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LK6124 ¹⁶/_e

Lockheed Environmental Systems & Technologies Co.
Lockheed Analytical Services
975 Kelly Johnson Drive Las Vegas, Nevada 89119-3705
Telephone 702-361-0220 800-582-7605 Facsimile 702-361-8146



January 22, 1996

Ms. Joan Kessner
Bechtel Hanford, Inc.
P.O. Box 969
1022 Lee Boulevard
Richland, WA 99352



RE: Log-in No.:	L6124
Quotation No.:	Q400000-B
SAF:	B96-035
Document File No.:	1228596
BHI Document File No.:	311
SDG No.:	LK6124

The attached data report contains the analytical results of samples that were submitted to Lockheed Analytical Services on 28 December 1995.

The temperature of the cooler upon receipt was 2°C. Sample containers received agree with the chain-of-custody documentation. Sample containers were received intact. Samples designated for hexachrome analysis 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 Kathleen Hall at (509) 375-4741.

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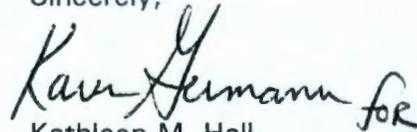
Lockheed Analytical Services

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Release of this data report has been authorized by the Laboratory Director or the Director's designee as evidenced by the following signature.

" 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 Manger or a designee, as verified by the following signature."

Sincerely,

A handwritten signature in cursive script that reads "Kathleen M. Hall for".

Kathleen M. Hall
Client Services Representative

cc: Client Services
Document Control

Lockheed Analytical Services

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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

- Two water samples were received for LK6124 and analyzed in batch 1228 bh for selected analytes as requested on the chain of custody. Quality control analysis was performed on the following samples:

Client ID	LAL #		Method
BOGZ58	L6124-3	MS, DUP	7196 Chromium (VI)

Holding Time Requirements

- All samples were received outside of the method-specific holding time and are 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

January 3, 1996
 Date

Lockheed Analytical Services

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CASE NARRATIVE INORGANIC METALS ANALYSES

The routine calibration and quality control analyses performed for this batch include as applicable: instrument tune (ICP/MS only), initial and continuing calibration verification, initial and continuing calibration blanks, method blank(s), laboratory control sample(s), ICP interference check samples (ICP only), serial dilutions, analytical (post-digestion) spike samples, matrix spike (predigestion) sample(s), duplicate sample(s).

Preparation and Analysis Requirements

All samples were received on December 28, 1995. The samples were logged in as L6124 and were prepared and analyzed in batch 1228 bh.

Holding Time Requirements

- All samples were analyzed within the method-specific holding times.

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.

Shellee McGrath
Prepared By

January 22, 1996
Date

9613444.0411

LOCKHEED ANALYTICAL SERVICES
LOGIN CHAIN OF CUSTODY REPORT (ln01)
Jan 03 1996, 08:09 am

Login Number: L6124
Account: 596 Bechtel Hanford, Inc. * Richland, WA
Project: BECHTEL-HANFORD Bechtel Hanford Project

Laboratory Sample Number	Client Sample Number	Collect Date	Receive Date	Due PR Date
L6124-1 TEMP 2 Location: 156TMP-1 Water 1 S SCREENING	BOGZ58	22-DEC-95	28-DEC-95	01-FEB-96
		Hold:19-JUN-96		
L6124-2 TEMP 2 Location: 156TMP-1 Water 1 S SCREENING	BOGZ59	22-DEC-95	28-DEC-95	01-FEB-96
		Hold:19-JUN-96		
L6124-3 TEMP 2 Location: 133 Water 1 S 7196 CHROMIUM (VI)	BOGZ58	22-DEC-95	28-DEC-95	01-FEB-96
		Hold:23-DEC-95		
L6124-4 TEMP 2 Location: 133 Water 1 S 7196 CHROMIUM (VI)	BOGZ59	22-DEC-95	28-DEC-95	01-FEB-96
		Hold:23-DEC-95		
* L6124-5 TEMP 2 Location: 156TMP-1 Water 1 S 200.7 CHROMIUM TOTAL	BOGZ58	22-DEC-95	28-DEC-95	01-FEB-96
		Hold:19-JUN-96		
* L6124-6 TEMP 2 Location: 156TMP-1 Water 1 S 200.7 CHROMIUM TOTAL	BOGZ59	22-DEC-95	28-DEC-95	01-FEB-96
		Hold:19-JUN-96		
* * L6124-7 Location: Water 1 S EDD - DISK DEL. Water 1 S INORG TYPE 2 RPT	REPORT TYPE	28-DEC-95	28-DEC-95	01-FEB-96

* product changed

* * report type changed

Revised

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Signature: L Miller

Date: 1-3-96

0009

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LOCKHEED ANALYTICAL SERVICES
 LOGIN CHAIN OF CUSTODY REPORT (ln01)
 Dec 28 1995, 01:26 pm

Login Number: L6124
 Account: 596 Bechtel Hanford, Inc. * Richland, WA
 Project: BECHTEL-HANFORD Bechtel Hanford Project

Laboratory Sample Number	Client Sample Number	Collect Date	Receive Date	Due PR Date
L6124-1 TEMP 2 Location: 157 Water 1 S SCREENING	BOGZ58	22-DEC-95	28-DEC-95	01-FEB-96
L6124-2 TEMP 2 Location: 157 Water 1 S SCREENING	BOGZ59	22-DEC-95	28-DEC-95	01-FEB-96
L6124-3 TEMP 2 Location: 157 Water 1 S 7196 CHROMIUM (VI)	BOGZ58	22-DEC-95	28-DEC-95	01-FEB-96
L6124-4 TEMP 2 Location: 157 Water 1 S 7196 CHROMIUM (VI)	BOGZ59	22-DEC-95	28-DEC-95	01-FEB-96
L6124-5 TEMP 2 Location: 157 Water 1 S 218.2 CHROMIUM	BOGZ58	22-DEC-95	28-DEC-95	01-FEB-96
L6124-6 TEMP 2 Location: 157 Water 1 S 218.2 CHROMIUM	BOGZ59	22-DEC-95	28-DEC-95	01-FEB-96
L6124-7 Location: Water 1 S EDD - DISK DEL. Water 1 S INORG TYPE 4A RPT	REPORT TYPE	28-DEC-95	28-DEC-95	01-FEB-96

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Signature: *Paul J. Davis*Date: *12-28-95*

0010

1228546

Bechtel Hanford, Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

L6124

Data Turnaround
Priority
Normal

Collector: K. Trapp; Company Contact: B. D. Blumenkranz; Telephone: (509) 372-9658; Project Designation: 100-HR-3 Pump and Treatment; Sampling Location: 100-HR-3 Pump and Treat; SAF No.: B96-035; Ice Chest No.: SML-225; Field Logbook No.: EF-1144-2; Method of Shipment: Federal Express; Shipped To: Lockheed; Offsite Property No.: W96-0-0690-14; Bill of Lading/Air Bill No.: 2904646503

Table with columns for Preservation (HNO3, Cool 4°C, None), Type of Container (P/G, P), No. of Container(s) (1, 1, 1), Special Handling and/or Storage (Maintain samples between 2°C and 6°C), Volume (500mL, 500mL, 20mL), and SAMPLE ANALYSIS (Chromium - Total, Chromium VI, Activity Scan).

Table with columns: Sample No., Matrix, Date Sampled, Time Sampled, and analysis results (X, X, X) for samples BOGZ58 and BOGZ59.

CHAIN OF POSSESSION and SPECIAL INSTRUCTIONS sections. Includes sign/print names and dates for relinquishing and receiving the sample.

LABORATORY SECTION and FINAL SAMPLE DISPOSITION sections. Includes Received By (Therese Davis), Title (Sample Custodian), and Disposed By information.

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Environmental
Restoration
Contractor

ERC Team

Interoffice Memorandum

Job No. 22192
Written Response Required: NO
CCF: N/A
OPI: FORMER
TSD: N/A
ERAS: N/A
Subject Code: 5480

TO: Dave Blumenkranz H4-90

DATE: April 26, 1995

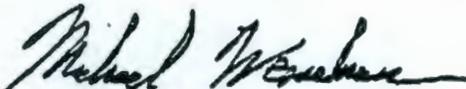
COPIES: Doug Bowers N3-05

FROM: Mike Wesselman
Radiological Controls
N3-06/376-2084

Post-it® Fax Note	7671	Date	5/1	# of pages	1
To	D. Bowers	From	D. Blumenkranz		
Co./Dept.	ITH/SAMP.	Co.	CHI/E&S		
Phone #	376-1007	Phone #	372-9658		
Fax #	376-5991	Fax #			

SUBJECT: EXEMPTION OF SAMPLES FROM 100-HR-3 PUMP AND TREAT FROM TOTAL ACTIVITY ANALYSIS.

After reviewing sampling data recorded on GeoDat as well as data from the latest resin change at the unit, it has been concluded that there is no need to perform total activity analysis of water sample from 100-HR-3 prior to offsite shipment. Water from all wells in the area is well below levels which would deliver 100 millirem per year CEDE to any one drinking two liters a day, no water exceeds the 2000 picocuries per gram limit for shipment as non radioactive by Department of Transportation. Activity trends in all wells have been downward for the last twenty years. Sample from the pump and treat system itself indicate less than six picocuries per gram of tritium and less than ten picocuries per liter of both alpha and beta contamination. All discharges of radioactive material to the ground in the 100-D Area have ceased, the actions of the pump and treat system do not appear to be mobilizing previously deposited materials. Based on the above information and the results of total activities performed to date, there is sufficient process knowledge to conclude that preshipment screening of water samples is no longer required.


Mike Wesselman

maw

Distribution

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1.008596

SAMPLE CHECK-IN LIST

Date/Time Received: 12-28-95/9:00 AM

SDG#: 1102

Work Order Number: _____

SAF #: B96-035

Shipping Container ID: SML-225

Chain of Custody # 1117

- 1. Custody Seals on shipping container intact? Yes No
- 2. Custody Seals dated and signed? Yes No
- 3. Sample temperature 22
- 4. Vermiculite/packing materials is Wet Dry
- 5. Each sample is in a plastic bag? Yes No
- 6. Sample holding times exceeded? Yes No

7. Samples have:
 tape _____ hazard labels
 custody seals _____ appropriate sample labels

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

9. Is the information on the COC and Sample bottles in agreement?

Yes No

Notes: Chromium IV was passed holding time

Sample Custodian/Laboratory: Paul Davis / LRS Date: 12-28-95
 Faxed
 Telephoned To: KATHLEEN HALL On 12-28-95 By Paul Davis
 Per 12-28-95

LOCKHEED MARTIN



Sample Login Login Review Checklist

Lot Number L6124

The login review should be conducted by that person logging in the samples as well as a peer. Please use this checklist to ensure that such reviews occur in a uniform basis. Please sign and date below to verify that a login review has occurred. This checklist should be affixed to each login package prior to distribution.

For effective login review, at a minimum, five reports from the login process are required. These are the COC (or equivalent), the login COC report, the sample summary report, the sample receiving checklist, and the login quotation. Before beginning review, ensure that these five components are available. Jobs with single component samples, the sample summary report may be omitted.

SAMPLE SUMMARY REPORT

	<u>YES</u>	<u>NO</u>	<u>N/A</u>	<u>Comment</u>
1. Are all sample ID's correct?	<u>X</u>	—	—	_____
2. Are all samples present?	<u>X</u>	—	—	_____
3. Are all matrices indicated correctly?	<u>X</u>	—	—	_____
4. Are all analyses on the COC logged in for the appropriate samples?	<u>X</u>	—	—	_____
5. Are all analyses logged in for the correct container?	<u>X</u>	—	—	_____
6. Are samples logged in according to LAS batching procedures?	<u>X</u>	—	—	_____

LOGIN CHAIN OF CUSTODY

	<u>YES</u>	<u>NO</u>	<u>N/A</u>	<u>Comment</u>
1. Are the collect, receive, and due dates correct for every sample?	<u>X</u>	—	—	_____
2. Have all appropriate comments been indicated in the comment section?	<u>X</u>	—	—	_____

SAMPLE RECEIVING CHECKLIST

	<u>YES</u>	<u>NO</u>	<u>N/A</u>	<u>Comment</u>
1. Are all discrepancies between the COC and the login noted (if applicable)?	—	—	<u>X</u>	_____

Paul Davis
primary review signature

12-28-95
date

Paul Davis
secondary review signature

12-28-95
date

0014
1728596

Lockheed Analytical Services Sample Receiving Checklist

Client Name: BCHTEL - Hartford

Job No. L 6124

Cooler ID: 11.02

COOLER CONDITION UPON RECEIPT

Temperature of cooler upon receipt: 30

temperature of temp. blank upon receipt: 1

	Yes	No	* Comments/Discrepancies
custody seals intact	X		
chain of custody present	X		
blue ice (or equiv.) present/frozen	X		
rad survey completed	X		

SAMPLE CONDITION UPON RECEIPT

	Yes	No	* Comments/Discrepancies
all bottles labeled	X		
samples intact	X		
proper container used for sample type	X		
sample volume sufficient for analysis	X		
proper pres. indicated on the COC	X		
VOA's contain headspace			
are samples bi-phasic (if so, indicate sample ID'S):			<u>ALL</u> <u>ALL</u>

MISCELLANEOUS ITEMS

	Yes	No	* Comments/Discrepancies
samples with short holding times		X	
samples to subcontract			<u>ALL</u>

ADDITIONAL COMMENTS/DISCREPANCIES

Completed by / date: Paulo Davis 12-28-95

Sent to the client (date/initials): _____ ** Client's signature upon receipt:

Notes: * = contact the appropriate CSR of any discrepancies immediately upon receipt

** = please review this information and return via facsimile to the appropriate CSR (702) 361-8146

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Lockheed Analytical Laboratory
SAMPLE SUMMARY REPORT (su02)
Bechtel Hanford, Inc. * Richland, WA

Client Sample Number	LAL Sample Number	SDG Number	Matrix	Method
BOGZ58	L6124-1		Water	SCREENING
	L6124-3		Water	7196 CHROMIUM (V)
	L6124-5		Water	218.2 CHROMIUM
BOGZ59	L6124-2		Water	SCREENING
	L6124-4		Water	7196 CHROMIUM (V)
	L6124-6		Water	218.2 CHROMIUM
REPORT TYPE	L6124-7		Water	EDD - DISK DEL.
	L6124-7		Water	INORG TYPE 4A RP

0016

1228596

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LOCKHEED ANALYTICAL SERVICES

Sample Results

Client Sample ID: B0GZ58	Date Collected: 22-DEC-95
Matrix: Water	Date Received: 28-DEC-95
Percent Solids: N/A	

Constituent	Units	Method	Result	Project Reporting Limit	Data Qualifier(s)	Date Analyzed	LAS Batch ID	LAS Sample ID
Chromium, hexavalent	mg/L	7196	0.89	0.10	HD(1:5)	02-JAN-96	32086	L6124-3

9613444.0420

LOCKHEED ANALYTICAL SERVICES

Sample Results

Client Sample ID: BOGZ59	Date Collected: 22-DEC-95
Matrix: Water	Date Received: 28-DEC-95
Percent Solids: N/A	

Constituent	Units	Method	Result	Project Reporting Limit	Data Qualifier(s)	Date Analyzed	LAS Batch ID	LAS Sample ID
Chromium, hexavalent	mg/L	7196	0.65	0.10	HD(1:5)	02-JAN-96	32086	L6124-4

9613444.0421

LOCKHEED ANALYTICAL SERVICES

Sample Results

Client Sample ID: BOGZ58	Date Collected: 22-DEC-95
Matrix: Water	Date Received: 28-DEC-95
Percent Solids: N/A	

Constituent	Units	Method	Result	IDL	RDL	Data Qual	Dilution	Date Analyzed	LAS Batch ID	LAS Sample ID
CHROMIUM, TOTAL	mg/L	6010	0.78	0.0010	0.010		1	11-JAN-96	32227	L6124-5

9613444.0422

LOCKHEED ANALYTICAL SERVICES

Sample Results

Client Sample ID: B0GZ59	Date Collected: 22-DEC-95
Matrix: Water	Date Received: 28-DEC-95
Percent Solids: N/A	

Constituent	Units	Method	Result	IDL	RDL	Data Qual	Dilution	Date Analyzed	LAS Batch ID	LAS Sample ID
CHROMIUM, TOTAL	mg/L	6010	0.61	0.0010	0.010		1	11-JAN-96	32227	L6124-6