

H1580

Eberline Services
W.O. No. R1-11-045-7139

0056615
Bechtel Hanford Inc.
SDG H1580

Case Narrative

Page 1 of 1

1.0 GENERAL

Bechtel Hanford Inc. (BHI) Sample Delivery Group H1580 was composed of one water sample designated under SAF No. B02-007 with a Project Designation of: 200 Area Source Characterization 200-CS-1 OU – QC Sampling. SDG H1580 (7139) was batched with SDG H1569 (7132).

The sample was received as stated on the Chain-of-Custody document. Any discrepancies are noted on the Eberline Services Sample Receipt Checklist. The results were transmitted to BHI via e-Fax on December 21, 2001.

2.0 ANALYSIS NOTES

2.1 Gross Alpha and Gross Beta Analyses

No problems were encountered during the course of the analyses.

RECEIVED
MAR 14 2002
EDMC

Case Narrative Certification Statement

"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 obtained in this hard copy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature."

Melissa Mannion
Melissa C. Mannion
Program Manager

1/14/02
Date

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H1580

SDG 7139
 Contact Melissa C. Mannion

SAMPLE SUMMARY

Client Hanford
 Contract No. 630
 Case no SDG H1580

CLIENT SAMPLE ID	LOCATION	MATRIX	LEVEL	LAB SAMPLE ID	SAF NO	CHAIN OF CUSTODY	COLLECTED
B13D85	200 East	WATER		R111045-01	B02-007	B02-007-04	11/01/01 14:15
Method Blank		WATER		R111016-03	B02-007		
Lab Control Sample		WATER		R111016-02	B02-007		
Duplicate (R111045-01)	200 East	WATER		R111045-02	B02-007		11/01/01 14:15

Lab id TMANC
 Protocol Hanford
 Version Ver 1.0
 Form DVD-CS
 Version 3.06
 Report date 12/21/01

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H1580

SDG 7139
 Contact Melissa C. Mannion

QC SUMMARY

Client Hanford
 Contract No. 630
 Case no SDG H1580

QC BATCH	CHAIN OF CUSTODY	CLIENT SAMPLE ID	MATRIX	% SOLIDS	SAMPLE AMOUNT	BASIS AMOUNT	DAYS SINCE RECEIVED	LAB COLL SAMPLE ID	DEPARTMENT SAMPLE ID
7132		Method Blank	WATER					R111016-03	7132-003
		Lab Control Sample	WATER					R111016-02	7132-002
7139	B02-007-04	B13D85	WATER		2.0 L		11/06/01 5	R111045-01	7139-001
		Duplicate (R111045-01)	WATER		2.0 L		11/06/01 5	R111045-02	7139-002

Lab id TMANC
 Protocol Hanford
 Version Ver 1.0
 Form DVD-QS
 Version 3.06
 Report date 12/21/01

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H1580

SDG 7139
 Contact Melissa C. Mannion

PREP BATCH SUMMARY

Client Hanford
 Contract No. 630
 Case no SDG H1580

TEST	MATRIX	METHOD	PREPARATION ERROR		PLANCHETS ANALYZED				QUALI-	
			BATCH	2σ %	CLIENT	MORE	RE	BLANK		LCS
<i>Gas Proportional Counting</i>										
93A	WATER	Gross Alpha in Water	7012-130	20.0	1		1	1	1/1	
93B	WATER	Gross Beta in Water	7012-130	15.0	1		1	1	1/1	

Duplicates and Matrix Spikes are those with original (Client) sample in this Sample Delivery Group.
 Blank and LCS planchets are those in the same preparation batch as some Client, Duplicate or Spike sample.

Lab id TMANC
 Protocol Hanford
 Version Ver 1.0
 Form DVD-PBS
 Version 3.06
 Report date 12/21/01

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H1580

WORK SUMMARY

SDG 7139
Contact Melissa C. Mannion

Client Hanford
Contract No. 630
Case no SDG H1580

CLIENT SAMPLE ID	LAB SAMPLE ID									
LOCATION	MATRIX	COLLECTED		SUF-						
CUSTODY	SAF No	RECEIVED	PLANCHET	TEST	FIX	ANALYZED	REVIEWED	BY	METHOD	
B13D85		R111045-01	7139-001	93A/93		12/20/01	12/21/01	MCM	Gross Alpha in Water	
200 East	WATER	11/01/01	7139-001	93B/93		12/20/01	12/21/01	MCM	Gross Beta in Water	
B02-007-04	B02-007	11/06/01								
Method Blank		R111016-03	7132-003	93A/93		12/18/01	12/20/01	MCM	Gross Alpha in Water	
	WATER		7132-003	93B/93		12/18/01	12/20/01	MCM	Gross Beta in Water	
	B02-007									
Lab Control Sample		R111016-02	7132-002	93A/93		12/20/01	12/20/01	MCM	Gross Alpha in Water	
	WATER		7132-002	93B/93		12/20/01	12/20/01	MCM	Gross Beta in Water	
	B02-007									
Duplicate (R111045-01)		R111045-02	7139-002	93A/93		12/20/01	12/21/01	MCM	Gross Alpha in Water	
200 East	WATER	11/01/01	7139-002	93B/93		12/20/01	12/21/01	MCM	Gross Beta in Water	
	B02-007	11/06/01								

COUNTS OF TESTS BY SAMPLE TYPE											
TEST	SAF No	METHOD	REFERENCE	CLIENT	MORE	RE	BLANK	LCS	DUP	SPIKE	TOTAL
93A/93	B02-007	Gross Alpha in Water	900.0_ALPHABETA_GPC	1			1	1	1		4
93B/93	B02-007	Gross Beta in Water	900.0_ALPHABETA_GPC	1			1	1	1		4
TOTALS				2			2	2	2		8

Lab id TMANC
Protocol Hanford
Version Ver 1.0
Form DVD-CWS
Version 3.06
Report date 12/21/01

EBERLINE SERVICES / RICHMOND

SAMPLE DELIVERY GROUP H1580

R111016-03

Method Blank

METHOD BLANK

SDG <u>7139</u>	Client/Case no <u>Hanford</u>	<u>SDG H1580</u>
Contact <u>Melissa C. Mannion</u>	Contract No. <u>630</u>	
Lab sample id <u>R111016-03</u>	Client sample id <u>Method Blank</u>	
Dept sample id <u>7132-003</u>	Material/Matrix _____	<u>WATER</u>
	SAF No <u>B02-007</u>	

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST
Gross Alpha	12587-46-1	-0.148	1.2	2.7	3.0	U	93A
Gross Beta	12587-47-2	<u>-6.50</u>	4.1	<u>7.6</u>	4.0	U	93B

200 Area Source Chara. 200-CS-1 OU

QC-BLANK 40414

Lab id <u>TMANC</u>
Protocol <u>Hanford</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DS</u>
Version <u>3.06</u>
Report date <u>12/21/01</u>

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H1580

R111016-02

Lab Control Sample

LAB CONTROL SAMPLE

SDG <u>7139</u>	Client/Case no <u>Hanford</u>	SDG <u>H1580</u>
Contact <u>Melissa C. Mannion</u>	Case no <u>No. 630</u>	
Lab sample id <u>R111016-02</u>	Client sample id <u>Lab Control Sample</u>	
Dept sample id <u>7132-002</u>	Material/Matrix <u>WATER</u>	
	SAF No <u>B02-007</u>	

ANALYTE	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS TEST	ADDED pCi/L	2σ ERR pCi/L	REC %	3σ LMTS (TOTAL)	PROTOCOL LIMITS
Gross Alpha	221	15	<u>3.3</u>	3.0	93A	200	8.0	110	64-136	70-113
Gross Beta	228	12	<u>8.9</u>	4.0	93B	218	8.7	105	74-126	70-130

200 Area Source Chara. 200-CS-1 OU

QC-LCS 40413

Lab id <u>TMANC</u>
Protocol <u>Hanford</u>
Version <u>Ver 1.0</u>
Form <u>DVD-LCS</u>
Version <u>3.06</u>
Report date <u>12/21/01</u>

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H1580

R111045-02

B13D85

DUPLICATE

SDG <u>7139</u> Contact <u>Melissa C. Mannion</u> DUPLICATE Lab sample id <u>R111045-02</u> Dept sample id <u>7139-002</u>	ORIGINAL Lab sample id <u>R111045-01</u> Dept sample id <u>7139-001</u> Received <u>11/06/01</u>	Client/Case no <u>Hanford</u> <u>SDG H1580</u> Case no <u>No. 630</u> Client sample id <u>B13D85</u> Location/Matrix <u>200 East</u> <u>WATER</u> Collected/Volume <u>11/01/01 14:15</u> <u>2.0 L</u> Custody/SAF No <u>B02-007-04</u> <u>B02-007</u>
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ANALYTE	DUPLICATE pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST	ORIGINAL pCi/L	2σ ERR (COUNT)	MDA pCi/L	QUALI- FIERS	RPD %	3σ TOT	PROT LIMIT
Gross Alpha	-0.188	0.33	0.78	3.0	U	93A	0.231	0.43	0.68	U	-		
Gross Beta	0.640	1.3	2.1	4.0	U	93B	-0.392	1.0	1.8	U	-		

200 Area Source Chara. 200-CS-1 OU

QC-DUP#1 40424

Lab id <u>TMANC</u> Protocol <u>Hanford</u> Version <u>Ver 1.0</u> Form <u>DVD-DUP</u> Version <u>3.06</u> Report date <u>12/21/01</u>

EBERLINE SERVICES / RICHMOND
SAMPLE DELIVERY GROUP H1580

R111045-01

B13D85

DATA SHEET

SDG <u>7139</u>	Client/Case no <u>Hanford</u>	<u>SDG H1580</u>
Contact <u>Melissa C. Mannion</u>	Contract No. <u>630</u>	
Lab sample id <u>R111045-01</u>	Client sample id <u>B13D85</u>	
Dept sample id <u>7139-001</u>	Location/Matrix <u>200 East</u>	<u>WATER</u>
Received <u>11/06/01</u>	Collected/Volume <u>11/01/01 14:15</u>	<u>2.0 L</u>
	Custody/SAF No <u>B02-007-04</u>	<u>B02-007</u>

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST
Gross Alpha	12587-46-1	0.231	0.43	0.68	3.0	U	93A
Gross Beta	12587-47-2	-0.392	1.0	1.8	4.0	U	93B

200 Area Source Chara. 200-CS-1 OU

Lab id <u>TMANC</u>
Protocol <u>Hanford</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DS</u>
Version <u>3.06</u>
Report date <u>12/21/01</u>

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H1580

Test 93A Matrix WATER
 SDG 7139
 Contact Melissa C. Mannion

Client Hanford
 Contract No. 630
 Contract SDG H1580

METHOD SUMMARY

GROSS ALPHA IN WATER
 GAS PROPORTIONAL COUNTING

RESULTS

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF- FIX	PLANCHET	Gross Alpha
Preparation batch 7012-130					
B13D85	R111045-01	93		7139-001	U
BLK (QC ID=40414)	R111016-03	93		7132-003	U
LCS (QC ID=40413)	R111016-02	93		7132-002	ok
Duplicate (R111045-01)	R111045-02	93		7139-002	- U
Nominal values and limits from method		RDIs (pCi/L)		3.0	
200 Area Source Chara. 200-CS-1 OU					

METHOD PERFORMANCE

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF- FIX	MDA pCi/L	ALIQ L	PREP FAC	DILU- TION	RESID mg	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	ANAL- PREPARED	YZED	DETECTOR
Preparation batch 7012-130 2σ prep error 20.0 % Reference Lab Notebook 7012 pg. 130																
B13D85	R111045-01	93		0.68	0.300			<u>4</u>	100			49	12/06/01	12/20		GRB-101
BLK (QC ID=40414)	R111016-03	93		2.7	0.100			22	100				12/06/01	12/18		GRB-112
LCS (QC ID=40413)	R111016-02	93		<u>3.3</u>	0.100			22	100				12/06/01	12/20		GRB-114
Duplicate (R111045-01)	R111045-02	93		0.78	0.300			<u>4</u>	100			49	12/06/01	12/20		GRB-102
(QC ID=40424)																
Nominal values and limits from method				3.0	0.100			5-250	100			180				

PROCEDURES	REFERENCE	900.0_ALPHABETA_GPC
CP-060		Soil Preparation, rev 3
CP-070		Soil Dissolution, < 1.0g Aliquot, rev 4
CP-170		Soil Preparation for Direct Gross Alpha and Gross Beta Counting, rev 3

AVERAGES ± 2 SD	MDA	<u>1.9</u> ± <u>2.7</u>
FOR 4 SAMPLES	RESIDUE	<u>13</u> ± <u>21</u>

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H1580

METHOD SUMMARY

GROSS BETA IN WATER
GAS PROPORTIONAL COUNTING

Test 93B Matrix WATER
SDG 7139
Contact Melissa C. Mannion

Client Hanford
Contract No. 630
Contract SDG H1580

RESULTS

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF- FIX	PLANCHET	Gross Beta
Preparation batch 7012-130					
B13D85	R111045-01	93		7139-001	U
BLK (QC ID=40414)	R111016-03	93		7132-003	U
LCS (QC ID=40413)	R111016-02	93		7132-002	ok
Duplicate (R111045-01)	R111045-02	93		7139-002	- U
Nominal values and limits from method		RDIs (pCi/L)		4.0	
200 Area Source Chara. 200-CS-1 OU					

METHOD PERFORMANCE

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF- FIX	MDA pCi/L	ALIQ L	PREP FAC	DILU- TION	RESID mg	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	ANAL- PREPARED	YZED	DETECTOR
Preparation batch 7012-130 2σ prep error 15.0 % Reference Lab Notebook 7012 pg. 130																
B13D85	R111045-01	93		1.8	0.300			<u>4</u>		100		49	12/06/01	12/20		GRB-101
BLK (QC ID=40414)	R111016-03	93		<u>7.6</u>	0.100			22		100			12/06/01	12/18		GRB-112
LCS (QC ID=40413)	R111016-02	93		<u>8.9</u>	0.100			22		100			12/06/01	12/20		GRB-114
Duplicate (R111045-01) (QC ID=40424)	R111045-02	93		2.1	0.300			<u>4</u>		100		49	12/06/01	12/20		GRB-102
Nominal values and limits from method				4.0	0.100			5-250		100			180			

PROCEDURES	REFERENCE	900.0_ALPHABETA_GPC
	CP-060	Soil Preparation, rev 3
	CP-070	Soil Dissolution, < 1.0g Aliquot, rev 4
	CP-170	Soil Preparation for Direct Gross Alpha and Gross Beta Counting, rev 3

AVERAGES ± 2 SD	MDA	<u>5.1</u> ± <u>7.4</u>
FOR 4 SAMPLES	RESIDUE	<u>13</u> ± <u>21</u>

METHOD SUMMARIES

Page 2

SUMMARY DATA SECTION

Page 12

Lab id TMANC
Protocol Hanford
Version Ver 1.0
Form DVD-CMS
Version 3.06
Report date 12/21/01

Bechtel Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			B02-007-04	Page 1 of 1
Collector Watson, D/Bowers DL	Company Contact Cearlock, CS	Telephone No. 372-9638	Project Coordinator TRENT, SJ		Price Code 7N	Data Turnaround 45 Days
Project Designation 200 Area Source Characterization 200-CS-1 OU - QC Samplin		Sampling Location 200 East	H1580 (7139)		SAF No. B02-007	Air Quality <input type="checkbox"/>
Ice Chest No. ERC-01-038	Field Logbook No. EL1551	COA B20CS1673C	Method of Shipment Fed Ex			
Shipped To AMA/RECRE		Offsite Property No. A020004	Bill of Lading/Air Bill No. 92351954-8637			

POSSIBLE SAMPLE HAZARDS/REMARKS Samples did not originate in radiological controlled area. No total activity associated with sample/samples. Special Handling and/or storage	Preservation	HCl to pH < Cool 4C	Cool 4C	HNO3 to pH <	H2SO4 to pH < Cool 4C	Cool 4C	Zn to NaOH In pH > 9 Cool	HNO3 to pH <		
	Type of Container	gGs*	gG	gG	gG	gG	gG	gG		
	No. of Container(s)	3	2	1	1	1	1	2		
	Volume	40mL	1000mL	1000mL	100mL	1000mL	500mL	1000mL		

SAMPLE ANALYSIS	VOA - E260A (TCL); VOA - E260A (Add On) (1-1-Propanol, Ethanol)	Semi-VOA - E270A (Add On) (1-1-Phosphate)	See item (2) in Special Instructions.	NO2/NO3 - 353.1; Ammonia - 350.3	See item (2) in Special Instructions.	Sulfides - 9030	Gross Alpha, Gross Beta
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Sample No.	Matrix *	Sample Date	Sample Time						
B13D85	WATER	11/1/01	1415					X	(2X)

CHAIN OF POSSESSION				SPECIAL INSTRUCTIONS				Matrix * S=Soil SB=Soil/Stone SD=Soil/Dirt W=Water O=Oil A=Air DB=Drum Solids DL=Drum Liquids T=Time W=Wipe L=Liquid V=Vegetation X=Other
Relinquished By/Removed From D. WATSON	Date/Time 11/1/01 1455	Received By/Stored In REF 2C 3728 BUDG.	Date/Time 11/1/01 1455	** Laboratory is to measure pH within 24 hours of sample receipt.				
Relinquished By/Removed From REF 2C 3728	Date/Time 11-5-01 0900	Received By/Stored In R. P. Thoren	Date/Time 11-5-01 0900	** The ERC acknowledges the 48-hour holding time will not be met for Nitrate using EPA method 300.0.				
Relinquished By/Removed From REF 2C 3728	Date/Time 11-5-01 0900	Received By/Stored In FED EX	Date/Time 11-05-01	** The laboratory is to report Decane as a TIC if present in detectable quantities.				
Relinquished By/Removed From FED- EX 12058	Date/Time 11-06-01 9:30	Received By/Stored In S. C. A. 2 E. MAESTAS	Date/Time 11-06-01 9:30	(1) ICP Metals - 6010A (Supertrace) (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver); ICP Metals - 6010A (Supertrace Add-On) (Beryllium, Copper, Nickel, Vanadium, Zinc)				
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time	(2) IC Anions - 300.0 (Chloride, Fluoride, Nitrate, Nitrite, Phosphate, Sulfate); pH (Water) - 9040				
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time	Samples stored in Ref. # <u>RT</u> at the 3728 Shipping Facility on <u>11/1/01</u> . Collector not available to relinquish samples on <u>11/5/01</u> for shipment. <u>RT-11-5-01</u>				

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

SAMPLE RECEIPT CHECKLIST

SAMPLE RECEIPT

Client: Bochtel Hanford Inc. Date/Time received 11-06-01 9:30 AM

CoC No. B02-007-04

Container I.D. No. ERC-01-038 Requested TAT (Days) 45 P.O. Received Yes [] No []

INSPECTION

1. Custody seals on shipping container intact? Yes [] No [] N/A []
2. Custody seals on shipping container dated & signed? Yes [] No [] N/A []
3. Custody seals on sample containers intact? Yes [] No [] N/A []
4. Custody seals on sample containers dated & signed? Yes [] No [] N/A []
5. Cooler Temperature: _____ Packing material is: Wet [] Dry []
6. Number of samples in shipping container: 1 SAMPLES
7. Number of containers per sample: (1 EACH) (Or see CoC _____)
8. Paperwork agrees with samples? Yes [] No []
9. Samples have: Tape [] Hazard labels [] Rad labels [] Appropriate sample labels []
10. Samples are: In good condition [] Leaking [] Broken Container [] Missing []
11. Describe any anomalies: _____
13. Was P.M. notified of any anomalies? Yes [] No [] Date _____
14. Received by Elvie R. Maestas Date: 11-06-01 Time: 9:30 AM

Customer Sample No.	cpm	mr/hr	Customer Sample No.	Cpm	mr/hr
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

Ion Chamber Ser. No. _____ Calibration date _____

Survey Meter Ser No. _____ Calibration date _____



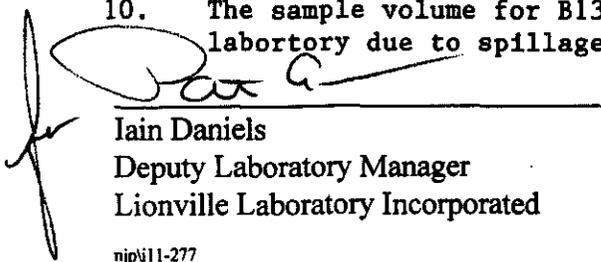
Analytical Report

Client: TNU-HANFORD B02-007 H1580
LVL#: 0111L277

W.O.#: 11343-606-001-9999-00
Date Received: 11-06-01

INORGANIC NARRATIVE

1. This narrative covers the analyses of 1 water sample.
2. The sample was prepared and analyzed in accordance with the methods checked on the attached glossary.
3. Sample holding times as required by the method and/or contract were met with the exception of pH, Nitrate, Nitrite and Phosphate that were received past hold.
4. The cooler temperature was recorded on the chain of custody.
5. The method blanks were within the method criteria.
6. The Laboratory Control Samples (LCS) were within the laboratory control limits. The duplicate LCS for Sulfide was within the 20% Relative Percent Difference (RPD) control limit.
7. The matrix spike recoveries were within the 75-125% control limits.
8. The replicate analyses were within the 20% RPD control limit.
9. I certify that this sample data package is in compliance with SOW requirements, both technically and for completeness, other than the conditions detailed above. Release of the data contained in this hard copy package has been authorized by the Laboratory Manager or a designee, as verified by the following signature.
10. The sample volume for B13D85 Ammonia and Nitrate/Nitrite was lost by the laboratory due to spillage.


Iain Daniels
Deputy Laboratory Manager
Lionville Laboratory Incorporated
njpl11-277

11-30-01
Date

The results presented in this report relate to the analytical testing and conditions of the samples upon receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of 15 pages.

Lionville Laboratory Incorporated

WET CHEMISTRY

METHODS GLOSSARY FOR WATER SAMPLE ANALYSIS

	<u>EPA /600</u>	<u>SW846</u>	<u>OTHER</u>
Acidity	305.1		
___ Alkalinity ___ Bicarbonate ___ Carbonate	310.1		
BOD	405.1		___ 5210B (b)
Ion Chromatography:			
___ Bromide <input checked="" type="checkbox"/> Chloride <input checked="" type="checkbox"/> Fluoride	<input checked="" type="checkbox"/> 300.0	___ 9056	
<input checked="" type="checkbox"/> Nitrate ___ Nitrite ___ Phosphate	<input checked="" type="checkbox"/> 300.0	___ 9056	
<input checked="" type="checkbox"/> Sulfate ___ Formate ___ Acetate ___ Oxalate	<input checked="" type="checkbox"/> 300.0	___ 9056	
Chloride	325.2	___ 9251	
Chlorine, Residual	330.5 (mod)		
Cyanide, Amenable to Chlorination	335.2	___ 9010B	
Cyanide, Total	335.2	___ 9010B	___ 9014 ___ ILMO4.0 (e)
Cyanide, Weak Acid Dissociable			___ 412 (a) ___ 4500CN-I (b)
COD	410.4(mod)		___ 5220C (b)
Color	110.2		
Corrosivity by Coupon		___ 1110(mod)	
Chromium VI		___ 7196A	___ 3500Cr-D (b)
Fluoride	340.2		___ 4500-FC
Hardness, Calcium	215.2		
Hardness, Total	130.2		
Iodide			___ ASTM D19P202 (1)
Surfactant	425.1		
___ Nitrate-Nitrite ___ Nitrate ___ Nitrite	353.2		
Ammonia	350.3		
Total ___ Kjeldahl ___ Organic Nitrogen	351.3		
Total ___ Organic ___ Inorganic Carbon	415.1	___ 9060	
Oil & Grease	413.1	___ 9070	
<input checked="" type="checkbox"/> pH ___ pH; paper	150.1	<input checked="" type="checkbox"/> 9040B ___ 9041A	
Petroleum Hydrocarbons, Total Recoverable	418.1		
Phenol	420.1	___ 420.2 ___ 9065 ___ 9066	
___ Ortho ___ Total Phosphate	365.2		___ 4500-P B ___ C
Salinity			___ 210A (a) ___ 2520 (b)
Settleable Solids	160.5		
Sulfide	376.1		<input checked="" type="checkbox"/> 9030B/9034 (acid soluble)
Reactive ___ Cyanide ___ Sulfide		___ Section 7.3 (___ 9014 ___ 9030B)	
Silica	370.1		
Sulfite	377.1		
Sulfate	375.4	___ 9038	
Specific Conductance	120.1	___ 9050A	
Specific Gravity			___ D5057-90 ___ 213E (a)
Synthetic Precipitation Leach		___ 1312	
Total ___ Dissolved ___ Suspended ___ Solids	160 ___ .1 ___ .2 ___ .3		
Total Organic Halides	450.1	___ 9020B	
Turbidity	180.1		
Volatile Solids:			
___ Total ___ Dissolved ___ Suspended	160.4		
Other:		Method:	

Lionville Laboratory Incorporated

METHOD REFERENCES AND DATA QUALIFIERS

DATA QUALIFIERS

U = Indicates that the parameter was not detected at or above the reported limit. The associated numerical value is the sample detection limit.

* = Indicates that the original sample result is greater than 4x the spike amount added.

ABBREVIATIONS

MB = Method or Preparation Blank.

MS = Matrix Spike.

MSD = Matrix Spike Duplicate.

REP = Sample Replicate

LC = Laboratory Control Sample.

NC = Not calculated.

A suffix of -R, -S, or -T following these codes indicate a replicate, spike or sample duplicate analysis respectively.

ANALYTICAL WET CHEMISTRY METHODS

1. ASTM Standard Methods.
2. USEPA Methods for Chemical Analysis of Water and Wastes (USEPA 600/4-79-020).
3. Test Methods for Evaluating Solid Waste (USEPA SW-846).
 - a. Standard Methods for the Examination of Water and Waste, 16 ed, (1983).
 - b. Standard Methods for the Examination of Water and Waste, 17 ed, (1989)/18ed (1992).
 - c. Method of Soil Analysis, Part 1, Physical and Mineralogical Methods, 2nd ed, (1986).
 - d. Method of Soil Analysis, Part 2, Chemical and Microbiological Properties, Am. Soc. Agron., Madison, WI (1965).
 - e. USEPA Contract Laboratory Program, Statement of Work for Inorganic Analysis.
 - f. Code of Federal Regulations.

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 11/19/01

CLIENT: TNUHANFORD B02-007 H1580
 WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0111L277

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
=====	=====	=====	=====	=====	=====	=====
-001	B13D85	Chloride by IC	0.31	MG/L	0.25	1.0
		Fluoride by IC	0.50 u	MG/L	0.50	1.0
		Nitrite by IC	0.25 u	MG/L	0.25	1.0
		Nitrate by IC	0.25 u	MG/L	0.25	1.0
		Phosphate by IC	0.25 u	MG/L	0.25	1.0
		Sulfate by IC	0.25 u	MG/L	0.25	1.0
		pH	6.2	PH UNIT	0.01	1.0
		Sulfide	1.0 u	MG/L	1.0	1.0

Lionville Laboratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 11/19/01

CLIENT: TNUHANFORD B02-007 H1580
 WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0111L277

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-----	-----	-----	-----	-----	-----	-----
BLANK10	01LYC074-MB1	Bromide by IC	0.25 u	MG/L	0.25	1.0
		Chloride by IC	0.25 u	MG/L	0.25	1.0
		Fluoride by IC	0.50 u	MG/L	0.50	1.0
		Nitrite by IC	0.25 u	MG/L	0.25	1.0
		Nitrate by IC	0.25 u	MG/L	0.25	1.0
		Phosphate by IC	0.25 u	MG/L	0.25	1.0
		Sulfate by IC	0.25 u	MG/L	0.25	1.0
BLANK10	01LSDA62-MB1	Sulfide	1.0 u	MG/L	1.0	1.0

Lionville Laboratory, Inc.

INORGANICS ACCURACY REPORT 11/19/01

CLIENT: TNUHANFORD B02-007 H1580
 WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0111L277

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR (SPK)
-001	B13D85	Chloride by IC	5.4	0.31	5.0	101.6	1.0
		Fluoride by IC	10.5	0.00	10.0	104.6	1.0
		Nitrite by IC	5.01	0.25u	5.00	100.2	1.0
		Nitrate by IC	4.83	0.25u	5.00	96.5	1.0
		Phosphate by IC	4.9	0.25u	5.0	98.4	1.0
		Sulfate by IC	4.9	0.25u	5.0	98.9	1.0
BLANK10	01LYC074-MB1	Bromide by IC	4.8	0.25u	5.0	96.1	1.0
		Chloride by IC	4.8	0.25u	5.0	95.3	1.0
		Fluoride by IC	10.4	0.50u	10.0	103.9	1.0
		Nitrite by IC	4.83	0.25u	5.00	96.6	1.0
		Nitrate by IC	4.98	0.25u	5.00	99.6	1.0
		Phosphate by IC	5.2	0.25u	5.0	104.4	1.0
		Sulfate by IC	4.8	0.25u	5.0	96.3	1.0
BLANK10	01LSDA62-MB1	Sulfide	15.3	1.0 u	15.4	99.4	1.0
		Sulfide MSD	15.8	1.0 u	15.4	102.6	1.0

Lionville Laboratory, Inc.

INORGANICS DUPLICATE SPIKE REPORT 11/19/01

CLIENT: TNUHANFORD B02-007 H1580
WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0111L277

SAMPLE	SITE ID	ANALYTE	SPIKE#1 %RECOV	SPIKE#2 %RECOV	%DIFF
BLANK10	01LSDA62-MB1	Sulfide	99.4	102.6	3.2

Lionville Laboratory, Inc.

INORGANICS PRECISION REPORT 11/19/01

CLIENT: TNUHANFORD B02-007 H1580
 WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0111L277

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR (REF)
-001REP	B13D85	Chloride by IC	0.31	0.32	4.1	1.0
		Fluoride by IC	0.50u	0.50u	NC	1.0
		Nitrite by IC	0.25u	0.25u	NC	1.0
		Nitrate by IC	0.25u	0.25u	NC	1.0
		Phosphate by IC	0.25u	0.25u	NC	1.0
		Sulfate by IC	0.25u	0.25u	NC	1.0
		pH	6.2	6.2	0.2	1.0
		Sulfide	1.0 u	1.0 u	NC	1.0

Bechtel Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			B02-007-04	Page 1 of 1
Collector Watson, D/Bowers DL	Company Contact Cearlock, CS	Telephone No. 372-9638	Project Coordinator TRENT, SJ		Price Code 7N	Data Turnaround 45 Days
Project Designation 200 Area Source Characterization 200-CS-1 OU - QC Samplin	Sampling Location 200 East	SAF No. B02-007		Air Quality <input type="checkbox"/>		
Ice Chest No. SEE OSPC	Field Logbook No. EL1551	COA B20CS1673C	Method of Shipment Fed Ex			
Shipped To TMA/RECRA	Offsite Property No. A020017		Bill of Lading/Air Bill No. SEE OSPC			

POSSIBLE SAMPLE HAZARDS/REMARKS Samples did not originate in radiological controlled area. No total activity associated with sample/samples. Special Handling and/or Storage RT 115-01	Preservation	HCl to pH <2 Cool 4C	Cool 4C	HNO3 to pH <2	H2SO4 to pH <2 Cool 4C	Cool 4C	ZnAc+NaOH to pH >9 Cool	HNO3 to pH <2		
	Type of Container	aG*	aG	aG	aG	aG	aG	aG		
	No. of Container(s)	3	2	1	1	1	1	2		
	Volume	40mL	1000mL	1000mL	1000mL	1000mL	500mL	1000mL		

SAMPLE ANALYSIS		VOA - 8260A (TCL); VOA - 8260A (Add-On) (1-Propenol, Ethanol)	Semi-VOA - 8278A (Add-On) (Tributyl phosphate)	See item (1) in Special Instructions.	NO2/NO3 - 353.1; Ammonia - 350.3	See item (2) in Special Instructions.	Sulfides - 9030	Alpha; Beta		
-----------------	--	---	--	---------------------------------------	----------------------------------	---------------------------------------	-----------------	-------------	--	--

Sample No.	Matrix *	Sample Date	Sample Time	HCl to pH <2 Cool 4C	Cool 4C	HNO3 to pH <2	H2SO4 to pH <2 Cool 4C	Cool 4C	ZnAc+NaOH to pH >9 Cool	HNO3 to pH <2
B13D85	WATER	11/1/01	1415	X	X	X	X	X	X	

CHAIN OF POSSESSION		Sign/Print Names		SPECIAL INSTRUCTIONS		Matrix * S=Soil SE=Soil/ema SL=Solid S=Sludge W=Water O=Oil A=Air DS=Drum Solid DL=Drum Liquid T=Tissue W=Wipe L=Liquid V=Vegetation X=Other
Relinquished By/Removed From 03 WATSON/ESMJA	Date/Time 11/1/01 1455	Received By/Stored In REF 2C 3728 B/DG	Date/Time 11/1/01 1455	** Laboratory is to measure pH within 24 hours of sample receipt. ** The ERC acknowledges the 48-hour holding time will not be met for Nitrate using EPA method 300.0. ** The laboratory is to report Decane as a TIC if present in detectable quantities.		
Relinquished By/Removed From REF 2C 3728	Date/Time 11-5-01 0900	Received By/Stored In R. J. U	Date/Time 11-5-01 0900	(1) ICP Metals - 6010A (Supertace) (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver); ICP Metals - 6010A (Supertace Add-On) (Beryllium, Copper, Nickel, Vanadium, Zinc) (2) IC Anions - 300.0 (Chloride, Fluoride, Nitrate, Nitrite, Phosphate, Sulfate); pH (Water) - 9040		
Relinquished By/Removed From R. J. U	Date/Time 11-5-01 0900	Received By/Stored In FED 2C	Date/Time	Samples stored in Ref. # 2C at the 3728 Shipping Facility on 11/1/01. Collector not available to relinquish samples on 11/5/01 for shipment.		
Relinquished By/Removed From FED 2C	Date/Time 11/6/01 0950	Received By/Stored In Vic Heenan	Date/Time 11/6/01 0950	RT 115-01		
Relinquished By/Removed From FED 2C	Date/Time 11/6/01 0950	Received By/Stored In Vic Heenan	Date/Time 11/6/01 0950			

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: 11/6/01 0950

SDG#: 0111C 277

Work Order Number: _____

SAF# B02-007

Shipping Container ID: ERC-96-002

Chain of Custody # B02-007-04

- 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 2.3
- 5. Vermiculite/packing materials is Wet [] Dry []
- 6. Number of samples in shipping container: 9
- 7. Sample holding times exceeded? Yes [] No []

<p>8. Samples have:</p> <p><input type="checkbox"/> tape</p> <p><input checked="" type="checkbox"/> custody seals</p>	<p><input type="checkbox"/> hazard labels</p> <p><input type="checkbox"/> appropriate sample labels</p>
<p>9. Samples are:</p> <p><input checked="" type="checkbox"/> in good condition</p> <p><input type="checkbox"/> broken</p>	<p><input type="checkbox"/> leaking</p> <p><input type="checkbox"/> have air bubbles</p>

10. Were any anomalies identified in sample receipt? Yes [] No []

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

Sample Custodian/Laboratory Jessie Keith Hernandez Laboratory Date: 11/6/01

Telephoned to: _____ On _____ By _____



Analytical Report

Client: TNU-HANFORD B02-007
LVL#: 0111L277
SDG/SAF#: H1580/B02-007

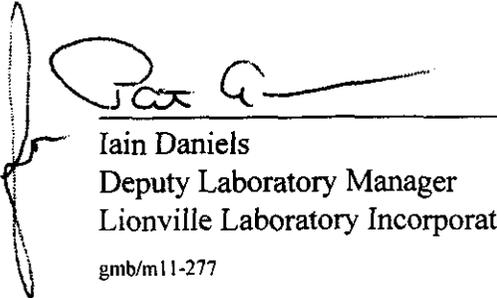
W.O.#: 11343-606-001-9999-00
Date Received: 11-06-01

METALS CASE NARRATIVE

1. This narrative covers the analysis of 1 water sample.
2. The sample was prepared and analyzed in accordance with methods checked on the attached glossary.
3. All analyses were performed within the required holding times.
4. The cooler temperature has been recorded on the Chain of Custody.
5. All Initial and Continuing Calibration Verifications (ICV/CCVs) were within the 90-110% control limits.
6. All Initial and Continuing Calibration Blanks (ICB/CCBs) were within control limits (less than the PQL).
7. The preparation/method blanks for 3 analytes were outside method criteria. {less than the Practical Quantitation Limit (3X the IDL), MB value less than 5% of the RCRA limit, or samples greater than 20X MB value}. Refer to the Inorganics Method Blank Data Summary.
 - a). The MB results for Barium, Copper, and Zinc were greater than the Practical Quantitation Limit (PQL) {3 x the (IDL) Instrument Detection Level} and all samples read less than 20 times the MB concentration. However, no corrective action criteria for MBs were provided in SW846 method 6010B. The sample results were reported herein "uncorrected" for the levels found in the MB.
8. All ICP Interference Check Standards were within control limits.
9. All laboratory control samples (LCS) were within the 80-120% control limits. Refer to the Inorganics Laboratory Control Standards Report. The LCS was not spiked for Bismuth.
10. All matrix spike (MS) recoveries were within the 75-125% control limits. Refer to the Inorganics Accuracy Report.

The results presented in this report relate only to the analytical testing and conditions of the samples at receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of 14 pages.

11. The duplicate analyses for 2 analytes were outside the 20% Relative Percent Difference (RPD) control limits. Refer to the Inorganics Precision Report.
12. For the purposes of this report, the data has been reported to the Instrument Detection Limit (IDL). Values between the IDL and the Practical Quantitation Limit (PQL) are acquired in a region of less-certain quantification.
13. I certify that this sample data package is in compliance with SOW requirements, both technically and for completeness, 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.


Iain Daniels
Deputy Laboratory Manager
Lionville Laboratory Incorporated
gmb/m11-277

11-15-01
Date

METALS METHOD GLOSSARY

The following methods are used as reference for the digestion and analysis of samples contained within this

#: ~~0110~~ 0111 L 277
 11/12/14

Digestion Procedure: 1310 1311 1312 Other: _____

LP Metals Digestion and Analysis Methods: ILM03.0 ILM04.0

Metals Digestion Methods: 3005A 3010A 3015 3020A 3050B 3051 200.7 SS17
 Other: _____

Metals Analysis Methods

	SW846	EPA	STD MTD	EPA OSWR	USATHAMA
Aluminum	<input type="checkbox"/> 6010B	<input type="checkbox"/> 200.7			<input type="checkbox"/> 99
Antimony	<input type="checkbox"/> 6010B <input type="checkbox"/> 7041 ^s	<input type="checkbox"/> 200.7 <input type="checkbox"/> 204.2			<input type="checkbox"/> 99
Arsenic	<input checked="" type="checkbox"/> 6010B <input type="checkbox"/> 7060A ^s	<input type="checkbox"/> 200.7 <input type="checkbox"/> 206.2	<input type="checkbox"/> 3113B		<input type="checkbox"/> 99
Barium	<input checked="" type="checkbox"/> 6010B	<input type="checkbox"/> 200.7			<input type="checkbox"/> 99
Beryllium	<input checked="" type="checkbox"/> 6010B	<input type="checkbox"/> 200.7			<input type="checkbox"/> 99
Bismuth	<input type="checkbox"/> 6010B ¹	<input type="checkbox"/> 200.7 ¹		<input type="checkbox"/> 1620	<input type="checkbox"/> 99
Boron	<input type="checkbox"/> 6010B	<input type="checkbox"/> 200.7			<input type="checkbox"/> 99
Cadmium	<input checked="" type="checkbox"/> 6010B <input type="checkbox"/> 7131A ^s	<input type="checkbox"/> 200.7 <input type="checkbox"/> 213.2			<input type="checkbox"/> 99
Calcium	<input type="checkbox"/> 6010B	<input type="checkbox"/> 200.7			<input type="checkbox"/> 99
Chromium	<input checked="" type="checkbox"/> 6010B <input type="checkbox"/> 7191 ^s	<input type="checkbox"/> 200.7 <input type="checkbox"/> 218.2			<input type="checkbox"/> SS17
Cobalt	<input type="checkbox"/> 6010B	<input type="checkbox"/> 200.7			<input type="checkbox"/> 99
Copper	<input checked="" type="checkbox"/> 6010B <input type="checkbox"/> 7211 ^s	<input type="checkbox"/> 200.7 <input type="checkbox"/> 220.2			<input type="checkbox"/> 99
Iron	<input type="checkbox"/> 6010B	<input type="checkbox"/> 200.7			<input type="checkbox"/> 99
Lead	<input checked="" type="checkbox"/> 6010B <input type="checkbox"/> 7421 ^s	<input type="checkbox"/> 200.7 <input type="checkbox"/> 239.2	<input type="checkbox"/> 3113B		<input type="checkbox"/> 99
Lithium	<input type="checkbox"/> 6010B <input type="checkbox"/> 7430 ⁴	<input type="checkbox"/> 200.7		<input type="checkbox"/> 1620	<input type="checkbox"/> 99
Magnesium	<input type="checkbox"/> 6010B	<input type="checkbox"/> 200.7			<input type="checkbox"/> 99
Manganese	<input type="checkbox"/> 6010B	<input type="checkbox"/> 200.7			<input type="checkbox"/> 99
Mercury	<input type="checkbox"/> 7470A ³ <input type="checkbox"/> 7471A ³	<input type="checkbox"/> 245.1 ² <input type="checkbox"/> 245.5 ²			<input type="checkbox"/> 99
Molybdenum	<input type="checkbox"/> 6010B	<input type="checkbox"/> 200.7			<input type="checkbox"/> 99
Nickel	<input checked="" type="checkbox"/> 6010B	<input type="checkbox"/> 200.7			<input type="checkbox"/> 99
Potassium	<input type="checkbox"/> 6010B <input type="checkbox"/> 7610 ⁴	<input type="checkbox"/> 200.7 <input type="checkbox"/> 258.1 ⁴			<input type="checkbox"/> 99
Rare Earths	<input type="checkbox"/> 6010B ¹	<input type="checkbox"/> 200.7 ¹		<input type="checkbox"/> 1620	<input type="checkbox"/> 99
Selenium	<input checked="" type="checkbox"/> 6010B <input type="checkbox"/> 7740 ^s	<input type="checkbox"/> 200.7 <input type="checkbox"/> 270.2	<input type="checkbox"/> 3113B		<input type="checkbox"/> 99
Silicon	<input type="checkbox"/> 6010B ¹	<input type="checkbox"/> 200.7		<input type="checkbox"/> 1620	<input type="checkbox"/> 99
Silica	<input type="checkbox"/> 6010B	<input type="checkbox"/> 200.7		<input type="checkbox"/> 1620	<input type="checkbox"/> 99
Silver	<input type="checkbox"/> 6010B <input type="checkbox"/> 7761 ^s	<input type="checkbox"/> 200.7 <input type="checkbox"/> 272.2			<input type="checkbox"/> 99
Sodium	<input type="checkbox"/> 6010B <input type="checkbox"/> 7770 ⁴	<input type="checkbox"/> 200.7 <input type="checkbox"/> 273.1 ⁴			<input type="checkbox"/> 99
Strontium	<input type="checkbox"/> 6010B	<input type="checkbox"/> 200.7			<input type="checkbox"/> 99
Thallium	<input checked="" type="checkbox"/> 6010B <input type="checkbox"/> 7841 ^s	<input type="checkbox"/> 200.7 <input type="checkbox"/> 279.2 <input type="checkbox"/> 200.9			<input type="checkbox"/> 99
Tin	<input type="checkbox"/> 6010B	<input type="checkbox"/> 200.7			<input type="checkbox"/> 99
Titanium	<input type="checkbox"/> 6010B	<input type="checkbox"/> 200.7			<input type="checkbox"/> 99
Uranium	<input type="checkbox"/> 6010B ¹	<input type="checkbox"/> 200.7 ¹		<input type="checkbox"/> 1620	<input type="checkbox"/> 99
Vanadium	<input checked="" type="checkbox"/> 6010B	<input type="checkbox"/> 200.7			<input type="checkbox"/> 99
Zinc	<input checked="" type="checkbox"/> 6010B	<input type="checkbox"/> 200.7			<input type="checkbox"/> 99
Zirconium	<input type="checkbox"/> 6010B ¹	<input type="checkbox"/> 200.7 ¹		<input type="checkbox"/> 1620	<input type="checkbox"/> 99

Method: _____

METHOD REFERENCES AND DATA QUALIFIERS

DATA QUALIFIERS

- U = Indicates that the parameter was not detected at or above the reported limit. The associated numerical value is the sample detection limit.
- B = Indicates that the parameter was between the Instrument Detection Limit (IDL) and the Contract Required Detection Limit (CRDL)

Q QUALIFIERS

- E = The reported value is estimated because of the presence of interference.
- M = Duplicate injection precision not met.
- N = Spiked sample recovery not within control limits.
- S = The reported value was determined by the Method of Standard Additions (MSA).
- W = Post Digestion spike for Furnace AA analysis is out of control limits (85 -115 %), while sample absorbance is less than 50% of spike absorbance.
- * = Duplicate analysis not within control limits.
- + = Correlation coefficient for the MSA is less than 0.995.

ABBREVIATIONS

- PB = Method or Preparation Blank.
- S = Matrix Spike.
- T = Matrix Spike Duplicate.
- R or D = Sample Replicate

ANALYTICAL METAL METHODS

1. Not included in the method element list.
2. Modified Hg: Hg1 and Hg2 require less total volume of digestate due to the autosampler analysis. Sample volumes and reagents for mercury determinations in water and soil have been proportionately scaled down to adapt to this semi-automated technique. The sample volume used for water analysis is 33 mL. For soils, 0.1 grams of sample is taken to a final volume of 50 mL (including all reagents).
3. Modified Hg: Hg1 and Hg2 require less total volume of digestate due to the autosampler analysis. Sample volumes and reagents for mercury determinations in water and soil have been proportionately scaled down to adapt to this semi-automated technique. The sample volume used for water analysis is 33 mL. For soils, three 0.1 gram of sample is taken to a final volume of 50 mL (including all reagents).
4. Flame AA.
5. Graphite Furnace AA.

RFW 21-21L-033/O-01/97

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 11/12/01

CLIENT: TNUHANFORD B02-007 H1580
 WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0111L277

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-001	B13D85	Silver, Total	0.60	u UG/L	0.60	1.0
		Arsenic, Total	3.2	u UG/L	3.2	1.0
		Barium, Total	0.53	UG/L	0.10	1.0
		Beryllium, Total	0.50	UG/L	0.10	1.0
		Cadmium, Total	0.30	u UG/L	0.30	1.0
		Chromium, Total	0.60	u UG/L	0.60	1.0
		Copper, Total	1.8	UG/L	0.50	1.0
		Nickel, Total	1.0	u UG/L	1.0	1.0
		Lead, Total	1.9	u UG/L	1.9	1.0
		Selenium, Total	2.2	u UG/L	2.2	1.0
		Vanadium, Total	0.50	u UG/L	0.50	1.0
		Zinc, Total	6.5	UG/L	0.30	1.0

Lionville Laboratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 11/12/01

CLIENT: TNUHANFORD B02-007 H1580
 WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0111L277

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-----	-----	-----	-----	-----	-----	-----
BLANK1	01L0736-MB1	Silver, Total	0.60	u UG/L	0.60	1.0
		Arsenic, Total	3.2	u UG/L	3.2	1.0
		Barium, Total	0.51	UG/L	0.10	1.0
		Beryllium, Total	0.22	UG/L	0.10	1.0
		Cadmium, Total	0.30	u UG/L	0.30	1.0
		Chromium, Total	0.60	u UG/L	0.60	1.0
		Copper, Total	2.4	UG/L	0.50	1.0
		Nickel, Total	1.0	u UG/L	1.0	1.0
		Lead, Total	1.9	u UG/L	1.9	1.0
		Selenium, Total	2.2	u UG/L	2.2	1.0
		Vanadium, Total	0.50	u UG/L	0.50	1.0
		Zinc, Total	4.8	UG/L	0.30	1.0

Lionville Laboratory, Inc.

INORGANICS ACCURACY REPORT 11/12/01

CLIENT: TNUHANFORD B02-007 H1580
 WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0111L277

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR (SPK)
-001	B13D85	Silver, Total	50.5	0.60u	50.0	101.0	1.0
		Arsenic, Total	2030	3.2 u	2000	101.4	1.0
		Barium, Total	1960	0.53	2000	98.1	1.0
		Beryllium, Total	51.9	0.50	50.0	102.8	1.0
		Cadmium, Total	50.6	0.30u	50.0	101.2	1.0
		Chromium, Total	203	0.60u	200	101.6	1.0
		Copper, Total	254	1.8	250	100.7	1.0
		Nickel, Total	517	1.0 u	500	103.4	1.0
		Lead, Total	514	1.9 u	500	102.8	1.0
		Selenium, Total	2010	2.2 u	2000	100.6	1.0
		Vanadium, Total	500	0.50u	500	100	1.0
		Zinc, Total	510	6.5	500	100.6	1.0

Lionville Laboratory, Inc.

INORGANICS PRECISION REPORT 11/12/01

CLIENT: TNUHANFORD B02-007 H1580
 WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0111L277

SAMPLE	SITE ID	ANALYTE	INITIAL			DILUTION
			RESULT	REPLICATE RPD		
-001REP	B13D85	Silver, Total	0.60u	0.60u	NC	1.0
		Arsenic, Total	3.2 u	3.2 u	NC	1.0
		Barium, Total	0.53	0.59	10.7	1.0
		Beryllium, Total	0.50	0.48	4.1	1.0
		Cadmium, Total	0.30u	0.30u	NC	1.0
		Chromium, Total	0.60u	0.60u	NC	1.0
		Copper, Total	1.8	3.6	66.7	1.0
		Nickel, Total	1.0 u	1.0 u	NC	1.0
		Lead, Total	1.9 u	1.9 u	NC	1.0
		Selenium, Total	2.2 u	2.2 u	NC	1.0
		Vanadium, Total	0.50u	0.50u	NC	1.0
		Zinc, Total	6.5	8.3	24.3	1.0

Lionville Laboratory, Inc.

INORGANICS LABORATORY CONTROL STANDARDS REPORT 11/12/01

CLIENT: TNUHANFORD B02-007 H1580
 WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0111L277

SAMPLE	SITE ID	ANALYTE	SPIKED	SPIKED	UNITS	%RECOV
			SAMPLE	AMOUNT		
-----	-----	-----	-----	-----	-----	-----
LCS1	01L0736-LC1	Silver, LCS	453	500	UG/L	90.6
		Arsenic, LCS	9950	10000	UG/L	99.5
		Barium, LCS	4880	5000	UG/L	97.5
		Beryllium, LCS	254	250	UG/L	101.4
		Cadmium, LCS	248	250	UG/L	99.3
		Chromium, LCS	497	500	UG/L	99.4
		Copper, LCS	1260	1250	UG/L	100.8
		Nickel, LCS	2010	2000	UG/L	100.6
		Lead, LCS	2500	2500	UG/L	99.9
		Selenium, LCS	10100	10000	UG/L	100.5
		Vanadium, LCS	2510	2500	UG/L	100.6
		Zinc, LCS	1000	1000	UG/L	100.3



FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

0111277

Client <u>TWC - Hartford SAF B02-007</u>	Refrigerator #	AB	C-E	F	G	H	I
Est. Final Proj. Sampling Date	#Type Container	Liquid	2	1	2	2	2
Project # <u>11343-606-001-9991-00</u>	Solid	NA	BAE	NA	NA	NA	NA
Project Contact/Phone #	Liquid	1000	40	1000	1000	1000	500
Lionville Laboratory Project Manager <u>OS</u>	Solid						
QC <u>SPEC</u> <u>Del STD</u> <u>TAT 30 days</u>	Preservatives		NA	NA	NA	NA	NA
Date Rec'd <u>11-6-01</u> Date Due <u>12-6-01</u>	ANALYSES REQUESTED	ORGANIC			INORG		
		VOA	BNA	pest/PCB	Herb	Metal	CN

MATRIX CODES: S - Soil SE - Sediment SD - Solid SL - Sludge W - Water O - Oil A - Air DB - Drum SOL - Solids DL - Drum LIQ - Liquids L - EP/CLP Leachate WI - Wipe X - Other F - Fish	Lab ID	Client ID/Description	Matrix QC Chosen (✓)		Matrix	Date Collected	Time Collected	Lionville Laboratory Use Only													
			MS	MSD				OG25X	OG24M	OG25C	METD	IC1N2	IC1N3	ICD	ICPH	ISFD					
	001	B13D 85			W	11/5	11:15														
	002	B13D 85			W	11/5	6:59														

Special Instructions: SAF # B02-007
Run Matrix QC
OG25C = Propanol, Ethanol

DATE/REVISIONS:
MCTD 1. As, Ba, Cd, Cr, Pb, Se, Ag, Be, Cu, Ni, V, Zn
ICD 2. ICCL, ICFL, ICNO3, ICNO2, ICPO4, IC504
 3. _____
 4. _____
 5. _____
 6. _____

Lionville Laboratory Use Only

Samples were:
 1) Shipped or Hand Delivered _____
 Albill # See Below
 2) Ambient or Chilled
 3) Received in Good Condition or N
 4) Samples Properly Preserved or N
 5) Received Within Holding Times NO Y or NO N

Tamper Resistant Seal was:
 1) Present on Outer Package or N
 2) Unbroken on Outer Package or N
 3) Present on Sample or N
 4) Unbroken on Sample or N
 COC Record Present Upon Sample Rec'd or N
 Cooler Temp. 2.3 °C

Relinquished by	Received by	Date	Time	Relinquished by	Received by	Date	Time
<u>DEJ</u>	<u>V. Phuong</u>	<u>11/6/01</u>	<u>0950</u>				

Discrepancies Between Samples Labels and COC Record? Y or N
 NOTES:
4235 7954 8659

COMPOSITE WASTE ORIGINAL REWRITTEN

Bechtel Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			B02-007-04	Page 1 of 1
Collector Watson, D/Bowers DL	Company Contact Cearlock, CS	Telephone No. 372-9638	Project Coordinator TRENT, SJ	Price Code 7N	Data Turnaround 45 Days	
Project Designation 200 Area Source Characterization 200-CS-1 OU - QC Samplin	Sampling Location 200 East	SAF No. B02-007	Air Quality <input type="checkbox"/>			
Ice Chest No. SEE OSPC	Field Logbook No. EL1551	COA B20CS1673C	Method of Shipment Fed Ex			
Shipped To TMA/RECRA	Offsite Property No. A020017	Bill of Lading/Air Bill No. SEE OSPC				

POSSIBLE SAMPLE HAZARDS/REMARKS Samples did not originate in radiological controlled area. No total activity associated with sample/samples. RT 115-01 Special Handling and/or Storage	Preservation	HCl to pH < 2 Cool 4C	Cool 4C	HNO3 to pH < 2	H2SO4 to pH < 2 Cool 4C	Cool 4C	ZnAc+NaOH to pH > 9 Cool	HNO3 to pH < 2	
	Type of Container	aG*	aG	aG	aG	aG	aG	aG	
	No. of Container(s)	3	2	1	1	1	1	2	
	Volume	40mL	1000mL	1000mL	1000mL	1000mL	500mL	1000mL	

SAMPLE ANALYSIS				VOA - 8260A (TCL); VOA - 8280A (Add-On) (1- Propanol, Ethanol)	Semi-VOA - 8270A (Add-On) (Thiobutyl phosphate)	See item (1) in Special Instructions.	NO2/NO3 - 353.1; Ammonia - 350.3	See item (2) in Special Instructions.	Sulfides - 9030	Other Alpha; Other Beta
------------------------	--	--	--	--	---	---------------------------------------	----------------------------------	---------------------------------------	-----------------	-------------------------

Sample No.	Matrix *	Sample Date	Sample Time							
B13D85	WATER	11/1/01	1415	X	X	X	X	X	X	

CHAIN OF POSSESSION		Sign/Print Names	
Relinquished By/Removed From D S WATSON/RENTA	Date/Time 11/1/01 1455	Received By/Stored In REF 26 3728 B/LG	Date/Time 11/1/01
Relinquished By/Removed From REF 26 3728	Date/Time 11/05/01	Received By/Stored In R. P. L.	Date/Time 11-5-01
Relinquished By/Removed From R. P. L. / ERC	Date/Time 11-5-01	Received By/Stored In FED EX	Date/Time
Relinquished By/Removed From FED EX	Date/Time 11/6/01 0950	Received By/Stored In Bill Newman	Date/Time 11/6/01 0950
Relinquished By/Removed From FED EX	Date/Time 11/6/01 0950	Received By/Stored In Bill Newman	Date/Time 11/6/01 0950
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

- ** Laboratory is to measure pH within 24 hours of sample receipt.
- ** The ERC acknowledges the 48-hour holding time will not be met for Nitrate using EPA method 300.0.
- ** The laboratory is to report Decane as a TIC if present in detectable quantities.

(1) ICP Metals - 6010A (Supertrace) (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver); ICP Metals - 6010A (Supertrace Add-On) (Beryllium, Copper, Nickel, Vanadium, Zinc)
 (2) IC Anions - 300.0 (Chloride, Fluoride, Nitrate, Nitrite, Phosphate, Sulfate); pH (Water) - 9040

Samples stored in Ref.# 26 at the 3728 Shipping Facility on 11/1/01. Collector not available to relinquish samples on 11/5/01 for shipment.

RT 115-01

Matrix *

- S=Soil
- SB=Soil/Bottom
- SO=Soil
- SL=Sludge
- W=Water
- O=Oil
- A=Air
- DS=Drum Solids
- DL=Drum Liquid
- T=Trace
- W=Wipe
- L=Liquid
- V=Vegetation
- X=Other

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

Bechtel Hanford Inc. **CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST** **B02-007-03** **Page 1 of 1**

Collector: **Watson, D/Bowers DL** Project Coordinator: **TRENT, SJ** Price Code: **7N** Data Turnaround: **45 Days**

Project Designation: **200 Area Source Characterization 200-CS-1 OU - QC Samplin** SAF No.: **B02-007** Air Quality:

Ice Chest No.: **See OSPC** COA: **B20CS1673C** Method of Shipment: **Fed Ex**

Company Contact: **Cearlock, CS** Telephone No.: **372-9638** Bill of Lading/Air Bill No.: **See OSPC**

Sampling Location: **200 East & West** Field Logbook No.: **EL1551** Offsite Property No.: **A020017**

POSSIBLE SAMPLE HAZARD/REMARKS
 Samples did not originate in radiological controlled area. No total activity associated with sample/samples. Special handling and/or Storage **RT150**

Preservation	HCl or H2SO4 to pH < 2	HNO3 to pH < 2	Coel AC	HNO3 to pH < 2	Coel AC	H2SO4 to pH < 2	Coel AC	ZnAc+NaOH to pH > 9	HNO3 to pH < 2	HCl or H2SO4 to pH < 2
3	40ml	1000ml	1000ml	1000ml	1000ml	1000ml	1000ml	500ml	1000ml	40ml
SAMPLE ANALYSIS Type of Container: 3 No. of Containers: 3 Volume: 40ml										

Sample No.	Matrix *	Sample Date	Sample Time	Signature	Date/Time
B19CT0	WATER	11-1-01	0530	[Signature]	11-1-01
B19CT1	WATER	11-1-01	0530	[Signature]	11-1-01

CHAIN OF POSSESSION

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
DR WATSON	11-1-01 1115	REF. 3A 3728 048	11-1-01 1115
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
DR WATSON	11-1-01 0900	REF. 3A 3728 115-01	11-1-01 0900
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
DR WATSON	11-1-01 0900	REF. 3A 3728 115-01	11-1-01 0900
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
DR WATSON	11-1-01 0900	REF. 3A 3728 115-01	11-1-01 0900
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
DR WATSON	11-1-01 0900	REF. 3A 3728 115-01	11-1-01 0900
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
DR WATSON	11-1-01 0900	REF. 3A 3728 115-01	11-1-01 0900

SPECIAL INSTRUCTIONS

- ** Laboratory is to measure pH within 24 hours of sample receipt.
- ** The ERC acknowledges the 48-hour holding time will not be met for Nitrate using EPA method 300.0.
- ** The laboratory is to report Decays as a TIC if present in detectable quantities.

(1) ICP Metals - 6010A (Substances Add. Co.) (As, Ba, Bi, Br, Cd, Cr, Cu, Fe, Hg, Mn, Mo, Ni, Pb, Se, Sn, Sr, Ti, V, Zn, Zr) (1-Propyl, Ethanol)

(2) ICP Metals - 6010A (Substances Add. Co.) (As, Ba, Bi, Br, Cd, Cr, Cu, Fe, Hg, Mn, Mo, Ni, Pb, Se, Sn, Sr, Ti, V, Zn, Zr) (1-Propyl, Ethanol)

(3) ICP Metals - 6010A (Substances Add. Co.) (As, Ba, Bi, Br, Cd, Cr, Cu, Fe, Hg, Mn, Mo, Ni, Pb, Se, Sn, Sr, Ti, V, Zn, Zr) (1-Propyl, Ethanol)

Samples stored in Ref. # 3A at the 3728 Shipping Facility on 11/1/01. Collector not available to relinquish samples on 11/5/01 for shipment. RT1501

Matrix *
 acid
 sediment
 soil
 soil
 soil
 W = Water
 CO-01
 A-01
 D-01
 D-02
 D-03
 D-04
 D-05
 D-06
 D-07
 D-08
 D-09
 D-10
 D-11
 D-12
 D-13
 D-14
 D-15
 D-16
 D-17
 D-18
 D-19
 D-20

LABORATORY SECTION: Received By: _____ Date/Time: _____

FINAL SAMPLE DISPOSITION: Disposal Method: _____ Date/Time: _____



Analytical Report

Client: THU HANFORD B02-007
LVL#: 0110L277
SDG/SAF#: H1580/B02-007

W.O.#: 11343-606-001-9999-00
Date Received: 11-06-01

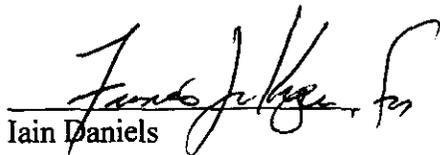
GC SCAN

The set of samples consisted of two (2) water samples collected on 11-01-01.

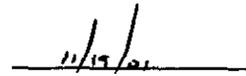
The samples and their associated QC samples were analyzed according to criteria set forth in Lionville Laboratory OPs based on Method 8015 for target compounds Ethanol and n-Propyl Alcohol on 11-14-01.

The following is a summary of the QC results accompanying these sample results and a description of any problems encountered during their analyses:

1. The cooler temperatures upon receipt have been recorded on the chain-of-custody.
2. The sample was packaged and stored as specified in the method protocol.
3. Surrogates are not currently employed in the methodology.
4. All initial calibrations were within acceptance criteria.
5. All continuing calibrations run prior to analysis were within acceptance criteria.
6. All blank spike recoveries were within acceptance criteria.
7. All matrix spike recoveries were within acceptance criteria.


Iain Daniels
Deputy Laboratory Manager
Lionville Laboratory Incorporated

r:\share\gcpest\narr temp\thu277gcsc.doc


Date

The results presented in this report relate only to the analytical testing and conditions of the samples at receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of 9 pages.

GLOSSARY OF VOA DATA

DATA QUALIFIERS

- U** = Compound was analyzed for but not detected. The associated numerical value is the estimated sample quantitation limit which is included and corrected for dilution and percent moisture.
- J** = Indicates an estimated value. This flag is used under the following circumstances: 1) when estimating a concentration for tentatively identified compounds (TICs) where a 1:1 response is assumed; or 2) when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. For example, if the limit of detection is 10 ug/L and a concentration of 3 ug/L is calculated, it is reported as 3J.
- B** = This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination. This flag is also used for a TIC as well as for a positively identified TCL compound.
- E** = Indicates that the compound was detected beyond the calibration range and was subsequently analyzed at a dilution.
- D** = Identifies all compounds identified in an analysis at a secondary dilution factor.
- I** = Interference.
- NQ** = Result qualitatively confirmed but not able to quantify.
- N** = Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the N code is not used.
- X** = This flag is used for a TIC compound which is quantified relative to a response factor generated from a daily calibration standard (rather than quantified relative to the closest internal standard).
- Y** = Additional qualifiers used as required are explained in the case narrative.

GLOSSARY OF VOA DATA

ABBREVIATIONS

- BS** = Indicates blank spike in which reagent grade water is spiked with the CLP matrix spike solutions and carried through all the steps in the method. Spike recoveries are reported.
- BSD** = Indicates blank spike duplicate.
- MS** = Indicates matrix spike.
- MSD** = Indicates matrix spike duplicate.
- DL** = Suffix added to sample number to indicate that results are from a diluted analysis.
- NA** = Not Applicable.
- DF** = Dilution Factor.
- NR** = Not Required.
- SP, Z** = Indicates Spiked Compound.

	Cust ID:	B13D85	B13D85	B13D85	B13CT1	BLK	BLK BS
Sample Information	RFW#:	001	001 MS	001 MSD	002	01LJLB14-MB1	01LJLB14-MB1
	Matrix:	WATER	WATER	WATER	WATER	WATER	WATER
	D.F.:	1.00	1.00	1.00	1.00	1.00	1.00
	Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L

	fl	fl	fl	fl	fl	fl	fl
n-Propyl Alcohol	5.0 U	95 %	96 %	5.0 U	5.0 U	95 %	
Ethanol	5.0 U	98 %	98 %	5.0 U	5.0 U	92 %	

Cust ID: BLK BSD

Sample Information	RFW#:	01LJLB14-MB1
	Matrix:	WATER
	D.F.:	1.00
	Units:	mg/L

	fl	fl	fl	fl	fl	fl	fl
n-Propyl Alcohol	97 %						
Ethanol	97 %						

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not reported. NS= Not spiked.
 %= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

UC 11-16-01
Fluoride

Bechtel Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				B02-007-04	Page 1 of 1
Collector Watson, D/Bowers DL	Company Contact Cearlock, CS	Telephone No. 372-9638	Project Coordinator TRENT, SJ		Price Code 7N	Data Turnaround 45 Days	
Project Designation 200 Area Source Characterization 200-CS-1 OU - QC Samplin	Sampling Location 200 East		SAF No. B02-007	Air Quality <input type="checkbox"/>			
Case Chest No. SEE OSPC	Field Logbook No. EL1551	COA B20CS1673C	Method of Shipment Fed Ex				
Shipped To TMA/RECRA	Offsite Property No. A020017		Bill of Lading/Air Bill No. SEE OSPC				

POSSIBLE SAMPLE HAZARDS/REMARKS Samples did not originate in radiological controlled area. No total activity associated with sample/samples. Special Handling and/or Storage RT 115-01	Preservation	HCl to pH < 2 Cool 4C	Cool 4C	HNO3 to pH < 2	H2SO4 to pH < 2 Cool 4C	Cool 4C	ZnAc+NaOH to pH > 9 Cool	HNO3 to pH < 2				
	Type of Container	aG*	aG	aG	aG	aG	aG	aG				
	No. of Container(s)	3	2	1	1	1	1	2				
	Volume	40ml.	1000ml.	1000ml.	1000ml.	1000ml.	500ml.	1000ml.				

SAMPLE ANALYSIS				VOA - 8260A (TCL); VOA - 8260A (Add-On) (1-Propanol, Ethanol)	Semi-VOA - 8270A (Add-On) (Triethyl phosphate)	See item (1) in Special Instructions.	NO2/NO3 - 353.1; Ammonia - 350.3	See item (2) in Special Instructions.	Soils - 9030	Other Metals; Other Beta
------------------------	--	--	--	---	--	---------------------------------------	----------------------------------	---------------------------------------	--------------	--------------------------

Sample No.	Matrix *	Sample Date	Sample Time									
B13D85	WATER	11/1/01	1415	X	X	X	X	X	X			

CHAIN OF POSSESSION		Sign/Print Names		SPECIAL INSTRUCTIONS				Matrix *
Relinquished By/Removed From D3 WATSON/ESM	Date/Time 11/1/01 1455	Received By/Stored In REF 2C 3728 BKG	Date/Time 11/1/01 1455	** Laboratory is to measure pH within 24 hours of sample receipt. ** The ERC acknowledges the 48-hour holding time will not be met for Nitrate using EPA method 300.0. ** The laboratory is to report Decane as a TIC if present in detectable quantities.				S=Soil SD=Soil/Dust SO=Solid SL=Sludge W=Water O=Oil A=Air DS=Dry Solid DL=Dry Liquid T=Trace Wp=Wipe L=Liquid V=Vegetation X=Other
Relinquished By/Removed From REF 2C 3728 BKG	Date/Time 11/5/01 0900	Received By/Stored In R. J. U...	Date/Time 11-5-01 0900	(1) ICP Metals - 6010A (Supertrace) (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver); ICP Metals - 6010A (Supertrace Add-On) (Beryllium, Copper, Nickel, Vanadium, Zinc) (2) IC Anions - 300.0 (Chloride, Fluoride, Nitrate, Nitrite, Phosphate, Sulfate); pH (Water) - 9040				
Relinquished By/Removed From R. J. U...	Date/Time 11-5-01 0900	Received By/Stored In FED EX	Date/Time					
Relinquished By/Removed From FED EX	Date/Time 11/6/01 0950	Received By/Stored In Vic Hernandez	Date/Time 11/6/01 0950	Samples stored in Ref # 2C at the 3728 Shipping Facility on 11/1/01. Collector not available to relinquish samples on 11/5/01 for shipment.				
Relinquished By/Removed From FED EX	Date/Time 11/6/01 0950	Received By/Stored In Vic Hernandez	Date/Time 11/6/01 0950	RT 115-01				

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

Bechtel Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			B02-007-03	Page 1 of 1
Collector Watson, D/Bowers DL	Company Contact Cearlock, CS	Telephone No. 372-9638	Project Coordinator TRENT, SJ		Price Code 7N	Data Turnaround 45 Days
Project Designation 200 Area Source Characterization 200-CS-1 OU - QC Samplin		Sampling Location 200 East & West	SAF No. B02-007	Air Quality <input type="checkbox"/>		
Ice Chest No. <i>SEE DSPC</i>	Field Logbook No. EL1551	COA B20CS1673C	Method of Shipment Fed Ex			
Shipped To <i>SEE DSPC</i>	Offsite Property No. <i>A020017</i>	Bill of Lading/Air Bill No. <i>SEE DSPC</i>				

POSSIBLE SAMPLE HAZARDS/REMARKS Samples did not originate in radiological controlled area. No total activity associated with sample/samples. <i>RT150</i> Special handling and/or Storage	Preservation	HCl or H2SO4 to pH < 2 Cool	Cool 4C	HNO3 to pH < 2	H2SO4 to pH < 2 Cool 4C	Cool 4C	ZnAc+NaOH to pH > 9 Cool	HNO3 to pH < 2	HCl or H2SO4 to pH < 2 Cool
	Type of Container	aGs*	aG	aG	aG	aG	aG	aG	aGs*
	No. of Container(s)	3	2	1	1	1	1	2	1
	Volume	40mL	1000mL	1000mL	1000mL	1000mL	500mL	1000mL	40mL

SAMPLE ANALYSIS				VOA - 8260A (TCL); VOA - 8260A (Add-On) (1-Propanol, Ethanol)	Semi-VOA - 8270A (Add-On) (Triethylamine)	See item (1) in Special Instructions.	NO2/NO3 - 353.1; Ammonia - 350.3	See item (2) in Special Instructions.	Sulfides - 9030	Gross Alpha; Gross Beta	VOA - 8260A (TCL); VOA - 8260A (Add-On) (1-Propanol, Ethanol)
Sample No.	Matrix *	Sample Date	Sample Time								
B13CT0	WATER										
B13CT1	WATER	11-1-01	0530								X

CHAIN OF POSSESSION		Sign/Print Names	
Relinquished By/Removed From <i>D. S. WATSON</i>	Date/Time 11-1-01 1115	Received By/Stored In <i>REF. 3A 3728 Bldg.</i>	Date/Time 11-1-01 1115
Relinquished By/Removed From <i>REF. 3A 3728</i>	Date/Time 11-5-01 0900	Received By/Stored In <i>R. J. THORNTON</i>	Date/Time 11-5-01 0900
Relinquished By/Removed From <i>R. J. THORNTON</i>	Date/Time 11-5-01 0900	Received By/Stored In <i>F. E. DEX</i>	Date/Time
Relinquished By/Removed From <i>F. E. DEX</i>	Date/Time 11/6/01 0950	Received By/Stored In <i>Richard [unclear]</i>	Date/Time 11-6-01 0950
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

- ** Laboratory is to measure pH within 24 hours of sample receipt.
- ** The ERC acknowledges the 48-hour holding time will not be met for Nitrate using EPA method 300.0.
- ** The laboratory is to report Decane as a TIC if present in detectable quantities.

(1) ICP Metals - 6010A (Supertest) (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver);
 ICP Metals - 6010A (Supertest Add-On) (Bismuth, Copper, Nickel, Vanadium, Zinc);
 (2) IC Anions - 300.0 (Chloride, Fluoride, Nitrate, Nitrite, Phosphate, Sulfate); pH (Water) - 9040

Samples stored in Ref.# 3A at the 3728 Shipping Facility on 11/1/01. Collector not available to relinquish samples on 11/5/01 for shipment.

RT150

10-11-01

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: 11/6/01 0950

SDG#: 0111L 277

Work Order Number: _____

SAF# B02-007

Shipping Container ID: ERC-96-002

Chain of Custody # B02-007-04

- 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 23
- 5. Vermiculite/packing materials is Wet Dry
- 6. Number of samples in shipping container: 9
- 7. Sample holding times exceeded? Yes No

8. Samples have:	<input type="checkbox"/> tape	<input type="checkbox"/> hazard labels
	<input checked="" type="checkbox"/> custody seals	<input type="checkbox"/> appropriate sample labels
9. Samples are:	<input checked="" type="checkbox"/> in good condition	<input type="checkbox"/> leaking
	<input type="checkbox"/> broken	<input type="checkbox"/> have air bubbles

10. Were any anomalies identified in sample receipt? Yes No

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

Sample Custodian/Laboratory: Jamille Beth Henry Laboratory Date: 11/6/01

Telephoned to: _____ On _____ By _____



Client: TNU-HANFORD B02-007
LVL #: 0111L277
SDG/SAF #: H1580/B02-007

W.O. #: 11343-606-001-9999-00
Date Received: 11-06-2001

SEMIVOLATILE

One (1) water sample was collected on 11-01-2001.

The sample and its associated QC samples were extracted on 11-07-2001 and analyzed according to criteria set forth in Lionville Laboratory OPs based on SW 846 Method 8270C for TCL and Tributylphosphate Semivolatiles target compounds on 11-15-2001.

The following is a summary of the QC results accompanying the sample results and a description of any problems encountered during their analyses:

1. The cooler temperature upon receipt has been recorded on the chain-of-custody.
2. The sample was extracted and analyzed within required holding time.
3. Non-target compounds were not detected in the sample.
4. All surrogate recoveries were within EPA QC limits.
5. All matrix spike recoveries were within EPA QC limits.
6. One (1) of eleven (11) blank spike recoveries was outside EPA QC limits.
7. The method blank contained the common laboratory contaminant Bis (2-Ethylhexyl) phthalate at a level less than the CRQL.
8. Internal standard area and retention time criteria were met.
9. I certify that this sample data package is in compliance with SOW requirements, both technically and for completeness, 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.

J. Michael Taylor
/ J. Michael Taylor
President
Lionville Laboratory Incorporated

11-28-01
Date

som\group\data\bna\tnu-hanford-0111-277.doc

The results presented in this report relate only to the analytical testing and conditions of the samples at receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of 10 pages.

GLOSSARY OF BNA DATA

DATA QUALIFIERS

- U** = Compound was analyzed for but not detected. The associated numerical value is the estimated sample quantitation limit which is included and corrected for dilution and percent moisture.
- J** = Indicates an estimated value. This flag is used under the following circumstances: 1) when estimating a concentration for tentatively identified compounds (TICs) where a 1:1 response is assumed; or 2) when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. For example, if the limit of detection is 10 ug/L and a concentration of 3 ug/L is calculated, it is reported as 3J.
- B** = This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination. This flag is also used for a TIC as well as for a positively identified TCL compound.
- E** = Indicates that the compound was detected beyond the calibration range and was subsequently analyzed at a dilution.
- D** = Identifies all compounds identified in an analysis at a secondary dilution factor.
- I** = Interference.
- NQ** = Result qualitatively confirmed but not able to quantify.
- A** = Indicates that a TIC is a suspected aldol-condensation product.
- N** = Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the N code is not used.
- X** = This flag is used for a TIC compound which is quantified relative to a response factor generated from a daily calibration standard (rather than quantified relative to the closest internal standard).
- Y** = Additional qualifiers used as required are explained in the case narrative.

GLOSSARY OF BNA DATA

ABBREVIATIONS

- BS** = Indicates blank spike in which reagent grade water is spiked with the CLP matrix spike solutions and carried through all the steps in the method. Spike recoveries are reported.
- BSD** = Indicates blank spike duplicate.
- MS** = Indicates matrix spike.
- MSD** = Indicates matrix spike duplicate.
- DL** = Suffix added to sample number to indicate that results are from a diluted analysis.
- NA** = Not Applicable.
- DF** = Dilution Factor.
- NR** = Not Required.
- SP, Z** = Indicates Spiked Compound.

TECHNICAL FLAGS FOR MANUAL INTEGRATION

Manual quantitation modifications or integrations are performed routinely to improve the data quality for a variety of technical reasons. Documentation of these modifications should be clear and concise. The following "flags" are used to indicate the technical reasons for quantitation modifications:

- MP** - **Missed Peak:** manually added peak not found by automatic quantitation program.
- PA** - **Peak Assignment:** quantitation report was changed to reflect correct peak assignment.
- RI** - **Routine Integration:** routine integrations are performed for some analytes that are consistently integrated improperly by the automatic integration programs. Examples are the dichlorobenzene isomers on the VOA packed column and benzo(b)fluoranthene/benzo(k)fluoranthene which are poorly resolved on the BNA column.
- SP** - **Split Peak:** the automatic integration improperly split the peak; a manual integration was performed to get the correct area.
- CB** - **Coelution/Background:** peak was manually integrated to eliminate contribution from coeluting compounds, background signal, or other interference.
- PI** - **Proper Integration:** a peak with poor or inconsistent integration (e.g., excessive tail) was properly integrated manually.

L-WI-035/a-mi-10/00



Lionville Laboratory, Inc.

Semivolatiles by GC/MS, Special List

Report Date: 11/16/01 09:39

RFW Batch Number: 0111L277

Client: TNUHANFORD B02-007 H1580

Work Order: 11343606001

Page: 1a

Sample Information	Cust ID:	B13D85	B13D85	B13D85	SBLKJR	SBLKJR BS
	RFW#:	001	001 MS	001 MSD	01LE1341-MB1	01LE1341-MB1
	Matrix:	WATER	WATER	WATER	WATER	WATER
	D.F.:	1.00	1.00	1.00	1.00	1.00
	Units:	ug/L	ug/L	ug/L	ug/L	ug/L
Surrogate	Nitrobenzene-d5	79 %	66 %	62 %	83 %	87 %
Recovery	2-Fluorobiphenyl	68 %	58 %	59 %	78 %	80 %
	p-Terphenyl-d14	84 %	98 %	84 %	110 %	89 %
	Phenol-d5	70 %	61 %	61 %	86 %	19 %
	2-Fluorophenol	74 %	58 %	61 %	84 %	81 %
	2,4,6-Tribromophenol	73 %	77 %	72 %	82 %	93 %
=====fl=====fl=====fl=====fl=====fl=====fl=====fl=====						
	Phenol	10 U	61 %	60 %	10 U	79 %
	bis(2-Chloroethyl) ether	10 U	21 U	21 U	10 U	10 U
	2-Chlorophenol	10 U	56 %	60 %	10 U	85 %
	1,3-Dichlorobenzene	10 U	21 U	21 U	10 U	10 U
	1,4-Dichlorobenzene	10 U	46 %	45 %	10 U	62 %
	1,2-Dichlorobenzene	10 U	21 U	21 U	10 U	10 U
	2-Methylphenol	10 U	21 U	21 U	10 U	10 U
	2,2'-oxybis(1-Chloropropane)	10 U	21 U	21 U	10 U	10 U
	4-Methylphenol	10 U	21 U	21 U	10 U	10 U
	N-Nitroso-Di-n-propylamine	10 U	56 %	55 %	10 U	73 %
	Hexachloroethane	10 U	21 U	21 U	10 U	10 U
	Nitrobenzene	10 U	21 U	21 U	10 U	10 U
	Isophorone	10 U	21 U	21 U	10 U	10 U
	2-Nitrophenol	10 U	21 U	21 U	10 U	10 U
	2,4-Dimethylphenol	10 U	21 U	21 U	10 U	10 U
	bis(2-Chloroethoxy)methane	10 U	21 U	21 U	10 U	10 U
	2,4-Dichlorophenol	10 U	21 U	21 U	10 U	10 U
	1,2,4-Trichlorobenzene	10 U	52 %	49 %	10 U	70 %
	Naphthalene	10 U	21 U	21 U	10 U	10 U
	4-Chloroaniline	10 U	21 U	21 U	10 U	10 U
	Hexachlorobutadiene	10 U	21 U	21 U	10 U	10 U
	4-Chloro-3-methylphenol	10 U	76 %	69 %	10 U	87 %
	2-Methylnaphthalene	10 U	21 U	21 U	10 U	10 U
	Hexachlorocyclopentadiene	10 U	21 U	21 U	10 U	10 U
	2,4,6-Trichlorophenol	10 U	21 U	21 U	10 U	10 U
	2,4,5-Trichlorophenol	26 U	53 U	53 U	25 U	25 U

*= Outside of EPA CLP QC limits.

Cust ID: B13D85 B13D85 B13D85 SBLKJR SBLKJR BS

RFW#: 001 001 MS 001 MSD 01LE1341-MB1 01LE1341-MB1

2-Chloronaphthalene	10	U	21	U	21	U	10	U	10	U
2-Nitroaniline	26	U	53	U	53	U	25	U	25	U
Dimethylphthalate	10	U	21	U	21	U	10	U	10	U
Acenaphthylene	10	U	21	U	21	U	10	U	10	U
2,6-Dinitrotoluene	10	U	21	U	21	U	10	U	10	U
3-Nitroaniline	26	U	53	U	53	U	25	U	25	U
Acenaphthene	10	U	64	%	60	%	10	U	79	%
2,4-Dinitrophenol	26	U	53	U	53	U	25	U	25	U
4-Nitrophenol	26	U	68	%	54	%	25	U	84	* %
Dibenzofuran	10	U	21	U	21	U	10	U	10	U
2,4-Dinitrotoluene	10	U	74	%	68	%	10	U	88	%
Diethylphthalate	10	U	21	U	21	U	10	U	10	U
4-Chlorophenyl-phenylether	10	U	21	U	21	U	10	U	10	U
Fluorene	10	U	21	U	21	U	10	U	10	U
4-Nitroaniline	26	U	53	U	53	U	25	U	25	U
4,6-Dinitro-2-methylphenol	26	U	53	U	53	U	25	U	25	U
N-Nitrosodiphenylamine (1)	10	U	21	U	21	U	10	U	10	U
4-Bromophenyl-phenylether	10	U	21	U	21	U	10	U	10	U
Hexachlorobenzene	10	U	21	U	21	U	10	U	10	U
Pentachlorophenol	26	U	54	%	49	%	25	U	86	%
Phenanthrene	10	U	21	U	21	U	10	U	10	U
Anthracene	10	U	21	U	21	U	10	U	10	U
Carbazole	10	U	21	U	21	U	10	U	10	U
Di-n-Butylphthalate	10	U	21	U	21	U	10	U	0.5	J
Fluoranthene	10	U	21	U	21	U	10	U	10	U
Pyrene	10	U	89	%	75	%	10	U	77	%
Butylbenzylphthalate	10	U	21	U	21	U	10	U	10	U
3,3'-Dichlorobenzidine	10	U	21	U	21	U	10	U	10	U
Benzo(a)anthracene	10	U	21	U	21	U	10	U	10	U
Chrysene	10	U	21	U	21	U	10	U	10	U
bis(2-Ethylhexyl)phthalate	10	U	3	JB	21	U	1	J	10	U
Di-n-Octyl phthalate	10	U	21	U	21	U	10	U	10	U
Benzo(b)fluoranthene	10	U	21	U	21	U	10	U	10	U
Benzo(k)fluoranthene	10	U	21	U	21	U	10	U	10	U
Benzo(a)pyrene	10	U	21	U	21	U	10	U	10	U
Indeno(1,2,3-cd)pyrene	10	U	21	U	21	U	10	U	10	U
Dibenzo(a,h)anthracene	10	U	21	U	21	U	10	U	10	U
Benzo(g,h,i)perylene	10	U	21	U	21	U	10	U	10	U
Tributylphosphate	10	U	21	U	21	U	10	U	10	U

(1) - Cannot be separated from Diphenylamine. *= Outside of EPA CLP QC limits.



FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

0111277

Client TNU - Hanford SAF. B02-007

Est. Final Proj. Sampling Date _____

Project # 11343-606-001-9999-00

Project Contact/Phone # _____

Lionville Laboratory Project Manager 03

QC SPEC Del STD TAT 30 day

Date Rec'd 11-6-01 Date Due 12-6-01

Refrigerator # 2 1 2 2 2

#Type Container 2AG 3AG 1AG 1AG 1AG

Volume 1000 40 1000 1000 500

Preservatives - HCL HNO3 H2SO4 -

ANALYSES REQUESTED

ORGANIC: VOA, BNA, Pest/PCB, Herb

INORG: Metal, N, C, Zn, Pb, Cu, Ni, V, Zn

MATRIX CODES: S - Soil SE - Sediment SO - Solid SL - Sludge W - Water O - Oil A - Air DS - Drum Solids DL - Drum Liquids L - EP/TCLP Leachate WI - Wipe X - Other F - Fish	Lab ID	Client ID/Description	Matrix QC Chosen (✓)		Matrix	Date Collected	Time Collected	Lionville Laboratory Use Only															
			MS	MSD				X 0625	H 0624	C 0625	M 0620	Z 0621	P 0622	N 0623	V 0624	Zn 0625							
																	0625 X	0624 H	0625 C	0620 M	0621 Z	0622 P	0623 N
	<u>001</u>	<u>B13D85</u>			<u>W</u>	<u>11-1-01</u>	<u>1415</u>																
	<u>002</u>	<u>B13CT1</u>			<u>L</u>	<u>11-1-01</u>	<u>0530</u>																

Special Instructions: SAF # B02-007
Run Matrix QC
OGCSC = Propanol, Ethanol

DATE/REVISIONS:
 1. MET (1) As, Ba, Cd, Cr, Pb, Se, Ag, Be, Cu, Ni, V, Zn
 2. IC (1) ICCL, ICFL, ICN03, ICN02, ICPO4, IC504
 3. 11-13-01 Cancel IN3N2 + IN3N
 4. _____
 5. _____
 6. _____

Lionville Laboratory Use Only

Samples were: 1) Shipped or Hand Delivered _____
 Alkali # See below
 2) Ambient or Chilled
 3) Received in Good Condition or N
 4) Samples Properly Preserved or N
 5) Received Within Holding Times or N

Tamper Resistant Seal was:
 1) Present on Outer Package or N
 2) Unbroken on Outer Package or N
 3) Present on Sample or N
 4) Unbroken on Sample or N
 COC Record Present Upon Sample Rec't or N
 Cooler Temp. 2.3 °C

Relinquished by	Received by	Date	Time
<u>ED Ex</u>	<u>V. Newman</u>	<u>11/6/01</u>	<u>0950</u>

Relinquished by _____ Received by _____ Date _____ Time _____

COMPOSITE WASTE ORIGINAL REWRITTEN

Discrepancies Between Samples Labels and COC Record? Y or N
 NOTES:
 4235 7954 8659

Bechtel Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			B02-007-04	Page 1 of 1
Collector Watson, D/Bowers DL	Company Contact Cearlock, CS	Telephone No. 372-9638	Project Coordinator TRENT, SJ		Price Code 7N	Data Turnaround
Project Designation 200 Area Source Characterization 200-CS-1 OU - QC Samplin	Sampling Location 200 East	SAF No. B02-007		Air Quality <input type="checkbox"/>		45 Days
Chest No. SEE OSPC	Field Logbook No. EL1551	COA B20CS1673C	Method of Shipment Fed Ex			
Shipped To TMA/RECRA	Offsite Property No. A020017	Bill of Lading/Air Bill No. SEE OSPC				

POSSIBLE SAMPLE HAZARDS/REMARKS Samples did not originate in radiological controlled area. No total activity associated with sample/samples. RT 115-01 Special Handling and/or Storage	Preservation	HCl to pH <2 Cool 4C	Cool 4C	HNO3 to pH <2	H2SO4 to pH <2 Cool 4C	Cool 4C	ZnAc+NaOH to pH >9 Cool	HNO3 to pH <1		
	Type of Container	eG*	eG	eG	eG	eG	eG	eG		
	No. of Container(s)	3	2	1	1	1	1	2		
	Volume	40ml	1000ml	1000ml	1000ml	1000ml	500ml	100ml		

SAMPLE ANALYSIS	VOA - 8260A (TCL); VOA - 8260A (Add-On) (1-Propanol, Ethanol)	Semi-VOA - 8270A (Add-On) (Tributyl phosphate)	See item (1) in Special Instructions.	NO2/NO3 - 353.1; Ammonia - 350.3	See item (2) in Special Instructions.	Sulfides - 9030	Other Alpha; Gross Beta		
------------------------	---	--	---------------------------------------	----------------------------------	---------------------------------------	-----------------	-------------------------	--	--

Sample No.	Matrix *	Sample Date	Sample Time							
B13D85	WATER	11/1/01	1415	X	X	X	X	X	X	

CHAIN OF POSSESSION		Sign/Print Names		SPECIAL INSTRUCTIONS		Matrix * S=Soil SE=Soliment SO=Solid SL=Sludge W=Water O=Oil A=Air DS=Drym Solids DL=Drym Liquids T=Trace WP=Wipe L=Liquid V=Vegetation X=Other
Relinquished By/Removed From D. WATSON/ELM	Date/Time 11/1/01 1455	Received By/Stored In REF 2C 3728 B/R	Date/Time 11/1/01 1455	** Laboratory is to measure pH within 24 hours of sample receipt. ** The ERC acknowledges the 48-hour holding time will not be met for Nitrate using EPA method 300.0. ** The laboratory is to report Decane as a TIC if present in detectable quantities.		
Relinquished By/Removed From REF 2C 3728 B/R	Date/Time 11-05-01 0900	Received By/Stored In R. THORSEN	Date/Time 11-5-01 0900	(1) ICP Metals - 6010A (Supertrace) (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver); ICP Metals - 6010A (Supertrace Add-On) (Beryllium, Copper, Nickel, Vanadium, Zinc) (2) IC Anions - 300.0 (Chloride, Fluoride, Nitrate, Nitrite, Phosphate, Sulfate); pH (Water) - 9040		
Relinquished By/Removed From R. THORSEN	Date/Time 11-5-01 0900	Received By/Stored In FED EX	Date/Time	Samples stored in Ref.# 2C at the 3728 Shipping Facility on 11/1/01. Collector not available to relinquish samples on 11/5/01 for shipment.		
Relinquished By/Removed From FED EX	Date/Time 11/6/01 0950	Received By/Stored In K. HERNANDEZ	Date/Time 11/6/01 0950	RT 115-01		
Relinquished By/Removed From FED EX	Date/Time 11/6/01 0950	Received By/Stored In K. HERNANDEZ	Date/Time 11/6/01 0950			
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time			

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

Collector Watson, D/Bowers DL	Company Contact Cearlock, CS	Telephone No. 372-9638	Project Coordinator TRENT, SJ	Price Code 7N	Data Turnaround 45 Days
Project Designation 200 Area Source Characterization 200-CS-1 OU - QC Samplin	Sampling Location 200 East & West	SAF No. B02-007	Air Quality <input type="checkbox"/>		
Ice Chest No. See OSPC	Field Logbook No. EL1551	COA B20CS1673C	Method of Shipment Fed Ex		
Shipped To MSW 11-1-01 M/RECRA	Offsite Property No. A020017	Bill of Lading/Air Bill No. See OSPC			

POSSIBLE SAMPLE HAZARDS/REMARKS Samples did not originate in radiological controlled area. No total activity associated with sample/samples. Special handling and/or Storage RT1501	Preservation	HCl or H2SO4 to pH < 2 Cool	Cool 4C	HNO3 to pH < 2	H2SO4 to pH < 2 Cool 4C	Cool 4C	ZnAc+NaOH to pH > 9 Cool	HNO3 to pH < 2	HCl or H2SO4 to pH < 2 Cool	
	Type of Container	aGs*	aG	aG	aG	aG	aG	aG	aGs*	
	No. of Container(s)	3	2	1	1	1	1	2	1	
	Volume	40mL	1000mL	1000mL	1000mL	1000mL	500mL	1000mL	40mL	

SAMPLE ANALYSIS		VOA - 8260A (TCL); VOA - 8260A (Add-On) (1-Propanol, Ethanol)	Semi-VOA - 8270A (Add-On) (Tributylamine)	See item (1) in Special Instructions.	NO2/NO3 - 353.1; Ammonia - 350.3	See item (2) in Special Instructions.	Sulfides - 9030	Gross Alpha; Gross Beta	VOA - 8260A (TCL); VOA - 8260A (Add-On) (1-Propanol, Ethanol)
-----------------	--	---	---	---------------------------------------	----------------------------------	---------------------------------------	-----------------	-------------------------	---

Sample No.	Matrix *	Sample Date	Sample Time						
B13CT0	WATER								
B13CT1	WATER	11-1-01	0530						X

CHAIN OF POSSESSION		Sign/Print Names	
Relinquished By/Removed From D. SWATSON	Date/Time 11-1-01 1115	Received By/Stored In REF. 3A 3728 BLDG.	Date/Time 11-1-01 1115
Relinquished By/Removed From See 3A 3728	Date/Time 11-5-01 0900	Received By/Stored In K. J. THORNTON	Date/Time 11-5-01 0900
Relinquished By/Removed From K. J. THORNTON	Date/Time 11-5-01 0900	Received By/Stored In F. D. DELO	Date/Time
Relinquished By/Removed From F. D. DELO	Date/Time 11-6-01 0950	Received By/Stored In K. J. THORNTON	Date/Time 11-6-01 0950
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

- ** Laboratory is to measure pH within 24 hours of sample receipt.
- ** The ERC acknowledges the 48-hour holding time will not be met for Nitrate using EPA method 300.0.
- ** The laboratory is to report Decane as a TIC if present in detectable quantities.

(1) ICP Metals - 6010A (Supratrace) (Arsenic Barium Cadmium Chromium Lead Selenium Strontium); ICP Metals - 6010A (Supratrace Add-On) (Barium, Copper, Nickel, Vanadium, Zinc);

(2) IC Anions - 300.0 (Chloride, Fluoride, Nitrate, Nitrite, Phosphate, Sulfate); pH (Water) - 9040

Samples stored in Ref. # 3A at the 3728 Shipping Facility on 11/1/01. Collector not available to relinquish samples on 11/5/01 for shipment.

RT1501

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



Client: TNU-HANFORD B02-007
LVL #: 0111L277
SDG/SAF #: H1580/B02-007

W.O. #: 11343-606-001-9999-00
Date Received: 11-06-2001

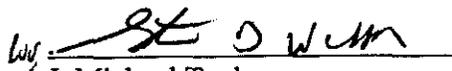
GC/MS VOLATILE

Two (2) water samples were collected on 11-01-2001.

The samples and their associated QC samples were analyzed according to criteria set forth in Lionville Laboratory OPs based on SW 846 Method 8260B for TCL Volatile target compounds on 11-13,14-2001.

The following is a summary of the QC results accompanying these sample results and a description of any problems encountered during their analyses:

1. The cooler temperature upon receipt has been recorded on the chain-of-custody.
2. Samples were analyzed within required holding time.
3. Non-target compounds were not detected in the samples.
4. All surrogate recoveries were within EPA QC limits.
5. All matrix spike recoveries were within EPA QC limits.
6. All blank spike recoveries were within EPA QC limits.
7. The method blanks contained the common laboratory contaminant Methylene Chloride at levels less than 3x the CRQL.
8. All internal standard area and retention time criteria were met.
9. A spectral search was performed for Decane; however, it was not detected in the samples.
10. "I certify that this sample data package is in compliance with SOW requirements, both technically and for completeness, 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."


/ J. Michael Taylor
President
Lionville Laboratory Incorporated

12-02-01
Date

som\group\data\voa\tnu-hanford\0111-277.doc

The results presented in this report relate only to the analytical testing and conditions of the samples at receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of 1 2 pages.

GLOSSARY OF VOA DATA

ABBREVIATIONS

- BS** - Indicates blank spike in which reagent grade water is spiked with the CLP matrix spike solutions and carried through all the steps in the method. Spike recoveries are reported.
- BSD** - Indicates blank spike duplicate.
- MS** - Indicates matrix spike.
- MSD** - Indicates matrix spike duplicate.
- DL** - Suffix added to sample number to indicate that results are from a diluted analysis.
- NA** - Not Applicable.
- DF** - Dilution Factor.
- NR** - Not Required.
- SP, Z** - Indicates Spiked Compound.

GLOSSARY OF VOA DATA

DATA QUALIFIERS

- U** = Compound was analyzed for but not detected. The associated numerical value is the estimated sample quantitation limit which is included and corrected for dilution and percent moisture.
- J** = Indicates an estimated value. This flag is used under the following circumstances: 1) when estimating a concentration for tentatively identified compounds (TICs) where a 1:1 response is assumed; or 2) when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. For example, if the limit of detection is 10 ug/L and a concentration of 3 ug/L is calculated, it is reported as 3J.
- B** = This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination. This flag is also used for a TIC as well as for a positively identified TCL compound.
- E** = Indicates that the compound was detected beyond the calibration range and was subsequently analyzed at a dilution.
- D** = Identifies all compounds identified in an analysis at a secondary dilution factor.
- I** = Interference.
- NQ** = Result qualitatively confirmed but not able to quantify.
- N** = Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the N code is not used.
- X** = This flag is used for a TIC compound which is quantified relative to a response factor generated from a daily calibration standard (rather than quantified relative to the closest internal standard).
- Y** = Additional qualifiers used as required are explained in the case narrative.

TECHNICAL FLAGS FOR MANUAL INTEGRATION

Manual quan modifications or integrations are performed routinely to improve the data quality for a variety of technical reasons. Documentation of these modifications should be clear and concise. The following "flags" are used to indicate the technical reasons for quan modifications:

- MP** - **Missed Peak:** manually added peak not found by automatic quan program.
- PA** - **Peak Assignment:** quan report was changed to reflect correct peak assignment.
- RI** - **Routine Integration:** routine integrations are performed for some analytes that are consistently integrated improperly by the automatic integration programs. Examples are the dichlorobenzene isomers on the VOA packed column and benzo(b)fluoranthene/benzo(k)fluoranthene which are poorly resolved on the BNA column.
- SP** - **Split Peak:** the automatic integration improperly split the peak; a manual integration was performed to get the correct area.
- CB** - **Coelution/Background:** peak was manually integrated to eliminate contribution from coeluting compounds, background signal, or other interference.
- PI** - **Proper Integration:** a peak with poor or inconsistent integration (e.g., excessive tail) was properly integrated manually.

Lionville Laboratory, Inc.

Volatiles by GC/MS, HSL List

Report Date: 11/28/01 14:12

RFW Batch Number: 0111L277

Client: TNUHANFORD B02-007 H1580 Work Order: 11343606001 Page: 1a

Sample Information	Cust ID:	B13D85	B13D85	B13D85	B13CT1	VBLKZV	VBLKZV BS
	RFW#:	001	001 MS	001 MSD	002	01LVX494-MB1	01LVX494-MB1
	Matrix:	WATER	WATER	WATER	WATER	WATER	WATER
	D.F.:	1.00	1.00	1.00	1.00	1.00	1.00
	Units:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L

	Toluene-d8	95 %	97 %	96 %	98 %	96 %	96 %
Surrogate	Bromofluorobenzene	91 %	92 %	92 %	93 %	91 %	90 %
Recovery	1,2-Dichloroethane-d4	102 %	92 %	96 %	98 %	90 %	92 %
-----fl-----fl-----fl-----fl-----fl-----fl-----fl							
Chloromethane		10 U	10 U	10 U	10 U	10 U	10 U
Bromomethane		10 U	10 U	10 U	10 U	10 U	10 U
Vinyl Chloride		10 U	10 U	10 U	10 U	10 U	10 U
Chloroethane		10 U	10 U	10 U	10 U	10 U	10 U
Methylene Chloride		11 B	8 B	8 B	12 B	10	9 B
Acetone		10 U	10 U	10 U	10 U	10 U	10 U
Carbon Disulfide		7	32	31	5 U	5 U	5 U
1,1-Dichloroethene		5 U	87 %	87 %	5 U	5 U	83 %
1,1-Dichloroethane		5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloroethene (total)		5 U	5 U	5 U	5 U	5 U	5 U
Chloroform		5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloroethane		5 U	5 U	5 U	5 U	5 U	5 U
2-Butanone		10 U	10 U	10 U	10 U	10 U	10 U
1,1,1-Trichloroethane		5 U	5 U	5 U	5 U	5 U	5 U
Carbon Tetrachloride		5 U	5 U	5 U	5 U	5 U	5 U
Bromodichloromethane		5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloropropane		5 U	5 U	5 U	5 U	5 U	5 U
cis-1,3-Dichloropropene		5 U	5 U	5 U	5 U	5 U	5 U
Trichloroethene		5 U	93 %	97 %	5 U	5 U	94 %
Dibromochloromethane		5 U	5 U	5 U	5 U	5 U	5 U
1,1,2-Trichloroethane		5 U	5 U	5 U	5 U	5 U	5 U
Benzene		5 U	95 %	97 %	5 U	5 U	94 %
Trans-1,3-Dichloropropene		5 U	5 U	5 U	5 U	5 U	5 U
Bromoform		5 U	5 U	5 U	5 U	5 U	5 U
4-Methyl-2-pentanone		10 U	10 U	10 U	10 U	10 U	10 U
2-Hexanone		10 U	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene		5 U	5 U	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane		5 U	5 U	5 U	5 U	5 U	5 U
Toluene		5 U	98 %	99 %	5 U	5 U	94 %

*= Outside of EPA CLP QC limits.

Cust ID: B13D85 B13D85 B13D85 B13CT1 VBLKZV VBLKZV BS

RFW#: 001 001 MS 001 MSD 002 01LVX494-MB1 01LVX494-MB1

Chlorobenzene	5 U	95 %	96 %	5 U	5 U	93 %
Ethylbenzene	5 U	5 U	5 U	5 U	5 U	5 U
Styrene	5 U	5 U	5 U	5 U	5 U	5 U
Xylene (total)	5 U	5 U	5 U	5 U	5 U	5 U

*= Outside of EPA CLP QC limits.

Cust ID: VBLKZW VBLKZW BS

Sample	RFW#:	01LVX495-MB1	01LVX495-MB1
Information	Matrix:	WATER	WATER
	D.F.:	1.00	1.00
	Units:	ug/L	ug/L

	Toluene-d8	97 %	94 %
Surrogate	Bromofluorobenzene	89 %	88 %
Recovery	1,2-Dichloroethane-d4	90 %	86 %
=====fl=====fl=====fl=====fl=====fl=====fl=====fl			
Chloromethane		10 U	10 U
Bromomethane		10 U	10 U
Vinyl Chloride		10 U	10 U
Chloroethane		10 U	10 U
Methylene Chloride		12	13 B
Acetone		10 U	10 U
Carbon Disulfide		5 U	5 U
1,1-Dichloroethene		5 U	85 %
1,1-Dichloroethane		5 U	5 U
1,2-Dichloroethene (total)		5 U	5 U
Chloroform		5 U	5 U
1,2-Dichloroethane		5 U	5 U
2-Butanone		10 U	10 U
1,1,1-Trichloroethane		5 U	5 U
Carbon Tetrachloride		5 U	5 U
Bromodichloromethane		5 U	5 U
1,2-Dichloropropane		5 U	5 U
cis-1,3-Dichloropropene		5 U	5 U
Trichloroethene		5 U	99 %
Dibromochloromethane		5 U	5 U
1,1,2-Trichloroethane		5 U	5 U
Benzene		5 U	96 %
Trans-1,3-Dichloropropene		5 U	5 U
Bromoform		5 U	5 U
4-Methyl-2-pentanone		10 U	10 U
2-Hexanone		10 U	10 U
Tetrachloroethene		5 U	5 U
1,1,2,2-Tetrachloroethane		5 U	5 U
Toluene		5 U	97 %

*= Outside of EPA CLP QC limits.

Cust ID: VBLKZW VBLKZW BS



RFW#: 01LVX495-MB1 01LVX495-MB1

Chlorobenzene _____	5 U	95 %
Ethylbenzene _____	5 U	5 U
Styrene _____	5 U	5 U
Xylene (total) _____	5 U	5 U

*= Outside of EPA CLP QC limits.

Bechtel Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			B02-007-04	Page 1 of 1
Collector Watson, D/Bowers DL	Company Contact Cearlock, CS	Telephone No. 372-9638	Project Coordinator TRENT, SJ		Price Code 7N	Data Turnaround 45 Days
Project Designation 200 Area Source Characterization 200-CS-1 OU - QC Samplin	Sampling Location 200 East	Field Logbook No. EL1551	COA B20CS1673C	SAF No. B02-007	Air Quality <input type="checkbox"/>	
Case Check No. SEE OSPC	Offsite Property No. A020017	Method of Shipment Fed Ex		Bill of Lading/Air Bill No. SEE OSPC		

POSSIBLE SAMPLE HAZARDS/REMARKS Samples did not originate in radiological controlled area. No total activity associated with sample/samples. Special Handling and/or Storage RT 115.01	Preservation	HCl to pH <2 Cool 4C	Cool 4C	HNO3 to pH <2	H2SO4 to pH <2 Cool 4C	Cool 4C	ZnAc+NaOH to pH >9 Cool	HNO3 to pH <2		
	Type of Container	aG*	aG	aG	aG	aG	aG	aG		
	No. of Container(s)	3	2	1	1	1	1	2		
	Volume	40mL	1000mL	1000mL	1000mL	1000mL	500mL	100mL		

SAMPLE ANALYSIS				VDA - 8260A (TCL); VDA - 8260A (Add-On) (1-Propenol, Ethanol)	Semi-VDA - 8278A (Add-On) (Tributyl phosphate)	See item (1) in Special Instructions.	NO2/NO3 - 353.1; Ammonia - 350.3	See item (2) in Special Instructions.	Sulfides - 9030	Other (Specify):
Sample No.	Matrix *	Sample Date	Sample Time							
B13D85	WATER	11/1/01	1415	X	X	X	X	X	X	

CHAIN OF POSSESSION		Sign/Print Names		SPECIAL INSTRUCTIONS		Matrix *
Relinquished By/Removed From D.S. WATSON/ESSMITH	Date/Time 11/1/01 1455	Received By/Stored In REF 26 3728 B/R	Date/Time 11/1/01 1455	** Laboratory is to measure pH within 24 hours of sample receipt. ** The ERC acknowledges the 48-hour holding time will not be met for Nitrate using EPA method 300.0. ** The laboratory is to report Decane as a TIC if present in detectable quantities.		S=Soil SE=Soil/Est SO=Soil SL=Sludge W=Water O=Oil A=Air DS=Dry-Solids DL=Dry-Liquids T=Trace Wp=Wipe L=Liquid V=Vegetation X=Other
Relinquished By/Removed From REF 26 3728 B/R	Date/Time 11/5/01 0900	Received By/Stored In R. F. U.	Date/Time 11-5-01 0900	(1) ICP Metals - 6010A (Supertrace) (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver); ICP Metals - 6010A (Supertrace Add-On) (Beryllium, Copper, Nickel, Vanadium, Zinc) (2) IC Anions - 300.0 (Chloride, Fluoride, Nitrate, Nitrite, Phosphate, Sulfate); pH (Water) - 9040		
Relinquished By/Removed From R. F. U.	Date/Time 11/5/01 0900	Received By/Stored In F. D. Q.	Date/Time	Samples stored in Ref.# 26 at the 3728 Shipping Facility on 11/1/01. Collector not available to relinquish samples on 11/5/01 for shipment.		
Relinquished By/Removed From F. D. Q.	Date/Time 11/6/01 0950	Received By/Stored In K. H. V.	Date/Time 11/6/01 0950	RT 115.01		
Relinquished By/Removed From F. D. Q.	Date/Time 11/6/01 0950	Received By/Stored In K. H. V.	Date/Time 11/6/01 0950			

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

Bechtel Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			B02-007-03	Page 1 of 1
Collector Watson, D/Bowers DL	Company Contact Cearlock, CS	Telephone No. 372-9638	Project Coordinator TRENT, SJ		Price Code 7N	Data Turnaround 45 Days
Project Designation 200 Area Source Characterization 200-CS-1 OU - QC Samplin	Sampling Location 200 East & West	SAF No. B02-007	Air Quality <input type="checkbox"/>			
Ice Chest No. SEE OSPC	Field Logbook No. EL1551	COA B20CS1673C	Method of Shipment Fed Ex			
Shipped To RECRA	Offsite Property No. A020017	Bill of Lading/Air Bill No. SEE OSPC				

POSSIBLE SAMPLE HAZARDS/REMARKS Samples did not originate in radiological controlled area. No total activity associated with sample/samples. Special handling and/or Storage	Preservation	HCl or H2SO4 to pH < 2 Cool	Cool 4C	HNO3 to pH < 2	H2SO4 to pH < 2 Cool 4C	Cool 4C	ZnAc+NaOH to pH > 9 Cool	HNO3 to pH < 2	HCl or H2SO4 to pH < 2 Cool		
	Type of Container	aGs*	aG	aG	aG	aG	aG	aG	aGs*		
	No. of Container(s)	3	2	1	1	1	1	2	1		
	Volume	40mL	1000mL	1000mL	1000mL	1000mL	500mL	1000mL	40mL		

SAMPLE ANALYSIS		VDA - 8260A (TCL); VDA - 8260A (Add-On) (1-Propanol, Ethanol)	Semi-VOA - 8270A (Add-On) (Tributylamine)	See item (1) in Special Instructions.	NO2/NO3 - 353.1; Ammonia - 350.3	See item (2) in Special Instructions.	Sulfides - 9030	Gross Alpha; Gross Beta	VDA - 8260A (TCL); VDA - 8260A (Add-On) (1-Propanol, Ethanol)		
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Sample No.	Matrix *	Sample Date	Sample Time								
B13CT0	WATER										
B13CT1	WATER	11-1-01	0530						X		

CHAIN OF POSSESSION		SPECIAL INSTRUCTIONS		Matrix * S=Soil SD=Soil SO=Soil SL=Sludge W=Water C=Oil A=Air DS=Drum Solids DL=Drum Liquids T=Time WP=Wipe L=Liquid V=Vegetative X=Other
Relinquished By/Removed From DS WATSON/RTW	Date/Time 11-1-01 1115	Received By/Stored In REF. 3A 3728 BLDG.	Date/Time 11-1-01 1115	
Relinquished By/Removed From REF. 3A 3728	Date/Time 11-5-01 0900	Received By/Stored In R. J. Thoren	Date/Time 11-5-01 0900	
Relinquished By/Removed From R. J. Thoren	Date/Time 11-5-01 0900	Received By/Stored In FED EX	Date/Time	
Relinquished By/Removed From FED EX	Date/Time 11-6-01 0950	Received By/Stored In K. J. Thoren	Date/Time 11-6-01 0950	
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time	

** Laboratory is to measure pH within 24 hours of sample receipt.
 ** The ERC acknowledges the 48-hour holding time will not be met for Nitrate using EPA method 300.0.
 ** The laboratory is to report Decane as a TIC if present in detectable quantities.

(1)-ICP Metals - 6010A (Supernatant) (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver);
 ICP Metals - 6010A (Supernatant Add-On) (Barium, Copper, Nickel, Vanadium, Zinc);
 (2)-IC Anions - 300.0 (Chloride, Fluoride, Nitrate, Nitrite, Phosphate, Sulfate); pH (Water) - 9040

Samples stored in Ref. # 3A at the 3728 Shipping Facility on 11/1/01. Collector not available to relinquish samples on 11/5/01 for shipment.

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

ORIGINAL

SDR # B02-025

Revision #: 0

Date Initiated: 11/12/01

Pages

SAMPLE DISPOSITION RECORD

SAF: B02-007

OU: 200-CS-1

Project ID: 100-CS-1

Task ID: 1

Sampling Event: 200 Area Source Characterization 200-CS-1 Operable Unit

Laboratory: TMA/RECRA

Task Manager: C. S. Cearlock

Sampling Information:

Number of Samples: 1

ID Numbers: B13D85

Matrix: Water

Collection Date: 11/01/01

Issue Background:

Class: Project Data Use General Laboratory Validation Direction Sample Management
Direction Direction

Type: Cancellation of Analyses

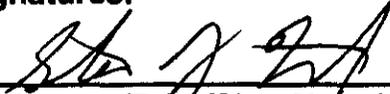
Description: Ammonia (method 350.3) and Nitrate/Nitrite (method 353.1) Analyses Cancelled

Disposition:

Description: The laboratory was preparing to analyze for ammonia (method 350.3) and nitrate/nitrite (method 353.1) (see SDR B02-024). During the sample preparation process, the material contained in the bottle was accidentally spilled, leaving an inadequate amount of material for the analyses in the bottle (see SDR B02-024). As a result, ERC Sample Management cancelled the ammonia and nitrate/nitrite analyses.

Justification: Because of the preservation required, material for ammonia and nitrate/nitrite analyses could not be extracted from other sample bottles in this sample bottle set. Therefore the ammonia and nitrate/nitrite analyses were cancelled.

Approval Signatures:

S. J. Trent		11/16/01
Project Coordinator (Print/Sign Name)		Date
C. S. Cearlock		11/16/01
Task Manager (Print/Sign Name)		Date