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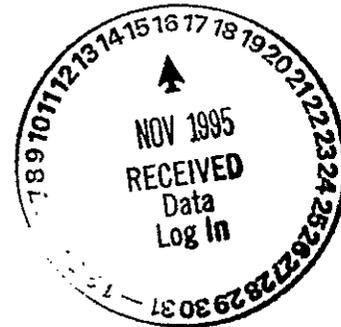
LK5618

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.:	L5618
	Quotation No.:	Q400000-B
	SAF:	B95-053
	Document File No.:	1017596
	BHI Document File No.:	285
	SDG No.:	LK5618

The attached data report contains the analytical results of samples that were submitted to Lockheed Analytical Services on 17 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 were not received in time to meet the analytical holding time requirements for chromium VI.

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.

Lockheed Analytical Services

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Page2

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 "Karen Heermann for".

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

- Two water samples were received for LK5618 and analyzed in batch 1017 bh for selected analytes as requested on the chain of custody. Quality control analysis was performed on the following sample:

Client ID	LAL #		Method
BOGKX6	L5618-5	MS, DUP	7196 Hexavalent Chromium

Holding Time Requirements

- The sample was received outside of holding time and the associated samples 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

October 23, 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 17, 1995. The samples were logged in as L5618 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 (ln01)
 Oct 17 1995, 04:53 pm

Login Number: L5618
 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
L5618-1 TEMP 2 Location: RFG01-43D Water 1 S SCREENING	BOGKX6	13-OCT-95	17-OCT-95	21-NOV-95
		Hold:10-APR-96		
L5618-2 TEMP 2 Location: RFG01-43D Water 1 S SCREENING	BOGKX7	13-OCT-95	17-OCT-95	21-NOV-95
		Hold:10-APR-96		
L5618-3 TEMP 2 Location: RFG02-22A Water 1 S 218.2 CHROMIUM	BOGKX6	13-OCT-95	17-OCT-95	21-NOV-95
		Hold:10-APR-96		
L5618-4 TEMP 2 Location: RFG02-22A Water 1 S 218.2 CHROMIUM	BOGKX7	13-OCT-95	17-OCT-95	21-NOV-95
		Hold:10-APR-96		
L5618-5 TEMP 2 Location: RFG02-22A Water 1 S 7196 CHROMIUM (VI)	BOGKX6	13-OCT-95	17-OCT-95	21-NOV-95
		Hold:14-OCT-95		
L5618-6 TEMP 2 Location: RFG02-22A Water 1 S 7196 CHROMIUM (VI)	BOGKX7	13-OCT-95	17-OCT-95	21-NOV-95
		Hold:14-OCT-95		
L5618-7 Location: Water 1 S EDD - DISK DEL. Water 1 S INORG TYPE 2 RPT	REPORT TYPE	17-OCT-95	17-OCT-95	21-NOV-95

Page 1

Signature: Paula D. Jones

Date: 10-17-95 0009

1017596

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

L5618

Data Turnaround

Priority
 Normal

Collector Doug Bowers / K. Trapp	Company Contact Dave Blumenkranz	Telephone No. 372-9658
Project Designation 100 HR-3 Treatability Study	Sampling Location 100 D	SAF No. B95-053
Ice Chest No. ER-40	Field Logbook No.	Method of Shipment Air Freight
Shipped To Lockheed	Offsite Property No. W96-0-0640-3	Bill of Lading/Air Bill No. 2909643777

Possible Sample Hazards/Remarks unknown	Preservative	HNO3	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																
BOGKX6	W	10/13/95	1018	X	X	X													
BOGKX7	W	↓	1027	X	X	λ													

CHAIN OF POSSESSION	Sign/Print Names	SPECIAL INSTRUCTIONS	Matrix*
Relinquished By K. Trapp / K. Trapp	Date/Time 1130	Received By [Signature]	Date/Time 1130
Relinquished By [Signature]	Date/Time 0730	Received By [Signature]	Date/Time 10-13-95
Relinquished By [Signature]	Date/Time	Received By	Date/Time
Relinquished By [Signature]	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.

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

LABORATORY SECTION	Received By [Signature]	Title Sample Custodian	Date/Time 10-17-95 / 0840
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

Environmental
Restoration
Contractor

ERC Team

Interoffice Memorandum

Job No. 22192
Written Response Required: NO
CCF: N/A
OO: CONER-3
TID: N/A
ERAI: N/A
Subject Code: 580

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	?
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

1017596

SAMPLE CHECK-IN LIST

Date/Time Received: 10-17-95 / 0840

SDG#: n/A

Work Order Number: n/A

SAF #: B95-053

Shipping Container ID: ER-40

Chain of Custody # n/A

- 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: _____

Sample Custodian/Laboratory: Paul Davis / LHS Date: 10-17-95
 Telephoned To: Kathleen Hall On 10-17-95 By Paul Davis
 Faxed
 PCO 10-17-95

LOCKHEED MARTIN



Sample Login Login Review Checklist

Lot Number LS618

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.

<u>SAMPLE SUMMARY REPORT</u>	<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"/>	_____

<u>LOGIN CHAIN OF CUSTODY</u>	<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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

<u>SAMPLE RECEIVING CHECKLIST</u>	<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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____

Paul C. Owen 10-17-95
primary review signature date

Paul C. Owen 10-17-95
secondary review signature date

0013

1617596

**Lockheed Analytical Services
Sample Receiving Checklist**

Client Name: Bethel - Hazard

Job No. L5618

Cooler ID: not

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			
are samples bi-phasic (if so, indicate sample ID'S):			<u>not</u> <u>not</u>

MISCELLANEOUS ITEMS

	Yes	No	* Comments/Discrepancies
samples with short holding times	X		<u>Chromium IV, was passed HOLDING TIME</u>
samples to subcontract			<u>n/a</u>

ADDITIONAL COMMENTS/DISCREPANCIES

Completed by / date: Stank Jones 10-17-98

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

1017546

0014

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

Client Sample Number	EAL Sample Number	SDG Number	Matrix	Method
BOGKX6	L5618-1		Water	SCREENING
	L5618-3		Water	218.2 CHROMIUM
	L5618-5		Water	7196 CHROMIUM (VI)
BOGKX7	L5618-2		Water	SCREENING
	L5618-4		Water	218.2 CHROMIUM
	L5618-6		Water	7196 CHROMIUM (VI)
REPORT TYPE	L5618-7		Water	EDD - DISK DEL.
	L5618-7		Water	INORG TYPE 2 RPT

0015

107596

LOCKHEED ANALYTICAL SERVICES

Sample Results

Client Sample ID: BOGKX6	Date Collected: 13-OCT-95
Matrix: Water	Date Received: 17-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	0.58	0.20	HD(1:10)	18-OCT-95	28825	L5618-5

LOCKHEED ANALYTICAL SERVICES

Sample Results

Client Sample ID: BOGKX7	Date Collected: 13-OCT-95
Matrix: Water	Date Received: 17-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	0.052	0.020	H	18-OCT-95	28825	L5618-6

LOCKHEED ANALYTICAL SERVICES

Sample Results

Client Sample ID: BOGKX6	Date Collected: 13-OCT-95
Matrix: Water	Date Received: 17-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	0.49	0.020	0.20		20	02-NOV-95	28787	L5618-3

LOCKHEED ANALYTICAL SERVICES

Sample Results

Client Sample ID: B0GKX7	Date Collected: 13-OCT-95
Matrix: Water	Date Received: 17-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	0.43	0.020	0.20		20	02-NOV-95	28787	L5618-4