

FS 0014-Field
029248

0052005

Job No. 22192
Written Response Required? NO
Closes CCN: N/A
OU: 200-ZP-1
TSD: N/A
ERA: N/A
Subject Code: 4630

Environmental
Restoration
Contractor **ERC Team**
Interoffice Memorandum

TO: J. R. Freeman-Pollard, H9-12

DATE: April 1, 1996

COPIES: See Below

FROM: Duane Jacques
Analytical Services/Field Services
H9-10/372-9400

45090

SUBJECT: 200-ZP-1 REMEDIAL ACTION ASSESSMENT SAMPLING, GROUNDWATER RESULTS, MARCH 1996, REV 0

REFERENCES:

1. BHI, 1995a, *Field Screening (On-Site Measurements) Quality Assurance Plan*, BHI-EE-08, Bechtel Hanford, Inc., Richland, Washington.
2. BHI, 1995b, *Field Screening Procedures*, BHI-EE-05, Bechtel Hanford, Inc., Richland, Washington.
3. BHI, 1995, *200-ZP-1 Field Screening Support Logbook*, EL-1273, Bechtel Hanford, Inc., Richland, Washington.

This data package contains field screening results for groundwater samples analyzed to support the 200-ZP-1 Remedial Action Assessment sampling program. The Quality Assurance level for this work corresponds to QA-2 as specified in the reference 1 (BHI 1995a). The samples were managed under SAF B96-078.

Attachment 1 contains Volatile Organic Compound (VOC) results for groundwater samples collected to support the referenced project. The VOC results were produced using a Photovac 10S Plus portable gas chromatograph in accordance with Field Screening Procedure (FSP) 1.1, *Aqueous Headspace Analysis of Volatile Organic Compounds in Water* (BHI 1995b). Information concerning operation of the gas chromatograph is contained in the instrument logbook EL-1269. Information concerning preparation of calibration standards and samples is contained in the referenced field logbook EL-1273, pages 23 through 26. Please contact me if you have any questions on this information.

Duane Jacques
Duane Jacques, Scientist

QA Review by: Paul E. Duerksen 4/2/96

IDJ: idj



J. R. Freeman-Pollard, H9-12

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Attachments:

Attachment 1. 200-ZP-1 Remedial Action Assessment Sampling, Groundwater Results, March 1996

Attachment 2. Sample Chain of Custody Sheets

Attachment 3. Headspace Gas Chromatography Checklist(s)

Copies:

A. Hopkins, H9-11, w/attachment 1 only

J. A. Lerch, B1-35, w/a

D. A. Myers, H9-11, w/attachment 1 only

K. M. Singleton, H9-11, w/a

W. S. Thompson, N1-28, w/attachment 1 only

BHI Document Control, H4-79, w/a

200-ZP-1 Remedial Action Assessment Sampling
Groundwater Results, March 1996
SAF B96-078

Sample Location	HEIS Number	Sample Date	Analysis Date	Chloroform (µg/L)	Carbon Tetrachloride (µg/L)	Trichloroethylene (µg/L)
299-W15-1	BOH7Z5	3/11/96	3/19/96	10	1180	<5.0
299-W15-7	BOH7Z3	3/19/96	3/28/96	27	1240	<5.0
299-W15-10	BOH7Z7	3/11/96	3/19/96	25	1900	<5.0
299-W15-15	BOH7Z8	3/12/96	3/19/96	5.1	941	<5.0
299-W15-18	BOH7Z9	3/13/96	3/19/96	21	3610	<5.0
299-W18-24	BOH802	3/13/96	3/19/96	24	1120	<5.0
299-W18-26	BOH803	3/13/96	3/19/96	6.6	18	<5.0
299-W18-26	BOH804	3/13/96	3/19/96	6.3	18	<5.0
299-W6-5	BOH7Y3	3/26/96	3/28/96	7.2	470	5.6
299-W6-5	BOH7Y4	3/26/96	3/28/96	7.9	509	8.1
Field Blank @ 299-W18-26	BOH805	3/13/96	3/19/96	<5.0	<5.0	<5.0
Trip Blank	BOH808	3/11/96	3/19/96	<5.0	<5.0	<5.0
Trip Blank	BOH809	3/12/96	3/19/96	<5.0	<5.0	<5.0
Trip Blank	BOH810	3/13/96	3/19/96	<5.0	<5.0	<5.0
Trip Blank	BOH7Z4	3/19/96	3/28/96	<5.0	<5.0	<5.0
Equipment Blank	BOH7Y5	3/26/96	3/28/96	<5.0	<5.0	<5.0
Trip Blank	BOH7Y6	3/26/96	3/28/96	<5.0	<5.0	<5.0

u - Value less than practical quantitation limit

Analyst:

Irene Jacques 4/2/96
 I. D. Jacques

VOA Instrument: Photovac 10S Plus GC, Serial # BJDG203

Method: 5 mL/min HP Air, 11.7 eV lamp, injection

Logbook: Photovac Instrument Log, EL-1269, pgs 30, 31, 33

029248

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Data Turnaround
 Priority
 Normal

Collector <i>M. Mehlhorn, A. Rizzo</i>	Company Contact K. M. Singleton	Telephone (509) 372-9276
Project Designation: 200-ZP-1 Remedial Action Assessment Wells	Sampling Location 200 W	SAF No. B96-078
Ice Chest No.	Field Logbook No. <i>EFL-1123</i>	Method of Shipment Hand Delivered
Shipped To Duane Jacques	Offsite Property No. NA	Bill of Lading/Air Bill No. NA

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

Sample No.	Matrix*	Date Sampled	Time Sampled											
BOH803 <i>Main</i>	W	3-13-96	1000	X										
BOH810 <i>Trip</i>	W	3-13-96	0730	X										
BOH804 <i>Duplicate</i>	W	3-13-96	1000	X										
BOH805 <i>Equipment</i>	W	3-13-96	0905	X										
BOH729	W	3-13-96	1044	X										
BOH802	W	3-13-96	1132	X										

CHAIN OF POSSESSION	Sign/Print Names		SPECIAL INSTRUCTIONS The samples will be analyzed by Duane Jacques.		Matrix*
Relinquished By <i>M. Mehlhorn</i>	Date/Time <i>3-13-96 1510</i>	Received By <i>D. Jacques</i>	Date/Time <i>3-13-96 0855</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>M. Mehlhorn</i>	Date/Time <i>3-13-96 1510</i>	Received By <i>D. Jacques</i>	Date/Time <i>3-13-96 0855</i>		
Relinquished By <i>M. Mehlhorn</i>	Date/Time <i>3-19-96</i>	Received By <i>D. Jacques</i>	Date/Time <i>3-19-96</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

Data Turnaround
 Priority
 Normal

Collector <i>M. Mehlborn, A. Rizzo</i>	Company Contact K. M. Singleton	Telephone (509) 372-9276
Project Designation 200-ZP-1 Remedial Action Assessment Wells	Sampling Location 200 W	SAF No. B96-078
Ice Chest No.	Field Logbook No. <i>EFL-1123</i>	Method of Shipment Hand Delivered
Shipped To Duane Jacques	Offsite Property No. NA	Bill of Lading/Air Bill No. NA

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

Sample No.	Matrix*	Date Sampled	Time Sampled																	
BOH7Z7	W	3-11-96	1200	X																
BOH808	W	3-11-96	0730	X																
BOH7Z5	W	3-11-96	1425	X																

CHAIN OF POSSESSION	Sign/Print Names		SPECIAL INSTRUCTIONS The samples will be analyzed by Duane Jacques.												Matrix*			
	Relinquished By <i>M. Mehlborn</i>	Date/Time 3-13-96	Received By <i>ERL</i>	Date/Time 0800													S	= Soil
	Relinquished By <i>Monty Anderson</i>	Date/Time 0800	Received By <i>Kelli B. Behr</i>	Date/Time 3-13-96													SO	= Sediment
	Relinquished By <i>Kelli B. Behr</i>	Date/Time 0855	Received By <i>D. Jacques</i>	Date/Time 0855													SL	= Sludge
Relinquished By <i>Kelli B. Behr</i>	Date/Time 3-19-96	Received By <i>Duane Jacques</i>	Date/Time ER 3-19-96	W													= Water	
Relinquished By	Date/Time	Received By	Date/Time	O	= Oil													
Relinquished By	Date/Time	Received By	Date/Time	A	= Air													
Relinquished By	Date/Time	Received By	Date/Time	OS	= Drum Solids													
Relinquished By	Date/Time	Received By	Date/Time	DL	= Drum Liquids													
Relinquished By	Date/Time	Received By	Date/Time	T	= Tissue													
Relinquished By	Date/Time	Received By	Date/Time	WI	= Wipe													
Relinquished By	Date/Time	Received By	Date/Time	L	= Liquid													
Relinquished By	Date/Time	Received By	Date/Time	V	= Vegetation													
Relinquished By	Date/Time	Received By	Date/Time	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

Data Turnaround
 Priority
 Normal

Collector <i>A. Rizzo, M. Mehlhorn</i>	Company Contact K. M. Singleton	Telephone (509) 372-9276
Project Designation 200-ZP-1 Remedial Action Assessment Wells	Sampling Location 200 W	SAF No. B96-078
Ice Chest No.	Field Logbook No. <i>EFL-1123</i>	Method of Shipment Hand Delivered
Shipped To Duane Jacques	Offsite Property No. NA	Bill of Lading/Air Bill No. NA

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

Sample No.	Matrix*	Date Sampled	Time Sampled																	
BOH7Z8	W	3-12-96	1215	X																
BOH809	W	3-12-96	0730	X																

CHAIN OF POSSESSION	Sign/Print Names		SPECIAL INSTRUCTIONS The samples will be analyzed by 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		
	Relinquished By <i>M. Mehlhorn</i>	Date/Time <i>3-13-96</i>	Received By <i>[Signature]</i>	Date/Time <i>0800</i>													
	Relinquished By <i>[Signature]</i>	Date/Time <i>0855</i>	Received By <i>ID Jacques</i>	Date/Time <i>0855</i>													
	Relinquished By <i>[Signature]</i>	Date/Time <i>3-19-96</i>	Received By <i>Duane Jacques</i>	Date/Time <i>3-19-96</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

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Data Turnaround
 Priority
 Normal

Collector <i>P. Sickle (WHC)</i>	Company Contact K. M. Singleton	Telephone (509) 372-9276
Project Designation 200-ZP-1 Remedial Action Assessment Wells	Sampling Location 200 W	SAF No. B96-078
Ice Chest No.	Field Logbook No. <i>ERL-1112-4 PAGE 40</i>	Method of Shipment Hand Delivered <i>Gov. Vehicle</i>
Shipped To 4701-C/Duane Jacques	Offsite Property No. NA	Bill of Lading/Air Bill No. NA

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

Sample No.	Matrix*	Date Sampled	Time Sampled															
BOH7Z3	W	3-19-96	1202	X														
BOH7Z4	W	3-19-96	0730	X														

CHAIN OF POSSESSION	Sign/Print Names		SPECIAL INSTRUCTIONS WHC is to deliver the samples to 4701-C. Contact Bill Whitten at 376-1878. The samples will be analyzed by 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		
	Relinquished By <i>P. Sickle</i>	Date/Time 3-17-96 1410	Received By <i>Bill Whitten</i>	Date/Time 3-19-96 1410	<i>K. Trapp relinquished for Bill Whitten who is in training.</i>										
	Relinquished By <i>K. Trapp</i>	Date/Time 3/27/96 0900	Received By <i>Duane Jacques</i>	Date/Time 3/28/96 0900											
	Relinquished By	Date/Time	Received By	Date/Time											

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

Data Turnaround
 Priority
 Normal

Collector <i>Trapp/Almarode</i>	Company Contact K. M. Singleton	Telephone (509) 372-9276
Project Designation 200-ZP-1 Plume Periphery Assessment Wells	Sampling Location 200 W	SAF No. B96-077
Ice Chest No.	Field Logbook No.	Method of Shipment Hand Delivered

Shipped To 4701-C/Duane Jacques	Offsite Property No. NA	Bill of Lading/Air Bill No. NA
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Possible Sample Hazards/Remarks	Preservation	HCl																		
	Type of Container	Gs																		
	No. of Container(s)	1																		
	Special Handling and/or Storage Maintain samples between 2°C and 6°C.	Volume	40mL																	
SAMPLE ANALYSIS		VOA																		

Sample No.	Matrix*	Date Sampled	Time Sampled																	
BOH7Y3	W	3-26-96	0900	✓																
BOH7Y4	W	3-26-96	0900	✓																
^{pk 3-25-96} BOH7Y5	W	3-26-96	0900	✓																
BOH7Y6	W	3-26-96	0900	✓																

CHAIN OF POSSESSION	Sign/Print Names		SPECIAL INSTRUCTIONS Deliver samples to 4701-C. Contact Bill Whitten at 376-1878. Duane Jacques will analyze the samples.												Matrix* S - Soil SE - Sediment SO - Solid SL - Sludge W - Water O - Oil A - Air DS - Drum Solids DL - Drum Liquids T - Tissue WI - Wipe L - Liquid V - Vegetation X - Other		
	Relinquished By <i>Tom K. SAPP</i>	Date/Time 3-28-96 1415	Received By <i>K. Trapp/K. Trapp</i>	Date/Time 3/28/96													
	Relinquished By <i>K. Trapp/K. Trapp</i>	Date/Time 3/28/96	Received By <i>D. Jacques</i>	Date/Time 0700													
	Relinquished By	Date/Time	Received By	Date/Time													
Relinquished By	Date/Time	Received By	Date/Time														

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

HEADSPACE GAS CHROMATOGRAPHY CHECKLIST

1.	Date:	4/2/96
2.	a. Minimum 3 point calibration curve:	Yes; but quantitation based on single standard
	b. Date 3 point minimum calibration curve was prepared:	
3.	<u>Calibration Check Standard</u>	
	a. Check standard for each analyte:	Yes
	b. Date of analysis:	3/28/96
	c. Date of check standard:	3/28/96
	<u>Calculation Check (One Standard)</u>	
	d. Show calculation:	$0.80 \mu\text{L} \times 1400 \mu\text{g}/\text{mL} =$ $11.20 \mu\text{g} / 30 \text{ mL} = 0.371 \mu\text{g}/\text{mL}$ $= 37 \mu\text{g}/\text{L}$ <p style="text-align: center;">TCE</p>
	e. Agrees with analyst:	Yes
3.	a. Is a sample dilution required?	No, cal check is near sample con
	b. If yes, check calculation.	NA
4.	If data has been converted from ppm to ppb or vice versa, check conversion.	NA
5.	<u>Analyte Identification</u>	
	a. Confirmed by MS:	not done
	b. Confirmed by second column:	not done
6.	Average temperature of laboratory during analysis:	73°F
7.	a. Reviewer's name:	PAUL E DVERKSEN
	b. Reviewer's signature:	Paul E Dverksen

HEADSPACE GAS CHROMATOGRAPHY CHECKLIST

1.	Date:	4/2/96
2.	a.	Minimum 3 point calibration curve:
	b.	Date 3 point minimum calibration curve was prepared:
Yes; but quantitation based on single standard		
3.	<u>Calibration Check Standard</u>	
a.	Check standard for each analyte:	3/19/96 Yes
b.	Date of analysis:	3/19/96
c.	Date of check standard:	3/19/96
<u>Calculation Check (One Standard)</u>		
d.	Show calculation:	<p>CCl₄</p> $0.75 \mu\text{L} \times 780 \mu\text{g}/\text{mL} =$ $5.85 \mu\text{g} / 30 \text{mL} =$ $19 \mu\text{g}/\text{L}$
e.	Agrees with analyst:	
3.	a.	Is a sample dilution required?
	b.	If yes, check calculation.
No; cal check is near same		
N/A		
4.	If data has been converted from ppm to ppb or vice versa, check conversion.	
N/A		
5.	<u>Analyte Identification</u>	
a.	Confirmed by MS:	not done
b.	Confirmed by second column:	not done
6.	Average temperature of laboratory during analysis:	
71°F		
7.	a.	Reviewer's name:
	b.	Reviewer's signature:
PAUL E DUERKSEN		
Paul E. Duerksen		