

START

9613447.0237

0044385

W0739
10/2



Quanterra Incorporated
2800 George Washington Way
Richland, Washington 99352

509 375-3131 Telephone
509 375-5590 Fax

CERTIFICATE OF ANALYSIS

Bechtel Hanford, Inc.
345 Hills
Richland, WA 99352

October 5, 1995

Attention: Joan Kessner



SAF Number	:	B95-097
Date SDG Closed	:	September 26, 1995
Number of Samples	:	One (1)
Sample Type	:	Water
SDG Number	:	W0739
Data Deliverable	:	Summary

I. Introduction

On September 26, 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:

<u>QTESRL ID</u>	<u>BHI ID</u>	<u>Matrix</u>	<u>Date of Receipt</u>
50938201	BOGKK0	Water	9/26/95

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.

The requested analysis was: **Gas Proportional Counting**
Strontium-90 by method ITAS-RD-3204

Bechtel Hanford, Inc.
October 5, 1995
Page 2

III. Quality Control

The analytical results for each analysis performed under SDG W0739 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

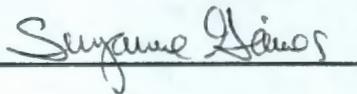
Gas Proportional Counting

Strontium-90 by method ITAS-RD-3204

The LCS, batch blank, sample and sample duplicate (B0GKK0) results are within contractual requirements.

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
Project Manager

9613447.0239



SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND SDG: W0739
LAB SAMPLE ID: 50938201 MATRIX: WATER
CLIENT ID: B0GKK0 DATE RECEIVED: 9/26/95 9:30:00 AM

ISOTOPE	RESULT	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA	REPORT UNIT	YIELD	METHÓD NUMBER
STRONTIUM	1.80E-01	2.1E-01	2.1E-01	7.80E-01	pCi/L	90.80%	RD3204

Number of Results:

0004

~~0003~~

D.B. 10/11/95

9613447.0240

10-11-95



ITAS Data Review Checklist
RADIOCHEMISTRY

BHI Water

Work Order No(s): 509382				
Lab Sample Numbers or SOG: W0739				
Method/Test/Parameter: Total Sr				
Review Item	Yes (S)	No (N)	N/A (N)	2 nd Level review (S)
A. Calibration			/	/
1. Is the calibration documentation included where applicable?				/
B. Sample Analysis	/			/
1. Are the sample Yields within acceptance criteria?	/			/
2. Were all sample holding times met?	/			/
C. QC Samples	/			/
1. Is the Blank Yield within acceptance criteria?	/			/
2. Is the Minimum Detectable Activity for the Blank result \leq the Contract Detection Limit?	/			/
3. Is the Blank result \leq the Contract Detection Limit?	/			/
4. Is the Blank result greater than the Contract Detection Limit but the Sample result less than the Contract Detection Limit?			/	/
5. Is the LCS result within acceptance criteria?	/			/
6. Is the LCS yield within acceptance criteria?	/			/
7. Is the LCS Minimum Detectable Activity less than or equal to the Contract Detection Limit?	/			/
8. MS/MSD results and yield meet acceptance criteria?			/	/
9. Duplicate sample results and yield meet acceptance criteria?	/			/
D. Other			/	/
1. Are all nonconformances included and noted?				/
2. Are all required forms filled out?	/			/
3. Correct methodology used?	/			/
4. Transcription checked?	JM			JR
5. Were all calculations checked at a minimum frequency?	/			/
6. Units checked?	/			/

Comments on any "No" response:

Analyst: Jel Thompson
 Second Level Review: Serg Dames
 Form No: LS-038 3/94 Rev 2

Date: 10-13-95
 Date: 10/19/95

9613447.0241

**CHAIN OF
CUSTODY FORMS**

0009

Bechtel Hanford, Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Date Turnaround
 Priority
 Normal

Collector <i>K. Trapp</i>	Company Contact Jane Borghese	Telephone 509-373-4790
Project Designation 100-NR-2 Pump and Treat Acceptance Test, Injection Water	Sampling Location N Springs ERA Pump and Treat	SAF No. 895-097
Ice Chest No. <i>ER-210</i>	Field Logbook No. <i>FFL-1154</i>	Method of Shipment Hand Delivery - Government Vehicle
Shipped To Quanterra	Offsite Property No.	Bill of Lading/Air Bill No.

Possible Sample Hazards/Remarks	Preservation	HNO3	None										
	Type of Container	P	P										
None Known	No. of Container(s)	3	1										
	Volume	1 Liter	20 ml.										
SAMPLE ANALYSIS <i>50938201</i>	<i>SD6</i>	<i>W0739</i>	Sr-90	Activity Scan									

Sample No.	Matrix*	Date Sampled	Time Sampled										
<i>BOGKKO</i>	<i>w</i>	<i>9/25/95</i>	<i>0924</i>	<i>X</i>	<i>X</i>								

CHAIN OF POSSESSION	Sign/Print Names	SPECIAL INSTRUCTIONS	Matrix*
Relinquished By <i>K. Trapp</i>	Date/Time <i>9/25/95 1700</i>	Received By <i>[Signature]</i>	Date/Time <i>1300</i>
Relinquished By <i>[Signature]</i>	Date/Time <i>9:30</i>	Received By <i>[Signature]</i>	Date/Time <i>4:30</i>
Relinquished By <i>[Signature]</i>	Date/Time <i>9-26-95</i>	Received By <i>[Signature]</i>	Date/Time <i>9:26-95</i>
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received 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

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

SAMPLE STATUS REPORT FOR N 5922. RAD SCREEN BOGKKO TIME: 9/26/95 7:35
DISPATCHED: 9/12/95 14:43 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 9/25/95 14:18

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	XR5807

END OF REPORT

Client Sample Screening Results

26-Sep-95

9/26/95

CLIENT CODE	ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTSA	NET CPM A	CNTS B	NET CPM B
WHC	B0GFJ3		9/26/95 9:30:00 AM	QUAD22A	9/26/95 2:27:34 PM	B0GFJ3	30	72	2.33125	569	17.845417
		LIQUID		Bkg:	9/26/95 5:26:46 AM	BKG	800	55	0.06875	897	1.12125
Anl Date:	9/26/95	Tot Sa, Alq:	1.00E+00 , 1.00E+01	Alp;	(Dpm/ 7.97E+00	(uCV/ 3.59E-04	(pCV/ 3.59E+02	± 4.7E+01	CAT	7.0E-02	Lab
Ppt mg:	18.3	Units:	L , ml	Bet;	Alq): 3.31E+01	Sa): 1.49E-03	Llg): 1.49E+03	± 6.8E+01	I	3.4E-02	Alq
WHC	B0GFJ4		9/26/95 9:30:00 AM	QUAD22B	9/26/95 2:27:34 PM	B0GFJ4	30	3	0.05	46	0.5683333
		LIQUID		Bkg:	9/26/95 5:26:46 AM	BKG	800	40	0.05	772	0.965
Anl Date:	9/26/95	Tot Sa, Alq:	1.00E+00 , 1.00E+01	Alp;	(Dpm/ 1.67E-01	(uCV/ 7.53E-06	(pCV/ 7.53E+00	± 2.5E+01	CAT	3.3E+00	Lab
Ppt mg:	17.6	Units:	L , ml	Bet;	Alq): 1.08E+00	Sa): 4.86E-05	Llg): 4.86E+01	± 2.0E+01	I	1.0E+00	Alq
WHC	B0GKK0		9/26/95 9:30:00 AM	QUAD22C	9/26/95 2:27:34 PM	B0GKK0	30	13	0.37833333	124	3.1045833
		LIQUID		Bkg:	9/26/95 5:26:46 AM	BKG	800	44	0.055	823	1.02875
Anl Date:	9/26/95	Tot Sa, Alq:	1.00E+00 , 1.00E+01	Alp;	(Dpm/ 1.04E+00	(uCV/ 4.67E-05	(pCV/ 4.67E+01	± 2.3E+01	CAT	5.3E-01	Lab
Ppt mg:	2.3	Units:	L , ml	Bet;	Alq): 5.58E+00	Sa): 2.51E-04	Llg): 2.51E+02	± 3.1E+01	I	2.0E-01	Alq

509382 - Rad

9613447.0244

0012

26-Sep-95

1

Figure 1

SAMPLE CHECK-IN LIST

(1 Per Shipping Container)

SDG-
W0739
W0#
509382

Date/Time Received 9-26-95 9:30 Client Name BHZ
Project/Client # B95-097 Batch or Case # _____
Cooler ID (if noted on outside of cooler) EL-210

1. Condition of shipping container? O.K.
2. Custody Seals on cooler intact? Yes No
3. Custody Seals dated and signed? Yes No
4. Chain of Custody record is taped on inside of cooler lid? Yes No
5. Vermiculite/packing material is: Wet Dry
6. Each sample is in a plastic bag? Yes No
7. Number of sample containers in cooler: 14
8. Samples have:

<input checked="" type="checkbox"/> tape	<input type="checkbox"/> hazard labels
<input checked="" type="checkbox"/> custody seals	<input type="checkbox"/> appropriate sample labels
9. Samples are:

<input checked="" type="checkbox"/> in good condition	<input type="checkbox"/> leaking
<input type="checkbox"/> broken	<input type="checkbox"/> have air bubbles
<input type="checkbox"/> other	
10. Coolant Present? Yes 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) N/A

Airbill # _____ Carrier N/A
12. Have any anomalies been identified above? Yes No
13. Memos have been initiated for all anomalies identified above? Yes

Printed Name/Signature Karen Schenley Date/Time 9-26-95

Due
10-11-95

9613447.0246 *** TOTAL-SR ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

26-Sep-1995
Page 1

CUSTOMER: BHI SAF SAMPLE DELIVERY GROUP W0739
MATRIX : WATER B95-097 BATCH NUMBER 09-382

ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
*) M093821B		BHI		
*) M093821S		BHI		
3) 50938201 60938201		BHI	BOGKKO	EQL1340 30.11 ± 0.44075 DPM

ACTIONS (Initial & Date)

- 1) INITIATED JH 9/26/95
- 2) PREP LAB RECEIVED RSM 9/26/95
- 3) SAMPLE REMAINDER STORED N/A
- 4) SEPARATION LAB RECEIVED RSM 9/26/95
- 5) COUNTING/MEASUREMENT LAB ED 9/27/95
- 6) DATA REVIEWED AND ANALYTICAL PREP STORED JTX 10-3-95

PRIORITY