

Environmental
Restoration
Contractor

ERC Team

Interoffice Memorandum

0051992

Job No. 22192
Written Response Required? No
Closes CCN: N/A
OU: 200-ZP-1
TSD: N/A
ERA: N/A
Subject Code: 8960

TO: K. M. Singleton, H6-01

DATE: April 11, 1995

COPIES: See Below

FROM: Duane Jacques
Analytical Services/Field Screening
H6-04/372-9400

SUBJECT: 200-ZP-1 OPERABLE GROUNDWATER ASSESSMENTS RESULTS - MARCH, 1995

45086

The attached table provides results for groundwater samples collected from fifteen groundwater monitoring wells which are part of the 200-ZP-1 Operable Unit. The wells are being monitored to assess the effects of the 200-ZP-1 Pump and Treat System. Each sample vial was completely filled (zero headspace). The samples were preserved with concentrated hydrochloric acid and stored at 4°C until analysis.

The samples were analyzed using an aqueous headspace analysis method. The procedure for this method is contained in BHI-EE-05, *Field Screening Procedures*, January, 1995. About 10 mL of sample was removed from each vial using a disposable syringe. Ambient air passed through a cartridge of activated charcoal was allowed to displace the liquid removed. This created 10-mL of headspace above each sample for analysis. The samples were heated to room temperature (about 22°C) and shaken vigorously for one minute just prior to analysis.

Headspace aliquots were obtained from each sample using a gas-tight syringe. The headspace samples were then analyzed using a Photovac 10S Plus portable gas chromatograph (Serial Number TB920109). The Photovac 10S Plus (10S Plus) is a self-contained, battery-powered gas chromatograph that is equipped with a 10-meter non-polar, wide-bore, capillary column and a photoionization detector with an 11.7 eV lamp. The 10S Plus was operated isothermally at 40°C using ultra-high purity air carrier gas at a flow rate of 5 mL/min.

The 10S Plus is programmed with a library to detect common chlorinated volatile organic compounds in a water matrix based on retention time. The library was updated and calibrated using a prepared liquid standard containing chloroform, carbon tetrachloride, and trichloroethylene in the concentration range anticipated for the samples. Headspace from a sample of deionized water was run after the calibration as a blank to establish a baseline for the analyses. In addition, the calibration standard was reanalyzed at the end of the analytical session to determine any deviation from the original calibration. The deviations were within the acceptable limits for this method ($\pm 20\%$).

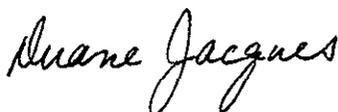


K. M. Singleton, H6-01

Page 2

The attached table contains the results for each sample. The concentrations are expressed in $\mu\text{g/L}$ (parts-per-billion). Each sample had an associated trip blank. The trip blank results are listed below the associated sample results. Not all of the trip blanks were analyzed. At least one trip blank was analyzed for each batch of samples collected on the same day and carried in the same sample cooler.

Please contact me if you have any questions on this information. I will retain copies of the calibration, quality control, and sample chromatograms in my files. Notes concerning the analyses are contained in the 68N-1985 laboratory logbook, pages 171 to 178.



Duane Jacques

IDJ:idj

Attachment: 200-ZP-1 Operable Unit Groundwater Assessment Results - March, 1995

Copies

R. A. Casto H6-04, w/a

B. H. Ford H4-85, w/a

J. R. Freeman-Pollard H6-04, w/a

J. A. Lerch H4-14, w/a

W. H. Price H6-04, w/a

IDJ - File, w/a

BHI Document Control H4-79, w/a

200-ZP-1 Operable Unit Groundwater Assessment Results* - March, 1995

HEIS Number	Well Number	Sample Date	Analysis Date	Chloroform ($\mu\text{g/L}$)	Carbon tetrachloride ($\mu\text{g/L}$)	Trichloroethylene ($\mu\text{g/L}$)
BOF6R6	299-W11-30	3/28/95	4/4/95	10	1,640	12
BOF6R7	Trip Blank	3/28/95	4/4/95	<2.0	<2.0	<2.0
BOF6R8	299-W15-6	4/6/95	4/7/95	<2.0	402	<2.0
BOF6R9	Trip Blank	4/6/95	4/7/95	<2.0	<2.0	<2.0
BOF6S0	299-W15-10	3/23/95	3/24/95	14	2,030	<5.0
BOF6S1	Trip Blank	3/23/95	3/24/95	<2.0	<2.0	<2.0
BOF6S2	299-W15-15	3/24/95	4/4/95	<10	830	<5.0
BOF6S3	Trip Blank	3/24/95	4/4/95	<2.0	<2.0	<2.0
BOF6S4	299-W15-18	3/24/95	3/30/95	50	4,370	<5.0
BOF6S5	Trip Blank	3/24/95	3/30/95	<2.0	<2.0	<2.0
BOF6S6	299-W15-24	3/24/95	3/30/95	35	270	<5.0
BOF6S7	Trip Blank	3/24/95	Not Analyzed	NA	NA	NA
BOF6S8	299-W15-10	3/23/95	3/24/95	15	2,090	<5.0
BOF6S9	Trip Blank	3/23/95	3/24/95	<2.0	<2.0	<2.0
BOF6T2	299-W6-5	3/29/95	3/30/95	<10	330	12
BOF6T3	Trip Blank	3/29/95	Not Analyzed	NA	NA	NA
BOF6T4	299-W7-5	3/29/95	3/30/95	<2.0	120	<2.0
BOF6T5	Trip Blank	3/29/95	Not Analyzed	NA	NA	NA
BOF6T6	299-W10-13	3/28/95	3/30/95	<2.0	12	<2.0
BOF6T7	Trip Blank	3/28/95	3/30/95	<2.0	<2.0	<2.0
BOF6T8	299-W11-10	3/28/95	3/30/95	4.1	610	<2.0
BOF6T9	Trip Blank	3/28/95	Not Analyzed	NA	NA	NA
BOF6V0	299-W12-1	3/27/95	3/30/95	<2.0	17	<2.0
BOF6V1	Trip Blank	3/27/95	3/30/95	<2.0	<2.0	<2.0
BOF6V2	699-37-82a	3/29/95	3/30/95	<2.0	<2.0	<2.0
BOF6V3	Trip Blank	3/29/95	3/30/95	<2.0	<2.0	<2.0
BOF6V4	699-38-70	3/30/95	4/4/95	<2.0	60	2.9
BOF6V5	Trip Blank	3/30/95	4/4/95	<2.0	<2.0	<2.0
BOF6V6	699-39-79	3/28/95	3/30/95	<10	320	<5.0
BOF6V7	Trip Blank	3/28/95	3/30/95	<2.0	<2.0	<2.0
BOF6V8	699-48-71	3/30/95	4/4/95	<2.0	<2.0	<2.0
BOF6V9	Trip Blank	3/30/95	Not Analyzed	NA	NA	NA
BOF6W0	299-W12-1	3/27/95	3/30/95	<2.0	15	<2.0
BOF6W1	Trip Blank	3/27/95	Not Analyzed	NA	NA	NA

* Aqueous Headspace Method Using Photovac 10S Plus Portable Gas Chromatograph

Scientist:

Duane Jacques

Date:

4/11/95

Bechtel Hanford, Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

012683

Data Turnaround
 Priority
 Normal

Collector <i>K. O'Leary</i>	Company Contact J.R. Freeman-Pollard	Telephone (509) 376-1882
Project Designation 200-ZP-1 Remedial Action Assessment Wells - March 1995	Sampling Location 200 West	SAF No. B95-033
Ice Chest No.	Field Logbook No. <i>EFL-1123</i>	Method of Shipment Hand Delivered
Shipped To Duane Jacques	Offsite Property No.	Bill of Lading/Air Bill No.

Possible Sample Hazards/Remarks	Preservation	HCl	HCl
	Type of Container	Gs	Gs
	No. of Container(s)	1	1
Special Handling and/or Storage Maintain between 2 C and 6 C.	Volume	40mL	40mL

SAMPLE ANALYSIS	VOA-TCL	VOA-TCL
	CCl4, - <i>1640 ppb</i> Chloro- form, - <i>10 ppb</i> TCE - <i>12 ppb</i>	CCl4, - <i>ND</i> Chloro- form, - <i>ND</i> TCE - <i>ND</i>

Sample No.	Matrix*	Date Sampled	Time Sampled											
B0F6R6	W	<i>3/29/95</i>	<i>0840</i>	X										
B0F6R7	W	<i>3/28/95</i>	<i>0840</i>			X								

CHAIN OF POSSESSION	Sign/Print Names		SPECIAL INSTRUCTIONS Deliver samples to Duane Jacques. <i>299-W11-30</i>	Matrix* S - Soil SE - Sediment SO - Solid SL - Sludge W - Water O - Oil A - Air DS - Drum Solids DL - Drum Liquids T - Tissue WI - Wipe L - Liquid V - Vegetation X - Other		
	Relinquished By <i>K. O'Leary</i>	Date/Time <i>3/28/95 1410</i>			Received By <i>J.R. Freeman-Pollard</i>	Date/Time <i>3-29-95</i>
	Relinquished By <i>E.R.C.</i>	Date/Time <i>0930</i>			Received By <i>Richard Kunk</i>	Date/Time <i>4/4/95</i>
	Relinquished By <i>Bechtel Hanford</i>	Date/Time <i>4-9-95</i>			Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time			

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

Bechtel Hanford, Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

012683

Data Turnaround
 Priority
 Normal

Collector <i>K. Lee</i>	Company Contact J.R. Freeman-Pollard	Telephone (509) 376-1882
Project Designation 200-ZP-1 Remedial Action Assessment Wells - March 1995	Sampling Location 200 West	SAF No. B95-033
Ice Chest No.	Field Logbook No. <i>EFL-1123</i>	Method of Shipment Hand Delivered
Shipped To Duane Jacques	Offsite Property No.	Bill of Lading/Air Bill No.

Possible Sample Hazards/Remarks	Preservation	HCl	HCl
	Type of Container	Gs	Gs
	No. of Container(s)	1	1
	Special Handling and/or Storage Maintain between 2 C and 6 C.	Volume 40mL	40mL
SAMPLE ANALYSIS		VOA-TCL CCl4, - <i>402 ppb</i>	VOA-TCL CCl4, - <i>ND</i>
		Chloro- form, - <i>ND</i>	Chloro- form, - <i>ND</i>
		TCE - <i>ND</i>	TCE - <i>ND</i>

Sample No.	Matrix*	Date Sampled	Time Sampled										
BOF6R8	W	<i>4-6-95</i>	<i>1205</i>	X									
BOF6R9	W	<i>4-6-95</i>	<i>1205</i>			X							

CHAIN OF POSSESSION	Sign/Print Names	SPECIAL INSTRUCTIONS	Matrix*
Relinquished By <i>K.O. Lee</i> Date/Time <i>4/6/95 1430</i>	Received By <i>K. Freeman-Pollard / K. Tripp</i> Date/Time <i>4/6/95 1430</i>	Deliver samples to Duane Jacques. <i>299-W15-6</i>	<ul style="list-style-type: none"> S - Soil SE - Sediment SO - Solid SL - Sludge W - Water O - Oil A - Air DS - Drum Solids DL - Drum Liquids T - Tissue WI - Wipe L - Liquid V - Vegetation X - Other
Relinquished By <i>K. Tripp / K. Freeman-Pollard</i> Date/Time <i>4/7/95</i>	Received By <i>D. Jacques</i> Date/Time <i>0935</i>		
Relinquished By _____ Date/Time _____	Received By _____ Date/Time _____		

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 **012683**

Data Turnaround
 Priority
 Normal

Collector K.D. LEE	Company Contact J.R. Freeman-Pollard	Telephone (509) 376-1882
Project Designation 200-ZP-1 Remedial Action Assessment Wells - March 1995	Sampling Location 200 West	SAF No. B95-033
Ice Chest No.	Field Logbook No. EFL-1123	Method of Shipment Hand Delivered
Shipped To Duane Jacques	Offsite Property No.	Bill of Lading/Air Bill No.

Possible Sample Hazards/Remarks	Preservation	HCl	HCl
	Type of Container	Gs	Gs
	No. of Container(s)	1	1
Special Handling and/or Storage Maintain between 2 C and 6 C.	Volume	40mL	40mL
SAMPLE ANALYSIS	VOA-TCL CCl4, -	2030 ug/L	VOA-TCL CCl4, - ND
	Chloro- form, -	14 ug/L	Chloro- form, - ND
	TCE -	ND	TCE - ND

Sample No.	Matrix*	Date Sampled	Time Sampled										
BOF6S0	W	03/23/95	1121	X									
BOF6S1	W	03/23/95	1121			X							

CHAIN OF POSSESSION	Sign/Print Names	SPECIAL INSTRUCTIONS	Matrix*
Relinquished By <i>Kate Phee</i>	Date/Time 3/24/95 0720	Received By <i>Eric</i>	Date/Time 0720
Relinquished By <i>Eric</i>	Date/Time 0830	Received By <i>D. Jacques</i>	Date/Time 3/24/95 08:30
Relinquished By <i>Eric</i>	Date/Time 3-24-95	Received By <i>Duane Jacques</i>	Date/Time 3/24/95 08:30
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

Deliver samples to Duane Jacques.

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

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

Bechtel Hanford, Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

012683

Data Turnaround
 Priority
 Normal

Collector <i>K.O. LEE</i>	Company Contact J.R. Freeman-Pollard	Telephone (509) 376-1882
Project Designation 200-ZP-1 Remedial Action Assessment Wells - March 1995	Sampling Location 200 West	SAF No. B95-033
Ice Chest No.	Field Logbook No. <i>EFL-1123</i>	Method of Shipment Hand Delivered
Shipped To Duane Jacques	Offsite Property No.	Bill of Lading/Air Bill No.

Possible Sample Hazards/Remarks	Preservation	HCl	HCl
	Type of Container	Gs	Gs
	No. of Container(s)	1	1
	Volume	40mL	40mL

SPECIAL HANDLING AND/OR STORAGE Maintain between 2 C and 6 C.	VOA-TCL	VOA-TCL
	CCl4, - <i>830ppb</i> Chloroform, - <i>ND</i> TCE - <i>ND</i>	CCl4, - <i>ND</i> Chloroform, - <i>ND</i> TCE - <i>ND</i>

Sample No.	Matrix*	Date Sampled	Time Sampled										
BOF6S2	W	3/24/95	0922	X									
BOF6S3	W	3/24/95	0922			X							

CHAIN OF POSSESSION	Sign/Print Names	SPECIAL INSTRUCTIONS	Matrix*
Relinquished By <i>K.O. Lee</i>	Date/Time 3/24/95 1350	Received By <i>Eric</i>	Date/Time 1350
Relinquished By <i>Richard Kent</i>	Date/Time 4-4-95	Received By <i>Richard Kent</i>	Date/Time 4/4/95
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

Deliver samples to Duane Jacques.
299-W15-15

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

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

Bechtel Hanford, Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

012683

Data Turnaround

- Priority
- Normal

Collector K.D. LEE	Company Contact J.R. Freeman-Pollard	Telephone (509) 376-1882
Project Designation 200-ZP-1 Remedial Action Assessment Wells - March 1995	Sampling Location 200 West	SAF No. B95-033
Ice Chest No.	Field Logbook No. EFL-1123	Method of Shipment Hand Delivered
Shipped To Duane Jacques	Offsite Property No.	Bill of Lading/Air Bill No.

Possible Sample Hazards/Remarks	Preservation	HCl	HCl
	Type of Container	Gs	Gs
	No. of Container(s)	1	1
Special Handling and/or Storage Maintain between 2 C and 6 C.	Volume	40mL	40mL
SAMPLE ANALYSIS	VOA-TCL CCl4, - 4370 Chloro- form, - 50 TCE - 1.2	VOA-TCL CCl4, - ND Chloro- form, - ND TCE - ND	

Sample No.	Matrix*	Date Sampled	Time Sampled										
BOF6S4	W	03/24/95	1037	X									
BOF6S5	W	03/24/95	1037			X							

CHAIN OF POSSESSION	Sign/Print Names	SPECIAL INSTRUCTIONS	Matrix*
Relinquished By <i>K.D. Lee</i> Date/Time 3/24/95 1350	Received By <i>ERC</i> Date/Time 1350	Deliver samples to Duane Jacques. 299-W15-18	<ul style="list-style-type: none"> S - Soil SE - Sediment SO - Solid SL - Sludge W - Water O - Oil A - Air DS - Drum Solids DL - Drum Liquids T - Tissue WI - Wipe L - Liquid V - Vegetation X - Other
Relinquished By <i>ERC</i> Date/Time 0853	Received By <i>D. Jacques</i> Date/Time 0853		
Relinquished By <i>D. Jacques</i> Date/Time 1030	Received By <i>ERC</i> Date/Time 1030		
Relinquished By <i>CM Jones</i> Date/Time 12/50	Received By <i>D. Jacques</i> Date/Time 1250		
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

012683

Data Turnaround

- Priority
- Normal

Collector <i>K.D. Lee</i>	Company Contact J.R. Freeman-Pollard	Telephone (509) 376-1882
Project Designation 200-ZP-1 Remedial Action Assessment Wells - March 1995	Sampling Location 200 West	SAF No. B95-033
Ice Chest No.	Field Logbook No. <i>EFL 1103</i>	Method of Shipment Hand Delivered
Shipped To Duane Jacques	Offsite Property No.	Bill of Lading/Air Bill No.

Possible Sample Hazards/Remarks	Preservation	HCl	HCl
	Type of Container	Gs	Gs
	No. of Container(s)	1	1
Special Handling and/or Storage Maintain between 2 C and 6 C.	Volume	40mL	40mL

SAMPLE ANALYSIS	VOA-TCL CCl4, Chloro- form, TCE	VOA-TCL CCl4, Chloro- form, TCE
	<i>266 ppb</i> <i>35 ppb</i> <i>ND</i>	<i>Not Analyzed</i>

Sample No.	Matrix*	Date Sampled	Time Sampled										
BOF6S6	W	3/24/95	1158	X									
BOF6S7	W	3/24/95	1158			X							

CHAIN OF POSSESSION	Sign/Print Names	SPECIAL INSTRUCTIONS	Matrix*
Relinquished By <i>K.D. Lee</i>	Date/Time 3/24/95 1350	Received By <i>J.R. Freeman-Pollard</i>	Date/Time 3-24-95
Relinquished By <i>J.R. Freeman-Pollard</i>	Date/Time 3-27-95	Received By <i>Duane Jacques</i>	Date/Time 3-30-95
Relinquished By <i>Duane Jacques</i>	Date/Time 3/30/95	Received By <i>Chris Jones</i>	Date/Time 3/30/95
Relinquished By <i>Chris Jones</i>	Date/Time 3/30/95	Received By <i>Duane Jacques</i>	Date/Time 3/30/95
LABORATORY SECTION	Received By	Date/Time	
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

Deliver samples to Duane Jacques.

299-W15-24

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

Bechtel Hanford, Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

012683

Data Turnaround

Priority

Normal

Collector K.D. LEE		Company Contact J.R. Freeman-Pollard		Telephone (509) 376-1882	
Project Designation 200-ZP-1 Remedial Action Assessment Wells - March 1995		Sampling Location 200 West		SAF No. B95-033	
Ice Chest No.		Field Logbook No. EFL-1123		Method of Shipment Hand Delivered	
Shipped To Duane Jacques		Offsite Property No.		Bill of Lading/Air Bill No.	
Possible Sample Hazards/Remarks		Preservation	HCl	HCl	
		Type of Container	Gs	Gs	
		No. of Container(s)	1	1	
Special Handling and/or Storage Maintain between 2 C and 6 C.		Volume	40mL	40mL	

SAMPLE ANALYSIS

VOA-TCL CCl4, - 2090 Chloro- form, - 15 ug/L TCE - ND	VOA-TCL CCl4, - ND Chloro- form, - ND TCE - ND
----------------------------------------------------------------------------------------	---------------------------------------------------------------------------------

Sample No.	Matrix*	Date Sampled	Time Sampled										
BOF6S8	W	03/23/95	1121	X									
BOF6S9	W	03/23/95	1121			X							

CHAIN OF POSSESSION	Sign/Print Names			SPECIAL INSTRUCTIONS Deliver samples to Duane Jacques.	Matrix* S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air DS = Drum Solids DL = Drum Liquids T = Tissue WT = Wipe L = Liquid V = Vegetation X = Other	
	Relinquished By <i>K. Lee</i>	Date/Time 3/24/95 0720	Received By <i>ECC</i>			Date/Time 0720
	Relinquished By <i>ECC</i>	Date/Time 0830	Received By <i>D. Jacques</i>			Date/Time
	Relinquished By <i>Richard Beatty</i>	Date/Time 3-24-95	Received By <i>Duane Jacques</i>			Date/Time 3/24/95 0830
Relinquished By	Date/Time	Received By	Date/Time			

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

012683

Data Turnaround

- Priority
- Normal

Collector <i>K. Lee</i>	Company Contact J.R. Freeman-Pollard	Telephone (509) 376-1882
Project Designation 200-ZP-1 Plume Periphery Wells - March 1995	Sampling Location 200 West	SAF No. B95-034
Ice Chest No.	Field Logbook No. <i>ERC-1123</i>	Method of Shipment Hand Delivered
Shipped To Duane Jacques	Offsite Property No.	Bill of Lading/Air Bill No.

Possible Sample Hazards/Remarks	Preservation	HCl	HCl
	Type of Container	Gs	Gs
	No. of Container(s)	1	1
	Volume	40mL	40mL

SAMPLE ANALYSIS	VOA-TCL CCI4, - <i>333</i> Chloro- form, - <i>ND</i> TCE - <i>12</i>	VOA-TCL CCI4, - <i>Not Analyzed</i> Chloro- form, TCE
-----------------	----------------------------------------------------------------------------------	-------------------------------------------------------------------

Sample No.	Matrix*	Date Sampled	Time Sampled										
BOF6T2	W	<i>3-29-95</i>	<i>1209</i>	<i>X</i>									
BOF6T3	W	<i>3-29-95</i>	<i>1209</i>		<i>X</i>								

CHAIN OF POSSESSION	Sign/Print Names	SPECIAL INSTRUCTIONS	Matrix*
Relinquished By <i>K. Lee</i> Date/Time <i>3/28/95 1350</i>	Received By <i>J.R. Freeman-Pollard</i> Date/Time <i>1300</i>	Deliver samples to Duane Jacques. <i>299-W6-5</i>	<ul style="list-style-type: none"> S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air DS = Drum Solids DL = Drum Liquids T = Tissue WI = Wipe L = Liquid V = Vegetation X = Other
Relinquished By <i>ERC</i> Date/Time <i>0848</i>	Received By <i>D. Jacques</i> Date/Time <i>0848</i>		
Relinquished By <i>N. Jacques</i> Date/Time <i>1030</i>	Received By <i>CM Jones</i> Date/Time <i>1030</i>		
Relinquished By <i>CM Jones</i> Date/Time <i>1316</i>	Received By <i>D. Jacques</i> Date/Time <i>1316</i>		
LABORATORY SECTION	Received By	Date/Time	
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

Bechtel Hanford, Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

012683

Data Turnaround
 Priority
 Normal

Collector <i>K Lee</i>	Company Contact J.R. Freeman-Pollard	Telephone (509) 376-1882
Project Designation 200-ZP-1 Plume Periphery Wells - March 1995	Sampling Location 200 West	SAF No. B95-034
Ice Chest No.	Field Logbook No. <i>ER-1123</i>	Method of Shipment Hand Delivered
Shipped To Duane Jacques	Offsite Property No.	Bill of Lading/Air Bill No.

Possible Sample Hazards/Remarks	Preservation	HCl	HCl
	Type of Container	Gs	Gs
	No. of Container(s)	1	1
Special Handling and/or Storage Maintain between 2 C and 6 C.	Volume	40mL	40mL

SAMPLE ANALYSIS	VOA-TCL CCl4, - <i>816 ppb</i> Chloro- form, - <i>ND</i> TCE - <i>ND</i>	VOA-TCL CCl4, - <i>Not Analyzed</i> Chloro- form, - <i>Not Analyzed</i> TCE
-----------------	--------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------

Sample No.	Matrix*	Date Sampled	Time Sampled										
BOF6T4	W	<i>3-29-95</i>	<i>1109</i>	<i>X</i>									
BOF6T5	W	<i>3-29-95</i>	<i>1109</i>			<i>X</i>							

CHAIN OF POSSESSION	Sign/Print Names	SPECIAL INSTRUCTIONS	Matrix*
Relinquished By <i>Theresa K. O'Leary</i> Date/Time <i>3/29/95 1300</i>	Received By <i>ERC</i> Date/Time <i>1300</i>	Deliver samples to Duane Jacques. <i>299-w7-5</i>	S = Soil
Relinquished By <i>ERC</i> Date/Time <i>0847</i>	Received By <i>ERC</i> Date/Time <i>847</i>		SE = Sediment
Relinquished By <i>Bechtel</i> Date/Time <i>3-29-95</i>	Received By <i>Duane Jacques</i> Date/Time <i>3-30-95</i>		SO = Solid
Relinquished By	Received By		SL = Sludge
Relinquished By	Received By		W = Water
Relinquished By	Received By		O = Oil
Relinquished By	Received By		A = Air
Relinquished By	Received By		DS = Drum Solids
Relinquished By	Received By		DL = Drum Liquids
Relinquished By	Received By		T = Tissue
Relinquished By	Received By		WI = Wipe
Relinquished By	Received By		L = Liquid
Relinquished By	Received By		V = Vegetation
Relinquished By	Received By		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

012683

Data Turnaround
 Priority
 Normal

Collector <i>R. Lee</i>	Company Contact J.R. Freeman-Pollard	Telephone (509) 376-1882
Project Designation 200-ZP-1 Plume Periphery Wells - March 1995	Sampling Location 200 West	SAF No. B95-034
Ice Chest No.	Field Logbook No. <i>EFL-1123</i>	Method of Shipment Hand Delivered
Shipped To Duane Jacques	Offsite Property No.	Bill of Lading/Air Bill No.

Possible Sample Hazards/Remarks	Preservation	HCl	HCl
	Type of Container	Gs	Gs
	No. of Container(s)	1	1
Special Handling and/or Storage Maintain between 2 C and 6 C.	Volume	40mL	40mL
SAMPLE ANALYSIS	VOA-TCL CCl4, - <i>12 ppb</i>	VOA-TCL CCl4, - <i>ND</i>	
	Chloro- form, - <i>ND</i>	Chloro- form, - <i>ND</i>	
	TCE - <i>ND</i>	TCE - <i>ND</i>	

Sample No.	Matrix*	Date Sampled	Time Sampled										
BOF6T6	W	<i>3-28-95</i>	<i>1136</i>	<i>X</i>									
BOF6T7	W	<i>3-28-95</i>	<i>1136</i>		<i>X</i>								

CHAIN OF POSSESSION	Sign/Print Names		SPECIAL INSTRUCTIONS		Matrix* S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air DS = Drum Solids DL = Drum Liquids T = Tissue WI = Wipe L = Liquid V = Vegetation X = Other	
	Relinquished By <i>Kevin Cole</i>	Date/Time <i>3/28/95 1410</i>	Received By <i>Eric</i>	Date/Time <i>1410</i>		Deliver samples to Duane Jacques. <i>299. W/10-13</i>
	Relinquished By <i>Eric</i>	Date/Time <i>0850</i>	Received By <i>D. Jacques</i>	Date/Time <i>0850</i>		
	Relinquished By <i>Kevin Cole</i>	Date/Time <i>3-29-95</i>	Received By <i>Duane Jacques</i>	Date/Time <i>3/30/95</i>		
Relinquished By	Date/Time	Received By	Date/Time			

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

012683

Data Turnaround
 Priority
 Normal

Collector <i>K. Lee</i>	Company Contact J.R. Freeman-Pollard	Telephone (509) 376-1882
Project Designation 200-ZP-1 Plume Periphery Wells - March 1995	Sampling Location 200 West	SAF No. B95-034
Ice Chest No.	Field Logbook No. <i>ERL-1123</i>	Method of Shipment Hand Delivered
Shipped To Duane Jacques	Offsite Property No.	Bill of Lading/Air Bill No.

Possible Sample Hazards/Remarks	Preservation	HCl	HCl
	Type of Container	Gs	Gs
	No. of Container(s)	1	1
	Special Handling and/or Storage Maintain between 2 C and 6 C.	Volume	40mL

SAMPLE ANALYSIS	VOA-TCL	VOA-TCL
	CCI4, - <i>611 ppb</i>	CCI4, - <i>Not Analyzed</i>
	Chloroform, - <i>4.1 ppb</i>	Chloroform, - <i>Not Analyzed</i>
	TCE - <i>0.3 ppb</i>	TCE

Sample No.	Matrix*	Date Sampled	Time Sampled											
BOF6T8	W	<i>3-28-95</i>	<i>1252</i>	X										
BOF6T9	W	<i>3-28-95</i>	<i>1252</i>			X								

CHAIN OF POSSESSION	Sign/Print Names	SPECIAL INSTRUCTIONS	Matrix*
Relinquished By <i>K. Lee</i>	Date/Time <i>3/28/95 1410</i>	Received By <i>ERC</i>	Date/Time <i>1410</i>
Relinquished By <i>ERC</i>	Date/Time <i>0950</i>	Received By <i>B. Whitten</i>	Date/Time <i>3-28-95</i>
Relinquished By <i>B. Jacques</i>	Date/Time <i>255</i>	Received By <i>D. Jacques</i>	Date/Time <i>0850</i>
Relinquished By <i>D. Jacques</i>	Date/Time <i>3/30/95</i>	Received By <i>ERC</i>	Date/Time <i>3/30/95</i>
Relinquished By	Date/Time	Received By	Date/Time

Deliver samples to Duane Jacques.
244-W11-10

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

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

Bechtel Hanford, Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

012683

Data Turnaround

- Priority
- Normal

Collector <i>K.D. LEE</i>	Company Contact J.R. Freeman-Pollard	Telephone (509) 376-1882
Project Designation 200-ZP-1 Plume Periphery Wells - March 1995	Sampling Location 200 West	SAF No. B95-034
Ice Chest No.	Field Logbook No. <i>EFL-1123</i>	Method of Shipment Hand Delivered
Shipped To Duane Jacques	Offsite Property No.	Bill of Lading/Air Bill No.

Possible Sample Hazards/Remarks	Preservation	HCl	HCl
	Type of Container	Gs	Gs
	No. of Container(s)	1	1

Special Handling and/or Storage Maintain between 2 C and 6 C.	Volume	40mL	40mL
SAMPLE ANALYSIS	VOA-TCL		
	CCl4, - <i>17 ppb-nd</i>		VOA-TCL
	Chloro- form, - <i>ND</i>		CCl4, - <i>ND</i>
	TCE - <i>ND</i>		Chloro- form, - <i>ND</i>
			TCE - <i>ND</i>

Sample No.	Matrix*	Date Sampled	Time Sampled										
BOF6V0	W	<i>3/27/95</i>	<i>1234</i>	<i>X</i>									
BOF6V1	W	<i>3/27/95</i>	<i>1234</i>		<i>X</i>								

CHAIN OF POSSESSION	Sign/Print Names	SPECIAL INSTRUCTIONS	Matrix*
Relinquished By <i>K. Lee</i>	Date/Time <i>3/27/95 1418</i>	Received By <i>ERC</i>	Date/Time <i>1418</i>
Relinquished By <i>ERC</i>	Date/Time <i>0838</i>	Received By <i>ERC</i>	Date/Time <i>0838</i>
Relinquished By <i>Bechtel</i>	Date/Time <i>3-29-95</i>	Received By <i>Duane Jacques</i>	Date/Time <i>3-30-95</i>
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

Deliver samples to Duane Jacques.
299-W12-1

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

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

Bechtel Hanford, Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

012683

Data Turnaround

- Priority
- Normal

Collector <i>K. Lee</i>	Company Contact J.R. Freeman-Pollard	Telephone (509) 376-1882
Project Designation 200-ZP-1 Plume Periphery Wells - March 1995	Sampling Location 200 West	SAF No. B95-034
Ice Chest No.	Field Logbook No. <i>EFL-1123</i>	Method of Shipment Hand Delivered
Shipped To Duane Jacques	Offsite Property No.	Bill of Lading/Air Bill No.

Possible Sample Hazards/Remarks	Preservation	HCl	HCl
	Type of Container	Gs	Gs
	No. of Container(s)	1	1
Special Handling and/or Storage Maintain between 2 C and 6 C.	Volume	40mL	40mL
SAMPLE ANALYSIS	VOA-TCL	<i>ND</i>	<i>ND</i>
	CCl4,	<i>ND</i>	<i>ND</i>
	Chloro-	<i>ND</i>	<i>ND</i>
	form,	<i>ND</i>	<i>ND</i>
	TCE	<i>ND</i>	<i>ND</i>

Sample No.	Matrix*	Date Sampled	Time Sampled										
B0F6V2	W	<i>3-29-95</i>	<i>0935</i>	<i>X</i>									
B0F6V3	W	<i>3-29-95</i>	<i>0935</i>		<i>X</i>								

CHAIN OF POSSESSION	Sign/Print Names	SPECIAL INSTRUCTIONS	Matrix*
Relinquished By <i>K. Lee</i> Date/Time <i>3/29/95 1300</i>	Received By <i>Eric</i> Date/Time <i>1300</i>	Deliver samples to Duane Jacques. <i>699-37-82A</i>	S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air DS = Drum Solids DL = Drum Liquids T = Tissue WI = Wipe L = Liquid V = Vegetation X = Other
Relinquished By <i>Eric</i> Date/Time <i>0848</i>	Received By <i>Eric</i> Date/Time <i>0848</i>		
Relinquished By <i>Bechtel</i> Date/Time <i>3-29-95</i>	Received By <i>Duane Jacques</i> Date/Time <i>3-30-95</i>		
Relinquished By _____ Date/Time _____	Received By _____ Date/Time _____		

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

012683

Data Turnaround

- Priority
- Normal

Collector <i>K. Lee</i>	Company Contact J.R. Freeman-Pollard	Telephone (509) 376-1882
Project Designation 200-ZP-1 Plume Periphery Wells - March 1995	Sampling Location 200 West	SAF No. B95-034
Ice Chest No.	Field Logbook No. <i>EFL-1123</i>	Method of Shipment Hand Delivered
Shipped To Duane Jacques	Offsite Property No.	Bill of Lading/Air Bill No.

Possible Sample Hazards/Remarks	Preservation	HCl	HCl
	Type of Container	Gs	Gs
	No. of Container(s)	1	1
Special Handling and/or Storage Maintain between 2 C and 6 C.	Volume	40mL	40mL

SAMPLE ANALYSIS

VOA-TCL	VOA-TCL
CCl4, - <i>60 ppb</i>	CCl4, - <i>ND</i>
Chloro- form, - <i>ND</i>	Chloro- form, - <i>ND</i>
TCE - <i>2.9 ppb</i>	TCE - <i>ND</i>

Sample No.	Matrix*	Date Sampled	Time Sampled										
B0F6V4	W	<i>3-30-95</i>	<i>0928</i>	<i>X</i>									
B0F6V5	W	<i>3-30-95</i>	<i>0928</i>		<i>X</i>								

CHAIN OF POSSESSION	Sign/Print Names	SPECIAL INSTRUCTIONS	Matrix*
Relinquished By <i>K. Lee</i> Date/Time <i>3/30/95 1230</i>	Received By <i>[Signature]</i> Date/Time <i>1230</i>	Deliver samples to Duane Jacques. <i>699-38-70</i>	<ul style="list-style-type: none"> S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air DS = Drum Solids DL = Drum Liquids T = Tissue WI = Wipe L = Liquid V = Vegetation X = Other
Relinquished By <i>ERC</i> Date/Time <i>0930</i>	Received By <i>[Signature]</i> Date/Time <i>3-30-95</i>		
Relinquished By <i>[Signature]</i> Date/Time <i>4-4-95</i>	Received By <i>[Signature]</i> Date/Time <i>4-4-95</i>		
Relinquished By	Date/Time	Received By	Date/Time

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

012683

Data Turnaround

- Priority
- Normal

Collector <i>K. Lee</i>	Company Contact J.R. Freeman-Pollard	Telephone (509) 376-1882
Project Designation 200-ZP-1 Plume Periphery Wells - March 1995	Sampling Location 200 West	SAF No. B95-034
Ice Chest No.	Field Logbook No. <i>EFL-1123</i>	Method of Shipment Hand Delivered
Shipped To Duane Jacques	Offsite Property No.	Bill of Lading/Air Bill No.

Possible Sample Hazards/Remarks	Preservation	HCl	HCl						
	Type of Container	Gs	Gs						
	No. of Container(s)	1	1						
	Special Handling and/or Storage Maintain between 2 C and 6 C.	Volume	40mL	40mL					

SAMPLE ANALYSIS	VOA-TCL	CCl4, - <i>323</i>	VOA-TCL	CCl4, - <i>ND</i>					
	Chloro-	form, - <i>ND</i>	Chloro-	form, - <i>ND</i>					
	TCE	- <i>ND</i>	TCE	- <i>ND</i>					

Sample No.	Matrix*	Date Sampled	Time Sampled						
BOF6V6	W	<i>3-28-95</i>	<i>1025</i>	<i>X</i>					
BOF6V7	W	<i>3-28-95</i>	<i>1025</i>		<i>X</i>				

CHAIN OF POSSESSION	Sign/Print Names	SPECIAL INSTRUCTIONS	Matrix*
Relinquished By <i>K. Lee</i>	Date/Time <i>3/28/95 1410</i>	Received By <i>B. Whitten</i>	Date/Time <i>3/28/95</i>
Relinquished By <i>B. Whitten</i>	Date/Time <i>3-29-95 0850</i>	Received By <i>D. Jacques</i>	Date/Time <i>3/30/95</i>
Relinquished By <i>D. Jacques</i>	Date/Time <i>3/30/95 1030</i>	Received By <i>CM Jones</i>	Date/Time <i>3/30/95</i>
Relinquished By <i>CM Jones</i>	Date/Time <i>3/30/95 1316</i>	Received By <i>D. Jacques</i>	Date/Time <i>3/30/95</i>
LABORATORY SECTION	Received By <i>[Signature]</i>	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

Deliver samples to Duane Jacques.

699-39-79

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

Bechtel Hanford, Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

012683

Data Turnaround

- Priority
- Normal

Collector <i>K. Lee</i>	Company Contact J.R. Freeman-Pollard	Telephone (509) 376-1882
Project Designation 200-ZP-1 Plume Periphery Wells - March 1995	Sampling Location 200 West	SAF No. B95-034
Ice Chest No.	Field Logbook No. <i>EFL-1123</i>	Method of Shipment Hand Delivered
Shipped To Duane Jacques	Offsite Property No.	Bill of Lading/Air Bill No.

Possible Sample Hazards/Remarks	Preservation	HCl	HCl
	Type of Container	Gs	Gs
	No. of Container(s)	1	1
Special Handling and/or Storage Maintain between 2 C and 6 C.	Volume	40mL	40mL
SAMPLE ANALYSIS	VOA-TCL CCl4, Chloro- form, TCE	<i>ND</i>	<i>ND</i>
	VOA-TCL CCl4, Chloro- form, TCE	} <i>Not Analyzed</i>	

Sample No.	Matrix*	Date Sampled	Time Sampled										
BOF6V8	W	<i>3-30-95</i>	<i>1122</i>	<i>X</i>									
BOF6V9	W	<i>3-30-95</i>	<i>1122</i>			<i>X</i>							

CHAIN OF POSSESSION	Sign/Print Names	SPECIAL INSTRUCTIONS
Relinquished By <i>K. Lee</i>	Date/Time <i>3/30/95 1230</i>	Received By <i>ERC</i>
Relinquished By <i>ERC</i>	Date/Time <i>0980</i>	Date/Time <i>1230</i>
Relinquished By <i>Richard Hank</i>	Date/Time <i>4-4-95</i>	Received By <i>B. Whitton</i>
Relinquished By	Date/Time	Date/Time <i>3-30-95</i>
Relinquished By	Date/Time	Date/Time <i>4/4/95</i>
Relinquished By	Date/Time	Date/Time

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

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

Deliver samples to Duane Jacques.
699-48-71

Bechtel Hanford, Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

012683

Data Turnaround

- Priority
- Normal

Collector K.D. LEE	Company Contact J.R. Freeman-Pollard	Telephone (509) 376-1882
Project Designation 200-ZP-1 Plume Periphery Wells - March 1995	Sampling Location 200 West	SAF No. B95-034
Ice Chest No.	Field Logbook No. EFL-1123	Method of Shipment Hand Delivered
Shipped To Duane Jacques	Offsite Property No.	Bill of Lading/Air Bill No.

Possible Sample Hazards/Remarks	Preservation	HCl	HCl
	Type of Container	Gs	Gs
	No. of Container(s)	1	1
Special Handling and/or Storage Maintain between 2 C and 6 C.	Volume	40mL	40mL
SAMPLE ANALYSIS	VOA-TCL CCl4, - 15 ppb Chloro- form, - ND TCE - ND	VOA-TCL CCl4, - Not Analyzed Chloro- form, - Not Analyzed TCE	

Sample No.	Matrix*	Date Sampled	Time Sampled										
BOF6W0	W	03/27/95	1234	X									
BOF6W1	W	03/27/95	1234		X								

CHAIN OF POSSESSION	Sign/Print Names	SPECIAL INSTRUCTIONS
Relinquished By <i>K.D. Lee</i>	Date/Time 3/27/95 1418	Deliver samples to Duane Jacques. 299-W12-1
Received By <i>ERC</i>	Date/Time 1418	
Relinquished By <i>ERC</i>	Date/Time 3-27-95	
Received By <i>D. Jacques</i>	Date/Time 6:38	
Relinquished By <i>Bill White</i>	Date/Time 3-27-95	
Received By <i>Duane Jacques</i>	Date/Time 3/30/95	
Relinquished By	Date/Time	
Received By	Date/Time	

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

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