

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

LK5278

0044404

**LOCKHEED MARTIN**



October 11, 1995

Ms. Joan Kessner  
Bechtel Hanford, Inc.  
345 Hills  
P.O. Box 969  
Richland, WA 99352

RE:    Log-in No.:                    L5278  
      Quotation No.:                Q400000-B  
      SAF:                            B95-053  
      Document File No.:            0906596  
      BHI Document File No.:        270  
      SDG No.:                        LK5278



The attached data report contains the analytical results of samples that were submitted to Lockheed Analytical Services on 6 September 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 were 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) 943-4423.

**Lockheed Analytical Services**

Log-in No.: L5278  
Quotation No.: Q400000-B  
SAF: B95-053  
Document File No.: 0906596  
BHI Document File No.:270  
SDG No.: LK5278  
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" followed by "for" and a large, stylized flourish.

Kathleen M. Hall  
Client Services Representative

cc: Client Services  
Document Control

**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 LK5278 and analyzed in batch 906 bh for selected analytes as requested on the chain of custody. Quality control analysis was performed on the following sample:

Client ID	LAL #		Method
BOG953	L5278-3	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

September 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 September 6, 1995. The samples were logged in as L5278 and were prepared and analyzed in batch 906 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**

October 11, 1995  
**Date**

LOCKHEED ANALYTICAL SERVICES  
 LOGIN CHAIN OF CUSTODY REPORT (ln01)  
 Sep 06 1995, 10:52 am

Login Number: L5278  
 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
L5278-1 TEMP 2 Location: 157 Water 1 S SCREENING	BOG953	01-SEP-95	06-SEP-95	11-OCT-95
		Hold:28-FEB-96		
L5278-2 TEMP 2 Location: 157 Water 1 S 218.2 CHROMIUM	BOG953	01-SEP-95	06-SEP-95	11-OCT-95
		Hold:28-FEB-96		
L5278-3 TEMP 2 Location: 157 Water 1 S 7196 CHROMIUM (VI)	BOG953	01-SEP-95	06-SEP-95	11-OCT-95
		Hold:02-SEP-95		
L5278-4 TEMP 2 Location: Water 1 S EDD - DISK DEL. Water 1 S INORG TYPE 2 RPT	REPORT TYPE	06-SEP-95	06-SEP-95	11-OCT-95

Signature: Paul C. Jones

Date: 9-06-95

009

0906596



Environmental  
Restoration  
Contractor

**ERC Team**

**Interoffice Memorandum**

Job No. 22192  
Written Response Required: NO  
CCH: N/A  
CUI: F000003  
TID: N/A  
ERL: N/A  
Subject Code: 5400

TO: Dave Blumenkranz H4-90

DATE: April 26, 1995

COPIES: Doug Bowers N3-05

FROM: Mike Wesseiman  
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 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 Wesseiman

maw

Distribution

011

C960596

### SAMPLE CHECK-IN LIST

Date/Time Received: 9-06-95 / 9:00 AM

SDG#: MA

Work Order Number: MA

SAF #: B95-053

Shipping Container ID: GWS-011

Chain of Custody # MA

- 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 VI was passed Holding Times

Sample Custodian/Laboratory: Paul Davis / Lab Keep Date: 9-06-95 / 9:00 AM

<sup>Per 9-06-95</sup>  
Telephoned To: Kathleen Hall On 9-06-95 By Paul Davis  
<sub>Fixed</sub>

# LOCKHEED MARTIN



## Sample Login Login Review Checklist

Lot Number LS278

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 D. Dault  
primary review signature

9-06-95  
date

M. M. M. M.  
secondary review signature

9-6-95  
date

013

09C6596

Lockheed Analytical Services  
Sample Receiving Checklist

Client Name: Westinghouse - Hanford

Job No. LS228

Cooler ID: N/A

COOLER CONDITION UPON RECEIPT

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

	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			<u>N/A</u>
are samples bi-phasic (if so, indicate sample ID'S):			<u>N/A</u>

MISCELLANEOUS ITEMS

	Yes	No	* Comments/Discrepancies
samples with short holding times	X		<u>Chromium III / Sample has passed holding times</u>
samples to subcontract			<u>Client acknowledges this discrepancy.</u>
			<u>Rec'd 9-06-95</u>

ADDITIONAL COMMENTS/DISCREPANCIES

Completed by / date: Paul Deum 9-06-95

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

0906596

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

Client Sample Number	LAL Sample Number	SDG Number	Matrix	Method
BOG953 -	L5278-1 L5278-2 L5278-3		Water Water Water	SCREENING - 218.2 CHROMIUM - 7196 CHROMIUM (V)
REPORT TYPE -	L5278-4 L5278-4		Water Water	EDD - DISK DEL. INORG TYPE 2 RPT

LOCKHEED ANALYTICAL SERVICES

Sample Results

Client Sample ID: BOG953	Date Collected: 01-SEP-95
Matrix: Water	Date Received: 06-SEP-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	0.24	0.040	HD(1:2)	08-SEP-95	27103	L5278-3

LOCKHEED ANALYTICAL SERVICES

Sample Results

Client Sample ID: BOG953	Date Collected: 01-SEP-95
Matrix: Water	Date Received: 06-SEP-95
Percent Solids: N/A	

Constituent	Units	Method	Result	Project Reporting Limit	Data Qual	Dilution	Date Analyzed	LAS Batch ID	LAS Sample ID
Chromium, Total	mg/L	218.2	0.21	0.010		10	09-OCT-95	27104	L5278-2