

W03124-STL



0053280

Quanterra
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Richland, Washington 99352-1613

509 375-3131 Telephone
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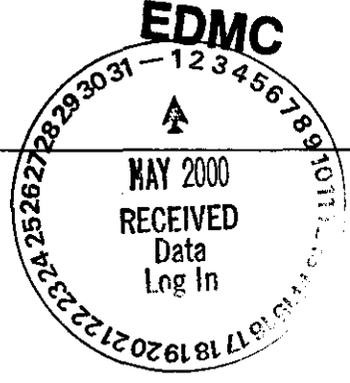
CERTIFICATE OF ANALYSIS

Bechtel Hanford, Inc.
3350 George Washington Way
Richland, WA 99352

April 28, 2000

Attention: Joan Kessner

RECEIVED
JUN 26 2000



SAF Number	:	B99-014
Date SDG Closed	:	March 27, 2000
Number of Samples	:	Two (2)
Sample Type	:	Water
SDG Number	:	W03124
Data Deliverable	:	7-Day / Summary

I. Introduction

On March 27, 2000, two water samples were received at STL Richland (STLR) for radiochemical analysis. Upon receipt, the samples were assigned the following laboratory ID numbers to correspond with the Bechtel Hanford, Inc. (BHI) specific IDs:

<u>STLR ID#</u>	<u>BHI ID#</u>	<u>MATRIX</u>	<u>DATE OF RECEIPT</u>
9DA4LG10	B0NC19	WATER	3/27/00
9DA4LH10	B0XC20	WATER	3/27/00

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**
Total Strontium by method RICH-RC-5006

Bechtel Hanford, Inc.
April 28, 2000
Page 2

III. Quality Control

The analytical results for each analysis performed under SDG W03124 includes a minimum of two Laboratory Control Samples (LCS) and one method (reagent) blank. Any exceptions have been noted in the "Comments" section.

QC and sample results are reported in the same units.

IV. Comments

Gas Proportional Counting

Total Strontium by method RICH-RC-5006:

The achieved MDA for sample B0XC19 does not meet the CRDL due to a reduced volume analyzed. The detected activity exceeds the achieved MDA and the data are accepted for reporting. Except as noted, the laboratory control samples, batch blank and sample 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:



Jackie Waddell
Project Manager

BLANK RESULTS

LAB NAME: STL Richland

SDG /RPT GRP: W03124 / 10176

LOT,RPT DB ID: J0C270000-379 DA4ND11B

MATRIX: WATER

ANALYTE	RESULT	Q	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA/IDL	RPT UNIT	YIELD	METHOD NUMBER	WORK ORDE	BAT- CH
STRONTIUM	-1.68E+00	U	1.2E+00	1.3E+00	3.44E+00	pCi/L	97.30%	RICHRC5006	DA4ND	0087379

Number of Results:

Data Review Checklist
RADIOCHEMISTRY

Priority

Lot Number: JOC 270160
 Client ID: BHZ
 Due Date: 4-3-00
 QC Batch Number: 0087379 SDG Number: W03124
 Method Test Parameter: TOTAL SR
 Matrix: Water

Review Item	Yes (✓)	No (✓)	N/A (✓)	2 nd Level Review (✓)
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?	✓			
3. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓			
C. QC Samples				
1. Is the blank yield within acceptance criteria?	✓			
2. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓			
3. Does the blank result meet the Contract criteria?	✓			
4. Is the blank result < the Contract Detection Limit?	✓			
5. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓	
6. Is the LCS result within acceptance criteria?	✓			
7. Is the LCS yield within acceptance criteria?	✓			
8. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓			
9. Do the MS/MSD results and yields meet acceptance criteria?			✓	
10. Do the duplicate sample results and yields meet acceptance criteria?			✓	
D. Other				
1. Are all Nonconformances included and noted?			✓	
2. Are all required forms filled out?	✓			
3. Was the correct methodology used?	✓			
4. Was transcription checked?	✓			
5. Were all calculations checked at a minimum frequency?	✓			
6. Were units checked?	✓			✓

Comments on any "No" response: Results > mda < RDL

First Level Review: Pam Kuntz

Date: 3-30-00

Second Level Review: Walter H. Heddell

Date: 3/31/00 11009

CHAIN OF CUSTODY

Collector R. PFISTER	Company Contact Jane Borghese	Telephone No. 375-4688	Project Coordinator KOERNER, CC	Data Turnaround 7 Days
Project Designation 100-NR-2 Pump & Treat Operational Sampling	Sampling Location 100 N		SAF No. B98-007	
Ice Chest No.	Field Logbook No. EL-1345		Method of Shipment Gov Vehicle	
Shipped To Quanterra Incorporated	Offsite Property No.		Bill of Lading/Air Bill No.	

Waste Designation COA

POSSIBLE SAMPLE HAZARDS/REMARKS

Q-27040

Special Handling and/or Storage
none

Preservation	None	None	HCl to pH <2 Cool 4C																
Type of Container	G/P	P	G																
No. of Container(s)	1	1	1																
Volume	20ml	500ml	1000ml																

SDG Due 4-3
 W03124 JOC270160
SAMPLE ANALYSIS

Activity Scan	Strontium-89,90 - Total St	TPH (Total) - 418.1																	
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Sample No.	Matrix *	Sample Date	Sample Time																
BOXC19	WATER	3-27-00	1230		X	DA4 LG													
BOXC20	WATER	3-27-00	1230		X	DA4 LH													

CHAIN OF POSSESSION		Sign/Print Names	
Relinquished By <i>[Signature]</i>	Date/Time 3/27/00 1235	Received By <i>[Signature]</i>	Date/Time 3/27/00 1235
Relinquished By <i>[Signature]</i>	Date/Time 3/27/00 1400	Received By <i>[Signature]</i>	Date/Time 3/27/00 1400
Relinquished By <i>[Signature]</i>	Date/Time	Received By	Date/Time
Relinquished By <i>[Signature]</i>	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS	Matrix *
BOXC19 - INFLUENT	S - Soil
BOXC20 - EFFLUENT	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

Figure 1. Sample Check-in List

Date/Time Received: 3/27/00 1400 SDG#: W03124
 Work Order Number: JOC270160 SAF#: B98-007
 Shipping Container ID: N/A Chain of Custody #: na

1. Outermost shipping container damaged? Yes No
2. Custody Seals on shipping container intact? Yes No
3. Custody Seals dated and signed? Yes No
4. Chain-of-Custody record present? Yes No
5. Chain-of-Custody includes the following information:
 - Client name Yes No
 - Project name or number Yes No
 - Sample date/time for each sample Yes No
 - Container types, sizes and number of containers Yes No
 - Short description of sample, i.e., matrix Yes No
 - Analyses requested Yes No
 - Preservation used or "none" or N/A if not applicable Yes No
 - Date and time of relinquish and receipt Yes No
 - Signatures of those persons relinquishing and receiving Yes No
6. Sample numbers on chain of custody match those on sample containers? Yes No
7. Collection date and date of laboratory receipt are within project specific holding time requirements? 2 Yes No
8. Cooler temperature: N/A
9. Vermiculite/packing materials is: Wet Dry

10. Samples have: tape hazard labels
 custody seals appropriate sample labels

11. Samples are: in good condition leaking
 broken have air bubbles

12. Were any anomalies identified in sample receipt? Yes No
13. Description of anomalies (include sample numbers): _____

Sample Custodian/Laboratory: [Signature] Date: 3/27/00 1400
 Telephone/Fax/E:mailed to: _____ On _____ By _____

Client Sample Screening Results

27-Mar-00

(B) 3/27/00

CLIENT CODE	ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B		
BHII	B0XC19DA4LG		3/27/2000 2:15:00 PM	QUAD24C	3/27/2000 3:18:09 PM	B0XC19DA4LG	30	22	0.623333333	476	14.9016667		
	DA4LG	LIQUID		Bkg:	3/25/2000 2:00:34 AM	BKG	600	66	0.11	579	0.965		
Anl Date:	3/27/00	Tot Sa, Alq:	5.00E-01	5.00E+00	Alp:	(Dpm/ 1.37E+00	(uCi/ 6.18E-05	(pCi/ 1.24E+02	+ 4.9E+01	CAT	2.0E-01	Lab	
Ppt mg:	0.8	Units:	L	ml	Ret:	Alq): 2.77E+01	Sa): 1.25E-03	L/g): 2.50E+03	+ 1.2E+02	I	2.0E-02	Alq	1.g
BHII	B0XC20DA4LII		3/27/2000 2:15:00 PM	QUAD24D	3/27/2000 3:18:09 PM	B0XC20DA4LII	30	30	0.901666667	183	4.69333333		
	DA4LII	LIQUID		Bkg:	3/25/2000 2:00:34 AM	BKG	600	59	0.098333333	844	1.40666667		
Anl Date:	3/27/00	Tot Sa, Alq:	5.00E-01	5.00E+00	Alp:	(Dpm/ 2.45E+00	(uCi/ 1.10E-04	(pCi/ 2.21E+02	+ 6.1E+01	CAT	1.1E-01	Lab	
Ppt mg:	0	Units:	L	ml	Ret:	Alq): 8.54E+00	Sa): 3.84E-04	L/g): 7.69E+02	+ 7.7E+01	I	6.5E-02	Alq	1.g

11013

27-Mar-00

RQC053

Parent Batch:
Associated Batches:

Severn Trent Laboratories, Inc.
Information Sheet Rad Prep

Run Date: 3/27/00
Time: 16:18:13

Page: 1

PRIORITY
Today

* QC BATCH: 0087379 *

PRIORITY
Today

TH: Total Strontium by GPC
CG: Sr-Total Prp/SepRC5006
SI: CLIENT: HANFORD

Analytical Due Date: 4/03/00

Project Manager: JW2

Lot# Work Order	Client	Analyt Due	Client Name	Name Geometry	Count	Time	Mid/Ave Date/Time	Tracer ID Spike ID	CRDL	Units	Screen Info - (Ci) Alpha Beta	PM Bin
JOC270160-001 DA4LG-1-01 WATER Comments: WATER		4/03/00	Bechtel Hanford,	.0000	.000		3/27/00 12:30			pCi/L	**NYS 37-03/00	JW2
<i>80ml</i>												
JOC270160-002 DA4LH-1-01 WATER Comments: WATER		4/03/00	Bechtel Hanford,	.0000	.000		3/27/00 12:30			pCi/L	**NYS 37-03/00	JW2
JOC270000-379 B DA4ND-1-01 WATER Comments:		4/03/00	Bechtel Hanford,				3/27/00 12:30		2.00E+00	pCi/L	**NA **NA	JW2
JOC270000-379 C DA4ND-1-02 WATER Comments:		4/03/00	Bechtel Hanford,				3/27/00 12:30		2	pCi/L	**NA **NA	JW2
JOC270000-379 C DA4ND-1-03 WATER Comments:		4/03/00	Bechtel Hanford,				3/27/00 12:30		2	pCi/L	**NA **NA	JW2

Total Number of Samples In Batch: 00005

Batch Information:

Dry Wt: N

Decay Correct: Y

Blank Sub: None

Call In: *

Uncert: Both

Sigma: 1.960

ODR: Target List + Other Detected

BLANK CRDL
Strontium 90

2.00E+00

Tracer Yield
Strontium Trace

(020-105)

Type
RPD

QC Control Limits

** NYS = Not Yet Screened

** NA = Not Applicable

** Other = Other than Gross Alpha or Gross Beta

++ Indicates that Batch Information has changed for this sample. Print worksheet for details.

0014

COC Signature Page

W03124

Lot or Batch #:	Initials/Date	Procedure #
Released By	<u>RM 3-28-00</u>	<u>Rich 110009</u>
Received	<u>RM 3-28-00</u>	<u>RICHRC 5006</u>
Released By	<u>RM 3-29-00</u>	n/a
Received	<u>CS 3/29/00</u>	<u>RCUHRD0003R2</u>
Released By	<u>CS 3/29/00</u>	n/a
Received	<u>JM 3-30-00</u>	<u>Radcalc 12.7.1</u>
Released By	<u>JM 3-30-00</u>	n/a
Received	<u>PK 3-30-00</u>	<u>Rich 110009</u>
Released By	<u>PK 3-31-00</u>	n/a
Received		
Released By		n/a
Received		
Released By		n/a
Received		