132

W0759-QES

0044290

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [x] Priority [ ] Normal

Collector: Doug Bowers	Company Contact: D. B. Encke	Telephone No.: 373-3461
Project Designation: 183-H Basin Rainwater-2	Sampling Location: 183 solar basin	SAF No.: B96-002
Ice Chest No.: ER-20	Field Logbook No.: EFL-1133-1	Method of Shipment: Hand deliver
Shipped To: Quanterra	Offsite Property No.:	Bill of Lading/Air Bill No.:

Possible Sample Hazards/Remarks: Unknown

Special Handling and/or Storage:

SAMPLE ANALYSIS: 51013001 SDL W0759

Preservative	HNO3	HCl	none
Type of Container	P	P	P
No. of Container(s)	3	3	1
Volume	1 L	1 L	20 ml
	Gross Alpha/Beta, Total Uranium, Gamma spec	Tc-99	Activity Scan

JUN 1996 RECEIVED EDMC

Sample No.	Matrix*	Date Sampled	Time Sampled															
BOGTS1	W	10-6-95	1407	✓	✓	✓		N6026										

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
Doug Bowers	10-6-95 1605	K. Umapp / K. Trapp	10/6/95 1605
K. Umapp / K. Trapp	KT 10/9/95 10/9/95 0826 ~~10/6/9~~	[signature] B. Whitten	ER 10-9-95 0826
[signature] B. Whitten	ER 10-9-95 11:00	Quanterra [signature]	10-9-95 11:00

SPECIAL INSTRUCTIONS: Lusthansa CPM

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

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9613445.1458

START

0025

SAMPLE STATUS REPORT FOR N 6026. RAD SCREEN BOGTS1 TIME: 10/ 9/95 7:52
DISPATCHED: 10/ 6/95 13:41 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 10/ 7/95 6:22

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	X60051

END OF REPORT

9613446.1460

Quanterra Environmental Services

Quanterra Incorporated
2800 George Washington Way
Richland, Washington 99352

509 375-3131 Telephone
509 375-5590 Fax

CERTIFICATE OF ANALYSIS

OCT 1995 RECEIVED Data Log In

Bechtel Hanford, Inc.
345 Hills
Richland, WA 99352

October 24, 1995

Attention: Joan Kessner

SAF Number	:	~~B95-049~~ B96-002 per COC Dayes 11/2/95
Date SDG Closed	:	October 9, 1995
Number of Samples	:	One (1)
Sample Type	:	Water
SDG Number	:	W0759
Data Deliverable	:	Summary

I. Introduction

On October 9, 1995, one water sample was received by the Quanterra Environmental Services Richland Laboratory (QTESRL) for radiochemical analysis. Upon receipt, the sample was assigned the following laboratory ID number to correspond with the Bechtel Hanford, Inc. (BHI) specific ID:

QTESRL ID	BHI ID	Matrix	Date of Receipt
51013001	B0GTS1	Water	10/9/95

II. Analytical Results/Methodology

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information, analytical results and the appropriate associated statistical errors.

DB
10/26/95

~~0001~~

0002

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The requested analyses were:

Gamma Spectroscopy
Gamma Scan by method ITAS-RD-3219
Gas Proportional Counting
Gross Alpha by method ITAS-RD-3214
Gross Beta by method ITAS-RD-3214
Liquid Scintillation Counting
Technetium-99 by method ITAS-IT-RS-0001
Total Uranium
Total Uranium by method ITAS-RD-4200

III. Quality Control

The analytical results for each analysis performed under SDG W0759 include a minimum of one Laboratory Control Sample (LCS), one method (reagent) blank, and one duplicate. Any exceptions have been noted in the "Comments" section.

Quality control sample results are reported in the same units as sample results.

IV. Comments

Gamma Spectroscopy

Gamma Scan by method ITAS-RD-3219
The LCS, batch blank, sample and sample duplicate (B0GTS1) results are within contractual requirements.

Gas Proportional Counting

Gross Alpha by method ITAS-RD-3214
The LCS, batch blank, sample and sample duplicate (B0GTS1) results are within contractual requirements.

Gross Beta by method ITAS-RD-3214
The batch was analyzed using 35 mL due to high beta screening activity. The LCS and blank were also analyzed using the reduced volume which increased the MDA proportionately. As a result, the blank result and MDA are greater than the RDL. However, the blank result is less than one half the achieved MDA and is essentially background at that volume. The results are accepted and the technician has been instructed to use the full analytical volume for LCS and blank samples even when the sample volume has been reduced. The LCS, batch blank, sample and sample duplicate (B0GTS1) results are within contractual requirements, except as noted.

DB
10/26/95

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Liquid Scintillation Counting

Technetium-99 by method ITAS-IT-RS-0001
The matrix spike result is unacceptable. The sample result is approximately 9 times greater than the spike that was added. In addition, the sample was cloudy, indicating that there may be problems with non-homogeneity. The high matrix spike recovery is attributed to matrix effects (high sample activity/hot particles) and the batch is accepted based on acceptable results for all other quality control parameters. The matrix spike, LCS, batch blank, sample and sample duplicate (B0GTS1) results are within contractual requirements, except as noted.

Total Uranium

Total Uranium by method ITAS-RD-4200
The matrix spike is considered lost in analysis due to an unacceptable recovery. The sample activity is more than 100 times greater than the spike that was added, therefore, the unacceptable recovery is attributed to a sample matrix effect (high sample activity). The matrix spike, LCS, batch blank, sample and sample duplicate (B0GTS1) results are within contractual requirements, except as noted.

I certify that this Certificate of Analysis is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature.

Reviewed and approved:

Suzanne Gaines

Suzanne Gaines
Project Manager

DB.
10/26/95

Quanterra
Environmental Services

SAMPLE RESULTS

LAB NAME:	**ITAS-RICHLAND**	**SDG:**	W0759
LAB SAMPLE ID:	51013001	**MATRIX:**	WATER
CLIENT ID:	B0GTS1	**DATE RECEIVED:**	10/9/95 11:00:00 AM

ISOTOPE	RESULT	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
CO-58	2.83E+00	2.0E+00	2.0E+00	4.64E+00	pCi/L	N/A	RD3219
CO-60	-2.22E+00	3.4E+00	3.4E+00	5.51E+00	pCi/L	N/A	RD3219
CS-137DA	2.55E+00	2.8E+00	2.8E+00	5.40E+00	pCi/L	N/A	RD3219
EU-152	-1.53E-01	6.3E+00	6.3E+00	1.09E+01	pCi/L	N/A	RD3219
EU-154	-7.13E+00	1.1E+01	1.1E+01	1.83E+01	pCi/L	N/A	RD3219
EU-155	2.69E-01	5.7E+00	5.7E+00	9.44E+00	pCi/L	N/A	RD3219
FE-59	2.33E-01	6.6E+00	6.6E+00	1.19E+01	pCi/L	N/A	RD3219
ALPHA	6.45E+01	1.0E+01	1.3E+01	5.04E+00	pCi/L	100.00%	RD3214
BETA	8.24E+02	2.5E+01	6.3E+01	1.26E+01	pCi/L	100.00%	RD3214
TC-99	2.52E+03	1.6E+01	2.8E+02	3.82E+00	pCi/L	95.10%	ITAS-IT-RS-0001
TOTAL-URANIUM	9.26E+01	N/A	2.1E+01	3.23E-03	ug/L	N/A	RD4200

Number of Results: 11

Figure 1

SAMPLE CHECK-IN LIST

(1 Per Shipping Container)

Date/Time Received 10-9-95 11:00 Client Name BHI

Project/Client # B96-002 Batch or Case # _____

Cooler ID (if noted on outside of cooler) ER-20

1. Condition of shipping container? O.K.
2. Custody Seals on cooler intact? Yes [X] No [ ]
3. Custody Seals dated and signed? Yes [X] No [ ]
4. Chain of Custody record is taped on inside of cooler lid? Yes [ ] No [X]
5. Vermiculite/packing material is: Wet [X] Dry [ ] _____
6. Each sample is in a plastic bag? Yes [X] No [ ] _____
7. Number of sample containers in cooler: 13
8. Samples have: X tape; X custody seals; ___ hazard labels; ___ appropriate sample labels
9. Samples are: X in good condition; ___ broken; ___ other; ___ leaking; ___ have air bubbles
10. Coolant Present? Yes [X] No [ ] Sample Temperature 4°C
11. The following paperwork should be accounted for (N/A if not applicable):

    Chain of Custody #(s) N/A

    Request for Analysis #(s) _____

    Airbill # ✓ Carrier _____
12. Have any anomalies been identified above? Yes [ ] No [X]
13. Memos have been initiated for all anomalies identified above? Yes [X]

Printed Name/Signature Karen Rattenburg Date/Time 10-9-95 11:00

510130 - Rad.

10/9/95

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
WHC B0GTR8		10/9/95 11:00:00 AM	QUAD22C	10/9/95 2:23:41 PM	B0GTR8	30	12	0.34	75	1.473
	LIQUID		Bkg:	10/7/95 10:18:01 AM	BKG	1000	60	0.06	1027	1.027

Anl Date: 10/9/95 Tot Sa, Alq: 1.00E+00 , 1.00E+01 Alp; (Dpm/ 9.59E-01 (uCi/ 4.32E-05 (pCi/ 4.32E+01 ± 2.3E+01 CAT I 5.8E-01 Lab Alq L|g
Ppt mg: 0.9 Units: L , ml Bet; Alq): 2.53E+00 Sa): 1.14E-04 L|g): 1.14E+02 ± 2.4E+01 4.4E-01

WHC B0GTS1		10/9/95 11:00:00 AM	QUAD22D	10/9/95 2:23:41 PM	B0GTS1	30	35	1.10966667	836	26.975667
01	LIQUID		Bkg:	10/7/95 10:18:01 AM	BKG	1000	57	0.057	891	0.891

Anl Date: 10/9/95 Tot Sa, Alq: 1.00E+00 , 1.00E+01 Alp; (Dpm/ 3.16E+00 (uCi/ 1.43E-04 (pCi/ 1.43E+02 ± 3.6E+01 CAT I 1.8E-01 Lab Alq L|g
Ppt mg: 24.1 Units: L , ml Bet; Alq): 5.28E+01 Sa): 2.38E-03 L|g): 2.38E+03 ± 8.5E+01 2.1E-02

9613445.1465

0028

Due 10-24-95

9613445.1466 *** GAMMA ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

9-Oct-1995
Page 1

CUSTOMER: BHI SAF

SAMPLE DELIVERY GROUP W07759

MATRIX : WATER B96-002

BATCH NUMBER 10-130

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
	M10130 1B				
	M10 130 1S		GCAG 141		
1)	51013001		BHI	BOGTS1	
	G10 130 01		Dup		

ACTIONS (Initial & Date)

1) INITIATED JH 10/9/95

2) PREP LAB RECEIVED 10-11-95 ✓

3) SAMPLE REMAINDER STORED 10-13-95 ✓

4) SEPARATION LAB RECEIVED N/A

5) COUNTING/MEASUREMENT LAB AS 10/13/95

6) DATA REVIEWED AND ANALYTICAL PREP STORED TR 10-20-95

Priority

9613445.1467 *** ALPHA ***

Due 10-24-95

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

9-Oct-1995
Page 1

CUSTOMER: BHI SAF

SAMPLE DELIVERY GROUP W0759

MATRIX : WATER B96-002

BATCH NUMBER 10-130

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
	M10130113				
	M10130115			EQEG863	10.416 ±0.093343 DPM
1)	51013001		BHI	BOGTS1	
	G10130001			Dup	

ACTIONS (Initial & Date)

1) INITIATED JH 10/9/95

2) PREP LAB RECEIVED 10-11-95 C

3) SAMPLE REMAINDER STORED 10-13-95 C

4) SEPARATION LAB RECEIVED NA

5) COUNTING/MEASUREMENT LAB AS 10/13/95

6) DATA REVIEWED AND ANALYTICAL PREP STORED WEW 10/17/95

Priority

Due 10-24-95

9613445.1468 *** BETA ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

9-Oct-1995
Page 1

CUSTOMER: BHI SAF

SAMPLE DELIVERY GROUP W0759

MATRIX : WATER B96-002

BATCH NUMBER 10-130

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
	m10130 1B				
	m10130 1S		EQAH 2761		10.046 ± 0.12582 DPM
1)	51013001		BHI	BOGTS1	
	G10130 01		Dup		

ACTIONS (Initial & Date)

1) INITIATED JH 10/9/95

2) PREP LAB RECEIVED 10-11-95 S

3) SAMPLE REMAINDER STORED 10-13-95 S

4) SEPARATION LAB RECEIVED N/A

5) COUNTING/MEASUREMENT LAB AS 10/13/95

6) DATA REVIEWED AND ANALYTICAL PREP STORED JRC 10-16-95

Priority

0031

9613445.1469 *** TC-99 ***

Due 10-24-95

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

9-Oct-1995
Page 1

CUSTOMER: BHI SAF

SAMPLE DELIVERY GROUP LW0759

MATRIX : WATER B96-002

BATCH NUMBER 10-130

ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
M101301N		M101301B	M101301M	
M101302N		H101301	G101301	
1) 51013001		BHI	BOGTS1	

ACTIONS (Initial & Date)

1) INITIATED JH 10/9/95

2) PREP LAB RECEIVED 10/11/95 MM

3) SAMPLE REMAINDER STORED 10/11/95

4) SEPARATION LAB RECEIVED 10/11/95 MM

5) COUNTING/MEASUREMENT LAB AS 10/12/95

6) DATA REVIEWED AND ANALYTICAL PREP STORED SB 10/19/95

Priority

0032

Due 10-24-95

9613445.1470 *** URANIUM ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

9-Oct-1995
Page 1

CUSTOMER: BHI SAF

SAMPLE DELIVERY GROUP W0759

MATRIX : WATER B96-002

BATCH NUMBER 10-130

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
	m1013013				
	m1013015		EQIP 322		
1)	51013001		BHI	BOGTS1	
	G1013001				
	H1013001		EQIP 323		

ACTIONS (Initial & Date)

1) INITIATED JH 10/9/95

2) PREP LAB RECEIVED 10-11-95 S

3) SAMPLE REMAINDER STORED 10-13-95 S

4) SEPARATION LAB RECEIVED ↓

5) COUNTING/MEASUREMENT LAB 10/18/95 NA

6) DATA REVIEWED AND ANALYTICAL PREP STORED PK 10/19/95

Priority