START 9613453.2201

LK6719-LAS

0044679

LOCKHEED MARTIN

Lockheed Analytical Services

Ms. Joan Kessner
Bechtel Hanford, Inc.
P.O. Box 969
1022 Lee Boulevard
Richland, WA 99352

ANALYTICAL DATA REPORT

FOR

CHROMIUM VI AND CHROMIUM

LOG-IN NUMBER:	L6719
QUOTATION NUMBER:	Q400000-B
SAF:	B96-035
DOCUMENT FILE NUMBER:	0402596
BHI DOCUMENT FILE NO.:	344
SDG NUMBER:	LK6719

9613453.2202

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

LOCKHEED MARTIN

April 26, 1996

Ms. Joan Kessner
Bechtel Hanford, Inc.
P.O. Box 969
1022 Lee Boulevard
Richland, WA 99352

RE:	Log-in No.:	L6719
	Quotation No.:	Q400000-B
	SAF:	B96-035
	Document File No.:	0402596
	BHI Document File No.:	344
	SDG No.:	LK6719

The attached data report contains the analytical results of samples that were submitted to Lockheed Analytical Services on 2 April 1996. The temperature of the cooler upon receipt was 4°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.

Lockheed Analytical Services

Log-in No.: L6719
Quotation No.: Q400000-B
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SDG No.: LK6719

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,

Karen Hermann for

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 LK6719 and analyzed in batch 402 bh for selected analytes as requested on the chain of custody. Quality control analysis was performed on the following samples:

Client ID	LAL #		Method
BOH6M2	L6719-3	MS, DUP	7196 Hexavalent Chromium

Holding Time Requirements

- All samples were received and analyzed outside of the method-specific holding times. 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

April 4, 1996
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 April 2, 1996. The samples were logged in as L6719 and were prepared and analyzed in batch 402 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

April 26, 1996
Date

9613453.2206

LOCKHEED ANALYTICAL SERVICES
LOGIN CHAIN OF CUSTODY REPORT (ln01)
Apr 02 1996, 12:54 pm

Login Number: L6719
Account: 596 Bechtel Hanford, Inc. * Richland, WA
Project: BECHTEL-HANFORD Bechtel Hanford Project

Laboratory Sample Number	Client Sample Number	Collect Date	Receive Date	PR	Due Date
L6719-1	B0H6M2	29-MAR-96	02-APR-96		07-MAY-96
TEMP 4					
Location: 157					
Water 1 S	SCREENING	Hold: 25-SEP-96			
L6719-2	B0H6M3	29-MAR-96	02-APR-96		07-MAY-96
TEMP 4					
Location: 157					
Water 1 S	SCREENING	Hold: 25-SEP-96			
L6719-3	B0H6M2	29-MAR-96	02-APR-96		07-MAY-96
TEMP 4					
Location: 157					
Water 1 S	7196 CHROMIUM (VI)	Hold: 30-MAR-96			
L6719-4	B0H6M3	29-MAR-96	02-APR-96		07-MAY-96
TEMP 4					
Location: 157					
Water 1 S	7196 CHROMIUM (VI)	Hold: 30-MAR-96			
L6719-5	B0H6M2	29-MAR-96	02-APR-96		07-MAY-96
TEMP 4 "METALS=Cr"					
Location: 157					
Water 1 S	200.7 METALS	Hold: 25-SEP-96			
L6719-6	B0H6M3	29-MAR-96	02-APR-96		07-MAY-96
TEMP 4 "METALS=Cr"					
Location: 157					
Water 1 S	200.7 METALS	Hold: 25-SEP-96			
L6719-7	REPORT TYPE	02-APR-96	02-APR-96		07-MAY-96
Location:					
Water 1 S	EDD - DISK DEL.				
Water 1 S	GERMANN				
Water 1 S	INORG TYPE 2 RPT				

Signature: Paul C Davis

Date: 4-02-96

0009
0402596

Bechtel Hanford, Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST L6719

Page 1 of 1

Data Turnaround: ☐ Priority ■ Normal

Collector: Doug Bowers	Company Contact: B. D. Blumenkranz	Telephone: (509) 372-9658
Project Designation: 100-HR-3 Pump and Treatment	Sampling Location: 100-HR-3 Pump and Treat	SAF No.: B96-035
Ice Chest No.: ER-40	Field Logbook No.: EFL 1133-1	Method of Shipment: Federal Express
Shipped To: Lockheed	Offsite Property No.: W96-0-0640-37	Bill of Lading/Air Bill No.: 2904654374

Possible Sample Hazards/Remarks

Special Handling and/or Storage: Maintain samples between 2°C and 6°C

Preservation	HNO_3	Cool 4°C	None
Type of Container	P/G	P/G	P
No. of Container(s)	1	1	1
Volume	500mL	500mL	20mL
SAMPLE ANALYSIS	Chromium - Total	Chromium VI	Activity Scan

Sample No.	Matrix*	Date Sampled	Time Sampled	Chromium - Total	Chromium VI	Activity Scan		
B0H6M2	W	3-29-96	0731	X	X	X		Sp10
B0H6M3	W	3-29-96	0738	X	X	X		Sp100

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
Doug Bowers	3-29-96/1535	K. Trapp / K. Trapp	3/29/96 1535
K. Trapp / K. Trapp	4/1/96 0810	[signature] EC Bwh.Hav	4-1-96 0830
[signature] EC Bwh.Hav	4-1-96 0900		

SPECIAL INSTRUCTIONS

Analysis for Chromium (VI) by SW-846 7196 is being requested for information only. The ERC Contractor acknowledges that 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: A. Miller	Title: Sample Custodian	Date/Time: 4-2-96/0900
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

9702/9 ... 0010

9702-051196

Environmental Restoration Contractor **ERC Team**

Interoffice Memorandum

Job No. 22192
Written Response Required: NO
CCN: N/A
OU: N/A
TSD: N/A
ERA: N/A
Subject Code: 5830

TO:	W. S. Thompson	N1-28	DATE:	February 29, 1996
	G. C. Henckel	H4-80		
COPIES:	K. A. Smith	X0-23	FROM:	S. K. De Mers
	T. L. Lafreniere	X0-23		Radiological Controls
	D. E. Gergely	X0-23		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 H^3.

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.

SAMPLE CHECK-IN LIST

Date/Time Received: 4-2-96 SDG#: N/A

Work Order Number: N/A SAF #: B96-035

Shipping Container ID: ER-40 Chain of Custody # N/A

1. Custody Seals on shipping container intact? Yes [X] No [ ]
2. Custody Seals dated and signed? Yes [X] No [ ]
3. Sample temperature 4°C
4. Vermiculite/packing materials is Wet [ ] Dry [x]
5. Each sample is in a plastic bag? Yes [x] No [ ]
6. Sample holding times exceeded? Yes [x] No [ ]

7. Samples have:
   - X tape
   - ____ custody seals
   - ____ hazard labels
   - ____ appropriate sample labels

8. Samples are:
   - X in good condition
   - ____ broken
   - ____ leaking
   - ____ have air bubbles

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

Yes[x] No [ ]

Notes: Holding Time Passed for Cr6

Sample Custodian/Laboratory: Paula Dove/LAS Date: PCD 4-02-96 4-02-96

~~Telephoned~~ Faxed To: Kathleen Hall On 4-02-96 By Paula Dove
4-02-96

9613453.2210

LOCKHEED MARTIN

Sample Login
Login Review Checklist

Lot Number 46719

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 form 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	YES	NO	N/A	Comment
1. Are all sample ID's correct?	X			
2. Are all samples present?	X			
3. Are all matrices indicated correctly?	X			
4. Are all analyses on the COC logged in for the appropriate samples?	X			
5. Are all analyses logged in for the correct container?	X			
6. Are samples logged in according to LAS batching procedures?	X			

LOGIN CHAIN OF CUSTODY	YES	NO	N/A	Comment
1. Are the collect, receive, and due dates correct for every sample?	X			
2. Have all appropriate comments been indicated in the comment section?	X			

SAMPLE RECEIVING CHECKLIST	YES	NO	N/A	Comment
1. Are all discrepancies between the COC and the login noted (if applicable)?			X	

Paula Davis 4-02-96
primary review signature date

secondary review signature 4-2-96
date

0013 0402596

Lockheed Analytical Services
Sample Receiving Checklist

Client Name: Bechtel - Hanford Job No. 46719 Cooler ID: 44X

COOLER CONDITION UPON RECEIPT

Temperature of cooler upon receipt: 4°C

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

MISCELLANEOUS ITEMS

	Yes	No	• Comments/Discrepancies
samples with short holding times	X		Strontium 90 Sample Both 6M2, 3 (46719-3,4)
samples to subcontract			not were passed Holding Time.

ADDITIONAL COMMENTS/DISCREPANCIES

Completed by / date: Paul Day PW 4-02-96

Sent to the client (date/initials): 3 4-02-96 •• Client's signature upon receipt:

Notice: • = 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

Version 2.0 (11/11/94)

1127-9543-2211

9613453.2212

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

Client Sample Number	LAL Sample Number	SDG Number	Matrix	Method
B0H6M2	L6719-1		Water	SCREENING
	L6719-3		Water	7196 CHROMIUM (\
	L6719-5		Water	200.7 METALS
B0H6M3	L6719-2		Water	SCREENING
	L6719-4		Water	7196 CHROMIUM (\
	L6719-6		Water	200.7 METALS
REPORT TYPE	L6719-7		Water	EDD - DISK DEL.
	L6719-7		Water	GERMANN
	L6719-7		Water	INORG TYPE 2 RP

LOCKHEED ANALYTICAL SERVICES

Sample Results

Client Sample ID: B0H6M2	Date Collected: 29-MAR-96
Matrix: Water	Date Received: 02-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	0.75	0.10	HD(1:5)	03-APR-96	35545	L6719-3

LOCKHEED ANALYTICAL SERVICES

Sample Results

Client Sample ID: B0H6M3	Date Collected: 29-MAR-96
Matrix: Water	Date Received: 02-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	< 0.003	0.020	HU	03-APR-96	35545	L6719-4

LOCKHEED ANALYTICAL SERVICES

Sample Results

Client Sample ID: B0H6M2	Date Collected: 29-MAR-96
Matrix: Water	Date Received: 02-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	0.79	0.0060	0.010		1	04-APR-96	35546	L6719-5

LOCKHEED ANALYTICAL SERVICES

Sample Results

Client Sample ID: B0H6M3	Date Collected: 29-MAR-96
Matrix: Water	Date Received: 02-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	< 0.0060	0.0060	0.010	U	1	04-APR-96	35546	L6719-6