W02669-Q9

Quanterra
Environmental Services

0050820

Quanterra Incorporated
13715 Rider Trail North
Earth City, Missouri 63045

314 298-8566 Telephone
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CASE NARRATIVE

Bechtel Hanford Incorporated
3190 George Washington Way
Richland, Washington 99352

February 18, 1999

Attention: Joan Kessner

FEB 1999
RECEIVED
Data
Log In

Project number	:	550.172
SDG Number	:	W02669
Number of Samples	:	One (1)
Sample Matrix	:	Water
Data Deliverable	:	45 day
Date SDG Closed	:	January 19, 1999

JUN 1999
RECEIVED
EDMC

II. Introduction

On January 19, 1999 one (1) water sample was received by Quanterra, St. Louis for chemical analysis. There were no comments or non-conformances associated with the shipping and receiving of the sample. Upon receipt, the sample was given the following laboratory ID number to correspond with the specific client ID:

St. Louis ID	BHI ID	SAF ID	Matrix	Date of Receipt
20565-001	B0TJP5	C99-016	WATER	19-JAN-99

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: Volatiles – 8240A (TCL)

Deviation from Request: The sample was analyzed using a 25ml purge 8260 Volatile method. Please see comments regarding analysis.

IV. Definitions

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

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

V. Comments

General: There were no general comments for this SDG.

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

The sample was originally logged-in as 8260APPIX-25ml method. Client requested method 8240. The Sample was analyzed by the 8260 method with insufficient volume to reanalyze. Detection limits are lower with the 8260-25ml method and client requested compound list is the same. The only differences are the internal standards and reported surrogates. Using a different method in no way compromises sample data. See NCM 5152.

Due to levels of Carbon Tetrachloride that exceeded the calibration range of the instrument, sample B0TJP5 was analyzed with a 200 fold dilution. Both the diluted and undiluted analyses are included in the data.

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

Reviewed and approved:

Shiela Louvier

Shiela M. Louvier
St. Louis Project Manager

LOG #: 5452

LABORATORY NONCONFORMANCE MEMO (NCM)

Quanterra Incorporated

W02669

Project ID/Client: Hanford 550.172

NCM Initiated by/Date: RM 1/25/99 Project Manager: Sheila Lowrie

Sample Numbers/QC batch or lot numbers: 20565-001

Tests: APPIX 8260-25 or 8240 APPIX

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 _____ 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): S. Lowrie 2-18-99

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

Client's name and response: _____

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

Project manager (signature and date): Sheila Lowrie 2-18-99

3B

QUANTERRA LABORATORY NONCONFORMANCE MEMO

LOG #: 5152

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

Problem Description/Root Cause Author's initials and date: RM 1/25/99

Sample project logged in under wrong project number & analysis. Sample analysis was completed before the logon was corrected. Sample was consumed during sample analysis.

Corrective Actions (Short Term) Author's initials and date: RM 1/25/99

Report data using 8260 APPIX-25 instead of 8240 APPIX. The compound list is comparable & the RL's are lower. We can report the 8240 list using the 8260 analysis with a narrative note that the analysis was 8260 & not 8240

Corrective Actions to Prevent Reoccurrence (Long Term) Either, remove 8240 from our list of analysis due to the out dated methodology or the corrections must be done on a more timely fashion.

Corrective Action approved by (Supervisor/Group Leader) and date: RM 1/25/99

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) [illegible] 1/25/99

☐ Further action required:

Further action assigned to:

QA signature: [illegible] Date: 01-25-99

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.

3C

PNNL

Field Sampling Requirements

Laboratory Analysis

Laboratory: Quanterra St. Louis

Matrix: Water

Parameter/ Analysis	Reference Method	Container / Volume	VolReq	Preservation	Holding Times
VOA - 8240A (TCL)	8240_VOA_GCMS	aGs* 3x40 mL	Full QC	HCl or H2SO4 to pH <2 Cool 4C	14 Days
1,1,2,2-Tetrachloroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1,2-Dichloropropane, 2-Butanone, 2-Hexanone, 4-Bromofluorobenzene, 4-Methyl-2-Pentanone, Acetone, Benzene, Bromodichloromethane, Bromoform, Bromomethane, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroethane, Chloroform, Chloromethane, Ethylbenzene, Methylenechloride, Styrene, Tetrachloroethene, Toluene, Toluene-d8, Trichloroethene, Vinyl chloride, Xylenes (total), cis-1,3-Dichloropropene, trans-1,3-Dichloropropene					
Activity Scan No CAS	ACTIVITY_SCAN	P 20 mL	Minimum	None	ASAP

Key to Container Types

G = Glass
Gs = Glass w/ septum cap
Gs* = Glass w/septum cap- no head space in container
P = Plastic (Polyethylene)
aG = Amber Glass
aGs = Amber Glass w/ septum cap
aGs* = Amber Glass w/septum cap- no head space in container

FSR Comment:

need

W02669

Quanterra January 22, 1999 01:26 pm
Account: 10722 Project: 550.172 Quanterra-Richland QAS No. 550.172 Rev. 0
Master Sample Login: 20565

Project Manager: R. White

Reviewed by and Date: Sheila Lowrie 1-22-99

Sample Header Template:

Sample No. / Comments / # Container Type	Client ID	C-Matrix	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No.
20565-001 SAF C99-016	B0TJP5	Water	18-JAN-99 12:40	19-JAN-99 08:05	18-FEB-99	AIRBORNE	3*	Sample not Screened
3 VI - Vial-40ml		VOA/8260APPIX-25/Q4	S HCL	11-FEB-99	01-FEB-99	109B1		(424599:99 424600:98 424601:97)
1 PW - Plastic-2oz		RAD/SCREEN/Q4	S COLD	11-FEB-99	18-JUL-99	T2D		(424602:96)
20565-001DL1 SAF C99-016	B0TJP5	Water	18-JAN-99 12:40	19-JAN-99 08:05	18-FEB-99	AIRBORNE	3*	Sample not Screened
20565-001MS SAF C99-016	B0TJP5	Water	18-JAN-99 12:40	19-JAN-99 08:05	18-FEB-99	AIRBORNE	3*	Sample not Screened
3 VI - Vial-40ml		VOA/8260APPIX-25/Q4	S HCL	11-FEB-99	01-FEB-99	109B1		(424599:99 424600:98 424601:97)
20565-001MSD SAF C99-016	B0TJP5	Water	18-JAN-99 12:40	19-JAN-99 08:05	18-FEB-99	AIRBORNE	3*	Sample not Screened
3 VI - Vial-40ml		VOA/8260APPIX-25/Q4	S HCL	11-FEB-99	01-FEB-99	109B1		(424599:99 424600:98 424601:97)
20565-001MSDDL1 SAF C99-016	B0TJP5	Water	18-JAN-99 12:40	19-JAN-99 08:05	18-FEB-99	AIRBORNE	3*	Sample not Screened
20565-001MSDL1 SAF C99-016	B0TJP5	Water	18-JAN-99 12:40	19-JAN-99 08:05	18-FEB-99	AIRBORNE	3*	Sample not Screened

Data:

3*=Sample has not been rad screened.

004

PNNL	CUT 017607 Temp 3°C **CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST**	C.O.C. # **C99-016-6** Page 1 of 1

Collector M. Dorey	**Contact/Requester** JH KESSNER	**Telephone No.** (509) 372-9538 **MSIN** **FAX**
SAF No. C99-016	**Sampling Origin** HANFORD SITE	**Purchase Order/Charge Code**
Project Title 200 ZP-1 IAM GW MONITORING, JANUARY 1999	**Logbook No.** WM-SML-H21	**Ice Chest No.** SML-559 **Temp.** 4°C.
Shipped To (Lab) Quanterra St. Louis	**Method of Shipment** GOVT. VEHICLE	**Bill of Lading/Air Bill No.** 005157712 372
Protocol CERCLA	**Data Turnaround** 45 Days	**Offsite Property No.**

POSSIBLE SAMPLE HAZARDS/REMARKS
** **

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☒ No ☐
FAX copies of QES log-in to DL Stewart (372-1704) & JM Duncan (372-9052). Submit deliverables and invoices to JH Kessner, BHI.

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B0TJP5		W	1/18/99	1240	3x40-mL aGs*	VOA - 8240A (TCL) Water 100%	HCl or H2SO4 to pH <2 Cool 4C
B0TJP5		W	↓	↓	1x20-mL P	Activity Scan ↓ ↓	None

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
MC Dorey	MC Dorey		1/18/99 1430	AIRBORNE			
Airborne				[signature]			1-19-99 0805

Matrix *

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

FINAL SAMPLE DISPOSITION Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

Environmental Services

017607

sal 1-20-99

Login No.: ~~20564~~ 20565

Condition Upon Receipt Variance Report
St. Louis Laboratory

Client: PNNL/BHI

Date: 1-19-99 Time: 0805

Project No: 550.172

Initiated by: [signature]

Shipper/No: UPS Airborne 515 7712 372

RFA/COC Numbers: C99-016-6

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:** 3°C

Temperature Variance Does Not Affect the Following Analyses: _____

Notes:

Corrective Action:

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

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

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

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

Sample Control Supervisor Review: (or designate) [signature] Date: 1-19-99

Project Management Review: [signature] Date: 1-21-99

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

SL-ADMIN-0004, Revised 12/12/98

Bechtel Hanford Incorporated
3350 George Washington Way
Richland, WA 99352

Project: 550.172

Category: Volatiles 8260-Appendix IX
Method: EPA 8260
Matrix: LIQUID

Client ID: B0TJP5

Sample Date : 01/18/99
Receipt Date : 01/19/99
Report Date : 02/09/99

Quanterra ID : 20565-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	QCBLK190892-1	01/21/99	01/21/99	10	UG/L	U	10	1
Bromomethane	74-83-9	QCBLK190892-1	01/21/99	01/21/99	10	UG/L	U	10	1
Vinyl Chloride	75-01-4	QCBLK190892-1	01/21/99	01/21/99	0.3	UG/L	BJ	10	1
Chloroethane	75-00-3	QCBLK190892-1	01/21/99	01/21/99	10	UG/L	U	10	1
Methylene Chloride	75-09-2	QCBLK190892-1	01/21/99	01/21/99	0.3	UG/L	BJ	5	1
Acetone	67-64-1	QCBLK190892-1	01/21/99	01/21/99	3	UG/L	BJ	20	1
Carbon Disulfide	75-15-0	QCBLK190892-1	01/21/99	01/21/99	0.5	UG/L	J	5	1
1,1-Dichloroethene	75-35-4	QCBLK190892-1	01/21/99	01/21/99	0.2	UG/L	J	5	1
1,1-Dichloroethane	75-34-3	QCBLK190892-1	01/21/99	01/21/99	5	UG/L	U	5	1
Chloroform	67-66-3	QCBLK190892-1	01/21/99	01/21/99	46	UG/L		5	1
1,2-Dichloroethane	107-06-2	QCBLK190892-1	01/21/99	01/21/99	5	UG/L	U	5	1
2-Butanone (MEK)	78-93-3	QCBLK190892-1	01/21/99	01/21/99	20	UG/L	U	20	1
Carbon Tetrachloride	56-23-5	QCBLK190892-1	01/21/99	01/21/99	1300	UG/L	E	5	1
Bromodichloromethane	75-27-4	QCBLK190892-1	01/21/99	01/21/99	5	UG/L	U	5	1
1,2-Dichloropropane	78-87-5	QCBLK190892-1	01/21/99	01/21/99	5	UG/L	U	5	1
cis-1,3-Dichloropropene	10061-01-5	QCBLK190892-1	01/21/99	01/21/99	5	UG/L	U	5	1
Trichloroethene	79-01-6	QCBLK190892-1	01/21/99	01/21/99	4	UG/L	J	5	1
1,1,2-Trichloroethane	79-00-5	QCBLK190892-1	01/21/99	01/21/99	5	UG/L	U	5	1
Benzene	71-43-2	QCBLK190892-1	01/21/99	01/21/99	5	UG/L	U	5	1
trans-1,3-Dichloropropene	10061-02-6	QCBLK190892-1	01/21/99	01/21/99	5	UG/L	U	5	1
Bromoform	75-25-2	QCBLK190892-1	01/21/99	01/21/99	5	UG/L	U	5	1
4-Methyl-2-Pentanone (MIBK)	108-10-1	QCBLK190892-1	01/21/99	01/21/99	20	UG/L	U	20	1
2-Hexanone	591-78-6	QCBLK190892-1	01/21/99	01/21/99	20	UG/L	U	20	1
Tetrachloroethene	127-18-4	QCBLK190892-1	01/21/99	01/21/99	1.0	UG/L	J	5	1
Toluene	108-88-3	QCBLK190892-1	01/21/99	01/21/99	5	UG/L	U	5	1
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK190892-1	01/21/99	01/21/99	5	UG/L	U	5	1
Chlorobenzene	108-90-7	QCBLK190892-1	01/21/99	01/21/99	5	UG/L	U	5	1
EthylBenzene	100-41-4	QCBLK190892-1	01/21/99	01/21/99	5	UG/L	U	5	1
Styrene	100-42-5	QCBLK190892-1	01/21/99	01/21/99	5	UG/L	U	5	1
Xylene (total)	1330-20-7	QCBLK190892-1	01/21/99	01/21/99	5	UG/L	U	5	1
Unknown Organic Acid	TIC-9570	QCBLK190892-1	01/21/99	01/21/99	1	UG/L	BJ		1
Bromofluorobenzene	460-00-4	QCBLK190892-1	01/21/99	01/21/99	97	%REC			1
Dibromofluoromethane	1868-53-7	QCBLK190892-1	01/21/99	01/21/99	106	%REC			1
Toluene-d8	2037-26-5	QCBLK190892-1	01/21/99	01/21/99	98	%REC			1

Bechtel Hanford Incorporated
3350 George Washington Way
Richland, WA 99352

Project: 550.172

Category: Volatiles 8260-Appendix IX
Method: EPA 8260
Matrix: LIQUID

Client ID: B0TJP5

Sample Date : 01/18/99
Receipt Date : 01/19/99
Report Date : 02/04/99

Quanterra ID : 20565-001MS

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
1,1-Dichloroethene	75-35-4	QCBLK190892-1	01/21/99	01/21/99	160	%REC			1
Trichloroethene	79-01-6	QCBLK190892-1	01/21/99	01/21/99	98	%REC			1
Benzene	71-43-2	QCBLK190892-1	01/21/99	01/21/99	100	%REC			1
Toluene	108-88-3	QCBLK190892-1	01/21/99	01/21/99	103	%REC			1
Chlorobenzene	108-90-7	QCBLK190892-1	01/21/99	01/21/99	106	%REC			1
Bromofluorobenzene	460-00-4	QCBLK190892-1	01/21/99	01/21/99	98	%REC			1
Dibromofluoromethane	1868-53-7	QCBLK190892-1	01/21/99	01/21/99	108	%REC			1
Toluene-d8	2037-26-5	QCBLK190892-1	01/21/99	01/21/99	99	%REC			1

Bechtel Hanford Incorporated
3350 George Washington Way
Richland, WA 99352

Project: 550.172

Category: Volatiles 8260-Appendix IX
Method: EPA 8260
Matrix: LIQUID

Sample Date : 01/18/99
Receipt Date : 01/19/99
Report Date : 02/04/99

Client ID: B0TJP5

Quanterra ID : 20565-001MSD

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
1,1-Dichloroethene	75-35-4	QCBLK190892-1	01/21/99	01/21/99	151	%REC			1
Trichloroethene	79-01-6	QCBLK190892-1	01/21/99	01/21/99	90	%REC			1
Benzene	71-43-2	QCBLK190892-1	01/21/99	01/21/99	91	%REC			1
Toluene	108-88-3	QCBLK190892-1	01/21/99	01/21/99	98	%REC			1
Chlorobenzene	108-90-7	QCBLK190892-1	01/21/99	01/21/99	99	%REC			1
Bromofluorobenzene	460-00-4	QCBLK190892-1	01/21/99	01/21/99	101	%REC			1
Dibromofluoromethane	1868-53-7	QCBLK190892-1	01/21/99	01/21/99	106	%REC			1
Toluene-d8	2037-26-5	QCBLK190892-1	01/21/99	01/21/99	102	%REC			1

Bechtel Hanford Incorporated
3350 George Washington Way
Richland, WA 99352

Project: 550.172

Category: Volatiles 8260-Appendix IX
Method: EPA 8260
Matrix: LIQUID

Client ID: B0TJP5

Sample Date : 01/18/99
Receipt Date : 01/19/99
Report Date : 02/04/99

Quanterra ID : 20565-001DL

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	QCBLK191085-1	01/22/99	01/22/99	2000	UG/L	U	2000	200
Bromomethane	74-83-9	QCBLK191085-1	01/22/99	01/22/99	2000	UG/L	U	2000	200
Vinyl Chloride	75-01-4	QCBLK191085-1	01/22/99	01/22/99	42	UG/L	BDJ	2000	200
Chloroethane	75-00-3	QCBLK191085-1	01/22/99	01/22/99	2000	UG/L	U	2000	200
Methylene Chloride	75-09-2	QCBLK191085-1	01/22/99	01/22/99	180	UG/L	BDJ	1000	200
Acetone	67-64-1	QCBLK191085-1	01/22/99	01/22/99	720	UG/L	BDJ	4000	200
Carbon Disulfide	75-15-0	QCBLK191085-1	01/22/99	01/22/99	1000	UG/L	U	1000	200
1,1-Dichloroethene	75-35-4	QCBLK191085-1	01/22/99	01/22/99	1000	UG/L	U	1000	200
1,1-Dichloroethane	75-34-3	QCBLK191085-1	01/22/99	01/22/99	1000	UG/L	U	1000	200
Chloroform	67-66-3	QCBLK191085-1	01/22/99	01/22/99	44	UG/L	DJ	1000	200
1,2-Dichloroethane	107-06-2	QCBLK191085-1	01/22/99	01/22/99	1000	UG/L	U	1000	200
2-Butanone (MEK)	78-93-3	QCBLK191085-1	01/22/99	01/22/99	4000	UG/L	U	4000	200
Carbon Tetrachloride	56-23-5	QCBLK191085-1	01/22/99	01/22/99	5800	UG/L	D	1000	200
Bromodichloromethane	75-27-4	QCBLK191085-1	01/22/99	01/22/99	1000	UG/L	U	1000	200
1,2-Dichloropropane	78-87-5	QCBLK191085-1	01/22/99	01/22/99	1000	UG/L	U	1000	200
cis-1,3-Dichloropropene	10061-01-5	QCBLK191085-1	01/22/99	01/22/99	1000	UG/L	U	1000	200
Trichloroethene	79-01-6	QCBLK191085-1	01/22/99	01/22/99	1000	UG/L	U	1000	200
1,1,2-Trichloroethane	79-00-5	QCBLK191085-1	01/22/99	01/22/99	1000	UG/L	U	1000	200
Benzene	71-43-2	QCBLK191085-1	01/22/99	01/22/99	1000	UG/L	U	1000	200
trans-1,3-Dichloropropene	10061-02-6	QCBLK191085-1	01/22/99	01/22/99	1000	UG/L	U	1000	200
Bromoform	75-25-2	QCBLK191085-1	01/22/99	01/22/99	1000	UG/L	U	1000	200
4-Methyl-2-Pentanone (MIBK)	108-10-1	QCBLK191085-1	01/22/99	01/22/99	4000	UG/L	U	4000	200
2-Hexanone	591-78-6	QCBLK191085-1	01/22/99	01/22/99	4000	UG/L	U	4000	200
Tetrachloroethene	127-18-4	QCBLK191085-1	01/22/99	01/22/99	1000	UG/L	U	1000	200
Toluene	108-88-3	QCBLK191085-1	01/22/99	01/22/99	1000	UG/L	U	1000	200
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK191085-1	01/22/99	01/22/99	1000	UG/L	U	1000	200
Chlorobenzene	108-90-7	QCBLK191085-1	01/22/99	01/22/99	1000	UG/L	U	1000	200
EthylBenzene	100-41-4	QCBLK191085-1	01/22/99	01/22/99	1000	UG/L	U	1000	200
Styrene	100-42-5	QCBLK191085-1	01/22/99	01/22/99	1000	UG/L	U	1000	200
Xylene (total)	1330-20-7	QCBLK191085-1	01/22/99	01/22/99	1000	UG/L	U	1000	200
Bromofluorobenzene	460-00-4	QCBLK191085-1	01/22/99	01/22/99	102	%REC			200
Dibromofluoromethane	1868-53-7	QCBLK191085-1	01/22/99	01/22/99	93	%REC			200
Toluene-d8	2037-26-5	QCBLK191085-1	01/22/99	01/22/99	85	%REC			200

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0TJP5

Lab Name: QUANTERRA MO Contract: 550.172

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02669

Matrix: (soil/water) WATER Lab Sample ID: 20565-001

Sample wt/vol: 25.00 (g/ml) ML Lab File ID: GSMP3060

Level: (low/med) LOW Date Received: 01/19/99

% Moisture: not dec. _____ Date Analyzed: 01/21/99

GC Column: RTX-502.2 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	0.3	JB
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	0.3	JB
67-64-1	Acetone	3	JB
75-15-0	Carbon Disulfide	0.5	J
75-35-4	1,1-Dichloroethene	0.2	J
75-34-3	1,1-Dichloroethane	5	U
67-66-3	Chloroform	46	
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	20	U
56-23-5	Carbon Tetrachloride	1300	E
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	4	J
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	1.0	J
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.

B0TJP5

Lab Name: QUANTERRA MO Contract: 550.172

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02669

Matrix: (soil/water) WATER Lab Sample ID: 20565-001

Sample wt/vol: 25.00 (g/ml) ML Lab File ID: GSMP3060

Level: (low/med) LOW Date Received: 01/19/99

% Moisture: not dec. _____ Date Analyzed: 01/21/99

GC Column: RTX-502.2 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN ORGANIC ACID	23.92	1.310	JB
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0TJP5DL

Lab Name: QUANTERRA MO Contract: 550.172

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02669

Matrix: (soil/water) WATER Lab Sample ID: 20565-001 DL

Sample wt/vol: 25.00 (g/ml) ML Lab File ID: GSMP3091

Level: (low/med) LOW Date Received: 01/19/99

% Moisture: not dec. _____ Date Analyzed: 01/22/99

GC Column: RTX-502.2 ID: 0.53 (mm) Dilution Factor: 200.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	2000	U
74-83-9	Bromomethane	2000	U
75-01-4	Vinyl Chloride	42	DJB
75-00-3	Chloroethane	2000	U
75-09-2	Methylene Chloride	180	DJB
67-64-1	Acetone	720	DJB
75-15-0	Carbon Disulfide	1000	U
75-35-4	1,1-Dichloroethene	1000	U
75-34-3	1,1-Dichloroethane	1000	U
67-66-3	Chloroform	44	DJ
107-06-2	1,2-Dichloroethane	1000	U
78-93-3	2-Butanone	4000	U
56-23-5	Carbon Tetrachloride	5800	D
75-27-4	Bromodichloromethane	1000	U
78-87-5	1,2-Dichloropropane	1000	U
10061-01-5	cis-1,3-Dichloropropene	1000	U
79-01-6	Trichloroethene	1000	U
79-00-5	1,1,2-Trichloroethane	1000	U
71-43-2	Benzene	1000	U
10061-02-6	trans-1,3-Dichloropropene	1000	U
75-25-2	Bromoform	1000	U
108-10-1	4-Methyl-2-pentanone	4000	U
591-78-6	2-Hexanone	4000	U
127-18-4	Tetrachloroethene	1000	U
108-88-3	Toluene	1000	U
79-34-5	1,1,2,2-Tetrachloroethane	1000	U
108-90-7	Chlorobenzene	1000	U
100-41-4	Ethylbenzene	1000	U
100-42-5	Styrene	1000	U
1330-20-7	Xylenes (total)	1000	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B0TJP5DL

Lab Name: QUANTERRA MO Contract: 550.172

Lab Code: ITMO Case No.: SAS No.: SDG No.: W02669

Matrix: (soil/water) WATER Lab Sample ID: 20565-001 DL

Sample wt/vol: 25.00 (g/ml) ML Lab File ID: GSMP3091

Level: (low/med) LOW Date Received: 01/19/99

% Moisture: not dec. _____ Date Analyzed: 01/22/99

GC Column: RTX-502.2 ID: 0.53 (mm) Dilution Factor: 200.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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