 04/21/98

Quanterra ID : 17323-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloride	16887-00-6	QCBLK168803-1	03/30/98	03/30/98	18.3	MG/L	C D	1.00	5
Sulfate	14808-79-8	QCBLK168803-1	03/30/98	03/30/98	104	MG/L	D	10.0	20
Nitrate	NO3-N	QCBLK168803-1	03/30/98	03/30/98	12.1	MG/L	D	0.40	20

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Project: 519.145

Category: Anions
Method: EPA 300.0
Matrix: LIQUID

Client ID: NA

Sample Date : NA
Receipt Date : NA
Report Date : 05/19/98

Quanterra ID : QCBLK168803-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloride	16887-00-6	QCBLK168803-1	03/30/98	03/30/98	0.026	MG/L	B	0.20	1
Sulfate	14808-79-8	QCBLK168803-1	03/30/98	03/30/98	0.023	MG/L	U	0.50	1
Nitrate	NO3-N	QCBLK168803-1	03/30/98	03/30/98	0.002	MG/L	U	0.020	1

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Project: 519.145

Category: Anions
Method: EPA 300.0
Matrix: LIQUID

Client ID: NA

Sample Date : NA
Receipt Date : NA
Report Date : 04/21/98

Quanterra ID : QCLCS168803-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloride	16887-00-6	QCBLK168803-1	03/30/98	03/30/98	99	%REC			1
Sulfate	14808-79-8	QCBLK168803-1	03/30/98	03/30/98	93	%REC			1
Nitrate	NO3-N	QCBLK168803-1	03/30/98	03/30/98	92	%REC			1

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Project: 519.145

Category: Nitrate/Nitrite
Method: EPA 353.1
Matrix: LIQUID

Sample Date : 03/19/98
Receipt Date : 03/19/98
Report Date : 04/21/98

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
BON840	17281-001	Nitrate/Nitrite	NO2+NO3-N	QCBLK169634-1	04/10/98	04/10/98	4620	UG/L	D	500	10
BON840	17281-001DUP	Nitrate/Nitrite	NO2+NO3-N	QCBLK169634-1	04/10/98	04/10/98	4580	UG/L	D	500	10
BON840	17281-001MS	Nitrate/Nitrite	NO2+NO3-N	QCBLK169634-1	04/10/98	04/10/98	106	%REC			10
BON848	17281-002	Nitrate/Nitrite	NO2+NO3-N	QCBLK169634-1	04/10/98	04/10/98	34300	UG/L	D	6250	125
BON852	17281-003	Nitrate/Nitrite	NO2+NO3-N	QCBLK169634-1	04/10/98	04/10/98	9.5	UG/L		50.0	1
BON846	17310-001	Nitrate/Nitrite	NO2+NO3-N	QCBLK169634-1	04/10/98	04/10/98	25300	UG/L	D	2500	50
BON850	17310-002	Nitrate/Nitrite	NO2+NO3-N	QCBLK169634-1	04/10/98	04/10/98	9.5	UG/L		50.0	1
BON842	17312-001	Nitrate/Nitrite	NO2+NO3-N	QCBLK169634-1	04/10/98	04/10/98	20100	UG/L	D	1250	25
BON844	17312-002	Nitrate/Nitrite	NO2+NO3-N	QCBLK169634-1	04/10/98	04/10/98	20400	UG/L	D	1250	25
NA	QCBLK169634-1	Nitrate/Nitrite	NO2+NO3-N	QCBLK169634-1	04/10/98	04/10/98	9.5	UG/L	U	50.0	1
NA	QCLCS169634-1	Nitrate/Nitrite	NO2+NO3-N	QCBLK169634-1	04/10/98	04/10/98	100	%REC			1

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Project: 519.145

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

Sample Date : 03/19/98
Receipt Date : 03/19/98
Report Date : 04/21/98

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
B0N840	17281-001	Total Dissolved TDS		QCBLK168500-1	03/26/98	03/26/98	322	MG/L		5.00	1
B0N840	17281-001DUP	Total Dissolved TDS		QCBLK168500-1	03/26/98	03/26/98	291	MG/L		5.00	1
B0N848	17281-002	Total Dissolved TDS		QCBLK168500-1	03/26/98	03/26/98	456	MG/L		5.00	1
B0N852	17281-003	Total Dissolved TDS		QCBLK168500-1	03/26/98	03/26/98	25.0	MG/L		5.00	1
NA	QCBLK168500-1	Total Dissolved TDS		QCBLK168500-1	03/26/98	03/26/98	2.99	MG/L	U	5.00	1
NA	QCLCS168500-1	Total Dissolved TDS		QCBLK168500-1	03/26/98	03/26/98	102	%REC			1

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Project: 519.145

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

Sample Date : 03/23/98
Receipt Date : 03/23/98
Report Date : 04/21/98

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
BON846	17310-001	Total Dissolved TDS		QCBLK168742-1	03/30/98	03/30/98	327	MG/L		5.00	1
BON850	17310-002	Total Dissolved TDS		QCBLK168742-1	03/30/98	03/30/98	2.99	MG/L	U	5.00	1
BON842	17312-001	Total Dissolved TDS		QCBLK168742-1	03/30/98	03/30/98	320	MG/L		5.00	1
BON844	17312-002	Total Dissolved TDS		QCBLK168742-1	03/30/98	03/30/98	309	MG/L		5.00	1
NA	QCBLK168742-1	Total Dissolved TDS		QCBLK168742-1	03/30/98	03/30/98	2.99	MG/L	U	5.00	1
NA	QCLCS168742-1	Total Dissolved TDS		QCBLK168742-1	03/30/98	03/30/98	96	%REC			1

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Project: 519.145

Category: TOC-EPA 9060
Method: EPA 9060
Matrix: LIQUID

Sample Date : 03/23/98
Receipt Date : 03/23/98
Report Date : 04/21/98

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
BON4M4	17308-006	Total Organic C	TOC	QCBLK169566-1	04/08/98	04/08/98	0.765	MG/L	BC	1.00	1
BON4M4	17308-006DUP	Total Organic C	TOC	QCBLK169566-1	04/08/98	04/08/98	0.806	MG/L	BC	1.00	1
BON4M4	17308-006MS	Total Organic C	TOC	QCBLK169566-1	04/08/98	04/08/98	94	%REC			1
BON4M5	17308-007	Total Organic C	TOC	QCBLK169566-1	04/08/98	04/08/98	0.690	MG/L	BC	1.00	1
BON4M6	17308-008	Total Organic C	TOC	QCBLK169566-1	04/08/98	04/08/98	0.812	MG/L	BC	1.00	1
BON4M7	17308-009	Total Organic C	TOC	QCBLK169566-1	04/08/98	04/08/98	0.722	MG/L	BC	1.00	1
BON4K0	17308-010	Total Organic C	TOC	QCBLK169566-1	04/08/98	04/08/98	1.17	MG/L	C	1.00	1
BON4K1	17308-011	Total Organic C	TOC	QCBLK169566-1	04/08/98	04/08/98	1.09	MG/L	C	1.00	1
BON4K2	17308-012	Total Organic C	TOC	QCBLK169566-1	04/08/98	04/08/98	1.15	MG/L	C	1.00	1
BON4K3	17308-013	Total Organic C	TOC	QCBLK169566-1	04/08/98	04/08/98	1.05	MG/L	C	1.00	1
NA	QCBLK169566-1	Total Organic C	TOC	QCBLK169566-1	04/08/98	04/08/98	0.517	MG/L	B	1.00	1
NA	QCLCS169566-1	Total Organic C	TOC	QCBLK169566-1	04/08/98	04/08/98	98	%REC			1

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P.O. Box 1970
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Project: 519.145

Category: TOC-EPA 9060
Method: EPA 9060
Matrix: LIQUID

Sample Date : 03/23/98
Receipt Date : 03/23/98
Report Date : 04/21/98

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
BON4K6	17308-014	Total Organic C	TOC	QCBLK169806-1	04/10/98	04/10/98	0.864	MG/L	BC	1.00	1
BON4K7	17308-015	Total Organic C	TOC	QCBLK169806-1	04/10/98	04/10/98	0.700	MG/L	BC	1.00	1
BON4K8	17308-016	Total Organic C	TOC	QCBLK169806-1	04/10/98	04/10/98	0.795	MG/L	BC	1.00	1
BON4K9	17308-017	Total Organic C	TOC	QCBLK169806-1	04/10/98	04/10/98	0.748	MG/L	BC	1.00	1
BON4L2	17308-018	Total Organic C	TOC	QCBLK169806-1	04/10/98	04/10/98	0.593	MG/L	BC	1.00	1
BON4L3	17308-019	Total Organic C	TOC	QCBLK169806-1	04/10/98	04/10/98	0.718	MG/L	BC	1.00	1
BON4L4	17308-020	Total Organic C	TOC	QCBLK169806-1	04/10/98	04/10/98	0.635	MG/L	BC	1.00	1
BON4L5	17308-021	Total Organic C	TOC	QCBLK169806-1	04/10/98	04/10/98	0.738	MG/L	BC	1.00	1
BON4M0	17308-022	Total Organic C	TOC	QCBLK169806-1	04/10/98	04/10/98	0.660	MG/L	BC	1.00	1
BON4M1	17308-023	Total Organic C	TOC	QCBLK169806-1	04/10/98	04/10/98	0.854	MG/L	BC	1.00	1
BON4M2	17308-024	Total Organic C	TOC	QCBLK169806-1	04/10/98	04/10/98	0.613	MG/L	BC	1.00	1
BON4M3	17308-025	Total Organic C	TOC	QCBLK169806-1	04/10/98	04/10/98	0.637	MG/L	BC	1.00	1
NA	QCBLK169806-1	Total Organic C	TOC	QCBLK169806-1	04/10/98	04/10/98	0.375	MG/L	B	1.00	1
NA	QCLCS169806-1	Total Organic C	TOC	QCBLK169806-1	04/10/98	04/10/98	104	%REC			1

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Project: 519.145

Category: TOX-EPA 9020
Method: EPA 9020
Matrix: LIQUID

Sample Date : 03/23/98
Receipt Date : 03/23/98
Report Date : 04/21/98

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
BON4K0	17308-010	TOX	59473-04-0	QCBLK169567-1	04/10/98	04/10/98	7.8	UG/L		5.00	1
BON4K1	17308-011	TOX	59473-04-0	QCBLK169567-1	04/10/98	04/10/98	9.5	UG/L		5.00	1
BON4K2	17308-012	TOX	59473-04-0	QCBLK169567-1	04/10/98	04/10/98	11.2	UG/L		5.00	1
BON4K3	17308-013	TOX	59473-04-0	QCBLK169567-1	04/10/98	04/10/98	11.6	UG/L		5.00	1
BON4K6	17308-014	TOX	59473-04-0	QCBLK169567-1	04/10/98	04/10/98	6.8	UG/L		5.00	1
BON4K7	17308-015	TOX	59473-04-0	QCBLK169567-1	04/10/98	04/10/98	4.62	UG/L	U	5.00	1
BON4K8	17308-016	TOX	59473-04-0	QCBLK169567-1	04/10/98	04/10/98	11.1	UG/L		5.00	1
BON4K9	17308-017	TOX	59473-04-0	QCBLK169567-1	04/10/98	04/10/98	7.75	UG/L		5.00	1
NA	QCBLK169567-1	TOX	59473-04-0	QCBLK169567-1	04/10/98	04/10/98	4.62	UG/L	U	5.00	1
NA	QCLCS169567-1	TOX	59473-04-0	QCBLK169567-1	04/10/98	04/10/98	92	%REC			1

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Project: 519.145

Category: TOX-EPA 9020
Method: EPA 9020
Matrix: LIQUID

Sample Date : 03/23/98
Receipt Date : 03/23/98
Report Date : 04/21/98

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
BON4M4	17308-006	TOX	59473-04-0	QCBLK169565-1	04/09/98	04/09/98	13.1	UG/L		5.00	1
BON4M4	17308-006DUP	TOX	59473-04-0	QCBLK169565-1	04/09/98	04/09/98	13.1	UG/L		5.00	1
BON4M4	17308-006MS	TOX	59473-04-0	QCBLK169565-1	04/09/98	04/09/98	94	%REC			1
BON4M5	17308-007	TOX	59473-04-0	QCBLK169565-1	04/09/98	04/09/98	7.9	UG/L		5.00	1
BON4M6	17308-008	TOX	59473-04-0	QCBLK169565-1	04/09/98	04/09/98	9.75	UG/L		5.00	1
BON4M7	17308-009	TOX	59473-04-0	QCBLK169565-1	04/09/98	04/09/98	10.0	UG/L		5.00	1
NA	QCBLK169565-1	TOX	59473-04-0	QCBLK169565-1	04/09/98	04/09/98	4.62	UG/L	U	5.00	1
NA	QCLCS169565-1	TOX	59473-04-0	QCBLK169565-1	04/09/98	04/09/98	99	%REC			1

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Project: 519.145

Category: TOX-EPA 9020
Method: EPA 9020
Matrix: LIQUID

Sample Date : 03/23/98
Receipt Date : 03/23/98
Report Date : 04/21/98

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
BON4L2	17308-018	TOX	59473-04-0	QCBLK169825-1	04/13/98	04/13/98	16.8	UG/L		5.00	1
BON4L3	17308-019	TOX	59473-04-0	QCBLK169825-1	04/13/98	04/13/98	7.05	UG/L		5.00	1
BON4L4	17308-020	TOX	59473-04-0	QCBLK169825-1	04/13/98	04/13/98	4.62	UG/L	U	5.00	1
BON4L5	17308-021	TOX	59473-04-0	QCBLK169825-1	04/13/98	04/13/98	19.4	UG/L		5.00	1
BON4M0	17308-022	TOX	59473-04-0	QCBLK169825-1	04/13/98	04/13/98	4.62	UG/L	U	5.00	1
BON4M1	17308-023	TOX	59473-04-0	QCBLK169825-1	04/13/98	04/13/98	4.62	UG/L	U	5.00	1
BON4M2	17308-024	TOX	59473-04-0	QCBLK169825-1	04/13/98	04/13/98	4.62	UG/L	U	5.00	1
BON4M3	17308-025	TOX	59473-04-0	QCBLK169825-1	04/13/98	04/13/98	4.62	UG/L	U	5.00	1
BON846	17310-001	TOX	59473-04-0	QCBLK169825-1	04/13/98	04/13/98	4.62	UG/L	U	5.00	1
BON850	17310-002	TOX	59473-04-0	QCBLK169825-1	04/13/98	04/13/98	4.62	UG/L	U	5.00	1
BON842	17312-001	TOX	59473-04-0	QCBLK169825-1	04/13/98	04/13/98	4.62	UG/L	U	5.00	1
BON844	17312-002	TOX	59473-04-0	QCBLK169825-1	04/13/98	04/13/98	4.62	UG/L	U	5.00	1
NA	QCBLK169825-1	TOX	59473-04-0	QCBLK169825-1	04/13/98	04/13/98	4.62	UG/L	U	5.00	1
NA	QCLCS169825-1	TOX	59473-04-0	QCBLK169825-1	04/13/98	04/13/98	95	%REC			1

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Project: 519.145

Category: TOX-EPA 9020
Method: EPA 9020
Matrix: LIQUID

Sample Date : 03/19/98
Receipt Date : 03/19/98
Report Date : 04/21/98

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
BON840	17281-001	TOX	59473-04-0	QCBLK169410-1	04/08/98	04/08/98	4.62	UG/L	U	5.00	1
BON840	17281-001DUP	TOX	59473-04-0	QCBLK169410-1	04/08/98	04/08/98	4.62	UG/L	U	5.00	1
BON840	17281-001MS	TOX	59473-04-0	QCBLK169410-1	04/08/98	04/08/98	86	%REC			1
BON848	17281-002	TOX	59473-04-0	QCBLK169410-1	04/08/98	04/08/98	4.62	UG/L	U	5.00	1
BON852	17281-003	TOX	59473-04-0	QCBLK169410-1	04/08/98	04/08/98	4.62	UG/L	U	5.00	1
NA	QCBLK169410-1	TOX	59473-04-0	QCBLK169410-1	04/08/98	04/08/98	4.62	UG/L	U	5.00	1
NA	QCLCS169410-1	TOX	59473-04-0	QCBLK169410-1	04/08/98	04/08/98	93	%REC			1