

Environmental  
Restoration  
Contractor

**ERC Team**

**Interoffice Memorandum**



034692

0052013

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  
[REDACTED]

DATE: August 14, 1996

COPIES: See Below

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

SUBJECT: **200-UP-1 IRM IMPLEMENTATION SAMPLING, MONTHLY GROUNDWATER RESULTS, JULY 1996, REV 0**

REFERENCES:

1. BHI, 1996, *On-Site Measurements Quality Assurance Plan*, BHI-00852, REV 0, Bechtel Hanford, Inc., Richland, Washington.
2. BHI, 1995, *Field Screening Procedures*, BHI-EE-05, Bechtel Hanford, Inc., Richland, Washington.
3. BHI, 1995a, *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-1 as specified in the reference 1 (BHI 1996). The samples were managed under SAF B96-153.

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 an Hewlett Packard 5890 gas chromatograph with a headspace autosampler operated in accordance with Field Screening Procedure (FSP) 1.1, *Aqueous Headspace Analysis of Volatile Organic Compounds in Water* (BHI 1995). Information concerning operation of the gas chromatograph is contained in the instrument logbook EL-1329.

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 1995). 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 128 through 131.

C. D. Wittreich, H9-12

Page 2

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

IDJ:idj

**Attachments:**

- Attachment 1. 200-UP-1 IRM Implementation Sampling, Monthly Groundwater Results, July 1996
- Attachment 2. Sample Chain of Custody Sheets

**Copies:**

- R. T. Coffman, H9-11, w/attachment 1 only
- C. W. Denslow, H9-02, w/attachment 1 only
- A. Hopkins, H9-11, w/attachment 1 only
- T. D. LeFrancois, H9-03, w/attachment 1 only
- 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, July 1996**  
**SAF B96-153**

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-W19-18	BOHYN0	7/29/96	NA	NA	NA	NA	NA	120
299-W19-18	BOHYN1	7/29/96	8/7/96	<2.0	300	<2.0	685	NA
299-W19-20	BOHYN2	7/29/96	NA	NA	NA	NA	NA	6800
299-W19-20	BOHYN3	7/29/96	8/7/96	<2.0	230	3.5	1400	NA
299-W19-23	BOHYN4	7/31/96	NA	NA	NA	NA	NA	26300
299-W19-23	BOHYN5	7/31/96	8/7/96	<2.0	200	<2.0	711	NA
299-W19-24	BOHYN6	7/31/96	NA	NA	NA	NA	NA	12500
299-W19-24	BOHYN7	7/31/96	8/7/96	<2.0	140	<2.0	2690	NA
299-W19-28	BOHYN8	7/29/96	NA	NA	NA	NA	NA	3750
299-W19-28	BOHYN9	7/29/96	8/7/96	<2.0	4.0	<2.0	414	NA
299-W19-29	BOHYPO	7/29/96	NA	NA	NA	NA	NA	111
299-W19-29	BOHYP1	7/29/96	8/7/96	<2.0	1.3	<2.0	34.0	NA
299-W19-30	BOHYP2	7/30/96	NA	NA	NA	NA	NA	4710
299-W19-30	BOHYP3	7/30/96	8/7/96	<2.0	27	<2.0	675	NA
299-W19-34A	BOHYP4	7/30/96	NA	NA	NA	NA	NA	134
299-W19-34A	BOHYP5	7/30/96	8/7/96	<2.0	68	<2.0	2.33	NA
299-W19-35	BOHYP6	7/30/96	NA	NA	NA	NA	NA	561
299-W19-35	BOHYP7	7/30/96	8/7/96	<2.0	180	7.1	40.0	NA
299-W19-37	BOHYP8	7/31/96	NA	NA	NA	NA	NA	5040
299-W19-37	BOHYP9	7/31/96	8/7/96	<2.0	54	<2.0	1820	NA
Duplicate @ 299-W19-37	BOHYQ4	7/31/96	NA	NA	NA	NA	NA	4960
Duplicate @ 299-W19-37	BOHYQ5	7/31/96	8/7/96	<2.0	59	<2.0	1840	NA
Field Blank @ 299-W19-37	BOHYQ6	7/31/96	NA	NA	NA	NA	NA	<100
Field Blank @ 299-W19-37	BOHYQ7	7/31/96	8/7/96	<2.0	<2.0	<2.0	0.50	NA
299-W19-38	BOHYQ0	7/31/96	NA	NA	NA	NA	NA	648
299-W19-38	BOHYQ1	7/31/96	8/7/96	<2.0	140	<2.0	157	NA
299-W19-40	BOHYQ2	7/30/96	NA	NA	NA	NA	NA	591
299-W19-40	BOHYQ3	7/30/96	8/7/96	<2.0	29	<2.0	133	NA
Trip Blank	BOHYQ8	7/29/96	8/7/96	<2.0	<2.0	<2.0	NA	NA
Trip Blank	BOHYQ9	7/30/96	8/7/96	<2.0	<2.0	<2.0	NA	NA
Trip Blank	BOHYR0	7/31/96	8/7/96	<2.0	<2.0	<2.0	NA	NA

NA - Not Analyzed

j - Value less than practical quantitation limit

Analyst:

*I. D. Jacques 8/14/96*  
 I. D. Jacques

Analyst:

*DOJ for R. T. Coffman 8/14/96*  
 R. T. Coffman

VOA Instrument: Hewlett Packard 5890 GC, Serial # 3235A47685

Method: DB-VRX columns, ECD/FID, 1mL headspace injection

Logbook: HP 5890 Instrument Log, EL-1329

Uranium Instrument: ChemChek KPA-11a, Serial # 9445050065

Method: Kinetic Phosphorescence

Logbook: 200-UP-1 Project Log, EL-1277, pgs 128 to 131

<b>Bechtel Hanford Inc.</b>		<b>CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST</b>						B96-153-20	Page 1 of 1
Collector <i>A. R. 1230</i>		Company Contact C. D. Wittreich			Telephone No. (509) 372-9315			Data Turnaround <input type="checkbox"/> Priority <input type="checkbox"/> Normal	
Project Designation 200-UP-1 Limited Field Investigation		Sampling Location 200 W			SAF No. B96-153				
Ice Chest No.		Field Logbook No. <i>EF-1235</i>			Method of Shipment Hand Delivered				
Shipped To Mobile Laboratory		Offsite Property No. NA			Bill of Lading/Air Bill No. NA				
POSSIBLE SAMPLE HAZARDS/REMARKS		Preservation		None	HCl to pH <2				
		Type of Container		P	Gs*				
		No. of Container(s)		1	1				
Special Handling and/or Storage Maintain samples between 2 degrees C and 6 degrees C.		Volume		20ml	40ml				
SAMPLE ANALYSIS				URANIUM TOTAL	See item (1) in Special Instructions.				
Sample No.	Matrix *	Sample Date	Sample Time						
BOHYP1	Water	7/29/96	1041	X	X				
CHAIN OF POSSESSION		Sign/Print Names				SPECIAL INSTRUCTIONS			
Relinquished By <i>A.G. Rizzo</i>		Date/Time 1430		Received By <i>Ken Trapp</i>		Date/Time 1430		(1) VOA BY FIELD GC -- Chlorinated Hydrocarbon (Carbon tetrachloride)  <i>* Ken Trapp was not available to Relinquish</i>	
<i>A.G. Rizzo (ER)</i>		Date/Time 7/29/96		<i>Ken Trapp</i>		Date/Time 7/29/96			
<i>Ken Trapp</i>		Date/Time 0828		<i>D. Jacques</i>		Date/Time 0828			
<i>Bechtel</i>		Date/Time 8-7-96		<i>Duane Jacques</i>		Date/Time 8/7/96			
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	
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** B96-153-19 Page 1 of 1

Collector <i>A. Rizzo</i>	Company Contact C. D. Wittreich	Telephone No. (509) 372-9315
Project Designation 200-UP-1 Limited Field Investigation	Sampling Location 200 W	SAF No. B96-153
Ice Chest No.	Field Logbook No. <i>EF-2-1135</i>	Method of Shipment Hand Delivered
Shipped To Mobile Laboratory	Offsite Property No. NA	Bill of Lading/Air Bill No. NA

**Data Turnaround**

Priority

Normal

<b>POSSIBLE SAMPLE HAZARDS/REMARKS</b>	<b>Preservation</b>	None	HCl to pH <2											
	<b>Type of Container</b>	P	Gs*											
	<b>No. of Container(s)</b>	1	1											
<b>Special Handling and/or Storage</b> Maintain samples between 2 degrees C and 6 degrees C.	<b>Volume</b>	20ml	40ml											
<b>SAMPLE ANALYSIS</b>		URANIUM TOTAL	See item (1) in Special Instructions.											

Sample No.	Matrix *	Sample Date	Sample Time											
BOHYN9	Water	7/29/96	100P	X	Y									

<b>CHAIN OF POSSESSION</b>	<b>Sign/Print Names</b>	<b>SPECIAL INSTRUCTIONS</b> Ship samples to Duane Jacques.	<b>Matrix *</b>
Relinquished By <i>A.G. Rizzo</i> Date/Time 1430	Received By <i>H. V. Mapp / K. Trapp</i> Date/Time 1430	(1) VOA BY FIELD GC - Chlorinated Hydrocarbon (Carbon tetrachloride)	S - Soil
Relinquished By <i>A.G. Rizzo</i> Date/Time 0828	Received By <i>D. Jacques</i> Date/Time 0828		SE - Sediment
Relinquished By <i>John White</i> Date/Time 8-7-96	Received By <i>Duane Jacques</i> Date/Time 8-7-96		SO - Solid
Relinquished By _____ Date/Time _____	Received By _____ Date/Time _____	* Ken Trapp was not available to Relinquish	SL - Sludge
Relinquished By _____ Date/Time _____	Received By _____ Date/Time _____		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 _____		DS - 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

<b>LABORATORY SECTION</b>	Received By _____ Title _____ Date/Time _____	
<b>FINAL SAMPLE DISPOSITION</b>	Disposal Method _____ Disposed By _____ Date/Time _____	

<b>Bechtel Hanford Inc.</b>		<b>CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST</b>						B96-153-16	Page 1 of 1										
Collector <i>A. Rizzo</i>		Company Contact C. D. Wittreich			Telephone No. (509) 372-9315			Data Turnaround <input type="checkbox"/> Priority <input type="checkbox"/> Normal											
Project Designation 200-UP-1 Limited Field Investigation		Sampling Location 200 W			SAF No. B96-153														
Ice Chest No.		Field Logbook No. <i>EFZ-135</i>			Method of Shipment Hand Delivered														
Shipped To Mobile Laboratory		Offsite Property No. NA			Bill of Lading/Air Bill No. NA														
POSSIBLE SAMPLE HAZARDS/REMARKS		Preservation		None	HCl to pH <2														
		Type of Container		P	Ga*														
		No. of Container(s)		1	1														
		Special Handling and/or Storage Maintain samples between 2 degrees C and 6 degrees C.		Volume		20ml	40ml												
SAMPLE ANALYSIS						URANIUM TOTAL	See item (1) in Special Instructions.												
Sample No.	Matrix *	Sample Date	Sample Time																
BOHYN3	Water	7-29-96	1130	Y	SP														
CHAIN OF POSSESSION		Sign/Print Names						SPECIAL INSTRUCTIONS Ship samples to Duane Jacques.						Matrix *					
Relinquished By <i>A.G. Rizzo</i>		Date/Time 1430		Received By <i>K. Umppa / K. Trapp</i>		Date/Time 7/29/96		(1) VOA BY FIELD GC -- Chlorinated Hydrocarbon (Carbon tetrachloride)  * Ken Trapp was not available to Relinquish						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>A.G. Rizzo</i>		Date/Time 0828		Received By <i>D. Jacques</i>		Date/Time 0828													
Relinquished By <i>Ken Trapp</i>		Date/Time 8-7-96		Received By <i>Duane Jacques</i>		Date/Time 8-7-96													
Relinquished By		Date/Time		Received By		Date/Time													
LABORATORY SECTION		Received By				Title				Date/Time									
FINAL SAMPLE DISPOSITION		Disposal Method				Disposed By				Date/Time									

<b>Bechtel Hanford Inc.</b>	<b>CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST</b>	B96-153-15	Page 1 of 1
-----------------------------	---	------------	-------------

Collector <i>A. Rizzo</i>	Company Contact C. D. Wittreich	Telephone No. (509) 372-9315
Project Designation 200-UP-1 Limited Field Investigation	Sampling Location 200 W	SAF No. B96-153
Ice Chest No.	Field Logbook No. <i>252-1135</i>	Method of Shipment Hand Delivered
Shipped To Mobile Laboratory	Offsite Property No. NA	Bill of Lading/Air Bill No. NA

Data Turnaround

Priority

Normal

POSSIBLE SAMPLE HAZARDS/REMARKS	Preservation	None	HCl to pH <2							
	Type of Container	P	Gs*							
	No. of Container(s)	1	1							
Special Handling and/or Storage Maintain samples between 2 degrees C and 6 degrees C.	Volume	20ml	40ml							
SAMPLE ANALYSIS			URANIUM TOTAL	See item (1) in Special Instructions.						

Sample No.	Matrix *	Sample Date	Sample Time						
BOHYN1	Water	7-29-96	0930	x	x				
EXH YQX	W	7-29-96	0730		x				

<b>CHAIN OF POSSESSION</b>	<b>Sign/Print Names</b>	<b>SPECIAL INSTRUCTIONS</b> Ship samples to Duane Jacques.	<b>Matrix *</b>
Relinquished By <i>A. G. Rizzo</i>	Date/Time 1430	Received By <i>K. V. Trapp</i>	<ul style="list-style-type: none"> <li>S - Soil</li> <li>SE - Sediment</li> <li>SO - Solid</li> <li>SL - Sludge</li> <li>W - Water</li> <li>O - Oil</li> <li>A - Air</li> <li>DS - Drum Solids</li> <li>DL - Drum Liquids</li> <li>T - Tissue</li> <li>WI - Wipe</li> <li>L - Liquid</li> <li>V - Vegetation</li> <li>X - Other</li> </ul>
<i>A. G. Rizzo</i> (ERC)	7/29/96	<i>K. V. Trapp</i>	
Relinquished By <i>Vin White</i>	Date/Time 0829	Received By <i>D. Jacques</i>	
<i>Vin White</i> (ERC)	8-7-96	<i>Duane Jacques</i> (ERC)	
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

\* Kenn Trapp was not available to Relinquish

<b>LABORATORY SECTION</b>	Received By _____ Title _____		Date/Time _____
<b>FINAL SAMPLE DISPOSITION</b>	Disposal Method _____	Disposed By _____	Date/Time _____

<b>Bechtel Hanford Inc.</b>		<b>CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST</b>						B96-153-23	Page 1 of 1										
Collector <i>A. Rizzo</i>		Company Contact C. D. Wittreich			Telephone No. (509) 372-9315			Data Turnaround <input type="checkbox"/> Priority <input type="checkbox"/> Normal											
Project Designation 200-UP-1 Limited Field Investigation		Sampling Location 200 W			SAF No. B96-153														
Ice Chest No.		Field Logbook No. <i>EFL 1135</i>			Method of Shipment Hand Delivered														
Shipped To Mobile Laboratory		Offsite Property No. NA			Bill of Lading/Air Bill No. NA														
POSSIBLE SAMPLE HAZARDS/REMARKS		Preservation		None	HCl to pH <2														
		Type of Container		P	Gs*														
		No. of Container(s)		1	1														
Special Handling and/or Storage Maintain samples between 2 degrees C and 6 degrees C.		Volume		20ml	40ml														
SAMPLE ANALYSIS				URANIUM TOTAL	See item (1) in Special Instructions.														
Sample No.	Matrix *	Sample Date	Sample Time																
BOHYP7	Water	7-30-96	1057	X	X														
CHAIN OF POSSESSION		Sign/Print Names				SPECIAL INSTRUCTIONS Ship samples to Duane Jacques.						Matrix *							
Relinquished By <i>A. Rizzo</i>		Date/Time <i>7/30/96 1500</i>		Received By <i>B. Whitten</i>		Date/Time <i>7-30-96</i>		(1) VOA BY FIELD GC - Chloronated Hydrocarbon (Carbon tetrachloride)						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>A. Rizzo</i>		Date/Time <i>0831</i>		Received By <i>D. Jacques</i>		Date/Time <i>0831</i>													
Relinquished By <i>B. Whitten</i>		Date/Time <i>8-7-96</i>		Received By <i>Duane Jacques</i>		Date/Time <i>8-7-96</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							

<b>Bechtel Hanford Inc.</b>		<b>CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST</b>						B96-153-26	Page 1 of 1									
Collector <i>A. Rizzo</i>		Company Contact C. D. Wittreich			Telephone No. (509) 372-9315			Data Turnaround <input type="checkbox"/> Priority <input type="checkbox"/> Normal										
Project Designation 200-UP-1 Limited Field Investigation		Sampling Location 200 W			SAF No. B96-153													
Ice Chest No.		Field Logbook No. <i>EFL-185</i>			Method of Shipment Hand Delivered													
Shipped To Mobile Laboratory		Offsite Property No. NA			Bill of Lading/Air Bill No. NA													
POSSIBLE SAMPLE HAZARDS/REMARKS		Preservation		None	HCl to pH <2													
		Type of Container		P	Gs*													
		No. of Container(s)		1	1													
Special Handling and/or Storage Maintain samples between 2 degrees C and 6 degrees C.		Volume		20ml	40ml													
SAMPLE ANALYSIS				URANIUM TOTAL	See item (1) in Special Instructions.													
Sample No.	Matrix *	Sample Date	Sample Time															
BOHYQ3	Water	7-30-96	1507	X	Y													
CHAIN OF POSSESSION		Sign/Print Names				SPECIAL INSTRUCTIONS Ship samples to Duane Jacques.						Matrix *						
Relinquished By <i>A. Rizzo</i>		Date/Time		Received By <i>ERC</i>		Date/Time 1500		(1) VOA BY FIELD GC - Chlorinated Hydrocarbon (Carbon tetrachloride)						<ul style="list-style-type: none"> <li>S - Soil</li> <li>SE - Sediment</li> <li>SO - Solid</li> <li>SL - Sludge</li> <li>W - Water</li> <li>O - Oil</li> <li>A - Air</li> <li>DS - Drum Solids</li> <li>DL - Drum Liquids</li> <li>T - Tissue</li> <li>WI - Wipe</li> <li>L - Liquid</li> <li>V - Vegetation</li> <li>X - Other</li> </ul>				
<i>A.G. Rizzo (S-185)</i>		7/30/96/1500		<i>Kimberly B. Whitten</i>		7-30-96												
<i>Kimberly B. Whitten</i>		0830		<i>D. Jacques</i>		0831												
<i>Kimberly B. Whitten</i>		8-7-96		<i>Duane Jacques</i>		8-7-96												
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								

<b>Bechtel Hanford Inc.</b>	<b>CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST</b>	B96-153-22	Page 1 of 1
-----------------------------	---	------------	-------------

Collector <i>A. Rizzo</i>	Company Contact C. D. Wittreich	Telephone No. (509) 372-9315
Project Designation 200-UP-1 Limited Field Investigation	Sampling Location 200 W	SAF No. B96-153
Ice Chest No.	Field Logbook No. <i>EFL-1135</i>	Method of Shipment Hand Delivered
Shipped To Mobile Laboratory	Offsite Property No. NA	Bill of Lading/Air Bill No. NA

Data Turnaround  
 Priority  
 Normal

POSSIBLE SAMPLE HAZARDS/REMARKS	Preservation	None	HCl to pH <2						
	Type of Container	P	Gs*						
	No. of Container(s)	1	1						
Special Handling and/or Storage Maintain samples between 2 degrees C and 6 degrees C.	Volume	20ml	40ml						
SAMPLE ANALYSIS			URANIUM TOTAL	See item (1) in Special Instructions.					

Sample No.	Matrix *	Sample Date	Sample Time						
BOHYP5	Water	7/30/96	0957	X	X				

<b>CHAIN OF POSSESSION</b>	<b>Sign/Print Names</b>	<b>SPECIAL INSTRUCTIONS</b> Ship samples to Duane Jacques.  (1) VOA BY FIELD GC -- Chlorinated Hydrocarbon (Carbon tetrachloride)	<b>Matrix *</b>
Relinquished By <i>A.G. Rizzo</i>	Date/Time <i>7/30/96 1500</i>	Received By <i>D. Jacques</i>	S = Soil
Relinquished By <i>D. Jacques</i>	Date/Time <i>8-7-96</i>	Received By <i>A. Rizzo</i>	SE = Sediment
Relinquished By	Date/Time	Received By	SO = Solid
Relinquished By	Date/Time	Received By	SL = Sludge
Relinquished By	Date/Time	Received By	W = Water
Relinquished By	Date/Time	Received By	O = Oil
Relinquished By	Date/Time	Received By	A = Air
Relinquished By	Date/Time	Received By	DS = Drum Solids
Relinquished By	Date/Time	Received By	DL = Drum Liquids
Relinquished By	Date/Time	Received By	T = Tissue
Relinquished By	Date/Time	Received By	WI = Wipe
Relinquished By	Date/Time	Received By	L = Liquid
Relinquished By	Date/Time	Received By	V = Vegetation
Relinquished By	Date/Time	Received By	X = Other

<b>LABORATORY SECTION</b>	Received By _____ Title _____	Date/Time _____
<b>FINAL SAMPLE DISPOSITION</b>	Disposal Method _____	Disposed By _____ Date/Time _____

<b>Bechtel Hanford Inc.</b>		<b>CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST</b>						B96-153-21	Page 1 of 1									
Collector <i>A. Rizzo</i>		Company Contact C. D. Wittreich			Telephone No. (509) 372-9315			Data Turnaround <input type="checkbox"/> Priority <input type="checkbox"/> Normal										
Project Designation 200-UP-1 Limited Field Investigation		Sampling Location 200 W			SAF No. B96-153													
Ice Chest No.		Field Logbook No. <i>ERL1135</i>			Method of Shipment Hand Delivered													
Shipped To Mobile Laboratory		Offsite Property No. NA			Bill of Lading/Air Bill No. NA													
POSSIBLE SAMPLE HAZARDS/REMARKS		Preservation		None	HCl to pH <2													
		Type of Container		P	Gs*													
		No. of Container(s)		1	1													
Special Handling and/or Storage Maintain samples between 2 degrees C and 6 degrees C.		Volume		20ml	40ml													
SAMPLE ANALYSIS				URANIUM TOTAL	See item (1) in Special Instructions.													
Sample No.	Matrix *	Sample Date	Sample Time															
BOHYP3	Water	7/30/96	0859	X	X													
BONY09	LV	7-30-96	0730		X													
CHAIN OF POSSESSION		Sign/Print Names				SPECIAL INSTRUCTIONS Ship samples to Duane Jacques.						Matrix *						
Relinquished By <i>A.R. Rizzo</i>		Date/Time 1500		Received By <i>D. Jacquez</i>		Date/Time 1500		(1) VOA BY FIELD GC - Chlorinated Hydrocarbon (Carbon tetrachloride)						S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air DS = Drum Solids DL = Drum Liquids T = Tar WI = Wipe L = Liquid V = Vegetation X = Other				
Relinquished By <i>A.R. Rizzo</i>		Date/Time 7/30/96		Received By <i>B. Whitten</i>		Date/Time 7:30-96												
Relinquished By <i>B. Whitten</i>		Date/Time 0829		Received By <i>D. Jacquez</i>		Date/Time 0829												
Relinquished By <i>B. Whitten</i>		Date/Time 8-7-96		Received By <i>ERC</i>		Date/Time 8-7-96												
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								

<b>Bechtel Hanford Inc.</b>	<b>CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST</b>	<b>B96-153-28</b>	Page 1 of 1
-----------------------------	---	-------------------	-------------

Collector <i>M. Rosen</i>	Company Contact C. D. Wittreich	Telephone No. (509) 372-9315
Project Designation 200-UP-1 Limited Field Investigation	Sampling Location 200 W	SAF No. B96-153
Ice Chest No.	Field Logbook No. <i>EFZ-1135</i>	Method of Shipment Hand Delivered
Shipped To Mobile Laboratory	Offsite Property No. NA	Bill of Lading/Air Bill No. NA

**Data Turnaround**

Priority

Normal

<b>POSSIBLE SAMPLE HAZARDS/REMARKS</b>	Preservation	None	HCl to pH <2																
	Type of Container	P	Gs*																
	No. of Container(s)	1	1																
Special Handling and/or Storage Maintain samples between 2 degrees C and 6 degrees C.	Volume	20ml	40ml																

<b>SAMPLE ANALYSIS</b>	URANIUM TOTAL	See item (1) in Special Instructions.																	
------------------------	---------------	---------------------------------------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Sample No.	Matrix *	Sample Date	Sample Time																	
BOHYQ7	Water	7/31/96	0840	X	X															

<b>CHAIN OF POSSESSION</b>	<b>Sign/Print Names</b>	<b>SPECIAL INSTRUCTIONS</b> Ship samples to Duane Jacques.	<b>Matrix *</b>
Relinquished By <i>M. Rosen</i>	Date/Time 7/31/96 1500	Received By <i>Eric</i>	<ul style="list-style-type: none"> <li>S = Soil</li> <li>SE = Sediment</li> <li>SO = Solid</li> <li>SL = Sludge</li> <li>W = Water</li> <li>O = Oil</li> <li>A = Air</li> <li>DS = Drum Solids</li> <li>DL = Drum Liquids</li> <li>T = Tissue</li> <li>WI = Wipe</li> <li>L = Liquid</li> <li>V = Vegetation</li> <li>X = Other</li> </ul>
Relinquished By <i>Eric</i>	Date/Time 0826	Received By <i>D. Jacques</i>	
Relinquished By <i>Eric</i>	Date/Time 8-7-96	Received By <i>Duane Jacques</i>	
Relinquished By	Date/Time	Received By	

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

**Bechtel Hanford Inc.** **CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST** **B96-153-27** Page 1 of 1

<b>Collector</b> <i>A. Rosen</i>	<b>Company Contact</b> C. D. Wittreich	<b>Telephone No.</b> (509) 372-9315
<b>Project Designation</b> 200-UP-1 Limited Field Investigation	<b>Sampling Location</b> 200 W	<b>SAF No.</b> B96-153
<b>Ice Chest No.</b>	<b>Field Logbook No.</b> <i>8-2-1135</i>	<b>Method of Shipment</b> Hand Delivered
<b>Shipped To</b> Mobile Laboratory	<b>Offsite Property No.</b> NA	<b>Bill of Lading/Air Bill No.</b> NA

**Data Turnaround**

Priority

Normal

<b>POSSIBLE SAMPLE HAZARDS/REMARKS</b>	<b>Preservation</b>	None	HCl to pH <2										
	<b>Type of Container</b>	P	Gs*										
	<b>No. of Container(s)</b>	1	1										
<b>Special Handling and/or Storage</b> Maintain samples between 2 degrees C and 6 degrees C.	<b>Volume</b>	20ml	40ml										
<b>SAMPLE ANALYSIS</b>		URANIUM TOTAL	See item (1) in Special Instructions.										

Sample No.	Matrix *	Sample Date	Sample Time										
B0HYQ5	Water	7-31-96	1500	X	✓								

<b>CHAIN OF POSSESSION</b>	<b>Sign/Print Names</b>	<b>SPECIAL INSTRUCTIONS</b> Ship samples to Duane Jacques.	<b>Matrix *</b>
Relinquished By <i>A. Rosen</i> Date/Time <i>7/31/96 1500</i>	Received By <i>Eric</i> Date/Time <i>15:00</i>	(1) VOA BY FIELD GC -- Chlorinated Hydrocarbon (Carbon tetrachloride)	S - Soil
Relinquished By <i>A. Rosen</i> Date/Time <i>7/31/96</i>	Received By <i>Eric</i> Date/Time <i>7-31-96</i>		SE - Sediment
Relinquished By <i>Eric</i> Date/Time <i>0826</i>	Received By <i>D. Jacques</i> Date/Time <i>0826</i>		SO - Solid
Relinquished By <i>Eric</i> Date/Time <i>8-7-96</i>	Received By <i>Duane Jacques</i> Date/Time <i>8-7-96</i>		SL - Sludge
Relinquished By	Received By		W - Water
			O - Oil
			A - Air
			DS - Drum Solids
			DL - Drum Liquids
			T - Tissue
			WI - Wipe
			L - Liquid
			V - Vegetation
			X - Other

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

<b>Bechtel Hanford Inc.</b>		<b>CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST</b>						B96-153-24	Page 1 of 1	
Collector <i>A. Rizzo</i>		Company Contact C. D. Wittreich			Telephone No. (509) 372-9315			Data Turnaround <input type="checkbox"/> Priority <input type="checkbox"/> Normal		
Project Designation 200-UP-1 Limited Field Investigation		Sampling Location 200 W			SAF No. B96-153					
Ice Chest No.		Field Logbook No. <i>FL-1155</i>			Method of Shipment Hand Delivered					
Shipped To Mobile Laboratory		Offsite Property No. NA			Bill of Lading/Air Bill No. NA					
POSSIBLE SAMPLE HAZARDS/REMARKS		Preservation		None	HCl to pH <2					
		Type of Container		P	Gs*					
		No. of Container(s)		1	1					
Special Handling and/or Storage Maintain samples between 2 degrees C and 6 degrees C.		Volume		20ml	40ml					
SAMPLE ANALYSIS				URANIUM TOTAL	See item (1) in Special Instructions.					
Sample No.	Matrix *	Sample Date	Sample Time							
BOHYP9	Water	7/31/76	0713	X	X					
FOOAYRO	W	7/31/76	0730		X					
CHAIN OF POSSESSION		Sign/Print Names			SPECIAL INSTRUCTIONS Ship samples to Duane Jacques.					
Relinquished By <i>[Signature]</i>		Date/Time			Received By <i>[Signature]</i>		Date/Time			
Relinquished By <i>[Signature]</i>		Date/Time			Received By <i>[Signature]</i>		Date/Time			
Relinquished By <i>[Signature]</i>		Date/Time			Received By <i>[Signature]</i>		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		

(1) VOA BY FIELD GC - Chlorinated Hydrocarbon (Carbon tetrachloride)

- 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

<b>Bechtel Hanford Inc.</b>		<b>CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST</b>						B96-153-25	Page 1 of 1	
Collector <i>A. K. ...</i>		Company Contact C. D. Wittreich			Telephone No. (509) 372-9315			Data Turnaround <input type="checkbox"/> Priority <input type="checkbox"/> Normal		
Project Designation 200-UP-1 Limited Field Investigation		Sampling Location 200 W			SAF No. B96-153					
Ice Chest No.		Field Logbook No. <i>ERC-1135</i>			Method of Shipment Hand Delivered					
Shipped To Mobile Laboratory		Offsite Property No. NA			Bill of Lading/Air Bill No. NA					
POSSIBLE SAMPLE HAZARDS/REMARKS		Preservation		None	HCl to pH <2					
		Type of Container		P	Gs*					
		No. of Container(s)		1	1					
		Special Handling and/or Storage Maintain samples between 2 degrees C and 6 degrees C.		Volume	20ml	40ml				
SAMPLE ANALYSIS				URANIUM TOTAL	See item (1) in Special Instructions.					
Sample No.	Matrix *	Sample Date	Sample Time							
B0HYQ1	Water	7-31-96	8:53	+	+					
CHAIN OF POSSESSION		Sign/Print Names			SPECIAL INSTRUCTIONS Ship samples to Duane Jacques.				Matrix *	
Relinquished By <i>[Signature]</i> Date/Time 1500		Received By <i>[Signature]</i> Date/Time 1500			(1) VOA BY FIELD GC - Chlorinated Hydrocarbon (Carbon tetrachloride)				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>[Signature]</i> Date/Time 0825		Received By <i>[Signature]</i> Date/Time 0825								
Relinquished By <i>[Signature]</i> Date/Time 8/7/96		Received By <i>[Signature]</i> Date/Time 8/7/96								
Relinquished By _____ Date/Time _____		Received By _____ Date/Time _____								
LABORATORY SECTION		Received By _____ Title _____			Date/Time _____					
FINAL SAMPLE DISPOSITION		Disposal Method _____			Disposed By _____				Date/Time _____	

<b>Bechtel Hanford Inc.</b>	<b>CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST</b>	<b>B96-153-18</b>	Page 1 of 1
-----------------------------	---	-------------------	-------------

Collector <i>M. K. ...</i>	Company Contact C. D. Wittreich	Telephone No. (509) 372-9315
Project Designation 200-UP-1 Limited Field Investigation	Sampling Location 200 W	SAF No. B96-153
Ice Chest No.	Field Logbook No. <i>200-153</i>	Method of Shipment Hand Delivered
Shipped To Mobile Laboratory	Offsite Property No. NA	Bill of Lading/Air Bill No. NA

**Data Turnaround**

Priority

Normal

<b>POSSIBLE SAMPLE HAZARDS/REMARKS</b>	Preservation	None	HCl to pH < 2						
	Type of Container	P	Gs*						
	No. of Container(s)	1	1						
	Special Handling and/or Storage Maintain samples between 2 degrees C and 6 degrees C.	Volume	20ml	40ml					
<b>SAMPLE ANALYSIS</b>			URANIUM TOTAL	See item (1) in Special Instructions.					

Sample No.	Matrix *	Sample Date	Sample Time						
BOHYN7	Water	7-31-96	12:21	X	S				

<b>CHAIN OF POSSESSION</b>	<b>Sign/Print Names</b>	<b>SPECIAL INSTRUCTIONS</b> Ship samples to Duane Jacques.  (1) VOA BY FIELD GC -- Chlorinated Hydrocarbon (Carbon tetrachloride)	<b>Matrix *</b>
Relinquished By <i>[Signature]</i>	Date/Time 7/31/96	Received By <i>[Signature]</i>	S - Soil
Relinquished By <i>[Signature]</i>	Date/Time 0824	Received By <i>[Signature]</i>	SE - Sediment
Relinquished By <i>[Signature]</i>	Date/Time 8-7-96	Received By <i>[Signature]</i>	SO - Solid
Relinquished By	Date/Time	Received By	SL - Sludge
Relinquished By	Date/Time	Received By	W - Water
Relinquished By	Date/Time	Received By	O - Oil
Relinquished By	Date/Time	Received By	A - Air
Relinquished By	Date/Time	Received By	DS - Drum Solids
Relinquished By	Date/Time	Received By	DL - Drum Liquids
Relinquished By	Date/Time	Received By	T - Tissue
Relinquished By	Date/Time	Received By	WI - Wipe
Relinquished By	Date/Time	Received By	L - Liquid
Relinquished By	Date/Time	Received By	V - Vegetation
Relinquished By	Date/Time	Received By	X - Other

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

<b>Bechtel Hanford Inc.</b>		<b>CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST</b>						B96-153-17	Page 1 of 1	
Collector <i>A. Kozzo</i>		Company Contact C. D. Wittreich			Telephone No. (509) 372-9315			Data Turnaround <input type="checkbox"/> Priority <input type="checkbox"/> Normal		
Project Designation 200-UP-1 Limited Field Investigation		Sampling Location 200 W			SAF No. B96-153					
Ice Chest No.		Field Logbook No. <i>EFL-1135</i>			Method of Shipment Hand Delivered					
Shipped To Mobile Laboratory		Offsite Property No. NA			Bill of Lading/Air Bill No. NA					
POSSIBLE SAMPLE HAZARDS/REMARKS		Preservation		None	HCl to pH <2					
		Type of Container		P	Gs*					
		No. of Container(s)		1	1					
Special Handling and/or Storage Maintain samples between 2 degrees C and 6 degrees C.		Volume		20ml	40ml					
SAMPLE ANALYSIS				URANIUM TOTAL	See item (1) in Special Instructions.					
Sample No.	Matrix *	Sample Date	Sample Time							
BOHYN5	Water	<i>7/31/96</i>	<i>11:20</i>	<i>6</i>	<i>2</i>					
CHAIN OF POSSESSION		Sign/Print Names			SPECIAL INSTRUCTIONS Ship samples to Duane Jacques.					
Relinquished By <i>A. Kozzo</i>		Date/Time <i>1500</i>		Received By <i>C. D. Wittreich</i>		(1) VOA BY FIELD GC - Chlorinated Hydrocarbon (Carbon tetrachloride)				
Date/Time <i>7/31/96</i>		Date/Time <i>1500</i>		Date/Time <i>7-31-96</i>						
Relinquished By <i>Bob Butler</i>		Date/Time <i>8825</i>		Received By <i>D. Jacques</i>						
Date/Time <i>8-7-96</i>		Date/Time <i>0825</i>		Date/Time <i>8/7/96</i>						
Relinquished By		Date/Time		Received By						
Relinquished By		Date/Time		Received By						
LABORATORY SECTION		Received By			Title			Date/Time		
FINAL SAMPLE DISPOSITION		Disposal Method			Disposed 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