

START 9713534.2696

LK8224-LAS 12



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Lockheed Analytical Services



Ms. Joan Kessner
Bechtel Hanford, Inc.
3350 George Washington Way
MISN B1-35
Richland, WA 99352



ANALYTICAL DATA REPORT

FOR

**NITRATE, TOTAL URANIUM BY KPA,
STRONTIUM-90, TECHNETIUM-99, AND TRITIUM**

LOG-IN NUMBER:	<u>L8224</u>
QUOTATION NUMBER:	<u>Q400000-B</u>
SAF NUMBER:	<u>B97-023</u>
DOCUMENT FILE NUMBER:	<u>1029596</u>
BHI DOCUMENT FILE NO.:	<u>412</u>
SDG NUMBER:	<u>LK8224</u>

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Lockheed Environmental Systems & Technologies Co.
Lockheed Analytical Services
975 Kelly Johnson Drive Las Vegas, Nevada 89119-3705
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LOCKHEED MARTIN



November 25, 1996

Ms. Joan Kessner
Bechtel Hanford, Inc.
3350 George Washington Way
MISN B1-35
Richland, WA 99352

RE: Log-in No.: L8224
Quotation No.: Q400000-B
SAF No.: B97-023
Document File No.: 1029596
BHI Document File No.: 412
SDG No.: LK8224



The attached data report contains the analytical results of samples that were submitted to Lockheed Analytical Services on October 29, 1996. The temperature of the cooler upon receipt was 2°C. Sample containers received agree with the chain-of-custody documentation. All sample containers were received intact. All samples were not received in time to meet the analytical holding time requirements.

The case narratives included in the following attachments provide a detailed description of all events that occurred during sample preparation, analysis, and data review specific to the samples and analytical methods requested.

A list of data qualifiers, chain-of-custody forms, sample receiving checklist, and log-in report are also enclosed representing the samples received within this group.

If you have any questions concerning the analysis or the data please call Mary Wolf at (702) 361-3955, extension 311. If you are unable to contact the client services representative, please call Mary B. Ford, client services manager, at extension 326.

"I certify that this data package 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."

Sincerely,

Mary K. Wolf
Mary K. Wolf
Client Services Representative

cc: Client Services
Document Control

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Lockheed Analytical Services

Log-in No.: L8224
 Quotation No.: Q400000-B
 SAF No.: B97-023
 Document File No.: 1029596
 BHI Document File No.: 412
 SDG No.: LK8224
 Page: 2

**CASE NARRATIVE
 INORGANIC NON METALS ANALYSES**

The routine calibration and quality control analyses performed for this batch include as applicable: initial and continuing calibration verification, initial and continuing calibration blanks, method blank(s), laboratory control sample(s), matrix spike (predigestion) sample(s), duplicate sample(s).

Preparation and Analysis Requirements

- One water sample was received for LK8224 and analyzed in batch 1029 bh for selected analytes to be analyzed in client-specified order as requested on the chain of custody. Quality control analysis was performed on the following samples:

Client ID	LAL #		Method
BOJCS7	L8224-2	DUP, MS	300.0 Nitrate-Nitrogen

Holding Time Requirements

- The sample was received and analyzed outside of the method-specific holding time. The associated sample is flagged with an "H".

Method Blanks

- The concentration levels of all the requested analytes in the method blank were below the reporting detection limits.

Internal Quality Control

- All Internal Quality Control were within acceptance limits.

Kay McCann
 Prepared By

November 6, 1996
 Date

Lockheed Analytical Services

Log-in No.: L8224
Quotation No.: Q400000-B
SAF No.: B97-023
Document File No.: 1029596
BHI Document File No.: 412
SDG No.: LK8224
Page: 3

CASE NARRATIVE INORGANIC TOTAL URANIUM ANALYSES

The routine calibration and quality control analyses performed for this batch include as applicable: instrument calibration, initial and continuing calibration verification, quench monitoring standards, instrument background analysis, method blanks, yield tracer, laboratory control samples, matrix spike samples, and matrix spike duplicate samples.

Preparation and Analysis Requirements

All samples were received on October 29, 1996. The samples were logged in as L8224 and were prepared and analyzed in batch 1029 bt.

Holding Time Requirements

All holding time requirements were met.

Total Uranium

The Total Uranium analysis was performed using LAL-91-SOP-0168. All samples were prepared in Workgroup U TOTAL KPA LAL-0168 43099 with a Method Blank (MBB1), Laboratory Control Sample (LCS1), Duplicate (DUP1) and Matrix Spike (MS1). No problems were encountered during preparation or analysis. All QC criteria were met and no reanalysis was performed.

Shellee McGrath
Prepared By

November 20, 1996
Date

Lockheed Analytical Services

Log-in No.: L8224
Quotation No.: Q400000-B
SAF No.: B97-023
Document File No.: 1029596
BHI Document File No.: 412
SDG No.: LK8224
Page: 4

CASE NARRATIVE RADIOCHEMISTRY ANALYSES

The routine calibration and quality control (QC) analyses performed for this batch include as applicable: instrument calibration, initial and continuing calibration verification, quench monitoring standards, instrument background analysis, method blanks, yield tracer, laboratory control samples, matrix spike samples, and duplicate samples.

NOTE: Chemical recoveries and minimum detectable activities (MDAs) can be found on the preparation sheets and calculation sheets on the attached raw data for each method.

Holding Time Requirements

All holding time requirements were met.

Gas Proportional Counter

Analytical Method Strontium-90

The strontium-90 analysis was performed using standard operating procedure (SOP), LAL-91-SOP-0065. The samples were analyzed in workgroups 43149 and 43582. The samples in workgroup 43149 were re-analyzed in workgroup 43582 due to out-of-criteria laboratory control sample (LCS) and matrix spike (MS) recoveries. No analyses from workgroup 43149 were reported. The instrument calibration verification met criteria. The method blank was within QC criteria. The LCS and MS recoveries were within QC criteria. The duplicate (DUP) recoveries were within QC criteria. No other re-analyses were performed.

Liquid Scintillation Counter

Analytical Method Technetium-99

The technetium-99 analysis was performed using SOP, LAL-91-SOP-0169. The samples were analyzed in workgroup 43151. The instrument calibration verification met criteria. The method blank was within QC criteria. The LCS and MS recoveries were within QC criteria. The DUP recoveries were within QC criteria. The quench value was within curve limitations. No re-analyses were performed.

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Log-in No.: L8224
Quotation No.: Q400000-B
SAF No.: B97-023
Document File No.: 1029596
BHI Document File No.: 412
SDG No.: LK8224
Page: 5

Analytical Method Tritium

The tritium analysis was performed using SOP, LAL-91-SOP-0066. The samples were analyzed in workgroup 43158. The instrument calibration verification met criteria. The method blank was within QC criteria. The LCS and MS recoveries were within QC criteria. The DUP recoveries were within QC criteria. The quench value was within curve limitations. No re-analyses were performed.

Andrea Tippett
Prepared By

November 24, 1996
Date

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Bechtel Hanford Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

L9224

B97-023-50

Page 1 of 1

Collector <i>R. Fahlberg</i>	Company Contact Jane Borghese	Telephone No. (509) 373-4790	Project Coordinator Koerner, CC	Data Turnaround 45 Days
Project Designation Pre-Startup Sampling for 100-HR-3 Interim Action Monitoring	Sampling Location 100 H and 100 D	SAF No. B97-023		
Ice Chest No. 95009	Field Logbook No. EL1289	Method of Shipment Federal Express		
Shipped To Lockheed	Offsite Property No. W97-0001-5	Bill of Lading/Air Bill No. 2771634433		

POSSIBLE SAMPLE HAZARDS/REMARKS	Preservation	None	None	Cool 4C	HNO3 to pH <2	HCl to pH <2	HNO3 to pH <2				
	Type of Container	P	G	P	P	P	P				
	No. of Container(s)	1	1	1	1	4	4				
Special Handling and/or Storage Maintain samples between 2 degrees C and 6 degrees C	Volume	20ml	500ml	500ml	500ml	1000ml	1000ml				
SAMPLE ANALYSIS		Activity Scan	Tritium - H3	IC Anions - 300 0 (Nitrogen in Nitrate)	Total Uranium	Technetium-99	Strontium-89,90 - Total Sr				

Sample No.	Matrix *	Sample Date	Sample Time									
BOJCS7	Water	10-25-96	10-20	X	X	X	X	X	X			

CHAIN OF POSSESSION	Sign/Print Names	SPECIAL INSTRUCTIONS ** The ERC Contractor acknowledges the 48-hour holding time for nitrate is not likely achievable	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>R. Fahlberg</i>	Date/Time 10-25-96	Received By <i>B. Whitten</i>	Date/Time 10-25-96
Relinquished By <i>B. Whitten</i>	Date/Time 10-28-96	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

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LABORATORY SECTION	Received By <i>Adm...</i>	Title Sample Custodian	Date/Time 10-29-96/0900
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

9715524-2702

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Sample Results

Client Sample ID: BOJCS7	Date Collected: 25-OCT-96
Matrix: Water	Date Received: 29-OCT-96
Percent Solids: N/A	

Constituent	Units	Method	Result	Project Reporting Limit	Data Qualifier(s)	Date Analyzed	LAS Batch ID	LAS Sample ID
Nitrate-N	mg/L	300.0	3.4	0.020	H	31-OCT-96	42974	L8224-2

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RADIOCHEMISTRY DATA REPORT

Account Name: Bechtel Hanford, Inc. * Richland, WA
Project Name: BECHTEL-HANFORD
Project Desc: Bechtel Hanford Project

Client Sample ID: BOJCS7
Date Collected: 25-OCT-96
Matrix: Water

Login Number: L8224
Date Received: 29-OCT-96

Constituent	Method	Batch	Activity	Error	MDA	Qualifier	Units	Analysed	Lab ID
Uranium	KPA	43099	5.62	0.30	0.69		ug/L	19-NOV-96	L8224-3

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LOCKHEED ANALYTICAL SERVICES

RADIOCHEMISTRY DATA REPORT

Account Name: Bechtel Hanford, Inc. * Richland, WA

Project Name: BECHTEL-HANFORD

Project Desc: Bechtel Hanford Project

Client Sample ID: B0JCS7

Date Collected: 25-OCT-96

Matrix: Water

Login Number: L8224

Date Received: 29-OCT-96

Constituent	Method	Batch	Activity	Error	MDA	Qualifier	Units	Analyzed	Lab ID
H-3	LAL-0066	43158	8620	720	210		pCi/L	07-NOV-96	L8224-4

9713534.2706

LOCKHEED ANALYTICAL SERVICES

RADIOCHEMISTRY DATA REPORT

Account Name: Bechtel Hanford, Inc. * Richland, WA
Project Name: BECHTEL-HANFORD
Project Desc: Bechtel Hanford Project

Client Sample ID: B0JCS7
Date Collected: 25-OCT-96
Matrix: Water

Login Number: L8224
Date Received: 29-OCT-96

Constituent	Method	Batch	Activity	Error	MDA	Qualifier	Units	Analyzed	Lab ID
Tc-99	LAL-0169	43151	-1.1	3.9	7.1		pCi/L	19-NOV-96	L8224-5

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LOCKHEED ANALYTICAL SERVICES

RADIOCHEMISTRY DATA REPORT

Account Name: Bechtel Hanford, Inc. * Richland, WA
Project Name: BECHTEL-HANFORD
Project Desc: Bechtel Hanford Project

Client Sample ID: B0JCS7
Date Collected: 25-OCT-96
Matrix: Water

Login Number: L8224
Date Received: 29-OCT-96

Constituent	Method	Batch	Activity	Error	MDA	Qualifier	Units	Analyzed	Lab-ID
Sr-89,90	LAL-0065	43582	-0.13	0.29	0.53		pCi/L	19-NOV-96	L8224-9