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W0599
SAF-895-07

Quanterra Incorporated
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Earth City, Missouri 63045

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W0599-QES

CERTIFICATE OF ANALYSIS

Bechtel Hanford Incorporated
P.O. Box 1970
Richland, Washington 99352



July 25, 1995

Attention: Joan Kessner

Project number	:	550.72
Date Received by Lab	:	June 21, 1995
Number of Samples	:	One (1)
Sample Type	:	Water
SDG Number	:	W0599
Data Deliverable	:	Summary



I. Introduction

On June 21, 1995, one (1) water sample was received by Quanterra, Richland and transferred to Quanterra, St. Louis for chemical analyses. Upon receipt, the sample was given the following laboratory ID number to correspond with the specific client ID:

<u>St Louis ID</u>	<u>WHC ID</u>	<u>Richland ID</u>	<u>Matrix</u>	<u>Date of Receipt</u>
8687-001	B0G0C3	50630201	Water	06/21/95

II. Analytical Results/ Methodology

The analytical results for this report are presented by analytical test. Each set of data includes sample identification information, analytical results and the appropriate detection limits.

Analyses requested: Ammonia by EPA method 350.1. Oil and Grease by EPA method 413.1.
Chromium by EPA method 218.2. Iron by ICAP EPA method 6010.

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III. Quality Control

A Laboratory Control Sample and Method Blank were analyzed with each preparation batch. Matrix Spike and Matrix Spike Duplicate or Sample Duplicate analyses were performed per the protocol for each analyte. Matrix QC was not requested for Oil and Grease per Bechtel Chain of Custody.

IV. Definitions

The following codes are used to denote laboratory quality control samples and can be found in the data summary section of this report:

QCBLK- Quality Control Blank, Method Blank

QCLCS- Quality Control Laboratory Control Sample, Blank Spike

V. Comments

The forms reflect a PQL of 1 ug/L for chromium as are normal quantitation limit by GFAA. Since the spike level is 2 ug/L for furnace chromium the level was not changed to the Hanford level on the forms.

The Matrix Spike recovery for Chromium in sample 8687-001 was 128% with a Matrix Spike/Matrix Spike Duplicate Relative Percent Difference of 20.7%. The associated chromium data was flagged.

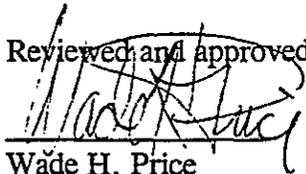
The Relative Percent Difference for Ammonia could not be calculated due to values being below the detection limit on sample 8687-001.

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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.

Reviewed and approved:



Wade H. Price
Project Manager

e:\price\$labbydave\hanw0599.nar

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Quanterra June 26, 1995 08:41 am

Account: 10722 Project: 550.72 Quanterra-Richland QAS No. 905 Rev. 0
Master Sample Login: 8687

Project Manager: W. Price

Draft: Final Entered and Reviewed by: [Signature] PH Review: [Signature]

Sample Header Template:

Sample No.	Client ID	C-Matrix	Date Collected	Received	Due	Shipper	Rad Category	Rad Sample No.
#	Container Type	Analysis	Class	Preservative	Anal. Due Date	Hold Date Site	(Container Numbers:% Filled)	
8687-001	80G0C3	Water	31-MAY-95 09:55	21-JUN-95 13:20	05-JUL-95	FED-EX	1	Screening not Required
NOTE: RICHLAND ID 50630201								
1	GM - Glass Jar:1L	CR/218.2/Q4	S	HNO3	29-JUN-95	27-NOV-95 T5C	(164901:100)	
1		ICAP/6010/Q4	S	HNO3	29-JUN-95	27-NOV-95 T5C	(164901:100)	
1		NH3/350.1/Q4	S	H2SO4	29-JUN-95	28-JUN-95 T5C	(164899:100)	
1		OG/413.1/Q4	S	H2SO4	29-JUN-95	28-JUN-95 T5C	(164900:100)	
8687-001DUP	80G0C3	Water	31-MAY-95 09:55	21-JUN-95 13:20	05-JUL-95	FED-EX	1	Screening not Required
NOTE: RICHLAND ID 50630201								
1	GM - Glass Jar:1L	NH3/350.1/Q4	S	H2SO4	29-JUN-95	28-JUN-95 T5C	(164899:100)	
8687-001MS	80G0C3	Water	31-MAY-95 09:55	21-JUN-95 13:20	05-JUL-95	FED-EX	1	Screening not Required
NOTE: RICHLAND ID 50630201								
1	GM - Glass Jar:1L	CR/218.2/Q4	S	HNO3	29-JUN-95	27-NOV-95 T5C	(164901:100)	
1		ICAP/6010/Q4	S	HNO3	29-JUN-95	27-NOV-95 T5C	(164901:100)	
1		NH3/350.1/Q4	S	H2SO4	29-JUN-95	28-JUN-95 T5C	(164899:100)	
8687-001MSD	80G0C3	Water	31-MAY-95 09:55	21-JUN-95 13:20	05-JUL-95	FED-EX	1	Screening not Required
NOTE: RICHLAND ID 50630201								
1	GM - Glass Jar:1L	CR/218.2/Q4	S	HNO3	29-JUN-95	27-NOV-95 T5C	(164901:100)	
1		ICAP/6010/Q4	S	HNO3	29-JUN-95	27-NOV-95 T5C	(164901:100)	

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3*=Sample has not been rad screened.

Environmental Restoration Waste Management

CHAIN OF CUSTODY RECORD

User ID/TPCN No.	COC No. 062195N-1	ERWM Contact RYAN JOHNSON	Phone 3-4206 MISN X7-02
Sampler's Printed Name R. Crow		Sampler's Signature <i>R Crow</i>	

Deliver To: **QUANTERRA ENVIRONMENTAL SERVICES**
2800 GEORGE WASHINGTON WAY, RICHLAND, WA 99352

Sample Number	Location/Description	Sample Date	Time	BETA	ALPHA	GAMMA	SR-90	PU-238	PU-239/40	H-3	Am-241	CS-137	Co-60	PH	14C	H2SO4	100%	Comments
923N-1	N-SPRINGS CRT.	5-31	0955											1		✓	✓	TOT. OIL & GREASE
923N-2	N-SPRINGS CRT.	5-31	0955											1	✓	✓		FE & CR
923N-3	N-SPRINGS CRT.	5-31	0955											1	✓	✓		AMMONIA AS N
923N-4	N-SPRINGS CRT.	5-31	0955															ACTIVITY SCAN
in 6-22-95 from new oil & grease sample																		
* QUALITY CONTROL IS NOT REQUIRED FOR OIL AND GREASE ANALYSIS BY EPA 413.1																		
* ALL SAMPLES KEIS #BOGOC3 50630201																		
SDG W0599																		

Relinquished By: <i>R Crow</i>	Received By: <i>[Signature]</i>	Date/Time: 5-31-95 1010			
Relinquished By: <i>[Signature]</i>	Received By: <i>[Signature]</i>	Date/Time: 6-21-95 1230			
Relinquished By: <i>[Signature]</i>	Received By: <i>[Signature]</i>	Date/Time: 6-21-95 13:20			
Relinquished By:	Received By:	Date/Time:			
Relinquished By:	Received By:	Date/Time:			
Relinquished By:	Received By:	Date/Time:			
Relinquished By:	Received By:	Date/Time:			
Disposal Confirmed By:	Date:	Time:	COC Returned to ERWM By:	Date:	Time:

BECHTEL HANFORD
INC.

SAMPLE ANALYSIS REQUEST

Collector RYAN JOHNSON

Date 06/21/95

Company Contact RYAN JOHNSON

Telephone 373-4206

SAMPLE NUMBER	*	DATE COLLECTED	TIME COLLECTED	NUMBER AND TYPE OF SAMPLE CONTAINER ANALYSIS REQUESTED-METHOD NUMBER
323N-1 30GOC3	W	05-31-95	0955	ONE 1000ML GLASS - TOTAL OIL AND GREASE EPA 413.1
323N-2 30GOC3	W	05-31-95	0955	ONE 1000ML GLASS - CHROMIUM AND IRON EPA 218.1
323N-3 30GOC3	W	05-31-95	0955	ONE 1000ML GLASS - AMMONIA AS N EPA 350.1
323N-4 30GOC3	W	05-31-95	0955	ONE 40ML GLASS - QUANTERRA ACTIVITY SCAN

* Type of Sample A = Air L = Liquid SE = Sediment X = Other
 DL = Drum Liquids O = Oil SL = Sludge
 DS = Drum Solids S = Soil SO = Solid
 T = Tissue W = Water Wi = Wipes

Field Information NPDES 1995 2ND QUARTER N-SPRINGS WATER SAMPLE

Special Handling and/or Storage NONE

Possible Sample Hazards _____

PLE STATUS REPORT FOR N 5556. RAD SCREEN NPDE52 TIME: 6/13/95 9: 8
PATCHED: 6/ 8/95 10:43 SAMPLE HAS NOT BEEN SLURPED
EIVED: 6/13/95 9: 4

DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
1	TOT-ACT < 5.00000E 01 pCi/G	N	Y	XR5714

END OF REPORT

RAD RESULTS FOR SAMPLES 92311-1, -2, -3, -4
SAF # E95-072
EIS #B0G0C3

Figure 1

SAMPLE CHECK-IN LIST

(1 Per Shipping Container)

Date/Time Received 6-21-95 1320 Client Name B95-672
 Project/Client # _____ Batch or Case # _____
 Cooler ID (if noted on outside of cooler) NO I.D.

1. Condition of shipping container? O.K.
2. 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 []
6. Each sample is in a plastic bag? Yes [] No []
7. Number of sample containers in cooler: 4
8. Samples have:

<input checked="" type="checkbox"/> tape	<input type="checkbox"/> hazard labels
<input checked="" type="checkbox"/> custody seals	<input type="checkbox"/> appropriate sample labels
9. Samples are:

<input checked="" type="checkbox"/> in good condition	<input type="checkbox"/> leaking
<input type="checkbox"/> broken	<input type="checkbox"/> have air bubbles
<input type="checkbox"/> other	
10. Coolant Present? Yes [] No [] Sample Temperature 11.9 40 C
11. The following paperwork should be accounted for (N/A if not applicable):

Chain of Custody #(s) _____

Request for Analysis #(s) _____

Airbill # _____ Carrier _____
12. Have any anomalies been identified above? Yes [] No []
13. Memos have been initiated for all anomalies identified above? Yes []

Printed Name/Signature Tan Gilmore Date/Time 6/21/95 1320

SAMPLE RECEIPT VARIANCE REPORT
ITAS-RICHLAND LABORATORY

WORK ORDER NUMBER: _____ DATE INITIATED: 6/21/95

INITIATED BY: T Gilmore

DATE/TIME OF SAMPLE (AND/OR RFA & COC) RECEIPT: 6/21/95 1320

CLIENT SAMPLE NUMBER	RFA/COC NUMBERS	ANALYSIS REQUESTED
<u>BOGOC3</u>	<u>602195N-1</u>	<u>413.1, 218.1, 350.1</u>

Samples were received with the following deficiencies:

- 1. Not enough sample received for proper analysis.
- 2. Sample received without proper preservative.
- 3. No sample received in container.
- 4. Sample received without a RFA/COC form.
- 5. No sample ID on container.
- 6. Sample received broken or leaking.
- 7. Holding time exceeded at receipt.
- 8. Custody tape broken.
- 9. COC not relinquished by client.
- 10. Sample information on container does not match sample information on the paper work (Explain below).
- 11. All shipping containers (coolers) on waybill not received with shipment.
 - RFA/COC received
 - RFA/COC not received
- 12. Other (Explain below).

NOTES: Sample ID BOG-OC3 does not appear on samples. All paper work (COC/SAR) does not show priority TAT - SAF shows priority

SUPERVISOR REVIEW: _____

PROJECT MANAGER REVIEW: _____

TELEPHONED TO: _____ ON _____ BY _____

TELEFAXED TO: _____ ON _____ BY _____

SIGNED ORIGINAL MUST BE RETAINED IN WORK ORDER FILE

DATE: 6-22-95

Work Order No.: 86847

Condition Upon Receipt Variance Report
St. Louis Laboratory

Client: Richland

Date: 6-22-95 08:00

Project No: 550.72

Initiated by: Paul Mitchell

Analysis Requested: Refer to RFA/COC

RFA/COC Numbers: 04806

Client Sample Numbers Affected: Entire Login

Condition/Variance (Check all that apply): Circle Number to Denote that Item was Evaluated. "NA" = "Not Applicable".

<input checked="" type="checkbox"/> 1. NA	Not enough sample received for proper analysis. Received approximately: _____	<input checked="" type="checkbox"/> 8.	<input type="checkbox"/> Custody tape disturbed/broken/missing.
<input checked="" type="checkbox"/> 2.	<input type="checkbox"/> Sample received broken/leaking.	<input type="checkbox"/> 9. NA	Sample splits performed by lab.
<input checked="" type="checkbox"/> 3.	<input type="checkbox"/> Sample received without proper preservative. <input type="checkbox"/> Cooler temperature not within 4°C ± 2°C Record temperature: <u>4°C</u> <input type="checkbox"/> pH <u>Var 6°C</u> <input type="checkbox"/> other: _____	<input checked="" type="checkbox"/> 10. NA	Volatile sample received with approximately _____ mm headspace.
<input checked="" type="checkbox"/> 4.	<input type="checkbox"/> Sample received in improper container.	<input checked="" type="checkbox"/> 11.	<input type="checkbox"/> Sample ID on container does not match sample ID on paperwork. Explain: _____
<input checked="" type="checkbox"/> 5.	<input type="checkbox"/> Sample received without proper paperwork. Explain: _____	<input checked="" type="checkbox"/> 12.	<input type="checkbox"/> All coolers on airbill not received with shipment.
<input checked="" type="checkbox"/> 6.	<input type="checkbox"/> Paperwork received without sample.	<input checked="" type="checkbox"/> 13.	<input type="checkbox"/> Other (explain below): <u>Shipping containers not rad surveyed.</u> <u>841 9949 282</u>
<input checked="" type="checkbox"/> 7.	<input type="checkbox"/> No sample ID on sample container.		

Notes: Recv QC sample (oil + grease) 2m 6-22-95

Corrective Action:

- Client's Name: _____ Informed verbally on: _____ By: _____
- Client's Name: _____ Informed in writing on: _____ By: _____
- Sample(s) processed "as is". Comments: _____
- Sample(s) on hold until: _____ If released, notify: _____

Sample Control Supervisor Review: (or designate) Paul Mitchell Date: 6-22-95

Project Management Review: Adrian Wolder Date: _____

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

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Environmental
Services

Quanterra-Richland
P.O. Box 1970
Richland, WA 99352

Project: 550.72

Category: Iron
Method: EPA 6010
Matrix: LIQUID

Sample Date : 05/31/95
Receipt Date : 06/21/95
Report Date : 07/05/95

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
B0G0C3	8687-001	Iron	7439-89-6	QCBLK71465-1	06/28/95	06/29/95	317	UG/L		100	1
B0G0C3	8687-001MS	Iron	7439-89-6	QCBLK71465-1	06/28/95	06/29/95	102	%REC			1
B0G0C3	8687-001MSD	Iron	7439-89-6	QCBLK71465-1	06/28/95	06/29/95	102	%REC			1
NA	QCCLS71465-1	Iron	7439-89-6	QCBLK71465-1	06/28/95	06/29/95	105	%REC			1
NA	QCBLK71465-1	Iron	7439-89-6	QCBLK71465-1	06/28/95	06/29/95	25.3	UG/L	B	100	1

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Environmental
Services

Quanterra-Richland
P.O. Box 1970
Richland, WA 99352

Project: 550.72

Category: Chromium-GFAA
Method: EPA 218.2
Matrix: LIQUID

Sample Date : 05/31/95
Receipt Date : 06/21/95
Report Date : 07/05/95

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
B0G0C3	8687-001	Chromium	7440-47-3	QCBLK71466-1	06/28/95	06/30/95	3.7	UG/L		1.0	1
B0G0C3	8687-001MS	Chromium	7440-47-3	QCBLK71466-1	06/28/95	06/30/95	128	%REC			1
B0G0C3	8687-001MSD	Chromium	7440-47-3	QCBLK71466-1	06/28/95	06/30/95	104	%REC			1
NA	QC LCS71466-1	Chromium	7440-47-3	QCBLK71466-1	06/28/95	06/30/95	106	%REC			1
NA	QCBLK71466-1	Chromium	7440-47-3	QCBLK71466-1	06/28/95	06/30/95	1.0	UG/L	U	1.0	1

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Environmental
Services

Quanterra-Richland
P.O. Box 1970
Richland, WA 99352

Project: 550.72

Category: Ammonia
Method: EPA 350.1
Matrix: LIQUID

Sample Date : 05/31/95
Receipt Date : 06/21/95
Report Date : 07/05/95

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
BOGOC3	8687-001	Ammonia	7664-41-7	QCBLK71274-1	06/27/95	06/27/95	50.0	UG/L	U	50.0	1
BOGOC3	8687-001DUP	Ammonia	7664-41-7	QCBLK71274-1	06/27/95	06/27/95	50.0	UG/L	U	50.0	1
BOGOC3	8687-001MS	Ammonia	7664-41-7	QCBLK71274-1	06/27/95	06/27/95	79	%REC			1
NA	QCBLK71274-1	Ammonia	7664-41-7	QCBLK71274-1	06/27/95	06/27/95	50.0	UG/L	U	50.0	1
NA	QCCLS71274-1	Ammonia	7664-41-7	QCBLK71274-1	06/27/95	06/27/95	97	%REC			1

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Environmental
Services

Quanterra-Richland
P.O. Box 1970
Richland, WA 99352

Project: 550.72

Category: Oil & Grease
Method: EPA 413.1
Matrix: LIQUID

Sample Date : 05/31/95
Receipt Date : 06/21/95
Report Date : 07/05/95

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
BOGOC3	8687-001	Oil & Grease	C-007	QCBLK71461-1	06/28/95	06/28/95	4.67	MG/L		1.10	1
NA	QCBLK71461-1	Oil & Grease	C-007	QCBLK71461-1	06/28/95	06/28/95	1.00	MG/L	U	1.00	1
NA	QCLCS71461-1	Oil & Grease	C-007	QCBLK71461-1	06/28/95	06/28/95	110	%REC			1

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