

Environmental
Restoration
Contractor

ERC Team

Interoffice Memorandum



0052008

032672

Job No. 22192

Written Response Required? NO

Closes CCN: N/A

OU: 200-UP-1

TSD: N/A

ERA: N/A

Subject Code: 8630

TO: C. D. Wittreich, H9-12

DATE: June 12, 1996

COPIES: See Below

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

45577

SUBJECT: 200-UP-1 IRM IMPLEMENTATION SAMPLING, MONTHLY GROUNDWATER RESULTS, MAY 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-UP-1 Field Screening Support Logbook*, EL-1277, Bechtel Hanford, Inc., Richland, Washington.

This data package contains field screening results for groundwater samples analyzed to support the 200-UP-1 IRM Implementation 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 B96-105.

Attachment 1 contains Volatile Organic Compound (VOC), total uranium, and technetium-99 results for groundwater samples collected to support the referenced project. The VOC results were generated using a Photovac 10S Plus portable gas chromatograph operated 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-1315.

The total uranium results were generated using a ChemChek KPA-11a Kinetic Phosphorescence Analyzer operated in accordance with FSP 1.22, *Kinetic Phosphorescence Analysis of Total Uranium in Water* (BHI 1995b). Information concerning use of the ChemChek KPA-11a as well as preparation of VOC calibration standards and samples is contained in the referenced field logbook EL-1277, pages 103 through 111.

C. D. Wittreich, H9-12
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The technetium-99 analyses were conducted at the 222-S Laboratory. The results are included in this data package for information only. Questions concerning the analyses and results should be directed to the laboratory.

Please contact me if you have any questions on this information.



Duane Jacques, Scientist

QA Review by:  19 June 96

IDJ:idj

Attachments:

- Attachment 1. 200-UP-1 IRM Implementation Sampling, Monthly Groundwater Results, May 1996
- Attachment 2. Sample Chain of Custody Sheets
- Attachment 3. Headspace Gas Chromatography Checklist(s)

Copies:

- G. W. Avolio, H9-03, w/attachment 1 only
- C. W. Denslow, H9-02, w/attachment 1 only
- A. Hopkins, H9-11, w/attachment 1 only
- J. A. Lerch, B1-35, w/a
- D. A. Myers, H9-11, w/attachment 1 only
- R. O. Mahood, H9-11, w/attachment 1 only
- BHI Document Control, H4-79, w/a

200-UP-1 IRM Implementation Sampling
Monthly Groundwater Results, May 1996
SAF B96-105

Sample Location	HEIS Number	Sample Date	Analysis Date (VOA)	Chloroform (µg/L)	Carbon TetraCl (µg/L)	TCE (µg/L)	Uranium (µg/L)	Technetium-99 (pCi/L)
299-W19-3	BOHDQ7	5/13/96	NA	NA	NA	NA	NA	<103
299-W19-3	BOHDQ8	5/13/96	5/20/96	<4.0	300	<2.0	759	NA
299-W19-20	BOHDR0	5/15/96	NA	NA	NA	NA	NA	6530
299-W19-20	BOHDR1	5/15/96	5/20/96	<4.0	140	4.7	1520	NA
299-W19-23	BOHDR3	5/16/96	NA	NA	NA	NA	NA	27100
299-W19-23	BOHDR4	5/16/96	5/20/96	<4.0	160	<2.0	817	NA
299-W19-24	BOHDR6	5/16/96	NA	NA	NA	NA	NA	12100
299-W19-24	BOHDR7	5/16/96	5/20/96	<4.0	95	<2.0	2700	NA
299-W19-28	BOHDR9	5/13/96	NA	NA	NA	NA	NA	5760
299-W19-28	BOHDS0	5/13/96	5/20/96	<4.0	7.8	<2.0	731	NA
299-W19-29	BOHDS2	5/13/96	NA	NA	NA	NA	NA	382
299-W19-29	BOHDS3	5/13/96	5/20/96	<4.0	6.7	<2.0	71	NA
299-W19-30	BOHDS5	5/15/96	NA	NA	NA	NA	NA	11100
299-W19-30	BOHDS6	5/15/96	5/20/96	<4.0	40	<2.0	945	NA
299-W19-34A	BOHDS8	5/16/96	NA	NA	NA	NA	NA	135
299-W19-34A	BOHDS9	5/16/96	5/20/96	<4.0	53	2.2	1.4	NA
299-W19-35	BOHDT1	5/17/96	NA	NA	NA	NA	NA	446
299-W19-35	BOHDT2	5/17/96	5/20/96	<4.0	130	6.6	50	NA
299-W19-37	BOHDT4	5/17/96	NA	NA	NA	NA	NA	4010
299-W19-37	BOHDT5	5/17/96	5/20/96	<4.0	55	<2.0	2590	NA
299-W19-38	BOHDT7	6/4/96	NA	NA	NA	NA	NA	666
299-W19-38	BOHDT8	6/4/96	6/6/96	<4.0	112	2.4	180	NA
299-W19-40	BOHDV0	5/17/96	NA	NA	NA	NA	NA	966
299-W19-40	BOHDV1	5/17/96	5/20/96	<4.0	22	<2.0	172	NA
Field Blank @ 299-W19-30	BOHFH8	5/15/96	NA	NA	NA	NA	NA	89
Field Blank @ 299-W19-30	BOHFH9	5/15/96	5/20/96	<4.0	<2.0	<2.0	<0.50	NA
Trip Blank	BOHFJ6	5/13/96	5/20/96	<4.0	<2.0	<2.0	NA	NA
Trip Blank	BOHFJ4	5/15/96	5/20/96	<4.0	<2.0	<2.0	NA	NA
Trip Blank	BOHFJ8	5/16/96	5/20/96	<4.0	<2.0	<2.0	NA	NA
Trip Blank	BOHFJ5	5/17/96	5/20/96	<4.0	<2.0	<2.0	NA	NA
Trip Blank	BOHFK0	6/4/96	6/6/96	<4.0	<2.0	<2.0	NA	NA

NA - Not Analyzed

j - Value less than practical quantitation limit

Analyst:

Duane Jacques 6/19/96
 I. D. Jacques

VOA Instrument: Photovac 10S Plus GC, Serial # BJDG203
 Method: 5 mL/min HP Air, 11.7 eV lamp, 250 uL injection
 Logbook: Photovac Instrument Log, EL-1315, pgs 1, 4

Uranium Instrument: ChemChek KPA-11a, Serial # 9445050065
 Method: Kinetic Phosphorescence
 Logbook: 200-UP-1 Project Log, EL-1277, pgs 104, 105, 110, 111

Bechtel Hanford, Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Data Turnaround

- Priority
 Normal

Collector <i>m. mehlgorn / A. Rezo</i>	Company Contact C. D. Wittreich	Telephone (509) 372-9315
Project Designation 200-UP-1 IRM Implementation Sampling - 2nd Quarter 1996, May	Sampling Location 200 West	SAF No. B96-105
Ice Chest No.	Field Logbook No. <i>ECZ-1135</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	Cool 4°C	HCl										
	Type of Container	P/G	Gs										
	No. of Container(s)	1	1										
	Special Handling and/or Storage Maintain samples between 2°C and 6°C.	Volume	20mL	40mL									
SAMPLE ANALYSIS				Total Uranium	VOA - TCL								

Sample No.	Matrix*	Date Sampled	Time Sampled										
BOHDQ8	W	5-13-96	1000	X	X								
BOHFJ6	W	5-13-96	0940		X								
BOHDS0	W	5-13-96	1100	X	X								
BOHDS3 BOHDS3	W	5-13-96	1155	X	X								

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>Mehlgorn</i>	Date/Time <i>5-13-96</i>	Received By <i>Bill Whitten</i>	Date/Time <i>1340</i>	Hold all samples at 4701-C until project is completed. Then deliver to Duane Jacques.						
	<i>Mehlgorn</i>	<i>1340</i>	<i>Bill Whitten</i>	<i>5-13-96</i>	<i>K. Trapp is relinquishing for Bill Whitten who is absent.</i>						
	Relinquished By <i>K. Trapp</i>	Date/Time <i>0920</i>	Received By <i>D. Jacques</i>	Date/Time <i>0920</i>							
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

Bechtel Hanford, Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Data Turnaround
 Priority
 Normal

Collector <i>A. Rizzo / M. Mehlhorn</i>	Company Contact C. D. Wittreich	Telephone (509) 372-9315
Project Designation 200-UP-1 IRM Implementation Sampling - 2nd Quarter 1996, May	Sampling Location 200 West	SAF No. B96-105
Ice Chest No.	Field Logbook No. <i>EFL-1135</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	Cool 4°C	HCl																
	Type of Container	P/G	Gs																
	No. of Container(s)	1	1																
Special Handling and/or Storage Maintain samples between 2°C and 6°C.	Volume	20mL	40mL																

SAMPLE ANALYSIS				Total Uranium	VOA - TCL														
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Sample No.	Matrix*	Date Sampled	Time Sampled																
BOHDR1	W	5-15-96	1005	X	X														
BOHFS4	W	5-15-96	0750		X														
BOHDS6	W	5-15-96	1120	X	X														
BOHFH9	W	5-15-96	1150	X	X														

CHAIN OF POSSESSION	Sign/Print Names	SPECIAL INSTRUCTIONS	Matrix*
Relinquished By <i>Monty Mehlhorn</i> Date/Time <i>5-15-96 1400</i>	Received By <i>ER</i> Date/Time <i>1400</i>	Hold all samples at 4701-C until project is completed. Then deliver to Duane Jacques. <i>K. Trapp is relinquishing for Bill Whitten who is absent.</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>Monty Mehlhorn</i> Date/Time <i>0920</i>	Received By <i>D. Jacques</i> Date/Time <i>0920</i>		
Relinquished By <i>K. Trapp</i> Date/Time <i>5/20/96</i>	Received By <i>D. Jacques</i> Date/Time <i>5/20/96</i>		
Relinquished By	Received By		

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 C. D. Wittreich	Telephone (509) 372-9315
Project Designation 200-UP-1 IRM Implementation Sampling - 2nd Quarter 1996, May	Sampling Location 200 West	SAF No. B96-105
Ice Chest No.	Field Logbook No. <i>EFL-1135</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	Cool 4°C	HCl																
	Type of Container	P/G	Gs																
	No. of Container(s)	1	1																
	Special Handling and/or Storage Maintain samples between 2°C and 6°C.	Volume	20mL	40mL															
SAMPLE ANALYSIS				Total Uranium	VOA - TCL														

Sample No.	Matrix*	Date Sampled	Time Sampled																
BOHDS9	W	5-16-96	1000	X	Y														
BOHF38	W	5-16-96	0800		X														
BOHDR7	W	5-16-96	1102	X	X														
BOHDR4 BOHDR5 5-16-96	W	5-16-96	1325	X	X														

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>Marty Mehlhorn</i>	Date/Time <i>5-16-96</i>	Received By <i>Bill Whitten</i>	Date/Time <i>5-16-96</i>		Hold all samples at 4701-C until project is completed. Then deliver to Duane Jacques. K. Trapp is relinquishing for Bill Whitten who is absent.
	Relinquished By <i>D. Jacques</i>	Date/Time <i>5-20-96</i>	Received By <i>D. Jacques</i>	Date/Time <i>5-20-96</i>		
	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

Bechtel Hanford, Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Data Turnaround
 Priority
 Normal

Collector <i>A. Rizzo / M. Mehlhorn</i>	Company Contact C. D. Wittreich	Telephone (509) 372-9315
Project Designation 200-UP-1 IRM Implementation Sampling - 2nd Quarter 1996, May	Sampling Location 200 West	SAF No. B96-105
Ice Chest No.	Field Logbook No. <i>EFL-1135</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	Cool 4°C	HCl																
	Type of Container	P/G	Gs																
	No. of Container(s)	1	1																
	Special Handling and/or Storage Maintain samples between 2°C and 6°C.	Volume	20mL	40mL															
SAMPLE ANALYSIS				Total Uranium	VOA - TCL														

Sample No.	Matrix*	Date Sampled	Time Sampled																
BOHDT2	W	5-17-96	0930	X	X														
BOHDT5	W	5-17-96	0730		X														
BOHDT5	W	5-17-96	1136	X	X														
BOHDVI	W	5-17-96	1510	X	X														

CHAIN OF POSSESSION		Sign/Print Names	
Relinquished By <i>Mandy Mehlhorn</i>	Date/Time 5-17-96	Received By <i>Bill Whitten</i>	Date/Time 5-17-96
Relinquished By <i>Mandy Mehlhorn</i>	Date/Time 1440	Received By <i>Bill Whitten</i>	Date/Time 5-17-96
Relinquished By <i>K. Trapp</i>	Date/Time 5/20/96	Received By <i>D. Jacques</i>	Date/Time 0920
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS
 Hold all samples at 4701-C until project is completed. Then deliver to Duane Jacques.
 K. Trapp is relinquishing for Bill Whitten who is absent.

- 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

Bchtel Hanford, Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Data Turnaround
 Priority
 Normal

Collector <i>M. Mehlhorn</i>	Company Contact C. D. Wittreich	Telephone (509) 372-9315
Project Designation 200-UP-1 IRM Implementation Sampling - 3rd Quarter 1996, May	Sampling Location 200 West	SAF No. B96-105
Ice Chest No.	Field Logbook No. <i>ERL-1135</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	Cool 4°C	HCl											
	Type of Container	P/G	Gs											
	No. of Container(s)	1	1											
	Special Handling and/or Storage Maintain samples between 2°C and 6°C.	Volume	20mL	40mL										
SAMPLE ANALYSIS				Total Uranium	VOA - TCL									

Sample No.	Matrix*	Date Sampled	Time Sampled											
BOHDT8	W	6-4-96	0946	X	X									
BOHFKO	W	6-4-96	0740		X									

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>M. Mehlhorn</i>	Date/Time <i>6-4-96 1455</i>	Received By <i>C. D. Wittreich</i>	Date/Time <i>6-4-96</i>	Hold all samples at 4701-C until project is completed. Then deliver to Duane Jacques.										
	Relinquished By <i>D. Jacques</i>	Date/Time <i>6-6-96</i>	Received By <i>D. Jacques</i>	Date/Time <i>6-6-96</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

HEADSPACE GAS CHROMATOGRAPHY CHECKLIST

1.	Date:	19 June '96
2.	a. Minimum 3 point calibration curve:	OK - Curve checked w/ single pt 5/20 : 6/6/96
	b. Date 3 point minimum calibration curve was prepared:	3pt curve done 10/25/95
3.	<u>Calibration Check Standard</u>	
	a. Check standard for each analyte:	OK
	b. Date of analysis:	5/20/96 & 6/6/96
	c. Date of check standard:	5/29/96 : 6/6/96
	<u>Calculation Check (One Standard)</u>	
	d. Show calculation:	
		$CCl_3 \quad \frac{8.7 \times .9}{30} = 261 \mu g/l$
	e. Agrees with analyst:	OK
3.	a. Is a sample dilution required?	No
	b. If yes, check calculation.	
4.	If data has been converted from ppm to ppb or vice versa, check conversion.	No
5.	<u>Analyte Identification</u>	N/A
	a. Confirmed by MS:	
	b. Confirmed by second column:	
6.	Average temperature of laboratory during analysis:	
7.	a. Reviewer's name:	Claude Steacy
	b. Reviewer's signature:	<i>Claude Steacy</i>