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LK6880-LAS

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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

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LOCKHEED MARTIN



May 23, 1996

Ms. Joan Kessner
Bechtel Hanford, Inc.
3350 George Washington Way
MISN B1-35
Richland, WA 99352

RE:	Log-in No.:	L6880
	Quotation No.:	Q400000-B
	SAF:	B96-035-092 <i>Apr 5/31/96</i>
	Document File No.:	0423596A
	BHI Document File No.:	356
	SDG No.:	LK6880



The attached data report contains the analytical results of samples that were submitted to Lockheed Analytical Services on 23 April 1996. 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 designated for hexachrome analysis were not 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) 375-4741.

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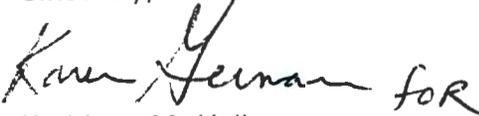
Lockheed Analytical Services

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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 in cursive script, appearing to read "Kathleen M. Hall for".

Kathleen M. Hall
Client Services Representative

cc: Client Services
Document Control

Lockheed Analytical Services

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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 LK6880 and analyzed in batch 423 bh for selected analytes as requested on the chain of custody. Quality control analysis was performed on the following samples:

Client ID	LAL #		Method
BOHD10	L6880-2	MS, DUP	7196 Hexavalent Chromium

Holding Time Requirements

- The sample was received outside of method-specified holding time and the 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

May 2, 1996
 Date

Lockheed Analytical Services

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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 April 23, 1996. The samples were logged in as L6880 and were prepared and analyzed in batch 423 bh. The samples were analyzed by Method 200.7 ICP Metals.

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

May 23, 1996
Date

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LOCKHEED ANALYTICAL SERVICES
 LOGIN CHAIN OF CUSTODY REPORT (ln01)
 Apr 23 1996, 02:32 pm

Login Number: L6880
 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
L6880-1 temp 2 Location: 157 Water 1 S SCREENING	BOHD10	15-APR-96	23-APR-96	28-MAY-96 Hold:12-OCT-96
L6880-2 temp 2 Location: 157 Water 1 S 7196 CHROMIUM (VI)	BOHD10	15-APR-96	23-APR-96	28-MAY-96 Hold:16-APR-96
L6880-3 temp 2; Cr ONLY Location: 157 Water 1 S 200.7 METALS	BOHD10	15-APR-96	23-APR-96	28-MAY-96 Hold:12-OCT-96
L6880-4 Location: Water 1 S EDD - DISK DEL. Water 1 S INORG TYPE 2 RPT	REPORT TYPE	23-APR-96	23-APR-96	28-MAY-96

Signature: *[Handwritten Signature]*
 Date: 4-23-96 0009
 0423596A

Bechtel Hanford, Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

LG550

Data Turnaround
 Priority
 Normal

Collector R. Fahlberg	Company Contact M.T. Stankovich	Telephone 372 9626
Project Designation 100-HR-3 Routine Process Samples	Sampling Location 100 Area	SAF No. B96-092
Ice Chest No. Brook 5	Field Logbook No. EL-1309	Method of Shipment Hazard Delivered
Shipped To Lockheed	Offsite Property No. NA WT6-0-0640-41	Bill of Lading/Air Bill No. NA 2904655485

Possible Sample Hazards/Remarks	Preservation	HNO3	cool to 4c	None
	Type of Container	G/P	G/P	G/P
	No. of Containers	1	1	1
Special Handling and/or Storage	Volume	500mL	500mL	20mL

SAMPLE ANALYSIS	ICP Metals, 2 Cr	Cr Hex	Activity Scan
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Sample No.	Matrix*	Date Sampled	Time Sampled	X	X	X							
BOH D10	W	4-15-96	1035	X	X	X	Influent						

CHAIN OF POSSESSION		Sign/Print Names	
Relinquished By <i>R. Fahlberg</i>	Date/Time 4/15/96	Received By <i>[Signature]</i>	Date/Time 4-15-96
Relinquished By <i>[Signature]</i>	Date/Time 4-22-96	Received By <i>[Signature]</i>	Date/Time 4-15-96
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS
 Sample analysis for Chromium VI is 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 <i>[Signature]</i>	Title Sample Custodian	Date/Time 4.23.96/0945
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

27655

9613471-2606

Environmental
Restoration
Contractor

ERC Team

Interoffice Memorandum

Job No. 22192
Written Response Reason: NO
CCN: N/A
OU: N/A
TSD: N/A
EILA: N/A
Subject Code: 583

TO: W. S. Thompson NI-28
G. C. Henckel H4-80

DATE: February 29, 1996

COPIES: K. A. Smith X0-23
T. L. Lafreniere X0-23
D. E. Gergely X0-23

FROM: S. K. De Mers
Radiological Controls
T7-05/373-1913

SUBJECT: Total Activities for Off-Site Shipments of Groundwater Samples to NRC Licensed Laboratories

There is no need to perform total activities prior to offsite shipment to NRC licensed labs of samples taken from ground water wells located on the Hanford Site.

All wells reviewed to date for radiological content have shown no well with a total activity in excess of 2,000,000 pCi/l (2,000 pCi/gm), the Department Of Transportation limit for radioactive material. The highest activity in any known well is 1.56×10^6 pCi/l H³.

While this does not constitute any release from radiological controls for worker protection, it does allow samples to be shipped based on historical laboratory data and save the expense of doing radiochemical analysis.

A copy of the most recent analytical data should be provided to the NRC licensed laboratory with the samples being shipped or if no data is available for new wells, the most recent data from adjacent wells.

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LOCKHEED MARTIN

**Sample Login
Login Review Checklist**

Lot Number LL880

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>	_____

Andrewille
primary review signature

4-23-96
date

Paul [Signature]
secondary review signature

4-23-96 0012
date
C2235961

SAMPLE CHECK-IN LIST

Date/Time Received: 4-23-96 SDG#: N/A

Work Order Number: N/A SAF #: B96-092

Shipping Container ID: Brooks Chain of Custody #: ML

- 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:

<u> </u> tape	<u> </u> hazard labels
<u> X </u> custody seals	<u> X </u> appropriate sample labels

8. Samples are:

<u> X </u> in good condition	<u> </u> leaking
<u> </u> broken	<u> </u> have air bubbles

9. Is the information on the COC and Sample bottles in agreement?

Yes No

Notes: Hex Chem holding time exceeded

Sample Custodian/Laboratory: MLM/ML Date: 4-23-96

Telephoned To: Kathleen Hall On 4-23-96 By Anthony R. Miller

Sample Receiving Checklist

Client Name: *Beechell Harford*

Job No. *U880*

Cooler ID:

COOLER CONDITION UPON RECEIPT

Temperature of cooler upon receipt: *2°C*

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

MISCELLANEOUS ITEMS

	Yes	No	* Comments/Discrepancies
samples with short holding times	<input checked="" type="checkbox"/>		<i>Hex. Chrom. exceeded hold. by time</i>
samples to subcontract		<input checked="" type="checkbox"/>	

ADDITIONAL COMMENTS/DISCREPANCIES

Completed by / date: *AM [Signature]* *4-23-96*

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
BOHD10	L6880-1		Water	SCREENING
	L6880-2		Water	7196 CHROMIUM (
	L6880-3		Water	200.7 METALS
REPORT TYPE	L6880-4		Water	EDD - DISK DEL.
	L6880-4		Water	INORG TYPE 2 RP

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LOCKHEED ANALYTICAL SERVICES

Sample Results

Client Sample ID: B0HD10	Date Collected: 15-APR-96
Matrix: Water	Date Received: 23-APR-96
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	0.17	0.020	H	26-APR-96	36384	L6880-2

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LOCKHEED ANALYTICAL SERVICES

Sample Results

Client Sample ID: B0HD10	Date Collected: 15-APR-96
Matrix: Water	Date Received: 23-APR-96
Percent Solids: N/A	

Constituent	Units	Method	Result	MDL	RDL	Data Qual	Dilution	Date Analyzed	LAS Batch ID	LAS Sample ID
CHROMIUM, TOTAL	mg/L	6010	0.76	0.0060	0.010		1	20-MAY-96	36395	L6880-3

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LOCKHEED ANALYTICAL SERVICES

METALS RESULTS

QC Data Summary For Reagent Blank Analysis

Constituent	Units	IDL	RDL	LAS Batch ID	Date Analyzed	reagent Blank Result	Data Qualifier
CHROMIUM, TOTAL	mg/L	.006	.01	36395	20-MAY-96	< .006	

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LOCKHEED ANALYTICAL SERVICES

METALS RESULTS

QC Data Summary For Duplicate Sample Analysis

Client Sample ID B0HD10 (DUP)

Constituent	Units	LAS Batch ID	LAS Sample ID	Date Analyzed	Sample Result	Duplicate Result	Relative Percent Difference	Control Limit	Data Qualifier
CHROMIUM, TOTAL	mg/L	36395	L6880-3	20-MAY-96	0.7578	0.7358	3		

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LOCKHEED ANALYTICAL SERVICES

METALS RESULTS

QC Data Summary For Matrix Spike Sample Analysis

Client Sample ID B0HD10 (MS)

Constituent	Units	LAS Batch ID	LAS Sample ID	Date Analyzed	Matrix Spike Result	Sample Result	Spike Added	(%) Recovery	Data Qualifier
CHROMIUM, TOTAL	mg/L	36395	L6880-3	20-MAY-96	0.9411	0.7578	0.2000	92	

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LOCKHEED ANALYTICAL SERVICES

METALS RESULTS

QC Data Summary For Laboratory Control Sample Analysis

Sample: 36395LCS

Constituent	Units	LAS Batch ID	Date Analyzed	LCS/True Value	LCS Result	(%) Recovery
CHROMIUM, TOTAL	mg/L	36395	20-MAY-96	0.2000	0.1844	92.2

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