



Environmental Services

Quanterra Incorporated
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CASE NARRATIVE

0053115

Bechtel Hanford Incorporated
3350 George Washington Way
Richland, Washington 99352

March 22, 2000

Attention: Joan Kessner

Project Number	:	33548
SAF	:	B99-018
SDG	:	W03066
Number of Samples	:	one (1)
Sample Matrix	:	Water
Data Deliverable	:	Summary
Date SDG Closed	:	February 23, 2000



II. Introduction

On February 23, 2000, one (1) "water" sample was received by Quanterra, Richland and transferred to Quanterra, St. Louis for chemical analysis. The samples were received within temperature criteria. See the attached Sample Summary sheet for the client and lab Ids for these samples.

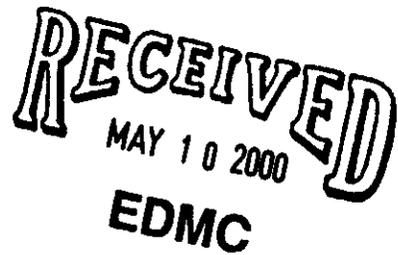
III. Analytical Results/ Methodology

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:

- pH - 150.1
- Sulfate - 375.4
- Chlorine (Total Residual) - 330.3
- VOA - 8260A (TCL)

Deviation from Request: There were no deviations.



Bechtel Hanford Incorporated
March 22, 2000
Project Number: 33548
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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.
DUP- Matrix Duplicate
MSD- Matrix Spike Duplicate.

V. Comments

General: The term "Detection Limit" used in the analytical data reports refers to either the lab's standard reporting limits or contractually required reporting limits, whichever is applicable.

Please refer to the attached cross-reference table for the standard preparation methods used at Quanterra, St. Louis.

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

There were no comments or non-conformances associated with the 8260 Volatiles data.

Wet Chemistry: A Laboratory Control Sample, Method Blank, Matrix Spike and Matrix Duplicate were analyzed with the Sulfate preparation batch per the protocol for this analysis. A duplicate was analyzed as QC for the pH and Residual Chlorine analyses.

There were no comments or non-conformances associated with the Wet Chemistry data.

Bechtel Hanford Incorporated

March 22, 2000

Project Number: 33548

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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:

A handwritten signature in cursive script, appearing to read "Marti Ward", written over a horizontal line.

Marti Ward

St. Louis Project Manager

SAMPLE SUMMARY

FOB240133

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT</u>	<u>SAMPLE ID</u>	<u>DATE</u>	<u>TIME</u>
DBXFR	001	BOXNHS		02/23/00	09:51

NOTE(S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

METHODS SUMMARY

FOB240133

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>	<u>PREPARATION METHOD</u>
pH (Electrometric)	MCAWW 150.1	MCAWW 150.1
Residual Chlorine 330.3	MCAWW 330.3	
Sulfate	MCAWW 375.4	MCAWW 375.4
Volatile Organics by GC/MS	SW846 8260A	SW846 5030/8260

References:

- MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.
- SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

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QUANTERRA INCORPORATED
CLIENT ANALYSIS SUMMARY
Quanterra - St. Louis

Run Date: 2/24/00
Time: 9:35:21
User Id.: SEITHELK

CLIENT: 127642 BECHTEL HANFORD, INC.
PROJECT MANAGER: MARTI WARD
PROJECT #: PERMIT MONITOR
REPORT TO: Bechtel Hanford, Inc.
P.O. NUMBER: MRC-SBB-A-19981
SITE: B99-018
AMOUNT REC'D: 3X40V,LP,250P,120P,20P
STORAGE LOC: S12C
LOT COMMENTS: Hanford EDD and Package Format required
MATRIX: WATER
SAMPLE ID: B0XNH8
QC PACKAGE: Special Report - see checklist
SAMPLE COMMENTS:
RUN DUP ON PH,SULKFATE,CHLORINE
Beginning Depth: .00 Ending Depth: .00

QUOTE/SAR #: 33548
LAB ID: F-0B240133-001
WORK ORDER: D8XFR
RECEIVING DATE: 2/23/00
SAMPLING DATE: 2/23/00
ANALYTICAL DUE DATE: 3/24/00N
REPORT DUE DATE: 4/10/00
PRIORITY: 29
SAMPLING TIME: 9:51
RECEIVING TIME: 10:55
SDG# : W03066

***** ANALYSIS *****

	WRK LOC	REQUEST DATE	EXTRACTION EXP DATE	ANALYSIS EXP DATE
Volatile Organics, GC/MS (8260A) PURGE AND TRAP - 5 mL purge STL: SW-846 8260A (I-15-MZ-01) D8XFR-1-01 Protocol: A QC Program: STANDARD TEST SET	06	2/24/00	0/00/00	3/08/00
pH - Aqueous (150.1) NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION (I-88-AJ-01) D8XFR-1-04 Protocol: A QC Program: STANDARD TEST SET	06	2/24/00	0/00/00	2/25/00
Chlorine, Residual (330.3) NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION (I-88-RD-01) D8XFR-1-07 Protocol: A QC Program: STANDARD TEST SET	06	2/24/00	0/00/00	2/24/00
Sulfate 375.4) NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION (I-88-UV-01) D8XFR-1-0A Protocol: A QC Program: STANDARD TEST SET	06	2/24/00	0/00/00	3/22/00

PSL20300
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QUANTERRA INCORPORATED
CLIENT ANALYSIS SUMMARY
Quanterra - St. Louis

Run Date: 2/24/00
Time: 9:35:21
User Id.: SEITHELK

CLIENT: 127642 BECHTEL HANFORD, INC.
PROJECT MANAGER: MARTI WARD
PROJECT #: PERMIT MONITOR
REPORT TO: Bechtel Hanford, Inc.
P.O. NUMBER: MRC-SBB-A-19981
SITE: B99-018
AMOUNT REC'D: 3X40V,LP,250P,120P,20P
STORAGE LOC: S12C
LOT COMMENTS: Hanford EDD and Package Format required
MATRIX: WATER
SAMPLE ID: B0XNH8
QC PACKAGE: Special Report - see checklist
SAMPLE COMMENTS:
RUN DUP ON PH,SULKFATE,CHLORINE
Beginning Depth: .00 Ending Depth: .00

QUOTE/SAR #: 33548
LAB ID: F-0B240133-001-D
WORK ORDER: D8XFR MSD
RECEIVING DATE: 2/23/00
SAMPLING DATE: 2/23/00
ANALYTICAL DUE DATE: 3/24/00N
REPORT DUE DATE: 4/10/00
PRIORITY: 29
SAMPLING TIME: 9:51
RECEIVING TIME: 10:55

SDG# : W03066

***** ANALYSIS *****

WRK LOC	REQUEST DATE	EXTRACTION EXP DATE	ANALYSIS EXP DATE
------------	-----------------	------------------------	----------------------

06	2/24/00	0/00/00	3/08/00
----	---------	---------	---------

Volatile Organics, GC/MS (8260A)
PURGE AND TRAP - 5 mL purge
STL: SW-846 8260A
(I-15-MZ-01) D8XFR-1-03 Protocol: A QC Program: STANDARD TEST SET

PSL20300
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QUANTERRA INCORPORATED
CLIENT ANALYSIS SUMMARY
Quanterra - St. Louis

Run Date: 2/24/00
Time: 9:35:21
User Id.: SEITHELK

CLIENT: 127642 BECHTEL HANFORD, INC.
PROJECT MANAGER: MARTI WARD
PROJECT #: PERMIT MONITOR
REPORT TO: Bechtel Hanford, Inc.
P.O. NUMBER: MRC-SBB-A-19981
SITE: B99-018
AMOUNT REC'D: 3X40V,LP,250P,120P,20P
STORAGE LOC: S12C

QUOTE/SAR #: 33548
LAB ID: F-0B240133-001-S
WORK ORDER: D8XFR MS
RECEIVING DATE: 2/23/00
SAMPLING DATE: 2/23/00
ANALYTICAL DUE DATE: 3/24/00N
REPORT DUE DATE: 4/10/00
PRIORITY: 29
SAMPLING TIME: 9:51
RECEIVING TIME: 10:55

LOT COMMENTS: Hanford EDD and Package Format required
MATRIX: WATER
SAMPLE ID: BOXNH8
QC PACKAGE: Special Report - see checklist
SAMPLE COMMENTS:
RUN DUP ON PH,SULKFATE,CHLORINE
Beginning Depth: .00 Ending Depth: .00

SDG# : W03066

***** ANALYSIS *****

	<u>WRK</u>	<u>REQUEST</u>	<u>EXTRACTION</u>	<u>ANALYSIS</u>
	<u>LOC</u>	<u>DATE</u>	<u>EXP DATE</u>	<u>EXP DATE</u>
Volatile Organics, GC/MS (8260A) PURGE AND TRAP - 5 mL purge STL: SW-846 8260A (I-15-MZ-01) D8XFR-1-02 Protocol: A	06	2/24/00	0/00/00	3/08/00
QC Program: STANDARD TEST SET				
Sulfate (375.4) NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION (I-88-UV-01) D8XFR-1-0C Protocol: A	06	2/24/00	0/00/00	3/22/00
QC Program: STANDARD TEST SET				

CUR# 000023 78

Bechtel Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				B99-018-33	Page 1 of 1
Collector Gale <i>D.W. Shea</i>	Company Contact D Blankenship	Telephone No. 373-5456	Project Coordinator TRENT, SJ		Price Code 7N	Data Turnaround 45 Days	
Project Designation 183N Backwash Discharge Pond -- Permit Monitoring		Sampling Location 100N		SAF No. B99-018	Air Quality <input type="checkbox"/>		
Ice Chest No. <i>Sml 452</i>	Field Logbook No. <i>EL-1381-3</i>	COA 77BK27YA40		Method of Shipment Fed Ex			
Shipped To Quanterra Incorporated		Offsite Property No. <i>400 0113</i>		Bill of Lading/Air Bill No. <i>42357953 4045</i>			
POSSIBLE SAMPLE HAZARDS/REMARKS	Preservation	None	None	Cool 4C	None	HCl or H2SO4 to pH < 2 Cool	
	Type of Container	P	P	P	P	aCa*	
	No. of Container(s)	1	1	1	1	3	
	Volume	20mL	125mL	250mL	1000mL	40mL	
Special Handling and/or Storage							
SAMPLE ANALYSIS <i>WO 30660</i>		Activity Scan	pH - 150	Sulfate - 375	Chlorine (Total residual) - 130.3	VOA - 1260A (TCL)	
			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Sample No.	Matrix *	Sample Date	Sample Time				
BOXN-18	Water	2/23/2000	0951	X	X	X	X
CHAIN OF POSSESSION		Sign/Print Names		SPECIAL INSTRUCTIONS			Matrix *
Relinquished By <i>D.W. Shea</i>	Date/Time <i>2/23/00 1055</i>	Received By <i>R. Thoren</i>	Date/Time <i>2/23/00/1055</i>	Sample media originated from a non-radiological area. No activity report required. Close SDG upon receipt of samples.			S-Soil SE-Sediment SD-Solid S-Sludge W-Water O-Oil A-Air DS-Drum Solids DL-Drum Liquids T-Tissue WJ-Wipe L-Liquid V-Vegetation X-Other
Relinquished By <i>R. Thoren</i>	Date/Time <i>2/23/00 1130</i>	Received By <i>FED EX</i>	Date/Time <i>2/23/00 1055</i>				
Relinquished By <i>FED EX</i>	Date/Time <i>RT 2/23/00</i>	Received By <i>[Signature]</i>	Date/Time <i>0900</i>				
Relinquished By	Date/Time	Received By	Date/Time				
Relinquished By	Date/Time	Received By	Date/Time				
Relinquished By	Date/Time	Received By	Date/Time				
LABORATORY SECTION	Received By	Title		Date/Time			
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By		Date/Time			



000023

Lot No.: FOB240133

Condition Upon Receipt Variance Report
St. Louis Laboratory

W03066

Client: BECHTEL HANFORD

Date: 02-24-00 Time: 0900

Quote No: 33548

Initiated by: MSP

Shipper/No: FED EX 4235753405

RFA/COC Numbers: B99-016-33

Condition/Variance (Check all that apply):

1. <input type="checkbox"/> Sample received broken/leaking.	8. <input type="checkbox"/> Sample ID on container does not match sample ID on paperwork. Explain: _____
2. <input type="checkbox"/> Sample received without proper preservative.	
<input type="checkbox"/> Cooler temperature not within 4°C ± 2°C	
Record temperature: _____	
<input type="checkbox"/> pH _____	9. <input type="checkbox"/> All coolers on airbill not received with shipment.
<input type="checkbox"/> other: _____	10. <input type="checkbox"/> Sample volume insufficient for analysis
3. <input type="checkbox"/> Sample received in improper container.	11. <input type="checkbox"/> Other (explain below)
4. <input type="checkbox"/> Sample received without proper paperwork. Explain: _____	_____

5. <input type="checkbox"/> Paperwork received without sample.	_____
6. <input type="checkbox"/> No sample ID on sample container.	_____
7. <input type="checkbox"/> Custody tape disturbed/broken/missing/not tamper evident type (circle all that apply).	

No variances were noted during sample receipt.
 Cooler Temperature Upon Receipt in °C: 28

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".
- Sample(s) on hold until: _____ If released, notify: _____

Sample Control Supervisor Review: Maria Pau Date: 02-24-00

Project Management Review: M Ward Date: 2.24.00

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

SL-ADMIN-0004, Revised 02/01/00

BECHTEL HANFORD, INC.

Client Sample ID: BOXN88

GC/MS Volatiles

Lot-Sample #....: FOB240133-001 Work Order #....: D8XFR101 Matrix.....: WATER
 Date Sampled....: 02/23/00 Date Received...: 02/23/00
 Prep Date.....: 02/28/00 Analysis Date...: 02/28/00
 Prep Batch #....: 0060243
 Dilution Factor: 1 Method.....: SW846 8260A

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Chloromethane	ND	10	ug/L	1.6
Vinyl chloride	ND	10	ug/L	4.1
Bromomethane	ND	10	ug/L	2.0
Chloroethane	ND	10	ug/L	2.3
Acetone	ND	20	ug/L	6.9
1,1-Dichloroethene	ND	5.0	ug/L	2.2
Methylene chloride	ND	5.0	ug/L	1.8
Carbon disulfide	ND	5.0	ug/L	2.1
1,1-Dichloroethane	ND	5.0	ug/L	1.2
2-Butanone	ND	20	ug/L	6.8
1,2-Dichloroethene (total)	ND	5.0	ug/L	2.7
Chloroform	16	5.0	ug/L	1.5
1,1,1-Trichloroethane	ND	5.0	ug/L	1.3
Carbon tetrachloride	ND	5.0	ug/L	1.3
1,2-Dichloroethane	ND	5.0	ug/L	1.6
Benzene	ND	5.0	ug/L	1.9
Trichloroethene	ND	5.0	ug/L	1.8
1,2-Dichloropropane	ND	5.0	ug/L	1.7
Bromodichloromethane	ND	5.0	ug/L	2.7
4-Methyl-2-pentanone	ND	20	ug/L	3.5
cis-1,3-Dichloropropene	ND	5.0	ug/L	2.0
Toluene	ND	5.0	ug/L	1.6
trans-1,3-Dichloropropene	ND	5.0	ug/L	2.5
1,1,2-Trichloroethane	ND	5.0	ug/L	3.6
2-Hexanone	ND	20	ug/L	4.6
Tetrachloroethene	ND	5.0	ug/L	2.7
Dibromochloromethane	ND	5.0	ug/L	3.2
Chlorobenzene	ND	5.0	ug/L	2.8
Ethylbenzene	ND	5.0	ug/L	2.4
Xylenes (total)	ND	10	ug/L	6.6
Styrene	ND	5.0	ug/L	3.0
Bromoform	ND	5.0	ug/L	3.1
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L	3.4

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	86	(71 - 118)
Toluene-d8	100	(78 - 124)
Dibromofluoromethane	104	(77 - 138)

BECHTEL HANFORD, INC.

BOXNH8

GC/MS Volatiles

Lot-Sample #: F0B240133-001

Work Order #: D8XFR101

Matrix: WATER

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

<u>PARAMETER</u>	<u>CAS #</u>	<u>ESTIMATED RESULT</u>	<u>RETENTION TIME</u>	<u>UNITS</u>
UNKNOWN		8.5	M 18.603	ug/L
UNKNOWN		5.2	M 23.007	ug/L
UNKNOWN		2.6	M 24.765	ug/L

NOTE(S):

M: Result was measured against nearest internal standard assuming a response factor of 1.

MATRIX SPIKE SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: F0B240133 Work Order #...: D8XFR102-MS Matrix.....: WATER
 MS Lot-Sample #: F0B240133-001 D8XFR103-MSD
 Date Sampled...: 02/23/00 Date Received...: 02/23/00
 Prep Date.....: 02/28/00 Analysis Date...: 02/28/00
 Prep Batch #...: 0060243
 Dilution Factor: 1

PARAMETER	SAMPLE SPIKE MEASRD			UNITS	PERCENT		
	AMOUNT	AMT	AMOUNT		RECOVERY	RPD	METHOD
1,1-Dichloroethene	ND	50.0	53.4	ug/L	107		SW846 8260A
	ND	50.0	53.6	ug/L	107	0.43	SW846 8260A
Benzene	ND	50.0	50.2	ug/L	100		SW846 8260A
	ND	50.0	50.8	ug/L	102	1.1	SW846 8260A
Trichloroethene	ND	50.0	43.8	ug/L	88		SW846 8260A
	ND	50.0	44.0	ug/L	88	0.54	SW846 8260A
Toluene	ND	50.0	47.7	ug/L	95		SW846 8260A
	ND	50.0	48.7	ug/L	97	2.1	SW846 8260A
Chlorobenzene	ND	50.0	47.6	ug/L	95		SW846 8260A
	ND	50.0	48.0	ug/L	96	0.83	SW846 8260A

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
4-Bromofluorobenzene	89	(71 - 118)
	91	(71 - 118)
Toluene-d8	102	(78 - 124)
	105	(78 - 124)
Dibromofluoromethane	103	(77 - 138)
	105	(77 - 138)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.
 Bold print denotes control parameters

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: F0B240133
 MB Lot-Sample #: F0B290000-243

Work Order #...: D94E4101

Matrix.....: WATER

Analysis Date...: 02/28/00
 Dilution Factor: 1

Prep Date.....: 02/28/00
 Prep Batch #...: 0060243

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	METHOD
Chloromethane	ND	10	ug/L	SW846 8260A
Vinyl chloride	ND	10	ug/L	SW846 8260A
Bromomethane	ND	10	ug/L	SW846 8260A
Chloroethane	ND	10	ug/L	SW846 8260A
Acetone	7.9 J	20	ug/L	SW846 8260A
1,1-Dichloroethene	ND	5.0	ug/L	SW846 8260A
Methylene chloride	2.0 J	5.0	ug/L	SW846 8260A
Carbon disulfide	ND	5.0	ug/L	SW846 8260A
1,1-Dichloroethane	ND	5.0	ug/L	SW846 8260A
2-Butanone	ND	20	ug/L	SW846 8260A
1,2-Dichloroethene (total)	ND	5.0	ug/L	SW846 8260A
Chloroform	ND	5.0	ug/L	SW846 8260A
1,1,1-Trichloroethane	ND	5.0	ug/L	SW846 8260A
Carbon tetrachloride	ND	5.0	ug/L	SW846 8260A
1,2-Dichloroethane	ND	5.0	ug/L	SW846 8260A
Benzene	ND	5.0	ug/L	SW846 8260A
Trichloroethene	ND	5.0	ug/L	SW846 8260A
1,2-Dichloropropane	ND	5.0	ug/L	SW846 8260A
Bromodichloromethane	ND	5.0	ug/L	SW846 8260A
4-Methyl-2-pentanone	ND	20	ug/L	SW846 8260A
cis-1,3-Dichloropropene	ND	5.0	ug/L	SW846 8260A
Toluene	ND	5.0	ug/L	SW846 8260A
trans-1,3-Dichloropropene	ND	5.0	ug/L	SW846 8260A
1,1,2-Trichloroethane	ND	5.0	ug/L	SW846 8260A
2-Hexanone	ND	20	ug/L	SW846 8260A
Tetrachloroethene	ND	5.0	ug/L	SW846 8260A
Dibromochloromethane	ND	5.0	ug/L	SW846 8260A
Chlorobenzene	ND	5.0	ug/L	SW846 8260A
Ethylbenzene	ND	5.0	ug/L	SW846 8260A
Xylenes (total)	ND	10	ug/L	SW846 8260A
Styrene	ND	5.0	ug/L	SW846 8260A
Bromoform	ND	5.0	ug/L	SW846 8260A
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L	SW846 8260A

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
4-Bromofluorobenzene	85	(71 - 118)
Toluene-d8	101	(78 - 124)
Dibromofluoromethane	109	(77 - 138)

(Continued on next page)

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: F0B240133

Work Order #...: D94E4101

Matrix.....: WATER

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

J Estimated result. Result is less than RL.

BECHTEL HANFORD, INC.

Method Blank Report

GC/MS Volatiles

Lot-Sample #: F0B290000-243 B Work Order #: D94E4101

Matrix: WATER

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

<u>PARAMETER</u>	<u>CAS #</u>	<u>ESTIMATED RESULT</u>	<u>RETENTION TIME</u>	<u>UNITS</u>
None				ug/L

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: FOB240133 Work Order #...: D94E4102 Matrix.....: WATER
 LCS Lot-Sample#: FOB290000-243
 Prep Date.....: 02/28/00 Analysis Date...: 02/28/00
 Prep Batch #...: 0060243
 Dilution Factor: 1

<u>PARAMETER</u>	<u>SPIKE</u> <u>AMOUNT</u>	<u>MEASURED</u> <u>AMOUNT</u>	<u>UNITS</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>METHOD</u>
1,1-Dichloroethene	50.0	52.8	ug/L	106	SW846 8260A
Benzene	50.0	49.9	ug/L	100	SW846 8260A
Trichloroethene	50.0	43.6	ug/L	87	SW846 8260A
Toluene	50.0	47.9	ug/L	96	SW846 8260A
Chlorobenzene	50.0	47.7	ug/L	95	SW846 8260A

<u>SURROGATE</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>
4-Bromofluorobenzene	88	(71 - 118)
Toluene-d8	103	(78 - 124)
Dibromofluoromethane	105	(77 - 138)

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

BECTEL HANFORD, INC.

Client Sample ID: BOXNH8

General Chemistry

Lot-Sample #...: F0B240133-001 Work Order #...: DBXFR Matrix.....: WATER
 Date Sampled...: 02/23/00 Date Received...: 02/23/00

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
pH (liquid)	7.3		No Units	MCAWW 150.1	03/20/00	0080449
				Dilution Factor: 1	MDL.....: 0.010	
Sulfate	21.6	5.0	mg/L	MCAWW 375.4	03/08/00	0070185
				Dilution Factor: 1	MDL.....: 0.90	
Total Residual Chlorine	0.10 <	0.10	mg/L	MCAWW 330.3	03/17/00	0077286
				Dilution Factor: 1	MDL.....: 0.089	

MATRIX SPIKE SAMPLE DATA REPORT

General Chemistry

Client Lot #...: FOB240133

Matrix.....: WATER

Date Sampled...: 02/23/00

Date Received...: 02/23/00

<u>PARAMETER</u>	<u>SAMPLE AMOUNT</u>	<u>SPIKE AMT</u>	<u>MEASURED AMOUNT</u>	<u>UNITS</u>	<u>PERCENT RECOVERY</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Sulfate	21.6	25.0	40.9	mg/L	77	MCAWW 375.4	03/08/00	0070185

Work Order #...: DSXFR10C MS Lot-Sample #: FOB240133-001
Dilution Factor: 1

NOTE (S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: FOB240133

Work Order #...: D8XFR-SMP
D8XFR-DUP

Matrix.....: WATER

Date Sampled...: 02/23/00

Date Received...: 02/23/00

<u>PARAM</u>	<u>RESULT</u>	<u>DUPLICATE</u> <u>RESULT</u>	<u>UNITS</u>	<u>RPD</u> <u>RPD</u>	<u>RPD</u> <u>LIMIT</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>PREP</u> <u>BATCH #</u>
pH (liquid)	7.3	7.3	No Units	0.27	(0-20)	MCAWW 150.1	SD Lot-Sample #: FOB240133-001 03/20/00	0080449
			Dilution Factor: 1					
Total Residual Chlorine	0.10 <	0.10 <	mg/L	0.0	(0-20)	MCAWW 330.3	SD Lot-Sample #: FOB240133-001 03/17/00	0077286
			Dilution Factor: 1					
Sulfate	21.6	22.5	mg/L	4.4	(0-20)	MCAWW 375.4	SD Lot-Sample #: FOB240133-001 03/08/00	0070185
			Dilution Factor: 1					

METHOD BLANK REPORT

General Chemistry

Client Lot #...: FOB240133

Matrix.....: WATER

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
pH (liquid)	6.0	Work Order #: D9VA0101 Dilution Factor: 1	No Units	MB Lot-Sample #: FOC200000-449 MCAWW 150.1	03/20/00	0080449
Sulfate	ND	Work Order #: D9G6M101 Dilution Factor: 1	5.0 mg/L	MB Lot-Sample #: FOC100000-185 MCAWW 375.4	03/08/00	0070185
Total Residual Chlorine	0.10 <	Work Order #: D9QXR101 Dilution Factor: 1	0.10 mg/L	MB Lot-Sample #: FOC170000-286 MCAWW 330.3	03/17/00	0077286

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE DATA REPORT

General Chemistry

Client Lot #...: F0B240133

Matrix.....: WATER

<u>PARAMETER</u>	<u>SPIKE AMOUNT</u>	<u>MEASURED AMOUNT</u>	<u>UNITS</u>	<u>PERCNT RECVRY</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Total Residual				Work Order #: D9QXR102 LCS Lot-Sample#: F0C170000-286			
Chlorine	7.13	7.20	mg/L	101	MCAWW 330.3	03/17/00	0077286
			Dilution Factor: 1				

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.