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START

LK26-LAS

0045230



Lockheed Analytical Services

BECHTEL HANFORD, INC.

ANALYTICAL DATA REPORT

FOR

HEXAVALENT CHROMIUM AND TOTAL
CHROMIUM



RECORD COPY

LOG-IN NUMBER: L3440
QUOTATION NUMBER: Q400000-B
SAF: B94-089
DOCUMENT FILE NUMBER: 1203596
WHC DOCUMENT CONTROL NO.: 115
SDG NUMBER: LK26



9613474.2044



Environmental Systems & Technologies Co.

Lockheed Analytical Services
975 Kelly Johnson Drive
Las Vegas, Nevada 89119-3705

December 30, 1994

Phone: (702) 361-0220
Phone: (800) 582-7605
Fax: (702) 361-8146

Ms. Doris Ayres
Bechtel Hanford, Inc.
345 Hills P.O. Box 969
Richland, WA 99352

RE:	Log-in No.:	L3440
	Quotation No.:	Q400000-B
	SAF:	B94-089
	Document File No.:	1203596
	WHC Document File No.:	115
	SDG No.:	LK26



RECORD COPY

The attached data report contains the analytical results of samples that were submitted to Lockheed Analytical Services on 3 December 1994. 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 M. Hall at (509) 943-4423.

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

Sincerely,

Kathleen M. Hall
Kathleen M. Hall
Project Manager

kmh:sm

cc: Client Services
Document Control

**CASE NARRATIVE
INORGANIC NON-METALS ANALYSES
WATER**

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 sample(s), and duplicate sample(s).

Client ID	LAL #		Method
BOD922	L3440-2	DUP, MS	7196 Hexavalent Chromium

Holding Time Requirements

- The sample for Method 7196 Hexavalent Chromium was received from the client out of holding time. Analyses proceeded at the direction of the client and the applicable 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.

Shellee McGrath
Prepared By

December 30, 1994
Date

CASE NARRATIVE INORGANIC 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).

Holding Times-

All samples were analyzed within the method-specific holding times

Method Blanks-

The method blanks were free of contamination.

Internal Quality Control-

All Internal Quality Control were within acceptance limits.

Due to high levels of Chromium in the sample, the analysis was determined by Method 200.7.

Shellee McGrath
Prepared By

December 30, 1994
Date

9613474.2047

LOGIN CHAIN OF CUSTODY REPORT (ln01)
Dec 09 1994, 12:48 pm

Login Number: L3440
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
L3440-1 TEMP 2 Location: RFG01-19A Water 1 S 200.7 METALS	B0D922	01-DEC-94	03-DEC-94	12-JAN-95
		Hold:30-MAY-95		
L3440-2 TEMP 2 Location: RFG19-104B Water 1 S 7196 CHROMIUM (VI)	B0D922	01-DEC-94	03-DEC-94	12-JAN-95
		Hold:02-DEC-94		
L3440-3 TEMP 2 Location: RFG01-43 Water 1 S SCREENING	B0D922	01-DEC-94	03-DEC-94	12-JAN-95
		Hold:30-MAY-95		
L3440-4 Location: Water 1 S EDD - DISK DEL. Water 1 S INORG TYPE 2 RPT	REPORT TYPE	05-DEC-94	03-DEC-94	12-JAN-95

* CHANGED 218.2 CHROMIUM TO
200.7 METALS DUE TO HIGH
CHROMIUM LEVEL IN SAMPLE

R. Callison 12-9-94
(LAB REQUEST)

Signature: Murillo
Date: 12-9-94 05

1203596

9613474.2048

LOGIN CHAIN OF CUSTODY REPORT (ln01)
Dec 05 1994, 11:49 am

Login Number: L3440
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
L3440-1 TEMP 2 Location: RFG01-19A Water 1 S 218.2 CHROMIUM	B0D922	01-DEC-94	03-DEC-94	12-JAN-95
L3440-2 TEMP 2 Location: RFG01-19A Water 1 S 7196 CHROMIUM (VI)	B0D922	01-DEC-94	03-DEC-94	12-JAN-95
L3440-3 TEMP 2 Location: RFG01-19A Water 1 S SCREENING	B0D922	01-DEC-94	03-DEC-94	12-JAN-95
L3440-4 Location: Water 1 S EDD - DISK DEL. Water 1 S INORG TYPE 2 RPT	REPORT TYPE	05-DEC-94	03-DEC-94	12-JAN-95

3

Page 1

Signature: Paul C. James
Date: 12-05-94

2035961

SATURDAY DELIVERY

Contractor BHI	OFF-SITE PROPERTY CONTROL	CONTROL NO. <i>(To be obtained from PROPERTY MANAGEMENT)</i> W95-0-0073-36
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PART I - TO BE COMPLETED BY ORIGINATOR

Department ER Eng Support	Section Field & Analytical Supp	Unit ER Field Sampling
The following items are to be shipped from <input checked="" type="checkbox"/> Contractor <input type="checkbox"/> Vendor		
Routing Fed. Ex. <input type="checkbox"/> Prepaid <input type="checkbox"/> Collect		
Shipped to Company Lockheed Analytical Services Address 975 Kelly Johnson Drive City Las Vegas, NV 89119 State _____ Zip Code _____ Country _____		Off-site Custodian _____ On-site Custodian _____ Payroll No. _____

Qty.	Property No.	Description (include Manufacture Name, Model, Serial No.)	Acquisition Cost
1		Sample #: B00922 Cooler ID: ER-2A Polycooler with groundwater samples packed in wet ice and vermiculite	N/A
1		Sample #: Cooler ID: Polycooler with groundwater samples packed in wet ice and vermiculite	N/A

Classified Unclassified Shipped Under DOE Contract Shipped Under Contractor's Use

Necessity for the off-site use of this property
 Required for Project Work **100-HR-3 PET**
 Business Trip
 Off-site Assignment
 Shipment to Subcontractor. List Subcontract No. _____
 Other (Please specify) **Sampling supports RI/FS work in the 100-HR-3 AREA**
 Bill of lading # **2986 2904613442**

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING.

RM Clearance for Public Release	RM Survey No. off-0329	Date 12-2-94
Location of and Contact for Release (Name/Phone No./Bldg./Area) P. H. Butcher / (702) 775-4388		
Date Ready for Shipment 12-2-94	Cost Code to be Charged ITE2072 P35B1	Approximate Date This Property will be Returned
Originated By B.T. WHITTEN	Date 12-2-94	Authorized By <i>[Signature]</i> Date 12-2-94
Property Representative Signature	Date	Property Management Approval <i>[Signature]</i> Date 12/2/94

PART B - TO BE COMPLETED BY SHIPPING

Authorized Shipping Signature <i>[Signature]</i>	Date 12-2-94
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DISTRIBUTION (AFTER FINAL SIGNATURES)

White - Property Management Yellow - Shipping Green - Accounts Payable Pink - Other Colored - Property Management

1203541

SAMPLE STATUS REPORT FOR N 3884. RAD SCREEN BOD919 TIME: 12/ 2/94 8:20
 DISPATCHED: 11/16/94 14:59 SAMPLE HAS NOT BEEN SLURPED
 RECEIVED: 12/ 2/94 8: 1

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	*****	*****	***	***	*****
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	PE35A

END OF REPORT

BOD922
 BW
 12-2-94

Figure 1

SAMPLE CHECK-IN LIST

(1 Per Shipping Container)

Date/Time Received 12-03-94 10:00am Client Name Walpole House HarfordProject/Client # B94-089 Batch or Case # Cooler ID (if noted on outside of cooler) ~~WA~~ ER-2A1. Condition of shipping container? GOOD2. Custody Seals on cooler intact? Yes No 3. Custody Seals dated and signed? Yes No 4. Chain of Custody record is taped on inside of cooler lid? Yes No 5. Vermiculite/packing material is: Wet Dry
12-03-946. Each sample is in a plastic bag? Yes No 7. Number of sample containers in cooler: 38. Samples have: tape hazard labels
 custody seals appropriate sample labels9. Samples are: in good condition leaking
 broken have air bubbles
 other10. Coolant Present? Yes No Sample Temperature 2°C

11. The following paperwork should be accounted for (N/A if not applicable):

Chain of Custody #(s) N/ARequest for Analysis #(s) N/AAirbill # 290 4613 442 Carrier FED EX12. Have any anomalies been identified above? Yes No N/A13. Memos have been initiated for all anomalies identified above? Yes N/APrinted Name/Signature PAUL C. DAVIS Paul C Davis Date/Time 12-03-94 11:00am

Sample Login

Login Review Checklist

Lot Number 63440

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

Sample Summary Report

Yes No

N/A

- | | | | | |
|----|---|---|---|---|
| 1. | Are all sample IDs correct? | X | — | — |
| 2. | Are all samples present? | X | — | — |
| 3. | Are all matrices correct?
<small>(e.g., TCLP analyses should be on a TCLP leachate, field blanks should be water)</small> | X | — | — |
| 4. | Are all analyses on the chain of custody/login quotation included? | X | — | — |
| 5. | Are analyses logged in for the correct container?
<small>(e.g., analyses requiring preservation logged in for a preserved container and vice versa)</small> | X | — | — |
| 6. | Are samples logged in according to laboratory batching procedures?
<small>(e.g., TCLP regular leaching and associated metals/semivolatile organics should be logged in on the same bottle)</small> | X | — | — |

Login Chain of Custody Report

- | | | | | |
|----|--|---|---|------------|
| 1. | Are the Collect, Receive, and Due dates correct for every sample? | X | — | — |
| 2. | Have appropriate sample comments been included?
<small>(e.g., MS/MSD designation, comments from the client concerning method modifications)</small> | — | — | <u>(u)</u> |

Sample Receiving Checklist

- | | |
|----|--|
| 1. | Are any discrepancies between the chain of custody and the login noted? <u>—</u> <u>—</u> <u>(u)</u>
<small>(e.g., client IDs different on chains of custody and bottle labels, samples not seen, samples lost from breakage)</small> |
|----|--|

Paul Davis

12-05-94

M. Miller

12-05-94

Primary review signature

Date

Secondary review signature

Date

Lockheed Analytical Services
Sample Receiving Checklist

Client Name: *Westinghouse - Hanford*

Job No. *L 3440*

Cooler ID: *N/A*

COOLER CONDITION UPON RECEIPT

Temperature of cooler upon receipt: *2°*

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"/>		
<i>Paul C Davis 12-05-94 11:00AM</i>			

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

MISCELLANEOUS ITEMS

	Yes	No	* Comments/Discrepancies
samples with short holding times	<input checked="" type="checkbox"/>		<i>Chromium 44, This was past it's holding</i>
samples to subcontract		<input checked="" type="checkbox"/>	<i>time But client knows that.</i>

ADDITIONAL COMMENTS/DISCREPANCIES

Completed by / date: *Paul C Davis 12-05-94*

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
B0D922-	L3440-1		Water	218.2 CHROMIUM-
	L3440-2		Water	7196 CHROMIUM ('
	L3440-3		Water	SCREENING -
REPORT TYPE -	L3440-4		Water	EDD - DISK DEL.
	L3440-4		Water	INORG TYPE 2 RP

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LOCKHEED ANALYTICAL SERVICES

COMMON IONS AND ADDITIONAL ANALYTES

Sample Results

Client Sample ID: B0D922	Date Collected: 01-DEC-94
Matrix: Water	Date Received: 03-DEC-94

Constituent	Units	Method	Result	Reporting Det Limit	Date Qualifier(s)	Date Analyzed	LAS Batch ID	LAS Sample ID
Chromium, hexavalent	mg/L	7196	1.2	0.2	D(1:10)H	05-DEC-94	16507	L3440-2

TOTAL METALS RESULTS

Client Sample ID: BOD922	Date Collected: 12-01-94	Matrix: water
LAL Batch ID(s): 1203 wh	Date Received: 12-03-94	

Constituents	Method	Concentration (mg/L)	IDL (mg/L)	RDL (mg/L)	Data Qualifier(s)	Date Analyzed	LAL ID
Chromium	200.7	1.3	0.005	0.010		12-16-94	L3440-1

Comments:

QC DATA SUMMARY
For Duplicate Sample Data Results

LAL Batch ID(s): 1203 wh

Constituent	Client Sample ID	LAL Sample ID	Date Analyzed	QC Sample Analyses			
				Sample Concentration (mg/L)	Duplicate Concentration (mg/L)	Relative Percent Difference (%)	Data Qualifier
Chromium	BOD922	L3440-1	12-16-94	1.262	1.269	0.55	

Comments:

QC DATA SUMMARY

For Laboratory Control Sample Recovery Data Results

LAL Batch ID(s): 1203 wh

Constituent	Client Sample ID	LAL Sample ID	Date Analyzed	QC Sample Analyses			
				Laboratory Control Sample Result (mg/L)	True Value (mg/L)	(%) Recovery	Data Qualifier
Chromium	NA	LCSW1203wh	12-16-94	0.2017	0.20	101	

Comments:

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SAMPLE AND DATA MANAGEMENT

RECORD OF DISPOSITION

ROD-B95-002

Record of Disposition No.

DATE: 01/10/95

LABORATORY: Lockheed

PROJECT TITLE/NO.: 100-HR-3 Pump and Treat/B94-089

NCR NO.: N/A

SAMPLE IDENTIFICATION NUMBERS:

B0D922

DESCRIPTION OF EVENT:

Due to a high concentration in the sample, the laboratory requested permission to analyze for chrome by ICP (200.7) rather than furnace (218.2).

DISPOSITION OF SAMPLES:

Analyze for chrome by ICP methodology.

APPROVAL SIGNATURES:

R. C. Smith/

OSM Project Coordinator (Print/Sign Name)

1/10/95

Date

D. B. Blumenkranz/

Technical Representative (Print/Sign Name)

1/17/95

Date

N/A

Quality Assurance (Print/Sign Name)

Date

0119
DEA-19-95