

**START**

9613445.1488

0044292

LK5502 132

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



November 5, 1995

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



RE: Log-in No.:	L5502
Quotation No.:	Q400000-B
SAF:	B95-053
Document File No.:	1003596
BHI Document File No.:	280
SDG No.:	LK5502

The attached data report contains the analytical results of samples that were submitted to Lockheed Analytical Services on 3 October 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 for chromium VI analysis were received outside of 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.



0000

**Lockheed Analytical Services**

Log-in No.: L5502  
Quotation No.: Q400000-B  
SAF: B95-053  
Document File No.: 1003596  
BHI Document File No.:280  
SDG No.: LK5502  
Page1

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,

Handwritten signature of Kathleen M. Hall in cursive, followed by the text "for".

Kathleen M. Hall  
Client Services Representative

cc: Client Services  
Document Control

Lockheed Analytical Services

Log-in No.: L5502  
 Quotation No.: Q400000-B  
 SAF: B95-053  
 Document File No.: 1003596  
 BHI Document File No.: 280  
 SDG No.: LK5502  
 Page2

### 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 LK5502 and analyzed in batch 1003 bh for selected analytes as requested on the chain of custody. Quality control analysis was performed on the following sample:

Client ID	LAL #		Method
BOGKX1	L5502-3	MS, DUP	7196 Hexavalent Chromium

#### Holding Time Requirements

- The sample was received outside of holding time and 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

October 12, 1995  
 Date

**Lockheed Analytical Services**

Log-in No.: L5502  
Quotation No.: Q400000-B  
SAF: B95-053  
Document File No.: 1003596  
BHI Document File No.:280  
SDG No.: LK5502  
Page3

## **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 October 3, 1995. The samples were logged in as L5502 and were prepared and analyzed in batch 1003 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**

November 5, 1995  
**Date**

9613446, 1492

LOCKHEED ANALYTICAL SERVICES  
LOGIN CHAIN OF CUSTODY REPORT (ln01)  
Oct 03 1995, 04:42 pm

Login Number: L5502  
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
L5502-1 TEMP 2 Location: RFG01-43D Water 1 S SCREENING	BOGKX1	29-SEP-95	03-OCT-95	07-NOV-95
		Hold:27-MAR-96		
L5502-2 TEMP 2 Location: RFG02-22A Water 1 S 218.2 CHROMIUM	BOGKX1	29-SEP-95	03-OCT-95	07-NOV-95
		Hold:27-MAR-96		
L5502-3 TEMP 2 Location: RFG02-22A Water 1 S 7196 CHROMIUM (VI)	BOGKX1	29-SEP-95	03-OCT-95	07-NOV-95
		Hold:30-SEP-95		
L5502-4 Location: Water 1 S EDD - DISK DEL. Water 1 S INORG TYPE 2 RPT	REPORT TYPE	03-OCT-95	03-OCT-95	07-NOV-95

Page 1

Signature: Paul C. Jones

Date: 10-03-95

0005

1003596

L5502

<b>Westinghouse Hanford Company</b>	<b>CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST</b>	Page <u>1</u> of <u>1</u>
-------------------------------------	---	---------------------------

Collector <b>Doug Bowers</b>	Company Contact <b>Dave Blumenkranz</b>	Telephone No. <b>372-9658</b>
Project Designation <b>100 HR-3 Treatability Study</b>	Sampling Location <b>100 D</b>	SAF No. <b>B95-053</b>
Ice Chest No. <b>GWS-006</b>	Field Logbook No. <b>ERL-1144-2</b>	Method of Shipment <b>Air Freight</b>
Shipped To <b>Lockheed</b>	Offsite Property No. <b>W95-0-0600-03</b>	Bill of Lading/Air Bill No. <b>2904612903</b>

Data Turnaround  
 Priority  
 Normal

Possible Sample Hazards/Remarks unknown	Preservative	HNO3	none	none	none	none														
	Type of Container	G/P	G/P	P/G	P/G															
	No. of Container(s)	1	1	1	1															
	Special Handling and/or Storage cool to 4 C	Volume	500 mL	500 mL	20 mL	20 mL														
SAMPLE ANALYSIS	Chrom-ium - Total	Chrom-ium VI	Activ-ity Scan	Rad Screen																

Sample No.	Matrix*	Date Sampled	Time Sampled																	
B06KX1	W	9/29/95	1112	X	X	X														

CHAIN OF POSSESSION	Sign/Print Names	SPECIAL INSTRUCTIONS	Matrix*
Relinquished By <i>Steven Clark</i>	Date/Time 9/29/95 1550	Received By <i>Eric</i>	Date/Time 1330
Relinquished By <i>Eric</i>	Date/Time 0900	Received By <i>Buckitten</i>	Date/Time 9-29-95
Relinquished By <i>Eric</i>	Date/Time 10-2-95	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time
LABORATORY SECTION	Received By <i>Blumenkranz</i>	Title Sample Custodian	Date/Time 10-3-95 0900
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

X005596

9/29/95 1112

DISTRIBUTION: Original - Sample Yellow - Sampler

Environmental  
Restoration  
Contractor

# ERC Team

## Interoffice Memorandum

Job No. 22192  
Written Response Required: No  
CC: N/A  
CO: R0000-3  
ED: N/A  
ERAs: N/A  
Subject Code: 5400

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 picocurie 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

0011

1003596

# SAMPLE CHECK-IN LIST

Date/Time Received: 10-3-95 / 0900

SDG#: \_\_\_\_\_

Work Order Number: 017

SAF #: R95-053

Shipping Container ID: GW5008 Chain of Custody # \_\_\_\_\_

- 1. Custody Seals on shipping container intact? Yes  No
- 2. Custody Seals dated and signed? Yes  No
- 3. Sample temperature 2°C
- 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: Paula Ann / Lockheed Date: 10-03-95  
 Telephoned To: Kathleen Hall On 10-03-95 By Paula Ann  
 P.O. # 10-03-95

# LOCKHEED MARTIN



## Sample Login Login Review Checklist

Lot Number L550a

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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
2. Are all samples present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
3. Are all matrices indicated correctly?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
4. Are all analyses on the COC logged in for the appropriate samples?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
5. Are all analyses logged in for the correct container?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
6. Are samples logged in according to LAS batching procedures?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

### 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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
2. Have all appropriate comments been indicated in the comment section?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____

### 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)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>Passed HOLDing Times</u>

Paul Davis  
primary review signature

10-03-95  
date

Jim A  
secondary review signature

10-3-95 0013  
date

1003596



9613445.1498

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

Client Sample Number	LAL Sample Number	SDG Number	Matrix	Method
BOGKX1 -	L5502-1 L5502-2 L5502-3		Water Water Water	SCREENING- 218.2 CHROMIUM - 7196 CHROMIUM (VI)
REPORT TYPE -	L5502-4 L5502-4		Water Water	EDD - DISK DEL. - INORG TYPE 2 RPT -

0015

1003596

9613445.1499

## LOCKHEED ANALYTICAL SERVICES

## Sample Results

Client Sample ID: BOGKX1	Date Collected: 29-SEP-95
Matrix: Water	Date Received: 03-OCT-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	0.70	0.10	HD(1:5)	04-OCT-95	28192	L5502-3

0017

9613445.1500

LOCKHEED ANALYTICAL SERVICES

Sample Results

Client Sample ID: BOGKX1	Date Collected: 29-SEP-95
Matrix: Water	Date Received: 03-OCT-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	218.2	0.64	0.020	0.20		20	02-NOV-95	28787	L5502-2