

0044292

LK5502

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,

A handwritten signature in black ink that reads "Kathleen M. Hall for". The signature is written in a cursive style.

Kathleen M. Hall  
Client Services Representative

cc: Client Services  
Document Control

0004

**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

**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

LOCKHEED ANALYTICAL SERVICES  
 LOGIN CHAIN OF CUSTODY REPORT (1n01)  
 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

Signature: Paul C. Davis

Date: 10-03-95

0005

1003596

# L5502

Westinghouse Hanford Company	<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>895-053</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>2904642903</b>

Data Turnaround

Priority

Normal

Possible Sample Hazards/Remarks <b>unknown</b>	Preservative	HN03	none	none	none													
	Type of Container	G/P	G/P	P/G	P/G													
	No. of Container(s)	1	1	1	1													
	Volume	500 mL	500 mL	20 mL	20 mL													
Special Handling and/or Storage <b>cool to 4 C</b>	Chrom-ium - Total	Chrom-ium VI	Activ-ity Scan	Rad Screen														

SAMPLE ANALYSIS

Sample No.	Matrix*	Date Sampled	Time Sampled	Chrom-ium - Total	Chrom-ium VI	Activ-ity Scan	Rad Screen											
<b>B06KX1</b>	<b>W</b>	<b>9/29/95</b>	<b>1112</b>	<b>X</b>	<b>X</b>	<b>X</b>												

CHAIN OF POSSESSION	Sign/Print Names	SPECIAL INSTRUCTIONS	Matrix*
Relinquished By <i>Steven Brock</i>	Date/Time <b>9/29/95 1530</b>	Received By <i>Eric Barkitten</i>	Date/Time <b>9-29-95</b>
Relinquished By <i>Eric</i>	Date/Time <b>0900</b>	Received By	Date/Time
Relinquished By <i>Eric</i>	Date/Time <b>10-2-95</b>	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

Analysis for Chromium (VI) by SW -846 7196 is being requested for information only. The ERC Contractor acknowledges the 24-hour holding time will not be met.

- 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 <i>[Signature]</i>	Title <b>Sample Custodian</b>	Date/Time <b>10-3-95 0900</b>
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original - Sample Yellow - Sampler

Environmental  
Restoration  
Contractor

# ERC Team

## Interoffice Memorandum

Job No. 22192  
Written Response Required: No  
CCN: N/A  
OUI: NONE-3  
TSD: 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/ERS		
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

0012

1003596

### SAMPLE CHECK-IN LIST

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

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

Work Order Number: n17

SAF #: B95-053

Shipping Container ID: GWS008 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 Van / Lockheed Date: 10-03-95

Fixed  
Telephoned To: Kathleen Hall On 10-03-95 By Paula Van  
PL 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?	<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>	—	—	<u>Passed HOLDing Times</u>

Paul Davis  
primary review signature

10-03-95  
date

Jim [Signature]  
secondary review signature

10-3-95 00:15  
date

1003596

Lockheed Analytical Services  
Sample Receiving Checklist

Client Name: *Be Hpl - Hazard*

Job No. *15502*

Cooler ID: *1117*

COOLER CONDITION UPON RECEIPT

Temperature of cooler upon receipt: *20*  
temperature of temp. blank upon receipt: *—*

	Yes	No	* Comments/Discrepancies
custody seals intact	<input checked="" type="checkbox"/>		
chain of custody present	<input checked="" type="checkbox"/>		
blue ice (or equiv.) present/frozen	<input checked="" type="checkbox"/>		
rad survey completed	<input checked="" type="checkbox"/>		

SAMPLE CONDITION UPON RECEIPT

	Yes	No	* Comments/Discrepancies
all bottles labeled	<input checked="" type="checkbox"/>		
samples intact	<input checked="" type="checkbox"/>		
proper container used for sample type	<input checked="" type="checkbox"/>		
sample volume sufficient for analysis	<input checked="" type="checkbox"/>		
proper pres. indicated on the COC	<input checked="" type="checkbox"/>		
VOA's contain headspace			
are samples bi-phasic (if so, indicate sample ID'S):			<i>None</i>

MISCELLANEOUS ITEMS

	Yes	No	* Comments/Discrepancies
samples with short holding times	<input checked="" type="checkbox"/>		<i>Chromium III, was passed holding time</i>
samples to subcontract			<i>None</i>

ADDITIONAL COMMENTS/DISCREPANCIES

Completed by / date: *Patrick Deane 10-03-95*

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

1003596

0117

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		Water	SCREENING -
	L5502-2		Water	218.2 CHROMIUM -
	L5502-3		Water	7196 CHROMIUM (VI)
REPORT TYPE -	L5502-4		Water	EDD - DISK DEL. -
	L5502-4		Water	INORG TYPE 2 RPT.

001E

1003596

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

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	15502-2