START 9613451.0418 0044541

Quanterra Environmental Services

447 W0436R

Quanterra Incorporated
13715 Rider Trail North
Earth City, Missouri 63045

314 298-8566 Telephone
314 298-8757 Fax

CERTIFICATE OF ANALYSIS

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

April 7, 1995

Attention: Joan Kessner

JUN 1996 RECEIVED EDMC

APR 1995 RECEIVED Data Log In

Project number	:	550.69
Date Received by Lab	:	February 28, & March 1, 2, 6, & 7, 1995
Number of Samples	:	Twenty (20)
Sample Type	:	Water
SDG Number	:	W0436
Data Deliverable	:	Summary

I. Introduction

Between February 28 and March 7, 1995, twenty (20) water samples were received by Quanterra, Richland and transferred to Quanterra, St. Louis for chemical analysis. Upon receipt, the samples were given the following laboratory ID numbers to correspond with the specific client ID's:

St Louis ID	WHC ID	Richland ID	Matrix	Date of Receipt
7669-001	B0DX63	50251201	Water	02/28/95
7669-002	B0DX61	50251203	Water	02/28/95
7669-003	B0DX64	50251202	Water	02/28/95
7669-004	B0DX62	50251204	Water	02/28/95
7672-001	B0DX67	50301801	Water	03/01/95
7672-002	B0DX94	50301803	Water	03/01/95
7672-003	B0DX68	50301802	Water	03/01/95
7672-004	B0DX95	50301804	Water	03/01/95
7703-001	B0DX73	50305001	Water	03/02/95
7703-002	B0DX59	50305002	Water	03/02/95
7721-001	B0DX48	50310701	Water	03/06/95
7721-002	B0DX49	50310702	Water	03/06/95
7733-001	B0DX86	50313001	Water	03/07/95
7733-002	B0DX54	50313003	Water	03/07/95

CCCCCC2

Quanterra
Environmental Services

St Louis ID	WHC ID	Richland ID	Matrix	Date of Receipt
7733-003	B0DX92	50313005	Water	03/07/95
7733-004	B0DX87	50313002	Water	03/07/95
7733-005	B0DX55	50313004	Water	03/07/95
7733-006	B0DX93	50313006	Water	03/07/95
7733-007	B0DX75	50313007	Water	03/07/95
7733-008	B0DX76	50313008	Water	03/07/95

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: Chloride, Fluoride, Sulfate, Nitrate, Nitrite and Phosphate by EPA method 300.0. Conductivity by EPA method 120.1. pH by EPA method 9040. SW846 Metals including Total and Dissolved ICP Metals by method 6010. Oil & Grease by EPA method 413.1. Total Petroleum Hydrocarbons by EPA method 418.1. Turbidity by EPA method 180.1.

III. Quality Control

A Laboratory Control Sample and Method Blank were analyzed with each preparation batch. Matrix Spike and Matrix Spike Duplicate or Duplicate analyses were performed per the protocol for each analyte. Sample Duplicate analysis was performed per the protocol for the Oil & Grease, Conductivity, Turbidity and pH analyses in this SDG.

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:

Quanterra
Environmental Services

QCBLK- Quality Control Blank, Method Blank
QCLCS- Quality Control Laboratory Control Sample, Blank Spike

V. Comments

There are no comments or nonconformances associated with the metals analysis.

The Nitrate, Nitrite and Phosphate holding times were expired upon receipt at laboratory.

The Matrix Spike for the Nitrate analysis on sample 7669-001 was not within the suggested regulatory limits of 75-125 percent recovery due to the concentration of the sample exceeding the spike concentration by a factor of four or more.

The Relative Percent Difference could not be calculated because both values were below the the detection limits for Phosphate and Nitrite on sample 7669-001.

The Relative Percent Difference could not be calculated because both values were below the the detection limits for TPH on sample 7721-001DUP.

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$\abbydave\hanw0436.nar

Quanterra March 03, 1995 06:33 am
Account: 10722 Project: 550.69 Quanterra-Richland QAS No. 898 Rev. 0
Master Sample Login: 7669

Project Manager: V. Price

Draft: Final: Entered and Reviewed by: Sue Robson PM Review: Abby Wolar

Sample Header Template:

Sample No. #	Client ID / Container Type	C-Matrix / Analysis	Date: Collected / Class	Received / Preservative	Due / Anal. Due Date	Shipper / Hold Date	Site	Rad Category / (Container Numbers:% Filled)	Rad Sample No.
7669-001	BODX63	Water	27-FEB-95 09:32	28-FEB-95 10:50	04-APR-95	FED-EX	1	Screening not Required	
NOTE: RICHLAND ID 50251201									
1	AN - Amber Glass-500ml	ANIONS/300.0/Q4	P	COLD	N/A	N/A	TOC	(134714:100)	
1		CL/300.0/Q4	C	COLD	28-MAR-95	27-MAR-95	TOC	(134714:100)	
1		COND/120.1/Q4	S	COLD	28-MAR-95	27-MAR-95	TOC	(134715:99)	
1		FL/300.0/Q4	C	COLD	28-MAR-95	27-MAR-95	TOC	(134714:100)	
1		ICAP/6010/Q4	S	HNO3	28-MAR-95	26-AUG-95	TOC	(134713:100)	
1		NO2/300.0/Q4	C	COLD	28-MAR-95	01-MAR-95	TOC	(134714:100)	
1		NO3/300.0/Q4	C	COLD	28-MAR-95	01-MAR-95	TOC	(134714:100)	
1		OPHOS/300.0/Q4	C	COLD	28-MAR-95	01-MAR-95	TOC	(134714:100)	
1		SO4/300.0/Q4	C	COLD	28-MAR-95	27-MAR-95	TOC	(134714:100)	
1	PN - Plastic-250ml	PH/9040/Q4	S	COLD	28-MAR-95	28-FEB-95	TOC	(134717:99)	
1		TURB/180.1/Q4	S	COLD	28-MAR-95	01-MAR-95	TOC	(134716:100)	
7669-001DUP	BODX63	Water	27-FEB-95 09:32	28-FEB-95 10:50	04-APR-95	FED-EX	1	Screening not Required	
NOTE: RICHLAND ID 50251201									
1	AN - Amber Glass-500ml	ANIONS/300.0/Q4	P	COLD	N/A	N/A	TOC	(134714:100)	
1		CL/300.0/Q4	C	COLD	28-MAR-95	27-MAR-95	TOC	(134714:100)	
1		COND/120.1/Q4	S	COLD	28-MAR-95	27-MAR-95	TOC	(134715:99)	
1		FL/300.0/Q4	C	COLD	28-MAR-95	27-MAR-95	TOC	(134714:100)	
1		NO2/300.0/Q4	C	COLD	28-MAR-95	01-MAR-95	TOC	(134714:100)	
1		NO3/300.0/Q4	C	COLD	28-MAR-95	01-MAR-95	TOC	(134714:100)	
1		OPHOS/300.0/Q4	C	COLD	28-MAR-95	01-MAR-95	TOC	(134714:100)	
1		SO4/300.0/Q4	C	COLD	28-MAR-95	27-MAR-95	TOC	(134714:100)	
1	PN - Plastic-250ml	PH/9040/Q4	S	COLD	28-MAR-95	28-FEB-95	TOC	(134717:99)	
1		TURB/180.1/Q4	S	COLD	28-MAR-95	01-MAR-95	TOC	(134716:100)	
7669-001MS	BODX63	Water	27-FEB-95 09:32	28-FEB-95 10:50	04-APR-95	FED-EX	1	Screening not Required	
NOTE: RICHLAND ID 50251201									
1	AN - Amber Glass-500ml	ANIONS/300.0/Q4	P	COLD	N/A	N/A	TOC	(134714:100)	
1		CL/300.0/Q4	C	COLD	28-MAR-95	27-MAR-95	TOC	(134714:100)	
1		FL/300.0/Q4	C	COLD	28-MAR-95	27-MAR-95	TOC	(134714:100)	
1		ICAP/6010/Q4	S	HNO3	28-MAR-95	26-AUG-95	TOC	(134713:100)	
1		NO2/300.0/Q4	C	COLD	28-MAR-95	01-MAR-95	TOC	(134714:100)	
1		NO3/300.0/Q4	C	COLD	28-MAR-95	01-MAR-95	TOC	(134714:100)	
1		OPHOS/300.0/Q4	C	COLD	28-MAR-95	01-MAR-95	TOC	(134714:100)	
1		SO4/300.0/Q4	C	COLD	28-MAR-95	27-MAR-95	TOC	(134714:100)	

3*=Sample has not been rad screened.

9513451.0421

0000004

Quanterra March 03, 1995 06:33 am
Account: 10722 Project: 550.69 Quanterra-Richland QAS No. 898 Rev. 0
Master Sample Login: 7669

Project Manager: W. Price

Draft: Final: Entered and Reviewed by: PM Review:

Sample Header Template:

Sample No. / #	Client ID / Container Type	C-Matrix / Analysis	Date: Collected / Class	Received / Preservative	Due / Anal. Due Date	Shipper / Hold Date	Site	Rad Category / (Container Numbers:% Filled)	Rad Sample No.
7669-001MSD	BODX63	Water	27-FEB-95 09:32	28-FEB-95 10:50	04-APR-95	FED-EX		1	Screening not Required
NOTE: RICHLAND ID 50251201									
1	AN - Amber Glass-500ml	ICAP/6010/Q4	S	HNO3	28-MAR-95	26-AUG-95	TOC	(134713:100)	
7669-002	BODX61	Water	27-FEB-95 10:40	28-FEB-95 10:50	04-APR-95	FED-EX		1	Screening not Required
NOTE: RICHLAND ID 50251203									
1	AN - Amber Glass-500ml	ANIONS/300.0/Q4	P	COLD	N/A	N/A	TOC	(134719:100)	
1		CL/300.0/Q4	C	COLD	28-MAR-95	27-MAR-95	TOC	(134719:100)	
1		COND/120.1/Q4	S	COLD	28-MAR-95	27-MAR-95	TOC	(134720:99)	
1		FL/300.0/Q4	C	COLD	28-MAR-95	27-MAR-95	TOC	(134719:100)	
1		ICAP/6010/Q4	S	HNO3	28-MAR-95	26-AUG-95	TOC	(134718:100)	
1		NO2/300.0/Q4	C	COLD	28-MAR-95	01-MAR-95	TOC	(134719:100)	
1		NO3/300.0/Q4	C	COLD	28-MAR-95	01-MAR-95	TOC	(134719:100)	
1		OPHOS/300.0/Q4	C	COLD	28-MAR-95	01-MAR-95	TOC	(134719:100)	
1		SO4/300.0/Q4	C	COLD	28-MAR-95	27-MAR-95	TOC	(134719:100)	
1	PN - Plastic-250ml	PH/9040/Q4	S	COLD	28-MAR-95	28-FEB-95	TOC	(134722:99)	
1		TURB/180.1/Q4	S	COLD	28-MAR-95	01-MAR-95	TOC	(134721:100)	
7669-003	BODX64	Water	27-FEB-95 09:32	28-FEB-95 10:50	04-APR-95	FED-EX		1	Screening not Required
NOTE: RICHLAND ID 50251202									
1	AN - Amber Glass-500ml	ICAPD/6010/Q4	S	HNO3	28-MAR-95	26-AUG-95	TOC	(134729:100)	
1	PN - Plastic-500ml	ANIONS/300.0/Q4	P	COLD	N/A	N/A	TOC	(134730:100)	
1		CL/300.0/Q4	C	COLD	28-MAR-95	27-MAR-95	TOC	(134730:100)	
1		FL/300.0/Q4	C	COLD	28-MAR-95	27-MAR-95	TOC	(134730:100)	
1		NO2/300.0/Q4	C	COLD	28-MAR-95	01-MAR-95	TOC	(134730:100)	
1		NO3/300.0/Q4	C	COLD	28-MAR-95	01-MAR-95	TOC	(134730:100)	
1		OPHOS/300.0/Q4	C	COLD	28-MAR-95	01-MAR-95	TOC	(134730:100)	
1		SO4/300.0/Q4	C	COLD	28-MAR-95	27-MAR-95	TOC	(134730:100)	
7669-004	BODX62	Water	27-FEB-95 10:40	28-FEB-95 10:50	04-APR-95	FED-EX		1	Screening not Required
NOTE: RICHLAND ID 50251204									
1	AN - Amber Glass-500ml	ICAPD/6010/Q4	S	HNO3	28-MAR-95	26-AUG-95	TOC	(134731:100)	
1	PN - Plastic-500ml	ANIONS/300.0/Q4	P	COLD	N/A	N/A	TOC	(134732:100)	
1		CL/300.0/Q4	C	COLD	28-MAR-95	27-MAR-95	TOC	(134732:100)	
1		FL/300.0/Q4	C	COLD	28-MAR-95	27-MAR-95	TOC	(134732:100)	
1		NO2/300.0/Q4	C	COLD	28-MAR-95	01-MAR-95	TOC	(134732:100)	
1		NO3/300.0/Q4	C	COLD	28-MAR-95	01-MAR-95	TOC	(134732:100)	
1		OPHOS/300.0/Q4	C	COLD	28-MAR-95	01-MAR-95	TOC	(134732:100)	
1		SO4/300.0/Q4	C	COLD	28-MAR-95	27-MAR-95	TOC	(134732:100)	

Data:

3*=Sample has not been rad screened.

9613451.0422

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Temp 6°C CUR#3343

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

Reference Document No. 453883
Page 1 of 2

Project Name/No. 1 B95-030
Sample Team Members 2
Profit Center No. 3
Project Manager 4 Van Pettey
Purchase Order No. 6
Required Report Date 11

Samples Shipment Date 7 2-28-95
Lab Destination 8 St. Louis
Lab Contact 9
Project Contact/Phone 12
Carrier/Waybill No. 13

Bill to: 5 Quantera
Richland
Report to: 10

ONE CONTAINER PER LINE

Sample Number 14	Sample Description/Type 15	Date/Time Collected 16	Container Type 17	Sample Volume 18	Pre-servative 19	Requested Testing Program 20	Condition on Receipt 21	Disposal Record No. 22
50251201A	B00x63 /w	SEE	WHC	COC	COOL 4°C	SEE COC		
B							FOR LAB USE ONLY	
C								
D								
E								
50251202A	B00x64						FOR LAB USE ONLY	
B								
50251203A	B00x61							

Special Instructions: 23

Possible Hazard Identification: 24
Non-hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☒

Sample Disposal: 25
Return to Client ☒ Disposal by Lab ☐ Archive ____ (mos.)

Turnaround Time Required: 26
Normal ☒ Rush ☐ AS Per WHC Contract

QC Level: 27
I. ☐ II. ☐ III. ☐ Project Specific (specify): SDG W0436

1. Relinquished by 28 (Signature/Affiliation) R Boyd Quantera	Date: 2-28-95 Time: 16:00	1. Received by 28 (Signature/Affiliation) Zed Mitchell	Date: 3-1-95 Time: 0955
2. Relinquished by (Signature/Affiliation)	Date: Time:	2. Received by (Signature/Affiliation)	Date: Time:
3. Relinquished by (Signature/Affiliation)	Date: Time:	3. Received by (Signature/Affiliation)	Date: Time:

Comments: 29

White: To accompany samples
Yellow: Field copy

*See back of form for special instructions.

9000000

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD (cont.)*

Reference Document No.[30] 453883

Project Name B95-030

Project No.

Samples Shipment Date 2-28-95

ONE CONTAINER PER LINE

Sample[14] Number	Sample[15] Description/Type	Date/Time[16] Collected	Container[17] Type	Sample[18] Volume	Pre-[19] servative	Requested Testing[20] Program	Condition on[21] Receipt	Disposal[22] Record No.
50251203B	BOD x61 /w	SEE	WHC	COC	COOL 4°C	SEE COC		
C							FOR LAB USE ONLY	
D								
E								
50251204A	BOD x62						FOR LAB USE ONLY	
B								
							FOR LAB USE ONLY	
							FOR LAB USE ONLY	
							FOR LAB USE ONLY	
							FOR LAB USE ONLY	
							FOR LAB USE ONLY	
							FOR LAB USE ONLY	
							FOR LAB USE ONLY	

RB 2-28-95

White: To accompany samples

Yellow: Field copy

*See back of form for special instructions.

9613451.0424

0000007

Bechtel Hanford Incorporated

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priority [X] Normal

Collector: K. Lee / A. Rizzo
Company Contact: J. V. Borghese
Telephone No.: (509) 372-9584
Project Designation: 100-NR-2 Groundwater Sampling - Round 7
Sampling Location: 100 N
SAF No.: B95-030
Ice Chest No.: SML-502
Field Logbook No.: EFL-1058
Method of Shipment: Hand Delivered
Shipped To: Quanterra
Offsite Property No.: PH = 1 NA
Bill of Lading/Air Bill No.: NA 1
Possible Sample Hazards/Remarks:
Special Handling and/or Storage: Maintain samples between 2C and 6C.

SAMPLE ANALYSIS: 502512

	Preservative	HNO3	Cool 4C	H2SO4	HCl	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	HNO3	HNO3		HNO3	Cool 4C
	Type of Container	G	P/G	G	Gs*	P/G	P/G	P	G	P	G	G		G	P/G
	No. of Container(s)	1	1	3	3	1	1	1	3	1	6	1		1	1
	Volume	500mL	500mL	1L	1L	500mL	250mL	250mL	500mL	20mL	1L	500mL		500mL	500mL
		ICP Metals-TAL Unfiltered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Unfiltered	Oil and Grease	TPH	Conductivity	Turbidity	pH	Tritium	Activity Scan	Gross Alpha, Gross Beta, Sr-90, Gamma Spec	Gross Alpha, Gross Beta, Sr-90, Gamma Spec		ICP Metals-TAL Filtered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Filtered
		A	B	~~C~~	~~D~~	C	D	E	5025	1301				A	B

	Sample No.	Matrix*	Date Sampled	Time Sampled	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
01	B0DX63	W	2-27-95	0932	X	X			X	X	X	X	X	X	X				
02	B0DX64	W	2-27-95	0932													X	X	

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
A. Rizzo	2-27-95 1315	K. Trapp / K. Trapp	2/27/95 1315
K. Trapp / K. Trapp	2/28/95 1041	A. Boyd Quanterra	2-28-95 1050

SPECIAL INSTRUCTIONS

Sample analysis for PO4, NO2, and NO3 by EPA 300.0; turbidity by EPA 180.1; and pH by SW-846 9040 are being requested for information only. The ERC Contractor acknowledges that the hold times will not be met.

The Activity Scan is for all samples listed on this chain of custody.

Gs* = Glass with septum top. No head space.

SDG W0436

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 | Title | Date/Time

FINAL SAMPLE DISPOSITION: Disposal Method | Disposed By | Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

8000008

9613461.0426

Bechtel Hanford Incorporated

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priority [X] Normal

Collector: K. Lee / A Rizzo	Company Contact: J. V. Borghese	Telephone No.: (509) 372-9584
Project Designation: 100-NR-2 Groundwater Sampling - Round 7	Sampling Location: 100 N	SAF No.: B95-030
Ice Chest No.: KT 2/27/95 ~~CBOS 122~~ Homeboy	Field Logbook No.: EFL- 1058	Method of Shipment: Hand Delivered
Shipped To: Quanterra	Offsite Property No.: PH 1 NA	Bill of Lading/Air Bill No.: NA 1
Possible Sample Hazards/Remarks		

SAMPLE ANALYSIS: 502512

Sample No.	Matrix*	Date Sampled	Time Sampled	A	B	~~C~~	~~D~~	~~E~~	~~F~~	~~G~~	~~H~~	~~I~~	~~J~~	~~K~~	~~L~~	~~M~~	~~N~~	~~O~~	~~P~~	A	B
Preservative				HNO3	Cool 4C	H2SO4	HCl	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	HNO3	HNO3						HNO3	Cool 4C
Type of Container				G	P/G	G	Gs*	P/G	P/G	P	G	P	G	G						G	P/G
No. of Container(s)				1	1	3	3	1	1	1	3	1	6	1						1	1
Volume				500mL	500mL	1L	1L	500mL	250mL	250mL	500mL	20mL	1L	500mL						500mL	500mL
				ICP Metals-TAL Unfiltered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Unfiltered	Oil and Grease	TPH	Conductivity C	Turbidity O	pH E	Tritium 5025	Activity Scan 1302	Gross Alpha, Gross Beta, Sr-90, Gamma Spec	Gross Alpha, Gross Beta, Sr-90, Gamma Spec						ICP Metals-TAL Filtered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Filtered
03 BOOX61	W	2-27-95	1040	X	X			X	X	X	X	X	X	X							
04 BOOX62	W	2-27-95	1040																	X	X

D - label on PH Container
E - LABel on Turbidity container

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: A. Rizzo	Date/Time: 2-27-95 1345	Received By: K. Trapp / K. Trapp	Date/Time: 2/27/95 1315
Relinquished By: K. Trapp / K. Trapp	Date/Time: 2/28/95 1041	Received By: A. Boyd Quoten	Date/Time: 2-28-95 1050
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:

SPECIAL INSTRUCTIONS

Sample analysis for PO4, NO2, and NO3 by EPA 300.0; turbidity by EPA 180.1; and pH by SW-846 9040 are being requested for information only. The ERC Contractor acknowledges that the hold times will not be met.

The Activity Scan is for all samples listed on this chain of custody.

Gs* = Glass with septum top. No head space.

SDG W0436

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	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original - Sample Yellow - Sampler

BC-6000-828 (12/92)

6000000

9613131.0126

9613451.0427

INTERNATIONAL TECHNOLOGY CORPORATION

Regional Office
2800 George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

(1 Per Shipping Container)

Date/Time Received 2/28/95 1050 Client Name BHI

Project/Client # B95-030 Batch or Case # _____

Cooler ID (if noted on the outside of cooler) Home Boy

1. Condition of shipping container? OK
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: 18
8. Samples have: ____ tape ____ hazard labels
   ✓ custody seals ✓ appropriate sample labels
9. Samples are: ✓ in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☒ No ☐

Sample temperature 4°C

11. The following paperwork should be accounted for (N/A if not applicable): N/A
    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 R. Boyd R. Boyd Date/Time 2/28/95 1050

FORM NO. LS-042, Rev.0, 2/94

9613451.0428

INTERNATIONAL TECHNOLOGY CORPORATION

Regional Office
2800 George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

(1 Per Shipping Container)

Date/Time Received 2/28/95 1050 Client Name BHI

Project/Client # B95-030 Batch or Case # _____

Cooler ID (if noted on the outside of cooler) SML 502

1. Condition of shipping container? OK
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: 18
8. Samples have: ____ tape ____ hazard labels
   X custody seals X appropriate sample labels
9. Samples are: X in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☒ No ☐

Sample temperature 4°C

11. The following paperwork should be accounted for (N/A if not applicable): N/A
    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 R. Boyd R. Boyd Date/Time 2/28/95 1050

FORM NO. LS-042, Rev.0, 2/94

9613451.0429

MPLE STATUS REPORT FOR N 4874. RAD SCREEN 199-N-50 TIME: 2/28/95 8: 3
ISPATCHED: 2/22/95 14:38 SAMPLE HAS NOT BEEN SLURPED PAGE 1
ECEIVED: 2/28/95 7:47

XT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
***	********	**********	***	***	******
271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	XR5561

END OF REPORT

PRESS ANY KEY TO CONTINUE

ERIAL NUMBER STATUS REPORT 2/28/95 8: 3

SERIAL NUMBER (PNNNN) ? N4875

AMPLE STATUS REPORT FOR N 4875. RAD SCREEN 199-N-51 TIME: 2/28/95 8: 3
DISPATCHED: 2/22/95 14:38 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 2/28/95 7:47

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	XR5561

END OF REPORT

all Cat I (B) 2/28/95

Client Sample Screening Results

28-Feb-95

CLIENT	CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
WHC	B0DQW7	LIQUID	2/28/95 2:49:43 PM	QUAD23A	2/28/95	B0DQW7	30	10	0.26331373	82	1.8470852
				Bkg:	2/28/95 6:04:34 PM	BKG	499.86	35	0.07001961	443	0.8862481

Anl Date: 2/28/95	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp;	(Dpm/ 7.62E-01	(uCi/ 3.43E-05	(pCi/ 3.43E+01	± 2.2E+01	CAT I	7.3E-01	Lab			
Ppt mg: 4.5	Units: L	, ml	Bet;	Alq): 3.37E+00	Sa): 1.52E-04	Lig): 1.52E+02	± 2.6E+01		3.3E-01	Alq Lig			

CLIENT	CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
WHC	B0DQW9	LIQUID	2/28/95 2:51:01 PM	QUAD24A	2/28/95 1:53:02 PM	B0DQW9	30	14	0.41666667	60	1.132
				Bkg:	2/28/95 6:04:34 PM	BKG	500	25	0.05	434	0.868

Anl Date: 2/28/95	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp;	(Dpm/ 1.32E+00	(uCi/ 5.96E-05	(pCi/ 5.96E+01	± 2.5E+01	CAT I	4.2E-01	Lab			
Ppt mg: 3.7	Units: L	, ml	Bet;	Alq): 1.98E+00	Sa): 8.91E-05	Lig): 8.91E+01	± 2.2E+01		5.6E-01	Alq Lig			

CLIENT	CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
WHC	B0DQX1	LIQUID	2/28/95 2:51:54 PM	QUAD24B	2/28/95 1:53:02 PM	B0DQX1	30	16	0.44933333	72	1.412
				Bkg:	2/28/95 6:04:34 PM	BKG	500	42	0.084	494	0.988

Anl Date: 2/28/95	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp;	(Dpm/ 1.41E+00	(uCi/ 6.34E-05	(pCi/ 6.34E+01	± 2.7E+01	CAT I	3.9E-01	Lab			
Ppt mg: 5.7	Units: L	, ml	Bet;	Alq): 2.51E+00	Sa): 1.13E-04	Lig): 1.13E+02	± 2.5E+01		4.4E-01	Alq Lig			

CLIENT	CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
WHC	B0DX61	LIQUID	2/28/95 2:52:34 PM	QUAD24C	2/28/95 1:53:02 PM	B0DX61	30	30	0.934	95	2.2266667
				Bkg:	2/28/95 6:04:34 PM	BKG	500	33	0.066	470	0.94

Anl Date: 2/28/95	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp;	(Dpm/ 2.76E+00	(uCi/ 1.25E-04	(pCi/ 1.25E+02	± 2.9E+01	CAT I	2.0E-01	Lab			
Ppt mg: 1.9	Units: L	, ml	Bet;	Alq): 3.66E+00	Sa): 1.65E-04	Lig): 1.65E+02	± 2.7E+01		3.0E-01	Alq Lig			

CLIENT	CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
WHC	B0DX63	LIQUID	2/28/95 2:53:19 PM	QUAD24D	2/28/95 1:53:02 PM	B0DX63	30	13	0.40533333	94	2.1333333
				Bkg:	2/28/95 6:04:34 PM	BKG	500	14	0.028	500	1

Anl Date: 2/28/95	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp;	(Dpm/ 1.13E+00	(uCi/ 5.10E-05	(pCi/ 5.10E+01	± 2.4E+01	CAT I	4.9E-01	Lab			
Ppt mg: 1.8	Units: L	, ml	Bet;	Alq): 3.90E+00	Sa): 1.76E-04	Lig): 1.76E+02	± 2.8E+01		2.8E-01	Alq Lig			

9613451.0430

00000013

Quanterra Environmental Services 9613451.0431

C.U.R. and C.O.C.
COPIED TO: BW & WP
DATE: 3-1-95
TIME: 12:15
BY: Dm

Work Order No.: 7669

Condition Upon Receipt Variance Report
St. Louis Laboratory

Client: Richland
Date: 3-1-95 09:55
Project No: 550.69
Initiated by: Zed Mitchell
Analysis Requested: Refer to RFA/COC
RFA/COC Numbers:
Client Sample Numbers Affected: Entire Login

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

1. NA Not enough sample received for proper analysis.
   Received approximately:
2. ☐ Sample received broken/leaking.
3. ☐ Sample received without proper preservative.
   - ☐ Cooler temperature not within 4°C ± 2°C
     Record temperature: 6 °C Temp vial 5°C
   - ☐ pH
   - ☐ other:
4. ☐ Sample received in improper container.
5. ☐ Sample received without proper paperwork. Explain:
6. ☐ Paperwork received without sample.
7. ☐ No sample ID on sample container.
8. ☐ Custody tape disturbed/broken/missing.
9. NA Sample splits performed by lab.
10. NA Volatile sample received with approximately _____ mm headspace.
11. ☑ Sample ID on container does not match sample ID on paperwork. Explain:
    BOD X61 Richland Label switched for PH & TURBIDITY
12. ☐ All coolers on airbill not received with shipment.
13. ☐ Other (explain below):
    Shipping containers not rad surveyed.
    345 1197 495

Notes:

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) Zed Mitchell Date: 3-1-95
Project Management Review: Abby Wolder Date: 3/2/95

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

Quanterra March 02, 1995 12:14 pm
Account: 10722 Project: 550.69 Quanterra-Richland QAS No. 898 Rev. 0
Master Sample Login: 7672

Project Manager: W. Price

Draft: Final: Entered and Reviewed by: Bob Cavanaugh PM Review: Abby Wolder

Sample Header Template:

Sample No. / #	Client ID / Container Type	C-Matrix / Analysis	Date: Collected	Received	Due	Shipper	Rad Category / Class	Rad Sample No. / Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)
7672-001	B00X67	Water	28-FEB-95 10:52	01-MAR-95 10:20	05-APR-95	FED-EX	1	Screening not Required				
NOTE: RICHLAND ID 50301801												
1	AN - Amber Glass-500ml	ANIONS/300.0/Q4					P	COLD	N/A	N/A	TOB	(134807:100)
1		CL/300.0/Q4					C	COLD	29-MAR-95	28-MAR-95	TOB	(134807:100)
1		COND/120.1/Q4					S	COLD	29-MAR-95	28-MAR-95	TOB	(134808:99)
1		FL/300.0/Q4					C	COLD	29-MAR-95	28-MAR-95	TOB	(134807:100)
1		ICAP/6010/Q4					S	HNO3	29-MAR-95	27-AUG-95	TOB	(134806:100)
1		NO2/300.0/Q4					C	COLD	29-MAR-95	02-MAR-95	TOB	(134807:100)
1		NO3/300.0/Q4					C	COLD	29-MAR-95	02-MAR-95	TOB	(134807:100)
1		OPHOS/300.0/Q4					C	COLD	29-MAR-95	02-MAR-95	TOB	(134807:100)
1		SO4/300.0/Q4					C	COLD	29-MAR-95	28-MAR-95	TOB	(134807:100)
1	PN - Plastic-250ml	PH/9040/Q4					S	COLD	29-MAR-95	01-MAR-95	TOB	(134810:99)
1		TURB/180.1/Q4					S	COLD	29-MAR-95	02-MAR-95	TOB	(134809:100)
7672-002	B00X94	Water	28-FEB-95 10:52	01-MAR-95 10:20	05-APR-95	FED-EX	1	Screening not Required				
NOTE: RICHLAND ID 50301803												
1	AN - Amber Glass-500ml	ANIONS/300.0/Q4					P	COLD	N/A	N/A	TOB	(134812:100)
1		CL/300.0/Q4					C	COLD	29-MAR-95	28-MAR-95	TOB	(134812:100)
1		COND/120.1/Q4					S	COLD	29-MAR-95	28-MAR-95	TOB	(134813:99)
1		FL/300.0/Q4					C	COLD	29-MAR-95	28-MAR-95	TOB	(134812:100)
1		ICAP/6010/Q4					S	HNO3	29-MAR-95	27-AUG-95	TOB	(134811:100)
1		NO2/300.0/Q4					C	COLD	29-MAR-95	02-MAR-95	TOB	(134812:100)
1		NO3/300.0/Q4					C	COLD	29-MAR-95	02-MAR-95	TOB	(134812:100)
1		OPHOS/300.0/Q4					C	COLD	29-MAR-95	02-MAR-95	TOB	(134812:100)
1		SO4/300.0/Q4					C	COLD	29-MAR-95	28-MAR-95	TOB	(134812:100)
1	PN - Plastic-250ml	PH/9040/Q4					S	COLD	29-MAR-95	01-MAR-95	TOB	(134815:99)
1		TURB/180.1/Q4					S	COLD	29-MAR-95	02-MAR-95	TOB	(134814:100)
7672-003	B00X68	Water	28-FEB-95 10:52	01-MAR-95 10:20	05-APR-95	FED-EX	1	Screening not Required				
NOTE: RICHLAND ID 50301802												
1	AN - Amber Glass-500ml	ANIONS/300.0/Q4					P	COLD	N/A	N/A	TOB	(134817:99)
1		CL/300.0/Q4					C	COLD	29-MAR-95	28-MAR-95	TOB	(134817:99)
1		FL/300.0/Q4					C	COLD	29-MAR-95	28-MAR-95	TOB	(134817:99)
1		ICAPD/6010/Q4					S	HNO3	29-MAR-95	27-AUG-95	TOB	(134816:100)
1		NO2/300.0/Q4					C	COLD	29-MAR-95	02-MAR-95	TOB	(134817:99)
1		NO3/300.0/Q4					C	COLD	29-MAR-95	02-MAR-95	TOB	(134817:99)
1		OPHOS/300.0/Q4					C	COLD	29-MAR-95	02-MAR-95	TOB	(134817:99)
1		SO4/300.0/Q4					C	COLD	29-MAR-95	28-MAR-95	TOB	(134817:99)

Data:

3*=Sample has not been rad screened.

9613951.0432

0000015

Quanterra March 02, 1995 12:14 pm
Account: 10722 Project: 550.69 Quanterra-Richland QAS No. 898 Rev. 0
Master Sample Login: 7672

Project Manager: W. Price

Draft: Final: Entered and Reviewed by: PM Review:

Sample Header Template:

Sample No. / Comments / # / Data:	Client ID	C-Matrix	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No.
7672-004	B00X95	Water	28-FEB-95 10:52	01-MAR-95 10:20	05-APR-95	FED-EX	1	Screening not Required
NOTE: RICHLAND ID 50301804								

#	Container Type	Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)
1	AN - Amber Glass-500ml	ANIONS/300.0/Q4	P	COLD	N/A	N/A	TOB	(134819:99)
1		CL/300.0/Q4	C	COLD	29-MAR-95	28-MAR-95	TOB	(134819:99)
1		FL/300.0/Q4	C	COLD	29-MAR-95	28-MAR-95	TOB	(134819:99)
1		ICAPD/6010/Q4	S	HNO3	29-MAR-95	27-AUG-95	TOB	(134818:100)
1		NO2/300.0/Q4	C	COLD	29-MAR-95	02-MAR-95	TOB	(134819:99)
1		NO3/300.0/Q4	C	COLD	29-MAR-95	02-MAR-95	TOB	(134819:99)
1		OPHOS/300.0/Q4	C	COLD	29-MAR-95	02-MAR-95	TOB	(134819:99)
1		SO4/300.0/Q4	C	COLD	29-MAR-95	28-MAR-95	TOB	(134819:99)

3*=Sample has not been rad screened.

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0000016

Temp 2° Curff 3280

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

Reference Document No. 453885
Page 1 of 2

Project Name/No. 1 SAF B95-030
Sample Team Members 2
Profit Center No. 3
Project Manager 4 VAN PETTEY
Purchase Order No. 6
Required Report Date 11

Samples Shipment Date 7 3-1-95
Lab Destination 8 ST LOUIS
Lab Contact 9
Project Contact/Phone 12
Carrier/Waybill No. 13

Bill to: 5 Quanterra
Richland
Report to: 10

White: To accompany samples
Yellow: Field copy

ONE CONTAINER PER LINE

Sample Number 14	Sample Description/Type 15	Date/Time Collected 16	Container Type 17	Sample Volume 18	Pre-servative 19	Requested Testing Program 20	Condition on Receipt 21	Disposal Record No. 22
50301801 A	BODX67 / H2O	SEE WHC COC			Cool 4°	SEE COC		
B							FOR LAB USE ONLY	
C								
D								
E								
02A	BODX68						FOR LAB USE ONLY	
B								
03A	BODX94							

Special Instructions: 23 As per WHC Contract

Possible Hazard Identification: 24
Non-hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☒

Sample Disposal: 25
Return to Client ☒ Disposal by Lab ☐ Archive ____ (mos.)

Turnaround Time Required: 26
Normal ☒ Rush ☐

QC Level: 27
I. ☐ II. ☐ III. ☐ Project Specific (specify): SDG WO 436

1. Relinquished by 28 (Signature/Affiliation) Hudelberg Quanterra Date: 3-1-95 Time: 16:00	1. Received by 28 (Signature/Affiliation) Fred Mitchell Date: 3-2-95 Time: 0785
2. Relinquished by (Signature/Affiliation) Date: Time:	2. Received by (Signature/Affiliation) Date: Time:
3. Relinquished by (Signature/Affiliation) Date: Time:	3. Received by (Signature/Affiliation) Date: Time:

Comments: 29

*See back of form for special instructions.

0000017

7672
550-69

BEST COPY AVAILABLE

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD (cont.)*

Reference Document No.[30] 453885
Page 2 of 2

Project Name SAF B95-030
Project No. SDW-W0436
Samples Shipment Date 3-1-95

ONE CONTAINER PER LINE

Sample[14] Number	Sample[15] Description/Type	Date/Time[16] Collected	Container[17] Type	Sample[18] Volume	Pre-[19] servative	Requested Testing[20] Program	Condition on[21] Receipt	Disposal[22] Record No.
50301803 B	BODX94 /H20	SEE	WHC	COC	COOL 40	SEE COC		
C								
D								
E								
04A	BODX95							
B								
	3/1/95							

White: To accompany samples
Yellow: Field copy
*See back of form for special instructions.

9613451.0435

0000018

Bechtel Hanford Incorporated

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priority [X] Normal

Collector: K.D Lee	Company Contact: J. V. Borghese	Telephone No.: (509) 372-9584
Project Designation: 100-NR-2 Groundwater Sampling - Round 7	Sampling Location: 100 N	SAF No.: B95-030
Ice Chest No.: GWS-133	Field Logbook No.: EFL-1058 1058	Method of Shipment: Hand Delivered
Shipped To: Quanterra	Offsite Property No.: PH 1 NA	Bill of Lading/Air Bill No.: NA 1
Possible Sample Hazards/Remarks: UNKNOWN		
Special Handling and/or Storage: Maintain samples between 2C and 6C.		

Preservative	HNO3	Cool 4C	H2SO4	HCl	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	HNO3	HNO3		HNO3	Cool 4C
Type of Container	G	P/G	G	Gs*	P/G	P/G	P	G	P	G	G		G	P/G
No. of Container(s)	1	1	3	3	1	1	1	3	1	6	1		1	1
Volume	500mL	500mL	1L	1L	500mL	250mL	250mL	500mL	20mL	1L	500mL		500mL	500mL
SAMPLE ANALYSIS 503018	ICP Metals-TAL Unfiltered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Unfiltered	Oil and Grease	TPH	Conductivity C	Turbidity D	pH E	Tritium	Activity Scan	Gross Alpha, Gross Beta, Sr-90, Gamma Spec	Gross Alpha, Gross Beta, Sr-90, Gamma Spec		ICP Metals-TAL Filtered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Filtered

Sample No.	Matrix*	Date Sampled	Time Sampled	HNO3	Cool 4C	H2SO4	HCl	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	HNO3	HNO3		HNO3	Cool 4C
BODX67 01	W	2/28/95	1052	A X	B X			X	X	X	X	X	503018 X	101 X			
BODX68 02	W	2/28/95	1052													A X	B X

CHAIN OF POSSESSION	Sign/Print Names	Date/Time
Relinquished By	K.D. Lee	2/28/95 1340
Received By	K. Trapp / K. Trapp	2/28/95 1340
Relinquished By	K. Trapp / K. Trapp	3/1/95 1020
Received By	[illegible]	3-1-95 1020
Relinquished By		
Received By		
Relinquished By		
Received By		

SPECIAL INSTRUCTIONS

Sample analysis for PO4, NO2, and NO3 by EPA 300.0; turbidity by EPA 180.1; and pH by SW-846 9040 are being requested for information only. The ERC Contractor acknowledges that the hold times will not be met.

The Activity Scan is for all samples listed on this chain of custody.

Gs* = Glass with septum top. No head space.

SDG W0436

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	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION Original - Sample Yellow - Sampler

BC-6000-828 (12/92)

9513941.0436

0000019

Bechtel Hanford Incorporated

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priority [X] Normal

Collector: K. D. Lee	Company Contact: J. V. Borghese	Telephone No.: (509) 372-9584
Project Designation: 100-NR-2 Groundwater Sampling - Round 7	Sampling Location: 100 N	SAF No.: B95-030
Ice Chest No.: Homeboy	Field Logbook No.: EFL-1058	Method of Shipment: Hand Delivered
Shipped To: Quanterra	Offsite Property No.: PH / NA	Bill of Lading/Air Bill No.: NA /
Possible Sample Hazards/Remarks: Unknown		

Preservative	HNO3	Cool 4C	H2SO4	HCl	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	HNO3	HNO3		HNO3	Cool 4C
Type of Container	G	P/G	G	Gs*	P/G	P/G	P	G	P	G	G		G	P/G
No. of Container(s)	1	1	3	3	1	1	1	3	1	6	1		1	1
Volume	500mL	500mL	1L	1L	500mL	250mL	250mL	500mL	20mL	1L	500mL		500mL	500mL
SAMPLE ANALYSIS 503018	ICP Metals-TAL Unfiltered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Unfiltered	Oil and Grease	TPH	Conductivity C	Turbidity D	pH E	Tritium	Activity Scan	Gross Alpha, Gross Beta, Sr-90, Gamma Spec	Gross Alpha, Gross Beta, Sr-90, Gamma Spec		ICP Metals-TAL Filtered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Filtered

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

Sample No.	Matrix*	Date Sampled	Time Sampled	ICP Metals-TAL Unfiltered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Unfiltered	Oil and Grease	TPH	Conductivity C	Turbidity D	pH E	Tritium	Activity Scan	Gross Alpha, Gross Beta, Sr-90, Gamma Spec	Gross Alpha, Gross Beta, Sr-90, Gamma Spec		ICP Metals-TAL Filtered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Filtered
B0DX94 03	W	2/28/95	1052	A X	B X			X	X	X	X	X	5030 X	1902 X			
B0DX95 04	W	2/28/95	1052													A X	B X

CHAIN OF POSSESSION	Sign/Print Names	Date/Time
Relinquished By	K. D. Lee	2/28/95 1340
Received By	K. Trapp / K. Trapp	2/28/95 1210
Relinquished By	K. Trapp / K. Trapp	3/1/95 1400
Received By	[illegible]	3-1-95 1020
Relinquished By		
Received By		
Relinquished By		
Received By		

SPECIAL INSTRUCTIONS

Sample analysis for PO4, NO2, and NO3 by EPA 300.0; turbidity by EPA 180.1; and pH by SW-846 9040 are being requested for information only. The ERC Contractor acknowledges that the hold times will not be met.

The Activity Scan is for all samples listed on this chain of custody.

Gs* = Glass with septum top. No head space.

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	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original - Sample Yellow - Sampler

BC-6000-828 (12/92)

9513951.0937

0000020

all Cat I (R3) 3/1/95

Client Sample Screening Results

01-Mar-95

CLIENT	CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
WHC	B0DX67	LIQUID	3/1/95 12:52:42 PM	QUAD21A	3/1/95 11:55:53 AM	B0DX67	30	28	0.86333333	98	2.3646667
				Bkg:	3/1/95 5:54:51 PM	BKG	500	35	0.07	451	0.902

Anl Date: 3/1/95	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp;	(Dpm/ 2.53E+00	(uCi/ 1.14E-04	(pCi/ 1.14E+02	± 2.9E+01	CAT I	2.2E-01	Lab
Ppt mg: 2.1	Units: L	, ml	Bet;	Alq): 4.29E+00	Sa): 1.93E-04	Lig): 1.93E+02	± 2.9E+01		2.6E-01	Alq Lig

WHC	B0DX94	LIQUID	3/1/95 12:54:27 PM	QUAD21B	3/1/95 11:55:53 AM	B0DX94	30	16	0.45933333	78	1.708
				Bkg:	3/1/95 5:54:51 PM	BKG	500	37	0.074	446	0.892

Anl Date: 3/1/95	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp;	(Dpm/ 1.42E+00	(uCi/ 6.39E-05	(pCi/ 6.39E+01	± 2.5E+01	CAT I	3.9E-01	Lab
Ppt mg: 2.2	Units: L	, ml	Bet;	Alq): 3.04E+00	Sa): 1.37E-04	Lig): 1.37E+02	± 2.5E+01		3.7E-01	Alq Lig

9413151.0138
0000021

AMPLE STATUS REPORT FOR N 4878. RAD SCREEN 199-N-70 TIME: 3/ 1/95 8:13
DISPATCHED: 2/22/95 14:38 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 2/28/95 14:30

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	XR5561

END OF REPORT

BODX67
BODX68 KT 3/1/95
BODX94
BODX95

9613451.0440

Quanterra Environmental Services

WHC/BHI SAMPLE CHECK-IN LIST

Date/Time Received: 3-1-95 1020 SDG #: W0436

Work Order Number: 5-03-018 + 019 SAF #: B95-030

Shipping Container ID: L-WIS-133 Chain of Custody # na

1. Custody Seals on shipping container intact? Yes [X] No [ ]
2. Custody Seals dated and signed? Yes [X] No [ ]
3. Chain-of-Custody record present? Yes [X] No [ ]
4. Cooler temperature 4°C.
5. Vermiculite/packing materials is Wet [ ] Dry [X]
6. Number of samples in shipping container: 18
7. Sample holding times exceeded? Yes [ ] No [X]
8. Samples have: X tape ____ hazard labels
   X custody seals ____ appropriate sample labels
9. Samples are: X in good condition ____ leaking
   ____ broken ____ have air bubbles
10. Were any anomalies identifed in sample receipt? Yes [ ] No [X]
11. Description of anomalies (include sample numbers): _____

Sample Custodian: J Heidelberg On 3/1/95

Telephoned To: _____ On _____ By _____

FORM NO. LS-042, Rev. 1, 2/95

0000023

9613451.0441

Quanterra Environmental Services

WHC/BHI SAMPLE CHECK-IN LIST

Date/Time Received: 3-1-95 1030 SDG #: W0436

Work Order Number: 5-03-018 + 019 SAF #: B95-030

Shipping Container ID: HomeBoy Chain of Custody # na

1. Custody Seals on shipping container intact? Yes [X] No [ ]

2. Custody Seals dated and signed? Yes [X] No [ ]

3. Chain-of-Custody record present? Yes[X] No[ ]

4. Cooler temperature 4°C

5. Vermiculite/packing materials is Wet [ ] Dry [X]

6. Number of samples in shipping container: 18

7. Sample holding times exceeded? Yes [ ] No [X]

8. Samples have: X tape ____hazard labels
____custody seals ____appropriate sample labels

9. Samples are: X in good condition ____leaking
____broken ____have air bubbles

10. Were any anomalies identifed in sample receipt? Yes[ ] No[X]

11. Description of anomalies (include sample numbers):

Sample Custodian: [illegible] On 3/1/95

Telephoned To:_____On_____By_____

FORM NO. LS-042, Rev. 1, 2/95

Environmental Services 9613451.0442

C.U.R. and C.O.C.
COPIED TO: BW&WP
DATE: 3-2-95
TIME: 1145
BY: [illegible]

Work Order No.: _____

Condition Upon Receipt Variance Report
St. Louis Laboratory

Client: _____ Date: 3-2-95 09:45

Project No: _____ Initiated by: [illegible]

Analysis Requested: Refer to RFA/COC RFA/COC Numbers: 453885

Client Sample Numbers Affected: Entire Login

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

1. NA Not enough sample received for proper analysis.
   Received approximately: _____
2. ☐ Sample received broken/leaking.
3. ☐ Sample received without proper preservative.
   - ☐ Cooler temperature not within 4°C ± 2°C
     Record temperature: 2°C
   - ☐ pH _____
   - ☐ other: _____
4. ☐ Sample received in improper container.
5. ☐ Sample received without proper paperwork. Explain: _____
6. ☐ Paperwork received without sample.
7. ☐ No sample ID on sample container.
8. ☐ Custody tape disturbed/broken/missing.
9. NA Sample splits performed by lab.
10. NA Volatile sample received with approximately _____ mm headspace.
11. ☐ Sample ID on container does not match sample ID on paperwork. Explain: _____
12. ☐ All coolers on airbill not received with shipment.
13. ☐ Other (explain below):
    Shipping containers not rad surveyed.
    345 1339 875

Notes: _____

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) [illegible] Date: 3-2-95

Project Management Review: [illegible] Date: 3/2/95

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

Quanterra March 06, 1995 04:09 pm
Account: 10722 Project: 550.69 Quanterra-Richland QAS No. 898 Rev. 0
Master Sample Login: 7703

Project Manager: W. Price

Draft: Final: Entered and Reviewed by: PM Review:

Sample Header Template:

Sample No. / Comments	Client ID	C-Matrix	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No.
7703-001	B0DX73	Water	01-MAR-95 11:00	02-MAR-95 12:10	06-APR-95	FED-EX	1	Screening not Required
NOTE: RICHLAND ID 50305001								

#	Container Type	Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)
1	AN - Amber Glass-500ml	ICAP/6010/Q4	S	HNO3	30-MAR-95	28-AUG-95	T2C	(136104:100)
1	PN - Plastic-500ml	ANIONS/300.0/Q4	P	COLD	N/A	N/A	T2C	(136105:100)
1		CL/300.0/Q4	C	COLD	30-MAR-95	29-MAR-95	T2C	(136105:100)
1		FL/300.0/Q4	C	COLD	30-MAR-95	29-MAR-95	T2C	(136105:100)
1		NO2/300.0/Q4	C	COLD	30-MAR-95	03-MAR-95	T2C	(136105:100)
1		NO3/300.0/Q4	C	COLD	30-MAR-95	03-MAR-95	T2C	(136105:100)
1		OPHOS/300.0/Q4	C	COLD	30-MAR-95	03-MAR-95	T2C	(136105:100)
1		SO4/300.0/Q4	C	COLD	30-MAR-95	29-MAR-95	T2C	(136105:100)

Sample No. / Comments	Client ID	C-Matrix	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No.
7703-002	B0DX59	Water	01-MAR-95 08:45	02-MAR-95 12:10	06-APR-95	FED-EX	1	Screening not Required
NOTE: RICHLAND ID 50305002								

#	Container Type	Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)
1	AN - Amber Glass-500ml	ICAP/6010/Q4	S	HNO3	30-MAR-95	28-AUG-95	T2C	(136106:100)
1	PN - Plastic-500ml	ANIONS/300.0/Q4	P	COLD	N/A	N/A	T2C	(136107:100)
1		CL/300.0/Q4	C	COLD	30-MAR-95	29-MAR-95	T2C	(136107:100)
1		FL/300.0/Q4	C	COLD	30-MAR-95	29-MAR-95	T2C	(136107:100)
1		NO2/300.0/Q4	C	COLD	30-MAR-95	03-MAR-95	T2C	(136107:100)
1		NO3/300.0/Q4	C	COLD	30-MAR-95	03-MAR-95	T2C	(136107:100)
1		OPHOS/300.0/Q4	C	COLD	30-MAR-95	03-MAR-95	T2C	(136107:100)
1		SO4/300.0/Q4	C	COLD	30-MAR-95	29-MAR-95	T2C	(136107:100)
1	PW - Plastic-2oz	HOLD//Q4	S	COLD	11-&&&-**	11-&&&-**	T2C	(136108:100)

9615451.0443

0000026

3*=Sample has not been rad screened.

Tene 50
CUR 3078

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

Reference Document No. 453891
Page 1 of 1

Project Name/No. 1 SAF B95-030
Sample Team Members 2
Profit Center No. 3
Project Manager 4 VAN PETTEY
Purchase Order No. 6
Required Report Date 11

Samples Shipment Date 7 3-2-95
Lab Destination 8 ST LOUIS
Lab Contact 9
Project Contact/Phone 12
Carrier/Waybill No. 13

Bill to: 5 Quanterra Richland
Report to: 10

ONE CONTAINER PER LINE

Sample Number 14	Sample Description/Type 15	Date/Time Collected 16	Container Type 17	Sample Volume 18	Pre-servative 19	Requested Testing Program 20	Condition on Receipt 21	Disposal Record No. 22
50305001 A	BODX73 / H2O	SEE	WHC	COC	Cool 40	SEE COC	1/00	
B	↓	↓	↓	↓	↓	↓	↓	
02A	BODX59 / H2O	↓	↓	↓	↓	↓		
B	↓	↓	↓	↓	↓	↓		
50305002C	↓	↓	↓	↓	↓	↓		
	JH 3/2/95							

FOR LAB USE ONLY

FOR LAB USE ONLY

Special Instructions: 23 As per WHC Contract

Possible Hazard Identification: 24
Non-hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☒

Sample Disposal: 25
Return to Client ☒ Disposal by Lab ☐ Archive ____ (mos.)

Turnaround Time Required: 26
Normal ☒ Rush ☐

QC Level: 27
I. ☐ II. ☐ III. ☐ Project Specific (specify): SDW-W04436

1. Relinquished by 28 (Signature/Affiliation) Heidelberg Quanterra	Date: 3-2-95 Time: 16:00	1. Received by 28 (Signature/Affiliation) Shannon Hung	Date: 03/03/95 Time: 1400
2. Relinquished by (Signature/Affiliation)	Date: Time:	2. Received by (Signature/Affiliation)	Date: Time:
3. Relinquished by (Signature/Affiliation)	Date: Time:	3. Received by (Signature/Affiliation)	Date: Time:

Comments: 29

White: To accompany samples Yellow: Field copy

*See back of form for special instructions.

0000027

Temp 5° All cont. 100% full CUR 3078

Bechtel Hanford Incorporated

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Data Turnaround: [ ] Priority [X] Normal

Collector: Moreno / Bolt	Company Contact: J. V. Borghese	Telephone No.: (509) 372-9584
Project Designation: 100-NR-2 Groundwater Sampling - Round 7	Sampling Location: 100 N	SAF No.: B95-030
Ice Chest No.: ER-402	Field Logbook No.: NA	Method of Shipment: Hand Delivered
Shipped To: Quanterra	Offsite Property No.: NA	Bill of Lading/Air Bill No.: NA
Possible Sample Hazards/Remarks		

Sample No.	Matrix*	Date Sampled	Time Sampled	ICP Metals-TAL Unfiltered A	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Unfiltered	Oil and Grease	TPH	Conductivity	Turbidity	pH	Tritium	Activity Scan	Gross Alpha	Gross Beta	Sr-90	Gamma Spec	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Filtered B	ICP Metals-TAL Filtered
Preservative				pH 1 HNO3	Cool 4C	H2SO4	HCl	cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	HNO3	HNO3	HNO3	HNO3	Cool 4C	HNO3
Type of Container				AG	P/G	G	Gs*	P/G	P/G	P	G	P	G	G	G	G	P/G	G
No. of Container(s)				1	1	3	3	1	1	1	3	1	1	1	3	*1	1	1
Volume				500mL	500mL	1L	1L	500mL	250mL	250mL	500mL	20mL	1L	1L	1L	*1	500mL	500mL
SAMPLE ANALYSIS				5030:50											5030:51			
B00X73 01	W	3-1-95	11:00	X							X	X			X	X	X	

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

CHAIN OF POSSESSION

Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
T Moreno Jr	3-1-95 1305	K. Trapp / K. Trapp	3/1/95 1305
K. Trapp / K. Trapp	3/2/95	Anthony Richter / Anthony Richter	3-2-95 12:10

SPECIAL INSTRUCTIONS

Sample analysis for PO4, NO2, and NO3 by EPA 300.0; turbidity by EPA 180.1; and pH by SW-846 9040 are being requested for information only. The ERC Contractor acknowledges that the hold times will not be met.

The Activity Scan is for all samples listed on this chain of custody.

Gs* = Glass with septum top. No head space.

*1. 2, 1L bottles and 1, 250mL bottle

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 | Title | Date/Time

FINAL SAMPLE DISPOSITION: Disposal Method | Disposed By | Date/Time

DISTRIBUTION: Original - Sample Yellow - Sampler

BC-6000-828 (12/92)

0000028

Bechtel Hanford Incorporated

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priority [X] Normal

Collector: MORENO / Belt	Company Contact: J. V. Borghese	Telephone No.: (509) 372-9584
Project Designation: 100-NR-2 Groundwater Sampling - Round 7	Sampling Location: 100 N	SAF No.: 895-030
Ice Chest No.: ER-402-	Field Logbook No.: NA	Method of Shipment: Hand Delivered
Shipped To: Quanterra	Offsite Property No.: NA	Bill of Lading/Air Bill No.: NA
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: Maintain samples between 2C and 6C.		

Preservative	pH 1 HNO3	Cool 4C	H2SO4	HCl	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	HNO3	HNO3	HNO3	HNO3	Cool 4C	HNO3
Type of Container	AG	P/G	G	Gs*	P/G	P/G	P	G	P	G	G	G	G	P/G	G
No. of Container(s)	1	1	3	3	1	1	1	3	1	1	1	3	*1	1	1
Volume	500mL	500mL	1L	1L	500mL	250mL	250mL	500mL	20mL	1L	1L	1L	*1	500mL	500mL
SAMPLE ANALYSIS 50305C	ICP Metals-TAL Unfiltered A	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Unfiltered	Oil and Grease	TPH	Conductivity	Turbidity	pH	Tritium	Activity Scan B	Gross Alpha	Gross Beta	Sr-90	Gamma Spec	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Filtered C	ICP Metals-TAL Filtered

Sample No.	Matrix*	Date Sampled	Time Sampled													
B0DX59 C2	W	3-1-95	08:45	X								X				X

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By	Date/Time	Received By	Date/Time
Moreno Jr	3-1-95	K. Trapp / K. Trapp	3/1/95 1305
Relinquished By	Date/Time	Received By	Date/Time
K. Trapp / K. Trapp	3/1/95	[illegible]	3/2/95
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS

Sample analysis for PO4, NO2, and NO3 by EPA 300.0; turbidity by EPA 180.1; and pH by SW-846 9040 are being requested for information only. The ERC Contractor acknowledges that the hold times will not be met.

The Activity Scan is for all samples listed on this chain of custody.

Gs* = Glass with septum top. No head space.

*1. 2, 1L bottles and 1, 250mL bottle

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	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

0000029

Client Sample Screening Results

03-Mar-95

(R3) 3/3/95

CLIENT	CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
WHC	B0C346	LIQUID	3/3/95 2:07:41 PM	QUAD21A	3/3/95 12:28:17 PM	B0C346	30	158	5.23066667	2985	98.574
				Bkg:	3/3/95 5:23:04 PM	BKG	500	18	0.036	463	0.926
Anl Date: 3/3/95		Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp; (Dpm/ 1.51E+01	(uCi/ 6.80E-04	(pCi/ 6.80E+02	± 6.1E+01	CAT I	3.7E-02	Lab Alq Lig	
Fpt mg: 16		Units: L	, ml	Bet; Alq): 2.00E+02	Sa): 9.03E-03	Lig): 9.03E+03	± 1.7E+02		5.5E-03		
WHC	B0D347	LIQUID	3/3/95 2:09:32 PM	QUAD21B	3/3/95 12:28:17 PM	B0D347	30	12	0.336	107	2.5986667
				Bkg:	3/3/95 5:23:04 PM	BKG	500	32	0.064	484	0.968
Anl Date: 3/3/95		Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp; (Dpm/ 1.18E+00	(uCi/ 5.32E-05	(pCi/ 5.32E+01	± 3.0E+01	CAT I	4.7E-01	Lab Alq Lig	
Fpt mg: 17.1		Units: L	, ml	Bet; Alq): 5.00E+00	Sa): 2.25E-04	Lig): 2.25E+02	± 3.1E+01		2.2E-01		
WHC	B0DX73	LIQUID	3/3/95 3:36:23 PM	QUAD23A	3/3/95 3:04:38 PM	B0DX73	30	27	0.826	110	2.7126667
503050 Chem 503051 Rad.				Bkg:	3/3/95 5:23:04 PM	BKG	500	37	0.074	477	0.954
Anl Date: 3/3/95		Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp; (Dpm/ 2.40E+00	(uCi/ 1.08E-04	(pCi/ 1.08E+02	± 2.7E+01	CAT I	2.3E-01	Lab Alq Lig	
Fpt mg: 2.9		Units: L	, ml	Bet; Alq): 4.66E+00	Sa): 2.10E-04	Lig): 2.10E+02	± 2.9E+01		2.4E-01		
WHC	B0DZB0	LIQUID	3/3/95 2:10:10 PM	QUAD21C	3/3/95 12:28:17 PM	B0DZB0	30	23	0.77133333	835	27.606
				Bkg:	3/3/95 5:23:04 PM	BKG	500	31	0.062	447	0.894
Anl Date: 3/3/95		Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp; (Dpm/ 1.49E+00	(uCi/ 6.71E-05	(pCi/ 6.71E+01	± 2.5E+01	CAT I	3.7E-01	Lab Alq Lig	
Fpt mg: 2.6		Units: L	, ml	Bet; Alq): 5.40E+01	Sa): 2.43E-03	Lig): 2.43E+03	± 8.6E+01		2.1E-02		
WHC	B0DZB1	LIQUID	3/3/95 2:13:56 PM	QUAD21D	3/3/95 12:28:17 PM	B0DZB1	30	21	0.638	674	21.358667
				Bkg:	3/3/95 5:23:04 PM	BKG	500	21	0.042	454	0.908
Anl Date: 3/3/95		Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp; (Dpm/ 1.44E+00	(uCi/ 6.48E-05	(pCi/ 6.48E+01	± 2.5E+01	CAT I	3.9E-01	Lab Alq Lig	
Fpt mg: 2.4		Units: L	, ml	Bet; Alq): 4.21E+01	Sa): 1.90E-03	Lig): 1.90E+03	± 7.6E+01		2.6E-02		

b
X436

0000030

96195145 HANTERRA

5093755590

P.02

(R3) 3/2/95

Client Sample Screening Results

02-Mar-95

CLIENT	CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
WHC	B0DRL2	SOLID	3/2/95 3:40:04 PM	QUAD21A	3/2/95 3:06:18 PM	B0DRL2	30	9	0.26	122	3.1446667
				Bkg:	3/2/95 4:30:40 PM	BKG	500	20	0.04	461	0.922

Anl Date: 3/2/95	Tot Sa, Alq: 9.12E+02	, 9.89E+01	Alp;	(Dpm/ 1.58E+00	(uCi/ 6.55E-03	(pCi/ 7.19E+00	± 5.3E+00	CAT I	7.0E+00	Lab
Ppt mg: 98.9	Units: g	, mg	Bet;	Alq): 7.12E+00	Sa): 2.96E-02	L/g): 3.24E+01	± 3.9E+00		3.1E+00	Alq L/g

CLIENT	CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
WHC	B0DRL4	SOLID	3/2/95 3:40:47 PM	QUAD21B	3/2/95 3:06:18 PM	B0DRL4	30	18	0.512	161	4.3146667
				Bkg:	3/2/95 4:30:40 PM	BKG	500	44	0.088	526	1.052

Anl Date: 3/2/95	Tot Sa, Alq: 9.22E+02	, 9.25E+01	Alp;	(Dpm/ 3.19E+00	(uCi/ 1.43E-02	(pCi/ 1.55E+01	± 6.4E+00	CAT II	3.2E+00	Lab
Ppt mg: 92.5	Units: g	, mg	Bet;	Alq): 9.32E+00	Sa): 4.19E-02	L/g): 4.54E+01	± 4.6E+00		2.2E+00	Alq L/g

CLIENT	CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
WHC	B0DX59	LIQUID	3/2/95 3:45:37 PM	QUAD22D	3/2/95 3:06:18 PM	B0DX59	30	50	1.61266667	136	3.6613333
				Bkg:	3/2/95 4:30:40 PM	BKG	500	27	0.054	436	0.872

Anl Date: 3/2/95	Tot Sa, Alq: 5.00E-01	, 1.00E+01	Alp;	(Dpm/ 4.89E+00	(uCi/ 1.10E-04	(pCi/ 2.20E+02	± 3.4E+01	CAT I	1.1E-01	Lab
Ppt mg: 3.2	Units: L	, ml	Bet;	Alq): 5.98E+00	Sa): 1.35E-04	L/g): 2.69E+02	± 3.1E+01		1.9E-01	Alq L/g

CLIENT	CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
WHC	B0DXH3	LIQUID	3/2/95 3:41:29 PM	QUAD21C	3/2/95 3:06:18 PM	B0DXH3	30	43	1.39133333	555	17.636
				Bkg:	3/2/95 4:30:40 PM	BKG	500	21	0.042	432	0.864

Anl Date: 3/2/95	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp;	(Dpm/ 3.78E+00	(uCi/ 1.70E-04	(pCi/ 1.70E+02	± 3.2E+01	CAT I	1.5E-01	Lab
Ppt mg: 4.6	Units: L	, ml	Bet;	Alq): 3.41E+01	Sa): 1.54E-03	L/g): 1.54E+03	± 6.9E+01		3.3E-02	Alq L/g

CLIENT	CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
WHC	B0DZC0	LIQUID	3/2/95 3:42:37 PM	QUAD21D	3/2/95 3:06:18 PM	B0DZC0	30	38	1.21266667	512	16.126667
				Bkg:	3/2/95 4:30:40 PM	BKG	500	27	0.054	470	0.94

Anl Date: 3/2/95	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp;	(Dpm/ 3.70E+00	(uCi/ 1.67E-04	(pCi/ 1.67E+02	± 3.5E+01	CAT I	1.5E-01	Lab
Ppt mg: 10.7	Units: L	, ml	Bet;	Alq): 3.16E+01	Sa): 1.42E-03	L/g): 1.42E+03	± 6.7E+01		3.5E-02	Alq L/g

00000031

9613451.0948

AMPLE STATUS REPORT FOR N 4383. RAD SCREEN 1-N-3 TIME: 3/ 2/95 10:34
DISPATCHED: 1/13/95 18:31 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 0/ 0/ 0 0: 0

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	INCOMPLETE			R4006

END OF REPORT

PRESS ANY KEY TO CONTINUE

ERIAL NUMBER STATUS REPORT 3/ 2/95 10:34

SERIAL NUMBER (PNNNN) ? N4393

AMPLE STATUS REPORT FOR N 4393. RAD SCREEN 1-N-71 TIME: 3/ 2/95 10:34
DISPATCHED: 1/13/95 18:31 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 3/ 2/95 8:22

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	R4006

END OF REPORT

AMPLE STATUS REPORT FOR N 4384. RAD SCREEN 1-N-32 TIME: 3/ 2/95 10:41
DISPATCHED: 1/13/95 18:31 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 3/ 2/95 8:22

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	R4006

END OF REPORT

9613451.0451

Quanterra Environmental Services

WHC/BHI SAMPLE CHECK-IN LIST

Date/Time Received: 3-2-95 @ 1210 SDG #: BHI W0436

Work Order Number: 5-03-050 +51 SAF #: 95-011 B95-030

Shipping Container ID: ER402 Chain of Custody # NA

1. Custody Seals on shipping container intact? Yes [X] No [ ]

2. Custody Seals dated and signed? Yes [X] No [ ]

3. Chain-of-Custody record present? Yes[X] No[ ]

4. Cooler temperature 4 °C

5. Vermiculite/packing materials is Wet [ ] Dry [ ] 3-2-95

6. Number of samples in shipping container: ~~26~~ 27

7. Sample holding times exceeded? Yes [ ] No [X]

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

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

10. Were any anomalies identifed in sample receipt? Yes[ ] No[ ]

11. Description of anomalies (include sample numbers): _____

Sample Custodian: [signature] On 3-2-95

Telephoned To: _____ On _____ By _____

FORM NO. LS-042, Rev. 1, 2/95

0000034

Quanterra Environmental Services

9613451.0452

C.U.R. and C.O.C.
COPIED TO: RN WP
DATE: 03/03/95
TIME: 1538
BY: Shannon Haig

Work Order No.: 7703

Condition Upon Receipt Variance Report
St. Louis Laboratory

Client: Richland

Date: 03/03/95 1400

Project No: 550.69

Initiated by: Shannon Haig

Analysis Requested: Refer to RFA/COC

RFA/COC Numbers: 453891

Client Sample Numbers Affected: Entire Login

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

1. NA Not enough sample received for proper analysis.
   Received approximately: _____
2. ☐ Sample received broken/leaking.
3. ☐ Sample received without proper preservative.
   - ☐ Cooler temperature not within 4°C ± 2°C
     Record temperature: 5° vial > 6°
   - ☐ pH _____
   - ☐ other: _____
4. ☐ Sample received in improper container.
5. ☐ Sample received without proper paperwork. Explain: _____
6. ☐ Paperwork received without sample.
7. ☐ No sample ID on sample container.
8. ☐ Custody tape disturbed/broken/missing.
9. NA Sample splits performed by lab.
10. NA Volatile sample received with approximately _____ mm headspace.
11. ☐ Sample ID on container does not match sample ID on paperwork. Explain: _____
12. ☐ All coolers on airbill not received with shipment.
13. ☐ Other (explain below):
    Shipping containers not rad surveyed.
    327 3643 563

Notes: _____

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) Fred Mitchell Date: 3-3-95

Project Management Review: Abby Wolder Date: 3/6/95

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

Quanterra March 07, 1995 03:21 pm
Account: 10722 Project: 550.69 Quanterra-Richland QAS No. 898 Rev. 0
Master Sample Login: 7721

Project Manager: W. Price

Draft: Final: Entered and Reviewed by: [illegible] PM Review: Abby Wolden

Sample Header Template:

Sample No. / #	Client ID / Container Type	C-Matrix / Analysis	Date: Collected / Class	Received / Preservative	Due / Anal. Due Date	Shipper / Hold Date	Site	Rad Category / (Container Numbers:% Filled)	Rad Sample No.
7721-001	BOOX48	Water	03-MAR-95 10:59	06-MAR-95 11:50	10-APR-95	FED-EX		1 Screening not Required	
NOTE: RICHLAND ID 50310701									
3	AN - Amber Glass-1L	OG/413.1/Q4	S	H2SO4	03-APR-95	31-MAR-95	T88	(136549:100 136550:100 136551:100)	
3		TPH/418.1/Q4	S	HCL	03-APR-95	17-MAR-95	T88	(136552:100 136553:100 136554:100)	
1	AN - Amber Glass-500ml	ICAP/6010/Q4	S	HNO3	03-APR-95	30-AUG-95	T88	(136547:100)	
1	PN - Plastic-500ml	ANIONS/300.0/Q4	P	COLD	N/A	N/A	T88	(136548:100)	
1		CL/300.0/Q4	C	COLD	03-APR-95	31-MAR-95	T88	(136548:100)	
1		COND/120.1/Q4	S	COLD	03-APR-95	31-MAR-95	T88	(136555:99)	
1		FL/300.0/Q4	C	COLD	03-APR-95	31-MAR-95	T88	(136548:100)	
1		NO2/300.0/Q4	C	COLD	03-APR-95	05-MAR-95	T88	(136548:100)	
1		NO3/300.0/Q4	C	COLD	03-APR-95	05-MAR-95	T88	(136548:100)	
1		OPHOS/300.0/Q4	C	COLD	03-APR-95	05-MAR-95	T88	(136548:100)	
1		SO4/300.0/Q4	C	COLD	03-APR-95	31-MAR-95	T88	(136548:100)	
1	PN - Plastic-250ml	PH/9040/Q4	S	COLD	03-APR-95	04-MAR-95	T88	(136557:99)	
1		TURB/180.1/Q4	S	COLD	03-APR-95	05-MAR-95	T88	(136556:100)	
7721-001DUP	BOOX48	Water	03-MAR-95 10:59	06-MAR-95 11:50	10-APR-95	FED-EX		1 Screening not Required	
NOTE: RICHLAND ID 50310701									
3	AN - Amber Glass-1L	OG/413.1/Q4	S	H2SO4	03-APR-95	31-MAR-95	T88	(136549:100 136550:100 136551:100)	
3		TPH/418.1/Q4	S	HCL	03-APR-95	17-MAR-95	T88	(136552:100 136553:100 136554:100)	
7721-001MS	BOOX48	Water	03-MAR-95 10:59	06-MAR-95 11:50	10-APR-95	FED-EX		1 Screening not Required	
NOTE: RICHLAND ID 50310701									
3	AN - Amber Glass-1L	TPH/418.1/Q4	S	HCL	03-APR-95	17-MAR-95	T88	(136552:100 136553:100 136554:100)	
7721-002	BOOX49	Water	03-MAR-95 10:59	06-MAR-95 11:50	10-APR-95	FED-EX		1 Screening not Required	
NOTE: RICHLAND ID 50310702									
1	AN - Amber Glass-500ml	ICAPD/6010/Q4	S	HNO3	03-APR-95	30-AUG-95	T88	(136580:100)	
1	PN - Plastic-500ml	ANIONS/300.0/Q4	P	COLD	N/A	N/A	T88	(136581:100)	
1		CL/300.0/Q4	C	COLD	03-APR-95	31-MAR-95	T88	(136581:100)	
1		FL/300.0/Q4	C	COLD	03-APR-95	31-MAR-95	T88	(136581:100)	
1		NO2/300.0/Q4	C	COLD	03-APR-95	05-MAR-95	T88	(136581:100)	
1		NO3/300.0/Q4	C	COLD	03-APR-95	05-MAR-95	T88	(136581:100)	
1		OPHOS/300.0/Q4	C	COLD	03-APR-95	05-MAR-95	T88	(136581:100)	
1		SO4/300.0/Q4	C	COLD	03-APR-95	31-MAR-95	T88	(136581:100)	

3*=Sample has not been rad screened.

9613451.0453

0000036

Temp 6c CUC# 3403

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

Reference Document No. 453895
Page 1 of 2

Project Name/No. 1: B95-030
Sample Team Members 2:
Profit Center No. 3:
Project Manager 4: Van Pettey
Purchase Order No. 6:
Required Report Date 11: NormAL

Samples Shipment Date 7: 3-6-95
Lab Destination 8: St. Louis
Lab Contact 9:
Project Contact/Phone 12:
Carrier/Waybill No. 13:

Bill to: 5: Quantera
Richland
Report to: 10:

White: To accompany samples. Yellow: Field copy

ONE CONTAINER PER LINE

Sample Number 14	Sample Description/Type 15	Date/Time Collected 16	Container Type 17	Sample Volume 18	Pre-servative 19	Requested Testing Program 20	Condition on Receipt 21	Disposal Record No. 22
50310701A	BODx48 /W	SEE	WHC	COC	COOL 4°C	SEE COC		
B							FOR LAB USE ONLY	
C								
D								
E							FOR LAB USE ONLY	
F								
G								
H								

Special Instructions: 23

Possible Hazard Identification: 24
Non-hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☒

Sample Disposal: 25
Return to Client ☒ Disposal by Lab ☐ Archive _____ (mos.)

Turnaround Time Required: 26
Normal ☒ Rush ☐ AS Per WHC Contract

QC Level: 27
I. ☐ II. ☐ III. ☐ Project Specific (specify): SDG W0436

1. Relinquished by 28 (Signature/Affiliation) R. Boyd Quatera	Date: 3-6-95 Time: 16:00	1. Received by 28 (Signature/Affiliation) [illegible]	Date: 3-7-95 Time: 09:40
2. Relinquished by (Signature/Affiliation)	Date: Time:	2. Received by (Signature/Affiliation)	Date: Time:
3. Relinquished by (Signature/Affiliation)	Date: Time:	3. Received by (Signature/Affiliation)	Date: Time:

Comments: 29

*See back of form for special instructions.

0000031

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD (cont.)*

Reference Document No.[30] 453895

Page 2 of 2

Project Name B95-030

Project No.

Samples Shipment Date 3-6-95

ONE CONTAINER PER LINE

Sample[14] Number	Sample[15] Description/Type	Date/Time[16] Collected	Container[17] Type	Sample[18] Volume	Pre-[19] servative	Requested Testing[20] Program	Condition on[21] Receipt	Disposal[22] Record No.
50310701 J	BODx48/W	SEE	WHC	COC	COOL 4°C	SEE COC		
↓ K	↓	↓	↓	↓	↓	↓	FOR LAB USE ONLY	
50310702A	BODx49							
↓ B	↓	↓	↓	↓	↓	↓		

RB 3-6-95

White: To accompany samples Yellow: Field copy

*See back of form for special instructions.

MCA 3/15/91

0000038

Bechtel Hanford Incorporated

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: K. Lee / A Rizzo	Company Contact: J. V. Borghese	Telephone No.: (509) 372-9584
Project Designation: 100-NR-2 Groundwater Sampling - Round 7	Sampling Location: 100 N	SAF No.: B95-030
Ice Chest No.: SML-502	Field Logbook No.: EFL-1058	Method of Shipment: Hand Delivered
Shipped To: Quanterra	Offsite Property No.: PH. / NA / /	Bill of Lading/Air Bill No.: NA /
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: Maintain samples between 2C and 6C.		

Preservative	HNO3	Cool 4C	H2SO4	HCl	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	HNO3	HNO3		HNO3	Cool 4C
Type of Container	G	P/[illegible]	G	Gs*	P/[illegible]	P/[illegible]	P	G	P	G	G		G	P/[illegible]
No. of Container(s)	1	1	3	3	1	1	1	3	1	7 3 3-95			1	1
Volume	500mL	500mL	1L	1L	500mL	250mL	250mL	500mL	20mL	1L	500mL		500mL	500mL
SAMPLE ANALYSIS 503107	ICP Metals-TAL Unfiltered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Unfiltered	Oil and Grease	TPH	Conductivity	Turbidity	pH	Tritium	Activity Scan	Gross Alpha, Gross Beta, Sr-90, Gamma Spec	Gross Alpha, Gross Beta, Sr-90, Gamma Spec		ICP Metals-TAL Filtered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Filtered
	A	B	C	D E	F G H	I	J	K	5031080				A	B

	Sample No.	Matrix*	Date Sampled	Time Sampled	A	B	C	D E	F G H	I	J	K	5031080				A	B
01	B0DX48	W	3-3-95	1059	X	X	X	X	X	X	X	X	X	X	X			
02	B0DX49	W	3-3-95	1059											3-3-95		X	X

SDG W0436

CHAIN OF POSSESSION	Sign/Print Names	Date/Time	Received By	Date/Time
Relinquished By: AG R.220		3-3-95 1225	David St. John EPC	3-3-95 1225
Relinquished By: David St. John EPC		3-3-95 1315	K. Trapp / K. Trapp	3/3/95 1315
Relinquished By: K. Trapp / K. Trapp		3/3/95 11:50	Karen Stettnisse	3-6-95 11 50
Relinquished By		Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS

Sample analysis for PO4, NO2, and NO3 by EPA 300.0; turbidity by EPA 180.1; and pH by SW-846 9040 are being requested for information only. The ERC Contractor acknowledges that the hold times will not be met.

The Activity Scan is for all samples listed on this chain of custody.

Gs* = Glass with septum top. No head space.

Gross Alpha, Gross Beta provided in 7 (4) Glass Bottles instead of 6 (4) and 1 Sterile AR 3-3-95

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	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION Original Sample Yellow - Sampler

BC-6900-828 (12/92)

0000039

9515196.0456

Client Sample Screening Results

06-Mar-95

CLIENT CODE	ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
WHC	B0DX48	LIQUID	3/6/95 2:53:04 PM	QUAD22A	3/6/95 1:55:58 PM	B0DX48	30	17	0.51066667	71	1.4026667
				Bkg:	3/4/95 4:02:34 PM	BKG	500	28	0.056	482	0.964

Anl Date:	3/6/95	Tot Sa, Alq:	1.00E+00	,	1.00E+01	Alp;	(Dpm/	1.60E+00	(uCi/	7.21E-05	(pCi/	7.21E+01	± 2.7E+01	CAT I	3.5E-01	Lab Alq
Ppt mg:	8	Units:	L	,	ml	Bet;	Alq):	2.35E+00	Sa):	1.06E-04	Lig):	1.06E+02	± 2.3E+01		4.7E-01	Lig

000040

9613451.0457

AMPLE STATUS REPORT FOR N 4871. RAD SCREEN 199-N-21 TIME: 3/ 6/95 8:30
DISPATCHED: 2/22/95 14:38 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 3/ 6/95 7:48

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	XR5561

END OF REPORT

BODX48
BODX49
BODX98
BODX99

KT 3/6/95

9613451.0459

Quanterra Environmental Services

WHC/BHI SAMPLE CHECK-IN LIST

Date/Time Received: 3-6-95 11:50 SDG #: BHF

Work Order Number: 50310701-02, 50310801 SAF #: B95-030

Shipping Container ID: SMK-502 Chain of Custody #_____

1. Custody Seals on shipping container intact? Yes [X] No [ ]

2. Custody Seals dated and signed? Yes [X] No [ ]

3. Chain-of-Custody record present? Yes[X] No[ ]

4. Cooler temperature 4°C

5. Vermiculite/packing materials is Wet [ ] Dry [X]

6. Number of samples in shipping container: 24

7. Sample holding times exceeded? Yes [ ] No [X]

8. Samples have: X tape ____hazard labels
X custody seals ____appropriate sample labels

9. Samples are: X in good condition ____leaking
____broken ____have air bubbles

10. Were any anomalies identifed in sample receipt? Yes[ ] No[X]

11. Description of anomalies (include sample numbers):_____

Sample Custodian: Karen Attlesberg On 3-6-95

Telephoned To:_____ On_____ By_____

FORM NO. LS-042, Rev. 1, 2/95

Environmental Services 9613451.0460

C.U.R. and C.C.C.
COPIED TO: BW+WP
DATE: 3-7-95
TIME: 12:00
BY: 2M

Work Order No.: 7721

Condition Upon Receipt Variance Report
St. Louis Laboratory

Client: Richland
Date: 3-7-95 0 9:40
Project No: 550.69
Initiated by: Brad Mitchell
Analysis Requested: Refer to RFA/COC
RFA/COC Numbers:
Client Sample Numbers Affected: Entire Login

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

1. NA Not enough sample received for proper analysis.
   Received approximately:
2. ☐ Sample received broken/leaking.
3. ☐ Sample received without proper preservative.
   - ☐ Cooler temperature not within 4°C ± 2°C
     Record temperature: 6°C Temp rad 7°C
   - ☐ pH
   - ☐ other:
4. ☐ Sample received in improper container.
5. ☐ Sample received without proper paperwork. Explain:
6. ☐ Paperwork received without sample.
7. ☐ No sample ID on sample container.
8. ☐ Custody tape disturbed/broken/missing.
9. NA Sample splits performed by lab.
10. NA Volatile sample received with approximately _____ mm headspace.
11. ☐ Sample ID on container does not match sample ID on paperwork. Explain:
12. ☑ All coolers on airbill not received with shipment.
13. ☐ Other (explain below):
    Shipping containers not rad surveyed.
    308 0649 537

Notes:

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) Brad Mitchell Date:
Project Management Review: Abby Wolder Date: 3/8/95

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

Quanterra March 08, 1995 03:13 pm
Account: 10722 Project: 550.69 Quanterra-Richland QAS No. 898 Rev. 0
Master Sample Login: 7733

Project Manager: W. Price

Draft: Final: Entered and Reviewed by: [signature] PM Review: [signature]

Sample Header Template:

Sample No. / Comments	Client ID	C-Matrix	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No.
7733-001	B0DX86	Water	06-MAR-95 12:35	07-MAR-95 10:20	11-APR-95	FED-EX	1	Screening not Required
RICHLAND I.D. 50313001								

#	Container Type	Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)
3	AN - Amber Glass-1L	OG/413.1/Q4	S	H2SO4	04-APR-95	03-APR-95	R2E	(136866:100 136867:99 136868:98)
3		TPH/418.1/Q4	S	HCL	04-APR-95	20-MAR-95	R2E	(136869:97 136870:96 136871:95)
1	PN - Plastic-500ml	ANIONS/300.0/Q4	P	COLD	N/A	N/A	R2E	(136864:100)
1		CL/300.0/Q4	C	COLD	04-APR-95	03-APR-95	R2E	(136864:100)
1		COND/120.1/Q4	S	COLD	04-APR-95	03-APR-95	R2E	(136865:94)
1		FL/300.0/Q4	C	COLD	04-APR-95	03-APR-95	R2E	(136864:100)
1		ICAP/6010/Q4	S	HNO3	04-APR-95	02-SEP-95	R2E	(136874:100)
1		NO2/300.0/Q4	C	COLD	04-APR-95	08-MAR-95	R2E	(136864:100)
1		NO3/300.0/Q4	C	COLD	04-APR-95	08-MAR-95	R2E	(136864:100)
1		OPHOS/300.0/Q4	C	COLD	04-APR-95	08-MAR-95	R2E	(136864:100)
1		SO4/300.0/Q4	C	COLD	04-APR-95	03-APR-95	R2E	(136864:100)
1	PN - Plastic-250ml	PH/9040/Q4	S	COLD	04-APR-95	07-MAR-95	R2E	(136873:99)
1		TURB/180.1/Q4	S	COLD	04-APR-95	08-MAR-95	R2E	(136872:100)

Sample No. / Comments	Client ID	C-Matrix	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No.
7733-002	B0DX54	Water	06-MAR-95 11:15	07-MAR-95 10:20	11-APR-95	FED-EX	1	Screening not Required
RICHLAND I.D. 50313003								

#	Container Type	Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)
3	AN - Amber Glass-1L	OG/413.1/Q4	S	H2SO4	04-APR-95	03-APR-95	R2E	(136877:100 136878:99 136879:98)
3		TPH/418.1/Q4	S	HCL	04-APR-95	20-MAR-95	R2E	(136880:97 136881:96 136882:95)
1	PN - Plastic-500ml	ANIONS/300.0/Q4	P	COLD	N/A	N/A	R2E	(136875:100)
1		CL/300.0/Q4	C	COLD	04-APR-95	03-APR-95	R2E	(136875:100)
1		COND/120.1/Q4	S	COLD	04-APR-95	03-APR-95	R2E	(136876:94)
1		FL/300.0/Q4	C	COLD	04-APR-95	03-APR-95	R2E	(136875:100)
1		ICAP/6010/Q4	S	HNO3	04-APR-95	02-SEP-95	R2E	(136885:100)
1		NO2/300.0/Q4	C	COLD	04-APR-95	08-MAR-95	R2E	(136875:100)
1		NO3/300.0/Q4	C	COLD	04-APR-95	08-MAR-95	R2E	(136875:100)
1		OPHOS/300.0/Q4	C	COLD	04-APR-95	08-MAR-95	R2E	(136875:100)
1		SO4/300.0/Q4	C	COLD	04-APR-95	03-APR-95	R2E	(136875:100)
1	PN - Plastic-250ml	PH/9040/Q4	S	COLD	04-APR-95	07-MAR-95	R2E	(136884:99)
1		TURB/180.1/Q4	S	COLD	04-APR-95	08-MAR-95	R2E	(136883:100)

Sample No. / Comments	Client ID	C-Matrix	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No.
7733-003	B0DX92	Water	06-MAR-95 11:15	07-MAR-95 10:20	11-APR-95	FED-EX	1	Screening not Required
RICHLAND I.D. 50313005								

#	Container Type	Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)
3	AN - Amber Glass-1L	OG/413.1/Q4	S	H2SO4	04-APR-95	03-APR-95	R2E	(136888:100 136889:99 136890:98)
3		TPH/418.1/Q4	S	HCL	04-APR-95	20-MAR-95	R2E	(136891:97 136892:96 136893:95)
1	PN - Plastic-500ml	ANIONS/300.0/Q4	P	COLD	N/A	N/A	R2E	(136886:100)
1		CL/300.0/Q4	C	COLD	04-APR-95	03-APR-95	R2E	(136886:100)
1		COND/120.1/Q4	S	COLD	04-APR-95	03-APR-95	R2E	(136887:94)
1		FL/300.0/Q4	C	COLD	04-APR-95	03-APR-95	R2E	(136886:100)

3*=Sample has not been rad screened.

0000044

Quanterra March 08, 1995 03:13 pm
Account: 10722 Project: 550.69 Quanterra-Richland QAS No. 898 Rev. 0
Master Sample Login: 7733

Project Manager: W. Price

Draft: Final: Entered and Reviewed by:_____ PM Review:_____

Sample Header Template: _____

Sample No. / #	Client ID / Comments / Container Type	C-Matrix / Analysis	Date: Collected / Class	Received / Preservative	Due / Anal. Due Date	Shipper / Hold Date	Rad Category / Site	Rad Sample No. (Container Numbers:% Filled)
Data:								
1		ICAP/6010/Q4	S	HNO3	04-APR-95	02-SEP-95	R2E	(136896:100)
1		NO2/300.0/Q4	C	COLD	04-APR-95	08-MAR-95	R2E	(136886:100)
1		NO3/300.0/Q4	C	COLD	04-APR-95	08-MAR-95	R2E	(136886:100)
1		OPHOS/300.0/Q4	C	COLD	04-APR-95	08-MAR-95	R2E	(136886:100)
1		SO4/300.0/Q4	C	COLD	04-APR-95	03-APR-95	R2E	(136886:100)
1	PN - Plastic-250ml	PH/9040/Q4	S	COLD	04-APR-95	07-MAR-95	R2E	(136895:99)
1		TURB/180.1/Q4	S	COLD	04-APR-95	08-MAR-95	R2E	(136894:100)
7733-004	B0DX87	Water	06-MAR-95 12:35	07-MAR-95 10:20	11-APR-95	FED-EX	1	Screening not Required
	RICHLAND I.D. 50313002							
1	AN - Amber Glass-500ml	ICAPD/6010/Q4	S	HNO3	04-APR-95	02-SEP-95	R2E	(136897:100)
1	PN - Plastic-500ml	ANIONS/300.0/Q4	P	COLD	N/A	N/A	R2E	(136898:100)
1		CL/300.0/Q4	C	COLD	04-APR-95	03-APR-95	R2E	(136898:100)
1		FL/300.0/Q4	C	COLD	04-APR-95	03-APR-95	R2E	(136898:100)
1		NO2/300.0/Q4	C	COLD	04-APR-95	08-MAR-95	R2E	(136898:100)
1		NO3/300.0/Q4	C	COLD	04-APR-95	08-MAR-95	R2E	(136898:100)
1		OPHOS/300.0/Q4	C	COLD	04-APR-95	08-MAR-95	R2E	(136898:100)
1		SO4/300.0/Q4	C	COLD	04-APR-95	03-APR-95	R2E	(136898:100)
7733-005	B0DX55	Water	06-MAR-95 11:15	07-MAR-95 10:20	11-APR-95	FED-EX	1	Screening not Required
	RICHLAND I.D. 50313004							
1	AN - Amber Glass-500ml	ICAPD/6010/Q4	S	HNO3	04-APR-95	02-SEP-95	R2E	(136899:100)
1	PN - Plastic-500ml	ANIONS/300.0/Q4	P	COLD	N/A	N/A	R2E	(136900:100)
1		CL/300.0/Q4	C	COLD	04-APR-95	03-APR-95	R2E	(136900:100)
1		FL/300.0/Q4	C	COLD	04-APR-95	03-APR-95	R2E	(136900:100)
1		NO2/300.0/Q4	C	COLD	04-APR-95	08-MAR-95	R2E	(136900:100)
1		NO3/300.0/Q4	C	COLD	04-APR-95	08-MAR-95	R2E	(136900:100)
1		OPHOS/300.0/Q4	C	COLD	04-APR-95	08-MAR-95	R2E	(136900:100)
1		SO4/300.0/Q4	C	COLD	04-APR-95	03-APR-95	R2E	(136900:100)
7733-006	B0DX93	Water	06-MAR-95 11:15	07-MAR-95 10:20	11-APR-95	FED-EX	1	Screening not Required
	RICHLAND I.D. 50313006							
1	AN - Amber Glass-500ml	ICAPD/6010/Q4	S	HNO3	04-APR-95	02-SEP-95	R2E	(136901:100)
1	PN - Plastic-500ml	ANIONS/300.0/Q4	P	COLD	N/A	N/A	R2E	(136902:100)
1		CL/300.0/Q4	C	COLD	04-APR-95	03-APR-95	R2E	(136902:100)
1		FL/300.0/Q4	C	COLD	04-APR-95	03-APR-95	R2E	(136902:100)
1		NO2/300.0/Q4	C	COLD	04-APR-95	08-MAR-95	R2E	(136902:100)
1		NO3/300.0/Q4	C	COLD	04-APR-95	08-MAR-95	R2E	(136902:100)
1		OPHOS/300.0/Q4	C	COLD	04-APR-95	08-MAR-95	R2E	(136902:100)
1		SO4/300.0/Q4	C	COLD	04-APR-95	03-APR-95	R2E	(136902:100)

3*=Sample has not been rad screened.

0000045

Quanterra March 08, 1995 03:13 pm
Account: 10722 Project: 550.69 Quanterra-Richland QAS No. 898 Rev. 0
Master Sample Login: 7733

Project Manager: W. Price

Draft: Final: Entered and Reviewed by:_____ PM Review:_____

Sample Header Template: _____

Sample No. / Comments	Client ID	C-Matrix	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No.
7733-007	BOOX75	Water	03-MAR-95 10:30	07-MAR-95 10:20	11-APR-95	FED-EX	1	Screening not Required
RICHLAND I.D. 50313007								

#	Container Type	Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)
1	AN - Amber Glass-500ml	ICAP/6010/Q4	S	HNO3	04-APR-95	30-AUG-95	R2E	(136903:100)
1	PN - Plastic-500ml	ANIONS/300.0/Q4	P	COLD	N/A	N/A	R2E	(136904:100)
1		CL/300.0/Q4	C	COLD	04-APR-95	31-MAR-95	R2E	(136904:100)
1		FL/300.0/Q4	C	COLD	04-APR-95	31-MAR-95	R2E	(136904:100)
1		NO2/300.0/Q4	C	COLD	04-APR-95	05-MAR-95	R2E	(136904:100)
1		NO3/300.0/Q4	C	COLD	04-APR-95	05-MAR-95	R2E	(136904:100)
1		OPHOS/300.0/Q4	C	COLD	04-APR-95	05-MAR-95	R2E	(136904:100)
1		SO4/300.0/Q4	C	COLD	04-APR-95	31-MAR-95	R2E	(136904:100)

Sample No. / Comments	Client ID	C-Matrix	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No.
7733-008	BOOX76	Water	03-MAR-95 09:15	07-MAR-95 10:20	11-APR-95	FED-EX	1	Screening not Required
RICHLAND I.D. 50313008								

#	Container Type	Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)
1	AN - Amber Glass-500ml	ICAP/6010/Q4	S	HNO3	04-APR-95	30-AUG-95	R2E	(136905:100)
1	PN - Plastic-500ml	ANIONS/300.0/Q4	P	COLD	N/A	N/A	R2E	(136906:100)
1		CL/300.0/Q4	C	COLD	04-APR-95	31-MAR-95	R2E	(136906:100)
1		FL/300.0/Q4	C	COLD	04-APR-95	31-MAR-95	R2E	(136906:100)
1		NO2/300.0/Q4	C	COLD	04-APR-95	05-MAR-95	R2E	(136906:100)
		NO3/300.0/Q4	C	COLD	04-APR-95	05-MAR-95	R2E	(136906:100)
		OPHOS/300.0/Q4	C	COLD	04-APR-95	05-MAR-95	R2E	(136906:100)
		SO4/300.0/Q4	C	COLD	04-APR-95	31-MAR-95	R2E	(136906:100)
	PN - Plastic-250ml	COND/120.1/Q4	S	COLD	04-APR-95	31-MAR-95	R2E	(136907:100)
		PH/9040/Q4	S	COLD	04-APR-95	04-MAR-95	R2E	(136908:99)

3*=Sample has not been rad screened.

0000046

9613451.0463

Temp 4 Cont # 3086

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

Reference Document No. 481711
Page 1 of 3

Project Name/No. [1] SAF B95-030
Sample Team Members [2]
Profit Center No. [3]
Project Manager [4] VAN PETTEY
Purchase Order No. [6]
Required Report Date [11] 4-21-95

Samples Shipment Date [7] 3-7-95
Lab Destination [8] ST Louis
Lab Contact [9]
Project Contact/Phone [12]
Carrier/Waybill No. [13]

Bill to: [5] Quanterra Richland
Report to: [10]

White: To accompany samples
Yellow: Field copy

ONE CONTAINER PER LINE

Sample Number [14]	Sample Description/Type [15]	Date/Time Collected [16]	Container Type [17]	Sample Volume [18]	Preservative [19]	Requested Testing Program [20]	Condition on Receipt [21] %DF:	pH:	Disposal Record No. [22]
50313001 A	BODX86 / H2O	3-16-95 1235 SEE WAC	ABGLS	500mL CUC	Cool H2O	TCP METALS - TAL SEE CUC	100	2	
B		3-16-95 1235	Poly	500mL		Anions	100		
C		3-16-95 1235	ABGLS	1L	H2SO4	OIL & GREA	100	2	
D		3-16-95 1235	ABGLS	1L	H2SO4	OIL & GREA	100	2	
E		3-16-95 1235	ABGLS	1L	H2SO4	OIL & GREA	100	2	
F		3-16-95 1235	ABGLS	1L	HCL	TPH	100	2	
G		3-16-95 1235	ABGLS	1L	HCL	TPH	100	2	
H		3-16-95 1235	ABGLS	1L	HCL	TPH	100	2	

FOR LAB USE ONLY

FOR LAB USE ONLY

Special Instructions: [23] As per WHC Contract

Possible Hazard Identification: [24]
Non-hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☒

Sample Disposal: [25]
Return to Client ☒ Disposal by Lab ☐ Archive _____ (mos.)

Turnaround Time Required: [26]
Normal ☒ Rush ☐

QC Level: [27]
I. ☐ II. ☐ III. ☐ Project Specific (specify): SDG WO4136

1. Relinquished by [28] (Signature/Affiliation) Heidelberg Quanterra Date: 3-17-95 Time: 16:00	1. Received by [28] (Signature/Affiliation) Date: 3-8-95 Time: 10:15
2. Relinquished by (Signature/Affiliation) Date: Time:	2. Received by (Signature/Affiliation) Date: Time:
3. Relinquished by (Signature/Affiliation) Date: Time:	3. Received by (Signature/Affiliation) Date: Time:

Comments: [29]
0000047

*See back of form for special instructions.

1810 Shipping

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD (cont.)*

Reference Document No.[30] 481711

Page 2 of 3

Project Name SAF B95-030

Project No. SDL W0436

Samples Shipment Date 3-7-95

ONE CONTAINER PER LINE

Sample[14] Number	Sample[15] Description/Type	Date/Time[16] Collected	Container[17] Type	Sample[18] Volume	Pre-[19] servative	Requested Testing Program[20]	Condition on[21] Receipt	Disposal[22] Record No.
50313001I	BODX86 /H2O	3-16-95 1235	WH Poly	COC	Cool 4°	SEE COC	100	
J	↓	3-16-95 1235	Poly	250 ml		conductivity-Turbidity	100	
K	↓	3-16-95 1235	Poly	250 ml		Ph	100	
02A	BODX87 /H2O	3-16-95 0935	ABGLS	500 ml	HNO3	TAL ICP metals	100	2
B	↓	3-16-95 1115	Poly	500		Anions	100	
03A	BODX54 /H2O	3-16-95 1115	ABGLS	500	HNO3	ICP metal	100	2
B	↓	3-16-95 1115 ~~3-16-95 1115~~	Poly ~~ABGLS~~	500 ml ~~1L~~	~~H2SO4~~	Anions ~~OIL GREA~~	100 ~~100~~	2
C	↓	3-16-95 1115	ABGLS	1L	H2SO4	OIL GREA	100	2
D	↓	3-16-95 1115	ABGLS	1L	H2SO4	OIL GREA	100	2
E	↓	3-16-95 1115	ABGLS	1L	H2SO4	OIL GREA	100	2
F	↓	3-16-95 1115	ABGLS	1L	HCL	TPH	100	2
G	↓	3-16-95 1115	ABGLS	1L	HCL	TPH	100	2
H	↓	3-16-95 1115	ABGLS	1L	HCL	TPH	100	2
I	↓	3-16-95 1115	Poly	500		Conductivity	100	
J	↓	3-16-95 1115	Poly	250		Turbidity	100	
K	↓	3-16-95 1115	Poly	250		PH	100	
04A	BODX55 /H2O	3-16-95 1115	ABGLS	500	HNO3	ICP metals TAL	100	2
B	↓	3-16-95 1115	Poly	500		Anions	100	
05A	BODX92 /H2O	3-16-95 1115	ABGLS	500	HNO3	ICP metals TAL	100	2
B	↓	3-16-95 1115	Poly	500	↓	ANIONS	100	

White: To accompany samples
Yellow: Field copy
*See back of form for special instructions.

0000048

MCA 3/15/91

Temp 1° cal # 3086

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD (cont.)*

Reference Document No.[30] 481711

Page 3 of 3

Project Name SAF B95-030

Project No. SDL W0436

Samples Shipment Date 3-7-95

ONE CONTAINER PER LINE

Sample[14] Number	Sample[15] Description/Type	Date/Time[16] Collected	Container[17] Type	Sample[18] Volume	Pre-[19] servative	Requested Testing[20] Program	Condition on[21] Receipt (°C / Ph / V)	Disposal[22] Record No.
50313005C	BODX92 / H2O	3-16-95 SEE 1115	COC ABGLS	1L	Cool H2SO4	SEE COC (OIL & GREASE)	100	2
D		3-16-95 1115	ABGLS	1L	H2SO4	OIL & GREASE	100	2
E		3-16-95 1115	ABGLSS	1L	H2SO4	OIL & GREASE	100	2
F		3-16-95 1115	ABGLS	1L	HCL	TPH	100	2
G		3-16-95 1115	ABGLSL	1L	HCL	TPH	100	2
H		3-16-95 1115	ABGLS	1L	HCL	TPH	100	2
I		3-16-95 1115	Poly	500		Conductivity	100	
J		3-16-95 1115	Poly	250		Turbidity	100	
K		3-16-95 1115	Poly	250		Ph	100	
06A	BODX93 / H2O	3-16-95 1115	ABGLS	500	HNO3	ICP metals TAL	100	2
B		3-16-95 1115	Poly	500		Anions	100	
07A	BODX75 / H2O	3-3-95 1030	ABGLS	500	HNO3	ICP metals TAL	100	2
B		3-3-95 1030	Poly	500		Anions	100	
08A	BODX76 / H2O	3-3-95 0915	ABGLS	500	HNO3	ICP metals TAL	100	2
B		3-3-95 0915	Poly	500		Conductivity	100	
C		3-3-95 0915	Poly	250		Ph	100	
D		3-3-95 0915	Poly	500		Anions	100	
	3/7/95							
0000049								

White: To accompany samples

Yellow: Field copy

*See back of form for special instructions.

Bechtel Hanford Incorporated

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Date Turnaround: [ ] Priority [X] Normal

Collector: K. Lee / A Rizzo	Company Contact: J. V. Borghese	Telephone No.: (509) 372-9584
Project Designation: 100-NR-2 Groundwater Sampling - Round 7	Sampling Location: 100 N	SAF No.: B95-030
Ice Chest No.: GWS-122	Field Logbook No.: EFL-1058	Method of Shipment: Hand Delivered
Shipped To: Quanterra	Offsite Property No.: N/A	Bill of Lading/Air Bill No.: N/A
Possible Sample Hazards/Remarks		

Preservative	HNO3	Cool 4C	H2SO4	HCl	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	HNO3	HNO3		HNO3	Cool 4C
Type of Container	G	P/G	G	Gs*	P/G	P/G	P	G	P	G	G		G	P/G
No. of Container(s)	1	1	3	3	1	1	1	3	1	6	1		1	1
Volume	500mL	500mL	1L	1L	500mL	250mL	250mL	500mL	20mL	1L	500mL		500mL	500mL
SAMPLE ANALYSIS 503130	ICP Metals-TAL Unfiltered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Unfiltered	Oil and Grease	TPH	Conductivity	Turbidity	pH	Tritium 503130	Activity Scan 503130	Gross Alpha, Gross Beta, Sr-90, Gamma Spec	Gross Alpha, Gross Beta, Sr-90, Gamma Spec		ICP Metals-TAL Filtered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Filtered
	A	B	CDE	FGH	I	J	K							

Sample No.	Matrix*	Date Sampled	Time Sampled	A	B	CDE	FGH	I	J	K							
B0DX86 01	W	3-6-95	~~1115~~ 1235	X	X	X	X	X	X	X	X	X	X	X			
B0DX87 02	W	3-6-95	~~1115~~ 1235													A X	B X
		3-6-95															

CHAIN OF POSSESSION	Sign/Print Names	Date/Time	Received By	Date/Time
Relinquished By	AGRizzo (ERC)	3-6-95 1530	K. Trapp / K. Trapp (ERC)	3/6/95 1530
Relinquished By	K. Trapp / K. Trapp (ERC)	3/7/95 0905	B. Walthew (BHI)	3-7-95 0905
Relinquished By	B. Walthew (BHI)	3-7-95 1030	Heidelberg	3/7/95 1030
Relinquished By			Received By	

SPECIAL INSTRUCTIONS

Sample analysis for PO4, NO2, and NO3 by EPA 300.0; turbidity by EPA 180.1; and pH by SW-846 9040 are being requested for information only. The ERC Contractor acknowledges that the hold times will not be met.

The Activity Scan is for all samples listed on this chain of custody.

Gs* = Glass with septum top. No head space.

STD-W0436

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	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9613451.0967

0000050

Bechtel Hanford Incorporated

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: K.L. / A Rizzo	Company Contact: J. V. Borghese	Telephone No.: (509) 372-9584
Project Designation: 100-NR-2 Groundwater Sampling - Round 7	Sampling Location: 100 N	SAF No.: B95-030
Ice Chest No.: ER26	Field Logbook No.: EFL -1058	Method of Shipment: Hand Delivered
Shipped To: Quanterra	Offsite Property No.: N/A	Bill of Lading/Air Bill No.: N/A
Possible Sample Hazards/Remarks		

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

SAMPLE ANALYSIS: 50313C

Preservative	HNO3	Cool 4C	H2SO4	HCl	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	HNO3	HNO3		HNO3	Cool 4C
Type of Container	G	P/G	G	Gs*	P/G	P/G	P	G	P	G	G		G	P/G
No. of Container(s)	1	1	3	3	1	1	1	3	1	6	1		1	1
Volume	500mL	500mL	1L	1L	500mL	250mL	250mL	500mL	20mL	1L	500mL		500mL	500mL
	ICP Metals-TAL Unfiltered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Unfiltered	Oil and Grease	TPH	Conductivity	Turbidity	pH	Tritium	Activity Scan	Gross Alpha, Gross Beta, Sr-90, Gamma Spec	Gross Alpha, Gross Beta, Sr-90, Gamma Spec		ICP Metals-TAL Filtered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Filtered
	A	B	C	D E	F G H	I	J	K						

Sample No.	Matrix*	Date Sampled	Time Sampled	A	B	C	D E	F G H	I	J	K							
B0DX54 03	W	3-6-95	1115	X	X	X	X	X	X	X	X	X	X	X	X			
B0DX55 04	W	3-6-95	1115														A X	B X

CHAIN OF POSSESSION	Sign/Print Names	Date/Time
Relinquished By: AG Rizzo (ERC)		3-6-95 1330
Received By: J. V. Trapp/K. Trapp ERC		3/6/95 1330
Relinquished By: K. Trapp/K. Trapp ERC		3/7/95 0905
Received By: Kim Bulthius BWHHW		3-7-95 0905
Relinquished By: Kim Bulthius BWHHW		3-7-95 1030
Received By: Heidelberg		3/7/95 1030
Relinquished By:		
Received By:		

SPECIAL INSTRUCTIONS

Sample analysis for PO4, NO2, and NO3 by EPA 300.0; turbidity by EPA 180.1; and pH by SW-846 9040 are being requested for information only. The ERC Contractor acknowledges that the hold times will not be met.

The Activity Scan is for all samples listed on this chain of custody.

Gs* = Glass with septum top. No head space.

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	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

0000051

9613351.0968

Bechtel Hanford Incorporated

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priority [X] Normal

Collector: K. Lee / A Rizzo	Company Contact: J. V. Borghese	Telephone No.: (509) 372-9584
Project Designation: 100-NR-2 Groundwater Sampling - Round 7	Sampling Location: 100 N	SAF No.: B95-030
Ice Chest No.: SML-502	Field Logbook No.: EFL-1058	Method of Shipment: Hand Delivered
Shipped To: Quanterra	Offsite Property No.: N/A	Bill of Lading/Air Bill No.: N/A
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: Maintain samples between 2C and 6C.		

SAMPLE ANALYSIS: 503130

Sample No.	Matrix*	Date Sampled	Time Sampled	A	B	C	D	E	F	G	H	I	J	K				
Preservative				HNO3	Cool 4C	H2SO4	HCl	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	HNO3	HNO3		HNO3	Cool 4C	
Type of Container				G	P/G	G	Gs*	P/G	P/G	P	G	P	G	G		G	P/G	
No. of Container(s)				1	1	3	3	1	1	1	3	1	6	1		1	1	
Volume				500mL	500mL	1L	1L	500mL	250mL	250mL	500mL	20mL	1L	500mL		500mL	500mL	
				ICP Metals-TAL Unfiltered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Unfiltered	Oil and Grease	TPH	Conductivity	Turbidity	pH	Tritium 503130 3	Activity Scan	Gross Alpha, Gross Beta, Sr-90, Gamma Spec	Gross Alpha, Gross Beta, Sr-90, Gamma Spec		ICP Metals-TAL Filtered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Filtered	
BODX92 05	W	3-6-95	1115	X	X	X	X	X	X	X	X	X	X	X				
BODX93 06	W	3-6-95	1115													A X	B X	

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By	Date/Time	Received By	Date/Time
AG Rizzo (ERC)	3-6-95 1330	K. Jaeger / K. Trapp	3/6/95 1330
Relinquished By	Date/Time	Received By	Date/Time
K. Jaeger / K. Trapp	3/7/95 0905	Buhtten	3-7-95 0909
Relinquished By	Date/Time	Received By	Date/Time
Buhtten	3-7-95 1030	Hudellerg	3/7/95 1030
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS

Sample analysis for PO4, NO2, and NO3 by EPA 300.0; turbidity by EPA 180.1; and pH by SW-846 9040 are being requested for information only. The ERC Contractor acknowledges that the hold times will not be met.

The Activity Scan is for all samples listed on this chain of custody.

Gs* = Glass with septum top. No head space.

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	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original - Sample Yellow - Sampler

BC-6000-828 (12/92)

25000052

Bechtel Hanford Incorporated

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priority [X] Normal

Collector: Harrison/Almarode PNL

Company Contact: J. V. Borghese

Telephone No.: (509) 372-9584

Project Designation: 100-NR-2 Groundwater Sampling - Round 7

Sampling Location: 100 N

SAF No.: B95-030

Ice Chest No.: SML-423

Field Logbook No.:

Method of Shipment: Hand Delivered

Shipped To: Quanterra

Offsite Property No.: N/A

Bill of Lading/Air Bill No.: N/A

Possible Sample Hazards/Remarks:

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

SAMPLE ANALYSIS: 503130

Sample No.	Matrix*	Date Sampled	Time Sampled														
Preservative				HNO3	Cool 4C	H2SO4	HCl	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	HNO3	HNO3	HNO3	HNO3	Cool 4C	HNO3
Type of Container				G	P/G	G	Gs*	P/G	P/G	P	G	P	G	G	G	G	P/G	G
No. of Container(s)				1	1	3	3	1	1	1	3	1	1	1	3	*1	1	1
Volume				500mL	500mL	1L	1L	500mL	250mL	250mL	500mL	20mL	1L	1L	1L	*1	500mL	500mL
SAMPLE ANALYSIS				ICP Metals-TAL Unfiltered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Unfiltered	Oil and Grease	TPH	Conductivity	Turbidity	pH	Tritium 503130 4	Activity Scan	Gross Alpha	Gross Beta	Sr-90	Gamma Spec	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Filtered	ICP Metals-TAL Filtered
				A													B	
BODX75 07	W	3/3/95	1030	X							X	X			X	X	X	
												3-3-95						

CHAIN OF POSSESSION	Sign/Print Names	Date/Time
Relinquished By	K. Almarode	3-3-95 1230
Received By	K. Trapp / K. Trapp ERC	3/3/95 1230
Relinquished By	K. Trapp / K. Trapp ERC	3/3/95 0905
Received By	B. Whitten	3-7-95 0905
Relinquished By	B. Whitten	3-7-95 1030
Received By	H. Hudellee	3/7/95 1030
Relinquished By		
Received By		

SPECIAL INSTRUCTIONS

Sample analysis for PO4, NO2, and NO3 by EPA 300.0; turbidity by EPA 180.1; and pH by SW-846 9040 are being requested for information only. The ERC Contractor acknowledges that the hold times will not be met.

The Activity Scan is for all samples listed on this chain of custody.

Gs* = Glass with septum top. No head space.

*1. 2, 1L bottles and 1, 250mL bottle

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 | Title | Date/Time

FINAL SAMPLE DISPOSITION: Disposal Method | Disposed By | Date/Time

DISTRIBUTION: Original - Sample Yellow - Sampler

BC-6000-028 (12/92)

0000053

9613451.0470

Bechtel Hanford Incorporated

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priority [X] Normal

Collector: Harrison / C. Grunwald PNC
Company Contact: J. V. Borghese
Telephone No.: (509) 372-9584
Project Designation: 100-NR-2 Groundwater Sampling - Round 7
Sampling Location: 100 N
SAF No.: B95-030
Ice Chest No.: SMC-423
Field Logbook No.:
Method of Shipment: Hand Delivered
Shipped To: Quanterra
Offsite Property No.: N/A
Bill of Lading/Air Bill No.: N/A
Possible Sample Hazards/Remarks:
Special Handling and/or Storage: Maintain samples between 2C and 6C.

SAMPLE ANALYSIS: 503130

Sample No.	Matrix*	Date Sampled	Time Sampled	A				B		C							D	
Preservative				HNO3	Cool 4C	H2SO4	HCl	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	HNO3	HNO3	HNO3	HNO3	Cool 4C	HNO3
Type of Container				G	P/G	G	Gs*	P/G	P/G	P	G	P	G	G	G	G	P/G	G
No. of Container(s)				1	1	3	3	1	1	1	3	1	1	1	3	*1	1	1
Volume				500mL	500mL	1L	1L	500mL	250mL	250mL	500mL	20mL	1L	1L	1L	*1	500mL	500mL
				ICP Metals-TAL Unfiltered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Unfiltered	Oil and Grease	TPH	Conductivity	Turbidity	pH	Tritium	Activity Scan	Gross Alpha	Gross Beta	Sr-90	Gamma Spec	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Filtered	ICP Metals-TAL Filtered
													503130	503130				
100X76 08	W	3/3/95	09:15	X				X		X		~~X~~ 3-3-95	X	X			X	

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
C. Grunwald	3-3-95 1230	K. Trapp / K. Trapp	3/3/95 1230
K. Trapp / K. Trapp (ERC)	3/3/95 0909	(ERC) B. Walton	0909 3-3-95
(ERC) B. Walton	3-3-95 1030	Heidelberg	3/3/95 10:30

SPECIAL INSTRUCTIONS

Sample analysis for PO4, NO2, and NO3 by EPA 300.0; turbidity by EPA 180.1; and pH by SW-846 9040 are being requested for information only. The ERC Contractor acknowledges that the hold times will not be met.

The Activity Scan is for all samples listed on this chain of custody.

Gs* = Glass with septum top. No head space.

*1. 2, 1L bottles and 1, 250mL bottle

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 | Title | Date/Time

FINAL SAMPLE DISPOSITION: Disposal Method | Disposed By | Date/Time

DISTRIBUTION: Original - Sample Yellow - Sampler

BC-6000 (12/92)

0000054

9614510971

Client Sample Screening Results

07-Mar-95

(Rg) 3/7/95

CLIENT CODE	ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
WHC	B0DX54	LIQUID	3/7/95 2:16:39 PM	QUAD24A	3/7/95 1:36:51 PM	B0DX54	30	13	0.37733333	214	6.1913333
				Bkg:	3/7/95 4:20:31 PM	BKG	500	28	0.056	471	0.942

Anl Date: 3/7/95	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp;	(Dpm/ 1.08E+00	(uCi/ 4.86E-05	(pCi/ 4.86E+01	± 2.6E+01	CAT I ✓	5.1E-01	Lab Alq Lig
Ppt mg: 7.2	Units: L	, ml	Bet;	Alq): 1.20E+01	Sa): 5.40E-04	Lig): 5.40E+02	± 4.3E+01		9.3E-02	

WHC	B0DX75	LIQUID	3/7/95 2:17:41 PM	QUAD21B	3/7/95 1:17:44 PM	B0DX75	30	6	0.142	52	0.7713333			
				Bkg:	3/7/95 4:20:31 PM	BKG	500	29	0.058	481	0.962			
Anl Date: 3/7/95	Tot Sa, Alq: 2.00E-02	, 1.00E+01	Alp;	(Dpm/ 4.31E-01	(uCi/ 3.88E-07	(pCi/ 1.94E+01	± 2.3E+01	CAT I ✓	1.3E+00	Lab Alq Lig
Ppt mg: 2.2	Units: L	, ml	Bet;	Alq): 1.41E+00	Sa): 1.27E-06	Lig): 6.36E+01	± 2.1E+01		7.9E-01	

WHC	B0DX76	LIQUID	3/7/95 2:21:08 PM	QUAD21C	3/7/95 1:17:44 PM	B0DX76	30	17	0.52266667	74	1.5966667			
				Bkg:	3/7/95 4:20:31 PM	BKG	500	22	0.044	435	0.87			
Anl Date: 3/7/95	Tot Sa, Alq: 2.00E-02	, 1.00E+01	Alp;	(Dpm/ 1.53E+00	(uCi/ 1.38E-06	(pCi/ 6.89E+01	± 2.4E+01	CAT I ✓	3.6E-01	Lab Alq Lig
Ppt mg: 2.6	Units: L	, ml	Bet;	Alq): 2.85E+00	Sa): 2.57E-06	Lig): 1.28E+02	± 2.5E+01		3.9E-01	

WHC	B0DX79	LIQUID	3/7/95 2:50:27 PM	QUAD21D	3/7/95 1:17:44 PM	B0DX79	30	6	0.156	114	2.812			
				Bkg:	3/7/95 4:20:31 PM	BKG	500	22	0.044	494	0.988			
Anl Date: 3/7/95	Tot Sa, Alq: 2.00E-02	, 1.00E+01	Alp;	(Dpm/ 4.03E-01	(uCi/ 3.63E-07	(pCi/ 1.82E+01	± 2.2E+01	CAT I ✓	1.4E+00	Lab Alq Lig
Ppt mg: 1.2	Units: L	, ml	Bet;	Alq): 5.44E+00	Sa): 4.90E-06	Lig): 2.45E+02	± 3.2E+01		2.0E-01	

WHC	B0DX86	LIQUID	3/7/95 2:22:02 PM	QUAD22A	3/7/95	B0DX86	30	4	0.09733333	31	0.1393333			
				Bkg:	3/7/95 4:20:31 PM	BKG	500	18	0.036	447	0.894			
Anl Date: 3/7/95	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp;	(Dpm/ 2.73E-01	(uCi/ 1.23E-05	(pCi/ 1.23E+01	± 1.9E+01	CAT I ✓	2.0E+00	Lab Alq Lig
Ppt mg: 0.3	Units: L	, ml	Bet;	Alq): 2.00E-01	Sa): 9.00E-06	Lig): 9.00E+00	± 1.6E+01		5.6E+00	

00000055

96154951.0972

3/7/95

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
WIIC B0DX86	LIQUID	3/7/95 2:22:02 PM	QUAD22A	3/7/95 1:17:44 PM	B0DX86	30	4	0.09733333	31	0.1393333
			Bkg:	3/7/95 4:20:31 PM	BKG	500	18	0.036	447	0.894

Anl Date: 3/7/95	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp;	(Dpm/ 2.73E-01	(uCi/ 1.23E-05	(pCi/ 1.23E+01	± 1.9E+01	CAT I	2.0E+00	Lab
Ppt mg: 0.3	Units: L	, ml	Bet;	Alq): 2.00E-01	Sa): 9.00E-06	Lig): 9.00E+00	± 1.6E+01		5.6E+00	Alq Lig

WIIC B0DX92	LIQUID	3/7/95 2:23:49 PM	QUAD22B	3/7/95 1:17:44 PM	B0DX92	30	22	0.67533333	267	8.052
			Bkg:	3/7/95 4:20:31 PM	BKG	500	29	0.058	424	0.848

Anl Date: 3/7/95	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp;	(Dpm/ 1.98E+00	(uCi/ 8.92E-05	(pCi/ 8.92E+01	± 2.7E+01	CAT I	2.8E-01	Lab
Ppt mg: 6.8	Units: L	, ml	Bet;	Alq): 1.51E+01	Sa): 6.79E-04	Lig): 6.79E+02	± 4.7E+01		7.4E-02	Alq Lig

WIIC B0DX92	LIQUID	3/7/95 2:23:49 PM	QUAD22B	3/7/95 2:22:02 PM	B0DX92	30	22	0.67533333	267	8.052
			Bkg:	3/7/95 4:20:31 PM	BKG	500	29	0.058	424	0.848

Anl Date: 3/7/95	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp;	(Dpm/ 1.98E+00	(uCi/ 8.92E-05	(pCi/ 8.92E+01	± 2.7E+01	CAT I	2.8E-01	Lab
Ppt mg: 6.8	Units: L	, ml	Bet;	Alq): 1.51E+01	Sa): 6.79E-04	Lig): 6.79E+02	± 4.7E+01		7.4E-02	Alq Lig

9615151.0473

0000056

9613451.0474

AMPLE STATUS REPORT FOR N 4876. RAD SCREEN 199-N-54 TIME: 3/ 7/95 8:16
DISPATCHED: 2/22/95 14:38 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 3/ 7/95 7: 9

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	XR5561

END OF REPORT

PRESS ANY KEY TO CONTINUE

ERIAL NUMBER STATUS REPORT 3/ 7/95 8:17

SERIAL NUMBER (PNNNN) ? N4884

AMPLE STATUS REPORT FOR N 4884. RAD SCREEN FIELDBK1 TIME: 3/ 7/95 8:17
DISPATCHED: 2/22/95 14:39 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 3/ 7/95 7: 9

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	XR5561

END OF REPORT

BOD X86
BOD X87
BW
3-7-95

AMPLE STATUS REPORT FOR N 4876. RAD SCREEN 199-N-54 TIME: 3/ 7/95 8:16
DISPATCHED: 2/22/95 14:38 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 3/ 7/95 7: 9

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	XR5561

END OF REPORT

BODX54
BODX55
BW
3-7-95

PRESS ANY KEY TO CONTINUE

ERIAL NUMBER STATUS REPORT 3/ 7/95 8:17

SERIAL NUMBER (PNNNN) ? N4884

AMPLE STATUS REPORT FOR N 4884. RAD SCREEN FIELDBK1 TIME: 3/ 7/95 8:17
DISPATCHED: 2/22/95 14:39 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 3/ 7/95 7: 9

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	XR5561

END OF REPORT

9613451.0476

AMPLE STATUS REPORT FOR N 4876. RAD SCREEN 199-N-54 TIME: 3/ 7/95 8:16
DISPATCHED: 2/22/95 14:38 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 3/ 7/95 7: 9

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	XR5561

END OF REPORT

BODX92
BODX93
BW
3-7-95

PRESS ANY KEY TO CONTINUE

ERIAL NUMBER STATUS REPORT 3/ 7/95 8:17

SERIAL NUMBER (PNNNN) ? N4884

AMPLE STATUS REPORT FOR N 4884. RAD SCREEN FIELDBK1 TIME: 3/ 7/95 8:17
DISPATCHED: 2/22/95 14:39 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 3/ 7/95 7: 9

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	XR5561

END OF REPORT

AMPLE STATUS REPORT FOR N 4396. RAD SCREEN 1-N-74 TIME: 3/ 6/95 8:
DISPATCHED: 1/13/95 18:32 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 3/ 6/95 7:47

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	R4006

END OF REPORT

PRESS ANY KEY TO CONTINUE

BOOK 76
BW
3-7-95

ERIAL NUMBER STATUS REPORT 3/ 6/95 8: 7

9613451.0478

Quanterra Environmental Services

WHC/BHI SAMPLE CHECK-IN LIST

Date/Time Received: 3/7 @ 1020 SDG #: B95-C30

Work Order Number: _____ SAF #: _____

Shipping Container ID: ER-26 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. Chain-of-Custody record present? Yes[X] No[ ]
4. Cooler temperature 2°
5. Vermiculite/packing materials is Wet [ ] Dry [X]
6. Number of samples in shipping container: 24
7. Sample holding times exceeded? Yes [ ] No [X]
8. Samples have: ✓ tape ____ hazard labels ✓ custody seals ____ appropriate sample labels
9. Samples are: ✓ in good condition ____ leaking ____ broken ____ have air bubbles
10. Were any anomalies identifed in sample receipt? Yes[ ] No[X]
11. Description of anomalies (include sample numbers): _____

Sample Custodian: [illegible] On 3/7/95 1020

Telephoned To: _____ On _____ By _____

0000061

FORM NO. LS-042, Rev. 1, 2/95

9613451.0479

Quanterra Environmental Services

WHC/BHI SAMPLE CHECK-IN LIST

Date/Time Received: 3/7 @ 1625 SDG #: _____

Work Order Number: _____ SAF #: B015-030

Shipping Container ID: SML 502 Chain of Custody # NA

1. Custody Seals on shipping container intact? Yes [X] No [ ]
2. Custody Seals dated and signed? Yes [X] No [ ]
3. Chain-of-Custody record present? Yes [X] No [ ]
4. Cooler temperature 2C
5. Vermiculite/packing materials is Wet [ ] Dry [X]
6. Number of samples in shipping container: 24
7. Sample holding times exceeded? Yes [ ] No [X]
8. Samples have: ✓ tape ____ hazard labels
   ✓ custody seals ____ appropriate sample labels
9. Samples are: ✓ in good condition ____ leaking
   ____ broken ____ have air bubbles
10. Were any anomalies identifed in sample receipt? Yes [ ] No [X]
11. Description of anomalies (include sample numbers): _____

Sample Custodian: [signature] On 3/7/95 1625

Telephoned To: _____ On _____ By _____

0000062

FORM NO. LS-042, Rev. 1, 2/95

9613451.0480

Quanterra Environmental Services

WHC/BHI SAMPLE CHECK-IN LIST

Date/Time Received: 3/7 @ 1020 SDG #: _____

Work Order Number: _____ SAF #: B95-030

Shipping Container ID: LWS122 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. Chain-of-Custody record present? Yes [X] No [ ]
4. Cooler temperature 4°C
5. Vermiculite/packing materials is Wet [ ] Dry [X] JH 3/7/95
6. Number of samples in shipping container: ~~23~~ 24
7. Sample holding times exceeded? Yes [ ] No [X]
8. Samples have: ✓ tape ____ hazard labels
   ✓ custody seals ____ appropriate sample labels
9. Samples are: ✓ in good condition ____ leaking
   ____ broken ____ have air bubbles
10. Were any anomalies identifed in sample receipt? Yes [ ] No [X]
11. Description of anomalies (include sample numbers): _____

Sample Custodian: Hiedeling On 3-7-95 1020

Telephoned To: _____ On _____ By _____

0000063

FORM NO. LS-042, Rev. 1, 2/95

9613451.0481

Quanterra Environmental Services

WHC/BHI SAMPLE CHECK-IN LIST

Date/Time Received: 3/7 @ 1030 SDG #: _____

Work Order Number: _____ SAF #: B95-030

Shipping Container ID: SML 423 Chain of Custody # na

1. Custody Seals on shipping container intact? Yes [X] No [ ]
2. Custody Seals dated and signed? Yes [X] No [ ]
3. Chain-of-Custody record present? Yes[X] No[ ]
4. Cooler temperature 3°
5. Vermiculite/packing materials is Wet [ ] Dry [X]
6. Number of samples in shipping container: 21
7. Sample holding times exceeded? Yes [ ] No [X]
8. Samples have: ✓ tape ____ hazard labels ✓ custody seals ____ appropriate sample labels
9. Samples are: ✓ in good condition ____ leaking ____ broken ____ have air bubbles
10. Were any anomalies identifed in sample receipt? Yes[ ] No[X]
11. Description of anomalies (include sample numbers): _____

Sample Custodian: [illegible] On 3/7/95 1030

Telephoned To: _____ On _____ By _____

0000064

FORM NO. LS-042, Rev. 1, 2/95

Quanterra Environmental Services

9613451.0482

C.U.R. and C.O.C.
COPIED TO: BW/WP
DATE: 3-8-95
TIME:
BY: RB

Work Order No.: 7733

Condition Upon Receipt Variance Report
St. Louis Laboratory

Client: Richland

Date: 3-8-95 10:15

Project No: 550.69

Initiated by: [signature]

Analysis Requested: Refer to RFA/COC

RFA/COC Numbers: 481711X3 / 481712

Client Sample Numbers Affected: Entire Login

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

1. NA Not enough sample received for proper analysis.
   Received approximately: _____
2. ☐ Sample received broken/leaking.
3. ☐ Sample received without proper preservative.
   - ☐ Cooler temperature not within 4°C ± 2°C
     Record temperature: 4° & 1° & 4° RB
     (Temp. vial: 4° & 2° & 2° RB)
   - ☐ pH _____
   - ☐ other: _____
4. ☐ Sample received in improper container.
5. ☐ Sample received without proper paperwork. Explain: _____
6. ☐ Paperwork received without sample.
7. ☐ No sample ID on sample container.
8. ☐ Custody tape disturbed/broken/missing.
9. NA Sample splits performed by lab.
10. NA Volatile sample received with approximately _____ mm headspace.
11. ☐ Sample ID on container does not match sample ID on paperwork. Explain: _____
12. ☐ All coolers on airbill not received with shipment.
13. ☐ Other (explain below):
    Shipping containers not rad surveyed.
    4°- 308 0806 626
    1°- 327 4174 584
    ~~2°- 327 4174 504~~

Notes: _____

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) [signature] Date: 3-8-95

Project Management Review: [signature] Date: 3/10/95

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

0000065

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

Project: 550.69

Category: ICAP Metals - Filtered
Method: EPA 6010
Matrix: LIQUID

Sample Date : 02/27/95
Receipt Date : 02/28/95
Report Date : 04/05/95

Client ID: BODX64

Quanterra ID : 7669-003

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK62539-1	03/16/95	03/17/95	23.5	UG/L	U	200	1
Antimony	7440-36-0	QCBLK62539-1	03/16/95	03/17/95	32.8	UG/L	U	100	1
Barium	7440-39-3	QCBLK62539-1	03/16/95	03/17/95	49.0	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK62539-1	03/16/95	03/17/95	0.87	UG/L	B	7.0	1
Cadmium	7440-43-9	QCBLK62539-1	03/16/95	03/17/95	3.8	UG/L	U	20.0	1
Calcium	7440-70-2	QCBLK62539-1	03/16/95	03/17/95	31600	UG/L		5000	1
Chromium	7440-47-3	QCBLK62539-1	03/16/95	03/17/95	15.0	UG/L	B	20.0	1
Cobalt	7440-48-4	QCBLK62539-1	03/16/95	03/17/95	4.1	UG/L	U	50.0	1
Copper	7440-50-8	QCBLK62539-1	03/16/95	03/17/95	22.5	UG/L	B	25.0	1
Iron	7439-89-6	QCBLK62539-1	03/16/95	03/17/95	74.1	UG/L	B	100	1
Magnesium	7439-95-4	QCBLK62539-1	03/16/95	03/17/95	9470	UG/L		5000	1
Manganese	7439-96-5	QCBLK62539-1	03/16/95	03/17/95	3.8	UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK62539-1	03/16/95	03/17/95	15.2	UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK62539-1	03/16/95	03/17/95	3750	UG/L	B	5000	1
Silver	7440-22-4	QCBLK62539-1	03/16/95	03/17/95	3.8	UG/L	U	200	1
Sodium	7440-23-5	QCBLK62539-1	03/16/95	03/17/95	9310	UG/L		1000	1
Vanadium	7440-62-2	QCBLK62539-1	03/16/95	03/17/95	37.2	UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK62539-1	03/16/95	03/17/95	37.5	UG/L		20.0	1

9613451.0484

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

Project: 550.69

Category: ICAP Metals - Filtered
Method: EPA 6010
Matrix: LIQUID

Client ID: BODX62

Sample Date : 02/27/95
Receipt Date : 02/28/95
Report Date : 04/07/95

Quanterra ID : 7669-004

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK62539-1	03/16/95	03/17/95	23.6	UG/L	B	200	1
Antimony	7440-36-0	QCBLK62539-1	03/16/95	03/17/95	32.8	UG/L	U	100	1
Barium	7440-39-3	QCBLK62539-1	03/16/95	03/17/95	31.2	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK62539-1	03/16/95	03/17/95	0.72	UG/L	B	7.0	1
Cadmium	7440-43-9	QCBLK62539-1	03/16/95	03/17/95	3.8	UG/L	U	20.0	1
Calcium	7440-70-2	QCBLK62539-1	03/16/95	03/17/95	30200	UG/L		5000	1
Chromium	7440-47-3	QCBLK62539-1	03/16/95	03/17/95	3.4	UG/L	B	20.0	1
Cobalt	7440-48-4	QCBLK62539-1	03/16/95	03/17/95	4.1	UG/L	U	50.0	1
Copper	7440-50-8	QCBLK62539-1	03/16/95	03/17/95	20.6	UG/L	B	25.0	1
Iron	7439-89-6	QCBLK62539-1	03/16/95	03/17/95	120	UG/L		100	1
Magnesium	7439-95-4	QCBLK62539-1	03/16/95	03/17/95	8810	UG/L		5000	1
Manganese	7439-96-5	QCBLK62539-1	03/16/95	03/17/95	4.5	UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK62539-1	03/16/95	03/17/95	15.2	UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK62539-1	03/16/95	03/17/95	3370	UG/L	B	5000	1
Silver	7440-22-4	QCBLK62539-1	03/16/95	03/17/95	3.8	UG/L	U	200	1
Sodium	7440-23-5	QCBLK62539-1	03/16/95	03/17/95	7520	UG/L		1000	1
Vanadium	7440-62-2	QCBLK62539-1	03/16/95	03/17/95	33.9	UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK62539-1	03/16/95	03/17/95	74.0	UG/L		20.0	1

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

Project: 550.69

Category: ICAP Metals - Filtered
Method: EPA 6010
Matrix: LIQUID

Client ID: B0DX68

Sample Date : 02/28/95
Receipt Date : 03/01/95
Report Date : 04/05/95

Quanterra ID : 7672-003

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK62539-1	03/16/95	03/17/95	32.1	UG/L	B	200	1
Antimony	7440-36-0	QCBLK62539-1	03/16/95	03/17/95	32.8	UG/L	U	100	1
Barium	7440-39-3	QCBLK62539-1	03/16/95	03/17/95	39.9	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK62539-1	03/16/95	03/17/95	0.64	UG/L	B	7.0	1
Cadmium	7440-43-9	QCBLK62539-1	03/16/95	03/17/95	3.8	UG/L	U	20.0	1
Calcium	7440-70-2	QCBLK62539-1	03/16/95	03/17/95	36600	UG/L		5000	1
Chromium	7440-47-3	QCBLK62539-1	03/16/95	03/17/95	8.0	UG/L	B	20.0	1
Cobalt	7440-48-4	QCBLK62539-1	03/16/95	03/17/95	4.1	UG/L	U	50.0	1
Copper	7440-50-8	QCBLK62539-1	03/16/95	03/17/95	22.7	UG/L	B	25.0	1
Iron	7439-89-6	QCBLK62539-1	03/16/95	03/17/95	65.4	UG/L	B	100	1
Magnesium	7439-95-4	QCBLK62539-1	03/16/95	03/17/95	10300	UG/L		5000	1
Manganese	7439-96-5	QCBLK62539-1	03/16/95	03/17/95	4.4	UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK62539-1	03/16/95	03/17/95	15.2	UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK62539-1	03/16/95	03/17/95	3820	UG/L	B	5000	1
Silver	7440-22-4	QCBLK62539-1	03/16/95	03/17/95	3.8	UG/L	U	200	1
Sodium	7440-23-5	QCBLK62539-1	03/16/95	03/17/95	6940	UG/L		1000	1
Vanadium	7440-62-2	QCBLK62539-1	03/16/95	03/17/95	27.8	UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK62539-1	03/16/95	03/17/95	59.3	UG/L		20.0	1

9613451.0486

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

Project: 550.69

Category: ICAP Metals - Filtered
Method: EPA 6010
Matrix: LIQUID

Client ID: BODX95

Sample Date : 02/28/95
Receipt Date : 03/01/95
Report Date : 04/05/95

Quanterra ID : 7672-004

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK62539-1	03/16/95	03/17/95	23.5	UG/L	U	200	1
Antimony	7440-36-0	QCBLK62539-1	03/16/95	03/17/95	32.8	UG/L	U	100	1
Barium	7440-39-3	QCBLK62539-1	03/16/95	03/17/95	42.7	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK62539-1	03/16/95	03/17/95	0.96	UG/L	B	7.0	1
Cadmium	7440-43-9	QCBLK62539-1	03/16/95	03/17/95	3.8	UG/L	U	20.0	1
Calcium	7440-70-2	QCBLK62539-1	03/16/95	03/17/95	38100	UG/L		5000	1
Chromium	7440-47-3	QCBLK62539-1	03/16/95	03/17/95	7.3	UG/L	B	20.0	1
Cobalt	7440-48-4	QCBLK62539-1	03/16/95	03/17/95	4.1	UG/L	U	50.0	1
Copper	7440-50-8	QCBLK62539-1	03/16/95	03/17/95	19.2	UG/L	B	25.0	1
Iron	7439-89-6	QCBLK62539-1	03/16/95	03/17/95	91.1	UG/L	B	100	1
Magnesium	7439-95-4	QCBLK62539-1	03/16/95	03/17/95	10800	UG/L		5000	1
Manganese	7439-96-5	QCBLK62539-1	03/16/95	03/17/95	4.4	UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK62539-1	03/16/95	03/17/95	15.2	UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK62539-1	03/16/95	03/17/95	3670	UG/L	B	5000	1
Silver	7440-22-4	QCBLK62539-1	03/16/95	03/17/95	3.8	UG/L	U	200	1
Sodium	7440-23-5	QCBLK62539-1	03/16/95	03/17/95	7250	UG/L		1000	1
Vanadium	7440-62-2	QCBLK62539-1	03/16/95	03/17/95	26.0	UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK62539-1	03/16/95	03/17/95	58.8	UG/L		20.0	1

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

Project: 550.69

Category: ICAP Metals - Filtered
Method: EPA 6010
Matrix: LIQUID

Sample Date : 03/03/95
Receipt Date : 03/06/95
Report Date : 04/07/95

Client ID: BODX49

Quanterra ID : 7721-002

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK62539-1	03/16/95	03/17/95	28.5	UG/L	B	200	1
Antimony	7440-36-0	QCBLK62539-1	03/16/95	03/17/95	32.8	UG/L	U	100	1
Barium	7440-39-3	QCBLK62539-1	03/16/95	03/17/95	32.7	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK62539-1	03/16/95	03/17/95	0.55	UG/L	B	7.0	1
Cadmium	7440-43-9	QCBLK62539-1	03/16/95	03/17/95	3.8	UG/L	U	20.0	1
Calcium	7440-70-2	QCBLK62539-1	03/16/95	03/17/95	84600	UG/L		5000	1
Chromium	7440-47-3	QCBLK62539-1	03/16/95	03/17/95	3.5	UG/L	B	20.0	1
Cobalt	7440-48-4	QCBLK62539-1	03/16/95	03/17/95	4.1	UG/L	U	50.0	1
Copper	7440-50-8	QCBLK62539-1	03/16/95	03/17/95	19.5	UG/L	B	25.0	1
Iron	7439-89-6	QCBLK62539-1	03/16/95	03/17/95	304	UG/L		100	1
Magnesium	7439-95-4	QCBLK62539-1	03/16/95	03/17/95	17500	UG/L		5000	1
Manganese.	7439-96-5	QCBLK62539-1	03/16/95	03/17/95	7.0	UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK62539-1	03/16/95	03/17/95	15.2	UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK62539-1	03/16/95	03/17/95	7810	UG/L		5000	1
Silver	7440-22-4	QCBLK62539-1	03/16/95	03/17/95	3.8	UG/L	U	200	1
Sodium	7440-23-5	QCBLK62539-1	03/16/95	03/17/95	144000	UG/L		1000	1
Vanadium	7440-62-2	QCBLK62539-1	03/16/95	03/17/95	21.8	UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK62539-1	03/16/95	03/17/95	37.7	UG/L		20.0	1

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

Project: 550.69

Category: ICAP Metals - Filtered
Method: EPA 6010
Matrix: LIQUID

Sample Date : 03/06/95
Receipt Date : 03/07/95
Report Date : 04/05/95

Client ID: BODX87

Quanterra ID : 7733-004

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK62539-1	03/16/95	03/17/95	29.7	UG/L	B	200	1
Antimony	7440-36-0	QCBLK62539-1	03/16/95	03/17/95	32.8	UG/L	U	100	1
Barium	7440-39-3	QCBLK62539-1	03/16/95	03/17/95	9.5	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK62539-1	03/16/95	03/17/95	0.94	UG/L	B	7.0	1
Cadmium	7440-43-9	QCBLK62539-1	03/16/95	03/17/95	3.8	UG/L	U	20.0	1
Calcium	7440-70-2	QCBLK62539-1	03/16/95	03/17/95	3330	UG/L	B	5000	1
Chromium	7440-47-3	QCBLK62539-1	03/16/95	03/17/95	4.9	UG/L	B	20.0	1
Cobalt	7440-48-4	QCBLK62539-1	03/16/95	03/17/95	4.1	UG/L	U	50.0	1
Copper	7440-50-8	QCBLK62539-1	03/16/95	03/17/95	24.5	UG/L	B	25.0	1
Iron	7439-89-6	QCBLK62539-1	03/16/95	03/17/95	192	UG/L		100	1
Magnesium	7439-95-4	QCBLK62539-1	03/16/95	03/17/95	855	UG/L	B	5000	1
Manganese	7439-96-5	QCBLK62539-1	03/16/95	03/17/95	5.1	UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK62539-1	03/16/95	03/17/95	15.2	UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK62539-1	03/16/95	03/17/95	2670	UG/L	U	5000	1
Silver	7440-22-4	QCBLK62539-1	03/16/95	03/17/95	3.8	UG/L	U	200	1
Sodium	7440-23-5	QCBLK62539-1	03/16/95	03/17/95	1310	UG/L		1000	1
Vanadium	7440-62-2	QCBLK62539-1	03/16/95	03/17/95	16.7	UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK62539-1	03/16/95	03/17/95	22.2	UG/L		20.0	1

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

Project: 550.69

Category: ICAP Metals - Filtered
Method: EPA 6010
Matrix: LIQUID

Sample Date : 03/06/95
Receipt Date : 03/07/95
Report Date : 04/05/95

Client ID: BODX55

Quanterra ID : 7733-005

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK62539-1	03/16/95	03/17/95	35.7	UG/L	B	200	1
Antimony	7440-36-0	QCBLK62539-1	03/16/95	03/17/95	32.8	UG/L	U	100	1
Barium	7440-39-3	QCBLK62539-1	03/16/95	03/17/95	74.7	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK62539-1	03/16/95	03/17/95	0.96	UG/L	B	7.0	1
Cadmium	7440-43-9	QCBLK62539-1	03/16/95	03/17/95	3.8	UG/L	U	20.0	1
Calcium	7440-70-2	QCBLK62539-1	03/16/95	03/17/95	132000	UG/L		5000	1
Chromium	7440-47-3	QCBLK62539-1	03/16/95	03/17/95	4.9	UG/L	B	20.0	1
Cobalt	7440-48-4	QCBLK62539-1	03/16/95	03/17/95	4.1	UG/L	U	50.0	1
Copper	7440-50-8	QCBLK62539-1	03/16/95	03/17/95	33.2	UG/L		25.0	1
Iron	7439-89-6	QCBLK62539-1	03/16/95	03/17/95	145	UG/L		100	1
Magnesium	7439-95-4	QCBLK62539-1	03/16/95	03/17/95	21700	UG/L		5000	1
Manganese	7439-96-5	QCBLK62539-1	03/16/95	03/17/95	8.1	UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK62539-1	03/16/95	03/17/95	15.2	UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK62539-1	03/16/95	03/17/95	6040	UG/L		5000	1
Silver	7440-22-4	QCBLK62539-1	03/16/95	03/17/95	3.8	UG/L	U	200	1
Sodium	7440-23-5	QCBLK62539-1	03/16/95	03/17/95	49900	UG/L		1000	1
Vanadium	7440-62-2	QCBLK62539-1	03/16/95	03/17/95	26.3	UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK62539-1	03/16/95	03/17/95	13.4	UG/L	B	20.0	1

9613451.0490

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Project: 550.69

Category: ICAP Metals - Filtered
Method: EPA 6010
Matrix: LIQUID

Sample Date : 03/06/95
Receipt Date : 03/07/95
Report Date : 04/07/95

Client ID: B0DX93

Quanterra ID : 7733-006

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK62539-1	03/16/95	03/17/95	29.7	UG/L	B	200	1
Antimony	7440-36-0	QCBLK62539-1	03/16/95	03/17/95	32.8	UG/L	U	100	1
Barium	7440-39-3	QCBLK62539-1	03/16/95	03/17/95	74.7	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK62539-1	03/16/95	03/17/95	0.80	UG/L	B	7.0	1
Cadmium	7440-43-9	QCBLK62539-1	03/16/95	03/17/95	3.8	UG/L	U	20.0	1
Calcium	7440-70-2	QCBLK62539-1	03/16/95	03/17/95	126000	UG/L		5000	1
Chromium	7440-47-3	QCBLK62539-1	03/16/95	03/17/95	2.9	UG/L	U	20.0	1
Cobalt	7440-48-4	QCBLK62539-1	03/16/95	03/17/95	4.1	UG/L	U	50.0	1
Copper	7440-50-8	QCBLK62539-1	03/16/95	03/17/95	22.7	UG/L	B	25.0	1
Iron	7439-89-6	QCBLK62539-1	03/16/95	03/17/95	82.3	UG/L	B	100	1
Magnesium	7439-95-4	QCBLK62539-1	03/16/95	03/17/95	20900	UG/L		5000	1
Manganese	7439-96-5	QCBLK62539-1	03/16/95	03/17/95	6.3	UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK62539-1	03/16/95	03/17/95	15.2	UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK62539-1	03/16/95	03/17/95	5030	UG/L		5000	1
Silver	7440-22-4	QCBLK62539-1	03/16/95	03/17/95	3.8	UG/L	U	200	1
Sodium	7440-23-5	QCBLK62539-1	03/16/95	03/17/95	48100	UG/L		1000	1
Vanadium	7440-62-2	QCBLK62539-1	03/16/95	03/17/95	21.2	UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK62539-1	03/16/95	03/17/95	66.8	UG/L		20.0	1

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Project: 550.69

Category: ICAP Metals
Method: EPA 6010
Matrix: LIQUID

Client ID: BODX63

Sample Date : 02/27/95
Receipt Date : 02/28/95
Report Date : 04/07/95

Quanterra ID : 7669-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK62539-1	03/16/95	03/17/95	23.5	UG/L	U	200	1
Antimony	7440-36-0	QCBLK62539-1	03/16/95	03/17/95	32.8	UG/L	U	100	1
Barium	7440-39-3	QCBLK62539-1	03/16/95	03/17/95	50.2	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK62539-1	03/16/95	03/17/95	1.8	UG/L	B	7.0	1
Cadmium	7440-43-9	QCBLK62539-1	03/16/95	03/17/95	3.8	UG/L	U	20.0	1
Calcium	7440-70-2	QCBLK62539-1	03/16/95	03/17/95	31200	UG/L		5000	1
Chromium	7440-47-3	QCBLK62539-1	03/16/95	03/17/95	11.8	UG/L	B	20.0	1
Cobalt	7440-48-4	QCBLK62539-1	03/16/95	03/17/95	4.1	UG/L	U	50.0	1
Copper	7440-50-8	QCBLK62539-1	03/16/95	03/17/95	20.2	UG/L	B	25.0	1
Iron	7439-89-6	QCBLK62539-1	03/16/95	03/17/95	99.5	UG/L	B	100	1
Magnesium	7439-95-4	QCBLK62539-1	03/16/95	03/17/95	9370	UG/L		5000	1
Manganese	7439-96-5	QCBLK62539-1	03/16/95	03/17/95	5.2	UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK62539-1	03/16/95	03/17/95	15.2	UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK62539-1	03/16/95	03/17/95	3950	UG/L	B	5000	1
Silver	7440-22-4	QCBLK62539-1	03/16/95	03/17/95	3.8	UG/L	U	200	1
Sodium	7440-23-5	QCBLK62539-1	03/16/95	03/17/95	9230	UG/L		1000	1
Vanadium	7440-62-2	QCBLK62539-1	03/16/95	03/17/95	37.9	UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK62539-1	03/16/95	03/17/95	122	UG/L		20.0	1

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Project: 550.69

Category: ICAP Metals
Method: EPA 6010
Matrix: LIQUID

Sample Date : 02/27/95
Receipt Date : 02/28/95
Report Date : 04/05/95

Client ID: BODX63

Quanterra ID : 7669-001MS

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK62539-1	03/16/95	03/17/95	103	%REC			1
Antimony	7440-36-0	QCBLK62539-1	03/16/95	03/17/95	109	%REC			1
Barium	7440-39-3	QCBLK62539-1	03/16/95	03/17/95	97	%REC			1
Beryllium	7440-41-7	QCBLK62539-1	03/16/95	03/17/95	106	%REC			1
Cadmium	7440-43-9	QCBLK62539-1	03/16/95	03/17/95	104	%REC			1
Chromium	7440-47-3	QCBLK62539-1	03/16/95	03/17/95	100	%REC			1
Cobalt	7440-48-4	QCBLK62539-1	03/16/95	03/17/95	101	%REC			1
Copper	7440-50-8	QCBLK62539-1	03/16/95	03/17/95	102	%REC			1
Iron	7439-89-6	QCBLK62539-1	03/16/95	03/17/95	96	%REC			1
Manganese	7439-96-5	QCBLK62539-1	03/16/95	03/17/95	102	%REC			1
Nickel	7440-02-0	QCBLK62539-1	03/16/95	03/17/95	102	%REC			1
Silver	7440-22-4	QCBLK62539-1	03/16/95	03/17/95	104	%REC			1
Vanadium	7440-62-2	QCBLK62539-1	03/16/95	03/17/95	99	%REC			1
Zinc	7440-66-6	QCBLK62539-1	03/16/95	03/17/95	103	%REC			1

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Project: 550.69

Category: ICAP Metals
Method: EPA 6010
Matrix: LIQUID

Client ID: B0DX63

Sample Date : 02/27/95
Receipt Date : 02/28/95
Report Date : 04/05/95

Quanterra ID : 7669-001MSD

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK62539-1	03/16/95	03/17/95	103	%REC			1
Antimony	7440-36-0	QCBLK62539-1	03/16/95	03/17/95	107	%REC			1
Barium	7440-39-3	QCBLK62539-1	03/16/95	03/17/95	98	%REC			1
Beryllium	7440-41-7	QCBLK62539-1	03/16/95	03/17/95	107	%REC			1
Cadmium	7440-43-9	QCBLK62539-1	03/16/95	03/17/95	103	%REC			1
Chromium	7440-47-3	QCBLK62539-1	03/16/95	03/17/95	100	%REC			1
Cobalt	7440-48-4	QCBLK62539-1	03/16/95	03/17/95	101	%REC			1
Copper	7440-50-8	QCBLK62539-1	03/16/95	03/17/95	103	%REC			1
Iron	7439-89-6	QCBLK62539-1	03/16/95	03/17/95	97	%REC			1
Manganese	7439-96-5	QCBLK62539-1	03/16/95	03/17/95	103	%REC			1
Nickel	7440-02-0	QCBLK62539-1	03/16/95	03/17/95	102	%REC			1
Silver	7440-22-4	QCBLK62539-1	03/16/95	03/17/95	97	%REC			1
Vanadium	7440-62-2	QCBLK62539-1	03/16/95	03/17/95	100	%REC			1
Zinc	7440-66-6	QCBLK62539-1	03/16/95	03/17/95	105	%REC			1

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Project: 550.69

Category: ICAP Metals
Method: EPA 6010
Matrix: LIQUID

Sample Date : 02/27/95
Receipt Date : 02/28/95
Report Date : 04/05/95

Client ID: BODX61

Quanterra ID : 7669-002

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK62539-1	03/16/95	03/17/95	23.5	UG/L	U	200	1
Antimony	7440-36-0	QCBLK62539-1	03/16/95	03/17/95	32.8	UG/L	U	100	1
Barium	7440-39-3	QCBLK62539-1	03/16/95	03/17/95	38.3	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK62539-1	03/16/95	03/17/95	0.88	UG/L	B	7.0	1
Cadmium	7440-43-9	QCBLK62539-1	03/16/95	03/17/95	3.8	UG/L	U	20.0	1
Calcium	7440-70-2	QCBLK62539-1	03/16/95	03/17/95	38700	UG/L		5000	1
Chromium	7440-47-3	QCBLK62539-1	03/16/95	03/17/95	21.8	UG/L		20.0	1
Cobalt	7440-48-4	QCBLK62539-1	03/16/95	03/17/95	4.1	UG/L	U	50.0	1
Copper	7440-50-8	QCBLK62539-1	03/16/95	03/17/95	23.7	UG/L	B	25.0	1
Iron	7439-89-6	QCBLK62539-1	03/16/95	03/17/95	127	UG/L		100	1
Magnesium	7439-95-4	QCBLK62539-1	03/16/95	03/17/95	10900	UG/L		5000	1
Manganese	7439-96-5	QCBLK62539-1	03/16/95	03/17/95	5.8	UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK62539-1	03/16/95	03/17/95	15.2	UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK62539-1	03/16/95	03/17/95	3850	UG/L	B	5000	1
Silver	7440-22-4	QCBLK62539-1	03/16/95	03/17/95	3.8	UG/L	U	200	1
Sodium	7440-23-5	QCBLK62539-1	03/16/95	03/17/95	7240	UG/L		1000	1
Vanadium	7440-62-2	QCBLK62539-1	03/16/95	03/17/95	29.2	UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK62539-1	03/16/95	03/17/95	57.2	UG/L		20.0	1

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Project: 550.69

Category: ICAP Metals
Method: EPA 6010
Matrix: LIQUID

Sample Date : 02/28/95
Receipt Date : 03/01/95
Report Date : 04/05/95

Client ID: BODX67

Quanterra ID : 7672-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK62539-1	03/16/95	03/17/95	23.5	UG/L	U	200	1
Antimony	7440-36-0	QCBLK62539-1	03/16/95	03/17/95	32.8	UG/L	U	100	1
Barium	7440-39-3	QCBLK62539-1	03/16/95	03/17/95	41.2	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK62539-1	03/16/95	03/17/95	1.1	UG/L	B	7.0	1
Cadmium	7440-43-9	QCBLK62539-1	03/16/95	03/17/95	3.8	UG/L	U	20.0	1
Calcium	7440-70-2	QCBLK62539-1	03/16/95	03/17/95	37100	UG/L		5000	1
Chromium	7440-47-3	QCBLK62539-1	03/16/95	03/17/95	15.2	UG/L	B	20.0	1
Cobalt	7440-48-4	QCBLK62539-1	03/16/95	03/17/95	4.1	UG/L	U	50.0	1
Copper	7440-50-8	QCBLK62539-1	03/16/95	03/17/95	31.0	UG/L		25.0	1
Iron	7439-89-6	QCBLK62539-1	03/16/95	03/17/95	158	UG/L		100	1
Magnesium	7439-95-4	QCBLK62539-1	03/16/95	03/17/95	10500	UG/L		5000	1
Manganese	7439-96-5	QCBLK62539-1	03/16/95	03/17/95	5.4	UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK62539-1	03/16/95	03/17/95	15.2	UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK62539-1	03/16/95	03/17/95	2950	UG/L	B	5000	1
Silver	7440-22-4	QCBLK62539-1	03/16/95	03/17/95	3.8	UG/L	U	200	1
Sodium	7440-23-5	QCBLK62539-1	03/16/95	03/17/95	7030	UG/L		1000	1
Vanadium	7440-62-2	QCBLK62539-1	03/16/95	03/17/95	29.5	UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK62539-1	03/16/95	03/17/95	46.5	UG/L		20.0	1

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Project: 550.69

Category: ICAP Metals
Method: EPA 6010
Matrix: LIQUID

Client ID: BODX94

Sample Date : 02/28/95
Receipt Date : 03/01/95
Report Date : 04/05/95

Quanterra ID : 7672-002

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK62539-1	03/16/95	03/17/95	23.5	UG/L	U	200	1
Antimony	7440-36-0	QCBLK62539-1	03/16/95	03/17/95	32.8	UG/L	U	100	1
Barium	7440-39-3	QCBLK62539-1	03/16/95	03/17/95	33.1	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK62539-1	03/16/95	03/17/95	0.96	UG/L	B	7.0	1
Cadmium	7440-43-9	QCBLK62539-1	03/16/95	03/17/95	3.8	UG/L	U	20.0	1
Calcium	7440-70-2	QCBLK62539-1	03/16/95	03/17/95	30800	UG/L		5000	1
Chromium	7440-47-3	QCBLK62539-1	03/16/95	03/17/95	5.7	UG/L	B	20.0	1
Cobalt	7440-48-4	QCBLK62539-1	03/16/95	03/17/95	4.1	UG/L	U	50.0	1
Copper	7440-50-8	QCBLK62539-1	03/16/95	03/17/95	25.5	UG/L		25.0	1
Iron	7439-89-6	QCBLK62539-1	03/16/95	03/17/95	277	UG/L		100	1
Magnesium	7439-95-4	QCBLK62539-1	03/16/95	03/17/95	9040	UG/L		5000	1
Manganese	7439-96-5	QCBLK62539-1	03/16/95	03/17/95	8.2	UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK62539-1	03/16/95	03/17/95	15.2	UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK62539-1	03/16/95	03/17/95	3570	UG/L	B	5000	1
Silver	7440-22-4	QCBLK62539-1	03/16/95	03/17/95	3.8	UG/L	U	200	1
Sodium	7440-23-5	QCBLK62539-1	03/16/95	03/17/95	7620	UG/L		1000	1
Vanadium	7440-62-2	QCBLK62539-1	03/16/95	03/17/95	38.5	UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK62539-1	03/16/95	03/17/95	61.4	UG/L		20.0	1

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Project: 550.69

Category: ICAP Metals
Method: EPA 6010
Matrix: LIQUID

Sample Date : 03/01/95
Receipt Date : 03/02/95
Report Date : 04/05/95

Client ID: BODX73

Quanterra ID : 7703-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK62539-1	03/16/95	03/17/95	58.9	UG/L	B	200	1
Antimony	7440-36-0	QCBLK62539-1	03/16/95	03/17/95	32.8	UG/L	U	100	1
Barium	7440-39-3	QCBLK62539-1	03/16/95	03/17/95	29.3	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK62539-1	03/16/95	03/17/95	0.71	UG/L	B	7.0	1
Cadmium	7440-43-9	QCBLK62539-1	03/16/95	03/17/95	3.8	UG/L	U	20.0	1
Calcium	7440-70-2	QCBLK62539-1	03/16/95	03/17/95	19600	UG/L		5000	1
Chromium	7440-47-3	QCBLK62539-1	03/16/95	03/17/95	173	UG/L		20.0	1
Cobalt	7440-48-4	QCBLK62539-1	03/16/95	03/17/95	5.7	UG/L	B	50.0	1
Copper	7440-50-8	QCBLK62539-1	03/16/95	03/17/95	29.6	UG/L		25.0	1
Iron	7439-89-6	QCBLK62539-1	03/16/95	03/17/95	866	UG/L		100	1
Magnesium	7439-95-4	QCBLK62539-1	03/16/95	03/17/95	5560	UG/L		5000	1
Manganese	7439-96-5	QCBLK62539-1	03/16/95	03/17/95	22.5	UG/L		15.0	1
Nickel	7440-02-0	QCBLK62539-1	03/16/95	03/17/95	85.5	UG/L		40.0	1
Potassium	7440-09-7	QCBLK62539-1	03/16/95	03/17/95	4620	UG/L	B	5000	1
Silver	7440-22-4	QCBLK62539-1	03/16/95	03/17/95	3.8	UG/L	U	200	1
Sodium	7440-23-5	QCBLK62539-1	03/16/95	03/17/95	37000	UG/L		1000	1
Vanadium	7440-62-2	QCBLK62539-1	03/16/95	03/17/95	39.6	UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK62539-1	03/16/95	03/17/95	68.3	UG/L		20.0	1

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Project: 550.69

Category: ICAP Metals
Method: EPA 6010
Matrix: LIQUID

Sample Date : 03/01/95
Receipt Date : 03/02/95
Report Date : 04/05/95

Client ID: B0DX59

Quanterra ID : 7703-002

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK62539-1	03/16/95	03/17/95	54.9	UG/L	B	200	1
Antimony	7440-36-0	QCBLK62539-1	03/16/95	03/17/95	32.8	UG/L	U	100	1
Barium	7440-39-3	QCBLK62539-1	03/16/95	03/17/95	33.4	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK62539-1	03/16/95	03/17/95	1.1	UG/L	B	7.0	1
Cadmium	7440-43-9	QCBLK62539-1	03/16/95	03/17/95	3.8	UG/L	U	20.0	1
Calcium	7440-70-2	QCBLK62539-1	03/16/95	03/17/95	38000	UG/L		5000	1
Chromium	7440-47-3	QCBLK62539-1	03/16/95	03/17/95	3.8	UG/L	B	20.0	1
Cobalt	7440-48-4	QCBLK62539-1	03/16/95	03/17/95	4.1	UG/L	U	50.0	1
Copper	7440-50-8	QCBLK62539-1	03/16/95	03/17/95	31.6	UG/L		25.0	1
Iron	7439-89-6	QCBLK62539-1	03/16/95	03/17/95	836	UG/L		100	1
Magnesium	7439-95-4	QCBLK62539-1	03/16/95	03/17/95	11000	UG/L		5000	1
Manganese	7439-96-5	QCBLK62539-1	03/16/95	03/17/95	20.8	UG/L		15.0	1
Nickel	7440-02-0	QCBLK62539-1	03/16/95	03/17/95	15.2	UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK62539-1	03/16/95	03/17/95	4220	UG/L	B	5000	1
Silver	7440-22-4	QCBLK62539-1	03/16/95	03/17/95	3.8	UG/L	U	200	1
Sodium	7440-23-5	QCBLK62539-1	03/16/95	03/17/95	4590	UG/L		1000	1
Vanadium	7440-62-2	QCBLK62539-1	03/16/95	03/17/95	26.0	UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK62539-1	03/16/95	03/17/95	20.1	UG/L		20.0	1

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P.O. Box 1970
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Project: 550.69

Category: ICAP Metals
Method: EPA 6010
Matrix: LIQUID

Client ID: BODX48

Sample Date : 03/03/95
Receipt Date : 03/06/95
Report Date : 04/05/95

Quanterra ID : 7721-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK62539-1	03/16/95	03/17/95	44.7	UG/L	B	200	1
Antimony	7440-36-0	QCBLK62539-1	03/16/95	03/17/95	32.8	UG/L	U	100	1
Barium	7440-39-3	QCBLK62539-1	03/16/95	03/17/95	36.4	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK62539-1	03/16/95	03/17/95	0.95	UG/L	B	7.0	1
Cadmium	7440-43-9	QCBLK62539-1	03/16/95	03/17/95	3.8	UG/L	U	20.0	1
Calcium	7440-70-2	QCBLK62539-1	03/16/95	03/17/95	86600	UG/L		5000	1
Chromium	7440-47-3	QCBLK62539-1	03/16/95	03/17/95	2.9	UG/L	U	20.0	1
Cobalt	7440-48-4	QCBLK62539-1	03/16/95	03/17/95	4.1	UG/L	U	50.0	1
Copper	7440-50-8	QCBLK62539-1	03/16/95	03/17/95	30.2	UG/L		25.0	1
Iron	7439-89-6	QCBLK62539-1	03/16/95	03/17/95	256	UG/L		100	1
Magnesium	7439-95-4	QCBLK62539-1	03/16/95	03/17/95	17800	UG/L		5000	1
Manganese	7439-96-5	QCBLK62539-1	03/16/95	03/17/95	12.5	UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK62539-1	03/16/95	03/17/95	15.2	UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK62539-1	03/16/95	03/17/95	7250	UG/L		5000	1
Silver	7440-22-4	QCBLK62539-1	03/16/95	03/17/95	3.8	UG/L	U	200	1
Sodium	7440-23-5	QCBLK62539-1	03/16/95	03/17/95	147000	UG/L		1000	1
Vanadium	7440-62-2	QCBLK62539-1	03/16/95	03/17/95	24.2	UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK62539-1	03/16/95	03/17/95	33.8	UG/L		20.0	1

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Project: 550.69

Category: ICAP Metals
Method: EPA 6010
Matrix: LIQUID

Sample Date : 03/06/95
Receipt Date : 03/07/95
Report Date : 04/05/95

Client ID: B0DX86

Quanterra ID : 7733-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK62539-1	03/16/95	03/17/95	23.5	UG/L	U	200	1
Antimony	7440-36-0	QCBLK62539-1	03/16/95	03/17/95	32.8	UG/L	U	100	1
Barium	7440-39-3	QCBLK62539-1	03/16/95	03/17/95	5.2	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK62539-1	03/16/95	03/17/95	0.64	UG/L	B	7.0	1
Cadmium	7440-43-9	QCBLK62539-1	03/16/95	03/17/95	3.8	UG/L	U	20.0	1
Calcium	7440-70-2	QCBLK62539-1	03/16/95	03/17/95	2230	UG/L	B	5000	1
Chromium	7440-47-3	QCBLK62539-1	03/16/95	03/17/95	2.9	UG/L	U	20.0	1
Cobalt	7440-48-4	QCBLK62539-1	03/16/95	03/17/95	4.1	UG/L	U	50.0	1
Copper	7440-50-8	QCBLK62539-1	03/16/95	03/17/95	22.2	UG/L	B	25.0	1
Iron	7439-89-6	QCBLK62539-1	03/16/95	03/17/95	74.5	UG/L	B	100	1
Magnesium	7439-95-4	QCBLK62539-1	03/16/95	03/17/95	669	UG/L	B	5000	1
Manganese	7439-96-5	QCBLK62539-1	03/16/95	03/17/95	3.9	UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK62539-1	03/16/95	03/17/95	15.2	UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK62539-1	03/16/95	03/17/95	2670	UG/L	U	5000	1
Silver	7440-22-4	QCBLK62539-1	03/16/95	03/17/95	3.8	UG/L	U	200	1
Sodium	7440-23-5	QCBLK62539-1	03/16/95	03/17/95	2010	UG/L		1000	1
Vanadium	7440-62-2	QCBLK62539-1	03/16/95	03/17/95	14.2	UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK62539-1	03/16/95	03/17/95	18.6	UG/L	B	20.0	1

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Quanterra-Richland
P.O. Box 1970
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Project: 550.69

Category: ICAP Metals
Method: EPA 6010
Matrix: LIQUID

Client ID: BODX54

Sample Date : 03/06/95
Receipt Date : 03/07/95
Report Date : 04/07/95

Quanterra ID : 7733-002

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK62539-1	03/16/95	03/17/95	24.6	UG/L	B	200	1
Antimony	7440-36-0	QCBLK62539-1	03/16/95	03/17/95	34.2	UG/L	B	100	1
Barium	7440-39-3	QCBLK62539-1	03/16/95	03/17/95	72.2	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK62539-1	03/16/95	03/17/95	0.96	UG/L	B	7.0	1
Cadmium	7440-43-9	QCBLK62539-1	03/16/95	03/17/95	3.8	UG/L	U	20.0	1
Calcium	7440-70-2	QCBLK62539-1	03/16/95	03/17/95	130000	UG/L		5000	1
Chromium	7440-47-3	QCBLK62539-1	03/16/95	03/17/95	5.1	UG/L	B	20.0	1
Cobalt	7440-48-4	QCBLK62539-1	03/16/95	03/17/95	4.1	UG/L	U	50.0	1
Copper	7440-50-8	QCBLK62539-1	03/16/95	03/17/95	25.9	UG/L		25.0	1
Iron	7439-89-6	QCBLK62539-1	03/16/95	03/17/95	100	UG/L	B	100	1
Magnesium	7439-95-4	QCBLK62539-1	03/16/95	03/17/95	21300	UG/L		5000	1
Manganese	7439-96-5	QCBLK62539-1	03/16/95	03/17/95	7.1	UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK62539-1	03/16/95	03/17/95	15.2	UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK62539-1	03/16/95	03/17/95	4700	UG/L	B	5000	1
Silver	7440-22-4	QCBLK62539-1	03/16/95	03/17/95	3.8	UG/L	U	200	1
Sodium	7440-23-5	QCBLK62539-1	03/16/95	03/17/95	49300	UG/L		1000	1
Vanadium	7440-62-2	QCBLK62539-1	03/16/95	03/17/95	22.7	UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK62539-1	03/16/95	03/17/95	37.5	UG/L		20.0	1

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Project: 550.69

Category: ICAP Metals
Method: EPA 6010
Matrix: LIQUID

Client ID: B0DX92

Sample Date : 03/06/95
Receipt Date : 03/07/95
Report Date : 04/05/95

Quanterra ID : 7733-003

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK62539-1	03/16/95	03/17/95	23.5	UG/L	U	200	1
Antimony	7440-36-0	QCBLK62539-1	03/16/95	03/17/95	32.8	UG/L	U	100	1
Barium	7440-39-3	QCBLK62539-1	03/16/95	03/17/95	68.7	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK62539-1	03/16/95	03/17/95	0.96	UG/L	B	7.0	1
Cadmium	7440-43-9	QCBLK62539-1	03/16/95	03/17/95	3.8	UG/L	U	20.0	1
Calcium	7440-70-2	QCBLK62539-1	03/16/95	03/17/95	128000	UG/L		5000	1
Chromium	7440-47-3	QCBLK62539-1	03/16/95	03/17/95	6.0	UG/L	B	20.0	1
Cobalt	7440-48-4	QCBLK62539-1	03/16/95	03/17/95	4.1	UG/L	U	50.0	1
Copper	7440-50-8	QCBLK62539-1	03/16/95	03/17/95	30.4	UG/L		25.0	1
Iron	7439-89-6	QCBLK62539-1	03/16/95	03/17/95	132	UG/L		100	1
Magnesium	7439-95-4	QCBLK62539-1	03/16/95	03/17/95	21100	UG/L		5000	1
Manganese	7439-96-5	QCBLK62539-1	03/16/95	03/17/95	7.0	UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK62539-1	03/16/95	03/17/95	15.2	UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK62539-1	03/16/95	03/17/95	5260	UG/L		5000	1
Silver	7440-22-4	QCBLK62539-1	03/16/95	03/17/95	3.8	UG/L	U	200	1
Sodium	7440-23-5	QCBLK62539-1	03/16/95	03/17/95	48800	UG/L		1000	1
Vanadium	7440-62-2	QCBLK62539-1	03/16/95	03/17/95	17.9	UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK62539-1	03/16/95	03/17/95	43.3	UG/L		20.0	1

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Project: 550.69

Category: ICAP Metals
Method: EPA 6010
Matrix: LIQUID

Client ID: BODX75

Sample Date : 03/03/95
Receipt Date : 03/07/95
Report Date : 04/05/95

Quanterra ID : 7733-007

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK62539-1	03/16/95	03/17/95	40.4	UG/L	B	200	1
Antimony	7440-36-0	QCBLK62539-1	03/16/95	03/17/95	32.8	UG/L	U	100	1
Barium	7440-39-3	QCBLK62539-1	03/16/95	03/17/95	36.0	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK62539-1	03/16/95	03/17/95	0.64	UG/L	B	7.0	1
Cadmium	7440-43-9	QCBLK62539-1	03/16/95	03/17/95	3.8	UG/L	U	20.0	1
Calcium	7440-70-2	QCBLK62539-1	03/16/95	03/17/95	46200	UG/L		5000	1
Chromium	7440-47-3	QCBLK62539-1	03/16/95	03/17/95	140	UG/L		20.0	1
Cobalt	7440-48-4	QCBLK62539-1	03/16/95	03/17/95	4.1	UG/L	U	50.0	1
Copper	7440-50-8	QCBLK62539-1	03/16/95	03/17/95	27.3	UG/L		25.0	1
Iron	7439-89-6	QCBLK62539-1	03/16/95	03/17/95	590	UG/L		100	1
Magnesium	7439-95-4	QCBLK62539-1	03/16/95	03/17/95	14400	UG/L		5000	1
Manganese	7439-96-5	QCBLK62539-1	03/16/95	03/17/95	16.8	UG/L		15.0	1
Nickel	7440-02-0	QCBLK62539-1	03/16/95	03/17/95	60.6	UG/L		40.0	1
Potassium	7440-09-7	QCBLK62539-1	03/16/95	03/17/95	5430	UG/L		5000	1
Silver	7440-22-4	QCBLK62539-1	03/16/95	03/17/95	3.8	UG/L	U	200	1
Sodium	7440-23-5	QCBLK62539-1	03/16/95	03/17/95	15500	UG/L		1000	1
Vanadium	7440-62-2	QCBLK62539-1	03/16/95	03/17/95	33.2	UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK62539-1	03/16/95	03/17/95	14.1	UG/L	B	20.0	1

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Project: 550.69

Category: ICAP Metals
Method: EPA 6010
Matrix: LIQUID

Client ID: B0DX76

Sample Date : 03/03/95
Receipt Date : 03/07/95
Report Date : 04/05/95

Quanterra ID : 7733-008

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK62539-1	03/16/95	03/17/95	53.0	UG/L	B	200	1
Antimony	7440-36-0	QCBLK62539-1	03/16/95	03/17/95	32.8	UG/L	U	100	1
Barium	7440-39-3	QCBLK62539-1	03/16/95	03/17/95	31.2	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK62539-1	03/16/95	03/17/95	0.96	UG/L	B	7.0	1
Cadmium	7440-43-9	QCBLK62539-1	03/16/95	03/17/95	3.8	UG/L	U	20.0	1
Calcium	7440-70-2	QCBLK62539-1	03/16/95	03/17/95	32900	UG/L		5000	1
Chromium	7440-47-3	QCBLK62539-1	03/16/95	03/17/95	234	UG/L		20.0	1
Cobalt	7440-48-4	QCBLK62539-1	03/16/95	03/17/95	4.1	UG/L	U	50.0	1
Copper	7440-50-8	QCBLK62539-1	03/16/95	03/17/95	25.7	UG/L		25.0	1
Iron	7439-89-6	QCBLK62539-1	03/16/95	03/17/95	322	UG/L		100	1
Magnesium	7439-95-4	QCBLK62539-1	03/16/95	03/17/95	15400	UG/L		5000	1
Manganese	7439-96-5	QCBLK62539-1	03/16/95	03/17/95	12.3	UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK62539-1	03/16/95	03/17/95	30.5	UG/L	B	40.0	1
Potassium	7440-09-7	QCBLK62539-1	03/16/95	03/17/95	3980	UG/L	B	5000	1
Silver	7440-22-4	QCBLK62539-1	03/16/95	03/17/95	3.8	UG/L	U	200	1
Sodium	7440-23-5	QCBLK62539-1	03/16/95	03/17/95	23000	UG/L		1000	1
Vanadium	7440-62-2	QCBLK62539-1	03/16/95	03/17/95	31.8	UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK62539-1	03/16/95	03/17/95	20.6	UG/L		20.0	1

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0DX48

Lab Name: QUANTERRA_MO Contract: 550.69

Lab Code: ITMO Case No.: SAS No.: SDG No.: W0436

Matrix (soil/water): WATER Lab Sample ID: 7721-001

Level (low/med): LOW Date Received: 03/06/95

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	44.7	B		P
7440-36-0	Antimony	32.8	U		P
7440-39-3	Barium	36.4	B		P
7440-41-7	Beryllium	0.95	B		P
7440-70-2	Calcium	86600			P
7440-43-9	Cadmium	3.8	U		P
7440-47-3	Chromium	2.9	U		P
7440-48-4	Cobalt	4.1	U		P
7440-50-8	Copper	30.2			P
7439-89-6	Iron	256			P
7439-95-4	Magnesium	17800			P
7439-96-5	Manganese	12.5	B		P
7440-02-0	Nickel	15.2	U		P
7440-09-7	Potassium	7250			P
7440-22-4	Silver	3.8	U		P
7440-23-5	Sodium	147000			P
7440-62-2	Vanadium	24.2	B		P
7440-66-6	Zinc	33.8			P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0DX49

Lab Name: QUANTERRA_MO Contract: 550.69

Lab Code: ITMO Case No.: SAS No.: SDG No.: W0436

Matrix (soil/water): WATER Lab Sample ID: D7721-002

Level (low/med): LOW Date Received: 03/06/95

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	28.5	B		P
7440-36-0	Antimony	32.8	U		P
7440-39-3	Barium	32.7	B		P
7440-41-7	Beryllium	0.55	B		P
7440-70-2	Calcium	84600			P
7440-43-9	Cadmium	3.8	U		P
7440-47-3	Chromium	3.5	B		P
7440-48-4	Cobalt	4.1	U		P
7440-50-8	Copper	19.5	B		P
7439-89-6	Iron	304			P
7439-95-4	Magnesium	17500			P
7439-96-5	Manganese	7.0	B		P
7440-02-0	Nickel	15.2	U		P
7440-09-7	Potassium	7810			P
7440-22-4	Silver	3.8	U		P
7440-23-5	Sodium	144000			P
7440-62-2	Vanadium	21.8	B		P
7440-66-6	Zinc	37.7			P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

FORM I - IN

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9613451.0507

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0DX54

Lab Name: QUANTERRA_MO Contract: 550.69

Lab Code: ITMO Case No.: SAS No.: SDG No.: W0436

Matrix (soil/water): WATER Lab Sample ID: 7733-002

Level (low/med): LOW Date Received: 03/07/95

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	24.6	B		P
7440-36-0	Antimony	34.2	B		P
7440-39-3	Barium	72.2	B		P
7440-41-7	Beryllium	0.96	B		P
7440-70-2	Calcium	130000			P
7440-43-9	Cadmium	3.8	U		P
7440-47-3	Chromium	5.1	B		P
7440-48-4	Cobalt	4.1	U		P
7440-50-8	Copper	25.9			P
7439-89-6	Iron	100	B		P
7439-95-4	Magnesium	21300			P
7439-96-5	Manganese	7.1	B		P
7440-02-0	Nickel	15.2	U		P
7440-09-7	Potassium	4700	B		P
7440-22-4	Silver	3.8	U		P
7440-23-5	Sodium	49300			P
7440-62-2	Vanadium	22.7	B		P
7440-66-6	Zinc	37.5			P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

FORM I - IN

SW-846

9613451.0508

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0DX55

Lab Name: QUANTERRA_MO
Lab Code: ITMO Case No.:
Matrix (soil/water): WATER
Level (low/med): LOW
% Solids: 0.0

Contract: 550.69
SAS No.:
SDG No.: W0436
Lab Sample ID: D7733-005
Date Received: 03/07/95

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	35.7	B		P
7440-36-0	Antimony	32.8	U		P
7440-39-3	Barium	74.7	B		P
7440-41-7	Beryllium	0.96	B		P
7440-70-2	Calcium	132000			P
7440-43-9	Cadmium	3.8	U		P
7440-47-3	Chromium	4.9	B		P
7440-48-4	Cobalt	4.1	U		P
7440-50-8	Copper	33.2			P
7439-89-6	Iron	145			P
7439-95-4	Magnesium	21700			P
7439-96-5	Manganese	8.1	B		P
7440-02-0	Nickel	15.2	U		P
7440-09-7	Potassium	6040			P
7440-22-4	Silver	3.8	U		P
7440-23-5	Sodium	49900			P
7440-62-2	Vanadium	26.3	B		P
7440-66-6	Zinc	13.4	B		P

Color Before:
Color After:
Clarity Before:
Clarity After:
Texture:
Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0DX59

Lab Name: QUANTERRA_MO Contract: 550.69

Lab Code: ITMO Case No.: SAS No.: SDG No.: W0436

Matrix (soil/water): WATER Lab Sample ID: 7703-002

Level (low/med): LOW Date Received: 03/02/95

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	54.9	B		P
7440-36-0	Antimony	32.8	U		P
7440-39-3	Barium	33.4	B		P
7440-41-7	Beryllium	1.1	B		P
7440-70-2	Calcium	38000			P
7440-43-9	Cadmium	3.8	U		P
7440-47-3	Chromium	3.8	B		P
7440-48-4	Cobalt	4.1	U		P
7440-50-8	Copper	31.6			P
7439-89-6	Iron	836			P
7439-95-4	Magnesium	11000			P
7439-96-5	Manganese	20.8			P
7440-02-0	Nickel	15.2	U		P
7440-09-7	Potassium	4220	B		P
7440-22-4	Silver	3.8	U		P
7440-23-5	Sodium	4590			P
7440-62-2	Vanadium	26.0	B		P
7440-66-6	Zinc	20.1			P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0DX61

Lab Name: QUANTERRA_MO Contract: 550.69

Lab Code: ITMO Case No.: SAS No.: SDG No.: W0436

Matrix (soil/water): WATER Lab Sample ID: 7669-002

Level (low/med): LOW Date Received: 02/28/95

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	23.5	U		P
7440-36-0	Antimony	32.8	U		P
7440-39-3	Barium	38.3	B		P
7440-41-7	Beryllium	0.88	B		P
7440-70-2	Calcium	38700			P
7440-43-9	Cadmium	3.8	U		P
7440-47-3	Chromium	21.8			P
7440-48-4	Cobalt	4.1	U		P
7440-50-8	Copper	23.7	B		P
7439-89-6	Iron	127			P
7439-95-4	Magnesium	10900			P
7439-96-5	Manganese	5.8	B		P
7440-02-0	Nickel	15.2	U		P
7440-09-7	Potassium	3850	B		P
7440-22-4	Silver	3.8	U		P
7440-23-5	Sodium	7240			P
7440-62-2	Vanadium	29.2	B		P
7440-66-6	Zinc	57.2			P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0DX62

Lab Name: QUANTERRA_MO Contract: 550.69

Lab Code: ITMO Case No.: SAS No.: SDG No.: W0436

Matrix (soil/water): WATER Lab Sample ID: D7669-004

Level (low/med): LOW Date Received: 02/28/95

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	23.6	B		P
7440-36-0	Antimony	32.8	U		P
7440-39-3	Barium	31.2	B		P
7440-41-7	Beryllium	0.72	B		P
7440-70-2	Calcium	30200			P
7440-43-9	Cadmium	3.8	U		P
7440-47-3	Chromium	3.4	B		P
7440-48-4	Cobalt	4.1	U		P
7440-50-8	Copper	20.6	B		P
7439-89-6	Iron	120			P
7439-95-4	Magnesium	8810			P
7439-96-5	Manganese	4.5	B		P
7440-02-0	Nickel	15.2	U		P
7440-09-7	Potassium	3370	B		P
7440-22-4	Silver	3.8	U		P
7440-23-5	Sodium	7520			P
7440-62-2	Vanadium	33.9	B		P
7440-66-6	Zinc	74.0			P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0DX63

Lab Name: QUANTERRA_MO Contract: 550.69

Lab Code: ITMO Case No.: SAS No.: SDG No.: W0436

Matrix (soil/water): WATER Lab Sample ID: 7669-001

Level (low/med): LOW Date Received: 02/28/95

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	23.5	U		P
7440-36-0	Antimony	32.8	U		P
7440-39-3	Barium	50.2	B		P
7440-41-7	Beryllium	1.8	B		P
7440-70-2	Calcium	31200			P
7440-43-9	Cadmium	3.8	U		P
7440-47-3	Chromium	11.8	B		P
7440-48-4	Cobalt	4.1	U		P
7440-50-8	Copper	20.2	B		P
7439-89-6	Iron	99.5	B		P
7439-95-4	Magnesium	9370			P
7439-96-5	Manganese	5.2	B		P
7440-02-0	Nickel	15.2	U		P
7440-09-7	Potassium	3950	B		P
7440-22-4	Silver	3.8	U		P
7440-23-5	Sodium	9230			P
7440-62-2	Vanadium	37.9	B		P
7440-66-6	Zinc	122			P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0DX64

Lab Name: QUANTERRA_MO Contract: 550.69

Lab Code: ITMO Case No.: SAS No.: SDG No.: W0436

Matrix (soil/water): WATER Lab Sample ID: D7669-003

Level (low/med): LOW Date Received: 02/28/95

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	23.5	U		P
7440-36-0	Antimony	32.8	U		P
7440-39-3	Barium	49.0	B		P
7440-41-7	Beryllium	0.87	B		P
7440-70-2	Calcium	31600			P
7440-43-9	Cadmium	3.8	U		P
7440-47-3	Chromium	15.0	B		P
7440-48-4	Cobalt	4.1	U		P
7440-50-8	Copper	22.5	B		P
7439-89-6	Iron	74.1	B		P
7439-95-4	Magnesium	9470			P
7439-96-5	Manganese	3.8	B		P
7440-02-0	Nickel	15.2	U		P
7440-09-7	Potassium	3750	B		P
7440-22-4	Silver	3.8	U		P
7440-23-5	Sodium	9310			P
7440-62-2	Vanadium	37.2	B		P
7440-66-6	Zinc	37.5			P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0DX67

Lab Name: QUANTERRA_MO Contract: 550.69

Lab Code: ITMO Case No.: SAS No.: SDG No.: W0436

Matrix (soil/water): WATER Lab Sample ID: 7672-001

Level (low/med): LOW Date Received: 03/01/95

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	23.5	U		P
7440-36-0	Antimony	32.8	U		P
7440-39-3	Barium	41.2	B		P
7440-41-7	Beryllium	1.1	B		P
7440-70-2	Calcium	37100			P
7440-43-9	Cadmium	3.8	U		P
7440-47-3	Chromium	15.2	B		P
7440-48-4	Cobalt	4.1	U		P
7440-50-8	Copper	31.0			P
7439-89-6	Iron	158			P
7439-95-4	Magnesium	10500			P
7439-96-5	Manganese	5.4	B		P
7440-02-0	Nickel	15.2	U		P
7440-09-7	Potassium	2950	B		P
7440-22-4	Silver	3.8	U		P
7440-23-5	Sodium	7030			P
7440-62-2	Vanadium	29.5	B		P
7440-66-6	Zinc	46.5			P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0DX68

Lab Name: QUANTERRA_MO Contract: 550.69

Lab Code: ITMO Case No.: SAS No.: SDG No.: W0436

Matrix (soil/water): WATER Lab Sample ID: D7672-003

Level (low/med): LOW Date Received: 03/01/95

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	32.1	B		P
7440-36-0	Antimony	32.8	U		P
7440-39-3	Barium	39.9	B		P
7440-41-7	Beryllium	0.64	B		P
7440-70-2	Calcium	36600			P
7440-43-9	Cadmium	3.8	U		P
7440-47-3	Chromium	8.0	B		P
7440-48-4	Cobalt	4.1	U		P
7440-50-8	Copper	22.7	B		P
7439-89-6	Iron	65.4	B		P
7439-95-4	Magnesium	10300			P
7439-96-5	Manganese	4.4	B		P
7440-02-0	Nickel	15.2	U		P
7440-09-7	Potassium	3820	B		P
7440-22-4	Silver	3.8	U		P
7440-23-5	Sodium	6940			P
7440-62-2	Vanadium	27.8	B		P
7440-66-6	Zinc	59.3			P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0DX73

Lab Name: QUANTERRA_MO Contract: 550.69

Lab Code: ITMO Case No.: SAS No.: SDG No.: W0436

Matrix (soil/water): WATER Lab Sample ID: 7703-001

Level (low/med): LOW Date Received: 03/02/95

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	58.9	B		P
7440-36-0	Antimony	32.8	U		P
7440-39-3	Barium	29.3	B		P
7440-41-7	Beryllium	0.71	B		P
7440-70-2	Calcium	19600			P
7440-43-9	Cadmium	3.8	U		P
7440-47-3	Chromium	173			P
7440-48-4	Cobalt	5.7	B		P
7440-50-8	Copper	29.6			P
7439-89-6	Iron	866			P
7439-95-4	Magnesium	5560			P
7439-96-5	Manganese	22.5			P
7440-02-0	Nickel	85.5			P
7440-09-7	Potassium	4620	B		P
7440-22-4	Silver	3.8	U		P
7440-23-5	Sodium	37000			P
7440-62-2	Vanadium	39.6	B		P
7440-66-6	Zinc	68.3			P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0DX75

Lab Name: QUANTERRA_MO Contract: 550.69

Lab Code: ITMO Case No.: SAS No.: SDG No.: W0436

Matrix (soil/water): WATER Lab Sample ID: 7733-007

Level (low/med): LOW Date Received: 03/07/95

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	40.4	B		P
7440-36-0	Antimony	32.8	U		P
7440-39-3	Barium	36.0	B		P
7440-41-7	Beryllium	0.64	B		P
7440-70-2	Calcium	46200			P
7440-43-9	Cadmium	3.8	U		P
7440-47-3	Chromium	140			P
7440-48-4	Cobalt	4.1	U		P
7440-50-8	Copper	27.3			P
7439-89-6	Iron	590			P
7439-95-4	Magnesium	14400			P
7439-96-5	Manganese	16.8			P
7440-02-0	Nickel	60.6			P
7440-09-7	Potassium	5430			P
7440-22-4	Silver	3.8	U		P
7440-23-5	Sodium	15500			P
7440-62-2	Vanadium	33.2	B		P
7440-66-6	Zinc	14.1	B		P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0DX76

Lab Name: QUANTERRA_MO Contract: 550.69

Lab Code: ITMO Case No.: SAS No.: SDG No.: W0436

Matrix (soil/water): WATER Lab Sample ID: 7733-008

Level (low/med): LOW Date Received: 03/07/95

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	53.0	B		P
7440-36-0	Antimony	32.8	U		P
7440-39-3	Barium	31.2	B		P
7440-41-7	Beryllium	0.96	B		P
7440-70-2	Calcium	32900			P
7440-43-9	Cadmium	3.8	U		P
7440-47-3	Chromium	234			P
7440-48-4	Cobalt	4.1	U		P
7440-50-8	Copper	25.7			P
7439-89-6	Iron	322			P
7439-95-4	Magnesium	15400			P
7439-96-5	Manganese	12.3	B		P
7440-02-0	Nickel	30.5	B		P
7440-09-7	Potassium	3980	B		P
7440-22-4	Silver	3.8	U		P
7440-23-5	Sodium	23000			P
7440-62-2	Vanadium	31.8	B		P
7440-66-6	Zinc	20.6			P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0DX86

Lab Name: QUANTERRA MO Contract: 550.69

Lab Code: ITMO Case No.: SAS No.: SDG No.: W0436

Matrix (soil/water): WATER Lab Sample ID: 7733-001

Level (low/med): LOW Date Received: 03/07/95

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	23.5	U		P
7440-36-0	Antimony	32.8	U		P
7440-39-3	Barium	5.2	B		P
7440-41-7	Beryllium	0.64	B		P
7440-70-2	Calcium	2230	B		P
7440-43-9	Cadmium	3.8	U		P
7440-47-3	Chromium	2.9	U		P
7440-48-4	Cobalt	4.1	U		P
7440-50-8	Copper	22.2	B		P
7439-89-6	Iron	74.5	B		P
7439-95-4	Magnesium	669	B		P
7439-96-5	Manganese	3.9	B		P
7440-02-0	Nickel	15.2	U		P
7440-09-7	Potassium	2670	U		P
7440-22-4	Silver	3.8	U		P
7440-23-5	Sodium	2010			P
7440-62-2	Vanadium	14.2	B		P
7440-66-6	Zinc	18.6	B		P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0DX87

Lab Name: QUANTERRA_MO Contract: 550.69

Lab Code: ITMO Case No.: SAS No.: SDG No.: W0436

Matrix (soil/water): WATER Lab Sample ID: D7733-004

Level (low/med): LOW Date Received: 03/07/95

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	29.7	B		P
7440-36-0	Antimony	32.8	U		P
7440-39-3	Barium	9.5	B		P
7440-41-7	Beryllium	0.94	B		P
7440-70-2	Calcium	3330	B		P
7440-43-9	Cadmium	3.8	U		P
7440-47-3	Chromium	4.9	B		P
7440-48-4	Cobalt	4.1	U		P
7440-50-8	Copper	24.5	B		P
7439-89-6	Iron	192			P
7439-95-4	Magnesium	855	B		P
7439-96-5	Manganese	5.1	B		P
7440-02-0	Nickel	15.2	U		P
7440-09-7	Potassium	2670	U		P
7440-22-4	Silver	3.8	U		P
7440-23-5	Sodium	1310			P
7440-62-2	Vanadium	16.7	B		P
7440-66-6	Zinc	22.2			P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0DX92

Lab Name: QUANTERRA_MO Contract: 550.69

Lab Code: ITMO Case No.: SAS No.: SDG No.: W0436

Matrix (soil/water): WATER Lab Sample ID: 7733-003

Level (low/med): LOW Date Received: 03/07/95

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	23.5	U		P
7440-36-0	Antimony	32.8	U		P
7440-39-3	Barium	68.7	B		P
7440-41-7	Beryllium	0.96	B		P
7440-70-2	Calcium	128000			P
7440-43-9	Cadmium	3.8	U		P
7440-47-3	Chromium	6.0	B		P
7440-48-4	Cobalt	4.1	U		P
7440-50-8	Copper	30.4			P
7439-89-6	Iron	132			P
7439-95-4	Magnesium	21100			P
7439-96-5	Manganese	7.0	B		P
7440-02-0	Nickel	15.2	U		P
7440-09-7	Potassium	5260			P
7440-22-4	Silver	3.8	U		P
7440-23-5	Sodium	48800			P
7440-62-2	Vanadium	17.9	B		P
7440-66-6	Zinc	43.3			P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0DX93

Lab Name: QUANTERRA_MO Contract: 550.69

Lab Code: ITMO Case No.: SAS No.: SDG No.: W0436

Matrix (soil/water): WATER Lab Sample ID: D7733-006

Level (low/med): LOW Date Received: 03/07/95

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	29.7	B		P
7440-36-0	Antimony	32.8	U		P
7440-39-3	Barium	74.7	B		P
7440-41-7	Beryllium	0.80	B		P
7440-70-2	Calcium	126000			P
7440-43-9	Cadmium	3.8	U		P
7440-47-3	Chromium	2.9	U		P
7440-48-4	Cobalt	4.1	U		P
7440-50-8	Copper	22.7	B		P
7439-89-6	Iron	82.3	B		P
7439-95-4	Magnesium	20900			P
7439-96-5	Manganese	6.3	B		P
7440-02-0	Nickel	15.2	U		P
7440-09-7	Potassium	5030			P
7440-22-4	Silver	3.8	U		P
7440-23-5	Sodium	48100			P
7440-62-2	Vanadium	21.2	B		P
7440-66-6	Zinc	66.8			P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0DX94

Lab Name: QUANTERRA_MO Contract: 550.69

Lab Code: ITMO Case No.: SAS No.: SDG No.: W0436

Matrix (soil/water): WATER Lab Sample ID: 7672-002

Level (low/med): LOW Date Received: 03/01/95

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	23.5	U		P
7440-36-0	Antimony	32.8	U		P
7440-39-3	Barium	33.1	B		P
7440-41-7	Beryllium	0.96	B		P
7440-70-2	Calcium	30800			P
7440-43-9	Cadmium	3.8	U		P
7440-47-3	Chromium	5.7	B		P
7440-48-4	Cobalt	4.1	U		P
7440-50-8	Copper	25.5			P
7439-89-6	Iron	277			P
7439-95-4	Magnesium	9040			P
7439-96-5	Manganese	8.2	B		P
7440-02-0	Nickel	15.2	U		P
7440-09-7	Potassium	3570	B		P
7440-22-4	Silver	3.8	U		P
7440-23-5	Sodium	7620			P
7440-62-2	Vanadium	38.5	B		P
7440-66-6	Zinc	61.4			P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

FORM I - IN

SW-846

9613451.0524

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0DX95

Lab Name: QUANTERRA_MO Contract: 550.69

Lab Code: ITMO Case No.: SAS No.: SDG No.: W0436

Matrix (soil/water): WATER Lab Sample ID: D7672-004

Level (low/med): LOW Date Received: 03/01/95

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	23.5	U		P
7440-36-0	Antimony	32.8	U		P
7440-39-3	Barium	42.7	B		P
7440-41-7	Beryllium	0.96	B		P
7440-70-2	Calcium	38100			P
7440-43-9	Cadmium	3.8	U		P
7440-47-3	Chromium	7.3	B		P
7440-48-4	Cobalt	4.1	U		P
7440-50-8	Copper	19.2	B		P
7439-89-6	Iron	91.1	B		P
7439-95-4	Magnesium	10800			P
7439-96-5	Manganese	4.4	B		P
7440-02-0	Nickel	15.2	U		P
7440-09-7	Potassium	3670	B		P
7440-22-4	Silver	3.8	U		P
7440-23-5	Sodium	7250			P
7440-62-2	Vanadium	26.0	B		P
7440-66-6	Zinc	58.8			P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

FORM I - IN

SW-846

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

Project: 550.69

Category: Chloride
Method: EPA 300.0
Matrix: LIQUID

Sample Date : 02/27/95
Receipt Date : 02/28/95
Report Date : 04/05/95

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
BODX63	7669-001	Chloride	16887-00-6	QCBLK61698-1	03/07/95	03/07/95	4.38	MG/L		0.25	1
BODX63	7669-001DUP	Chloride	16887-00-6	QCBLK61698-1	03/07/95	03/07/95	4.28	MG/L		0.25	1
BODX63	7669-001MS	Chloride	16887-00-6	QCBLK61698-1	03/07/95	03/07/95	96	%REC			10
BODX61	7669-002	Chloride	16887-00-6	QCBLK61698-1	03/07/95	03/07/95	4.41	MG/L		0.25	1
BODX64	7669-003	Chloride	16887-00-6	QCBLK61698-1	03/07/95	03/07/95	4.50	MG/L		0.25	1
BODX62	7669-004	Chloride	16887-00-6	QCBLK61698-1	03/07/95	03/07/95	4.64	MG/L		0.25	1
BODX67	7672-001	Chloride	16887-00-6	QCBLK61698-1	03/07/95	03/07/95	4.60	MG/L		1.25	5
BODX94	7672-002	Chloride	16887-00-6	QCBLK61698-1	03/07/95	03/07/95	4.62	MG/L		1.25	5
BODX68	7672-003	Chloride	16887-00-6	QCBLK61698-1	03/07/95	03/07/95	4.93	MG/L		0.25	1
BODX95	7672-004	Chloride	16887-00-6	QCBLK61698-1	03/07/95	03/07/95	4.93	MG/L		0.25	1
BODX73	7703-001	Chloride	16887-00-6	QCBLK61890-1	03/09/95	03/09/95	3.29	MG/L		0.25	1
BODX59	7703-002	Chloride	16887-00-6	QCBLK61890-1	03/09/95	03/09/95	2.02	MG/L		0.25	1
BODX48	7721-001	Chloride	16887-00-6	QCBLK61890-1	03/09/95	03/09/95	21.9	MG/L		1.25	5
BODX49	7721-002	Chloride	16887-00-6	QCBLK61890-1	03/09/95	03/09/95	22.4	MG/L		1.25	5
BODX86	7733-001	Chloride	16887-00-6	QCBLK62499-2	03/14/95	03/14/95	0.25	MG/L	U	0.25	1
BODX54	7733-002	Chloride	16887-00-6	QCBLK62499-2	03/14/95	03/14/95	19.5	MG/L		1.25	5
BODX92	7733-003	Chloride	16887-00-6	QCBLK62499-2	03/14/95	03/14/95	19.4	MG/L		1.25	5
BODX87	7733-004	Chloride	16887-00-6	QCBLK62499-2	03/14/95	03/14/95	0.25	MG/L	U	0.25	1
BODX55	7733-005	Chloride	16887-00-6	QCBLK62499-2	03/14/95	03/14/95	19.4	MG/L		1.25	5
BODX93	7733-006	Chloride	16887-00-6	QCBLK62499-2	03/14/95	03/14/95	19.2	MG/L		1.25	5
BODX75	7733-007	Chloride	16887-00-6	QCBLK62499-2	03/14/95	03/14/95	5.86	MG/L		1.25	5
BODX76	7733-008	Chloride	16887-00-6	QCBLK62499-2	03/14/95	03/14/95	2.41	MG/L		0.25	1
NA	QCBLK61698-1	Chloride	16887-00-6	QCBLK61698-1	03/07/95	03/07/95	0.25	MG/L	U	0.25	1
NA	QCBLK61890-1	Chloride	16887-00-6	QCBLK61890-1	03/09/95	03/09/95	0.25	MG/L	U	0.25	1
NA	QCBLK62499-2	Chloride	16887-00-6	QCBLK62499-2	03/14/95	03/14/95	0.25	MG/L	U	0.25	1
NA	QCLCS61698-1	Chloride	16887-00-6	QCBLK61698-1	03/07/95	03/07/95	94	%REC			1
NA	QCLCS61890-1	Chloride	16887-00-6	QCBLK61890-1	03/09/95	03/09/95	91	%REC			1
NA	QCLCS62499-2	Chloride	16887-00-6	QCBLK62499-2	03/14/95	03/14/95	97	%REC			1

9613451.0526

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

Project: 550.69

Category: Fluoride
Method: EPA 300.0
Matrix: LIQUID

Sample Date : 02/27/95
Receipt Date : 02/28/95
Report Date : 04/05/95

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
B0DX63	7669-001	Fluoride	16984-48-8	QCBLK61698-1	03/07/95	03/07/95	0.24	MG/L		0.10	1
B0DX63	7669-001DUP	Fluoride	16984-48-8	QCBLK61698-1	03/07/95	03/07/95	0.24	MG/L		0.10	1
B0DX63	7669-001MS	Fluoride	16984-48-8	QCBLK61698-1	03/07/95	03/07/95	104	%REC			1
B0DX61	7669-002	Fluoride	16984-48-8	QCBLK61698-1	03/07/95	03/07/95	0.21	MG/L		0.10	1
B0DX64	7669-003	Fluoride	16984-48-8	QCBLK61698-1	03/07/95	03/07/95	0.24	MG/L		0.10	1
B0DX62	7669-004	Fluoride	16984-48-8	QCBLK61698-1	03/07/95	03/07/95	0.21	MG/L		0.10	1
B0DX67	7672-001	Fluoride	16984-48-8	QCBLK61698-1	03/07/95	03/07/95	0.17	MG/L		0.10	1
B0DX94	7672-002	Fluoride	16984-48-8	QCBLK61698-1	03/07/95	03/07/95	0.17	MG/L		0.10	1
B0DX68	7672-003	Fluoride	16984-48-8	QCBLK61698-1	03/07/95	03/07/95	0.18	MG/L		0.10	1
B0DX95	7672-004	Fluoride	16984-48-8	QCBLK61698-1	03/07/95	03/07/95	0.18	MG/L		0.10	1
B0DX73	7703-001	Fluoride	16984-48-8	QCBLK61890-1	03/09/95	03/09/95	0.36	MG/L		0.10	1
B0DX59	7703-002	Fluoride	16984-48-8	QCBLK61890-1	03/09/95	03/09/95	0.15	MG/L		0.10	1
B0DX48	7721-001	Fluoride	16984-48-8	QCBLK62060-1	03/10/95	03/10/95	0.38	MG/L		0.20	2
B0DX49	7721-002	Fluoride	16984-48-8	QCBLK62060-1	03/10/95	03/10/95	0.36	MG/L		0.20	2
B0DX86	7733-001	Fluoride	16984-48-8	QCBLK62499-2	03/14/95	03/14/95	0.10	MG/L	U	0.10	1
B0DX54	7733-002	Fluoride	16984-48-8	QCBLK62499-2	03/14/95	03/14/95	0.10	MG/L	U	0.10	1
B0DX92	7733-003	Fluoride	16984-48-8	QCBLK62499-2	03/14/95	03/14/95	0.10	MG/L	U	0.10	1
B0DX87	7733-004	Fluoride	16984-48-8	QCBLK62499-2	03/14/95	03/14/95	0.10	MG/L	U	0.10	1
B0DX55	7733-005	Fluoride	16984-48-8	QCBLK62499-2	03/14/95	03/14/95	0.10	MG/L	U	0.10	1
B0DX93	7733-006	Fluoride	16984-48-8	QCBLK62499-2	03/14/95	03/14/95	0.10	MG/L	U	0.10	1
B0DX75	7733-007	Fluoride	16984-48-8	QCBLK62499-2	03/14/95	03/14/95	0.26	MG/L		0.10	1
B0DX76	7733-008	Fluoride	16984-48-8	QCBLK62499-2	03/14/95	03/14/95	0.34	MG/L		0.10	1
NA	QCBLK61698-1	Fluoride	16984-48-8	QCBLK61698-1	03/07/95	03/07/95	0.10	MG/L	U	0.10	1
NA	QCBLK61890-1	Fluoride	16984-48-8	QCBLK61890-1	03/09/95	03/09/95	0.10	MG/L	U	0.10	1
NA	QCBLK62060-1	Fluoride	16984-48-8	QCBLK62060-1	03/10/95	03/10/95	0.10	MG/L	U	0.10	1
NA	QCBLK62499-2	Fluoride	16984-48-8	QCBLK62499-2	03/14/95	03/14/95	0.10	MG/L	U	0.10	1
NA	QCLCS61698-1	Fluoride	16984-48-8	QCBLK61698-1	03/07/95	03/07/95	98	%REC			1
NA	QCLCS61890-1	Fluoride	16984-48-8	QCBLK61890-1	03/09/95	03/09/95	90	%REC			1
NA	QCLCS62060-1	Fluoride	16984-48-8	QCBLK62060-1	03/10/95	03/10/95	101	%REC			1
NA	QCLCS62499-2	Fluoride	16984-48-8	QCBLK62499-2	03/14/95	03/14/95	88	%REC			1

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

Project: 550.69

Category: Nitrate
Method: EPA 300.0
Matrix: LIQUID

Sample Date : 02/27/95
Receipt Date : 02/28/95
Report Date : 04/05/95

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
B0DX63	7669-001	Nitrate	14797-55-8	QCBLK61698-1	03/07/95	03/07/95	3.27	MG/L		0.10	5
B0DX63	7669-001DUP	Nitrate	14797-55-8	QCBLK61698-1	03/07/95	03/07/95	3.24	MG/L		0.10	5
B0DX63	7669-001MS	Nitrate	14797-55-8	QCBLK61698-1	03/07/95	03/07/95	73	%REC			5
B0DX61	7669-002	Nitrate	14797-55-8	QCBLK61698-1	03/07/95	03/07/95	3.42	MG/L		0.10	5
B0DX64	7669-003	Nitrate	14797-55-8	QCBLK61698-1	03/07/95	03/07/95	3.27	MG/L		0.10	5
B0DX62	7669-004	Nitrate	14797-55-8	QCBLK61698-1	03/07/95	03/07/95	3.43	MG/L		0.10	5
B0DX67	7672-001	Nitrate	14797-55-8	QCBLK61698-1	03/07/95	03/07/95	4.50	MG/L		0.10	5
B0DX94	7672-002	Nitrate	14797-55-8	QCBLK61698-1	03/07/95	03/07/95	4.49	MG/L		0.10	5
B0DX68	7672-003	Nitrate	14797-55-8	QCBLK61698-1	03/07/95	03/07/95	4.46	MG/L		0.10	5
B0DX95	7672-004	Nitrate	14797-55-8	QCBLK61698-1	03/07/95	03/07/95	4.56	MG/L		0.10	5
B0DX73	7703-001	Nitrate	14797-55-8	QCBLK61890-1	03/09/95	03/09/95	0.47	MG/L		0.020	1
B0DX59	7703-002	Nitrate	14797-55-8	QCBLK62060-1	03/10/95	03/10/95	10.4	MG/L		0.40	20
B0DX48	7721-001	Nitrate	14797-55-8	QCBLK62060-1	03/10/95	03/10/95	5.00	MG/L		0.20	10
B0DX49	7721-002	Nitrate	14797-55-8	QCBLK62060-1	03/10/95	03/10/95	5.23	MG/L		0.20	10
B0DX86	7733-001	Nitrate	14797-55-8	QCBLK62499-2	03/14/95	03/14/95	0.020	MG/L	U	0.020	1
B0DX54	7733-002	Nitrate	14797-55-8	QCBLK62499-2	03/14/95	03/14/95	3.89	MG/L		0.10	5
B0DX92	7733-003	Nitrate	14797-55-8	QCBLK62499-2	03/14/95	03/14/95	3.91	MG/L		0.10	5
B0DX87	7733-004	Nitrate	14797-55-8	QCBLK62499-2	03/14/95	03/14/95	0.020	MG/L	U	0.020	1
B0DX55	7733-005	Nitrate	14797-55-8	QCBLK62499-2	03/14/95	03/14/95	3.91	MG/L		0.10	5
B0DX93	7733-006	Nitrate	14797-55-8	QCBLK62499-2	03/14/95	03/14/95	3.94	MG/L		0.10	5
B0DX75	7733-007	Nitrate	14797-55-8	QCBLK62499-2	03/14/95	03/14/95	1.94	MG/L		0.10	5
B0DX76	7733-008	Nitrate	14797-55-8	QCBLK62499-2	03/14/95	03/14/95	2.23	MG/L		0.10	5
NA	QCBLK61698-1	Nitrate	14797-55-8	QCBLK61698-1	03/07/95	03/07/95	0.020	MG/L	U	0.020	1
NA	QCBLK61890-1	Nitrate	14797-55-8	QCBLK61890-1	03/09/95	03/09/95	0.020	MG/L	U	0.020	1
NA	QCBLK62060-1	Nitrate	14797-55-8	QCBLK62060-1	03/10/95	03/10/95	0.020	MG/L	U	0.020	1
NA	QCBLK62499-2	Nitrate	14797-55-8	QCBLK62499-2	03/14/95	03/14/95	0.020	MG/L	U	0.020	1
NA	QCLCS61698-1	Nitrate	14797-55-8	QCBLK61698-1	03/07/95	03/07/95	100	%REC			1
NA	QCLCS61890-1	Nitrate	14797-55-8	QCBLK61890-1	03/09/95	03/09/95	99	%REC			1
NA	QCLCS62060-1	Nitrate	14797-55-8	QCBLK62060-1	03/10/95	03/10/95	98	%REC			1
NA	QCLCS62499-2	Nitrate	14797-55-8	QCBLK62499-2	03/14/95	03/14/95	100	%REC			1

9613451.0528

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

Project: 550.69

Category: Nitrite
Method: EPA 300.0
Matrix: LIQUID

Sample Date : 02/27/95
Receipt Date : 02/28/95
Report Date : 04/05/95

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
B0DX63	7669-001	Nitrite	7632-00-0	QCBLK61698-1	03/07/95	03/07/95	0.020	MG/L	U	0.020	1
B0DX63	7669-001DUP	Nitrite	7632-00-0	QCBLK61698-1	03/07/95	03/07/95	0.020	MG/L	U	0.020	1
B0DX63	7669-001MS	Nitrite	7632-00-0	QCBLK61698-1	03/07/95	03/07/95	99	%REC			1
B0DX61	7669-002	Nitrite	7632-00-0	QCBLK61698-1	03/07/95	03/07/95	0.020	MG/L	U	0.020	1
B0DX64	7669-003	Nitrite	7632-00-0	QCBLK61698-1	03/07/95	03/07/95	0.020	MG/L	U	0.020	1
B0DX62	7669-004	Nitrite	7632-00-0	QCBLK61698-1	03/07/95	03/07/95	0.020	MG/L	U	0.020	1
B0DX67	7672-001	Nitrite	7632-00-0	QCBLK61698-1	03/07/95	03/07/95	0.020	MG/L	U	0.020	1
B0DX94	7672-002	Nitrite	7632-00-0	QCBLK61698-1	03/07/95	03/07/95	0.020	MG/L	U	0.020	1
B0DX68	7672-003	Nitrite	7632-00-0	QCBLK61698-1	03/07/95	03/07/95	0.020	MG/L	U	0.020	1
B0DX95	7672-004	Nitrite	7632-00-0	QCBLK61698-1	03/07/95	03/07/95	0.020	MG/L	U	0.020	1
B0DX73	7703-001	Nitrite	7632-00-0	QCBLK61890-1	03/09/95	03/09/95	0.020	MG/L	U	0.020	1
B0DX59	7703-002	Nitrite	7632-00-0	QCBLK61890-1	03/09/95	03/09/95	0.020	MG/L	U	0.020	1
B0DX48	7721-001	Nitrite	7632-00-0	QCBLK61890-1	03/09/95	03/09/95	0.020	MG/L	U	0.020	1
B0DX49	7721-002	Nitrite	7632-00-0	QCBLK61890-1	03/09/95	03/09/95	0.020	MG/L	U	0.020	1
B0DX86	7733-001	Nitrite	7632-00-0	QCBLK62499-2	03/14/95	03/14/95	0.020	MG/L	U	0.020	1
B0DX54	7733-002	Nitrite	7632-00-0	QCBLK62499-2	03/14/95	03/14/95	0.020	MG/L	U	0.020	1
B0DX92	7733-003	Nitrite	7632-00-0	QCBLK62499-2	03/14/95	03/14/95	0.020	MG/L	U	0.020	1
B0DX87	7733-004	Nitrite	7632-00-0	QCBLK62499-2	03/14/95	03/14/95	0.020	MG/L	U	0.020	1
B0DX55	7733-005	Nitrite	7632-00-0	QCBLK62499-2	03/14/95	03/14/95	0.020	MG/L	U	0.020	1
B0DX93	7733-006	Nitrite	7632-00-0	QCBLK62499-2	03/14/95	03/14/95	0.020	MG/L	U	0.020	1
B0DX75	7733-007	Nitrite	7632-00-0	QCBLK62499-2	03/14/95	03/14/95	0.020	MG/L	U	0.020	1
B0DX76	7733-008	Nitrite	7632-00-0	QCBLK62499-2	03/14/95	03/14/95	0.020	MG/L	U	0.020	1
NA	QCBLK61698-1	Nitrite	7632-00-0	QCBLK61698-1	03/07/95	03/07/95	0.020	MG/L	U	0.020	1
NA	QCBLK61890-1	Nitrite	7632-00-0	QCBLK61890-1	03/09/95	03/09/95	0.020	MG/L	U	0.020	1
NA	QCBLK62499-2	Nitrite	7632-00-0	QCBLK62499-2	03/14/95	03/14/95	0.020	MG/L	U	0.020	1
NA	QCLCS61698-1	Nitrite	7632-00-0	QCBLK61698-1	03/07/95	03/07/95	96	%REC			1
NA	QCLCS61890-1	Nitrite	7632-00-0	QCBLK61890-1	03/09/95	03/09/95	98	%REC			1
NA	QCLCS62499-2	Nitrite	7632-00-0	QCBLK62499-2	03/14/95	03/14/95	98	%REC			1

9613451.0529

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

Project: 550.69

Category: Orthophosphate
Method: EPA 300.0
Matrix: LIQUID

Sample Date : 02/27/95
Receipt Date : 02/28/95
Report Date : 04/05/95

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
BODX63	7669-001	Ortho-Phosphate	7778-77-0	QCBLK61698-1	03/07/95	03/07/95	1.00	MG/L	U	1.00	1
BODX63	7669-001DUP	Ortho-Phosphate	7778-77-0	QCBLK61698-1	03/07/95	03/07/95	1.00	MG/L	U	1.00	1
BODX63	7669-001MS	Ortho-Phosphate	7778-77-0	QCBLK61698-1	03/07/95	03/07/95	100	%REC			1
BODX61	7669-002	Ortho-Phosphate	7778-77-0	QCBLK61698-1	03/07/95	03/07/95	1.00	MG/L	U	1.00	1
BODX64	7669-003	Ortho-Phosphate	7778-77-0	QCBLK61698-1	03/07/95	03/07/95	1.00	MG/L	U	1.00	1
BODX62	7669-004	Ortho-Phosphate	7778-77-0	QCBLK61698-1	03/07/95	03/07/95	1.00	MG/L	U	1.00	1
BODX67	7672-001	Ortho-Phosphate	7778-77-0	QCBLK61698-1	03/07/95	03/07/95	1.00	MG/L	U	1.00	1
BODX94	7672-002	Ortho-Phosphate	7778-77-0	QCBLK61698-1	03/07/95	03/07/95	1.00	MG/L	U	1.00	1
BODX68	7672-003	Ortho-Phosphate	7778-77-0	QCBLK61698-1	03/07/95	03/07/95	1.00	MG/L	U	1.00	1
BODX95	7672-004	Ortho-Phosphate	7778-77-0	QCBLK61698-1	03/07/95	03/07/95	1.00	MG/L	U	1.00	1
BODX73	7703-001	Ortho-Phosphate	7778-77-0	QCBLK61890-1	03/09/95	03/09/95	1.00	MG/L	U	1.00	1
BODX59	7703-002	Ortho-Phosphate	7778-77-0	QCBLK61890-1	03/09/95	03/09/95	1.00	MG/L	U	1.00	1
BODX48	7721-001	Ortho-Phosphate	7778-77-0	QCBLK61890-1	03/09/95	03/09/95	1.00	MG/L	U	1.00	1
BODX49	7721-002	Ortho-Phosphate	7778-77-0	QCBLK61890-1	03/09/95	03/09/95	1.00	MG/L	U	1.00	1
BODX86	7733-001	Ortho-Phosphate	7778-77-0	QCBLK62499-2	03/14/95	03/14/95	1.00	MG/L	U	1.00	1
BODX54	7733-002	Ortho-Phosphate	7778-77-0	QCBLK62499-2	03/14/95	03/14/95	1.00	MG/L	U	1.00	1
BODX92	7733-003	Ortho-Phosphate	7778-77-0	QCBLK62499-2	03/14/95	03/14/95	1.00	MG/L	U	1.00	1
BODX87	7733-004	Ortho-Phosphate	7778-77-0	QCBLK62499-2	03/14/95	03/14/95	1.00	MG/L	U	1.00	1
BODX55	7733-005	Ortho-Phosphate	7778-77-0	QCBLK62499-2	03/14/95	03/14/95	1.00	MG/L	U	1.00	1
BODX93	7733-006	Ortho-Phosphate	7778-77-0	QCBLK62499-2	03/14/95	03/14/95	1.00	MG/L	U	1.00	1
BODX75	7733-007	Ortho-Phosphate	7778-77-0	QCBLK62499-2	03/14/95	03/14/95	1.00	MG/L	U	1.00	1
BODX76	7733-008	Ortho-Phosphate	7778-77-0	QCBLK62499-2	03/14/95	03/14/95	1.00	MG/L	U	1.00	1
NA	QCBLK61698-1	Ortho-Phosphate	7778-77-0	QCBLK61698-1	03/07/95	03/07/95	1.00	MG/L	U	1.00	1
NA	QCBLK61890-1	Ortho-Phosphate	7778-77-0	QCBLK61890-1	03/09/95	03/09/95	1.00	MG/L	U	1.00	1
NA	QCBLK62499-2	Ortho-Phosphate	7778-77-0	QCBLK62499-2	03/14/95	03/14/95	1.00	MG/L	U	1.00	1
NA	QCLCS61698-1	Ortho-Phosphate	7778-77-0	QCBLK61698-1	03/07/95	03/07/95	93	%REC			1
NA	QCLCS61890-1	Ortho-Phosphate	7778-77-0	QCBLK61890-1	03/09/95	03/09/95	94	%REC			1
NA	QCLCS62499-2	Ortho-Phosphate	7778-77-0	QCBLK62499-2	03/14/95	03/14/95	96	%REC			1

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

Project: 550.69

Category: Sulfate
Method: EPA 300.0
Matrix: LIQUID

Sample Date : 02/27/95
Receipt Date : 02/28/95
Report Date : 04/05/95

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
B0DX63	7669-001	Sulfate	14808-79-8	QCBLK61698-1	03/07/95	03/07/95	32.8	MG/L		5.00	5
B0DX63	7669-001DUP	Sulfate	14808-79-8	QCBLK61698-1	03/07/95	03/07/95	32.4	MG/L		5.00	5
B0DX63	7669-001MS	Sulfate	14808-79-8	QCBLK61698-1	03/07/95	03/07/95	100	%REC			5
B0DX61	7669-002	Sulfate	14808-79-8	QCBLK61698-1	03/07/95	03/07/95	30.9	MG/L		5.00	5
B0DX64	7669-003	Sulfate	14808-79-8	QCBLK61698-1	03/07/95	03/07/95	32.5	MG/L		5.00	5
B0DX62	7669-004	Sulfate	14808-79-8	QCBLK61698-1	03/07/95	03/07/95	30.6	MG/L		5.00	5
B0DX67	7672-001	Sulfate	14808-79-8	QCBLK61698-1	03/07/95	03/07/95	53.5	MG/L		5.00	5
B0DX94	7672-002	Sulfate	14808-79-8	QCBLK61698-1	03/07/95	03/07/95	53.5	MG/L		5.00	5
B0DX68	7672-003	Sulfate	14808-79-8	QCBLK61698-1	03/07/95	03/07/95	53.4	MG/L		5.00	5
B0DX95	7672-004	Sulfate	14808-79-8	QCBLK61698-1	03/07/95	03/07/95	53.6	MG/L		5.00	5
B0DX73	7703-001	Sulfate	14808-79-8	QCBLK61890-1	03/09/95	03/09/95	25.7	MG/L		5.00	5
B0DX59	7703-002	Sulfate	14808-79-8	QCBLK61890-1	03/09/95	03/09/95	23.3	MG/L		5.00	5
B0DX48	7721-001	Sulfate	14808-79-8	QCBLK62060-1	03/10/95	03/10/95	448	MG/L		25.0	25
B0DX49	7721-002	Sulfate	14808-79-8	QCBLK62060-1	03/10/95	03/10/95	460	MG/L		25.0	25
B0DX86	7733-001	Sulfate	14808-79-8	QCBLK62499-2	03/14/95	03/14/95	1.00	MG/L	U	1.00	1
B0DX54	7733-002	Sulfate	14808-79-8	QCBLK62499-2	03/14/95	03/14/95	283	MG/L		25.0	25
B0DX92	7733-003	Sulfate	14808-79-8	QCBLK62499-2	03/14/95	03/14/95	284	MG/L		25.0	25
B0DX87	7733-004	Sulfate	14808-79-8	QCBLK62499-2	03/14/95	03/14/95	1.00	MG/L	U	1.00	1
B0DX55	7733-005	Sulfate	14808-79-8	QCBLK62499-2	03/14/95	03/14/95	283	MG/L		25.0	25
B0DX93	7733-006	Sulfate	14808-79-8	QCBLK62499-2	03/14/95	03/14/95	282	MG/L		25.0	25
B0DX75	7733-007	Sulfate	14808-79-8	QCBLK62499-2	03/14/95	03/14/95	94.2	MG/L		10.0	10
B0DX76	7733-008	Sulfate	14808-79-8	QCBLK62499-2	03/14/95	03/14/95	47.5	MG/L		5.00	5
NA	QCBLK61698-1	Sulfate	14808-79-8	QCBLK61698-1	03/07/95	03/07/95	1.00	MG/L	U	1.00	1
NA	QCBLK61890-1	Sulfate	14808-79-8	QCBLK61890-1	03/09/95	03/09/95	1.00	MG/L	U	1.00	1
NA	QCBLK62060-1	Sulfate	14808-79-8	QCBLK62060-1	03/10/95	03/10/95	1.00	MG/L	U	1.00	1
NA	QCBLK62499-2	Sulfate	14808-79-8	QCBLK62499-2	03/14/95	03/14/95	1.00	MG/L	U	1.00	1
NA	QCLCS61698-1	Sulfate	14808-79-8	QCBLK61698-1	03/07/95	03/07/95	93	%REC			1
NA	QCLCS61890-1	Sulfate	14808-79-8	QCBLK61890-1	03/09/95	03/09/95	95	%REC			1
NA	QCLCS62060-1	Sulfate	14808-79-8	QCBLK62060-1	03/10/95	03/10/95	98	%REC			1
NA	QCLCS62499-2	Sulfate	14808-79-8	QCBLK62499-2	03/14/95	03/14/95	95	%REC			1

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

Project: 550.69

Category: Conductivity
Method: EPA 120.1
Matrix: LIQUID

Sample Date : 02/27/95
Receipt Date : 02/28/95
Report Date : 04/05/95

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
B0DX63	7669-001	Specific Conduc	10-34-4	QCBLK61629-1	03/08/95	03/08/95	274	UMHOS/CM		0.066	1
B0DX63	7669-001DUP	Specific Conduc	10-34-4	QCBLK61629-1	03/08/95	03/08/95	273	UMHOS/CM		0.066	1
B0DX61	7669-002	Specific Conduc	10-34-4	QCBLK61629-1	03/08/95	03/08/95	260	UMHOS/CM		0.066	1
B0DX67	7672-001	Specific Conduc	10-34-4	QCBLK61629-1	03/08/95	03/08/95	313	UMHOS/CM		0.066	1
B0DX94	7672-002	Specific Conduc	10-34-4	QCBLK61629-1	03/08/95	03/08/95	311	UMHOS/CM		0.066	1
B0DX48	7721-001	Specific Conduc	10-34-4	QCBLK61629-1	03/08/95	03/08/95	1217	UMHOS/CM		0.066	1
B0DX86	7733-001	Specific Conduc	10-34-4	QCBLK61885-1	03/10/95	03/10/95	0.89	UMHOS/CM		0.066	1
B0DX54	7733-002	Specific Conduc	10-34-4	QCBLK61885-1	03/10/95	03/10/95	987	UMHOS/CM		0.066	1
B0DX92	7733-003	Specific Conduc	10-34-4	QCBLK61885-1	03/10/95	03/10/95	982	UMHOS/CM		0.066	1
B0DX76	7733-008	Specific Conduc	10-34-4	QCBLK61885-1	03/10/95	03/10/95	390	UMHOS/CM		0.066	1
NA	QCBLK61629-1	Specific Conduc	10-34-4	QCBLK61629-1	03/08/95	03/08/95	0.45	UMHOS/CM		0.066	1
NA	QCBLK61885-1	Specific Conduc	10-34-4	QCBLK61885-1	03/10/95	03/10/95	0.45	UMHOS/CM		0.066	1

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

Project: 550.69

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

Sample Date : 03/03/95
Receipt Date : 03/06/95
Report Date : 04/05/95

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
BODX48	7721-001	Oil & Grease	10-30-0	QCBLK62215-1	03/14/95	03/14/95	2.32	MG/L		0.97	1
BODX48	7721-001DUP	Oil & Grease	10-30-0	QCBLK62215-1	03/14/95	03/14/95	2.44	MG/L		0.98	1
BODX86	7733-001	Oil & Grease	10-30-0	QCBLK62215-1	03/14/95	03/14/95	1.00	MG/L	U	1.00	1
BODX54	7733-002	Oil & Grease	10-30-0	QCBLK62215-1	03/14/95	03/14/95	3.34	MG/L		0.95	1
BODX92	7733-003	Oil & Grease	10-30-0	QCBLK62215-1	03/14/95	03/14/95	2.87	MG/L		0.96	1
NA	QCBLK62215-1	Oil & Grease	10-30-0	QCBLK62215-1	03/14/95	03/14/95	1.00	MG/L	U	1.00	1
NA	QCLCS62215-1	Oil & Grease	10-30-0	QCBLK62215-1	03/14/95	03/14/95	96	%REC			1

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

Project: 550.69

Category: pH
Method: EPA 9040
Matrix: LIQUID

Sample Date : 02/27/95
Receipt Date : 02/28/95
Report Date : 04/05/95

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
BODX63	7669-001	pH	10-29-7	QCBLK61605-1	03/08/95	03/08/95	8.03	PH			1
BODX63	7669-001DUP	pH	10-29-7	QCBLK61605-1	03/08/95	03/08/95	8.04	PH			1
BODX61	7669-002	pH	10-29-7	QCBLK61605-1	03/08/95	03/08/95	8.06	PH			1
BODX67	7672-001	pH	10-29-7	QCBLK61605-1	03/08/95	03/08/95	8.10	PH			1
BODX94	7672-002	pH	10-29-7	QCBLK61605-1	03/08/95	03/08/95	8.10	PH			1
BODX48	7721-001	pH	10-29-7	QCBLK61605-1	03/08/95	03/08/95	7.95	PH			1
BODX86	7733-001	pH	10-29-7	QCBLK61887-1	03/10/95	03/10/95	5.66	PH			1
BODX54	7733-002	pH	10-29-7	QCBLK61887-1	03/10/95	03/10/95	7.55	PH			1
BODX92	7733-003	pH	10-29-7	QCBLK61887-1	03/10/95	03/10/95	7.73	PH			1
BODX76	7733-008	pH	10-29-7	QCBLK61887-1	03/10/95	03/10/95	8.01	PH			1
NA	QCBLK61605-1	pH	10-29-7	QCBLK61605-1	03/08/95	03/08/95	5.70	PH			1
NA	QCBLK61887-1	pH	10-29-7	QCBLK61887-1	03/10/95	03/10/95	5.64	PH			1

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

Project: 550.69

Category: TPH-418.1
Method: EPA 418.1
Matrix: LIQUID

Sample Date : 03/03/95
Receipt Date : 03/06/95
Report Date : 04/05/95

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
B0DX48	7721-001	TPH	10-90-2	QCBLK62100-1	03/13/95	03/14/95	0.48	MG/L	U	0.48	1
B0DX48	7721-001DUP	TPH	10-90-2	QCBLK62100-1	03/13/95	03/14/95	0.48	MG/L	U	0.48	1
B0DX48	7721-001MS	TPH	10-90-2	QCBLK62100-1	03/13/95	03/14/95	98	%REC			1
B0DX86	7733-001	TPH	10-90-2	QCBLK62100-1	03/13/95	03/14/95	0.48	MG/L	U	0.48	1
B0DX54	7733-002	TPH	10-90-2	QCBLK62100-1	03/13/95	03/14/95	0.48	MG/L	U	0.48	1
B0DX92	7733-003	TPH	10-90-2	QCBLK62100-1	03/13/95	03/14/95	0.48	MG/L	U	0.48	1
NA	QCBLK62100-1	TPH	10-90-2	QCBLK62100-1	03/13/95	03/14/95	0.50	MG/L	U	0.50	1
NA	QCLCS62100-1	TPH	10-90-2	QCBLK62100-1	03/13/95	03/14/95	114	%REC			1

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

Project: 550.69

Category: Turbidity
Method: EPA 180.1
Matrix: LIQUID

Sample Date : 02/27/95
Receipt Date : 02/28/95
Report Date : 04/05/95

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
BODX63	7669-001	Turbidity	G-019	QCBLK61618-1	03/08/95	03/08/95	0.73	NTU		0.01	1
BODX63	7669-001DUP	Turbidity	G-019	QCBLK61618-1	03/08/95	03/08/95	0.71	NTU		0.01	1
BODX61	7669-002	Turbidity	G-019	QCBLK61618-1	03/08/95	03/08/95	1.08	NTU		0.01	1
BODX67	7672-001	Turbidity	G-019	QCBLK61618-1	03/08/95	03/08/95	0.82	NTU		0.01	1
BODX94	7672-002	Turbidity	G-019	QCBLK61618-1	03/08/95	03/08/95	1.22	NTU		0.01	1
BODX48	7721-001	Turbidity	G-019	QCBLK61618-1	03/08/95	03/08/95	1.37	NTU		0.01	1
BODX86	7733-001	Turbidity	G-019	QCBLK62636-1	03/18/95	03/18/95	0.68	NTU		0.01	1
BODX54	7733-002	Turbidity	G-019	QCBLK62636-1	03/18/95	03/18/95	0.81	NTU		0.01	1
BODX92	7733-003	Turbidity	G-019	QCBLK62636-1	03/18/95	03/18/95	0.82	NTU		0.01	1
NA	QCBLK61618-1	Turbidity	G-019	QCBLK61618-1	03/08/95	03/08/95	0.64	NTU		0.01	1
NA	QCBLK62636-1	Turbidity	G-019	QCBLK62636-1	03/18/95	03/18/95	0.13	NTU		0.01	1

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W0436
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Quanterra Environmental Services

Quanterra Incorporated
2800 George Washington Way
Richland, Washington 99352

509 375-3131 Telephone
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CERTIFICATE OF ANALYSIS

Bechtel Hanford, Inc.
345 Hills
Richland, WA 99352

April 18, 1995

Attention: Joan Kessner

SAF Number	:	B95-030
Date SDG Closed	:	March 7, 1995
Number of Samples	:	Eleven (11)
Sample Type	:	Water
SDG Number	:	W0436
Data Deliverable	:	Summary

APR 1995
RECEIVED
Data
Log In

I. Introduction

On February 28, March 1, 2, 6, and 7, 1995, a total of eleven water samples were received by the Quanterra Environmental Services Richland Laboratory (QTESRL) for radiochemical analysis. Upon receipt, the samples were assigned the following laboratory ID numbers to correspond with the Bechtel Hanford, Inc. (BHI) specific IDs:

QTESRL ID	BHI ID	Matrix	Date of Receipt
50251301	B0DX63	Water	2/28/95
50251302	B0DX61	Water	2/28/95
50301901	B0DX67	Water	3/1/95
50301902	B0DX94	Water	3/1/95
50305101	B0DX73	Water	3/2/95
50310801	B0DX48	Water	3/6/95
50313101	B0DX86	Water	3/7/95
50313102	B0DX54	Water	3/7/95
50313103	B0DX92	Water	3/7/95
50313104	B0DX75	Water	3/7/95
50313105	B0DX76	Water	3/7/95

II. Analytical Results/Methodology

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information, analytical results and the appropriate associated statistical errors.

The requested analyses were:

Gamma Spectroscopy
Gamma Scan by method ITAS-RD-3219
Gas Proportional Counting
Gross Alpha by method ITAS-RD-3214
Gross Beta by method ITAS-RD-3214
Strontium-90 by method ITAS-RD-3204
Liquid Scintillation Counting
Tritium by method ITAS-RD-3205

III. Quality Control

The analytical results for each analysis performed under SDG W0436 include a minimum of one Laboratory Control Sample (LCS), one method (reagent) blank, and one duplicate. Any exceptions have been noted in the "Comments" section.

Quality control sample results are reported in the same units as sample results.

IV. Comments

Gamma Spectroscopy

Gamma Scan by method ITAS-RD-3219
The Fe-59 RDL was exceeded for sample B0DX48. The RDLs were achieved by the blank, therefore, the sample data is accepted. The LCS, batch blank, sample and sample duplicate (B0DX67) results are within contractual requirements, except as noted.

Gas Proportional Counting

Gross Alpha by method ITAS-RD-3214
Samples B0DX48, B0DX54, and B0DX92 did not meet the RDL on the initial count. The sample aliquot sizes had been reduced to 75, 80, and 90 mL respectively, due to high dissolved solids (matrix effect). The reduction in sample aliquot size is required to keep the precipitate weight within the calibration range for the analysis. The samples were recounted for 200 minutes. The recount results are within contractual limits and reported. The LCS, batch blank, sample and sample duplicate (B0DX67) results are within contractual requirements.

Gross Beta by method ITAS-RD-3214
Sample B0DX76 was recounted for 100 minutes because the achieved MDA of 4.4 pCi/L exceeded the RDL of 4 pCi/L. The recount result is within contractual limits and reported. The LCS, batch blank, sample and sample duplicate (B0DX67) results are within contractual requirements.

Strontium-90 by method ITAS-RD-3204
The LCS, batch blank, sample and sample duplicate (B0DX75) results are within contractual requirements.

Liquid Scintillation Counting

Tritium by method ITAS-RD-3205
BHI SDG W0436 was batched and analyzed with BHI SDG W0437. Each SDG was analyzed using separate LCS and blank samples, however, the instrument blanks are shared for the batch. The LCS, batch blank, sample and sample duplicate (B0DX48) results are within contractual requirements.

Quanterra
Environmental Services

I certify that this Certificate of Analysis 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:

Suzanne Gaines

Suzanne Gaines
Project Manager

Quanterra
Environmental Services

SAMPLE RESULTS

LAB NAME:	ITAS-RICHLAND	SDG:	W0436
LAB SAMPLE ID:	50251301	MATRIX:	WATER
CLIENT ID:	B0DX63	DATE RECEIVED:	2/28/95

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
CO-58	2.59E-01	6.0E+00	6.0E+00	1.11E+01	pCi/L	N/A	RD3219
CO-60	-1.39E+00	6.4E+00	6.4E+00	1.05E+01	pCi/L	N/A	RD3219
CS-137DA	9.15E-01	5.4E+00	5.4E+00	9.30E+00	pCi/L	N/A	RD3219
EU-152	2.90E+00	1.1E+01	1.1E+01	1.96E+01	pCi/L	N/A	RD3219
EU-154	-2.53E+01	1.7E+01	1.7E+01	2.20E+01	pCi/L	N/A	RD3219
EU-155	2.19E+00	1.1E+01	1.1E+01	1.81E+01	pCi/L	N/A	RD3219
FE-59	-7.97E+00	1.6E+01	1.6E+01	2.69E+01	pCi/L	N/A	RD3219
ALPHA	2.41E+00	1.3E+00	1.4E+00	1.40E+00	pCi/L	100.00%	RD3214
BETA	6.39E+00	2.4E+00	2.5E+00	4.14E+00	pCi/L	100.00%	RD3214
STRONTIUM	-4.51E-02	1.9E-01	1.9E-01	7.59E-01	pCi/L	95.00%	RD3204
TRITIUM	2.50E+04	6.6E+02	2.0E+03	2.84E+02	pCi/L	88.10%	RD3205

Number of Results: 11

Quanterra
Environmental Services

SAMPLE RESULTS

LAB NAME:	ITAS-RICHLAND	SDG:	W0436
LAB SAMPLE ID:	50251302	MATRIX:	WATER
CLIENT ID:	B0DX61	DATE RECEIVED:	2/28/95

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
CO-58	3.07E+00	4.5E+00	4.6E+00	1.01E+01	pCi/L	N/A	RD3219
CO-60	-1.79E+00	5.7E+00	5.7E+00	1.04E+01	pCi/L	N/A	RD3219
CS-137DA	2.51E+00	3.7E+00	3.7E+00	7.65E+00	pCi/L	N/A	RD3219
EU-152	-5.56E+00	1.2E+01	1.2E+01	1.91E+01	pCi/L	N/A	RD3219
EU-154	2.15E+00	1.4E+01	1.4E+01	2.81E+01	pCi/L	N/A	RD3219
EU-155	-3.77E+00	1.1E+01	1.1E+01	1.76E+01	pCi/L	N/A	RD3219
FE-59	7.49E+00	1.2E+01	1.2E+01	2.67E+01	pCi/L	N/A	RD3219
ALPHA	4.96E-02	4.9E-01	4.9E-01	1.45E+00	pCi/L	100.00%	RD3214
BETA	6.55E+00	2.5E+00	2.5E+00	4.22E+00	pCi/L	100.00%	RD3214
STRONTIUM	2.28E-01	2.4E-01	2.4E-01	7.86E-01	pCi/L	87.80%	RD3204
TRITIUM	2.78E+04	6.9E+02	2.2E+03	2.84E+02	pCi/L	88.10%	RD3205

Number of Results: 11

Quanterra
Environmental Services

SAMPLE RESULTS

LAB NAME:	ITAS-RICHLAND	SDG:	W0436
LAB SAMPLE ID:	50301901	MATRIX:	WATER
CLIENT ID:	B0DX67	DATE RECEIVED:	3/1/95

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
CO-58	-1.84E-01	6.7E+00	6.7E+00	1.23E+01	pCi/L	N/A	RD3219
CO-60	4.68E+00	4.2E+00	4.2E+00	1.04E+01	pCi/L	N/A	RD3219
CS-137DA	5.52E-01	4.3E+00	4.3E+00	8.25E+00	pCi/L	N/A	RD3219
EU-152	1.74E+00	1.1E+01	1.1E+01	1.93E+01	pCi/L	N/A	RD3219
EU-154	-8.06E-01	1.1E+01	1.1E+01	2.25E+01	pCi/L	N/A	RD3219
EU-155	-4.07E+00	1.0E+01	1.0E+01	1.69E+01	pCi/L	N/A	RD3219
FE-59	-7.89E-01	1.1E+01	1.1E+01	2.22E+01	pCi/L	N/A	RD3219
ALPHA	5.88E-01	7.9E-01	7.9E-01	1.49E+00	pCi/L	100.00%	RD3214
BETA	5.08E+00	2.3E+00	2.3E+00	4.06E+00	pCi/L	100.00%	RD3214
STRONTIUM	2.63E-01	2.3E-01	2.4E-01	7.61E-01	pCi/L	94.00%	RD3204
TRITIUM	3.54E+04	7.8E+02	2.7E+03	2.84E+02	pCi/L	88.10%	RD3205

Number of Results: 11

Quanterra
Environmental Services

SAMPLE RESULTS

LAB NAME:	ITAS-RICHLAND	SDG:	W0436
LAB SAMPLE ID:	50301902	MATRIX:	WATER
CLIENT ID:	B0DX94	DATE RECEIVED:	3/1/95

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
CO-58	-8.82E+00	7.8E+00	7.8E+00	1.15E+01	pCi/L	N/A	RD3219
CO-60	9.06E-01	6.0E+00	6.0E+00	1.12E+01	pCi/L	N/A	RD3219
CS-137DA	-3.25E+00	5.6E+00	5.6E+00	8.43E+00	pCi/L	N/A	RD3219
EU-152	-1.05E+00	1.2E+01	1.2E+01	2.05E+01	pCi/L	N/A	RD3219
EU-154	1.63E+01	1.0E+01	1.1E+01	2.85E+01	pCi/L	N/A	RD3219
EU-155	1.46E+00	7.9E+00	7.9E+00	1.45E+01	pCi/L	N/A	RD3219
FE-59	0.00E+00	1.2E+01	1.2E+01	2.32E+01	pCi/L	N/A	RD3219
ALPHA	1.58E+00	1.2E+00	1.2E+00	1.58E+00	pCi/L	100.00%	RD3214
BETA	7.20E+00	2.5E+00	2.6E+00	4.15E+00	pCi/L	100.00%	RD3214
STRONTIUM	-3.18E-01	2.7E-01	2.8E-01	1.21E+00	pCi/L	54.40%	RD3204
TRITIUM	3.41E+04	7.6E+02	2.7E+03	2.84E+02	pCi/L	88.10%	RD3205

Number of Results: 11

Quanterra
Environmental Services

SAMPLE RESULTS

LAB NAME:	ITAS-RICHLAND	SDG:	W0436
LAB SAMPLE ID:	50305101	MATRIX:	WATER
CLIENT ID:	B0DX73	DATE RECEIVED:	3/2/95

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
CO-58	-7.53E+00	5.8E+00	5.9E+00	8.31E+00	pCi/L	N/A	RD3219
CO-60	-1.47E+00	5.3E+00	5.3E+00	9.68E+00	pCi/L	N/A	RD3219
CS-137DA	6.50E-01	4.8E+00	4.8E+00	8.60E+00	pCi/L	N/A	RD3219
EU-152	6.52E+00	1.4E+01	1.4E+01	2.44E+01	pCi/L	N/A	RD3219
EU-154	1.74E+01	1.1E+01	1.1E+01	2.87E+01	pCi/L	N/A	RD3219
EU-155	6.52E+00	7.3E+00	7.4E+00	1.42E+01	pCi/L	N/A	RD3219
FE-59	-6.84E+00	1.7E+01	1.7E+01	2.88E+01	pCi/L	N/A	RD3219
STRONTIUM	1.48E-01	2.2E-01	2.3E-01	7.70E-01	pCi/L	88.40%	RD3204
TRITIUM	4.07E+02	1.4E+02	2.1E+02	2.84E+02	pCi/L	88.10%	RD3205

Number of Results: 9

Quanterra Environmental Services

SAMPLE RESULTS

LAB NAME:	ITAS-RICHLAND	SDG:	W0436
LAB SAMPLE ID:	50310801	MATRIX:	WATER
CLIENT ID:	B0DX48	DATE RECEIVED:	3/6/95

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
CO-58	5.03E+00	4.9E+00	4.9E+00	1.09E+01	pCi/L	N/A	RD3219
CO-60	-6.64E+00	5.2E+00	5.2E+00	6.91E+00	pCi/L	N/A	RD3219
CS-137DA	4.01E+00	4.3E+00	4.3E+00	8.80E+00	pCi/L	N/A	RD3219
EU-152	2.07E+00	1.1E+01	1.1E+01	2.02E+01	pCi/L	N/A	RD3219
EU-154	6.32E+00	1.3E+01	1.3E+01	2.87E+01	pCi/L	N/A	RD3219
EU-155	-1.83E+00	8.2E+00	8.2E+00	1.43E+01	pCi/L	N/A	RD3219
FE-59	1.98E+01	1.3E+01	1.4E+01	3.18E+01	pCi/L	N/A	RD3219
ALPHA	2.94E+00	1.5E+00	1.6E+00	1.86E+00	pCi/L	100.00%	RD3214
BETA	9.91E+00	3.0E+00	3.1E+00	4.68E+00	pCi/L	100.00%	RD3214
STRONTIUM	9.83E-01	3.1E-01	4.0E-01	7.79E-01	pCi/L	95.50%	RD3204
TRITIUM	9.81E+02	1.7E+02	2.5E+02	2.84E+02	pCi/L	88.10%	RD3205

Number of Results: 11

Quanterra
Environmental Services

SAMPLE RESULTS

LAB NAME:	ITAS-RICHLAND	SDG:	W0436
LAB SAMPLE ID:	50313101	MATRIX:	WATER
CLIENT ID:	B0DX86	DATE RECEIVED:	3/7/95

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
CO-58	1.04E+00	5.6E+00	5.6E+00	1.05E+01	pCi/L	N/A	RD3219
CO-60	-5.53E-01	4.0E+00	4.0E+00	7.80E+00	pCi/L	N/A	RD3219
CS-137DA	-7.47E-01	4.5E+00	4.5E+00	7.79E+00	pCi/L	N/A	RD3219
EU-152	-1.82E+00	9.9E+00	9.9E+00	1.74E+01	pCi/L	N/A	RD3219
EU-154	-2.98E+00	1.0E+01	1.0E+01	1.87E+01	pCi/L	N/A	RD3219
EU-155	3.35E+00	7.1E+00	7.1E+00	1.27E+01	pCi/L	N/A	RD3219
FE-59	1.12E+01	1.0E+01	1.1E+01	2.49E+01	pCi/L	N/A	RD3219
ALPHA	-6.90E-02	2.1E-01	2.1E-01	8.64E-01	pCi/L	100.00%	RD3214
BETA	9.09E-01	1.7E+00	1.7E+00	3.85E+00	pCi/L	100.00%	RD3214
STRONTIUM	-3.81E-02	2.4E-01	2.4E-01	9.18E-01	pCi/L	74.10%	RD3204
TRITIUM	1.37E+02	1.3E+02	1.9E+02	2.84E+02	pCi/L	88.10%	RD3205

Number of Results: 11

Quanterra
Environmental Services

SAMPLE RESULTS

LAB NAME:	ITAS-RICHLAND	SDG:	W0436
LAB SAMPLE ID:	50313102	MATRIX:	WATER
CLIENT ID:	B0DX54	DATE RECEIVED:	3/7/95

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
CO-58	-4.82E+00	5.5E+00	5.6E+00	8.60E+00	pCi/L	N/A	RD3219
CO-60	2.84E+00	3.9E+00	4.0E+00	9.17E+00	pCi/L	N/A	RD3219
CS-137DA	-7.20E-01	4.3E+00	4.3E+00	7.81E+00	pCi/L	N/A	RD3219
EU-152	-5.11E+00	9.9E+00	9.9E+00	1.65E+01	pCi/L	N/A	RD3219
EU-154	-3.71E+00	1.3E+01	1.3E+01	2.35E+01	pCi/L	N/A	RD3219
EU-155	-8.99E-01	7.4E+00	7.4E+00	1.29E+01	pCi/L	N/A	RD3219
FE-59	-1.52E+01	1.3E+01	1.3E+01	1.81E+01	pCi/L	N/A	RD3219
ALPHA	2.43E+00	1.3E+00	1.3E+00	1.54E+00	pCi/L	100.00%	RD3214
BETA	7.85E+02	2.0E+01	5.9E+01	4.46E+00	pCi/L	100.00%	RD3214
STRONTIUM	3.34E+02	4.8E+00	8.0E+01	9.22E-01	pCi/L	72.10%	RD3204
TRITIUM	6.45E+03	3.5E+02	6.4E+02	2.84E+02	pCi/L	88.10%	RD3205

Number of Results: 11

Quanterra
Environmental Services

SAMPLE RESULTS

LAB NAME:	ITAS-RICHLAND	SDG:	W0436
LAB SAMPLE ID:	50313103	MATRIX:	WATER
CLIENT ID:	B0DX92	DATE RECEIVED:	3/7/95

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
CO-58	7.88E+00	4.9E+00	5.0E+00	1.19E+01	pCi/L	N/A	RD3219
CO-60	-1.61E+00	4.3E+00	4.3E+00	7.26E+00	pCi/L	N/A	RD3219
CS-137DA	-4.37E-01	4.9E+00	4.9E+00	8.42E+00	pCi/L	N/A	RD3219
EU-152	1.74E+00	1.2E+01	1.2E+01	2.16E+01	pCi/L	N/A	RD3219
EU-154	-1.14E+01	1.5E+01	1.5E+01	2.45E+01	pCi/L	N/A	RD3219
EU-155	8.27E+00	9.5E+00	9.5E+00	1.79E+01	pCi/L	N/A	RD3219
FE-59	-2.19E+00	6.9E+00	6.9E+00	1.36E+01	pCi/L	N/A	RD3219
ALPHA	1.95E+00	1.2E+00	1.2E+00	1.56E+00	pCi/L	100.00%	RD3214
BETA	8.15E+02	2.0E+01	6.1E+01	4.34E+00	pCi/L	100.00%	RD3214
STRONTIUM	3.40E+02	4.7E+00	8.2E+01	9.03E-01	pCi/L	75.30%	RD3204
TRITIUM	6.50E+03	3.5E+02	6.4E+02	2.84E+02	pCi/L	88.10%	RD3205

Number of Results: 11

Quanterra
Environmental Services

SAMPLE RESULTS

LAB NAME:	ITAS-RICHLAND	SDG:	W0436
LAB SAMPLE ID:	50313104	MATRIX:	WATER
CLIENT ID:	B0DX75	DATE RECEIVED:	3/7/95

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
CO-58	-3.06E+00	4.8E+00	4.8E+00	7.73E+00	pCi/L	N/A	RD3219
CO-60	4.87E+00	4.8E+00	4.8E+00	1.12E+01	pCi/L	N/A	RD3219
CS-137DA	3.60E+00	3.9E+00	3.9E+00	8.47E+00	pCi/L	N/A	RD3219
EU-152	-6.51E+00	9.2E+00	9.3E+00	1.42E+01	pCi/L	N/A	RD3219
EU-154	6.97E+00	1.4E+01	1.4E+01	3.03E+01	pCi/L	N/A	RD3219
EU-155	4.48E+00	9.7E+00	9.7E+00	1.71E+01	pCi/L	N/A	RD3219
FE-59	-6.75E+00	1.2E+01	1.2E+01	2.07E+01	pCi/L	N/A	RD3219
STRONTIUM	3.53E-01	4.7E-01	4.7E-01	1.60E+00	pCi/L	88.70%	RD3204
TRITIUM	1.85E+04	5.7E+02	1.5E+03	2.84E+02	pCi/L	88.10%	RD3205

Number of Results: 9

Quanterra
Environmental Services

SAMPLE RESULTS

LAB NAME:	ITAS-RICHLAND	SDG:	W0436
LAB SAMPLE ID:	50313105	MATRIX:	WATER
CLIENT ID:	B0DX76	DATE RECEIVED:	3/7/95

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	2.70E+00	1.6E+00	1.6E+00	1.84E+00	pCi/L	100.00%	RD3214
BETA	6.09E+00	1.7E+00	1.8E+00	2.85E+00	pCi/L	100.00%	RD3214

Number of Results: 2

Quanterra
Environmental Services

DUPLICATE RESULTS

LAB NAME:	ITAS-RICHLAND	SDG:	W0436
LAB SAMPLE ID:	G0301901	MATRIX:	WATER
CLIENT ID:	B0DX67	DATE RECEIVED:	3/1/95
ORIG LAB SAMPLE ID:	50301901		

ISOTOPE	DUP RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	ORIG RESULT	RPD
CO-58	-3.56E+00	5.7E+00	5.7E+00	9.31E+00	pCi/L	N/A	RD3219	-1.84E-01	180.34%
CO-60	8.32E-01	3.2E+00	3.2E+00	7.27E+00	pCi/L	N/A	RD3219	4.68E+00	139.62%
CS-137DA	-5.34E+00	4.4E+00	4.5E+00	6.18E+00	pCi/L	N/A	RD3219	5.52E-01	246.12%
EU-152	-5.17E+00	9.9E+00	9.9E+00	1.64E+01	pCi/L	N/A	RD3219	1.74E+00	402.92%
EU-154	8.97E+00	7.3E+00	7.4E+00	2.11E+01	pCi/L	N/A	RD3219	-8.06E-01	239.49%
EU-155	5.51E+00	7.0E+00	7.0E+00	1.31E+01	pCi/L	N/A	RD3219	-4.07E+00	1330.56%
FE-59	5.81E+00	1.2E+01	1.2E+01	2.63E+01	pCi/L	N/A	RD3219	-7.89E-01	262.86%
ALPHA	6.14E-01	8.0E-01	8.1E-01	1.41E+00	pCi/L	100.00%	RD3214	5.88E-01	4.33%
BETA	5.42E+00	2.4E+00	2.4E+00	4.33E+00	pCi/L	100.00%	RD3214	5.08E+00	6.48%

Number of Results: 9

Quanterra
Environmental Services

DUPLICATE RESULTS

LAB NAME:	ITAS-RICHLAND	SDG:	V[illegible]436
LAB SAMPLE ID:	G0310801	MATRIX:	WATER
CLIENT ID:	B0DX48	DATE RECEIVED:	3/6/95
ORIG LAB SAMPLE ID:	50310801		

ISOTOPE	DUP RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	ORIG RESULT	RPD
TRITIUM	1.01E+03	1.8E+02	2.5E+02	2.84E+02	pCi/L	88.10%	RD3205	9.81E+02	2.91%

Number of Results: 1

Quanterra
Environmental Services

DUPLICATE RESULTS

LAB NAME:	ITAS-RICHLAND	CDG:	W0436
LAB SAMPLE ID:	G0313104	MATRIX:	WATER
CLIENT ID:	B0DX75	DATE RECEIVED:	3/7/95
ORIG LAB SAMPLE ID:	50313104		

ISOTOPE	DUP RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	ORIG RESULT	RPD
STRONTIUM	-1.06E-01	3.9E-01	3.9E-01	1.54E+00	pCi/L	88.30%	RD3204	3.53E-01	371.66%

Number of Results: 1

4/21/95

9613451.0554

INTERNATIONAL TECHNOLOGY CORPORATION

ITAS Data Review Checklist
RADIOCHEMISTRY

Work Order No(s): 503019, 503108, 503513, 503131, 503051 BHI WATER

Lab Sample Numbers or SDG: W0436

Method/Test/Parameter: GAMMA

	Review Item	Yes (✓)	No (✓)	N/A (✓)	2nd Level review (✓)
A. 1.	**Calibration** Is the calibration documentation included where applicable?				✓
B. 1.	**Sample Analysis** Are the sample Yields within acceptance criteria?				✓
2.	Were all sample holding times met?				
C. 1.	**QC Samples** Is the Blank Yield within acceptance criteria?				
2.	Is the Minimum Detectable Activity for the Blank result ≤ the Contract Detection Limit?				
3.	Is the Blank result ≤ the Contract Detection Limit?				
4.	Is the Blank result greater than the Contract Detection Limit but the Sample result less than the Contract Detection Limit?				
5.	Is the LCS result within acceptance criteria?				
6.	Is the LCS yield within acceptance criteria?				
7.	Is the LCS Minimum Detectable Activity less than or equal to the Contract Detection Limit?				
8.	MS/MSD results and yield meet acceptance criteria?				
9.	Duplicate sample results and yield meet acceptance criteria?				
D. 1.	**Other** Are all nonconformances included and noted?	✓			
2.	Are all required forms filled out?				
3.	Correct methodology used?				
4.	Transcription checked?				
5.	Were all calculations checked at a minimum frequency?				
6.	Units checked?				

Comments on any "No" response: RNCMS – 1 - peaks marked detected not reported
2 Fe59 MDA 1 sample > CL

Analyst: [signature] Date: 4-14-95

Second Level Review: Suzy Haines Date: 4/14/95

Form No: LS-038, 3/94, Rev 2

Report BHI 7 for blank + client samples

0026

9613451.0555

357

Quanterra

LOG #: RD-95-_____ page 1 of 2
QUAN-Richland
LABORATORY NONCONFORMANCE MEMO (NCM)

PROJECT ID (Name/Number): BHI W0436
NCM INITIATED BY (Name/Date): Joel T Kengema 4-14-95
PARAMETER(S): Gamma
SAMPLE NUMBER(S) AFFECTED: W0436 — 5031080 1
MATRIX: Water

AREA: [ ] SHIP/REC [X] RADIOCHEM [ ] COUNTING [ ] BIOASSAY
[ ] DATA VERIF [ ] REPORTING [ ] OTHER:

NONCONFORMANCE [check appropriate item(s)]:

1. [ ] Not enough sample received for proper analysis.
2. [ ] Holding time exceeded by _____ days due to:
   - 2.1. [ ] CATEGORY I: Out of Laboratory Control
     - [ ] Holding time expired at receipt.
   - 2.2. [ ] CATEGORY II: Laboratory Dependent
     - [ ] work backlog [ ] instrument failure
     - [ ] communication [ ] other (see #10)
   - 2.3. [ ] CATEGORY III: Laboratory Reruns
     - 2.3.1. [ ] QA/QC:
       - [ ] surrogates [ ] internal standards
       - [ ] spike recoveries [ ] blank contamination
     - 2.3.2. [ ] CONFIRMATION:
       - [ ] second column [ ] contamination check
       - [ ] other (see #10)
     - 2.3.3. [ ] DILUTION:
       - [ ] over calibration [ ] under calibration
       - [ ] other (see #10)
     - 2.3.4. [ ] OTHER: (see #10)
3. [ ] Sample lost during extraction/analysis; no re-prep or re-analysis possible.
4. [ ] QC data reported to client outside of:
   - [ ] method limits [ ] internal limits
   - [ ] QAPP limits [ ] contract limits
   - [ ] regulatory limits [ ] blank criteria
5. [ ] Incorrect procedure(s) used. (See #10)
6. [ ] Invalid instrument calibration. (See #10)
7. [ ] Incorrect/incomplete data reported to client. (See #10)
8. [ ] Reported detection limit(s) higher than:
   - [ ] method limits [ ] QAPP limits
   - [ ] contract limits [ ] other (see #10)

   Due to:
   - [ ] sample matrix [ ] insufficient sample
   - [ ] instrumentation [ ] other (see #10)
9. [X] Other (specify): Fe 59 MDA>CL for this one sample
10. [ ] Comments/Explanation:

NOTIFICATION [check appropriate item(s)]:

1. [ ] Client notified by (name and date) _____
   - [ ] in writing [ ] by FAX
   - [ ] by phone [ ] Other (explain)
2. [ ] Client's name _____ and response:
   - [ ] process "as is" [ ] resample
   - [ ] on hold til ____ [ ] Other (explain)

PROJECT MANAGER (signature & date): Suzy Davies 4/14/95

FURTHER ACTION REQUIRED, SEE PAGE 2 OF 2

QUANTERRA CORPORATION

LOG #: RD-95-_____ page 2 of 2

CORRECTIVE ACTION

☒ ROOT CAUSE: INITIALS/DATE ATK 4-14-95

Uncertain suspect background fluctuation in detector no peaks were found in region of interest

☒ CORRECTIVE ACTION: INITIALS/DATE ATK 4-14-95

data accepted, MDA of blank for Fe59 was less than CL

☐ RESPONSIBILITY FOR PERFORMING CORRECTIVE ACTION ASSIGNED TO:

☐ ACTIONS TO PREVENT RECURRENCE: INITIALS/DATE

FIRST LEVEL SUPERVISOR: Neil T Kempema DATE: 4-14-95

RESPONSIBLE MANAGER: W Markelar DATE: 4/17/95

QC REVIEW

☐ NONCONFORMANCE ☒ DEFICIENCY ☐ RERUN

☐ FURTHER ACTION REQUIRED:

ASSIGNED TO

QC COORDINATOR: C Black DATE: 4-18-95

CORRECTIVE ACTION VERIFICATION

☒ VERIFIED ☐ CANNOT VERIFY (specify reason)

REASON:

NCM CLOSURE

QC COORDINATOR: C Black DATE: 4-18-95

SIGNED ORIGINAL MUST BE RETAINED IN FILE: ☐ QUALITY/OPERATIONS FILE ☒ PROJECT FILE

9613451.0557

3Del

Quanterra

LOG #: RD-95-_____ page 1 of 2

QUAN-Richland

LABORATORY NONCONFORMANCE MEMO (NCM)

PROJECT ID (Name/Number): BHI W0436

NCM INITIATED BY (Name/Date): Fred T Kempema 4-14-95

PARAMETER(S): Gamma

SAMPLE NUMBER(S) AFFECTED: M030191B, M030191S, 50251301, 50313102, 50313104, 50310801

MATRIX: Water

AREA: ☐ SHIP/REC ☒ RADIOCHEM ☐ COUNTING ☐ BIOASSAY ☐ DATA VERIF ☐ REPORTING ☐ OTHER:

NONCONFORMANCE [check appropriate item(s)]:

1. ☐ Not enough sample received for proper analysis.
2. ☐ Holding time exceeded by _____ days due to:
   - 2.1. ☐ CATEGORY I: Out of Laboratory Control
     - ☐ Holding time expired at receipt.
   - 2.2. ☐ CATEGORY II: Laboratory Dependent
     - ☐ work backlog ☐ instrument failure
     - ☐ communication ☐ other (see #10)
   - 2.3. ☐ CATEGORY III: Laboratory Reruns
     - 2.3.1. ☐ QA/QC:
       - ☐ surrogates ☐ internal standards
       - ☐ spike recoveries ☐ blank contamination
     - 2.3.2. ☐ CONFIRMATION:
       - ☐ second column ☐ contamination check
       - ☐ other (see #10)
     - 2.3.3. ☐ DILUTION:
       - ☐ over calibration ☐ under calibration
       - ☐ other (see #10)
     - 2.3.4. ☐ OTHER: (see #10)
3. ☐ Sample lost during extraction/analysis; no re-prep or re-analysis possible.
4. ☐ QC data reported to client outside of:
   - ☐ method limits ☐ internal limits
   - ☐ QAPP limits ☐ contract limits
   - ☐ regulatory limits ☐ blank criteria
5. ☐ Incorrect procedure(s) used. (See #10)
6. ☐ Invalid instrument calibration. (See #10)
7. ☐ Incorrect/incomplete data reported to client. (See #10)
8. ☐ Reported detection limit(s) higher than:
   - ☐ method limits ☐ QAPP limits
   - ☐ contract limits ☐ other (see #10)

   Due to:
   - ☐ sample matrix ☐ insufficient sample
   - ☐ instrumentation ☐ other (see #10)
9. ☒ Other (specify): Peaks marked detected by NID system but not reported
10. ☒ Comments/Explanation: K40 – 1B, 1S, ~~01~~ 4-14-95 251301, 313102
    U238DLP 50313104, 50310801

NOTIFICATION [check appropriate item(s)]:

1. ☐ Client notified by (name and date) _____
   - ☐ in writing ☐ by FAX
   - ☐ by phone ☐ Other (explain)
2. ☐ Client's name _____ and response:
   - ☐ process "as is" ☐ resample
   - ☐ on hold til ____ ☐ Other (explain)

PROJECT MANAGER (signature & date): Suzy James 4/14/95

FURTHER ACTION REQUIRED, SEE PAGE 2 OF 2

QUANTERRA CORPORATION

LOG #: RD-95-_____ page 2 of 2

CORRECTIVE ACTION

☒ ROOT CAUSE: INITIALS/DATE TK 4-14-95

K40 - suspect detector background fluctuations, samples 1B, 1S, 251301 were all counted on Ger2 sample 5031302 the error > res
U238 DLP - 2X error was greater than the result in both cases

☒ CORRECTIVE ACTION: INITIALS/DATE TK 4-14-95

data accepted - note in case narrative

☐ RESPONSIBILITY FOR PERFORMING CORRECTIVE ACTION ASSIGNED TO:

☐ ACTIONS TO PREVENT RECURRENCE: INITIALS/DATE

FIRST LEVEL SUPERVISOR: Joel T Kempema DATE: 4-14-95

RESPONSIBLE MANAGER: W Mackallor DATE: 4/17/95

QC REVIEW

☐ NONCONFORMANCE ☒ DEFICIENCY ☐ RERUN

☐ FURTHER ACTION REQUIRED:

ASSIGNED TO

QC COORDINATOR: CBlack DATE: 4-18-95

CORRECTIVE ACTION VERIFICATION

☒ VERIFIED ☐ CANNOT VERIFY (specify reason)

REASON:

NCM CLOSURE

QC COORDINATOR: CBlack DATE: 4-18-95

SIGNED ORIGINAL MUST BE RETAINED IN FILE: ☐ QUALITY/OPERATIONS FILE ☒ PROJECT FILE

9613451.0559

4/21/95

INTERNATIONAL TECHNOLOGY CORPORATION

BHI Water

ITAS Data Review Checklist
RADIOCHEMISTRY

Work Order No(s): 503019, 503108, 503131, 502513

Lab Sample Numbers or SDG: WØ436

Method/Test/Parameter: Alpha

	Review Item	Yes (✓)	No (✓)	N/A (✓)	2nd Level review (✓)
A. 1.	**Calibration** Is the calibration documentation included where applicable?			✓	✓
B. 1.	**Sample Analysis** Are the sample Yields within acceptance criteria?			✓	✓
2.	Were all sample holding times met?	✓			✓
C. 1.	**QC Samples** Is the Blank Yield within acceptance criteria?			✓	✓
2.	Is the Minimum Detectable Activity for the Blank result ≤ the Contract Detection Limit?	✓			✓
3.	Is the Blank result ≤ the Contract Detection Limit?	✓			✓
4.	Is the Blank result greater than the Contract Detection Limit but the Sample result less than the Contract Detection Limit?			✓	✓
5.	Is the LCS result within acceptance criteria?	✓			✓
6.	Is the LCS yield within acceptance criteria?			✓	✓
7.	Is the LCS Minimum Detectable Activity less than or equal to the Contract Detection Limit?	✓			✓
8.	MS/MSD results and yield meet acceptance criteria?			✓	✓
9.	Duplicate sample results and yield meet acceptance criteria?	✓			✓
D. 1.	**Other** Are all nonconformances included and noted?				✓
2.	Are all required forms filled out?	✓			✓
3.	Correct methodology used?	✓			✓
4.	Transcription checked?	4/10/95 JM			MC
5.	Were all calculations checked at a minimum frequency?	✓			✓
6.	Units checked?	✓			✓

Comments on any "No" response:

Analyst: Joel Rempema Date: 4-18-95

Second Level Review: Suzy Jones Date: 4/18/95

Form No: LS-038, 3/94, Rev 2

Report recount results for 50310801, 50313102, 50313103.

9613451.0560

196

Quanterra

LOG #: RD-95-_____ page 1 of 2

QUAN-Richland

LABORATORY NONCONFORMANCE MEMO (NCM)

PROJECT ID (Name/Number): WHC W0436

NCM INITIATED BY (Name/Date): Joel T Kempema 4-18-95

PARAMETER(S): Alpha 4-24-1995

SAMPLE NUMBER(S) AFFECTED: 5031080 1, ~~5031~~ 5031302, 5031303

MATRIX: Water

AREA: ☐ SHIP/REC ☒ RADIOCHEM ☐ COUNTING ☐ BIOASSAY ☐ DATA VERIF ☐ REPORTING ☐ OTHER:

NONCONFORMANCE [check appropriate item(s)]:

1. ☐ Not enough sample received for proper analysis.
2. ☐ Holding time exceeded by _____ days due to:
   - 2.1. ☐ CATEGORY I: Out of Laboratory Control
     - ☐ Holding time expired at receipt.
   - 2.2. ☐ CATEGORY II: Laboratory Dependent
     - ☐ work backlog ☐ instrument failure
     - ☐ communication ☐ other (see #10)
   - 2.3. ☐ CATEGORY III: Laboratory Reruns
     - 2.3.1. ☐ QA/QC:
       - ☐ surrogates ☐ internal standards
       - ☐ spike recoveries ☐ blank contamination
     - 2.3.2. ☐ CONFIRMATION:
       - ☐ second column ☐ contamination check
       - ☐ other (see #10)
     - 2.3.3. ☐ DILUTION:
       - ☐ over calibration ☐ under calibration
       - ☐ other (see #10)
     - 2.3.4. ☐ OTHER: (see #10)
3. ☐ Sample lost during extraction/analysis; no re-prep or re-analysis possible.
4. ☐ QC data reported to client outside of:
   - ☐ method limits ☐ internal limits
   - ☐ QAPP limits ☐ contract limits
   - ☐ regulatory limits ☐ blank criteria
5. ☐ Incorrect procedure(s) used. (See #10)
6. ☐ Invalid instrument calibration. (See #10)
7. ☐ Incorrect/incomplete data reported to client. (See #10)
8. ☐ Reported detection limit(s) higher than:
   - ☐ method limits ☐ QAPP limits
   - ☐ contract limits ☐ other (see #10)

   Due to:
   - ☐ sample matrix ☐ insufficient sample
   - ☐ instrumentation ☐ other (see #10)
9. ☐ Other (specify):
10. ☒ Comments/Explanation: Samples recounted longer length of time to improve MDA

NOTIFICATION [check appropriate item(s)]:

1. ☐ Client notified by (name and date) _____
   - ☐ in writing ☐ by FAX
   - ☐ by phone ☐ Other (explain)
2. ☐ Client's name _____ and response:
   - ☐ process "as is" ☐ resample
   - ☐ on hold til ____ ☐ Other (explain)

PROJECT MANAGER (signature & date): Sanj Davies 4/18/95

FURTHER ACTION REQUIRED. SEE PAGE 2 OF 2

QUANTERRA CORPORATION

LOG #: RD-95-_____ page 2 of 2

CORRECTIVE ACTION

☒ ROOT CAUSE: INITIALS/DATE JTK 4-18-95

Reduced sample volume analyzed due to high % mass on planchet, relative to calibration curve.

☒ CORRECTIVE ACTION: INITIALS/DATE JTK 4-18-95

Recount data accepted MDL < CL

☐ RESPONSIBILITY FOR PERFORMING CORRECTIVE ACTION ASSIGNED TO:

☐ ACTIONS TO PREVENT RECURRENCE: INITIALS/DATE

FIRST LEVEL SUPERVISOR: [signature] DATE: 4-18-95

RESPONSIBLE MANAGER: [signature] DATE: 4/19/95

QC REVIEW

☐ NONCONFORMANCE ☐ DEFICIENCY ☒ RERUN

☐ FURTHER ACTION REQUIRED:

ASSIGNED TO

QC COORDINATOR: [signature] DATE: 4-19-95

CORRECTIVE ACTION VERIFICATION

☒ VERIFIED ☐ CANNOT VERIFY (specify reason)

REASON:

NCM CLOSURE

QC COORDINATOR: [signature] DATE: 4-19-95

SIGNED ORIGINAL MUST BE RETAINED IN FILE: ☐ QUALITY/OPERATIONS FILE ☒ PROJECT FILE

4-21

INTERNATIONAL TECHNOLOGY CORPORATION

ITAS Data Review Checklist
RADIOCHEMISTRY

Work Order No(s): 503019, 503108, 503131, 502513 BHI WATER

Lab Sample Numbers or SDG: WO436

Method/Test/Parameter: BETA

	Review Item	Yes (✓)	No (✓)	N/A (✓)	2nd Level review (✓)
A. 1.	**Calibration** Is the calibration documentation included where applicable?			✓	✓
B. 1.	**Sample Analysis** Are the sample Yields within acceptance criteria?			✓	✓
2.	Were all sample holding times met?	✓			✓
C. 1.	**QC Samples** Is the Blank Yield within acceptance criteria?			✓	✓
2.	Is the Minimum Detectable Activity for the Blank result ≤ the Contract Detection Limit?	✓			✓
3.	Is the Blank result ≤ the Contract Detection Limit?	✓			✓
4.	Is the Blank result greater than the Contract Detection Limit but the Sample result less than the Contract Detection Limit?			✓	✓
5.	Is the LCS result within acceptance criteria?	✓			✓
6.	Is the LCS yield within acceptance criteria?			✓	✓
7.	Is the LCS Minimum Detectable Activity less than or equal to the Contract Detection Limit?	✓			✓
8.	MS/MSD results and yield meet acceptance criteria?			✓	✓
9.	Duplicate sample results and yield meet acceptance criteria?	✓			✓
D. 1.	**Other** Are all nonconformances included and noted?			✓	✓
2.	Are all required forms filled out?	✓			✓
3.	Correct methodology used?	✓			✓
4.	Transcription checked?	TKS 4-18-95			TTK
5.	Were all calculations checked at a minimum frequency?	✓			✓
6.	Units checked?	✓			✓

Comments on any "No" response:

Analyst: Joel Kempema Date: 4-14-95

Second Level Review: Sergio Gaines Date: 4/14/95

SCG 4/18/95

Form No: LS-938, 3/94 Rev 2

Report percent result for 50313105. TTK 4-18-95

9613451.0563

4/11/95

INTERNATIONAL TECHNOLOGY CORPORATION

BHI Water

ITAS Data Review Checklist
RADIOCHEMISTRY

Work Order No(s): 502513, 503019, 503051, 503108, 503131

Lab Sample Numbers or SDG: W0436

Method/Test/Parameter: Total Sr

Review Item	Yes (✓)	No (✓)	N/A (✓)	2nd Level review (✓)
A. Calibration 1. Is the calibration documentation included where applicable?			✓	✓
B. Sample Analysis 1. Are the sample Yields within acceptance criteria?	✓			✓
2. Were all sample holding times met?	✓			✓
C. QC Samples 1. Is the Blank Yield within acceptance criteria?	✓			✓
2. Is the Minimum Detectable Activity for the Blank result ≤ the Contract Detection Limit?	✓			✓
3. Is the Blank result ≤ the Contract Detection Limit?	✓			✓
4. Is the Blank result greater than the Contract Detection Limit but the Sample result less than the Contract Detection Limit?			✓	✓
5. Is the LCS result within acceptance criteria?	✓			✓
6. Is the LCS yield within acceptance criteria?	✓			✓
7. Is the LCS Minimum Detectable Activity less than or equal to the Contract Detection Limit?	✓			✓
8. MS/MSD results and yield meet acceptance criteria?			✓	✓
9. Duplicate sample results and yield meet acceptance criteria?	✓			✓
D. Other 1. Are all nonconformances included and noted?			✓	✓
2. Are all required forms filled out?	✓			✓
3. Correct methodology used?	✓			✓
4. Transcription checked?	✓			✓
5. Were all calculations checked at a minimum frequency?	✓			✓
6. Units checked?	✓			✓

Comments on any "No" response:

Analyst: [signature] Date: 4-11-95

Second Level Review: [signature] Date: 4/14/95

Form No: LS-038, 3/94, Rev 2

9613451.0564

4-2-95

INTERNATIONAL TECHNOLOGY CORPORATION

ITAS Data Review Checklist
RADIOCHEMISTRY

Work Order No(s): 503051, 502513, 503019, 503108, 503131, 502515

Lab Sample Numbers or SDG: W0436, W0437

Method/Test/Parameter: H3

	Review Item	Yes (✓)	No (✓)	N/A (✓)	2nd Level review (✓)
A. 1.	Calibration Is the calibration documentation included where applicable?			X	✓
B. 1.	Sample Analysis Are the sample Yields within acceptance criteria?			X	✓
2.	Were all sample holding times met?			X	✓
C. 1.	QC Samples Is the Blank Yield within acceptance criteria?			X	✓
2.	Is the Minimum Detectable Activity for the Blank result ≤ the Contract Detection Limit?	X			✓
3.	Is the Blank result ≤ the Contract Detection Limit?	X			✓
4.	Is the Blank result greater than the Contract Detection Limit but the Sample result less than the Contract Detection Limit?			X	✓
5.	Is the LCS result within acceptance criteria?	X			✓
6.	Is the LCS yield within acceptance criteria?	X			✓
7.	Is the LCS Minimum Detectable Activity less than or equal to the Contract Detection Limit?	X			✓
8.	MS/MSD results and yield meet acceptance criteria?			X	✓
9.	Duplicate sample results and yield meet acceptance criteria?	X			✓
D. 1.	Other Are all nonconformances included and noted?	X			✓
2.	Are all required forms filled out?	X			✓
3.	Correct methodology used?	X			✓
4.	Transcription checked?	CB			✓
5.	Were all calculations checked at a minimum frequency?	X			✓
6.	Units checked?	X			✓

Comments on any "No" response:

Analyst: [signature] Date: 4/4/95

Second Level Review: [signature] Date: 4/14/95

Form No: LS-038, 3/94, Rev 2

Bechtel Hanford Incorporated

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Data Turnaround: [ ] Priorty [X] Normal

Collector: K. Lee / A Rizzo	Company Contact: J. V. Borghese	Telephone No.: (509) 372-9584
Project Designation: 100-NR-2 Groundwater Sampling - Round 7	Sampling Location: 100 N	SAF No.: B95-030
Ice Chest No.: GWS-122	Field Logbook No.: EFL-1058	Method of Shipment: Hand Delivered
Shipped To: Quanterra	Offsite Property No.: N/A	Bill of Lading/Air Bill No.: N/A

Possible Sample Hazards/Remarks

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

SAMPLE ANALYSIS: 503130

Preservative	HNO3	Cool 4C	H2SO4	HCl	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	HNO3	HNO3		HNO3	Cool 4C	
Type of Container	G	P/G	G	Gs*	P/G	P/G	P	G	P	G	G		G	P/G	
No. of Container(s)	1	1	3	3	1	1	1	3	1	6	1		1	1	
Volume	500mL	500mL	1L	1L	500mL	250mL	250mL	500mL	20mL	1L	500mL		500mL	500mL	
SAMPLE ANALYSIS	ICP Metals-TAL Unfiltered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Unfiltered	Oil and Grease	TPH	Conductivity	Turbidity	pH	Tritium 503130	Activity Scan 3101	Gross Alpha, Gross Beta, Sr-90, Gamma Spec	Gross Alpha, Gross Beta, Sr-90, Gamma Spec		ICP Metals-TAL Filtered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Filtered	
Sample No. / Matrix* / Date Sampled / Time Sampled	A	B	CDE	FGH	I	J	K								
BODX86 01 / W / 3-6-95 / ~~1115~~ 1235	X	X	X	X	X	X	X	X	X	X	X				
BODX87 02 / W / 3-6-95 / ~~1115~~ 1235													A X	B X	
3 STRIP															

CHAIN OF POSSESSION	Sign/Print Names	Date/Time
Relinquished By: AGRizzo (ERC)		3-6-95 1330
Received By: K. Trapp / K. Trapp	EAC	3/6/95 1330
Relinquished By: K. Trapp / K. Trapp	EAC	3/7/95 0905
Received By: B. Whitten	ERC	3-7-95 0905
Relinquished By: B. Whitten	ERC	3-7-95 1030
Received By: Heidelberg		3/7/95 1030
Relinquished By		
Received By		

SPECIAL INSTRUCTIONS

Sample analysis for PO4, NO2, and NO3 by EPA 300.0; turbidity by EPA 180.1; and pH by SW-846 9040 are being requested for information only. The ERC Contractor acknowledges that the hold times will not be met.

The Activity Scan is for all samples listed on this chain of custody.

Gs* = Glass with septum top. No head space.

STD-W0436

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	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9612051.0565

Bechtel Hanford Incorporated

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: K. Lee / A Rizzo	Company Contact: J. V. Borghese	Telephone No.: (509) 372-9584
Project Designation: 100-NR-2 Groundwater Sampling - Round 7	Sampling Location: 100 N	SAF No.: B95-030
Ice Chest No.: ER26	Field Logbook No.: EFL -1058	Method of Shipment: Hand Delivered
Shipped To: Quanterra	Offsite Property No.: N/A	Bill of Lading/Air Bill No.: N/A
Possible Sample Hazards/Remarks		

Preservative	HNO3	Cool 4C	H2SO4	HCl	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	HNO3	HNO3		HNO3	Cool 4C	
Type of Container	G	P/G	G	Gs*	P/G	P/G	P	G	P	G	G		G	P/G	
No. of Container(s)	1	1	3	3	1	1	1	3	1	6	1		1	1	
Volume	500mL	500mL	1L	1L	500mL	250mL	250mL	500mL	20mL	1L	500mL		500mL	500mL	
SAMPLE ANALYSIS 503130	ICP Metals-TAL Unfiltered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Unfiltered	Oil and Grease	TPH	Conductivity	Turbidity	pH	Tritium 503	Activity Scan 3102	Gross Alpha, Gross Beta, Sr-90, Gamma Spec	Gross Alpha, Gross Beta, Sr-90, Gamma Spec		ICP Metals-TAL Filtered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Filtered	
Special Handling and/or Storage: Maintain samples between 2C and 6C.															

Sample No.	Matrix*	Date Sampled	Time Sampled	A	B	C	D	E	F	G	H	I	J	K			
BODX54 03	W	3-6-95	1115	X	X	X	X	X	X	X	X	X	X	X			
BODX55 04	W	3-6-95	1115													Ax	Bx

CHAIN OF POSSESSION	Sign/Print Names	Date/Time	Received By	Date/Time
Relinquished By	AG Rizzo (ERC)	3-6-95 1330	K. Trapp/K. Trapp ERC	3/6/95 1330
Relinquished By	K. Trapp/K. Trapp ERC	3/7/95 0905	B Whitten	3-7-95 0905
Relinquished By	B Whitten	3-7-95 1030	Heidelberg	3/7/95 1030
Relinquished By			Received By	

SPECIAL INSTRUCTIONS

Sample analysis for PO4, NO2, and NO3 by EPA 300.0; turbidity by EPA 180.1; and pH by SW-846 9040 are being requested for information only. The ERC Contractor acknowledges that the hold times will not be met.

The Activity Scan is for all samples listed on this chain of custody.

Gs* = Glass with septum top. No head space.

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	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

009

9413131.0566

Bechtel Hanford Incorporated

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: K. Lee / A Rizzo	Company Contact: J. V. Borghese	Telephone No.: (509) 372-9584
Project Designation: 100-NR-2 Groundwater Sampling - Round 7	Sampling Location: 100 N	SAF No.: B95-030
Ice Chest No.: SML-502	Field Logbook No.: EFL-1058	Method of Shipment: Hand Delivered
Shipped To: Quanterra	Offsite Property No.: N/A	Bill of Lading/Air Bill No.: N/A
Possible Sample Hazards/Remarks:		
Special Handling and/or Storage: Maintain samples between 2C and 6C.		

Preservative	HNO3	Cool 4C	H2SO4	HCl	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	HNO3	HNO3		HNO3	Cool 4C
Type of Container	G	P/G	G	Gs*	P/G	P/G	P	G	P	G	G		G	P/G
No. of Container(s)	1	1	3	3	1	1	1	3	1	6	1		1	1
Volume	500mL	500mL	1L	1L	500mL	250mL	250mL	500mL	20mL	1L	500mL		500mL	500mL
SAMPLE ANALYSIS 503130	ICP Metals-TAL Unfiltered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Unfiltered	Oil and Grease	TPH	Conductivity	Turbidity	pH	Tritium 503173103	Activity Scan	Gross Alpha, Gross Beta, Sr-90, Gamma Spec	Gross Alpha, Gross Beta, Sr-90, Gamma Spec		ICP Metals-TAL Filtered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Filtered

Sample No.	Matrix*	Date Sampled	Time Sampled	A	B	C	D	E	F	G	H	I	J	K			
BODX92 05	W	3-6-95	1115	X	X	X	X	X	X	X	X	X	X	X			
BODX93 06	W	3-6-95	1115													A X	B X

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By	Date/Time	Received By	Date/Time
AG Rizzo (ERC)	3-6-95 1330	K. Trapp / K. Trapp	3/6/95 1330
Relinquished By	Date/Time	Received By	Date/Time
K. Trapp / K. Trapp	3/7/95 0905	B. Whitten	3-7-95 0909
Relinquished By	Date/Time	Received By	Date/Time
B. Whitten	3-7-95 1030	Hudelberg	3/7/95 1032
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS

Sample analysis for PO4, NO2, and NO3 by EPA 300.0; turbidity by EPA 180.1; and pH by SW-846 9040 are being requested for information only. The ERC Contractor acknowledges that the hold times will not be met.

The Activity Scan is for all samples listed on this chain of custody.

Gs* = Glass with septum top. No head space.

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	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9513151.0567

0000

Bechtel Hanford Incorporated

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: Harrison/Almanoch PNL	Company Contact: J. V. Borghese	Telephone No.: (509) 372-9584
Project Designation: 100-NR-2 Groundwater Sampling - Round 7	Sampling Location: 100 N	SAF No.: B95-030
Ice Chest No.: SML-423	Field Logbook No.:	Method of Shipment: Hand Delivered
Shipped To: Quanterra	Offsite Property No.: N/A	Bill of Lading/Air Bill No.: N/A
Possible Sample Hazards/Remarks:		
Special Handling and/or Storage: Maintain samples between 2C and 6C.		

Preservative	HNO3	Cool 4C	H2SO4	HCl	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	HNO3	HNO3	HNO3	HNO3	Cool 4C	HNO3
Type of Container	G	P/G	G	Gs*	P/G	P/G	P	G	P	G	G	G	G	P/G	G
No. of Container(s)	1	1	3	3	1	1	1	3	1	1	1	3	*1	1	1
Volume	500mL	500mL	1L	1L	500mL	250mL	250mL	500mL	20mL	1L	1L	1L	*1	500mL	500mL
SAMPLE ANALYSIS 503130	ICP Metals-TAL Unfiltered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Unfiltered	Oil and Grease	TPH	Conductivity	Turbidity	pH	Tritium 50313104	Activity Scan	Gross Alpha	Gross Beta	Sr-90	Gamma Spec	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Filtered	ICP Metals-TAL Filtered

Sample No.	Matrix*	Date Sampled	Time Sampled	A												B	
BODX75 07	W	3/3/95	1030	X							X	X			X	X	X
												Jm 3-3-95					

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: M. Almanoch	Date/Time: 3-3-95 1230	Received By: K. Trapp/K. Trapp ERC	Date/Time: 3/3/95 1230
Relinquished By: K. Trapp/K. Trapp ERC	Date/Time: 3/3/95 0905	Received By: B. Whitten	Date/Time: 3-7-95 0905
Relinquished By: B. Whitten	Date/Time: 3-7-95 1030	Received By: Hudelson	Date/Time: 3/7/95 1030
Relinquished By:	Date/Time:	Received By:	Date/Time:

SPECIAL INSTRUCTIONS

Sample analysis for PO4, NO2, and NO3 by EPA 300.0; turbidity by EPA 180.1; and pH by SW-846 9040 are being requested for information only. The ERC Contractor acknowledges that the hold times will not be met.

The Activity Scan is for all samples listed on this chain of custody.

Gs* = Glass with septum top. No head space.

*1. 2, 1L bottles and 1, 250mL bottle

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	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

0041

9513130.0569

Bechtel Hanford Incorporated

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: Harrison/Alpnaoch PNC

Company Contact: J. V. Borghese

Telephone No.: (509) 372-9584

Project Designation: 100-NR-2 Groundwater Sampling - Round 7

Sampling Location: 100 N

SAF No.: B95-030

Ice Chest No.: SMC-423

Field Logbook No.:

Method of Shipment: Hand Delivered

Shipped To: Quanterra

Offsite Property No.: N/A

Bill of Lading/Air Bill No.: N/A

Possible Sample Hazards/Remarks:

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

SAMPLE ANALYSIS: 503130

Preservative	HNO3	Cool 4C	H2SO4	HCl	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	HNO3	HNO3	HNO3	HNO3	Cool 4C	HNO3
Type of Container	G	P/G	G	Gs*	P/G	P/G	P	G	P	G	G	G	G	P/G	G
No. of Container(s)	1	1	3	3	1	1	1	3	1	1	1	3	*1	1	1
Volume	500mL	500mL	1L	1L	500mL	250mL	250mL	500mL	20mL	1L	1L	1L	*1	500mL	500mL
	ICP Metals-TAL Unfiltered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Unfiltered	Oil and Grease	TPH	Conductivity	Turbidity	pH	Tritium	Activity Scan	Gross Alpha	Gross Beta	Sr-90	Gamma Spec	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Filtered	ICP Metals-TAL Filtered
	A				B		C							D	

Sample No.	Matrix*	Date Sampled	Time Sampled	A				B		C							D	
B00X76 08	W	3/3/95	09:15	X				X		X		X	X	X			X	

3-3-95

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
M. Alpnaoch	3-3-95 1230	K. Trapp/K. Trapp	3/3/95 1230
K. Trapp/K. Trapp ERC	3/3/95 0909	ERC B.Walton	0909 3-7-95
ERC B.Walton	1030 3-7-95	Heidelberg	3/7/95 10.30

SPECIAL INSTRUCTIONS

Sample analysis for PO4, NO2, and NO3 by EPA 300.0; turbidity by EPA 180.1; and pH by SW-846 9040 are being requested for information only. The ERC Contractor acknowledges that the hold times will not be met.

The Activity Scan is for all samples listed on this chain of custody.

Gs* = Glass with septum top. No head space.

*1. 2, 1L bottles and 1, 250mL bottle

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 | Title | Date/Time

FINAL SAMPLE DISPOSITION: Disposal Method | Disposed By | Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-820 (12/92)

0042

BW 3-7-95

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1/2 of 1/2

Data Turnaround: [X] Priorty [ ] Normal

Collector: SAME AS PAGE 1OF2	Company Contact	Telephone No.
Project Designation	Sampling Location	SAF No.
Ice Chest No.	Field Logbook No.	Method of Shipment: Hand Deliver
Shipped To: Quanterra	Offsite Property No.	Bill of Lading/Air Bill No.
Possible Sample Hazards/Remarks: Unknown		

Special Handling and/or Storage: Cool to 4C							
Preservative	HCL	H2SO4	HCL	none	none		
Type of Container	aGS	P/G	aG	P/G	P/G	P	
No. of Container(s)	3	1	1	1	1	1	
Volume	40 mL	500 mL	250 mL	20 mL	20 mL		
SAMPLE ANALYSIS	VOA-TCL	NO2-NO3	TOC	Activity Scan	Rad Screening		

Sample No.	Matrix*	Date Sampled	Time Sampled	VOA-TCL	NO2-NO3	TOC	Activity Scan	Rad Screening		
BODX76	W	3-3-95	09:15				X			
BODX75	W	3-3-95	10:30				X			
BODX79	W	3-3-95	8:45				X			

CHAIN OF POSSESSION	Sign/Print Names	Date/Time
Relinquished By: K. Trapp / K. Trapp	Received By: ERC / B. Whitten	0905 / 3-7-95
Relinquished By: ERC / B. Whitten	Received By: Heidelberg	1030 / 3-7-95 / 3/7/95 1030
Relinquished By	Received By	
Relinquished By	Received By	

SPECIAL INSTRUCTIONS: Data Deliverable - Summary

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	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-B28 (12/92)

9613461.0670

0043

9613451.0571

AMPLE STATUS REPORT FOR N 4876. RAD SCREEN 199-N-54 TIME: 3/ 7/95 8:16
DISPATCHED: 2/22/95 14:38 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 3/ 7/95 7: 9

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	XR5561

END OF REPORT

PRESS ANY KEY TO CONTINUE

ERIAL NUMBER STATUS REPORT 3/ 7/95 8:17

SERIAL NUMBER (PNNNN) ? N4884

AMPLE STATUS REPORT FOR N 4884. RAD SCREEN FIELDBK1 TIME: 3/ 7/95 8:17
DISPATCHED: 2/22/95 14:39 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 3/ 7/95 7: 9

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	XR5561

END OF REPORT

BODX86
BODX87
BW
3-7-95

BEST AVAILABLE COPY

9613451.0572

AMPLE STATUS REPORT FOR N 4876. RAD SCREEN 199-N-54 TIME: 3/ 7/95 8:16
DISPATCHED: 2/22/95 14:38 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 3/ 7/95 7: 9

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	XR5561

END OF REPORT

BODX54
BODX55
BW
3-7-95

PRESS ANY KEY TO CONTINUE

ERIAL NUMBER STATUS REPORT 3/ 7/95 8:17

SERIAL NUMBER (PNNNN) ? N4884

AMPLE STATUS REPORT FOR N 4884. RAD SCREEN FIELDBK1 TIME: 3/ 7/95 8:17
DISPATCHED: 2/22/95 14:39 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 3/ 7/95 7: 9

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	XR5561

END OF REPORT

BEST AVAILABLE COPY

9613451.0573

AMPLE STATUS REPORT FOR N 4876. RAD SCREEN 199-N-54 TIME: 3/ 7/95 8:16
DISPATCHED: 2/22/95 14:38 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 3/ 7/95 7: 9

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	XR5561

END OF REPORT

BODX92
BODX93
BW
3-7-95

PRESS ANY KEY TO CONTINUE

ERIAL NUMBER STATUS REPORT 3/ 7/95 8:17

SERIAL NUMBER (PNNNN) ? N4884

AMPLE STATUS REPORT FOR N 4884. RAD SCREEN FIELDBK1 TIME: 3/ 7/95 8:17
DISPATCHED: 2/22/95 14:39 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 3/ 7/95 7: 9

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	XR5561

END OF REPORT

BEST AVAILABLE COPY

BEST AVAILABLE COPY

AMPLE STATUS REPORT FOR N 4396. RAD SCREEN 1-N-74 TIME: 3/ 6/95 8:
DISPATCHED: 1/13/95 18:32 SAMPLE HAS NOT BEEN SLURPED PAGE
RECEIVED: 3/ 6/95 7:47

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	R4006

END OF REPORT

BOOX76
BW
3-7-95

PRESS ANY KEY TO CONTINUE

ERIAL NUMBER STATUS REPORT 3/ 6/95 8: 7

9613451.0575

Quanterra Environmental Services

WHC/BHI SAMPLE CHECK-IN LIST

Date/Time Received: 3/7 @ 1020 SDG #: B95-030

Work Order Number: _____ SAF #: _____

Shipping Container ID: ER-26 Chain of Custody # na

1. Custody Seals on shipping container intact? Yes [X] No [ ]
2. Custody Seals dated and signed? Yes [X] No [ ]
3. Chain-of-Custody record present? Yes[X] No[ ]
4. Cooler temperature 2°
5. Vermiculite/packing materials is Wet [ ] Dry [X]
6. Number of samples in shipping container: 24
7. Sample holding times exceeded? Yes [ ] No [X]
8. Samples have: ✓ tape ____ hazard labels ✓ custody seals ____ appropriate sample labels
9. Samples are: ✓ in good condition ____ leaking ____ broken ____ have air bubbles
10. Were any anomalies identifed in sample receipt? Yes[ ] No[X]
11. Description of anomalies (include sample numbers): _____

Sample Custodian: Heidelberg On 3/7/95 1020

Telephoned To: _____ On _____ By _____

FORM NO. LS-042, Rev. 1, 2/95

9613451.0576

Quanterra Environmental Services

WHC/BHI SAMPLE CHECK-IN LIST

Date/Time Received: 3/7 @ 1025 SDG #: _____

Work Order Number: _____ SAF #: B95-030

Shipping Container ID: SML 502 Chain of Custody # na

1. Custody Seals on shipping container intact? Yes [X] No [ ]
2. Custody Seals dated and signed? Yes [X] No [ ]
3. Chain-of-Custody record present? Yes [X] No [ ]
4. Cooler temperature 20
5. Vermiculite/packing materials is Wet [ ] Dry [X]
6. Number of samples in shipping container: 24
7. Sample holding times exceeded? Yes [ ] No [X]
8. Samples have: ✓ tape ____ hazard labels
   ✓ custody seals ____ appropriate sample labels
9. Samples are: ✓ in good condition ____ leaking
   ____ broken ____ have air bubbles
10. Were any anomalies identifed in sample receipt? Yes [ ] No [X]
11. Description of anomalies (include sample numbers): _____

Sample Custodian: Hudelberg On 3/7/95 1025

Telephoned To: _____ On _____ By _____

FORM NO. LS-042, Rev. 1, 2/95

9613451.0577

Quanterra Environmental Services

WHC/BHI SAMPLE CHECK-IN LIST

Date/Time Received: 3/7 @ 1020 SDG #: _____

Work Order Number: _____ SAF #: B95-030

Shipping Container ID: GWS122 Chain of Custody # Una

1. Custody Seals on shipping container intact? Yes [X] No [ ]
2. Custody Seals dated and signed? Yes [X] No [ ]
3. Chain-of-Custody record present? Yes [X] No [ ]
4. Cooler temperature 4°
5. Vermiculite/packing materials is Wet [ ] Dry [X] JH 3/7/95
6. Number of samples in shipping container: ~~23~~ 24
7. Sample holding times exceeded? Yes [ ] No [X]
8. Samples have: ✓ tape ____ hazard labels
   ✓ custody seals ____ appropriate sample labels
9. Samples are: ✓ in good condition ____ leaking
   ____ broken ____ have air bubbles
10. Were any anomalies identifed in sample receipt? Yes [ ] No [X]
11. Description of anomalies (include sample numbers): _____

Sample Custodian: Heidelberg On 3-7-95 1020

Telephoned To: _____ On _____ By _____

0050

FORM NO. LS-042, Rev. 1, 2/95

9613451.0578

Quanterra Environmental Services

WHC/BHI SAMPLE CHECK-IN LIST

Date/Time Received: 3/7 @ 1030 SDG #: _____

Work Order Number: _____ SAF #: B95-030

Shipping Container ID: SML 423 Chain of Custody # na

1. Custody Seals on shipping container intact? Yes [X] No [ ]
2. Custody Seals dated and signed? Yes [X] No [ ]
3. Chain-of-Custody record present? Yes[X] No[ ]
4. Cooler temperature 3°
5. Vermiculite/packing materials is Wet [ ] Dry [X]
6. Number of samples in shipping container: 21
7. Sample holding times exceeded? Yes [ ] No [X]
8. Samples have: ✓ tape ____ hazard labels
   ✓ custody seals ✓ appropriate sample labels
9. Samples are: ✓ in good condition ____ leaking
   ____ broken ____ have air bubbles
10. Were any anomalies identifed in sample receipt? Yes[ ] No[X]
11. Description of anomalies (include sample numbers): _____

Sample Custodian: Heidelberg On 3/7/95 1030

Telephoned To: _____ On _____ By _____

FORM NO. LS-042, Rev. 1, 2/95

Client Sample Screening Results

07-Mar-95

(R3) 3/7/95

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
WHC B0DX54	LIQUID	3/7/95 2:16:39 PM	QUAD24A	3/7/95 1:36:51 PM	B0DX54	30	13	0.37733333	214	6.1913333
03+04 (2)			Bkg:	3/7/95 4:20:31 PM	BKG	500	28	0.056	471	0.942

Anl Date: 3/7/95 Tot Sa, Alq: 1.00E+00 , 1.00E+01 Alp; (Dpm/ 1.08E+00 (uCi/ 4.86E-05 (pCi/ 4.86E+01 ± 2.6E+01 CAT I ✓ 5.1E-01 Lab
Ppt mg: 7.2 Units: L , ml Bet; Alq): 1.20E+01 Sa): 5.40E-04 L/g): 5.40E+02 ± 4.3E+01 9.3E-02 Alq L/g

WHC B0DX75	LIQUID	3/7/95 2:17:41 PM	QUAD21B	3/7/95 1:17:44 PM	B0DX75	30	6	0.142	52	0.7713333
07 (4)			Bkg:	3/7/95 4:20:31 PM	BKG	500	29	0.058	481	0.962

Anl Date: 3/7/95 Tot Sa, Alq: 2.00E-02 , 1.00E+01 Alp; (Dpm/ 4.31E-01 (uCi/ 3.88E-07 (pCi/ 1.94E+01 ± 2.3E+01 CAT I ✓ 1.3E+00 Lab
Ppt mg: 2.2 Units: L , ml Bet; Alq): 1.41E+00 Sa): 1.27E-06 L/g): 6.36E+01 ± 2.1E+01 7.9E-01 Alq L/g

WHC B0DX76	LIQUID	3/7/95 2:21:08 PM	QUAD21C	3/7/95 1:17:44 PM	B0DX76	30	17	0.52266667	74	1.5966667
08 (5)			Bkg:	3/7/95 4:20:31 PM	BKG	500	22	0.044	435	0.87

Anl Date: 3/7/95 Tot Sa, Alq: 2.00E-02 , 1.00E+01 Alp; (Dpm/ 1.53E+00 (uCi/ 1.38E-06 (pCi/ 6.89E+01 ± 2.4E+01 CAT I ✓ 3.6E-01 Lab
Ppt mg: 2.6 Units: L , ml Bet; Alq): 2.85E+00 Sa): 2.57E-06 L/g): 1.28E+02 ± 2.5E+01 3.9E-01 Alq L/g

WHC B0DX79	LIQUID	3/7/95 2:50:27 PM	QUAD21D	3/7/95 1:17:44 PM	B0DX79	30	6	0.156	114	2.812
			Bkg:	3/7/95 4:20:31 PM	BKG	500	22	0.044	494	0.988

Anl Date: 3/7/95 Tot Sa, Alq: 2.00E-02 , 1.00E+01 Alp; (Dpm/ 4.03E-01 (uCi/ 3.63E-07 (pCi/ 1.82E+01 ± 2.2E+01 CAT I ✓ 1.4E+00 Lab
Ppt mg: 1.2 Units: L , ml Bet; Alq): 5.44E+00 Sa): 4.90E-06 L/g): 2.45E+02 ± 3.2E+01 2.0E-01 Alq L/g

WHC B0DX86	LIQUID	3/7/95 2:22:02 PM	QUAD22A	3/7/95	B0DX86	30	4	0.09733333	31	0.1393333
01+02 (1)			Bkg:	3/7/95 4:20:31 PM	BKG	500	18	0.036	447	0.894

Anl Date: 3/7/95 Tot Sa, Alq: 1.00E+00 , 1.00E+01 Alp; (Dpm/ 2.73E-01 (uCi/ 1.23E-05 (pCi/ 1.23E+01 ± 1.9E+01 CAT I ✓ 2.0E+00 Lab
Ppt mg: 0.3 Units: L , ml Bet; Alq): 2.00E-01 Sa): 9.00E-06 L/g): 9.00E+00 ± 1.6E+01 5.6E+00 Alq L/g

503130 chem
(503131 Rad).

SDG W0436

0052

9613451.0579

(R) 3/7/95

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
WHC B0DX86	LIQUID	3/7/95 2:22:02 PM	QUAD22A	3/7/95 1:17:44 PM	B0DX86	30	4	0.09733333	31	0.1393333
			Bkg:	3/7/95 4:20:31 PM	BKG	500	18	0.036	447	0.894

Anl Date: 3/7/95 Tot Sa, Alq: 1.00E+00 , 1.00E+01 Alp; (Dpm/ 2.73E-01 (uCi/ 1.23E-05 (pCi/ 1.23E+01 ± 1.9E+01 CAT I ✓ 2.0E+00 Lab Alq
Ppt mg: 0.3 Units: L , ml Bet; Alq): 2.00E-01 Sa): 9.00E-06 L|g): 9.00E+00 ± 1.6E+01 5.6E+00 L|g

WHC B0DX92	LIQUID	3/7/95 2:23:49 PM	QUAD22B	3/7/95 1:17:44 PM	B0DX92	30	22	0.67533333	267	8.052
05 + 06 (3)			Bkg:	3/7/95 4:20:31 PM	BKG	500	29	0.058	424	0.848

Anl Date: 3/7/95 Tot Sa, Alq: 1.00E+00 , 1.00E+01 Alp; (Dpm/ 1.98E+00 (uCi/ 8.92E-05 (pCi/ 8.92E+01 ± 2.7E+01 CAT I ✓ 2.8E-01 Lab Alq
Ppt mg: 6.8 Units: L , ml Bet; Alq): 1.51E+01 Sa): 6.79E-04 L|g): 6.79E+02 ± 4.7E+01 7.4E-02 L|g

WHC B0DX92	LIQUID	3/7/95 2:23:49 PM	QUAD22B	3/7/95 2:22:02 PM	B0DX92	30	22	0.67533333	267	8.052
			Bkg:	3/7/95 4:20:31 PM	BKG	500	29	0.058	424	0.848

Anl Date: 3/7/95 Tot Sa, Alq: 1.00E+00 , 1.00E+01 Alp; (Dpm/ 1.98E+00 (uCi/ 8.92E-05 (pCi/ 8.92E+01 ± 2.7E+01 CAT I ✓ 2.8E-01 Lab Alq
Ppt mg: 6.8 Units: L , ml Bet; Alq): 1.51E+01 Sa): 6.79E-04 L|g): 6.79E+02 ± 4.7E+01 7.4E-02 L|g

503130 - Chem
(503131 - Rad)

SDW W0436

96 JUL 1 0580

0053

Bechtel Hanford Incorporated

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: K. Lee / A Rizzo	Company Contact: J. V. Borghese	Telephone No.: (509) 372-9584
Project Designation: 100-NR-2 Groundwater Sampling - Round 7	Sampling Location: 100 N	SAF No.: B95-030
Ice Chest No.: SML-502	Field Logbook No.: EFL-1058	Method of Shipment: Hand Delivered
Shipped To: Quanterra	Offsite Property No.: NA	Bill of Lading/Air Bill No.: NA
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: Maintain samples between 2C and 6C.		

SAMPLE ANALYSIS																
Preservative				HNO3	Cool 4C	H2SO4	HCl	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	HNO3	HNO3		HNO3	Cool 4C
Type of Container				G	P/G	G	Gs*	P/G	P/G	P	G	P	G	G		G	P/G
No. of Container(s)				1	1	3	3	1	1	1	3	1	7 ~~6~~	3 ~~1~~		1	1
Volume				500mL	500mL	1L	1L	500mL	250mL	250mL	500mL	20mL	1L	500mL		500mL	500mL
				ICP Metals-TAL Unfiltered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Unfiltered	Oil and Grease	TPH	Conductivity	Turbidity	pH	Tritium	Activity Scan	Gross Alpha, Gross Beta, Sr-90, Gamma Spec	Gross Alpha, Gross Beta, Sr-90, Gamma Spec		ICP Metals-TAL Filtered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Filtered
503107				A	B	C D E	F G H	I	J	K	50310801					A	B
Sample No.	Matrix*	Date Sampled	Time Sampled														
01 BODX48	W	3-3-95	1059	X	X	X	X	X	X	X	X	X	X	~~X~~ 3391			
02 BODX49	W	3-3-95	1059													X	X
											SDG W0436						

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: AGRizzo	Date/Time: 3-3-95 1225	Received By: David Sl. John EPC	Date/Time: 03-03-95 1225
Relinquished By: David Sl. John ERC	Date/Time: 3-3-95 1315	Received By: K. Trapp / K. Trapp	Date/Time: 1315 3/3/95
Relinquished By: K. Trapp / K. Trapp	Date/Time: 3/6/95 11:50	Received By: Karen Schttenberg	Date/Time: 3-6-95 11:50
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS

Sample analysis for PO4, NO2, and NO3 by EPA 300.0; turbidity by EPA 180.1; and pH by SW-846 9040 are being requested for information only. The ERC Contractor acknowledges that the hold times will not be met.

The Activity Scan is for all samples listed on this chain of custody.

Gs* = Glass with septum top. No head space.

Gross Alpha, Gross Beta provided in 7 1(L) Glass Bottles instead of 6 1(L) and 1 500ml AR 3.3.95

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	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original - Sample Yellow - Sampler

BC-6000-828 (12/92)

9513151.0581

T-001

9613451.0982

AMPLE STATUS REPORT FOR N 4871. RAD SCREEN 199-N-21 TIME: 3/ 6/95 8:30
DISPATCHED: 2/22/95 14:38 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 3/ 6/95 7:48

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	XR5561

END OF REPORT

BODX48
BODX49
BODX98
BODX99

KT 3/6/95

BEST AVAILABLE COPY

9613451.0583

Quanterra Environmental Services

WHC/BHI SAMPLE CHECK-IN LIST

Date/Time Received: 7-6-95 11:50 SDG #: BHF

Work Order Number: 50310701-02, 50310801 SAF #: B95-030

Shipping Container ID: SML-502 Chain of Custody #_____

1. Custody Seals on shipping container intact? Yes [X] No [ ]
2. Custody Seals dated and signed? Yes [X] No [ ]
3. Chain-of-Custody record present? Yes[X] No[ ]
4. Cooler temperature 4°C
5. Vermiculite/packing materials is Wet [ ] Dry [X]
6. Number of samples in shipping container: 24
7. Sample holding times exceeded? Yes [ ] No [X]
8. Samples have: X tape ____ hazard labels
   X custody seals ____ appropriate sample labels
9. Samples are: X in good condition ____ leaking
   ____ broken ____ have air bubbles
10. Were any anomalies identifed in sample receipt? Yes[ ] No[X]
11. Description of anomalies (include sample numbers):_____

Sample Custodian: Karen Fritsenberg On 7-6-95

Telephoned To:_____ On_____ By_____

FORM NO. LS-042, Rev. 1, 2/95

Client Sample Screening Results

06-Mar-95

CLIENT CODE	ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
WHC	B0DX48	LIQUID	3/6/95 2:53:04 PM	QUAD22A	3/6/95 1:55:58 PM	B0DX48	30	17	0.51066667	71	1.4026667
				Bkg:	3/4/95 4:02:34 PM	BKG	500	28	0.056	482	0.964

Anl Date:	3/6/95	Tot Sa, Alq:	1.00E+00	,	1.00E+01	Alp;	(Dpm/	1.60E+00	(uCi/	7.21E-05	(pCi/	7.21E+01	± 2.7E+01	CAT I	3.5E-01	Lab Alq
Ppt mg:	8	Units:	L	,	ml	Bet;	Alq):	2.35E+00	Sa):	1.06E-04	Lig):	1.06E+02	± 2.3E+01		4.7E-01	Lig

0052

9613461.0584

Client Sample Screening Results

06-Mar-95

CLIENT CODE	ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
WHC	B0DX48	LIQUID	3/6/95 2:53:04 PM	QUAD22A	3/6/95 1:55:58 PM	B0DX48	30	17	0.51066667	71	1.4026667
01 + 02				Bkg:	3/4/95 4:02:34 PM	BKG	500	28	0.056	482	0.964

Anl Date: 3/6/95	Tot Sa, Alq:	1.00E+00	,	1.00E+01	Alp;	(Dpm/	1.60E+00	(uCi/	7.21E-05	(pCi/	7.21E+01	± 2.7E+01	CAT I	3.5E-01 Lab Alq
Fpt mg: 8	Units:	L	,	ml	Bet;	Alq):	2.35E+00	Sa):	1.06E-04	L/g):	1.06E+02	± 2.3E+01		4.7E-01 L/g

503107- Chem
503108- Rad

SDG WQ136

0058

9613461.0586

Bechtel Hanford Incorporated

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: Moreno / Golt	Company Contact: J. V. Borghese	Telephone No.: (509) 372-9584
Project Designation: 100-NR-2 Groundwater Sampling - Round 7	Sampling Location: 100 N	SAF No.: B95-030
Ice Chest No.: ER-402	Field Logbook No.: NA	Method of Shipment: Hand Delivered
Shipped To: Quanterra	Offsite Property No.: NA	Bill of Lading/Air Bill No.: NA
Possible Sample Hazards/Remarks		

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

SAMPLE ANALYSIS: 503050

Sample No.	Matrix*	Date Sampled	Time Sampled	ICP Metals-TAL Unfiltered A	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Unfiltered	Oil and Grease	TPH	Conductivity	Turbidity	pH	Tritium	Activity Scan	Gross Alpha	Gross Beta	Sr-90	Gamma Spec	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Filtered B	ICP Metals-TAL Filtered
Preservative				HNO3	Cool 4C	H2SO4	HCl	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	HNO3	HNO3	HNO3	HNO3	Cool 4C	HNO3
Type of Container				G	P/G	G	Gs*	P/G	P/G	P	G	P	G	G	G	G	P/G	G
No. of Container(s)				1	1	3	3	1	1	1	3	1	1	1	3	*1	1	1
Volume				500mL	500mL	1L	1L	500mL	250mL	250mL	500mL	20mL	1L	1L	1L	*1	500mL	500mL
BODX73 01	W	3-1-95	11:00	X							X	X			X	X	X	

503051

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: Moreno Jr	Date/Time: 3-1-95 1305	Received By: K. Trapp / K. Trapp	Date/Time: 3/1/95 1305
Relinquished By: K. Trapp / K. Trapp 3/2/95	Date/Time:	Received By: Karen Ackterberg 3-2-95	Date/Time: 3-2-10
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:

SPECIAL INSTRUCTIONS

Sample analysis for PO4, NO2, and NO3 by EPA 300.0; turbidity by EPA 180.1; and pH by SW-846 9040 are being requested for information only. The ERC Contractor acknowledges that the hold times will not be met.

The Activity Scan is for all samples listed on this chain of custody.

Gs* = Glass with septum top. No head space.

*1. 2, 1L bottles and 1, 250mL bottle

Less than 100 cpm

STD-W04326

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	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

0059

96-TSD-030

Bechtel Hanford Incorporated

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: MORENO / Belt	Company Contact: J. V. Borghese	Telephone No.: (509) 372-9584
Project Designation: 100-NR-2 Groundwater Sampling - Round 7	Sampling Location: 100 N	SAF No.: B95-030
Ice Chest No.: ER-402	Field Logbook No.: NA	Method of Shipment: Hand Delivered
Shipped To: Quanterra	Offsite Property No.: NA	Bill of Lading/Air Bill No.: NA
Possible Sample Hazards/Remarks		

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

Preservative	HNO3	Cool 4C	H2SO4	HCl	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	HNO3	HNO3	HNO3	HNO3	Cool 4C	HNO3
Type of Container	G	P/G	G	Gs*	P/G	P/G	P	G	P	G	G	G	G	P/G	G
No. of Container(s)	1	1	3	3	1	1	1	3	1	1	1	3	*1	1	1
Volume	500mL	500mL	1L	1L	500mL	250mL	250mL	500mL	20mL	1L	1L	1L	*1	500mL	500mL
SAMPLE ANALYSIS 503050	ICP Metals-TAL Unfiltered A	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Unfiltered	Oil and Grease	TPH	Conductivity	Turbidity	pH	Tritium	Activity Scan B	Gross Alpha	Gross Beta	Sr-90	Gamma Spec	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Filtered C	ICP Metals-TAL Filtered

Sample No.	Matrix*	Date Sampled	Time Sampled													
BODX59 02	W	3-1-95	08:45	X							X					X	

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By	Date/Time	Received By	Date/Time
Moreno Jr	3-1-95	K. Trapp / K. Trapp	3/1/95 1305
K. Trapp / K. Trapp	3/2/95	Quantera / Karen Holtenberg	2.10 5-2-95

SPECIAL INSTRUCTIONS

Sample analysis for PO4, NO2, and NO3 by EPA 300.0; turbidity by EPA 180.1; and pH by SW-846 9040 are being requested for information only. The ERC Contractor acknowledges that the hold times will not be met.

The Activity Scan is for all samples listed on this chain of custody.

Gs* = Glass with septum top. No head space.

*1. 2, 1L bottles and 1, 250mL bottle

Less than 100cPH

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	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

0000

9513150.0539

9613451.0588

AMPLE STATUS REPORT FOR N 4383. RAD SCREEN 1-N-3 TIME: 3/ 2/95 10:34
DISPATCHED: 1/13/95 18:31 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 0/ 0/ 0 0: 0

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	INCOMPLETE			R4006

END OF REPORT

PRESS ANY KEY TO CONTINUE

ERIAL NUMBER STATUS REPORT 3/ 2/95 10:34

SERIAL NUMBER (PNNNN) ? N4393

AMPLE STATUS REPORT FOR N 4393. RAD SCREEN 1-N-71 TIME: 3/ 2/95 10:34
DISPATCHED: 1/13/95 18:31 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 3/ 2/95 8:22

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	R4006

END OF REPORT

BEST AVAILABLE COPY

AMPLE STATUS REPORT FOR N 4384. RAD SCREEN 1-N-32 TIME: 3/ 2/95 10:41
DISPATCHED: 1/13/95 18:31 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 3/ 2/95 8:22

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	R4006

END OF REPORT

BEST AVAILABLE COPY

9613451.0590

Quanterra Environmental Services

WHC/BHI SAMPLE CHECK-IN LIST

Date/Time Received: 3-2-95 @ 1210 SDG #: BHF W0436

Work Order Number: 5-03-050 +51 SAF #: 95-011 B95-030

Shipping Container ID: ER402 Chain of Custody # NA

1. Custody Seals on shipping container intact? Yes [X] No [ ]
2. Custody Seals dated and signed? Yes [X] No [ ]
3. Chain-of-Custody record present? Yes[X] No[ ]
4. Cooler temperature 4°C
5. Vermiculite/packing materials is Wet [ ] Dry [ ] RAA 3-2-95
6. Number of samples in shipping container: ~~26~~ 27
7. Sample holding times exceeded? Yes [ ] No [X]
8. Samples have: X tape ____ hazard labels
   X custody seals ____ appropriate sample labels
9. Samples are: X in good condition ____ leaking
   ____ broken ____ have air bubbles
10. Were any anomalies identifed in sample receipt? Yes[ ] No[ ]
11. Description of anomalies (include sample numbers): _____

Sample Custodian: Karen Ashenburg On 3-2-95

Telephoned To: _____ On _____ By _____

FORM NO. LS-042, Rev. 1, 2/95

Client Sample Screening Results

03-Mar-95

(R3) 3/3/95

CLIENT	CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
WHC	B0C346	LIQUID	3/3/95 2:07:41 PM	QUAD21A	3/3/95 12:28:17 PM	B0C346	30	158	5.23066667	2985	98.574
				Bkg:	3/3/95 5:23:04 PM	BKG	500	18	0.036	463	0.926

Anl Date: 3/3/95	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp;	(Dpm/ 1.51E+01	(uCi/ 6.80E-04	(pCi/ 6.80E+02	± 6.1E+01	CAT I	3.7E-02	Lab
Ppt mg: 16	Units: L	, ml	Bet;	Alq): 2.00E+02	Sa): 9.03E-03	L/g): 9.03E+03	± 1.7E+02		5.5E-03	Alq L/g

CLIENT	CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
WHC	B0D347	LIQUID	3/3/95 2:09:32 PM	QUAD21B	3/3/95 12:28:17 PM	B0D347	30	12	0.336	107	2.5986667
				Bkg:	3/3/95 5:23:04 PM	BKG	500	32	0.064	484	0.968

Anl Date: 3/3/95	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp;	(Dpm/ 1.18E+00	(uCi/ 5.32E-05	(pCi/ 5.32E+01	± 3.0E+01	CAT I	4.7E-01	Lab
Ppt mg: 17.1	Units: L	, ml	Bet;	Alq): 5.00E+00	Sa): 2.25E-04	L/g): 2.25E+02	± 3.1E+01		2.2E-01	Alq L/g

CLIENT	CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
WHC	B0DX73	LIQUID	3/3/95 3:36:23 PM	QUAD23A	3/3/95 3:04:38 PM	B0DX73	30	27	0.826	110	2.7126667
01				Bkg:	3/3/95 5:23:04 PM	BKG	500	37	0.074	477	0.954

Anl Date: 3/3/95	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp;	(Dpm/ 2.40E+00	(uCi/ 1.08E-04	(pCi/ 1.08E+02	± 2.7E+01	CAT I	2.3E-01	Lab
Ppt mg: 2.9	Units: L	, ml	Bet;	Alq): 4.66E+00	Sa): 2.10E-04	L/g): 2.10E+02	± 2.9E+01		2.4E-01	Alq L/g

CLIENT	CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
WHC	B0DZB0	LIQUID	3/3/95 2:10:10 PM	QUAD21C	3/3/95 12:28:17 PM	B0DZB0	30	25	0.77133333	855	27.606
				Bkg:	3/3/95 5:23:04 PM	BKG	500	31	0.062	447	0.894

Anl Date: 3/3/95	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp;	(Dpm/ 1.49E+00	(uCi/ 6.71E-05	(pCi/ 6.71E+01	± 2.5E+01	CAT I	3.7E-01	Lab
Ppt mg: 2.6	Units: L	, ml	Bet;	Alq): 5.40E+01	Sa): 2.43E-03	L/g): 2.43E+03	± 8.6E+01		2.1E-02	Alq L/g

CLIENT	CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
WHC	B0DZB1	LIQUID	3/3/95 2:13:56 PM	QUAD21D	3/3/95 12:28:17 PM	B0DZB1	30	21	0.658	674	21.558667
				Bkg:	3/3/95 5:23:04 PM	BKG	500	21	0.042	454	0.908

Anl Date: 3/3/95	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp;	(Dpm/ 1.44E+00	(uCi/ 6.48E-05	(pCi/ 6.48E+01	± 2.5E+01	CAT I	3.9E-01	Lab
Ppt mg: 2.4	Units: L	, ml	Bet;	Alq): 4.21E+01	Sa): 1.90E-03	L/g): 1.90E+03	± 7.6E+01		2.6E-02	Alq L/g

503050 Chem.
503051 Rad.

0064

1650'1345196

(R3) 3/2/95

Client Sample Screening Results

02-Mar-95

CLIENT	CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
WHC	B0DRL2	SOLID	3/2/95 3:40:04 PM	QUAD21A	3/2/95 3:06:18 PM	B0DRL2	30	9	0.26	122	3.1446667
				Bkg:	3/2/95 4:30:40 PM	BKG	500	20	0.04	461	0.922

Anl Date: 3/2/95 Tot Sa, Alq: 9.12E+02 , 9.89E+01 Alp; (Dpm/ 1.58E+00 (uCi/ 6.55E-03 (pCi/ 7.19E+00 ± 5.3E+00 CAT I 7.0E+00 Lab
Ppt mg: 98.9 Units: g , mg Bet; Alq): 7.12E+00 Sa): 2.96E-02 L/g): 3.24E+01 ± 3.9E+00 3.1E+00 Alq L/g

WHC	B0DRL4	SOLID	3/2/95 3:40:47 PM	QUAD21B	3/2/95 3:06:18 PM	B0DRL4	30	18	0.512	161	4.3146667
				Bkg:	3/2/95 4:30:40 PM	BKG	500	44	0.088	526	1.052

Anl Date: 3/2/95 Tot Sa, Alq: 9.22E+02 , 9.25E+01 Alp; (Dpm/ 3.19E+00 (uCi/ 1.43E-02 (pCi/ 1.55E+01 ± 6.4E+00 CAT II 3.2E+00 Lab
Ppt mg: 92.5 Units: g , mg Bet; Alq): 9.32E+00 Sa): 4.19E-02 L/g): 4.54E+01 ± 4.6E+00 2.2E+00 Alq L/g

WHC	B0DX59	LIQUID	3/2/95 3:45:37 PM	QUAD22D	3/2/95 3:06:18 PM	B0DX59	30	50	1.61266667	136	3.6613333
02				Bkg:	3/2/95 4:30:40 PM	BKG	500	27	0.054	436	0.872

Anl Date: 3/2/95 Tot Sa, Alq: 5.00E-01 , 1.00E+01 Alp; (Dpm/ 4.89E+00 (uCi/ 1.10E-04 (pCi/ 2.20E+02 ± 3.4E+01 CAT I 1.1E-01 Lab
Ppt mg: 3.2 Units: L , ml Bet; Alq): 5.98E+00 Sa): 1.35E-04 L/g): 2.69E+02 ± 3.1E+01 1.9E-01 Alq L/g

WHC	B0DXH3	LIQUID	3/2/95 3:41:29 PM	QUAD21C	3/2/95 3:06:18 PM	B0DXH3	30	43	1.39133333	555	17.636
				Bkg:	3/2/95 4:30:40 PM	BKG	500	21	0.042	432	0.864

Anl Date: 3/2/95 Tot Sa, Alq: 1.00E+00 , 1.00E+01 Alp; (Dpm/ 3.78E+00 (uCi/ 1.70E-04 (pCi/ 1.70E+02 ± 3.2E+01 CAT I 1.5E-01 Lab
Ppt mg: 4.6 Units: L , ml Bet; Alq): 3.41E+01 Sa): 1.54E-03 L/g): 1.54E+03 ± 6.9E+01 3.3E-02 Alq L/g

WHC	B0DZC0	LIQUID	3/2/95 3:42:37 PM	QUAD21D	3/2/95 3:06:18 PM	B0DZC0	30	38	1.21266667	512	16.126667
				Bkg:	3/2/95 4:30:40 PM	BKG	500	27	0.054	470	0.94

Anl Date: 3/2/95 Tot Sa, Alq: 1.00E+00 , 1.00E+01 Alp; (Dpm/ 3.70E+00 (uCi/ 1.67E-04 (pCi/ 1.67E+02 ± 3.5E+01 CAT I 1.5E-01 Lab
Ppt mg: 10.7 Units: L , ml Bet; Alq): 3.16E+01 Sa): 1.42E-03 L/g): 1.42E+03 ± 6.7E+01 3.5E-02 Alq L/g

503050 Chem

SDL-W04364

0065

96194510592

Bechtel Hanford Incorporated

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: K.D. Lee	Company Contact: J. V. Borghese	Telephone No.: (509) 372-9584
Project Designation: 100-NR-2 Groundwater Sampling - Round 7	Sampling Location: 100 N	SAF No.: B95-030
Ice Chest No.: GWS-133	Field Logbook No.: EFL-~~1058~~ 1058	Method of Shipment: Hand Delivered
Shipped To: Quanterra	Offsite Property No.: NA	Bill of Lading/Air Bill No.: NA
Possible Sample Hazards/Remarks: UNKNOWN		
Special Handling and/or Storage: Maintain samples between 2C and 6C.		

SAMPLE ANALYSIS: 503018

Sample No.	Matrix*	Date Sampled	Time Sampled	ICP Metals-TAL Unfiltered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Unfiltered	Oil and Grease	TPH	Conductivity	Turbidity	pH	Tritium	Activity Scan	Gross Alpha, Gross Beta, Sr-90, Gamma Spec	Gross Alpha, Gross Beta, Sr-90, Gamma Spec		ICP Metals-TAL Filtered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Filtered	
Preservative				HNO3	Cool 4C	H2SO4	HCl	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	HNO3	HNO3		HNO3	Cool 4C	
Type of Container				G	P/G	G	Gs*	P/G	P/G	P	G	P	G	G		G	P/G	
No. of Container(s)				1	1	3	3	1	1	1	3	1	6	1		1	1	
Volume				500mL	500mL	1L	1L	500mL	250mL	250mL	500mL	20mL	1L	500mL		500mL	500mL	
								C	D	E								
BODX67	01	W	2/28/95	1052	A X	B X			X	X	X	X	X	503014 X	01 X			
BODX68	02	W	2/28/95	1052												A X	B X	

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By	Date/Time	Received By	Date/Time
K.D. Lee	2/28/95 1340	K. Trapp / K. Trapp	2/28/95 1340
K. Trapp / K. Trapp	3/1/95 1020	[illegible]	10.20
		[illegible]	3-1-95

SPECIAL INSTRUCTIONS

Sample analysis for PO4, NO2, and NO3 by EPA 300.0; turbidity by EPA 180.1; and pH by SW-846 9040 are being requested for information only. The ERC Contractor acknowledges that the hold times will not be met.

The Activity Scan is for all samples listed on this chain of custody.

Gs* = Glass with septum top. No head space.

SDG WO436

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	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

0066

9513151.0993

Bechtel Hanford Incorporated

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: K.D. Lee	Company Contact: J. V. Borghese	Telephone No.: (509) 372-9584
Project Designation: 100-NR-2 Groundwater Sampling - Round 7	Sampling Location: 100 N	SAF No.: B95-030
Ice Chest No.: Homeboy	Field Logbook No.: EFL-1058	Method of Shipment: Hand Delivered
Shipped To: Quanterra	Offsite Property No.: NA	Bill of Lading/Air Bill No.: NA
Possible Sample Hazards/Remarks: unknown		
Special Handling and/or Storage: Maintain samples between 2C and 6C.		

SAMPLE ANALYSIS: 503018

Sample No.	Matrix*	Date Sampled	Time Sampled	ICP Metals-TAL Unfiltered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Unfiltered	Oil and Grease	TPH	Conductivity	Turbidity	pH	Tritium	Activity Scan	Gross Alpha, Gross Beta, Sr-90, Gamma Spec	Gross Alpha, Gross Beta, Sr-90, Gamma Spec		ICP Metals-TAL Filtered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Filtered
Preservative				HNO3	Cool 4C	H2SO4	HCl	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	HNO3	HNO3		HNO3	Cool 4C
Type of Container				G	P/G	G	Gs*	P/G	P/G	P	G	P	G	G		G	P/G
No. of Container(s)				1	1	3	3	1	1	1	3	1	6	1		1	1
Volume				500mL	500mL	1L	1L	500mL	250mL	250mL	500mL	20mL	1L	500mL		500mL	500mL
								C	D	E							
BODX94 03	W	2/28/95	1052	A X	B X			X	X	X	X	X	5030 X	1902 X			
BODX95 04	W	2/28/95	1052													A X	B X

CHAIN OF POSSESSION	Sign/Print Names	Date/Time
Relinquished By: K.D. Lee	Received By: K. Trapp/K. Trapp	Date/Time: 2/28/95 1340
Relinquished By: K. Trapp/K. Trapp	Received By: Karen Schlichting	Date/Time: 3/1/95 1020
Relinquished By	Received By	Date/Time
Relinquished By	Received By	Date/Time

SPECIAL INSTRUCTIONS

Sample analysis for PO4, NO2, and NO3 by EPA 300.0; turbidity by EPA 180.1; and pH by SW-846 9040 are being requested for information only. The ERC Contractor acknowledges that the hold times will not be met.

The Activity Scan is for all samples listed on this chain of custody.

Gs* = Glass with septum top. No head space.

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	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

0067

9613451.0595

AMPLE STATUS REPORT FOR N 4878. RAD SCREEN 199-N-70 TIME: 3/ 1/95 8:13
DISPATCHED: 2/22/95 14:38 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 2/28/95 14:30

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	XR5561

END OF REPORT

BODX67
BODX68 KT 3/1/95
BODX94
BODX95

BEST AVAILABLE COPY

9613451.0596

Quanterra Environmental Services

WHC/BHI SAMPLE CHECK-IN LIST

Date/Time Received: 3-1-95 1020 SDG #: W0436

Work Order Number: 5-03-018 + 019 SAF #: B95-030

Shipping Container ID: HomeBoy Chain of Custody # na

1. Custody Seals on shipping container intact? Yes [X] No [ ]

2. Custody Seals dated and signed? Yes [X] No [ ]

3. Chain-of-Custody record present? Yes[X] No[ ]

4. Cooler temperature 4°C

5. Vermiculite/packing materials is Wet [ ] Dry [X]

6. Number of samples in shipping container: 18

7. Sample holding times exceeded? Yes [ ] No [X]

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

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

10. Were any anomalies identifed in sample receipt? Yes[ ] No[X]

11. Description of anomalies (include sample numbers):

Sample Custodian: Hudelberg On 3/1/95

Telephoned To: ____ On ____ By ____

0069

FORM NO. LS-042, Rev. 1, 2/95

9613451.0597

Quanterra Environmental Services

WHC/BHI SAMPLE CHECK-IN LIST

Date/Time Received: 3-1-95 1020 SDG #: W0436

Work Order Number: 5-03-018 + 019 SAF #: B95-030

Shipping Container ID: 6-WS-133 Chain of Custody # na

1. Custody Seals on shipping container intact? Yes [X] No [ ]

2. Custody Seals dated and signed? Yes [X] No [ ]

3. Chain-of-Custody record present? Yes[X] No[ ]

4. Cooler temperature 4°C

5. Vermiculite/packing materials is Wet [ ] Dry [X]

6. Number of samples in shipping container: 18

7. Sample holding times exceeded? Yes [ ] No [X]

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

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

10. Were any anomalies identifed in sample receipt? Yes[ ] No[X]

11. Description of anomalies (include sample numbers):

Sample Custodian: K Heidelberg On 3/1/95

Telephoned To: ____ On ____ By ____

FORM NO. LS-042, Rev. 1, 2/95

0070

all Cat I (R3) 3/1/95

Client Sample Screening Results

01-Mar-95

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
WIIC B0DX67	LIQUID	3/1/95 12:52:42 PM	QUAD21A	3/1/95 11:55:53 AM	B0DX67	30	28	0.86333333	98	2.3646667
01+02 (1)			Bkg:	3/1/95 5:54:51 PM	BKG	500	35	0.07	451	0.902
Ani Date: 3/1/95	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp; (Dpm/ 2.53E+00	(uCi/ 1.14E-04	(pCi/ 1.14E+02	± 2.9E+01	CAT I	2.2E-01	Lab Alq	
Ppt mg: 2.1	Units: L	, ml	Bet; Alq): 4.29E+00	Sa): 1.93E-04	Lig): 1.93E+02	± 2.9E+01		2.6E-01	Lig	
WIIC B0DX94	LIQUID	3/1/95 12:54:27 PM	QUAD21B	3/1/95 11:55:53 AM	B0DX94	30	16	0.45933333	78	1.708
03+04 (2)			Bkg:	3/1/95 5:54:51 PM	BKG	500	37	0.074	446	0.892
Ani Date: 3/1/95	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp; (Dpm/ 1.42E+00	(uCi/ 6.39E-05	(pCi/ 6.39E+01	± 2.5E+01	CAT I	3.9E-01	Lab Alq	
Ppt mg: 2.2	Units: L	, ml	Bet; Alq): 3.04E+00	Sa): 1.37E-04	Lig): 1.37E+02	± 2.5E+01		3.7E-01	Lig	

503018 Chem
(503019 Rad)

SDG W0436

9613451.0598

0071

Bechtel Hanford Incorporated

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: K. Lee / A. Rizzo		Company Contact: J. V. Borghese	Telephone No.: (509) 372-9584
Project Designation: 100-NR-2 Groundwater Sampling - Round 7		Sampling Location: 100 N	SAF No.: B95-030
Ice Chest No.: SML-502		Field Logbook No.: EFL-1058	Method of Shipment: Hand Delivered
Shipped To: Quanterra		Offsite Property No.: NA	Bill of Lading/Air Bill No.: NA
Possible Sample Hazards/Remarks:			

Sample No.	Matrix*	Date Sampled	Time Sampled	ICP Metals-TAL Unfiltered (A)	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Unfiltered (B)	Oil and Grease (C)	TPH (D)	Conductivity (E)	Turbidity (F)	pH (G)	Tritium (H)	Activity Scan (I)	Gross Alpha, Gross Beta, Sr-90, Gamma Spec (J)	Gross Alpha, Gross Beta, Sr-90, Gamma Spec (K)		ICP Metals-TAL Filtered (A)	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Filtered (B)
			Preservative	HNO3	Cool 4C	H2SO4	HCl	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	HNO3	HNO3		HNO3	Cool 4C
			Type of Container	G	P/G	G	Gs*	P/G	P/G	P	G	P	G	G		G	P/G
			No. of Container(s)	1	1	3	3	1	1	1	3	1	6	1		1	1
Special Handling and/or Storage: Maintain samples between 2C and 6C.			Volume	500mL	500mL	1L	1L	500mL	250mL	250mL	500mL	20mL	1L	500mL		500mL	500mL
SAMPLE ANALYSIS 502512								C	D	E	5025	1301					
				A	B	C,D,E,F,G,H,I,J,K,PB 2-28-95										A	B
BODX63	W	2-27-95	0932	X	X			X	X	X	X	X	X	X			
BODX64	W	2-27-95	0932													X	X

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
A. Rizzo	2-27-95 1315	K. Trapp / K. Trapp	2/27/95 1315
K. Trapp / K. Trapp	2/28/95 1041	A. Boyd Quanterra	2-28-95 1050

SPECIAL INSTRUCTIONS

Sample analysis for PO4, NO2, and NO3 by EPA 300.0; turbidity by EPA 180.1; and pH by SW-846 9040 are being requested for information only. The ERC Contractor acknowledges that the hold times will not be met.

The Activity Scan is for all samples listed on this chain of custody.

Gs* = Glass with septum top. No head space.

SDG W0436

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 | Title | Date/Time

FINAL SAMPLE DISPOSITION: Disposal Method | Disposed By | Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

0072

Bechtel Hanford Incorporated

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Date Turnaround: ☐ Priorty ☒ Normal

Collector: K. Lee / A Rizzo	Company Contact: J. V. Borghese	Telephone No.: (509) 372-9584
Project Designation: 100-NR-2 Groundwater Sampling - Round 7	Sampling Location: 100 N	SAF No.: B95-030
Ice Chest No.: KT 2/27/95 ~~GW05-122~~ Homeboy	Field Logbook No.: EFL-1058	Method of Shipment: Hand Delivered
Shipped To: Quanterra	Offsite Property No.: NA	Bill of Lading/Air Bill No.: NA

Possible Sample Hazards/Remarks:

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

SAMPLE ANALYSIS: 502512

Sample No.	Matrix*	Date Sampled	Time Sampled	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Preservative				HNO3	Cool 4C	H2SO4	HCl	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	HNO3	HNO3		HNO3	Cool 4C		
Type of Container				G	P/G	G	Gs*	P/G	P/G	P	G	P	G	G		G	P/G		
No. of Container(s)				1	1	3	3	1	1	1	3	1	6	1		1	1		
Volume				500mL	500mL	1L	1L	500mL	250mL	250mL	500mL	20mL	1L	500mL		500mL	500mL		
SAMPLE ANALYSIS				ICP Metals-TAL Unfiltered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Unfiltered	Oil and Grease	TPH	Conductivity	Turbidity	pH	Tritium	Activity Scan	Gross Alpha, Gross Beta, Sr-90, Gamma Spec	Gross Alpha, Gross Beta, Sr-90, Gamma Spec		ICP Metals-TAL Filtered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Filtered		
				A	B	~~CDE~~	~~FGH~~	C	D	E	5025	1302	J	K	~~LM~~	2-28-95		A	B
3 BODX61	W	2-27-95	1040	X	X			X	X	X	X	X	X	X					
4 BODX62	W	2-27-95	1040													X	X		

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: A. Rizzo	Date/Time: 2/27/95 1345	Received By: K. Trapp / K. Trapp	Date/Time: 2/27/95 1315
Relinquished By: K. Trapp / K. Trapp	Date/Time: 2/28/95 1041	Received By: A. Boyd Quatem	Date/Time: 2-28-95 1050
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS

Sample analysis for PO4, NO2, and NO3 by EPA 300.0; turbidity by EPA 180.1; and pH by SW-846 9040 are being requested for information only. The ERC Contractor acknowledges that the hold times will not be met.

The Activity Scan is for all samples listed on this chain of custody.

Gs* = Glass with septum top. No head space.

SDG W0436

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	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

0073

9613451.0601

AMPLE STATUS REPORT FOR N 4874. RAD SCREEN 199-N-50 TIME: 2/28/95 8: 3
DISPATCHED: 2/22/95 14:38 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 2/28/95 7:47

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	XR5561

END OF REPORT

PRESS ANY KEY TO CONTINUE

ERIAL NUMBER STATUS REPORT 2/28/95 8: 3

SERIAL NUMBER (PNNNN) ? N4875

AMPLE STATUS REPORT FOR N 4875. RAD SCREEN 199-N-51 TIME: 2/28/95 8: 3
DISPATCHED: 2/22/95 14:38 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 2/28/95 7:47

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	XR5561

END OF REPORT

BEST AVAILABLE COPY

9613451.0602

INTERNATIONAL TECHNOLOGY CORPORATION

Regional Office
2800 George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

(1 Per Shipping Container)

Date/Time Received 2/28/95 1050 Client Name BHI

Project/Client # B95-030 Batch or Case # _____

Cooler ID (if noted on the outside of cooler) HomeBoy

1. Condition of shipping container? OK
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: 18
8. Samples have: ____ tape ____ hazard labels
   ✓ custody seals ✓ appropriate sample labels
9. Samples are: ✓ in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☒ No ☐

Sample temperature 4°C

11. The following paperwork should be accounted for (N/A if not applicable): N/A
    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 R. Boyd R. Boyd Date/Time 2/28/95 1050

FORM NO. LS-042, Rev.0, 2/94

9613451.0603

INTERNATIONAL TECHNOLOGY CORPORATION

Regional Office
2800 George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

(1 Per Shipping Container)

Date/Time Received 2/28/95 1050 Client Name BHI

Project/Client # B95-030 Batch or Case # _____

Cooler ID (if noted on the outside of cooler) SML 502

1. Condition of shipping container? OK
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: 18
8. Samples have: ____ tape ____ hazard labels
   X custody seals X appropriate sample labels
9. Samples are: X in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☒ No ☐

Sample temperature 4°C

11. The following paperwork should be accounted for (N/A if not applicable): N/A
    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 R. Boyd R. Boyd Date/Time 2/28/95 1050

FORM NO. LS-042, Rev.0, 2/94

all Cat I (B) 2/28/95

Client Sample Screening Results

28-Feb-95

CLIENT	CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
WHC	B0DQW7	LIQUID	2/28/95 2:49:43 PM	QUAD23A	2/28/95	B0DQW7	30	10	0.26331373	82	1.8470852
				Bkg:	2/28/95 6:04:34 PM	BKG	499.86	35	0.07001961	443	0.8862481
Anl Date: 2/28/95	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp; (Dpm/ 7.62E-01	(uCi/ 3.43E-05	(pCi/ 3.43E+01	± 2.2E+01	CAT I	7.3E-01	Lab		
Ppt mg: 4.5	Units: L	, ml	Bet; Alq): 3.37E+00	Sa): 1.52E-04	L/g): 1.52E+02	± 2.6E+01		3.3E-01	Alq L/g		
WHC	B0DQW9	LIQUID	2/28/95 2:51:01 PM	QUAD24A	2/28/95 1:53:02 PM	B0DQW9	30	14	0.41666667	60	1.132
				Bkg:	2/28/95 6:04:34 PM	BKG	500	25	0.05	434	0.868
Anl Date: 2/28/95	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp; (Dpm/ 1.32E+00	(uCi/ 5.96E-05	(pCi/ 5.96E+01	± 2.5E+01	CAT I	4.2E-01	Lab		
Ppt mg: 3.7	Units: L	, ml	Bet; Alq): 1.98E+00	Sa): 8.91E-05	L/g): 8.91E+01	± 2.2E+01		5.6E-01	Alq L/g		
WHC	B0DQX1	LIQUID	2/28/95 2:51:54 PM	QUAD24B	2/28/95 1:53:02 PM	B0DQX1	30	16	0.44933333	72	1.412
				Bkg:	2/28/95 6:04:34 PM	BKG	500	42	0.084	494	0.988
Anl Date: 2/28/95	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp; (Dpm/ 1.41E+00	(uCi/ 6.34E-05	(pCi/ 6.34E+01	± 2.7E+01	CAT I	3.9E-01	Lab		
Ppt mg: 5.7	Units: L	, ml	Bet; Alq): 2.51E+00	Sa): 1.13E-04	L/g): 1.13E+02	± 2.5E+01		4.4E-01	Alq L/g		
WHC	B0DX61	LIQUID	2/28/95 2:52:34 PM	QUAD24C	2/28/95 1:53:02 PM	B0DX61	30	30	0.934	95	2.2266667
03+04 (2)				Bkg:	2/28/95 6:04:34 PM	BKG	500	33	0.066	470	0.94
Anl Date: 2/28/95	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp; (Dpm/ 2.76E+00	(uCi/ 1.25E-04	(pCi/ 1.25E+02	± 2.9E+01	CAT I	2.0E-01	Lab		
Ppt mg: 1.9	Units: L	, ml	Bet; Alq): 3.66E+00	Sa): 1.65E-04	L/g): 1.65E+02	± 2.7E+01		3.0E-01	Alq L/g		
WHC	B0DX63	LIQUID	2/28/95 2:53:19 PM	QUAD24D	2/28/95 1:53:02 PM	B0DX63	30	13	0.40533333	94	2.1333333
01+02 (1)				Bkg:	2/28/95 6:04:34 PM	BKG	500	14	0.028	500	1
Anl Date: 2/28/95	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp; (Dpm/ 1.13E+00	(uCi/ 5.10E-05	(pCi/ 5.10E+01	± 2.4E+01	CAT I	4.9E-01	Lab		
Ppt mg: 1.8	Units: L	, ml	Bet; Alq): 3.90E+00	Sa): 1.76E-04	L/g): 1.76E+02	± 2.8E+01		2.8E-01	Alq L/g		

502512 Chem.
(502513 Rad.)

00172

9413451.0604

9613451.0605

Quanterra

BATCH SUMMARY/CHAIN OF CUSTODY

ANALYSIS Gamma MATRIX WATER DUE DATE 4-21-95

WORK ORDER	SEQUENCE #	CLIENT	COMMENTS
M03019	-1B	BHI	QC BATCH REAGENT BLANK
M	-1X		QC BATCH MATRIX BLANK
M03019 QCA6107	-1M or 1S (circle)		QC BATCH MATRIX/REAGENT SPIKE on Aintact
M	-2M or 2S (circle)		QC BATCH MATRIX/REAGENT SPIKE
G0301901	-		Duplicate of Sample # 50301901
50301901	-2		2 SA
50310801	-		1 SA
50251301	-02		2 SA
50313101	-04		4 SA
50305101	-		1 SA
	-		
	-		
	-		
	-		
	-		
	-		
	-		

Batched and QC updated by [illegible] on 4-5-95 Rec'd in C.R. by [illegible] on 05 Apr 95

Rec'd in Prep Lab by [illegible] on 4-5-95 Data Reviewed and anal. Prep stored [illegible] on 4-14-95

Rec'd in Sep Lab by N/A on

Rec'd in Sep lab by N/A on Samples Disposed by on

Original batch sheet and complete calculation file to be filed with the FIRST listed work order number.

FORM NO.: RC-52, 1/95, Rev. 5

9613451 0606

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

1-Mar-1995
Page 1

CUSTOMER: BHI SAF

SAMPLE DELIVERY GROUP W0436

MATRIX : WATER B95-030

BATCH NUMBER 03-019

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
	M030191 B S M030191				
1)	50301901 G0301901-bumicatz		BHI	BODX67	
2)	50301902		BHI	BODX94	

ACTIONS (Initial & Date)

1) INITIATED JH 3/1/95

2) PREP LAB RECEIVED _____

3) SAMPLE REMAINDER STORED _____

4) SEPARATION LAB RECEIVED _____

5) COUNTING/MEASUREMENT LAB OD 05apr95

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

B95-030 9513451 0607

*** GAMMA ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

6-Mar-1995
Page 1

CUSTOMER: BHI

SAMPLE DELIVERY GROUP W0436

MATRIX : WATER

BATCH NUMBER 3-108

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	50310801		BHI	BODX48	

ACTIONS (Initial & Date)

1) INITIATED PB 3/6/95

2) PREP LAB RECEIVED _____

3) SAMPLE REMAINDER STORED _____

4) SEPARATION LAB RECEIVED _____

5) COUNTING/MEASUREMENT LAB AD 05Apr95

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

0080

B95-963 9513151.0608 *** GAMMA ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

28-Feb-1995
Page 1

CUSTOMER: BHI

SAMPLE DELIVERY GROUP W0436

MATRIX : WATER

BATCH NUMBER 2-513

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	50251301		BHI	BODX63	
2)	50251302		BHI	BODX61	

ACTIONS (Initial & Date)

1) INITIATED RB 3/1/95

2) PREP LAB RECEIVED _____

3) SAMPLE REMAINDER STORED _____

4) SEPARATION LAB RECEIVED _____

5) COUNTING/MEASUREMENT LAB OD 05apr95

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

Due 4-21-95

9613451.0609 *** GAMMA ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

7-Mar-1995
Page 1

SAF

CUSTOMER: BHI

SAMPLE DELIVERY GROUP W04316

MATRIX : WATER B95-030

BATCH NUMBER 03-131

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	50313101		BHI	BODX86	
2)	50313102		BHI	BODX54	
3)	50313103		BHI	BODX92	
4)	50313104		BHI	BODX75	

ACTIONS (Initial & Date)

1) INITIATED JH 3/7/95

2) PREP LAB RECEIVED _____

3) SAMPLE REMAINDER STORED _____

4) SEPARATION LAB RECEIVED _____

5) COUNTING/MEASUREMENT LAB OD apr 5, 1995

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

9613451 0610

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

2-Mar-1995
Page 1

CUSTOMER: BHI SAF

SAMPLE DELIVERY GROUP W0436

MATRIX : WATER B95-030

BATCH NUMBER 03-051

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	50305101		BHI	BODX73	

ACTIONS (Initial & Date)

1) INITIATED JH 3/3/95

2) PREP LAB RECEIVED _____

3) SAMPLE REMAINDER STORED _____

4) SEPARATION LAB RECEIVED _____

5) COUNTING/MEASUREMENT LAB 05apr95 [illegible]

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

9613451.0611

W0436

Quanterra

BATCH SUMMARY/CHAIN OF CUSTODY

ANALYSIS ALPHA MATRIX WATER DUE DATE 4/21/95

WORK ORDER	SEQUENCE #	CLIENT	COMMENTS
M03019	-1B	BHI	QC BATCH REAGENT BLANK
M	-1X		QC BATCH MATRIX BLANK
M03019	-1M or 1S (circle)		QC BATCH MATRIX/REAGENT SPIKE EQEG657/10.02 ± .0907 DPM
M	-2M or 2S (circle)		QC BATCH MATRIX/REAGENT SPIKE
G0301901	-		Duplicate of Sample # 50301901
50301901	-02		2SA
50310801	-		1SA
50313101	-03,05		4SA
50251301	-02		2SA
	-		
	-		
	-		
	-		
	-		
	-		
	-		
	-		

Batched and QC updated by [illegible] on 4.5.95 Rec'd in C.R. by [illegible] on 4/6/95

Rec'd in Prep Lab by [illegible] on 4.5.95 Data Reviewed and anal. Prep stored [illegible] on 4-14-95

Rec'd in Sep Lab by NA on

Rec'd in Sep lab by NA on Samples Disposed by on

Original batch sheet and complete calculation file to be filed with the FIRST listed work order number.

FORM NO.: RC-52, 1/95, Rev. 5

B95-030 9613451.0612 *** ALPHA ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

28-Feb-1995
Page 1

CUSTOMER: BHI

SAMPLE DELIVERY GROUP W0436

MATRIX : WATER

BATCH NUMBER 2-513

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	50251301		BHI	BODX63	
2)	50251302		BHI	BODX61	

ACTIONS (Initial & Date)

1) INITIATED RB 3/1/95

2) PREP LAB RECEIVED _____

3) SAMPLE REMAINDER STORED _____

4) SEPARATION LAB RECEIVED _____

5) COUNTING/MEASUREMENT LAB _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

*** ALPHA ***

9613451.0613

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

1-Mar-1995
Page 1

SAF
B95-030

CUSTOMER: BHI

SAMPLE DELIVERY GROUP W0436

MATRIX : WATER

BATCH NUMBER 03-019

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
	M030191 G S M030191				
1)	50301901		BHI	BODX67	
	G0301901-DUPLICATE				
2)	50301902		BHI	BODX94	

ACTIONS (Initial & Date)

1) INITIATED JH 3/1/95

2) PREP LAB RECEIVED _____

3) SAMPLE REMAINDER STORED _____

4) SEPARATION LAB RECEIVED _____

5) COUNTING/MEASUREMENT LAB _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

B95-0309613451.0614

*** ALPHA ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

6-Mar-1995
Page 1

CUSTOMER: BHI

SAMPLE DELIVERY GROUP 420436

MATRIX : WATER

BATCH NUMBER 3-108

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	50310801		BHI	BODX48	

ACTIONS (Initial & Date)

1) INITIATED PB 3/6/95

2) PREP LAB RECEIVED _____

3) SAMPLE REMAINDER STORED _____

4) SEPARATION LAB RECEIVED _____

5) COUNTING/MEASUREMENT LAB _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

Due 4-21-95

9613451.06K** ALPHA ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

7-Mar-1995
Page 1

CUSTOMER: BHI SAF

SAMPLE DELIVERY GROUP W0436

MATRIX : WATER B95-030

BATCH NUMBER 03-131

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	50313101		BHI	BODX86	
2)	50313102		BHI	BODX54	
3)	50313103		BHI	BODX92	
4)	50313105		BHI	BODX76	

ACTIONS (Initial & Date)

1) INITIATED JH 3/7/95

2) PREP LAB RECEIVED _____

3) SAMPLE REMAINDER STORED _____

4) SEPARATION LAB RECEIVED _____

5) COUNTING/MEASUREMENT LAB _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

9613451.0616

INTERNATIONAL TECHNOLOGY CORPORATION

DUE DATE 4-21-95

REANALYSIS / RECOUNT

CHAIN-OF-CUSTODY BATCH ~~ANALYSIS~~ RECORD

ANALYSIS Alpha

CUSTOMER BHI

MATRIX Water

NAME/DATE JJK / 4-14-95

SAMPLE DELIVERY GROUP W0436

BATCH NUMBER

ITAS ID	CUSTOMER ID	COMMENTS
1) 50310801		200 min
2) 50313102		|
3) 50313103		|
4)		
5)		
6)		
7)		
8)		
9)		
10)		

JJK 4-21-95

REANALYSIS

REFERENCED QC

ITAS ID - BLANK

ITAS ID - SPIKE

CLIENT CODE

ACTIONS (Initial & Date)

PREP LAB RECEIVED

SAMPLE REMAINDER RETURNED TO SCG ☐ (CHECK ONE)

NO SAMPLE REMAINING ☐

SEPARATION LAB

COUNTING/MEASUREMENT

DATA REVIEWED

ANALYTICAL PREP STORED

RECOUNT

ACTIONS (Initial & Date)

COUNTING/MEASUREMENT AS 4/17/95

DATA REVIEWED

ANALYTICAL PREP STORED

ADDITIONAL COMMENTS:

MDA>CL

Report these recount results

JJK 4-18-95

RC-048 12/92 REV 2

0089

9613451.0617

W0436

Quanterra

BATCH SUMMARY/CHAIN OF CUSTODY

ANALYSIS BETA MATRIX WATER DUE DATE 4-21-95

WORK ORDER	SEQUENCE #	CLIENT	COMMENTS
M 03019	-1B	BHI	QC BATCH REAGENT BLANK
M	-1X		QC BATCH MATRIX BLANK
M 03019 EQAH 2579	-1M or 1S (circle)		QC BATCH MATRIX/REAGENT SPIKE 10.071 ± .14211 DPM ⇒ 22.68243 ± .320068 pCi/L
M	-2M or 2S (circle)		QC BATCH MATRIX/REAGENT SPIKE
G 0301901	-		Duplicate of Sample # 50301901
50301901	- 02		2sa
50310501	-		1SA
50313101	- 03,05		4sa
50251301	- 02		2sa
	-		
	-		
	-		
	-		
	-		
	-		
	-		
	-		

Batched and QC updated by [illegible] on 4-5-95 Rec'd in C.R. by [illegible] on 4/6/95

Rec'd in Prep Lab by [illegible] on 4-5-95 Data Reviewed and anal. Prep stored [illegible] on 4-14-95

Rec'd in Sep Lab by NA on

Rec'd in Sep lab by NA on Samples Disposed by on

Original batch sheet and complete calculation file to be filed with the FIRST listed work order number.

FORM NO.: RC-52, 1/95, Rev. 5

0050

B95-030 9613451.0618

*** BETA ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

28-Feb-1995
Page 1

CUSTOMER: BHI

SAMPLE DELIVERY GROUP W0436

MATRIX : WATER

BATCH NUMBER 2-513

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	50251301		BHI	BODX63	
2)	50251302		BHI	BODX61	

ACTIONS (Initial & Date)

1) INITIATED DL 3/1/95

2) PREP LAB RECEIVED _____

3) SAMPLE REMAINDER STORED _____

4) SEPARATION LAB RECEIVED _____

5) COUNTING/MEASUREMENT LAB _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

9613451 0619

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

1-Mar-1995
Page 1

CUSTOMER: BHI SAF

SAMPLE DELIVERY GROUP W0436

MATRIX : WATER B95-030

BATCH NUMBER 03-019

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
	M030191 B M030191 S				
1)	50301901 G0301901-DUPLICATE		BHI	BODX67	
2)	50301902		BHI	BODX94	

ACTIONS (Initial & Date)

1) INITIATED JH 3/1/95

2) PREP LAB RECEIVED _____

3) SAMPLE REMAINDER STORED _____

4) SEPARATION LAB RECEIVED _____

5) COUNTING/MEASUREMENT LAB _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

B95-050 9613451.0620

CHAIN OF CUSTODY BATCH ANALYSIS RECORD

6-Mar-1995
Page 1

CUSTOMER: BHI

SAMPLE DELIVERY GROUP W0436

MATRIX : WATER

BATCH NUMBER 3-108

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	50310801		BHI	BODX48	

ACTIONS (Initial & Date)

1) INITIATED RB 3/6/95

2) PREP LAB RECEIVED _____

3) SAMPLE REMAINDER STORED _____

4) SEPARATION LAB RECEIVED _____

5) COUNTING/MEASUREMENT LAB _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

Due 4-21-95

9613451.0621 *** BETA ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

7-Mar-1995
Page 1

CUSTOMER: BHI SAF

SAMPLE DELIVERY GROUP W0436

MATRIX : WATER B95-030

BATCH NUMBER 03-131

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	50313101		BHI	BODX86	
2)	50313102		BHI	BODX54	
3)	50313103		BHI	BODX92	
4)	50313105		BHI	BODX76	

ACTIONS (Initial & Date)

1) INITIATED JH 3/7/95

2) PREP LAB RECEIVED _____

3) SAMPLE REMAINDER STORED _____

4) SEPARATION LAB RECEIVED _____

5) COUNTING/MEASUREMENT LAB _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

9613451.0622

INTERNATIONAL TECHNOLOGY CORPORATION

DUE DATE 4-21-95

REANALYSIS / RECOUNT

CHAIN-OF-CUSTODY BATCH ~~ANALYSIS~~ RECORD

ANALYSIS Beta

CUSTOMER BHI

MATRIX Water

NAME/DATE MK / 4-17-95

SAMPLE DELIVERY GROUP W0436

BATCH NUMBER

ITAS ID	CUSTOMER ID	COMMENTS
1) 50313105		100min
2)		
3)		
4)		
5)		
6)		
7)		
8)		
9)		
10)		

REANALYSIS

REFERENCED QC

ITAS ID - BLANK

ITAS ID - SPIKE

CLIENT CODE

ACTIONS (Initial & Date)

PREP LAB RECEIVED

SAMPLE REMAINDER RETURNED TO SCG ☐ (CHECK ONE)

NO SAMPLE REMAINING ☐

SEPARATION LAB

COUNTING/MEASUREMENT

DATA REVIEWED

ANALYTICAL PREP STORED

RECOUNT

ACTIONS (Initial & Date)

COUNTING/MEASUREMENT AS 4/17/95

DATA REVIEWED MK 4-18-95

ANALYTICAL PREP STORED

ADDITIONAL COMMENTS:

Improve MDA

Report this recount result,

MK 4-18-95

RC-048 12/92 REV 2

0095

9613451.0623

Quanterra

BATCH SUMMARY/CHAIN OF CUSTODY 4/11/95

ANALYSIS Tot-SR MATRIX water DUE DATE

WORK ORDER	SEQUENCE #	CLIENT	COMMENTS
M 02513	-1B	BHI	QC BATCH REAGENT BLANK
M	-1X		QC BATCH MATRIX BLANK
M 02513	-1M or 1S (circle)	EQL 1039	QC BATCH MATRIX/REAGENT SPIKE 30.085 ± .34553 DPM
M	-2M or 2S (circle)		QC BATCH MATRIX/REAGENT SPIKE
G 03131104	-		Duplicate of Sample # 50313104
50251301	- 02		
50301901	- 02		
50305101	- 01		
50310801	- 01		
50313101	- 04		
	-		
	-		
	-		
	-		
	-		
	-		
	-		

Batched and QC updated by MM on 4/07/95 Rec'd in C.R. by TW on 4/9/95

Rec'd in Prep Lab by MM on 4/03/95 Data Reviewed and anal. Prep stored MK on 4-11-95

Rec'd in Sep Lab by MM on 4/03/95

Rec'd in Sep lab by NA on NA Samples Disposed by _____ on _____

Original batch sheet and complete calculation file to be filed with the FIRST listed work order number.

FORM NO.: RC-52, 1/95, Rev. 5

B95-030 9615451.0624 *** TOTAL-SR ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

28-Feb-1995
Page 1

CUSTOMER: BHI

SAMPLE DELIVERY GROUP W0436

MATRIX : WATER

BATCH NUMBER 2-513

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	50251301		BHI	BODX63	
2)	50251302		BHI	BODX61	

ACTIONS (Initial & Date)

1) INITIATED RB 3/1/95

2) PREP LAB RECEIVED ~~3/2 mm~~ 4/03/95 mm

3) SAMPLE REMAINDER STORED NA

4) SEPARATION LAB RECEIVED 4/03/95 mm

5) COUNTING/MEASUREMENT LAB

6) DATA REVIEWED AND ANALYTICAL PREP STORED

961345L0635

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

1-Mar-1995
Page 1

CUSTOMER: BHI SAF

SAMPLE DELIVERY GROUP W04336

MATRIX : WATER B95-030

BATCH NUMBER 03-019

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	50301901		BHI	BODX67	
2)	50301902		BHI	BODX94	

ACTIONS (Initial & Date)

1) INITIATED JH 3/1/95

2) PREP LAB RECEIVED _____

3) SAMPLE REMAINDER STORED _____

4) SEPARATION LAB RECEIVED _____

5) COUNTING/MEASUREMENT LAB RE 4/9/95

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

961345L0626

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

2-Mar-1995
Page 1

CUSTOMER: BHI SAF

SAMPLE DELIVERY GROUP W0436

MATRIX : WATER B95-030

BATCH NUMBER 03-051

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	50305101		BHI	BODX73	

ACTIONS (Initial & Date)

1) INITIATED JK 3/3/95

2) PREP LAB RECEIVED _____

3) SAMPLE REMAINDER STORED _____

4) SEPARATION LAB RECEIVED _____

5) COUNTING/MEASUREMENT LAB R 4/9/95

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

B95-039 9613461.0627

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

6-Mar-1995
Page 1

CUSTOMER: BHI

SAMPLE DELIVERY GROUP W0436

MATRIX : WATER

BATCH NUMBER 3-108

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	50310801		BHI	BODX48	

ACTIONS (Initial & Date)

1) INITIATED PB 3/6/95

2) PREP LAB RECEIVED _____

3) SAMPLE REMAINDER STORED _____

4) SEPARATION LAB RECEIVED _____

5) COUNTING/MEASUREMENT LAB TC 4/9/95

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

0100

Due 4-21-95

9613451.0628 *** TOTAL-SR ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

7-Mar-1995
Page 1

CUSTOMER: BHI SAF

SAMPLE DELIVERY GROUP W0436

MATRIX : WATER B95-030

BATCH NUMBER 03-131

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	50313101		BHI	BODX86	
2)	50313102		BHI	BODX54	
3)	50313103		BHI	BODX92	
4)	50313104		BHI	BODX75	

ACTIONS (Initial & Date)

1) INITIATED JH 3/7/95

2) PREP LAB RECEIVED _____

3) SAMPLE REMAINDER STORED _____

4) SEPARATION LAB RECEIVED _____

5) COUNTING/MEASUREMENT LAB R 4/9/95

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

9613451.0629

Quanterra

BATCH SUMMARY/CHAIN OF CUSTODY

ANALYSIS Tritium MATRIX water DUE DATE 4/21/95

WORK ORDER	SEQUENCE #	CLIENT	COMMENTS
M NA	-1B	BHI	QC BATCH REAGENT BLANK
M 030511 X	-1X		QC BATCH MATRIX BLANK
M 03051	-1M or 1S (circle)		QC BATCH MATRIX/REAGENT SPIKE 30.000 ± 0.2821 # 3247
M 03051	-2M or 2S (circle) 1S		QC BATCH MATRIX/REAGENT SPIKE 30.000 ± 0.2821 # 3247
G 0310801	-		Duplicate of Sample # 50310801
G 0251501	-		" " " #
m	- 3N		instrument Blank
50305101	-	WO436	
50251301	- 02		
50301901	- 02		
50310801	-		
50313101	- 04		
m 02515	- 1X	WO437	QC Batch matrix Blank
m 02515	- 1m		QC Batch matrix spike 30.000 ± 0.2821 # 3247
m 02515	- 1S		QC Batch reagent spike 30.000 ± 0.2821 # 3247
50251501	- 03		
	- BAB 3/31/95		

Batched and QC updated by BAB on 3/30/95 Rec'd in C.R. by A on 3/31/95

Rec'd in Prep Lab by WA on NA Data Reviewed and anal. Prep stored GR on 4/4/95.

Rec'd in Sep Lab by ↓ on ↓

Rec'd in Sep lab by ↓ on ↓ Samples Disposed by _____ on _____

Original batch sheet and complete calculation file to be filed with the FIRST listed work order number.

FORM NO.: RC-52, 1/95, Rev. 5

9613451.0630

Due 4/21/95

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

2-Mar-1995
Page 1

SAF

CUSTOMER: BHI

SAMPLE DELIVERY GROUP W0436

MATRIX : WATER B95-030

BATCH NUMBER 03-051

ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
m030511N m030512N m030513N				
1) 50305101 m030511 X		BHI	BODX73	
m030511 m m030511 S				30.000±0.2821 #3247 dpm/5 mL

ACTIONS (Initial & Date)

1) INITIATED JH 3/3/95

2) PREP LAB RECEIVED 3/30/95 BAB

3) SAMPLE REMAINDER STORED NA

4) SEPARATION LAB RECEIVED ↓

5) COUNTING/MEASUREMENT LAB

6) DATA REVIEWED AND ANALYTICAL PREP STORED

B95-030 *** TRITIUM ***
9613451.0631

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

28-Feb-1995
Page 1

CUSTOMER: BHI

SAMPLE DELIVERY GROUP W0436

MATRIX : WATER

BATCH NUMBER 2-513

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	50251301		BHI	BODX63	
2)	50251302		BHI	BODX61	

ACTIONS (Initial & Date)

1) INITIATED RB 2/1/95 3 RB 3-1-95

2) PREP LAB RECEIVED BAB 3/30/95

3) SAMPLE REMAINDER STORED NA

4) SEPARATION LAB RECEIVED ↓

5) COUNTING/MEASUREMENT LAB

6) DATA REVIEWED AND ANALYTICAL PREP STORED

9613451 0632

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

1-Mar-1995
Page 1

CUSTOMER: BHI SAF

SAMPLE DELIVERY GROUP W0436

MATRIX : WATER B95-030

BATCH NUMBER 03-019

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	50301901		BHI	BODX67	
2)	50301902		BHI	BODX94	

ACTIONS (Initial & Date)

1) INITIATED JH 3/1/95

2) PREP LAB RECEIVED BAB 3/30/95

3) SAMPLE REMAINDER STORED NA

4) SEPARATION LAB RECEIVED ↓

5) COUNTING/MEASUREMENT LAB _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

B95-034 9613451-0633

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

6-Mar-1995
Page 1

CUSTOMER: BHI

SAMPLE DELIVERY GROUP W0436

MATRIX : WATER

BATCH NUMBER 3-108

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	50310801		BHI	BODX48	
	G0310801	Dup			

ACTIONS (Initial & Date)

1) INITIATED PB 3/6/95

2) PREP LAB RECEIVED BAB 3/30/95

3) SAMPLE REMAINDER STORED NA

4) SEPARATION LAB RECEIVED ↓

5) COUNTING/MEASUREMENT LAB

6) DATA REVIEWED AND ANALYTICAL PREP STORED

due 1-21-95

9613451.0834 *** TRITIUM ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

7-Mar-1995
Page 1

SAF

CUSTOMER: BHI

SAMPLE DELIVERY GROUP W0436

MATRIX : WATER B95-030

BATCH NUMBER 03-131

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	50313101		BHI	BODX86	
2)	50313102		BHI	BODX54	
3)	50313103		BHI	BODX92	
4)	50313104		BHI	BODX75	

ACTIONS (Initial & Date)

1) INITIATED JH 3/7/95

2) PREP LAB RECEIVED RAB 3/30/95

3) SAMPLE REMAINDER STORED NA

4) SEPARATION LAB RECEIVED ✓

5) COUNTING/MEASUREMENT LAB

6) DATA REVIEWED AND ANALYTICAL PREP STORED

9613451.0635

Los Alamos Technical Associates, Inc.

8633 Gage Blvd. / Kennewick, WA 99336 / Telephone (509) 783-4369 / FAX (509) 783-9661

MAY 1995
RECEIVED
Validation
Log In

May 30, 1995
LATA95-104

COPY

Ms. Joan Kessner
CH2M Hill
345 Hills
Richland, WA 99352

Subject: VB403.47, SDG W0436-QES

Dear Ms. Kessner:

Attached is the data validation report for analytical results for 100-NR-2 Round 7 (SDG W0436-QES). The package was received by Los Alamos Technical Associates on May 8, 1995.

If you have any questions, please let me know.

Sincerely,

Janet M. Jones
Deputy Project Manager

Attachment

cc: Jeanette Duncan, CH2M Hill
VB403.47
JMJ/lb

ln

9613451.0636

DATA VALIDATION REPORT
for
100-NR-2 Round 7
Metals Analysis
SDG W0436-QES
LATA VB403.47

Bechtel Hanford Inc.
Richland, Washington

May 30, 1995

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100-NR-2 Round 7
Data Validation Narrative

INTRODUCTION

All samples in Sample Delivery Group (SDG) W0436-QES (VB403.47) were validated at level C as defined in the Data Validation Procedures for Chemical Analysis (WHC-SD-EN-SPP-002).

The analyses were performed by Quanterra Environmental Services.

ANALYSES REQUESTED

LATA ID #: VB403.47 SDG: W0436-QES

Sample Information							Analyses Requested	
SAMPLE NO.	DATE COLLECTED	MATRIX	SAF	SAMPLING LOCATION	FIELD QC INFO	TEMP °C	1	2
B0DX48	3-Mar-95	WATER	B95-030	199-N-21	SPLIT OF B0DX98	4		X
B0DX49	3-Mar-95	WATER	B95-030	199-N-21	SPLIT OF B0DX99	4	X	
B0DX54	6-Mar-95	WATER	B95-030	199-N-54		4		X
B0DX55	6-Mar-95	WATER	B95-030	199-N-54		4	X	
B0DX59	1-Mar-95	WATER	B95-030	199-N-32		4		X
B0DX61	27-Feb-95	WATER	B95-030	199-N-50		4		X
B0DX62	27-Feb-95	WATER	B95-030	199-N-50		4	X	
B0DX63	27-Feb-95	WATER	B95-030	199-N-51		4		X
B0DX64	27-Feb-95	WATER	B95-030	199-N-51		4	X	
B0DX67	28-Feb-95	WATER	B95-030	199-N-70		4		X
B0DX68	28-Feb-95	WATER	B95-030	199-N-70		4	X	
B0DX73	1-Mar-95	WATER	B95-030	199-N-71		4		X
B0DX75	3-Mar-95	WATER	B95-030	199-N-74		4		X
B0DX76	3-Mar-95	WATER	B95-030	199-N-80		4		X
B0DX86	6-Mar-95	WATER	B95-030	199-N-54	FIELD BLK 1	4		X
B0DX87	6-Mar-95	WATER	B95-030	199-N-54	FIELD BLK 1	4	X	
B0DX92	6-Mar-95	WATER	B95-030	199-N-54	DUPE OF B0DX54	4		X
B0DX93	6-Mar-95	WATER	B95-030	199-N-54	DUPE OF B0DX55	4	X	
B0DX94	28-Feb-95	WATER	B95-030	199-N-70	DUPE OF B0DX67	4		X
B0DX95	28-Feb-95	WATER	B95-030	199-N-70	DUPE OF B0DX68	4	X	

Method References:

	Analysis	Method
1.	ICP Metals (TAL) filtered	6010
2.	ICP Metals (TAL) unfiltered	6010

DATA QUALITY OBJECTIVES

Precision:	Goals for precision were met with the exception of those items discussed in the "**Qualification Summary Table**".
Accuracy:	Goals for accuracy were met with the exception of those items discussed in the "**Qualification Summary Table**".
Sample Result Verification:	Not applicable since the data package contains no raw data.
Detection Limits:	Detection limit goals were met for all sample results as specified in the *Quality Assurance Project Plan for Groundwater Monitoring Activities*, WHC-SD-EN-QAPP-001, Rev. 2.
Completeness:	The data package was 100% complete for all requested analyses.

MAJOR DEFICIENCIES

No major deficiencies were identified during data validation which required qualification of data as unusable.

MINOR DEFICIENCIES

Minor deficiencies were identified during data validation which required qualification of data as estimated. See the **"Qualification Summary Table"** for details.

REFERENCES

EPA July 1992, *Test Methods for Evaluating Solid Waste (SW-846),* Third Edition; U.S. Environmental Protection Agency, Washington, D.C.

WHC 1993, *Data Validation Procedures for Chemical Analyses*, WHC-SD-EN-SPP-002, Rev. 2, Westinghouse Hanford Company, Richland, Washington.

WHC 1993, *Quality Assurance Project Plan for Groundwater Monitoring Activities*, WHC-SD-EN-QAPP-001, Rev. 2., Westinghouse Hanford Company, Richland, Washington.

GLOSSARY OF VALIDATION APPLIED QUALIFIERS (CHEMISTRY)

Qualifiers which may be applied by data validators in compliance with the procedures herein are as follows.

U- Indicates the compound or analyte was analyzed for and not detected in the sample. The value reported is the sample quantitation limit corrected for sample dilution and moisture content by the laboratory.

UJ- Indicates the compound or analyte was analyzed for and not detected in the sample. Due to a QC deficiency identified during data validation, the associated quantitation limit is an estimate.

J- Indicates the compound or analyte was analyzed for and detected. The associated concentration is an estimate, but the data are usable for decision making purposes.

BJ- Applied to inorganic analyses only. Indicates the analyte concentration was greater than the IDL but less than the CRDL and is considered an estimated value.

R- Indicates the compound or analyte was analyzed for, detected, and due to an identified QC deficiency the data are unusable.

UR- Indicates the compound or analyte was analyzed for and not detected in the sample. Additionally, the data are unusable due to an identified QC deficiency.

GLOSSARY OF LABORATORY APPLIED QUALIFIERS

Qualifiers which may be applied by the laboratory in compliance with applicable requirements are as follows.

Commonly used laboratory metals (inorganic) qualifiers:

U- Indicates the analyte was analyzed for but not detected in the sample.

B- Indicates the analyte concentration is less than the CRDL but greater than the IDL.

E- Indicates the value reported is estimated due to the presence of interference.

M- Indicates duplicate injection precision criteria were not met during graphite furnace (GFAA) analysis.

N- Indicates spiked sample recovery was not within the control limits.

S- Indicates the reported value was determined by the Method of Standard Additions (MSA).

W- Indicates post-digestion spike for GFAA analysis is outside control limits and the sample absorbance is less than 50% of the spike absorbance.

*- Indicates duplicate analysis was not within control limits.

+- Indicates the correlation coefficient (r) for the MSA was less than 0.995.

9613451.0642

Qualification Summary Table

Qualification Summary Table
Inorganics (Metals)

ANALYTE	TYPE	QUALIFIER	SAMPLES AFFECTED	DQO	REASON
Calcium	MINOR	J/BJ	B0DX48 B0DX49 B0DX54 B0DX55 B0DX59 B0DX61 B0DX62 B0DX63 B0DX64 B0DX67 B0DX68 B0DX73 B0DX75 B0DX76 B0DX86 B0DX87 B0DX92 B0DX93 B0DX94 B0DX95	ACCURACY	No matrix spike performed.
Magnesium	MINOR	J/UJ	B0DX48 B0DX49 B0DX54 B0DX55 B0DX59 B0DX61 B0DX62 B0DX63 B0DX64 B0DX67 B0DX68 B0DX73 B0DX75 B0DX76 B0DX86 B0DX87 B0DX92 B0DX93 B0DX94 B0DX95	ACCURACY	No matrix spike performed.
Potassium	MINOR	J/BJ/UJ	B0DX48 B0DX49 B0DX54 B0DX55 B0DX59 B0DX61 B0DX62 B0DX63 B0DX64 B0DX67 B0DX68 B0DX73 B0DX75 B0DX76 B0DX86 B0DX87 B0DX92 B0DX93 B0DX94 B0DX95	ACCURACY	No matrix spike performed.
Sodium	MINOR	J	B0DX48 B0DX49 B0DX54 B0DX55 B0DX59 B0DX61 B0DX62 B0DX63 B0DX64 B0DX67 B0DX68 B0DX73 B0DX75 B0DX76 B0DX86 B0DX87 B0DX92 B0DX93 B0DX94 B0DX95	ACCURACY	No matrix spike performed.
Aluminum	MINOR	U	B0DX48 B0DX49 B0DX54 B0DX55 B0DX59 B0DX62 B0DX68 B0DX73 B0DX75 B0DX76 B0DX87 B0DX93	BLANKS	Preparation blank value is positive and outside acceptance criteria.
Barium	MINOR	U	B0DX86	BLANKS	Preparation blank value is positive and outside acceptance criteria.

Qualification Summary Table

ANALYTE	TYPE	QUALIFIER	SAMPLES AFFECTED	DQO	REASON
Beryllium	MINOR	U	B0DX48 B0DX49 B0DX54 B0DX55 B0DX59 B0DX61 B0DX62 B0DX63 B0DX64 B0DX67 B0DX68 B0DX73 B0DX75 B0DX76 B0DX86 B0DX87 B0DX92 B0DX93 B0DX94 B0DX95	BLANKS	Calibration blank value is positive and outside acceptance criteria.
Iron	MINOR	U	B0DX48 B0DX49 B0DX54 B0DX55 B0DX61 B0DX62 B0DX63 B0DX64 B0DX67 B0DX68 B0DX76 B0DX86 B0DX87 B0DX92 B0DX93 B0DX94 B0DX95	BLANKS	Preparation blank value is positive and outside acceptance criteria.
Magnesium	MINOR	U	B0DX86 B0DX87	BLANKS	Preparation blank value is positive and outside acceptance criteria.
Manganese	MINOR	U	B0DX48 B0DX49 B0DX54 B0DX55 B0DX61 B0DX62 B0DX63 B0DX64 B0DX67 B0DX68 B0DX76 B0DX86 B0DX87 B0DX92 B0DX93 B0DX94 B0DX95	BLANKS	Preparation blank value is positive and outside acceptance criteria.
Vanadium	MINOR	U	B0DX48 B0DX49 B0DX54 B0DX55 B0DX59 B0DX61 B0DX62 B0DX63 B0DX64 B0DX67 B0DX68 B0DX73 B0DX75 B0DX76 B0DX86 B0DX87 B0DX92 B0DX93 B0DX94 B0DX95	BLANKS	Preparation blank value is positive and outside acceptance criteria.
Calcium	MINOR	J/BJ	B0DX48 B0DX49 B0DX54 B0DX55 B0DX59 B0DX61 B0DX62 B0DX63 B0DX64 B0DX67 B0DX68 B0DX73 B0DX75 B0DX76 B0DX86 B0DX87 B0DX92 B0DX93 B0DX94 B0DX95	PRECISION	No duplicate or MS/MSD performed.

Qualification Summary Table

ANALYTE	TYPE	QUALIFIER	SAMPLES AFFECTED	DQO	REASON
Magnesium	MINOR	J/BJ	B0DX48 B0DX49 B0DX54 B0DX55 B0DX59 B0DX61 B0DX62 B0DX63 B0DX64 B0DX67 B0DX68 B0DX73 B0DX75 B0DX76 B0DX86 B0DX87 B0DX92 B0DX93 B0DX94 B0DX95	PRECISION	No duplicate or MS/MSD performed.
Potassium	MINOR	J/BJ	B0DX48 B0DX49 B0DX54 B0DX55 B0DX59 B0DX61 B0DX62 B0DX63 B0DX64 B0DX67 B0DX68 B0DX73 B0DX75 B0DX76 B0DX92 B0DX93 B0DX94 B0DX95	PRECISION	No duplicate or MS/MSD performed.
Sodium	MINOR	J	B0DX48 B0DX49 B0DX54 B0DX55 B0DX59 B0DX61 B0DX62 B0DX63 B0DX64 B0DX67 B0DX68 B0DX73 B0DX75 B0DX76 B0DX86 B0DX87 B0DX92 B0DX93 B0DX94 B0DX95	PRECISION	No duplicate or MS/MSD performed.

ANALYTE	TYPE	QUALIFIER	SAMPLES AFFECTED	DQO
Magnesium	MINOR	U	B0DX86 B0DX87	BLANKS
Magnesium	MINOR	BJ	B0DX86 B0DX87	ACCURACY
Magnesium	MINOR	BJ	B0DX86 B0DX87	PRECISION
FINAL QUALIFIER		UJ	B0DX86 B0DX87	

Qualification Summary Table

Inorganics (Metals) Field QC

ANALYTE	TYPE	QUALIFIER	FIELD QC SAMPLES	DQO	ASSESSMENT
ALL	FIELD QC	NONE	B0DX92/B0DX54	PRECISION	Field duplicate precision is acceptable.
Zinc	FIELD QC	NONE	B0DX93/B0DX55	PRECISION	Field duplicate precision is unacceptable.
ALL	FIELD QC	NONE	B0DX94/B0DX67	PRECISION	Field duplicate precision is acceptable.
ALL	FIELD QC	NONE	B0DX95/B0DX68	PRECISION	Field duplicate precision is acceptable.
Barium Calcium Copper Sodium Zinc	FIELD QC	NONE	B0DX86	BLANKS	Blank contamination noted.
Barium Calcium Chromium Copper Sodium Zinc	FIELD QC	NONE	B0DX87	BLANKS	Blank contamination noted.

Comments:

1. Data qualification is not required based on field duplicate precision, however field duplicate precision results are noted here to alert the data user to uncertainties in the data set during decision making processes.
2. Data qualification is not required based on field blanks, however field blank results are noted here to alert the data user to uncertainties in the data set during decision making processes.
3. The field split samples are evaluated in SDG # LK3999-LAS (VB403.46).

9613451.0647

Data Summary Table

9613451.0648 **METALS**
DATA SUMMARY TABLE

LATA ID#: VB403.47		HEIS #:	B0DX48		B0DX49		B0DX54		B0DX55		B0DX59	
		Date:	3-Mar-95		3-Mar-95		6-Mar-95		6-Mar-95		1-Mar-95	
		Matrix:	WATER		WATER		WATER		WATER		WATER	
Constituent	CAS #	Units	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q
Aluminum	7429-90-5	µg/L	44.7	U	28.5	U	24.6	U	35.7	U	54.9	U
Antimony	7440-36-0	µg/L	32.8	U	32.8	U	34.2	B	32.8	U	32.8	U
Barium	7440-39-3	µg/L	36.4	B	32.7	B	72.2	B	74.7	B	33.4	B
Beryllium	7440-41-7	µg/L	0.95	U	0.55	U	0.96	U	0.96	U	1.1	U
Cadmium	7440-43-9	µg/L	3.8	U	3.8	U	3.8	U	3.8	U	3.8	U
Calcium	7440-70-2	µg/L	86600	J	84600	J	130000	J	132000	J	38000	J
Chromium	7440-47-3	µg/L	2.9	U	3.5	B	5.1	B	4.9	B	3.8	B
Cobalt	7440-48-4	µg/L	4.1	U	4.1	U	4.1	U	4.1	U	4.1	U
Copper	7440-50-8	µg/L	30.2		19.5	B	25.9		33.2		31.6	
Iron	7439-89-6	µg/L	256	U	304	U	100	U	145	U	836	
Magnesium	7439-95-4	µg/L	17800	J	17500	J	21300	J	21700	J	11000	J
Manganese	7439-96-5	µg/L	12.5	U	7.0	U	7.1	U	8.1	U	20.8	
Nickel	7440-02-0	µg/L	15.2	U	15.2	U	15.2	U	15.2	U	15.2	U
Potassium	7440-09-7	µg/L	7250	J	7810	J	4700	BJ	6040	J	4220	BJ
Silver	7440-22-4	µg/L	3.8	U	3.8	U	3.8	U	3.8	U	3.8	U
Sodium	7440-23-5	µg/L	147000	J	144000	J	49300	J	49900	J	4590	J
Vanadium	7440-62-2	µg/L	24.2	U	21.8	U	22.7	U	26.3	U	26.0	U
Zinc	7440-66-6	µg/L	33.8		37.7		37.5		13.4	B	20.1	

Shaded areas indicate changes by the validator.

METALS
DATA SUMMARY TABLE

LATA ID#: VB403.47		HEIS #:	B0DX61		B0DX62		B0DX63		B0DX64		B0DX67	
		Date:	27-Feb-95		27-Feb-95		27-Feb-95		27-Feb-95		28-Feb-95	
		Matrix:	WATER		WATER		WATER		WATER		WATER	
Constituent	CAS #	Units	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q
Aluminum	7429-90-5	µg/L	23.5	U	23.6	U	23.5	U	23.5	U	23.5	U
Antimony	7440-36-0	µg/L	32.8	U	32.8	U	32.8	U	32.8	U	32.8	U
Barium	7440-39-3	µg/L	38.3	B	31.2	B	50.2	B	49.0	B	41.2	B
Beryllium	7440-41-7	µg/L	0.88	U	0.72	U	1.8	U	0.87	U	1.1	U
Cadmium	7440-43-9	µg/L	3.8	U	3.8	U	3.8	U	3.8	U	3.8	U
Calcium	7440-70-2	µg/L	38700	J	30200	J	31200	J	31600	J	37100	J
Chromium	7440-47-3	µg/L	21.8		3.4	B	11.8	B	15.0	B	15.2	B
Cobalt	7440-48-4	µg/L	4.1	U	4.1	U	4.1	U	4.1	U	4.1	U
Copper	7440-50-8	µg/L	23.7	B	20.6	B	20.2	B	22.5	B	31.0	
Iron	7439-89-6	µg/L	127	U	120	U	99.5	U	74.1	U	158	U
Magnesium	7439-95-4	µg/L	10900	J	8810	J	9370	J	9470	J	10500	J
Manganese	7439-96-5	µg/L	5.8	U	4.5	U	5.2	U	3.8	U	5.4	U
Nickel	7440-02-0	µg/L	15.2	U	15.2	U	15.2	U	15.2	U	15.2	U
Potassium	7440-09-7	µg/L	3850	BJ	3370	BJ	3950	BJ	3750	BJ	2950	BJ
Silver	7440-22-4	µg/L	3.8	U	3.8	U	3.8	U	3.8	U	3.8	U
Sodium	7440-23-5	µg/L	7240	J	7520	J	9230	J	9310	J	7030	J
Vanadium	7440-62-2	µg/L	29.2	U	33.9	U	37.9	U	37.2	U	29.5	U
Zinc	7440-66-6	µg/L	57.2		74.0		122		37.5		46.5	

Shaded areas indicate changes by the validator.

9613451.0650 **METALS**
DATA SUMMARY TABLE

LATA ID#: VB403.47		HEIS #:	B0DX68		B0DX73		B0DX75		B0DX76		B0DX86	
		Date:	28-Feb-95		1-Mar-95		3-Mar-95		3-Mar-95		6-Mar-95	
		Matrix:	WATER		WATER		WATER		WATER		WATER	
Constituent	CAS #	Units	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q
Aluminum	7429-90-5	µg/L	32.1	U	58.9	U	40.4	U	53.0	U	23.5	U
Antimony	7440-36-0	µg/L	32.8	U	32.8	U	32.8	U	32.8	U	32.8	U
Barium	7440-39-3	µg/L	39.9	B	29.3	B	36.0	B	31.2	B	5.2	U
Beryllium	7440-41-7	µg/L	0.64	U	0.71	U	0.64	U	0.96	U	0.64	U
Cadmium	7440-43-9	µg/L	3.8	U	3.8	U	3.8	U	3.8	U	3.8	U
Calcium	7440-70-2	µg/L	36600	J	19600	J	46200	J	32900	J	2230	BJ
Chromium	7440-47-3	µg/L	8.0	B	173		140		234		2.9	U
Cobalt	7440-48-4	µg/L	4.1	U	5.7	B	4.1	U	4.1	U	4.1	U
Copper	7440-50-8	µg/L	22.7	B	29.6		27.3		25.7		22.2	B
Iron	7439-89-6	µg/L	65.4	U	866		590		322	U	74.5	U
Magnesium	7439-95-4	µg/L	10300	J	5560	J	14400	J	15400	J	669	UJ
Manganese	7439-96-5	µg/L	4.4	U	22.5		16.8		12.3	U	3.9	U
Nickel	7440-02-0	µg/L	15.2	U	85.5		60.6		30.5	B	15.2	U
Potassium	7440-09-7	µg/L	3820	BJ	4620	BJ	5430	J	3980	BJ	2670	UJ
Silver	7440-22-4	µg/L	3.8	U	3.8	U	3.8	U	3.8	U	3.8	U
Sodium	7440-23-5	µg/L	6940	J	37000	J	15500	J	23000	J	2010	J
Vanadium	7440-62-2	µg/L	27.8	U	39.6	U	33.2	U	31.8	U	14.2	U
Zinc	7440-66-6	µg/L	59.3		68.3		14.1	B	20.6		18.6	B

Shaded areas indicate changes by the validator.

9613451.0651 METALS
DATA SUMMARY TABLE

LATA ID#: VB403.47		HEIS #:	B0DX87		B0DX92		B0DX93		B0DX94		B0DX95	
		Date:	6-Mar-95		6-Mar-95		6-Mar-95		28-Feb-95		28-Feb-95	
		Matrix:	WATER		WATER		WATER		WATER		WATER	
Constituent	CAS #	Units	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q
Aluminum	7429-90-5	µg/L	29.7	U	23.5	U	29.7	U	23.5	U	23.5	U
Antimony	7440-36-0	µg/L	32.8	U	32.8	U	32.8	U	32.8	U	32.8	U
Barium	7440-39-3	µg/L	9.5	B	68.7	B	74.7	B	33.1	B	42.7	B
Beryllium	7440-41-7	µg/L	0.94	U	0.96	U	0.80	U	0.96	U	0.96	U
Cadmium	7440-43-9	µg/L	3.8	U	3.8	U	3.8	U	3.8	U	3.8	U
Calcium	7440-70-2	µg/L	3330	BJ	128000	J	126000	J	30800	J	38100	J
Chromium	7440-47-3	µg/L	4.9	B	6.0	B	2.9	U	5.7	B	7.3	B
Cobalt	7440-48-4	µg/L	4.1	U	4.1	U	4.1	U	4.1	U	4.1	U
Copper	7440-50-8	µg/L	24.5	B	30.4		22.7	B	25.5		19.2	B
Iron	7439-89-6	µg/L	192	U	132	U	82.3	U	277	U	91.1	U
Magnesium	7439-95-4	µg/L	855	UJ	21100	J	20900	J	9040	J	10800	J
Manganese	7439-96-5	µg/L	5.1	U	7.0	U	6.3	U	8.2	U	4.4	U
Nickel	7440-02-0	µg/L	15.2	U	15.2	U	15.2	U	15.2	U	15.2	U
Potassium	7440-09-7	µg/L	2670	UJ	5260	J	5030	J	3570	BJ	3670	BJ
Silver	7440-22-4	µg/L	3.8	U	3.8	U	3.8	U	3.8	U	3.8	U
Sodium	7440-23-5	µg/L	1310	J	48800	J	48100	J	7620	J	7250	J
Vanadium	7440-62-2	µg/L	16.7	U	17.9	U	21.2	U	38.5	U	26.0	U
Zinc	7440-66-6	µg/L	22.2		43.3		66.8		61.4		58.8	

Shaded areas indicate changes by the validator.

Sample Results (Form I's)

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0DX54

Lab Name: QUANTERRA MO Contract: 550.69

Lab Code: ITMO Case No.: SAS No.: SDG No.: W0436

Matrix (soil/water): WATER Lab Sample ID: 7733-002

Level (low/med): LOW Date Received: 03/07/95

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	24.6	~~B~~		P	U
7440-36-0	Antimony	34.2	B		P	
7440-39-3	Barium	72.2	B		P	
7440-41-7	Beryllium	0.96	~~B~~		P	U
7440-70-2	Calcium	130000			P	J
7440-43-9	Cadmium	3.8	U		P	
7440-47-3	Chromium	5.1	B		P	
7440-48-4	Cobalt	4.1	U		P	
7440-50-8	Copper	25.9			P	
7439-89-6	Iron	100	~~B~~		P	U
7439-95-4	Magnesium	21300			P	J
7439-96-5	Manganese	7.1	~~B~~		P	U
7440-02-0	Nickel	15.2	U		P	
7440-09-7	Potassium	4700	~~B~~		P	BJ
7440-22-4	Silver	3.8	U		P	
7440-23-5	Sodium	49300			P	J
7440-62-2	Vanadium	22.7	~~B~~		P	U
7440-66-6	Zinc	37.5			P	

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0DX55

Lab Name: QUANTERRA_MO Contract: 550.69

Lab Code: ITMO Case No.: SAS No.: SDG No.: W0436

Matrix (soil/water): WATER Lab Sample ID: D7733-005

Level (low/med): LOW Date Received: 03/07/95

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	35.7	~~B~~		P	U
7440-36-0	Antimony	32.8	U		P	
7440-39-3	Barium	74.7	B		P	
7440-41-7	Beryllium	0.96	~~B~~		P	U
7440-70-2	Calcium	132000			P	J
7440-43-9	Cadmium	3.8	U		P	
7440-47-3	Chromium	4.9	B		P	
7440-48-4	Cobalt	4.1	U		P	
7440-50-8	Copper	33.2			P	
7439-89-6	Iron	145			P	~~J~~ U 5-29-95
7439-95-4	Magnesium	21700			P	J
7439-96-5	Manganese	8.1	~~B~~		P	U
7440-02-0	Nickel	15.2	U		P	
7440-09-7	Potassium	6040			P	J
7440-22-4	Silver	3.8	U		P	
7440-23-5	Sodium	49900			P	J
7440-62-2	Vanadium	26.3	~~B~~		P	U
7440-66-6	Zinc	13.4	B		P	

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0DX59

Lab Name: QUANTERRA_MO Contract: 550.69

Lab Code: ITMO Case No.: SAS No.: SDG No.: W0436

Matrix (soil/water): WATER Lab Sample ID: 7703-002

Level (low/med): LOW Date Received: 03/02/95

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	54.9	~~B~~		P	u
7440-36-0	Antimony	32.8	U		P	
7440-39-3	Barium	33.4	B		P	
7440-41-7	Beryllium	1.1	~~B~~		P	u
7440-70-2	Calcium	38000			P	J
7440-43-9	Cadmium	3.8	U		P	
7440-47-3	Chromium	3.8	B		P	
7440-48-4	Cobalt	4.1	U		P	
7440-50-8	Copper	31.6			P	
7439-89-6	Iron	836			P	
7439-95-4	Magnesium	11000			P	J
7439-96-5	Manganese	20.8			P	
7440-02-0	Nickel	15.2	U		P	
7440-09-7	Potassium	4220	~~B~~		P	BJ
7440-22-4	Silver	3.8	U		P	
7440-23-5	Sodium	4590			P	J
7440-62-2	Vanadium	26.0	~~B~~		P	u
7440-66-6	Zinc	20.1			P	

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0DX61

Lab Name: QUANTERRA_MO Contract: 550.69

Lab Code: ITMO Case No.: SAS No.: SDG No.: W0436

Matrix (soil/water): WATER Lab Sample ID: 7669-002

Level (low/med): LOW Date Received: 02/28/95

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	23.5	U		P	
7440-36-0	Antimony	32.8	U		P	
7440-39-3	Barium	38.3	B		P	
7440-41-7	Beryllium	0.88	~~B~~		P	U
7440-70-2	Calcium	38700			P	J
7440-43-9	Cadmium	3.8	U		P	
7440-47-3	Chromium	21.8			P	
7440-48-4	Cobalt	4.1	U		P	
7440-50-8	Copper	23.7	B		P	
7439-89-6	Iron	127			P	U
7439-95-4	Magnesium	10900			P	J
7439-96-5	Manganese	5.8	~~B~~		P	U
7440-02-0	Nickel	15.2	U		P	
7440-09-7	Potassium	3850	~~B~~		P	BJ
7440-22-4	Silver	3.8	U		P	
7440-23-5	Sodium	7240			P	J
7440-62-2	Vanadium	29.2	~~B~~		P	U
7440-66-6	Zinc	57.2			P	

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0DX62

Lab Name: QUANTERRA_MO Contract: 550.69

Lab Code: ITMO Case No.: SAS No.: SDG No.: W0436

Matrix (soil/water): WATER Lab Sample ID: D7669-004

Level (low/med): LOW Date Received: 02/28/95

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	23.6	~~B~~		P	u
7440-36-0	Antimony	32.8	U		P	
7440-39-3	Barium	31.2	B		P	
7440-41-7	Beryllium	0.72	~~B~~		P	u
7440-70-2	Calcium	30200			P	J
7440-43-9	Cadmium	3.8	U		P	
7440-47-3	Chromium	3.4	B		P	
7440-48-4	Cobalt	4.1	U		P	
7440-50-8	Copper	20.6	B		P	
7439-89-6	Iron	120			P	u
7439-95-4	Magnesium	8810			P	J
7439-96-5	Manganese	4.5	~~B~~		P	u
7440-02-0	Nickel	15.2	U		P	
7440-09-7	Potassium	3370	~~B~~		P	BJ
7440-22-4	Silver	3.8	U		P	
7440-23-5	Sodium	7520			P	J
7440-62-2	Vanadium	33.9	~~B~~		P	u
7440-66-6	Zinc	74.0			P	

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0DX63

Lab Name: QUANTERRA MO Contract: 550.69
Lab Code: ITMO Case No.: SAS No.: SDG No.: W0436
Matrix (soil/water): WATER Lab Sample ID: 7669-001
Level (low/med): LOW Date Received: 02/28/95
% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	23.5	U		P	
7440-36-0	Antimony	32.8	U		P	
7440-39-3	Barium	50.2	B		P	
7440-41-7	Beryllium	1.8	~~B~~		P	U
7440-70-2	Calcium	31200			P	J
7440-43-9	Cadmium	3.8	U		P	
7440-47-3	Chromium	11.8	B		P	
7440-48-4	Cobalt	4.1	U		P	
7440-50-8	Copper	20.2	B		P	
7439-89-6	Iron	99.5	~~B~~		P	U
7439-95-4	Magnesium	9370			P	J
7439-96-5	Manganese	5.2	~~B~~		P	U
7440-02-0	Nickel	15.2	U		P	
7440-09-7	Potassium	3950	~~B~~		P	BJ
7440-22-4	Silver	3.8	U		P	
7440-23-5	Sodium	9230			P	J
7440-62-2	Vanadium	37.9	~~B~~		P	U
7440-66-6	Zinc	122			P	

Color Before: Clarity Before: Texture:
Color After: Clarity After: Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0DX64

Lab Name: QUANTERRA_MO Contract: 550.69

Lab Code: ITMO Case No.: SAS No.: SDG No.: W0436

Matrix (soil/water): WATER Lab Sample ID: D7669-003

Level (low/med): LOW Date Received: 02/28/95

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	23.5	U		P	
7440-36-0	Antimony	32.8	U		P	
7440-39-3	Barium	49.0	B		P	
7440-41-7	Beryllium	0.87	~~B~~		P	U
7440-70-2	Calcium	31600			P	J
7440-43-9	Cadmium	3.8	U		P	
7440-47-3	Chromium	15.0	B		P	
7440-48-4	Cobalt	4.1	U		P	
7440-50-8	Copper	22.5	B		P	
7439-89-6	Iron	74.1	~~B~~		P	U
7439-95-4	Magnesium	9470			P	J
7439-96-5	Manganese	3.8	~~B~~		P	U
7440-02-0	Nickel	15.2	U		P	
7440-09-7	Potassium	3750	B		P	BJ
7440-22-4	Silver	3.8	U		P	
7440-23-5	Sodium	9310			P	J
7440-62-2	Vanadium	37.2	~~B~~		P	U
7440-66-6	Zinc	37.5			P	

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0DX67

Lab Name: QUANTERRA_MO Contract: 550.69

Lab Code: ITMO Case No.: SAS No.: SDG No.: W0436

Matrix (soil/water): WATER Lab Sample ID: 7672-001

Level (low/med): LOW Date Received: 03/01/95

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	23.5	U		P	
7440-36-0	Antimony	32.8	U		P	
7440-39-3	Barium	41.2	B		P	
7440-41-7	Beryllium	1.1	~~B~~		P	U
7440-70-2	Calcium	37100			P	J
7440-43-9	Cadmium	3.8	U		P	
7440-47-3	Chromium	15.2	B		P	
7440-48-4	Cobalt	4.1	U		P	
7440-50-8	Copper	31.0			P	
7439-89-6	Iron	158			P	U
7439-95-4	Magnesium	10500			P	J
7439-96-5	Manganese	5.4	~~B~~		P	U
7440-02-0	Nickel	15.2	U		P	
7440-09-7	Potassium	2950	~~B~~		P	BJ
7440-22-4	Silver	3.8	U		P	
7440-23-5	Sodium	7030			P	J
7440-62-2	Vanadium	29.5	~~B~~		P	U
7440-66-6	Zinc	46.5			P	

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0DX68

Lab Name: QUANTERRA MO Contract: 550.69

Lab Code: ITMO Case No.: SAS No.: SDG No.: W0436

Matrix (soil/water): WATER Lab Sample ID: D7672-003

Level (low/med): LOW Date Received: 03/01/95

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	32.1	~~B~~		P	U
7440-36-0	Antimony	32.8	U		P	
7440-39-3	Barium	39.9	B		P	
7440-41-7	Beryllium	0.64	~~B~~		P	U
7440-70-2	Calcium	36600			P	J
7440-43-9	Cadmium	3.8	U		P	
7440-47-3	Chromium	8.0	B		P	
7440-48-4	Cobalt	4.1	U		P	
7440-50-8	Copper	22.7	B		P	
7439-89-6	Iron	65.4	~~B~~		P	U
7439-95-4	Magnesium	10300			P	J
7439-96-5	Manganese	4.4	~~B~~		P	U
7440-02-0	Nickel	15.2	U		P	
7440-09-7	Potassium	3820	~~B~~		P	BJ
7440-22-4	Silver	3.8	U		P	
7440-23-5	Sodium	6940			P	J
7440-62-2	Vanadium	27.8	~~B~~		P	U
7440-66-6	Zinc	59.3			P	

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

FORM I - IN

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0DX73

Lab Name: QUANTERRA_MO Contract: 550.69

Lab Code: ITMO Case No.: SAS No.: SDG No.: W0436

Matrix (soil/water): WATER Lab Sample ID: 7703-001

Level (low/med): LOW Date Received: 03/02/95

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	58.9	~~B~~		P	U
7440-36-0	Antimony	32.8	U		P	
7440-39-3	Barium	29.3	B		P	
7440-41-7	Beryllium	0.71	~~B~~		P	U
7440-70-2	Calcium	19600			P	J
7440-43-9	Cadmium	3.8	U		P	
7440-47-3	Chromium	173			P	
7440-48-4	Cobalt	5.7	B		P	
7440-50-8	Copper	29.6			P	
7439-89-6	Iron	866			P	
7439-95-4	Magnesium	5560			P	J
7439-96-5	Manganese	22.5			P	
7440-02-0	Nickel	85.5			P	
7440-09-7	Potassium	4620	~~B~~		P	BJ
7440-22-4	Silver	3.8	U		P	
7440-23-5	Sodium	37000			P	J
7440-62-2	Vanadium	39.6	~~B~~		P	U
7440-66-6	Zinc	68.3			P	

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

FORM I - IN

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0DX75

Lab Name: QUANTERRA_MO Contract: 550.69

Lab Code: ITMO Case No.: SAS No.: SDG No.: W0436

Matrix (soil/water): WATER Lab Sample ID: 7733-007

Level (low/med): LOW Date Received: 03/07/95

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	40.4	~~B~~		P	U
7440-36-0	Antimony	32.8	U		P	
7440-39-3	Barium	36.0	B		P	
7440-41-7	Beryllium	0.64	~~B~~		P	U
7440-70-2	Calcium	46200			P	J
7440-43-9	Cadmium	3.8	U		P	
7440-47-3	Chromium	140			P	
7440-48-4	Cobalt	4.1	U		P	
7440-50-8	Copper	27.3			P	
7439-89-6	Iron	590			P	
7439-95-4	Magnesium	14400			P	J
7439-96-5	Manganese	16.8			P	
7440-02-0	Nickel	60.6			P	
7440-09-7	Potassium	5430			P	J
7440-22-4	Silver	3.8	U		P	
7440-23-5	Sodium	15500			P	J
7440-62-2	Vanadium	33.2	~~B~~		P	U
7440-66-6	Zinc	14.1	B		P	

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

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5-19-95

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U.S. EPA - CLP

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0DX76

Lab Name: QUANTERRA_MO Contract: 550.69

Lab Code: ITMO Case No.: SAS No.: SDG No.: W0436

Matrix (soil/water): WATER Lab Sample ID: 7733-008

Level (low/med): LOW Date Received: 03/07/95

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	53.0	~~B~~		P	U
7440-36-0	Antimony	32.8	U		P	
7440-39-3	Barium	31.2	B		P	
7440-41-7	Beryllium	0.96	~~B~~		P	U
7440-70-2	Calcium	32900			P	J
7440-43-9	Cadmium	3.8	U		P	
7440-47-3	Chromium	234			P	
7440-48-4	Cobalt	4.1	U		P	
7440-50-8	Copper	25.7			P	
7439-89-6	Iron	322			P	U
7439-95-4	Magnesium	15400			P	J
7439-96-5	Manganese	12.3	~~B~~		P	U
7440-02-0	Nickel	30.5	B		P	
7440-09-7	Potassium	3980	~~B~~		P	BJ
7440-22-4	Silver	3.8	U		P	
7440-23-5	Sodium	23000			P	J
7440-62-2	Vanadium	31.8	~~B~~		P	U
7440-66-6	Zinc	20.6			P	

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

FORM I - IN

SW-846

5-19-95

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0DX86

Lab Name: QUANTERRA_MO Contract: 550.69

Lab Code: ITMO Case No.: SAS No.: SDG No.: W0436

Matrix (soil/water): WATER Lab Sample ID: 7733-001

Level (low/med): LOW Date Received: 03/07/95

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	23.5	U		P	
7440-36-0	Antimony	32.8	U		P	
7440-39-3	Barium	5.2	~~B~~		P	u
7440-41-7	Beryllium	0.64	~~B~~		P	u
7440-70-2	Calcium	2230	~~B~~		P	BJ
7440-43-9	Cadmium	3.8	U		P	
7440-47-3	Chromium	2.9	U		P	
7440-48-4	Cobalt	4.1	U		P	
7440-50-8	Copper	22.2	B		P	
7439-89-6	Iron	74.5	~~B~~		P	u
7439-95-4	Magnesium	669	~~B~~		P	UJ
7439-96-5	Manganese	3.9	~~B~~		P	u
7440-02-0	Nickel	15.2	U		P	
7440-09-7	Potassium	2670	~~U~~		P	UJ
7440-22-4	Silver	3.8	U		P	
7440-23-5	Sodium	2010			P	J
7440-62-2	Vanadium	14.2	~~B~~		P	u
7440-66-6	Zinc	18.6	B		P	

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0DX87

Lab Name: QUANTERRA_MO Contract: 550.69

Lab Code: ITMO Case No.: SAS No.: SDG No.: W0436

Matrix (soil/water): WATER Lab Sample ID: D7733-004

Level (low/med): LOW Date Received: 03/07/95

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	29.7	~~B~~		P	U
7440-36-0	Antimony	32.8	U		P	
7440-39-3	Barium	9.5	B		P	
7440-41-7	Beryllium	0.94	~~B~~		P	U
7440-70-2	Calcium	3330	~~B~~		P	BJ
7440-43-9	Cadmium	3.8	U		P	
7440-47-3	Chromium	4.9	B		P	
7440-48-4	Cobalt	4.1	U		P	
7440-50-8	Copper	24.5	B		P	
7439-89-6	Iron	192			P	U
7439-95-4	Magnesium	855	~~B~~		P	UJ
7439-96-5	Manganese	5.1	~~B~~		P	U
7440-02-0	Nickel	15.2	U		P	
7440-09-7	Potassium	2670	~~U~~		P	UJ
7440-22-4	Silver	3.8	U		P	
7440-23-5	Sodium	1310			P	J
7440-62-2	Vanadium	16.7	~~B~~		P	U
7440-66-6	Zinc	22.2			P	

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0DX92

Lab Name: QUANTERRA MO Contract: 550.69

Lab Code: ITMO Case No.: SAS No.: SDG No.: W0436

Matrix (soil/water): WATER Lab Sample ID: 7733-003

Level (low/med): LOW Date Received: 03/07/95

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	23.5	U		P	
7440-36-0	Antimony	32.8	U		P	
7440-39-3	Barium	68.7	B		P	
7440-41-7	Beryllium	0.96	~~B~~		P	UJ
7440-70-2	Calcium	128000			P	
7440-43-9	Cadmium	3.8	U		P	
7440-47-3	Chromium	6.0	B		P	
7440-48-4	Cobalt	4.1	U		P	
7440-50-8	Copper	30.4			P	
7439-89-6	Iron	132			P	
7439-95-4	Magnesium	21100			P	UJ
7439-96-5	Manganese	7.0	~~B~~		P	UJ
7440-02-0	Nickel	15.2	U		P	
7440-09-7	Potassium	5260			P	J
7440-22-4	Silver	3.8	U		P	
7440-23-5	Sodium	48800			P	J
7440-62-2	Vanadium	17.9	~~B~~		P	UJ
7440-66-6	Zinc	43.3			P	

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0DX93

Lab Name: QUANTERRA_MO Contract: 550.69

Lab Code: ITMO Case No.: SAS No.: SDG No.: W0436

Matrix (soil/water): WATER Lab Sample ID: D7733-006

Level (low/med): LOW Date Received: 03/07/95

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	29.7	~~B~~		P	U
7440-36-0	Antimony	32.8	U		P	
7440-39-3	Barium	74.7	B		P	
7440-41-7	Beryllium	0.80	~~B~~		P	UJ
7440-70-2	Calcium	126000			P	
7440-43-9	Cadmium	3.8	U		P	
7440-47-3	Chromium	2.9	U		P	
7440-48-4	Cobalt	4.1	U		P	
7440-50-8	Copper	22.7	B		P	
7439-89-6	Iron	82.3	~~B~~		P	UJ
7439-95-4	Magnesium	20900			P	
7439-96-5	Manganese	6.3	~~B~~		P	UJ
7440-02-0	Nickel	15.2	U		P	
7440-09-7	Potassium	5030			P	J
7440-22-4	Silver	3.8	U		P	
7440-23-5	Sodium	48100			P	J
7440-62-2	Vanadium	21.2	~~B~~		P	U
7440-66-6	Zinc	66.8			P	

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0DX94

Lab Name: QUANTERRA_MO Contract: 550.69

Lab Code: ITMO Case No.: SAS No.: SDG No.: W0436

Matrix (soil/water): WATER Lab Sample ID: 7672-002

Level (low/med): LOW Date Received: 03/01/95

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	23.5	U		P	
7440-36-0	Antimony	32.8	U		P	
7440-39-3	Barium	33.1	B		P	
7440-41-7	Beryllium	0.96	~~B~~		P	U
7440-70-2	Calcium	30800			P	J
7440-43-9	Cadmium	3.8	U		P	
7440-47-3	Chromium	5.7	B		P	
7440-48-4	Cobalt	4.1	U		P	
7440-50-8	Copper	25.5			P	
7439-89-6	Iron	277			P	U
7439-95-4	Magnesium	9040			P	J
7439-96-5	Manganese	8.2	~~B~~		P	U
7440-02-0	Nickel	15.2	U		P	
7440-09-7	Potassium	3570	~~B~~		P	BJ
7440-22-4	Silver	3.8	U		P	
7440-23-5	Sodium	7620			P	J
7440-62-2	Vanadium	38.5	~~B~~		P	U
7440-66-6	Zinc	61.4			P	

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0DX95

Lab Name: QUANTERRA_MO Contract: 550.69

Lab Code: ITMO Case No.: SAS No.: SDG No.: W0436

Matrix (soil/water): WATER Lab Sample ID: D7672-004

Level (low/med): LOW Date Received: 03/01/95

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	23.5	U		P	
7440-36-0	Antimony	32.8	U		P	
7440-39-3	Barium	42.7	B		P	
7440-41-7	Beryllium	0.96	~~B~~		P	U
7440-70-2	Calcium	38100			P	J
7440-43-9	Cadmium	3.8	U		P	
7440-47-3	Chromium	7.3	B		P	
7440-48-4	Cobalt	4.1	U		P	
7440-50-8	Copper	19.2	B		P	
7439-89-6	Iron	91.1	~~B~~		P	U
7439-95-4	Magnesium	10800			P	J
7439-96-5	Manganese	4.4	~~B~~		P	U
7440-02-0	Nickel	15.2	U		P	
7440-09-7	Potassium	3670	~~B~~		P	BJ
7440-22-4	Silver	3.8	U		P	
7440-23-5	Sodium	7250			P	J
7440-62-2	Vanadium	26.0	~~B~~		P	U
7440-66-6	Zinc	58.8			P	

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

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Checklist

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LATA INORGANIC (METALS) DATA VALIDATION CHECKLIST

VALIDATION LEVEL:	A	B	C	D	E

VALIDATION PROCEDURE: ☐ WHC-CM-5-3, Rev. 0 ☒ WHC-SD-EN-SPP-002, Rev. 2

PROJECT:	100-NR-2 ROUND 7		SDG:	W0436-QES	
VALIDATOR:	MC WEBB 6-7-95	LATA NO:	VB403.47	DATE:	19-May-95
REVIEWER:	AM FREIER 6-7-95	LAB:	QES	CASE:	N/A
SAF NO:	B95-030	QAPP NO:	WHC-SD-EN-QAPP-001, R2	SAP NO:	N/A

ANALYSES REQUESTED

☒ ICP Metals filtered 6010	☒ ICP Metals unfiltered 6010				

SAMPLE NO.	MATRIX
B0DX48 B0DX49	WATER
B0DX54 B0DX55	
B0DX59 B0DX61	
B0DX62 B0DX63	
B0DX64 B0DX67	
B0DX68 B0DX73	
B0DX75 B0DX76	
B0DX86 B0DX87	
B0DX92 B0DX93	
B0DX94 B0DX95	

COMMENTS:

1. DATA PACKAGE COMPLETENESS AND CASE NARRATIVE	YES	NO	N/A
Is technical verification documentation present?	☒	☐	☐
Is a case narrative present?	☒	☐	☐

2. HOLDING TIMES	YES	NO	N/A
Are sample holding times acceptable?	☒	☐	☐

See HOLDING TIME SUMMARY form

3. INSTRUMENT PERFORMANCE AND CALIBRATIONS	YES	NO	N/A
Were initial calibrations performed on all instruments?	☐	☐	☒
Are initial calibrations acceptable?	☐	☐	☒
Are ICP interference checks acceptable?	☐	☐	☒
Were ICV and CCV checks performed on all instruments?	☐	☐	☒
Are ICV and CCV checks acceptable?	☐	☐	☒
Validation calculation checks were performed and are acceptable.	☐	☐	☒

If NO(s) are checked, see CALIBRATION DATA SUMMARY form

4. BLANKS

	YES	NO	N/A
Were ICB and CCB checks performed for all applicable analyses?	X		
Are ICB and CCB results acceptable?		X	
Were preparation blanks analyzed?	X		
Are preparation blank results acceptable?		X	

If NO(s) are checked, see BLANK AND SAMPLE DATA SUMMARY form

5. ACCURACY

	YES	NO	N/A
Were spike samples analyzed at the proper frequency?		X	
Are all spike sample recoveries acceptable?	X		
Are all elements spiked at an appropriate level?	X		
Was a post digestion spike analyzed?			X
Are all post digestion spike recoveries acceptable?			X
Were laboratory control samples (LCS) analyzed at the proper frequency?			X
Are all LCS recoveries acceptable?			X
Validation calculation checks were performed and are acceptable.			X

If NO(s) are checked, see ACCURACY DATA SUMMARY form

6. PRECISION

	YES	NO	N/A
Were laboratory duplicates analyzed at the proper frequency?			X
Are all duplicate RPD values acceptable?			X
Were MS/MSDs analyzed?	X		
Are all MS/MSD RPD values acceptable?	X		
Were ICP serial dilution samples analyzed at the proper frequency?			X
Are all ICP serial dilution %D values acceptable?			X
Validation calculation checks were performed and are acceptable.			X

If NO(s) are checked, see PRECISION DATA SUMMARY form

7. FIELD QC SAMPLES

	YES	NO	N/A
Were field QC samples (field/trip blanks, duplicates, splits, performance audit) identified?	X		
Are field/trip blank results acceptable? (see Blank Data Summary form)		X	
Are field duplicate RPD values acceptable? (see Field QC evaluation)		X	
Are field split RPD values acceptable? (see Comments)			X
Are performance audit sample results acceptable?			X

Comments: B0DX48 is a split with B0DX98 and B0DX49 is a split with B0DX99. The field split is evaluated in VB403.46 (LK3999-LAS). B0DX86 and B0DX87 are field blanks. B0DX92/B0DX54, B0DX93/B0DX55, B0DX94/B0DX67, and B0DX95/B0DX68 are field duplicates.

8. FURNACE AA QUALITY CONTROL

	YES	NO	N/A
Were duplicate injections performed if required?			X
Are all duplicate injection %RSD values acceptable?			X
Were analytical spikes performed if required?			X
Are all analytical spike recoveries acceptable?			X
Was MSA performed if required?			X
Are all MSA results acceptable?			X
Validation calculation checks were performed and are acceptable.			X

Comments:

9. REPORTED RESULTS AND DETECTION LIMITS

	YES	NO	N/A
Are results reported for all requested analyses?	X		
Are all results supported in the raw data?			X
Are results calculated properly?			X
Do results meet the CRDLs?	X		
Validation calculation checks were performed and are acceptable.			X

Comments:

VALIDATION SUMMARY

For deficiencies (major and minor) and comments, please refer to the Qualification Summary Table.

LATA INORGANIC (METALS)
DATA VALIDATION CHECKLIST

HOLDING TIME SUMMARY

SDG:	W0436-QES		VALIDATOR: MC WEBB					DATE: 19-May-95		
PROJECT:	100-NR-2 ROUND 7		REVIEWER: AM FREIER					LATA NO.: VB403.47		
HEIS-SN	MATRIX CODE	ANALYSIS	DATE COLLECTED	PREP DATE	ANALYSIS DATE	PREP HT (days)	***Required HT (days)***	ANALYSIS HT (days)	***Required HT (days)***	VAL Q
B0DX48	WATER	ICP Metals	3-Mar-95	16-Mar-95	17-Mar-95	13	***NA***	14	***180***	NONE
B0DX49	WATER	ICP Metals	3-Mar-95	16-Mar-95	17-Mar-95	13	***NA***	14	***180***	NONE
B0DX54	WATER	ICP Metals	6-Mar-95	16-Mar-95	17-Mar-95	10	***NA***	11	***180***	NONE
B0DX55	WATER	ICP Metals	6-Mar-95	16-Mar-95	17-Mar-95	10	***NA***	11	***180***	NONE
B0DX59	WATER	ICP Metals	1-Mar-95	16-Mar-95	17-Mar-95	15	***NA***	16	***180***	NONE
B0DX61	WATER	ICP Metals	27-Feb-95	16-Mar-95	17-Mar-95	17	***NA***	18	***180***	NONE
B0DX62	WATER	ICP Metals	27-Feb-95	16-Mar-95	17-Mar-95	17	***NA***	18	***180***	NONE
B0DX63	WATER	ICP Metals	27-Feb-95	16-Mar-95	17-Mar-95	17	***NA***	18	***180***	NONE
B0DX64	WATER	ICP Metals	27-Feb-95	16-Mar-95	17-Mar-95	17	***NA***	18	***180***	NONE
B0DX67	WATER	ICP Metals	28-Feb-95	16-Mar-95	17-Mar-95	16	***NA***	17	***180***	NONE
B0DX68	WATER	ICP Metals	28-Feb-95	16-Mar-95	17-Mar-95	16	***NA***	17	***180***	NONE
B0DX73	WATER	ICP Metals	1-Mar-95	16-Mar-95	17-Mar-95	15	***NA***	16	***180***	NONE
B0DX75	WATER	ICP Metals	3-Mar-95	16-Mar-95	17-Mar-95	13	***NA***	14	***180***	NONE
B0DX76	WATER	ICP Metals	3-Mar-95	16-Mar-95	17-Mar-95	13	***NA***	14	***180***	NONE
B0DX86	WATER	ICP Metals	6-Mar-95	16-Mar-95	17-Mar-95	10	***NA***	11	***180***	NONE
B0DX87	WATER	ICP Metals	6-Mar-95	16-Mar-95	17-Mar-95	10	***NA***	11	***180***	NONE
B0DX92	WATER	ICP Metals	6-Mar-95	16-Mar-95	17-Mar-95	10	***NA***	11	***180***	NONE
B0DX93	WATER	ICP Metals	6-Mar-95	16-Mar-95	17-Mar-95	10	***NA***	11	***180***	NONE
B0DX94	WATER	ICP Metals	28-Feb-95	16-Mar-95	17-Mar-95	16	***NA***	17	***180***	NONE
B0DX95	WATER	ICP Metals	28-Feb-95	16-Mar-95	17-Mar-95	16	***NA***	17	***180***	NONE

BLANK DATA SUMMARY

SDG:	W0436-QES	VALIDATOR:	MC WEBB	DATE:	19-May-95
PROJECT:	100-NR-2 ROUND 7	REVIEWER:	AM FREIER	LATA NO.:	VB403.47

BLANK ID	ANALYTE	RESULT	LAB Q	RT	UNITS	2X RESULT	5X RESULT	10X RESULT	SAMPLES AFFECTED	VAL Q
PB	Aluminum	155.3	B		µg/L		776.65		B0DX48 B0DX49 B0DX54 B0DX55 B0DX59 B0DX62 B0DX68 B0DX73 B0DX75 B0DX76 B0DX87 B0DX93	U
PB	Barium	1.84	B		µg/L		9.2		B0DX86	U
CCB	Beryllium	1.4	B		µg/L		7		B0DX48 B0DX49 B0DX54 B0DX55 B0DX59 B0DX61 B0DX62 B0DX63 B0DX64 B0DX67 B0DX68 B0DX73 B0DX75 B0DX76 B0DX86 B0DX87 B0DX92 B0DX93 B0DX94 B0DX95	U
PB	Iron	92.6	B		µg/L		463.2		B0DX48 B0DX49 B0DX54 B0DX55 B0DX61 B0DX62 B0DX63 B0DX64 B0DX67 B0DX68 B0DX76 B0DX86 B0DX87 B0DX92 B0DX93 B0DX94 B0DX95	U
PB	Magnesium	346.7	B		µg/L		1733.25		B0DX86 B0DX87	U
PB	Manganese	3.15	B		µg/L		15.75		B0DX48 B0DX49 B0DX54 B0DX55 B0DX61 B0DX62 B0DX63 B0DX64 B0DX67 B0DX68 B0DX76 B0DX86 B0DX87 B0DX92 B0DX93 B0DX94 B0DX95	U
PB	Vanadium	10.63	B		µg/L		53.15		B0DX48 B0DX49 B0DX54 B0DX55 B0DX59 B0DX61 B0DX62 B0DX63 B0DX64 B0DX67 B0DX68 B0DX73 B0DX75 B0DX76 B0DX86 B0DX87 B0DX92 B0DX93 B0DX94 B0DX95	U
Field Blank B0DX86	Barium	5.2	B						NONE	NONE
Field Blank B0DX86	Calcium	2230	B						NONE	NONE
Field Blank B0DX86	Copper	22.2	B						NONE	NONE
Field Blank B0DX86	Sodium	2010							NONE	NONE
Field Blank B0DX86	Zinc	18.6	B						NONE	NONE
Field Blank B0DX87	Barium	9.5	B						NONE	NONE
Field Blank B0DX87	Calcium	3330	B						NONE	NONE
Field Blank B0DX87	Chromium	4.9	B						NONE	NONE
Field Blank B0DX87	Copper	24.5	B						NONE	NONE
Field Blank B0DX87	Sodium	1310							NONE	NONE
Field Blank B0DX87	Zinc	22.2							NONE	NONE

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3
BLANKS

Lab Name: QUANTERRA_MO_____ Contract: 550.69____

Lab Code: ITMO__ Case No.: _____ SAS No.: _____ SDG No.: W0436_____

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L_

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum	23.5	U	23.5	U	23.5	U	23.5	U	155.330	B	P
Antimony	32.8	U	32.8	U	32.8	U	32.8	U	32.800	U	P
Barium	0.5	U	0.5	U	0.5	U	1.5	B	1.840	B	P
Beryllium	1.3	B	0.8	B	1.0	B	1.4	B	1.100	B	P
Calcium	41.5	U	41.5	U	41.5	U	41.5	U	153.370	B	P
Cadmium	3.8	U	3.8	U	3.8	U	3.8	U	3.800	U	P
Chromium	2.9	U	2.9	U	2.9	U	2.9	U	2.900	U	P
Cobalt	4.1	U	4.1	U	4.1	U	4.1	U	4.100	U	P
Copper	8.7	B	8.8	B	11.4	B	15.4	B	17.040	B	P
Iron	11.6	B	9.6	B	11.0	B	20.6	B	92.640	B	P
Magnesium	89.1	B	132.4	B	136.2	B	194.9	B	346.650	B	P
Manganese	2.0	B	2.0	B	2.1	B	2.7	B	3.150	B	P
Nickel	15.2	U	15.2	U	15.2	U	15.2	U	15.200	U	P
Potassium	2670.0	U	2670.0	U	2670.0	U	2670.0	U	2670.000	U	P
Silver	3.8	U	3.8	U	3.8	U	3.8	U	3.800	U	P
Sodium	56.5	B	86.9	B	87.0	B	141.3	B	178.180	B	P
Vanadium	5.1	B	6.2	B	6.2	B	10.1	B	10.630	B	P
Zinc	5.2	U	5.2	U	5.2	U	5.2	U	5.200	U	P

FORM III - IN

SW-846

5-14-95

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ACCURACY DATA SUMMARY

SDG:	W0436-QES	VALIDATOR:	MC WEBB	DATE:	19-May-95
PROJECT:	100-NR-2 ROUND 7	REVIEWER:	AM FREIER	LATA NO.:	VB403.47

HEIS-SN	ANALYTE	RESULTS	Lab Q	Actual Spiking Level	Minimum Required Spiking Level	Difference	PERCENT RECOVERY (%R) Matrix Spike	Matrix Spike Duplicate	Post Digestion Spike	Laboratory Control Standard	SAMPLES AFFECTED	VAL Q
	Calcium	31200			7800	-7800	NONE	NONE			B0DX48 B0DX49 B0DX54 B0DX55 B0DX59 B0DX61 B0DX62 B0DX63 B0DX64 B0DX67 B0DX68 B0DX73 B0DX75 B0DX76 B0DX86 B0DX87 B0DX92 B0DX93 B0DX94 B0DX95	J/BJ
	Magnesium	9370			2342.5	-2342.5	NONE	NONE			B0DX48 B0DX49 B0DX54 B0DX55 B0DX59 B0DX61 B0DX62 B0DX63 B0DX64 B0DX67 B0DX68 B0DX73 B0DX75 B0DX76 B0DX86 B0DX87 B0DX92 B0DX93 B0DX94 B0DX95	J/UJ
	Potassium	3950			987.5	-987.5	NONE	NONE			B0DX48 B0DX49 B0DX54 B0DX55 B0DX59 B0DX61 B0DX62 B0DX63 B0DX64 B0DX67 B0DX68 B0DX73 B0DX75 B0DX76 B0DX86 B0DX87 B0DX92 B0DX93 B0DX94 B0DX95	J/BJ/UJ
	Sodium	9230			2307.5	-2307.5	NONE	NONE			B0DX48 B0DX49 B0DX54 B0DX55 B0DX59 B0DX61 B0DX62 B0DX63 B0DX64 B0DX67 B0DX68 B0DX73 B0DX75 B0DX76 B0DX86 B0DX87 B0DX92 B0DX93 B0DX94 B0DX95	J

NOTES:
(1) The minimum required spiking level is 25% of the sample concentration or the detection limit, whichever is higher,
(2) A negative number in the difference column indicates the spiking level for that element was inappropriate for the analyte level in the sample spiked.

U.S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

B0DX63S

Lab Name: QUANTERRA_MO Contract: 550.69

Lab Code: ITMO Case No.: _____ SAS No.: _____ SDG No.: W0436

Matrix (soil/water): WATER Level (low/med): LOW

% Solids for Sample: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum	75-125	2067.0100		23.5000	U	2000.00	103.4		P
Antimony	75-125	545.7800		32.8000	U	500.00	109.2		P
Barium	75-125	1996.7900		50.1500	B	2000.00	97.3		P
Beryllium	75-125	54.9700		1.7600	B	50.00	106.4		P
Calcium									NR
Cadmium	75-125	51.9700		3.8000	U	50.00	103.9		P
Chromium	75-125	212.1500		11.8100	B	200.00	100.2		P
Cobalt	75-125	504.3900		4.1000	B	500.00	100.9		P
Copper	75-125	276.0200		20.2300	B	250.00	102.3		P
Iron	75-125	1058.0200		99.4700	B	1000.00	95.9		P
Magnesium									NR
Manganese	75-125	514.9300		5.1900	B	500.00	101.9		P
Nickel	75-125	512.4800		15.2000	U	500.00	102.5		P
Potassium									NR
Silver	75-125	51.8800	B	3.8000	U	50.00	103.8		P
Sodium									NR
Vanadium	75-125	535.1500		37.9200	B	500.00	99.4		P
Zinc	75-125	637.9900		122.3500		500.00	103.1		P

Comments:

FORM V (Part 1) - IN SW-846

5-15-95

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U.S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

B0DX63SD

Lab Name: QUANTERRA_MO Contract: 550.69

Lab Code: ITMO Case No.: SAS No.: SDG No.: W0436

Matrix (soil/water): WATER Level (low/med): LOW

% Solids for Sample: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum	75-125	2068.5300		23.5000	U	2000.00	103.4		P
Antimony	75-125	536.8200		32.8000	U	500.00	107.4		P
Barium	75-125	2016.6700		50.1500	B	2000.00	98.3		P
Beryllium	75-125	55.4600		1.7600	B	50.00	107.4		P
Calcium									NR
Cadmium	75-125	51.3000		3.8000	U	50.00	102.6		P
Chromium	75-125	212.4300		11.8100	B	200.00	100.3		P
Cobalt	75-125	506.1700		4.1000	B	500.00	101.2		P
Copper	75-125	277.9400		20.2300	B	250.00	103.1		P
Iron	75-125	1069.7800		99.4700	B	1000.00	97.0		P
Magnesium									NR
Manganese	75-125	520.7800		5.1900	B	500.00	103.1		P
Nickel	75-125	510.1700		15.2000	U	500.00	102.0		P
Potassium									NR
Silver	75-125	48.5500	B	3.8000	U	50.00	97.1		P
Sodium									NR
Vanadium	75-125	535.4700		37.9200	B	500.00	99.5		P
Zinc	75-125	645.9600		122.3500		500.00	104.7		P

Comments:

FORM V (Part 1) - IN SW-846

5-15-95

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DATA INORGANIC (METALS)
DATA VALIDATION CHECKLIST

PRECISION DATA SUMMARY

SDG: W0436-QES	VALIDATOR: MC WEBB	DATE: 19-May-95
PROJECT: 100-NR-2 ROUND 7	REVIEWER: AM FREIER	LATA NO.: VB403.47

HEIS-SN	ANALYTE	RESULTS	LAB Q	IDL µg/L	10*IDL µg/L	50*IDL µg/L	SERIAL DIL %D	CRDL µg/L	2 CRDL mg/Kg	5 CRDL mg/Kg	DUPE RPD	DUPE CRDL	MS/MSD RPD	SAMPLES AFFECTED	VAL Q
	Calcium							5000	1000	2500	NONE		NONE	B0DX48 B0DX49 B0DX54 B0DX55 B0DX59 B0DX61 B0DX62 B0DX63 B0DX64 B0DX67 B0DX68 B0DX73 B0DX75 B0DX76 B0DX86 B0DX87 B0DX92 B0DX93 B0DX94 B0DX95	J/BJ
	Magnesium							5000	1000	2500	NONE		NONE	B0DX48 B0DX49 B0DX54 B0DX55 B0DX59 B0DX61 B0DX62 B0DX63 B0DX64 B0DX67 B0DX68 B0DX73 B0DX75 B0DX76 B0DX86 B0DX87 B0DX92 B0DX93 B0DX94 B0DX95	J/BJ
	Potassium							5000	1000	2500	NONE		NONE	B0DX48 B0DX49 B0DX54 B0DX55 B0DX59 B0DX61 B0DX62 B0DX63 B0DX64 B0DX67 B0DX68 B0DX73 B0DX75 B0DX76 B0DX92 B0DX93 B0DX94 B0DX95	J/BJ
	Sodium							5000	1000	2500	NONE		NONE	B0DX48 B0DX49 B0DX54 B0DX55 B0DX59 B0DX61 B0DX62 B0DX63 B0DX64 B0DX67 B0DX68 B0DX73 B0DX75 B0DX76 B0DX86 B0DX87 B0DX92 B0DX93 B0DX94 B0DX95	J

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U.S. EPA - CLP

6A

MATRIX SPIKE DUPLICATES

EPA SAMPLE NO.

B0DX63SD

Lab Name: QUANTERRA MO Contract: 550.69

Lab Code: ITMO Case No.: SAS No.: SDG No.: W0436

Matrix (soil/water): WATER Level (low/med): LOW

% Solids: 0.0

Percent recoveries:

Analyte	Control Limit	Matrix Spike (S)		Matrix Spike Duplicate (SD)		RPD	Q	M
Al	20%	103.40		103.40		0.0		P
Sb	20%	109.20		107.40		1.7		P
Ba	20%	97.30		98.30		1.0		P
Be	20%	106.40		107.40		0.9		P
Ca	20%							NR
Cd	20%	103.90		102.60		1.3		P
Cr	20%	100.20		100.30		0.1		P
Co	20%	100.10		100.50		0.4		P
Cu	20%	102.30		103.10		0.8		P
Fe	20%	95.90		97.00		1.1		P
Mg	20%							NR
Mn	20%	101.90		103.10		1.2		P
Ni	20%	102.50		102.00		0.5		P
K	20%							NR
Ag	20%	103.80		97.10		6.7		P
Na	20%							NR
V	20%	99.40		99.50		0.1		P
Zn	20%	103.10		104.70		1.5		P

FORM VI - IN

5-19-95

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FIELD QC METALS
FIELD DUPLICATE EVALUATION

LATA ID#: VB403.47		HEIS #:	B0DX92		B0DX54		RPD	DIF	CRDL
		Date:	6-Mar-95		6-Mar-95				
		Matrix:	WATER		WATER				
			ORIGINAL		DUPLICATE				
Constituent	CAS #	Units	Results	Q	Results	Q			
Aluminum	7429-90-5	µg/L	23.5	U	24.6	U			
Antimony	7440-36-0	µg/L	32.8	U	34.2	B		1.4	60
Barium	7440-39-3	µg/L	68.7	B	72.2	B		3.5	200
Beryllium	7440-41-7	µg/L	0.96	U	0.96	U			
Cadmium	7440-43-9	µg/L	3.8	U	3.8	U			
Calcium	7440-70-2	µg/L	128000	J	130000	J	1.6%		5000
Chromium	7440-47-3	µg/L	6.0	B	5.1	B		0.9	10
Cobalt	7440-48-4	µg/L	4.1	U	4.1	U			
Copper	7440-50-8	µg/L	30.4		25.9			4.5	25
Iron	7439-89-6	µg/L	132	U	100	U			
Magnesium	7439-95-4	µg/L	21100	J	21300	J		200	5000
Manganese	7439-96-5	µg/L	7.0	U	7.1	U			
Nickel	7440-02-0	µg/L	15.2	U	15.2	U			
Potassium	7440-09-7	µg/L	5260	J	4700	BJ		560	5000
Silver	7440-22-4	µg/L	3.8	U	3.8	U			
Sodium	7440-23-5	µg/L	48800	J	49300	J	1.0%		5000
Vanadium	7440-62-2	µg/L	17.9	U	22.7	U			
Zinc	7440-66-6	µg/L	43.3		37.5			5.8	20

EVALUATION:

1. Field duplicates are not evaluated for precision if both results are non-detect.
2. If sample results are >5*RDL, the RPD is used for evaluation.
3. If sample results are <5*RDL, the DIF is used for evaluation.
4. All positive results have exhibited acceptable precision.

Shaded areas indicate changes by the validator.

FIELD QC METALS
FIELD DUPLICATE EVALUATION

LATA ID#: VB403.47		HEIS #:	B0DX93		B0DX55		RPD	DIF	CRDL
		Date:	6-Mar-95		6-Mar-95				
		Matrix:	WATER		WATER				
			ORIGINAL		DUPLICATE				
Constituent	CAS #	Units	Results	Q	Results	Q			
Aluminum	7429-90-5	µg/L	29.7	U	35.7	U			
Antimony	7440-36-0	µg/L	32.8	U	32.8	U			
Barium	7440-39-3	µg/L	74.7	B	74.7	B		0	200
Beryllium	7440-41-7	µg/L	0.80	U	0.96	U			
Cadmium	7440-43-9	µg/L	3.8	U	3.8	U			
Calcium	7440-70-2	µg/L	126000	J	132000	J	4.7%		5000
Chromium	7440-47-3	µg/L	2.9	U	4.9	B		2.0	10
Cobalt	7440-48-4	µg/L	4.1	U	4.1	U			
Copper	7440-50-8	µg/L	22.7	B	33.2			10.5	25
Iron	7439-89-6	µg/L	82.3	U	145	U			
Magnesium	7439-95-4	µg/L	20900	J	21700	J		800	5000
Manganese	7439-96-5	µg/L	6.3	U	8.1	U			
Nickel	7440-02-0	µg/L	15.2	U	15.2	U			
Potassium	7440-09-7	µg/L	5030	J	6040	J		1010	5000
Silver	7440-22-4	µg/L	3.8	U	3.8	U			
Sodium	7440-23-5	µg/L	48100	J	49900	J	3.7%		5000
Vanadium	7440-62-2	µg/L	21.2	U	26.3	U			
Zinc	7440-66-6	µg/L	66.8		13.4	B		53	20

EVALUATION:

1. Field duplicates are not evaluated for precision if both results are non-detect.
2. If sample results are >5*RDL, the RPD is used for evaluation.
3. If sample results are <5*RDL, the DIF is used for evaluation.
4. Zinc results are outside ±CRDL criteria.
5. All other positive results have exhibited acceptable precision.

Shaded areas indicate changes by the validator.

FIELD QC METALS
FIELD DUPLICATE EVALUATION

LATA ID#: VB403.47		HEIS #:	B0DX94		B0DX67		RPD	DIF	CRDL
		Date:	28-Feb-95		28-Feb-95				
		Matrix:	WATER		WATER				
			ORIGINAL		DUPLICATE				
Constituent	CAS #	Units	Results	Q	Results	Q			
Aluminum	7429-90-5	µg/L	23.5	U	23.5	U			
Antimony	7440-36-0	µg/L	32.8	U	32.8	U			
Barium	7440-39-3	µg/L	33.1	B	41.2	B		8.1	200
Beryllium	7440-41-7	µg/L	0.96	U	1.1	U			
Cadmium	7440-43-9	µg/L	3.8	U	3.8	U			
Calcium	7440-70-2	µg/L	30800	J	37100	J	18.6%		5000
Chromium	7440-47-3	µg/L	5.7	B	15.2	B		9.5	10
Cobalt	7440-48-4	µg/L	4.1	U	4.1	U			
Copper	7440-50-8	µg/L	25.5		31.0			5.5	25
Iron	7439-89-6	µg/L	277	U	158	U			
Magnesium	7439-95-4	µg/L	9040	J	10500	J		1460	5000
Manganese	7439-96-5	µg/L	8.2	U	5.4	U			
Nickel	7440-02-0	µg/L	15.2	U	15.2	U			
Potassium	7440-09-7	µg/L	3570	BJ	2950	BJ		620	5000
Silver	7440-22-4	µg/L	3.8	U	3.8	U			
Sodium	7440-23-5	µg/L	7620	J	7030	J		590	5000
Vanadium	7440-62-2	µg/L	38.5	U	29.5	U			
Zinc	7440-66-6	µg/L	61.4		46.5			14.9	20

EVALUATION:

1. Field duplicates are not evaluated for precision if both results are non-detect.
2. If sample results are >5*RDL, the RPD is used for evaluation.
3. If sample results are <5*RDL, the DIF is used for evaluation.
4. All positive results have exhibited acceptable precision.

Shaded areas indicate changes by the validator.

FIELD QC METALS
FIELD DUPLICATE EVALUATION

LATA ID#: VB403.47		HEIS #:	B0DX95		B0DX68		RPD	DIF	CRDL
		Date:	28-Feb-95		28-Feb-95				
		Matrix:	WATER		WATER				
			ORIGINAL		DUPLICATE				
Constituent	CAS #	Units	Results	Q	Results	Q			
Aluminum	7429-90-5	µg/L	23.5	U	32.1	U			
Antimony	7440-36-0	µg/L	32.8	U	32.8	U			
Barium	7440-39-3	µg/L	42.7	B	39.9	B		2.8	200
Beryllium	7440-41-7	µg/L	0.96	U	0.64	U			
Cadmium	7440-43-9	µg/L	3.8	U	3.8	U			
Calcium	7440-70-2	µg/L	38100	J	36600	J	4.0%		5000
Chromium	7440-47-3	µg/L	7.3	B	8.0	B		0.7	10
Cobalt	7440-48-4	µg/L	4.1	U	4.1	U			
Copper	7440-50-8	µg/L	19.2	B	22.7	B		3.5	25
Iron	7439-89-6	µg/L	91.1	U	65.4	U			
Magnesium	7439-95-4	µg/L	10800	J	10300	J		500	5000
Manganese	7439-96-5	µg/L	4.4	U	4.4	U			
Nickel	7440-02-0	µg/L	15.2	U	15.2	U			
Potassium	7440-09-7	µg/L	3670	BJ	3820	BJ		150	5000
Silver	7440-22-4	µg/L	3.8	U	3.8	U			
Sodium	7440-23-5	µg/L	7250	J	6940	J		310	5000
Vanadium	7440-62-2	µg/L	26.0	U	27.8	U			
Zinc	7440-66-6	µg/L	58.8		59.3			0.5	20

EVALUATION:

1. Field duplicates are not evaluated for precision if both results are non-detect.
2. If sample results are >5*RDL, the RPD is used for evaluation.
3. If sample results are <5*RDL, the DIF is used for evaluation.
4. All positive results have exhibited acceptable precision.

Shaded areas indicate changes by the validator.

Laboratory Case Narrative

9613451.0688

Quanterra
Environmental Services

Quanterra Incorporated
13715 Rider Trail North
Earth City, Missouri 63045

314 298-8566 Telephone
314 298-8757 Fax

CERTIFICATE OF ANALYSIS

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

April 7, 1995

Attention: Joan Kessner

APR 1995 RECEIVED Data Log In

Project number	:	550.69
Date Received by Lab	:	February 28, & March 1, 2, 6, & 7, 1995
Number of Samples	:	Twenty (20)
Sample Type	:	Water
SDG Number	:	W0436
Data Deliverable	:	Summary

I. Introduction

Between February 28 and March 7, 1995, twenty (20) water samples were received by Quanterra, Richland and transferred to Quanterra, St. Louis for chemical analysis. Upon receipt, the samples were given the following laboratory ID numbers to correspond with the specific client ID's:

St Louis ID	WHC ID	Richland ID	Matrix	Date of Receipt
7669-001	B0DX63	50251201	Water	02/28/95
7669-002	B0DX61	50251203	Water	02/28/95
7669-003	B0DX64	50251202	Water	02/28/95
7669-004	B0DX62	50251204	Water	02/28/95
7672-001	B0DX67	50301801	Water	03/01/95
7672-002	B0DX94	50301803	Water	03/01/95
7672-003	B0DX68	50301802	Water	03/01/95
7672-004	B0DX95	50301804	Water	03/01/95
7703-001	B0DX73	50305001	Water	03/02/95
7703-002	B0DX59	50305002	Water	03/02/95
7721-001	B0DX48	50310701	Water	03/06/95
7721-002	B0DX49	50310702	Water	03/06/95
7733-001	B0DX86	50313001	Water	03/07/95
7733-002	B0DX54	50313003	Water	03/07/95

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2M/05-30-95

Quanterra
Environmental Services

St Louis ID	WHC ID	Richland ID	Matrix	Date of Receipt
7733-003	B0DX92	50313005	Water	03/07/95
7733-004	B0DX87	50313002	Water	03/07/95
7733-005	B0DX55	50313004	Water	03/07/95
7733-006	B0DX93	50313006	Water	03/07/95
7733-007	B0DX75	50313007	Water	03/07/95
7733-008	B0DX76	50313008	Water	03/07/95

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: Chloride, Fluoride, Sulfate, Nitrate, Nitrite and Phosphate by EPA method 300.0. Conductivity by EPA method 120.1. pH by EPA method 9040. SW846 Metals including Total and Dissolved ICP Metals by method 6010. Oil & Grease by EPA method 413.1. Total Petroleum Hydrocarbons by EPA method 418.1. Turbidity by EPA method 180.1.

III. Quality Control

A Laboratory Control Sample and Method Blank were analyzed with each preparation batch. Matrix Spike and Matrix Spike Duplicate or Duplicate analyses were performed per the protocol for each analyte. Sample Duplicate analysis was performed per the protocol for the Oil & Grease, Conductivity, Turbidity and pH analyses in this SDG.

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:

Quanterra
Environmental Services

QCBLK- Quality Control Blank, Method Blank
QCLCS- Quality Control Laboratory Control Sample, Blank Spike

V. Comments

There are no comments or nonconformances associated with the metals analysis.

The Nitrate, Nitrite and Phosphate holding times were expired upon receipt at laboratory.

The Matrix Spike for the Nitrate analysis on sample 7669-001 was not within the suggested regulatory limits of 75-125 percent recovery due to the concentration of the sample exceeding the spike concentration by a factor of four or more.

The Relative Percent Difference could not be calculated because both values were below the the detection limits for Phosphate and Nitrite on sample 7669-001.

The Relative Percent Difference could not be calculated because both values were below the the detection limits for TPH on sample 7721-001DUP.

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$\abbydave\hanw0436.nar

~~000000.37~~
CMW 5-30-95

9613451.0691

Chain-of-Custody Information

40347MTL.NAR; Printed: 29-May-95, 12:05 pm

Bechtel Hanford Incorporated

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnarbund: [ ] Priorty [X] Normal

Collector: K. Lee / A Rizzo	Company Contact: J. V. Borghese	Telephone No.: (509) 372-9584
Project Designation: 100-NR-2 Groundwater Sampling - Round 7	Sampling Location: 100 N	SAF No.: B95-030
Ice Chest No.: SML-502	Field Logbook No.: EFL-1058	Method of Shipment: Hand Delivered
Shipped To: Quanterra	Offsite Property No.: PH. 1 NA 1 1	Bill of Lading/Air Bill No.: NA 1
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: Maintain samples between 2C and 6C.		

Sample No.	Matrix*	Date Sampled	Time Sampled	A	B	C	D	E	F	G	H	I	J	K				A	B
Preservative				HNO3	Cool 4C	H2SO4	HCl		Cool 4C	Cool 4C		Cool 4C	Cool 4C	Cool 4C	HNO3	HNO3		HNO3	Cool 4C
Type of Container				G	P/[illegible]	G	Gs*		P/[illegible]	P/[illegible]		P	G	P	G	G		G	P/[illegible]
No. of Container(s)				1	1	3	3		1	1		1	3	1	7	3		1	1
Volume				500mL	500mL	1L	1L		500mL	250mL		250mL	500mL	20mL	1L	500mL		500mL	500mL
SAMPLE ANALYSIS 503107				ICP Metals-TAL Unfiltered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Unfiltered	Oil and Grease	TPH		Conductivity	Turbidity		pH	Tritium	Activity Scan	Gross Alpha, Gross Beta, Sr-90, Gamma Spec	Gross Alpha, Gross Beta, Sr-90, Gamma Spec		ICP Metals-TAL Filtered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Filtered
01 BODX48	W	3-3-95	1059	X	X	X	X		X	X		X	X	X	X	X			
02 BODX49	W	3-3-95	1059															X	X

SDG W0436

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: AGR.220	Date/Time: 3-3-95 1225	Received By: David Sl. John EPC	Date/Time: 3-3-95 1225
Relinquished By: David Sl. John ERC	Date/Time: 3-3-95 1315	Received By: K. Trapp / K. Trapp	Date/Time: 1315 3/3/95
Relinquished By: K. Trapp / K. Trapp	Date/Time: 3/3/95 11:50	Received By:	Date/Time: 3-6-95 11 50
Relinquished By:	Date/Time:	Received By:	Date/Time:

SPECIAL INSTRUCTIONS

Sample analysis for PO4, NO2, and NO3 by EPA 300.0; turbidity by EPA 180.1; and pH by SW-846 9040 are being requested for information only. The ERC Contractor acknowledges that the hold times will not be met.

The Activity Scan is for all samples listed on this chain of custody.

Gs* = Glass with septum top. No head space.

Gross Alpha, Gross Beta provided in 7 (4) Glass Bottles instead of 6 (4) and 1 Sample AR 3-3-95

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	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION Original Sample Yellow - Sampler

BC 600-1130 (12/92)

OMO 5-30-95

0000039

85 Lab 10

96134.0692

Bechtel Hanford Incorporated

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Date Turnaround: [ ] Priorty [X] Normal

Collector: K. Lee / A Rizzo	Company Contact: J. V. Borghese	Telephone No.: (509) 372-9584
Project Designation: 100-NR-2 Groundwater Sampling - Round 7	Sampling Location: 100 N	SAF No.: B95-030
Ice Chest No.: ER26	Field Logbook No.: EFL -1058	Method of Shipment: Hand Delivered
Shipped To: Quanterra	Offsite Property No.: N/A	Bill of Lading/Air Bill No.: N/A
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: Maintain samples between 2C and 6C.		

Preservative	HNO3	Cool 4C	H2SO4	HCl	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	HNO3	HNO3		HNO3	Cool 4C
Type of Container	G	P/G	G	Gs*	P/G	P/G	P	G	P	G	G		G	P/G
No. of Container(s)	1	1	3	3	1	1	1	3	1	6	1		1	1
Volume	500mL	500mL	1L	1L	500mL	250mL	250mL	500mL	20mL	1L	500mL		500mL	500mL
SAMPLE ANALYSIS 50313C	ICP Metals-TAL Unfiltered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Unfiltered	Oil and Grease	TPH	Conductivity	Turbidity	pH	Tritium 50313	Activity Scan 3102	Gross Alpha, Gross Beta, Sr-90, Gamma Spec	Gross Alpha, Gross Beta, Sr-90, Gamma Spec		ICP Metals-TAL Filtered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Filtered
Sample No.	Matrix*	Date Sampled	Time Sampled	A	B	C D E	F G H	I	J	K				
B0DX54 03	W	3-6-95	1115	X	X	X	X	X	X	X	X	X	X	X				
B0DX55 04	W	3-6-95	1115													A X	B X

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By	Date/Time	Received By	Date/Time
AG Rizzo (ERC)	3-6-95 1330	J. Trapp/K. Trapp ERC	3/6/95 1330
K. Trapp/K. Trapp ERC	3/7/95 0905	Kim Whitten BWhitten	3-7-95 0905
Kim Whitten BWhitten ERC	3-7-95 1030	Heidelberg	3/7/95 1030
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS

Sample analysis for PO4, NO2, and NO3 by EPA 300.0; turbidity by EPA 180.1; and pH by SW-846 9040 are being requested for information only. The ERC Contractor acknowledges that the hold times will not be met.

The Activity Scan is for all samples listed on this chain of custody.

Gs* = Glass with septum top. No head space.

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	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9515151.0093

650000

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Bechtel Hanford Incorporated

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Date Turnaround: [ ] Priorty [X] Normal

Collector: MORENO / BELT

Company Contact: J. V. Borghese

Telephone No.: (509) 372-9584

Project Designation: 100-NR-2 Groundwater Sampling - Round 7

Sampling Location: 100 N

SAF No.: B95-030

Ice Chest No.: ER-402-

Field Logbook No.: NA

Method of Shipment: Hand Delivered

Shipped To: Quanterra

Offsite Property No.: NA

Bill of Lading/Air Bill No.: NA

Possible Sample Hazards/Remarks:

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

SAMPLE ANALYSIS: 50305C

Preservative	pH 1 HNO3	Cool 4C	H2SO4	HCl	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	HNO3	HNO3	HNO3	HNO3	Cool 4C	HNO3
Type of Container	AG	P/G	G	Gs*	P/G	P/G	P	G	P	G	G	G	G	P/G	G
No. of Container(s)	1	1	3	3	1	1	1	3	1	1	1	3	*1	1	1
Volume	500mL	500mL	1L	1L	500mL	250mL	250mL	500mL	20mL	1L	1L	1L	*1	500mL	500mL
	ICP Metals-TAL Unfiltered A	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Unfiltered	Oil and Grease	TPH	Conductivity	Turbidity	pH	Tritium	Activity Scan B	Gross Alpha	Gross Beta	Sr-90	Gamma Spec	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Filtered C	ICP Metals-TAL Filtered

Sample No.	Matrix*	Date Sampled	Time Sampled	ICP Metals-TAL Unfiltered A	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Unfiltered	Oil and Grease	TPH	Conductivity	Turbidity	pH	Tritium	Activity Scan B	Gross Alpha	Gross Beta	Sr-90	Gamma Spec	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Filtered C	ICP Metals-TAL Filtered
B0DX59 C2	W	3-1-95	08:45	X								X					X	

CHAIN OF POSSESSION

Relinquished By	Date/Time	Received By	Date/Time
Moreno Jr	3-1-95	K. Trapp / K. Trapp	3/1/95 1305
K. Trapp / K. Trapp	3/2/95	[illegible]	3.2.95

Sign/Print Names

SPECIAL INSTRUCTIONS

Sample analysis for PO4, NO2, and NO3 by EPA 300.0; turbidity by EPA 180.1; and pH by SW-846 9040 are being requested for information only. The ERC Contractor acknowledges that the hold times will not be met.

The Activity Scan is for all samples listed on this chain of custody.

Gs* = Glass with septum top. No head space.

*1. 2, 1L bottles and 1, 250mL bottle

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 | Title | Date/Time

FINAL SAMPLE DISPOSITION: Disposal Method | Disposed By | Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

CM05-30-95

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Bechtel Hanford Incorporated

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Date Turnaround: [ ] Priority [X] Normal

Collector: K. Lee / A Rizzo	Company Contact: J. V. Borghese	Telephone No.: (509) 372-9584
Project Designation: 100-NR-2 Groundwater Sampling - Round 7	Sampling Location: 100 N	SAF No.: B95-030
Ice Chest No.: KT 2/27/95 ~~GW05-122~~ Homeboy	Field Logbook No.: EFL-1058	Method of Shipment: Hand Delivered
Shipped To: Quanterra	Offsite Property No.: PH 1 NA	Bill of Lading/Air Bill No.: NA 1

Possible Sample Hazards/Remarks:

SAMPLE ANALYSIS: 502512

Sample No.	Matrix*	Date Sampled	Time Sampled	ICP Metals-TAL Unfiltered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Unfiltered	Oil and Grease	TPH	Conductivity	Turbidity	pH	Tritium	Activity Scan	Gross Alpha, Gross Beta, Sr-90, Gamma Spec	Gross Alpha, Gross Beta, Sr-90, Gamma Spec		ICP Metals-TAL Filtered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Filtered	
Preservative				HNO3	Cool 4C	H2SO4	HCl	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	HNO3	HNO3		HNO3	Cool 4C	
Type of Container				G	~~P~~/G	G	Gs*	~~P~~/G	P/~~G~~	P	G	P	G	G		G	P/~~G~~	
No. of Container(s)				1	1	3	3	1	1	1	3	1	6	1		1	1	
Volume				500mL	500mL	1L	1L	500mL	250mL	250mL	500mL	20mL	1L	500mL		500mL	500mL	
				A	B	~~C DS~~	~~PGH~~	~~J~~ C	~~J~~ O	~~K~~ E	~~DS~~ 502513D2	~~2-28-95~~				A	B	
03 BODX61	W	2-27-95	1040	X	X			X	X	X	X	X	X	X				
04 BODX62	W	2-27-95	1040													X	X	

D - Label on PH Container
E - LABel on Turbidity container

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: A. Rizzo	Date/Time: 2-27-95 1345	Received By: K. Trapp / K. Trapp	Date/Time: 2/27/95 1315
Relinquished By: K. Trapp / K. Trapp	Date/Time: 2/28/95 1041	Received By: A. Boyd Quoten	Date/Time: 2-28-95 1050
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:

SPECIAL INSTRUCTIONS

Sample analysis for PO4, NO2, and NO3 by EPA 300.0; turbidity by EPA 180.1; and pH by SW-846 9040 are being requested for information only. The ERC Contractor acknowledges that the hold times will not be met.

The Activity Scan is for all samples listed on this chain of custody.

Gs* = Glass with septum top. No head space.

SDG W0436

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 | Title | Date/Time

FINAL SAMPLE DISPOSITION: Disposal Method | Disposed By | Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9619411.0695

CWO 5-30-95

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Bechtel Hanford Incorporated

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Date Turnaround: [ ] Priorty [X] Normal

Collector	K. Lee / A. Rizzo
Company Contact	J. V. Borghese
Telephone No.	(509) 372-9584
Project Designation	100-NR-2 Groundwater Sampling - Round 7
Sampling Location	100 N
SAF No.	B95-030
Ice Chest No.	SML-502
Field Logbook No.	EFL-1058
Method of Shipment	Hand Delivered
Shipped To	Quanterra
Offsite Property No.	PH= 1 NA
Bill of Lading/Air Bill No.	NA 1
Possible Sample Hazards/Remarks	
Special Handling and/or Storage	Maintain samples between 2C and 6C.

SAMPLE ANALYSIS: 502512

Sample No.	Matrix*	Date Sampled	Time Sampled	A	B	C	D	E	F	G	H	I	J	K	PB 2-28-95	A	B
Preservative				HNO3	Cool 4C	H2SO4	HCl	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	HNO3	HNO3		HNO3	Cool 4C
Type of Container				G	P/G	G	Gs*	P/G	P/G	P	G	P	G	G		G	P/G
No. of Container(s)				1	1	3	3	1	1	1	3	1	6	1		1	1
Volume				500mL	500mL	1L	1L	500mL	250mL	250mL	500mL	20mL	1L	500mL		500mL	500mL
				ICP Metals-TAL Unfiltered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Unfiltered	Oil and Grease	TPH	Conductivity	Turbidity	pH	Tritium 5025	Activity Scan 1301	Gross Alpha, Gross Beta, Sr-90, Gamma Spec	Gross Alpha, Gross Beta, Sr-90, Gamma Spec		ICP Metals-TAL Filtered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Filtered
01	BODX63	W	2-27-95	0932	X	X			X	X	X	X	X	X	X			
02	BODX64	W	2-27-95	0932												X	X

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
A. Rizzo	2-27-95 1315	K. Trapp / K. Trapp	2/27/95 1315
K. Trapp / K. Trapp	2/28/95 1041	A. Boyd Quanterra	2-28-95 1050

SPECIAL INSTRUCTIONS

Sample analysis for PO4, NO2, and NO3 by EPA 300.0; turbidity by EPA 180.1; and pH by SW-846 9040 are being requested for information only. The ERC Contractor acknowledges that the hold times will not be met.

The Activity Scan is for all samples listed on this chain of custody.

Gs* = Glass with septum top. No head space.

SDG W0436

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 | Title | Date/Time

FINAL SAMPLE DISPOSITION: Disposal Method | Disposed By | Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9413451.0696

CMO 5-30-95

0000000952

Bechtel Hanford Incorporated

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Date Turnaround: [ ] Priority [X] Normal

Collector: K. D. Lee	Company Contact: J. V. Borghese	Telephone No.: (509) 372-9584
Project Designation: 100-HR-2 Groundwater Sampling - Round 7	Sampling Location: 100 N	SAF No.: B95-030
Ice Chest No.: GWS-133	Field Logbook No.: ERL-1058 1058	Method of Shipment: Hand Delivered
Shipped To: Quanterra	Offsite Property No.: PH 1 NA	Bill of Lading/Air Bill No.: NA 1
Possible Sample Hazards/Remarks: UNKNOWN		

SAMPLE ANALYSIS: 503018

Sample No.	Matrix*	Date Sampled	Time Sampled	HNO3 G 1 500mL ICP Metals-TAL Unfiltered	Cool 4C G/G 1 500mL Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Unfiltered	H2SO4 G 3 Oil and Grease	HCl Gs* 3 1L TPH	Cool 4C G/G 1 500mL Conductivity C	Cool 4C P/G 1 250mL Turbidity D	Cool 4C P 1 250mL pH E	Cool 4C G 3 500mL Tritium	Cool 4C P 1 20mL Activity Scan	HNO3 G 6 1L Gross Alpha, Gross Beta, Sr-90, Gamma Spec	HNO3 G 1 500mL Gross Alpha, Gross Beta, Sr-90, Gamma Spec		HNO3 G 1 500mL ICP Metals* TAL Filtered	Cool 4C G/G 1 500mL Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Filtered
B0DX67 01	W	2/28/95	1052	A X	B X			X	X	X	X	X	503018101 X	X			
B0DX68 02	W	2/28/95	1052													A X	B X

CHAIN OF POSSESSION	Sign/Print Names	Date/Time
Relinquished By: K. D. Lee	K. D. Lee	2/28/95 1340
Received By: K. Trapp / K. Trapp		2/28/95 1340
Relinquished By: K. Trapp / K. Trapp		3/1/95 1020
Received By: [illegible]		3/1/95 1020
Relinquished By		
Received By		
Relinquished By		
Received By		

SPECIAL INSTRUCTIONS

Sample analysis for PO4, NO2, and NO3 by EPA 300.0; turbidity by EPA 180.1; and pH by SW-846 9040 are being requested for information only. The ERC Contractor acknowledges that the hold times will not be met.

The Activity Scan is for all samples listed on this chain of custody.

Gs* = Glass with septum top. No head space.

SDG WO436

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	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION Original - Sample Yellow - Sampler

BC-6000-828 (12/92)

~~0000019~~ CWO 5-30-95

000053

Temp 5° All cont. 100% Full CUR 3078

Bechtel Hanford Incorporated

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priority [X] Normal

Collector: Moreno / Golt	Company Contact: J. V. Borghese	Telephone No.: (509) 372-9584
Project Designation: 100-NR-2 Groundwater Sampling - Round 7	Sampling Location: 100 N	SAF No.: B95-030
Ice Chest No.: ER-402.	Field Logbook No.: NA	Method of Shipment: Hand Delivered
Shipped To: Quanterra	Offsite Property No.: NA	Bill of Lading/Air Bill No.: NA
Possible Sample Hazards/Remarks:		
Special Handling and/or Storage: Maintain samples between 2C and 6C.		

Preservative	pH 1 HNO3	Cool 4C	H2SO4	HCl	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	HNO3	HNO3	HNO3	HNO3	Cool 4C	HNO3
Type of Container	AG	P/G	G	Gs*	P/G	P/G	P	G	P	G	G	G	G	P/G	G
No. of Container(s)	1	1	3	3	1	1	1	3	1	1	1	3	*1	1	
Volume	500mL	500mL	1L	1L	500mL	250mL	250mL	500mL	20mL	1L	1L	1L	*1	500mL	500mL
SAMPLE ANALYSIS 5030:5C	ICP Metals-TAL Unfiltered A	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Unfiltered	Oil and Grease	TPH	Conductivity	Turbidity	pH	Tritium	Activity Scan	Gross Alpha	Gross Beta	Sr-90 5030:51	Gamma Spec	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Filtered B	ICP Metals-TAL Filtered

Sample No.	Matrix*	Date Sampled	Time Sampled															
B0DX73 01	W	3-1-95	11:00	X							X	X			X	X	X	

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By	Date/Time 1305	Received By	Date/Time 1305
Moreno Sa	3-1-95	K. Trapp / K. Trapp	3/1/95
Relinquished By	Date/Time	Received By	Date/Time
K. Trapp / K. Trapp	3/2/95	Karen Richterberg	3-2-95
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS

Sample analysis for PO4, NO2, and NO3 by EPA 300.0; turbidity by EPA 180.1; and pH by SW-846 9040 are being requested for information only. The ERC Contractor acknowledges that the hold times will not be met.

The Activity Scan is for all samples listed on this chain of custody.

Gs* = Glass with septum top. No head space.

*1. 2, 1L bottles and 1, 250mL bottle

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	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original - Sample Yellow - Sampler

BC-6000-828 (12/92)

0000028 CMD 5-30-95

0000064

Bechtel Hanford Incorporated

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: Harrison/Almarode PNL

Company Contact: J. V. Borghese

Telephone No.: (509) 372-9584

Project Designation: 100-NR-2 Groundwater Sampling - Round 7

Sampling Location: 100 N

SAF No.: B95-030

Ice Chest No.: SML-423

Field Logbook No.:

Method of Shipment: Hand Delivered

Shipped To: Quanterra

Offsite Property No.: N/A

Bill of Lading/Air Bill No.: N/A

Possible Sample Hazards/Remarks:

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

SAMPLE ANALYSIS: 503130

Sample No.	Matrix*	Date Sampled	Time Sampled															
Preservative				HNO3	Cool 4C	H2SO4	HCl	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	HNO3	HNO3	HNO3	HNO3	Cool 4C	HNO3
Type of Container				G	P/G	G	Gs*	P/G	P/G	P	G	P	G	G	G	G	P/G	G
No. of Container(s)				1	1	3	3	1	1	1	3	1	1	1	3	*1	1	1
Volume				500mL	500mL	1L	1L	500mL	250mL	250mL	500mL	20mL	1L	1L	1L	*1	500mL	500mL
				ICP Metals-TAL Unfiltered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Unfiltered	Oil and Grease	TPH	Conductivity	Turbidity	pH	Tritium 50313104	Activity Scan	Gross Alpha	Gross Beta	Sr-90	Gamma Spec	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Filtered	ICP Metals-TAL Filtered
				A													B	
BODX75 07	W	3/3/95	1030	X							X	X			X	X	X	

Gm 3-3-95

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By	Date/Time	Received By	Date/Time
Gm. Almarode	3-3-95 1230	K. Trapp/K. Trapp ERC	3/3/95 1230
Relinquished By	Date/Time	Received By	Date/Time
K. Trapp/K. Trapp ERC	3/3/95 0905	B. Whitten	3-7-95 0905
Relinquished By	Date/Time	Received By	Date/Time
B. Whitten	3-7-95 1030	Hudellie	3/7/95 1030
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS

Sample analysis for PO4, NO2, and NO3 by EPA 300.0; turbidity by EPA 180.1; and pH by SW-846 9040 are being requested for information only. The ERC Contractor acknowledges that the hold times will not be met.

The Activity Scan is for all samples listed on this chain of custody.

Gs* = Glass with septum top. No head space.

*1. 2, 1L bottles and 1, 250mL bottle

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	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original - Sample Yellow - Sampler

BC-6000-028 (12/92)

0000355

MWD 5-30-95

Bechtel Hanford Incorporated

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priority [X] Normal

Collector: Harrison / C. Ulmanoch PNL

Company Contact: J. V. Borghese

Telephone No.: (509) 372-9584

Project Designation: 100-NR-2 Groundwater Sampling - Round 7

Sampling Location: 100 N

SAF No.: B95-030

Ice Chest No.: SML-423

Field Logbook No.:

Method of Shipment: Hand Delivered

Shipped To: Quanterra

Offsite Property No.: N/A

Bill of Lading/Air Bill No.: N/A

Possible Sample Hazards/Remarks:

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

SAMPLE ANALYSIS: 503130

Sample No.	Matrix*	Date Sampled	Time Sampled	Preservative	HNO3	Cool 4C	H2SO4	HCl	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	HNO3	HNO3	HNO3	HNO3	Cool 4C	HNO3
				Type of Container	G	P/G	G	Gs*	P/G	P/G	P	G	P	G	G	G	G	P/G	G
				No. of Container(s)	1	1	3	3	1	1	1	3	1	1	1	3	*1	1	1
				Volume	500mL	500mL	1L	1L	500mL	250mL	250mL	500mL	20mL	1L	1L	1L	*1	500mL	500mL
					ICP Metals-TAL Unfiltered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Unfiltered	Oil and Grease	TPH	Conductivity	Turbidity	pH	Tritium	Activity Scan	Gross Alpha	Gross Beta	Sr-90	Gamma Spec	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Filtered	ICP Metals-TAL Filtered
														503130	503130				
					A				B		C							D	
BOOX76 08	W	3/3/95	0915		X				X		X		~~X~~ 3-3-95	X	X			X	

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
C. Ulmanoch	3-3-95 1230	K. Trapp / K. Trapp	3/3/95 (230)
K. Trapp / K. Trapp ERC	3/7/95 0909	ERC	0909 3-7-95
ERC B Walton	3-7-95 1030	B Walton	
		Heidelberg	3/7/95 1030

SPECIAL INSTRUCTIONS

Sample analysis for PO4, NO2, and NO3 by EPA 300.0; turbidity by EPA 180.1; and pH by SW-846 9040 are being requested for information only. The ERC Contractor acknowledges that the hold times will not be met.

The Activity Scan is for all samples listed on this chain of custody.

Gs* = Glass with septum top. No head space.

*1. 2, 1L bottles and 1, 250mL bottle

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 | Title | Date/Time

FINAL SAMPLE DISPOSITION: Disposal Method | Disposed By | Date/Time

DISTRIBUTION: Original - Sample Yellow - Sampler

BC-6000 020 (12/92)

0000054

CWO 5-30-95

BW 3-7-95

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1/2 of 1/2

Data Turnaround: [X] Priorty [ ] Normal

Collector: SAME AS PAGE 1OF2	Company Contact	Telephone No.
Project Designation	Sampling Location	SAF No.
Ice Chest No.	Field Logbook No.	Method of Shipment: Hand Deliver
Shipped To: Quanterra	Offsite Property No.	Bill of Lading/Air Bill No.
Possible Sample Hazards/Remarks: Unknown		
Special Handling and/or Storage: Cool to 4C		

SAMPLE ANALYSIS																	
Preservative	HCL	H2SO4	HCL	none	none												
Type of Container	aGs	P/G	aG	P/G	P/G	P											
No. of Container(s)	3	1	1	1	1	1											
Volume	40 mL	500 mL	250 mL	20 mL	20 mL												
	VOA-TCL	NO2-NO3	TOC	Activity Scan	Rad Screening												
Sample No.	Matrix*	Date Sampled	Time Sampled														
BODX76	W	3-3-95	09:15				X										
BODX75	W	3-3-95	10:30				X										
BODX79	W	3-3-95	8:45				X										

CHAIN OF POSSESSION	Sign/Print Names	Date/Time
Relinquished By: K. Trapp / K. Trapp 3/7/95	Received By: ERC / B. Whitten 3-7-95	0905
Relinquished By: ERC / B. Whitten 3-7-95	Received By: Heidelberg	Date/Time: 3/7/95 1030
Relinquished By	Received By	
Relinquished By	Received By	

SPECIAL INSTRUCTIONS: Data Deliverable - Summary

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	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9513961.0701

286000

00413
MW 3-13-95

Bechtel Hanford Incorporated

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Date Turnaround: [ ] Priorty [X] Normal

Collector: K. Lee / A Rizzo	Company Contact: J. V. Borghese	Telephone No.: (509) 372-9584
Project Designation: 100-NR-2 Groundwater Sampling - Round 7	Sampling Location: 100 N	SAF No.: B95-030
Ice Chest No.: GWS-122	Field Logbook No.: EFL-1058	Method of Shipment: Hand Delivered
Shipped To: Quanterra	Offsite Property No.: N/A	Bill of Lading/Air Bill No.: N/A
Possible Sample Hazards/Remarks:		
Special Handling and/or Storage: Maintain samples between 2C and 6C.		

Sample No.	Matrix*	Date Sampled	Time Sampled	A	B	C	D	E	F	G	H	I	J	K
Preservative				HNO3	Cool 4C	H2SO4	HCl	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	HNO3	HNO3
Type of Container				G	P/G	G	Gs*	P/G	P/G	P	G	P	G	G
No. of Container(s)				1	1	3	3	1	1	1	3	1	6	1
Volume				500mL	500mL	1L	1L	500mL	250mL	250mL	500mL	20mL	1L	500mL
SAMPLE ANALYSIS 503130				ICP Metals-TAL Unfiltered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Unfiltered	Oil and Grease	TPH	Conductivity	Turbidity	pH	Tritium 503131	Activity Scan 01	Gross Alpha, Gross Beta, Sr-90, Gamma Spec	Gross Alpha, Gross Beta, Sr-90, Gamma Spec
BODX86 01	W	3-6-95	~~1115~~ 1235	X	X	X	X	X	X	X	X	X	X	X
BODX87 02	W	3-6-95	~~1115~~ 1235											
		3-6-95												

Sample No.		Matrix*	Date Sampled	Time Sampled	H	I	J	K
Preservative					HNO3	HNO3	Cool 4C	
Type of Container					G	G	P/G	
No. of Container(s)					1	1	1	
Volume					500mL	500mL	500mL	
SAMPLE ANALYSIS					ICP Metals-TAL Filtered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Filtered		
BODX86	01	W	3-6-95	1235				
BODX87	02	W	3-6-95	1235	A X	B X		

CHAIN OF POSSESSION

Relinquished By	Date/Time	Received By	Date/Time
A G Rizzo (ERC)	3-6-95 1530	K. Trapp / K. Trapp (ERC)	3/6/95 1330
K. Trapp / K. Trapp (ERC)	3/7/95 0905	B. Wattenburg (BHC)	3-7-95 0905
B. Wattenburg (BHC)	3-7-95 1230	Hudelberg	3/7/95 1030

SPECIAL INSTRUCTIONS

Sample analysis for PO4, NO2, and NO3 by EPA 300.0; turbidity by EPA 180.1; and pH by SW-846 9040 are being requested for information only. The ERC Contractor acknowledges that the hold times will not be met.

The Activity Scan is for all samples listed on this chain of custody.

Gs* = Glass with septum top. No head space.

STD-W04.36

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 | Title | Date/Time

FINAL SAMPLE DISPOSITION: Disposal Method | Disposed By | Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

CMS 5-30-95

0000050

85000

9513241.0706

Bechtel Hanford Incorporated

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: K. Lee / A Rizzo	Company Contact: J. V. Borghese	Telephone No.: (509) 372-9584
Project Designation: 100-NR-2 Groundwater Sampling - Round 7	Sampling Location: 100 N	SAF No.: B95-030
Ice Chest No.: SML-502	Field Logbook No.: EFL-1058	Method of Shipment: Hand Delivered
Shipped To: Quanterra	Offsite Property No.: N/A	Bill of Lading/Air Bill No.: N/A
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: Maintain samples between 2C and 6C.		

Preservative	HNO3	Cool 4C	H2SO4	HCl	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	HNO3	HNO3		HNO3	Cool 4C
Type of Container	G	P/G	G	Gs*	P/G	P/G	P	G	P	G	G		G	P/G
No. of Container(s)	1	1	3	3	1	1	1	3	1	6	1		1	1
Volume	500mL	500mL	1L	1L	500mL	250mL	250mL	500mL	20mL	1L	500mL		500mL	500mL
SAMPLE ANALYSIS 503130	ICP Metals-TAL Unfiltered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Unfiltered	Oil and Grease	TPH	Conductivity	Turbidity	pH	Tritium 503130 3	Activity Scan	Gross Alpha, Gross Beta, Sr-90, Gamma Spec	Gross Alpha, Gross Beta, Sr-90, Gamma Spec		ICP Metals-TAL Filtered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Filtered

Sample No.	Matrix*	Date Sampled	Time Sampled	A	B	C	D	E	F	G	H	I	J	K				
BODX92 05	W	3-6-95	1115	X	X	X	X	X	X	X	X	X	X	X				
BODX93 06	W	3-6-95	1115													A X	B X	

CHAIN OF POSSESSION	Sign/Print Names	Date/Time	Received By	Date/Time
Relinquished By	A Rizzo (ERC)	3-6-95 1330	K. Trapp / K. Trapp	3/6/95 1330
Relinquished By	K. Trapp / K. Trapp	3/7/95 0909	Received By	3-7-95 0909
Relinquished By	Bukhtiev	3-7-95 1030	Received By	3/7/95 1032
Relinquished By			Received By	

SPECIAL INSTRUCTIONS

Sample analysis for PO4, NO2, and NO3 by EPA 300.0; turbidity by EPA 180.1; and pH by SW-846 9040 are being requested for information only. The ERC Contractor acknowledges that the hold times will not be met.

The Activity Scan is for all samples listed on this chain of custody.

Gs* = Glass with septum top. No head space.

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	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original - Sample Yellow - Sampler

BC-6000-828 (12/92)

9519941.0703

CWO 5-30-95

0000052

0000159

Bechtel Hanford Incorporated

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Date Turnaround: [ ] Priorty [X] Normal

Collector: K. D Lee	Company Contact: J. V. Borghese	Telephone No.: (509) 372-9584
Project Designation: 100-NR-2 Groundwater Sampling - Round 7	Sampling Location: 100 N	SAF No.: B95-030
Ice Chest No.: Homeboy	Field Logbook No.: EFL-1058	Method of Shipment: Hand Delivered
Shipped To: Quanterra	Offsite Property No.: PH / NA	Bill of Lading/Air Bill No.: NA /
Possible Sample Hazards/Remarks: Unknown		

Sample No.	Matrix*	Date Sampled	Time Sampled	ICP Metals-TAL Unfiltered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Unfiltered	Oil and Grease	TPH	Conductivity	Turbidity	pH	Tritium	Activity Scan	Gross Alpha, Gross Beta, Sr-90, Gamma Spec	Gross Alpha, Gross Beta, Sr-90, Gamma Spec		ICP Metals-TAL Filtered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Filtered	
Preservative				HNO3	Cool 4C	H2SO4	HCl	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	HNO3	HNO3		HNO3	Cool 4C	
Type of Container				G	~~P~~/G	G	Gs*	~~P~~/G	P/~~G~~	P	G	P	G	G		G	~~P~~/G	
No. of Container(s)				1	1	3	3	1	1	1	3	1	6	1		1	1	
Volume				500mL	500mL	1L	1L	500mL	250mL	250mL	500mL	20mL	1L	500mL		500mL	500mL	
SAMPLE ANALYSIS 503018								C	D	E								
BODX94 03	W	2/28/95	1052	A X	B X			X	X	X	X	X	5030 X	1902 X				
BODX95 04	W	2/28/95	1052													A X	B X	

CHAIN OF POSSESSION	Sign/Print Names	Date/Time
Relinquished By: K D Lee	Received By: K. Trapp / K. Trapp	Date/Time: 2/28/95 1340
Relinquished By: K. Trapp / K. Trapp	Received By: [illegible]	Date/Time: 3/1/95
Relinquished By	Received By	Date/Time
Relinquished By	Received By	Date/Time

SPECIAL INSTRUCTIONS

Sample analysis for PO4, NO2, and NO3 by EPA 300.0; turbidity by EPA 180.1; and pH by SW-846 9040 are being requested for information only. The ERC Contractor acknowledges that the hold times will not be met.

The Activity Scan is for all samples listed on this chain of custody.

Gs* = Glass with septum top. No head space.

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	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original - Sample Yellow - Sampler

BC-6000-828 (12/92)

~~0000020~~ CMO 5-30-95

000070

AMPLE STATUS REPORT FOR N 4871. RAD SCREEN 199-N-21 TIME: 3/ 6/95 8:30
DISPATCHED: 2/22/95 14:38 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 3/ 6/95 7:48

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	XR5561

END OF REPORT

BODX48
BODX49
BODX98
BODX99

KT 3/6/95

BEST AVAILABLE COPY

CMO 5-30-95
~~0055~~
000071

9613451.0706

AMPLE STATUS REPORT FOR N 4876. RAD SCREEN 199-N-54 TIME: 3/ 7/95 8:16
DISPATCHED: 2/22/95 14:38 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 3/ 7/95 7: 9

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	XR5561

END OF REPORT

BODX54
BODX55
BW
3-7-95

PRESS ANY KEY TO CONTINUE

ERIAL NUMBER STATUS REPORT 3/ 7/95 8:17

SERIAL NUMBER (PNNNN) ? N4884

AMPLE STATUS REPORT FOR N 4884. RAD SCREEN FIELDBK1 TIME: 3/ 7/95 8:17
DISPATCHED: 2/22/95 14:39 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 3/ 7/95 7: 9

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	XR5561

END OF REPORT

CMO 5-30-95
~~0000058~~
000072

9613451.0707

AMPLE STATUS REPORT FOR N 4878. RAD SCREEN 199-N-70 TIME: 3/ 1/95 8:13
DISPATCHED: 2/22/95 14:38 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 2/28/95 14:30

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	XR5561

END OF REPORT

BODX67
BODX68 KT 3/1/95
BODX94
BODX95

BEST AVAILABLE COPY

CMO 5-30-95
~~0068~~

000273

9613451.0708

03/07/95 10:16 ☎373 7076 F.A.S. 003

AMPLE STATUS REPORT FOR N 4396. RAD SCREEN 1-N-74 TIME: 3/ 6/95 8:
DISPATCHED: 1/13/95 18:32 SAMPLE HAS NOT BEEN SLURPED PAGE
RECEIVED: 3/ 6/95 7:47

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARG CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	R4006

END OF REPORT

BOBX45
BW
3-7-95

PRESS ANY KEY TO CONTINUE

ERIAL NUMBER STATUS REPORT 3/ 6/95 8: 7

0000060

000074

9613451.0709

AMPLE STATUS REPORT FOR N 4876. RAD SCREEN 199-N-54 TIME: 3/ 7/95 8:16
DISPATCHED: 2/22/95 14:38 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 3/ 7/95 7: 9

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	XR5561

END OF REPORT

PRESS ANY KEY TO CONTINUE

ERIAL NUMBER STATUS REPORT 3/ 7/95 8:17

SERIAL NUMBER (PNNNN) ? N4884

AMPLE STATUS REPORT FOR N 4884. RAD SCREEN FIELDBK1 TIME: 3/ 7/95 8:17
DISPATCHED: 2/22/95 14:39 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 3/ 7/95 7: 9

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	XR5561

END OF REPORT

BODX86
BODX87
BW
3-7-95

BEST AVAILABLE COPY

000275

~~0044~~
CMO 5-30-95

9613451.0710

AMPLE STATUS REPORT FOR N 4876. RAD SCREEN 199-N-54 TIME: 3/ 7/95 8:16
DISPATCHED: 2/22/95 14:38 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 3/ 7/95 7: 9

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	XR5561

END OF REPORT

BOD X92
BOD X93
BW
3-7-95

PRESS ANY KEY TO CONTINUE

ERIAL NUMBER STATUS REPORT 3/ 7/95 8:17

SERIAL NUMBER (PNNNN) ? N4884

AMPLE STATUS REPORT FOR N 4884. RAD SCREEN FIELDBK1 TIME: 3/ 7/95 8:17
DISPATCHED: 2/22/95 14:39 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 3/ 7/95 7: 9

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	XR5561

END OF REPORT

~~0000059~~
CMS 3-30-95

9613451.0711

AMPLE STATUS REPORT FOR N 4383. RAD SCREEN 1-N-3 TIME: 3/ 2/95 10:34
DISPATCHED: 1/13/95 18:31 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 0/ 0/ 0 0: 0

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	INCOMPLETE			R4006

END OF REPORT

PRESS ANY KEY TO CONTINUE

ERIAL NUMBER STATUS REPORT 3/ 2/95 10:34

SERIAL NUMBER (PNNNN) ? N4393

AMPLE STATUS REPORT FOR N 4393. RAD SCREEN 1-N-71 TIME: 3/ 2/95 10:34
DISPATCHED: 1/13/95 18:31 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 3/ 2/95 8:22

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	R4006

END OF REPORT

BEST AVAILABLE COPY

000277

~~0061~~
CMS 5-30-95

9613451.0712

AMPLE STATUS REPORT FOR N 4384. RAD SCREEN 1-N-32 TIME: 3/ 2/95 10:41
DISPATCHED: 1/13/95 18:31 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 3/ 2/95 8:22

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	R4006

END OF REPORT

BEST AVAILABLE COPY

000278

~~0062~~
CMO 5-30-95

9613451.0713

AMPLE STATUS REPORT FOR N 4874. RAD SCREEN 199-N-50 TIME: 2/28/95 8: 3
DISPATCHED: 2/22/95 14:38 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 2/28/95 7:47

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	XR5561

END OF REPORT

PRESS ANY KEY TO CONTINUE

ERIAL NUMBER STATUS REPORT 2/28/95 8: 3

SERIAL NUMBER (PNNNN) ? N4875

AMPLE STATUS REPORT FOR N 4875. RAD SCREEN 199-N-51 TIME: 2/28/95 8: 3
DISPATCHED: 2/22/95 14:38 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 2/28/95 7:47

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	XR5561

END OF REPORT

BEST AVAILABLE COPY

CMO 5-30-95
~~0071~~

all Cat I (B) 2/28/95

Client Sample Screening Results

28-Feb-95

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
WHC B0DQW7	LIQUID	2/28/95 2:49:43 PM	QUAD23A	2/28/95	B0DQW7	30	10	0.26331373	82	1.8470852
			Bkg:	2/28/95 6:04:34 PM	BKG	499.86	35	0.07001961	443	0.8862481
Anl Date: 2/28/95	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp; (Dpm/ 7.62E-01	(uCi/ 3.43E-05	(pCi/ 3.43E+01	± 2.2E+01	CAT I	7.3E-01	Lab Alq	
Ppt mg: 4.5	Units: L	, ml	Bet; Alq): 3.37E+00	Sa): 1.52E-04	Lig): 1.52E+02	± 2.6E+01		3.3E-01	Lig	
WHC B0DQW9	LIQUID	2/28/95 2:51:01 PM	QUAD24A	2/28/95 1:53:02 PM	B0DQW9	30	14	0.41666667	60	1.132
			Bkg:	2/28/95 6:04:34 PM	BKG	500	25	0.05	434	0.868
Anl Date: 2/28/95	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp; (Dpm/ 1.32E+00	(uCi/ 5.96E-05	(pCi/ 5.96E+01	± 2.5E+01	CAT I	4.2E-01	Lab Alq	
Ppt mg: 3.7	Units: L	, ml	Bet; Alq): 1.98E+00	Sa): 8.91E-05	Lig): 8.91E+01	± 2.2E+01		5.6E-01	Lig	
WHC B0DQX1	LIQUID	2/28/95 2:51:54 PM	QUAD24B	2/28/95 1:53:02 PM	B0DQX1	30	16	0.44933333	72	1.412
			Bkg:	2/28/95 6:04:34 PM	BKG	500	42	0.084	494	0.988
Anl Date: 2/28/95	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp; (Dpm/ 1.41E+00	(uCi/ 6.34E-05	(pCi/ 6.34E+01	± 2.7E+01	CAT I	3.9E-01	Lab Alq	
Ppt mg: 5.7	Units: L	, ml	Bet; Alq): 2.51E+00	Sa): 1.13E-04	Lig): 1.13E+02	± 2.5E+01		4.4E-01	Lig	
WHC B0DX61	LIQUID	2/28/95 2:52:34 PM	QUAD24C	2/28/95 1:53:02 PM	B0DX61	30	30	0.934	95	2.2266667
03+04 (2)			Bkg:	2/28/95 6:04:34 PM	BKG	500	33	0.066	470	0.94
Anl Date: 2/28/95	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp; (Dpm/ 2.76E+00	(uCi/ 1.25E-04	(pCi/ 1.25E+02	± 2.9E+01	CAT I	2.0E-01	Lab Alq	
Ppt mg: 1.9	Units: L	, ml	Bet; Alq): 3.66E+00	Sa): 1.65E-04	Lig): 1.65E+02	± 2.7E+01		3.0E-01	Lig	
WHC B0DX63	LIQUID	2/28/95 2:53:19 PM	QUAD24D	2/28/95 1:53:02 PM	B0DX63	30	13	0.40533333	94	2.1333333
01+02 (1)			Bkg:	2/28/95 6:04:34 PM	BKG	500	14	0.028	500	1
Anl Date: 2/28/95	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp; (Dpm/ 1.13E+00	(uCi/ 5.10E-05	(pCi/ 5.10E+01	± 2.4E+01	CAT I	4.9E-01	Lab Alq	
Ppt mg: 1.8	Units: L	, ml	Bet; Alq): 3.90E+00	Sa): 1.76E-04	Lig): 1.76E+02	± 2.8E+01		2.8E-01	Lig	

502512 Chem.
(502513 Rad.)

000080

CWM5-30-95

9613151.0719

all cat I (R3) 3/1/95

Client Sample Screening Results

01-Mar-95

CLIENT CODE	ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
WHC	B0DX67	LIQUID	3/1/95 12:52:42 PM	QUAD21A	3/1/95 11:55:53 AM	B0DX67	30	28	0.86333333	98	2.3646667
01+02	(1)			Bkg:	3/1/95 5:54:51 PM	BKG	500	35	0.07	451	0.902

Anl Date: 3/1/95	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp;	(Dpm/ 2.53E+00	(uCi/ 1.14E-04	(pCi/ 1.14E+02	± 2.9E+01	CAT I	2.2E-01	Lab Alq
Ppt mg: 2.1	Units: L	, ml	Bet;	Alq): 4.29E+00	Sa): 1.93E-04	Lig): 1.93E+02	± 2.9E+01		2.6E-01	Lab Lig

CLIENT CODE	ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
WHC	B0DX94	LIQUID	3/1/95 12:54:27 PM	QUAD21B	3/1/95 11:55:53 AM	B0DX94	30	16	0.45933333	78	1.708
03+04	(2)			Bkg:	3/1/95 5:54:51 PM	BKG	500	37	0.074	446	0.892

Anl Date: 3/1/95	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp;	(Dpm/ 1.42E+00	(uCi/ 6.39E-05	(pCi/ 6.39E+01	± 2.5E+01	CAT I	3.9E-01	Lab Alq
Ppt mg: 2.2	Units: L	, ml	Bet;	Alq): 3.04E+00	Sa): 1.37E-04	Lig): 1.37E+02	± 2.5E+01		3.7E-01	Lab Lig

503018 Chem
(503019 Rad)

SDG W04134

00081
00111
CMO 5-30-95
9613461.0715

(R3) 3/2/95

Client Sample Screening Results

02-Mar-95

CLIENT CODE	ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
WHC	B0DRL2	SOLID	3/2/95 3:40:04 PM	QUAD21A	3/2/95 3:06:18 PM	B0DRL2	30	9	0.26	122	3.1446667
				Bkg:	3/2/95 4:30:40 PM	BKG	500	20	0.04	461	0.922

Anl Date: 3/2/95 Tot Sa, Alq: 9.12E+02 , 9.89E+01 Alp; (Dpm/ 1.58E+00 (uCi/ 6.55E-03 (pCi/ 7.19E+00 ± 5.3E+00 CAT I ✓ 7.0E+00 Lab
Ppt mg: 98.9 Units: g , mg Bet; Alq): 7.12E+00 Sa): 2.96E-02 L/g): 3.24E+01 ± 3.9E+00 3.1E+00 Alq L/g

WHC	B0DRL4	SOLID	3/2/95 3:40:47 PM	QUAD21B	3/2/95 3:06:18 PM	B0DRL4	30	18	0.512	161	4.3146667
				Bkg:	3/2/95 4:30:40 PM	BKG	500	44	0.088	526	1.052

Anl Date: 3/2/95 Tot Sa, Alq: 9.22E+02 , 9.25E+01 Alp; (Dpm/ 3.19E+00 (uCi/ 1.43E-02 (pCi/ 1.55E+01 ± 6.4E+00 CAT II ✓ 3.2E+00 Lab
Ppt mg: 92.5 Units: g , mg Bet; Alq): 9.32E+00 Sa): 4.19E-02 L/g): 4.54E+01 ± 4.6E+00 2.2E+00 Alq L/g

WHC	B0DX59	LIQUID	3/2/95 3:45:37 PM	QUAD22D	3/2/95 3:06:18 PM	B0DX59	30	50	1.61266667	136	3.6613333
02				Bkg:	3/2/95 4:30:40 PM	BKG	500	27	0.054	436	0.872

Anl Date: 3/2/95 Tot Sa, Alq: 5.00E-01 , 1.00E+01 Alp; (Dpm/ 4.89E+00 (uCi/ 1.10E-04 (pCi/ 2.20E+02 ± 3.4E+01 CAT I ✓ 1.1E-01 Lab
Ppt mg: 3.2 Units: L , ml Bet; Alq): 5.98E+00 Sa): 1.35E-04 L/g): 2.69E+02 ± 3.1E+01 1.9E-01 Alq L/g

WHC	B0DXH3	LIQUID	3/2/95 3:41:29 PM	QUAD21C	3/2/95 3:06:18 PM	B0DXH3	30	43	1.39133333	555	17.636
				Bkg:	3/2/95 4:30:40 PM	BKG	500	21	0.042	432	0.864

Anl Date: 3/2/95 Tot Sa, Alq: 1.00E+00 , 1.00E+01 Alp; (Dpm/ 3.78E+00 (uCi/ 1.70E-04 (pCi/ 1.70E+02 ± 3.2E+01 CAT I ✓ 1.5E-01 Lab
Ppt mg: 4.6 Units: L , ml Bet; Alq): 3.41E+01 Sa): 1.54E-03 L/g): 1.54E+03 ± 6.9E+01 3.3E-02 Alq L/g

WHC	B0DZC0	LIQUID	3/2/95 3:42:37 PM	QUAD21D	3/2/95 3:06:18 PM	B0DZC0	30	38	1.21266667	512	16.126667
				Bkg:	3/2/95 4:30:40 PM	BKG	500	27	0.054	470	0.94

Anl Date: 3/2/95 Tot Sa, Alq: 1.00E+00 , 1.00E+01 Alp; (Dpm/ 3.70E+00 (uCi/ 1.67E-04 (pCi/ 1.67E+02 ± 3.5E+01 CAT I ✓ 1.5E-01 Lab
Ppt mg: 10.7 Units: L , ml Bet; Alq): 3.16E+01 Sa): 1.42E-03 L/g): 1.42E+03 ± 6.7E+01 3.5E-02 Alq L/g

503050 Chem

SDL-W0436

00065 MW05/30/96

96139511.0796

Client Sample Screening Results

03-Mar-95

(R3) 3/3/95

CLIENT	CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
WHC	B0C346	LIQUID	3/3/95 2:07:41 PM	QUAD21A	3/3/95 12:28:17 PM	B0C346	30	158	5.23066667	2985	98.574
				Bkg:	3/3/95 5:23:04 PM	BKG	500	18	0.036	463	0.926

Anl Date: 3/3/95	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp;	(Dpm/ 1.51E+01	(uCi/ 6.80E-04	(pCi/ 6.80E+02	± 6.1E+01	CAT I	3.7E-02	Lab Alq
Ppt mg: 16	Units: L	, ml	Bet;	Alq): 2.00E+02	Sa): 9.03E-03	L/g): 9.03E+03	± 1.7E+02		5.5E-03	Lab L/g

WHC	B0D347	LIQUID	3/3/95 2:09:32 PM	QUAD21B	3/3/95 12:28:17 PM	B0D347	30	12	0.336	107	2.5986667
				Bkg:	3/3/95 5:23:04 PM	BKG	500	32	0.064	484	0.968

Anl Date: 3/3/95	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp;	(Dpm/ 1.18E+00	(uCi/ 5.32E-05	(pCi/ 5.32E+01	± 3.0E+01	CAT I	4.7E-01	Lab Alq
Ppt mg: 17.1	Units: L	, ml	Bet;	Alq): 5.00E+00	Sa): 2.25E-04	L/g): 2.25E+02	± 3.1E+01		2.2E-01	Lab L/g

WHC	B0DX73	LIQUID	3/3/95 3:36:23 PM	QUAD23A	3/3/95 3:04:38 PM	B0DX73	30	27	0.826	110	2.7126667
01				Bkg:	3/3/95 5:23:04 PM	BKG	500	37	0.074	477	0.954

Anl Date: 3/3/95	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp;	(Dpm/ 2.40E+00	(uCi/ 1.08E-04	(pCi/ 1.08E+02	± 2.7E+01	CAT I	2.3E-01	Lab Alq
Ppt mg: 2.9	Units: L	, ml	Bet;	Alq): 4.66E+00	Sa): 2.10E-04	L/g): 2.10E+02	± 2.9E+01		2.4E-01	Lab L/g

WHC	B0DZB0	LIQUID	3/3/95 2:10:10 PM	QUAD21C	3/3/95 12:28:17 PM	B0DZB0	30	25	0.77133333	855	27.606
				Bkg:	3/3/95 5:23:04 PM	BKG	500	31	0.062	447	0.894

Anl Date: 3/3/95	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp;	(Dpm/ 1.49E+00	(uCi/ 6.71E-05	(pCi/ 6.71E+01	± 2.5E+01	CAT I	3.7E-01	Lab Alq
Ppt mg: 2.6	Units: L	, ml	Bet;	Alq): 5.40E+01	Sa): 2.43E-03	L/g): 2.43E+03	± 8.6E+01		2.1E-02	Lab L/g

WHC	B0DZB1	LIQUID	3/3/95 2:13:56 PM	QUAD21D	3/3/95 12:28:17 PM	B0DZB1	30	21	0.658	674	21.558667
				Bkg:	3/3/95 5:23:04 PM	BKG	500	21	0.042	454	0.908

Anl Date: 3/3/95	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp;	(Dpm/ 1.44E+00	(uCi/ 6.48E-05	(pCi/ 6.48E+01	± 2.5E+01	CAT I	3.9E-01	Lab Alq
Ppt mg: 2.4	Units: L	, ml	Bet;	Alq): 4.21E+01	Sa): 1.90E-03	L/g): 1.90E+03	± 7.6E+01		2.6E-02	Lab L/g

503050 Chem.
503051 Rad.

9613451.0717

CMW5-30-95

Client Sample Screening Results

06-Mar-95

CLIENT CODE	ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
WHC	B0DX48	LIQUID	3/6/95 2:53:04 PM	QUAD22A	3/6/95 1:55:58 PM	B0DX48	30	17	0.51066667	71	1.4026667
01 + 02				Bkg:	3/4/95 4:02:34 PM	BKG	500	28	0.056	482	0.964

Anl Date:	3/6/95	Tot Sa, Alq:	1.00E+00	,	1.00E+01	Alp;	(Dpm/	1.60E+00	(uCi/	7.21E-05	(pCi/	7.21E+01	± 2.7E+01	CAT I	3.5E-01 Lab Alq
Ppt mg:	8	Units:	L	,	ml	Bet;	Alq):	2.35E+00	Sa):	1.06E-04	L/g):	1.06E+02	± 2.3E+01		4.7E-01 L/g

503107- Chem
503108- Rad

SDG WQ136

CWO 5-30-95
00588

9513451.0718

Client Sample Screening Results

07-Mar-95

(R3) 3/7/95

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
WHC B0DX54	LIQUID	3/7/95 2:16:39 PM	QUAD24A	3/7/95 1:36:51 PM	B0DX54	30	13	0.37733333	214	6.1913333
03+04 (2)			Bkg:	3/7/95 4:20:31 PM	BKG	500	28	0.056	471	0.942
Anl Date: 3/7/95	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp; (Dpm/ 1.08E+00	(uCi/ 4.86E-05	(pCi/ 4.86E+01	± 2.6E+01	CAT I ✓	5.1E-01	Lab Alq	
Ppt mg: 7.2	Units: L	, ml	Bet; Alq): 1.20E+01	Sa): 5.40E-04	L/g): 5.40E+02	± 4.3E+01		9.3E-02	Lig	
WHC B0DX75	LIQUID	3/7/95 2:17:41 PM	QUAD21B	3/7/95 1:17:44 PM	B0DX75	30	6	0.142	52	0.7713333
07 (4)			Bkg:	3/7/95 4:20:31 PM	BKG	500	29	0.058	481	0.962
Anl Date: 3/7/95	Tot Sa, Alq: 2.00E-02	, 1.00E+01	Alp; (Dpm/ 4.31E-01	(uCi/ 3.88E-07	(pCi/ 1.94E+01	± 2.3E+01	CAT I ✓	1.3E+00	Lab Alq	
Ppt mg: 2.2	Units: L	, ml	Bet; Alq): 1.41E+00	Sa): 1.27E-06	L/g): 6.36E+01	± 2.1E+01		7.9E-01	Lig	
WHC B0DX76	LIQUID	3/7/95 2:21:08 PM	QUAD21C	3/7/95 1:17:44 PM	B0DX76	30	17	0.52266667	74	1.5966667
08 (5)			Bkg:	3/7/95 4:20:31 PM	BKG	500	22	0.044	435	0.87
Anl Date: 3/7/95	Tot Sa, Alq: 2.00E-02	, 1.00E+01	Alp; (Dpm/ 1.53E+00	(uCi/ 1.38E-06	(pCi/ 6.89E+01	± 2.4E+01	CAT I ✓	3.6E-01	Lab Alq	
Ppt mg: 2.6	Units: L	, ml	Bet; Alq): 2.85E+00	Sa): 2.57E-06	L/g): 1.28E+02	± 2.5E+01		3.9E-01	Lig	
WHC B0DX79	LIQUID	3/7/95 2:50:27 PM	QUAD21D	3/7/95 1:17:44 PM	B0DX79	30	6	0.156	114	2.812
			Bkg:	3/7/95 4:20:31 PM	BKG	500	22	0.044	494	0.988
Anl Date: 3/7/95	Tot Sa, Alq: 2.00E-02	, 1.00E+01	Alp; (Dpm/ 4.03E-01	(uCi/ 3.63E-07	(pCi/ 1.82E+01	± 2.2E+01	CAT I ✓	1.4E+00	Lab Alq	
Ppt mg: 1.2	Units: L	, ml	Bet; Alq): 5.44E+00	Sa): 4.90E-06	L/g): 2.45E+02	± 3.2E+01		2.0E-01	Lig	
WHC B0DX86	LIQUID	3/7/95 2:22:02 PM	QUAD22A	3/7/95	B0DX86	30	4	0.09733333	31	0.1393333
01+02 (1)			Bkg:	3/7/95 4:20:31 PM	BKG	500	18	0.036	447	0.894
Anl Date: 3/7/95	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp; (Dpm/ 2.73E-01	(uCi/ 1.23E-05	(pCi/ 1.23E+01	± 1.9E+01	CAT I ✓	2.0E+00	Lab Alq	
Ppt mg: 0.3	Units: L	, ml	Bet; Alq): 2.00E-01	Sa): 9.00E-06	L/g): 9.00E+00	± 1.6E+01		5.6E+00	Lig	

503130 chem
(503131 Rad)

SDG W0436

9613451.0719

0052

WM530-95

(R3) 3/7/95

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
WHC B0DX86	LIQUID	3/7/95 2:22:02 PM	QUAD22A	3/7/95 1:17:44 PM	B0DX86	30	4	0.09733333	31	0.1393333
			Bkg:	3/7/95 4:20:31 PM	BKG	500	18	0.036	447	0.894
Anl Date: 3/7/95	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp;	(Dpm/ 2.73E-01	(uCi/ 1.23E-05	(pCi/ 1.23E+01	± 1.9E+01	CAT I ✓	2.0E+00	Lab
Ppt mg: 0.3	Units: L	, ml	Bet;	Alq): 2.00E-01	Sa): 9.00E-06	Lig): 9.00E+00	± 1.6E+01		5.6E+00	Alq Lig
WHC B0DX92	LIQUID	3/7/95 2:23:49 PM	QUAD22B	3/7/95 1:17:44 PM	B0DX92	30	22	0.67533333	267	8.052
05 + 06	(3)		Bkg:	3/7/95 4:20:31 PM	BKG	500	29	0.058	424	0.848
Anl Date: 3/7/95	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp;	(Dpm/ 1.98E+00	(uCi/ 8.92E-05	(pCi/ 8.92E+01	± 2.7E+01	CAT I ✓	2.8E-01	Lab
Ppt mg: 6.8	Units: L	, ml	Bet;	Alq): 1.51E+01	Sa): 6.79E-04	Lig): 6.79E+02	± 4.7E+01		7.4E-02	Alq Lig
WHC B0DX92	LIQUID	3/7/95 2:23:49 PM	QUAD22B	3/7/95 2:22:02 PM	B0DX92	30	22	0.67533333	267	8.052
			Bkg:	3/7/95 4:20:31 PM	BKG	500	29	0.058	424	0.848
Anl Date: 3/7/95	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp;	(Dpm/ 1.98E+00	(uCi/ 8.92E-05	(pCi/ 8.92E+01	± 2.7E+01	CAT I ✓	2.8E-01	Lab
Ppt mg: 6.8	Units: L	, ml	Bet;	Alq): 1.51E+01	Sa): 6.79E-04	Lig): 6.79E+02	± 4.7E+01		7.4E-02	Alq Lig

503130-Chem
(503131- Rad)

SDW W0436

96134591.0720

9613451.0721

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9613451.0722

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000088

END OF PACKAGE

9613451.0724

DATA VALIDATION REPORT
for
100-NR-2 Round 7
Radiochemistry Analysis
SDG W0436-QES
LATA VB403.47

Bechtel Hanford Inc.
Richland, Washington

May 30, 1995

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100-NR-2 Round 7
Data Validation Narrative

INTRODUCTION

All samples in Sample Delivery Group (SDG) W0436-QES (VB403.47) were validated at level C as defined in the Data Validation Procedures for Radiochemical Analyses (WHC-SD-EN-SPP-001).

The analyses were performed by Quanterra Environmental Services.

ANALYSES REQUESTED

LATA ID #: VB403.47 SDG: W0436-QES

Sample Information							Analyses Requested					
SAMPLE NO.	DATE COLLECTED	MATRIX	SAF	SAMPLING LOCATION	FIELD QC INFO	TEMP °C	1	2	3	4	5	6
B0DX48	3-Mar-95	WATER	B95-030	199-N-21	SPLIT OF B0DX98	4	X	X	X	X	X	X
B0DX54	6-Mar-95	WATER	B95-030	199-N-54		2	X	X	X	X	X	X
B0DX59	1-Mar-95	WATER	B95-030	199-N-32		4						X
B0DX61	27-Feb-95	WATER	B95-030	199-N-50		4	X	X	X	X	X	X
B0DX63	27-Feb-95	WATER	B95-030	199-N-51		4	X	X	X	X	X	X
B0DX67	28-Feb-95	WATER	B95-030	199-N-70		4	X	X	X	X	X	X
B0DX73	1-Mar-95	WATER	B95-030	199-N-71		4			X	X	X	X
B0DX75	3-Mar-95	WATER	B95-030	199-N-74		3			X	X	X	X
B0DX76	3-Mar-95	WATER	B95-030	199-N-80		3	X	X				X
B0DX86	6-Mar-95	WATER	B95-030	199-N-54	FIELD BLK 1	4	X	X	X	X	X	X
B0DX92	6-Mar-95	WATER	B95-030	199-N-54	DUPE OF B0DX54	2	X	X	X	X	X	X
B0DX94	28-Feb-95	WATER	B95-030	199-N-70	DUPE OF B0DX67	4	X	X	X	X	X	X

Method References:

	Analysis	Method
1.	Gross Alpha	ITAS-RD-3214
2.	Gross Beta	ITAS-RD-3214
3.	Strontium-90	ITAS-RD-3204
4.	Gamma Spectroscopy	ITAS-RD-3219
5.	Tritium	ITAS-RD-3205
6.	Activity Scan	Laboratory Specific

NOTES:

ROD 95-0016

Total activity sample (B0DX76) for 222-S analysis was not collected. The lab was instructed to perform the requested analyses and note the lack of the total activity sample in the case narrative.

DATA QUALITY OBJECTIVES

Precision:	Goals for precision were met.
Accuracy:	Goals for accuracy were met.
Sample Result Verification:	Not applicable since data package contains no raw data.
Detection Limits:	Detection limit goals were met for all sample results as specified in the *Quality Assurance Project Plan for Groundwater Monitoring Activities*, WHC-SD-EN-QAPP-001, Rev. 2.
Completeness:	The data package was 100% complete for all requested analyses.

MAJOR DEFICIENCIES

No major deficiencies were identified during data validation which required qualification of data as unusable.

MINOR DEFICIENCIES

No minor deficiencies were identified during data validation which required qualification of data as estimated.

REFERENCES

EPA July 1992, *Test Methods for Evaluating Solid Waste (SW-846)*, Third Edition; U.S. Environmental Protection Agency, Washington, D.C.

WHC 1993, *Data Validation Procedures for Radiochemical Analyses*, WHC-SD-EN-SPP-001, Rev. 1, Westinghouse Hanford Company, Richland, Washington.

WHC 1993, *Quality Assurance Project Plan for Groundwater Monitoring Activities*, WHC-SD-EN-QAPP-001, Rev. 2., Westinghouse Hanford Company, Richland, Washington.

GLOSSARY OF VALIDATION APPLIED QUALIFIERS (RADIOCHEMISTRY)

Qualifiers which may be applied by data validators in compliance with the procedures herein are as follows.

U- Indicates the constituent was analyzed for, but was not detected at a concentration above the Minimum Detectable Activity (MDA). The concentration reported is the sample result corrected for sample aliquot size, dilution factors, and percent solids (in the case of solid matrices) by the laboratory. The associated data should be considered usable for decision making purposes.

UJ- Indicates the constituent was analyzed for and was not detected at a concentration above the Minimum Detectable Activity (MDA). Due to a quality control deficiency identified during data validation, the result reported may not accurately reflect the sample concentration. The associated data should be considered usable for decision making purposes.

J- Indicates a constituent was analyzed for and detected. The associated value is estimated due to a quality control deficiency identified during validation. The data should be considered usable for decision making purposes.

R- Indicates the constituent was analyzed for and detected; however, due to an identified quality control deficiency the data should be considered unusable for decision making purposes.

UR- Indicates the constituent was analyzed for and not detected; however, due to an identified quality control deficiency the data should be considered unusable for decision making purposes.

GLOSSARY OF LABORATORY APPLIED QUALIFIERS

Qualifiers which may be applied by the laboratory in compliance with applicable requirements are as follows.
Commonly used laboratory radiochemistry qualifiers:

U- Indicates the analyte was analyzed for but not detected in the sample.

J- Indicates the value reported is estimated due to the presence of interference.

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Qualification Summary Table

Qualification Summary Table
Radiochemistry

ANALYTE	TYPE	QUALIFIER	SAMPLES AFFECTED	DQO	REASON
No qualifiers by validator.					

Radiochemistry Field QC

ANALYTE	TYPE	QUALIFIER	FIELD QC SAMPLES	DQO	ASSESSMENT
ALL	FIELD QC	NONE	B0DX54/B0DX92 B0DX67/B0DX94	PRECISION	Acceptable.
ALL	FIELD QC	NONE	B0DX86 B0DX87	BLANKS	Acceptable.

Comments:

1. Data qualification is not required based on field duplicate precision, however field duplicate precision results are noted here to alert the data user to uncertainties in the data set during decision making processes.
2. Data qualification is not required based on field blanks, however field blank results are noted here to alert the data user to uncertainties in the data set during decision making processes.
3. The U qualifiers added to the Form Is are laboratory concentration qualifiers, and were not added as a result of validation.
4. The field split samples are evaluated in SDG # LK3999-LAS (VB403.46).

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Data Summary Table

RADIOCHEMISTRY
DATA SUMMARY TABLE

LATA ID#: VB403.47		HEIS #:	B0DX48		B0DX54		B0DX61		B0DX63		B0DX67		B0DX73	
		Date:	3-Mar-95		6-Mar-95		27-Feb-95		27-Feb-95		28-Feb-95		1-Mar-95	
		Matrix:	WATER		WATER		WATER		WATER		WATER		WATER	
Constituent	CAS #	Units	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q
Gross Alpha	ALPHA	pCi/L	2.94E+00		2.43E+00		4.96E-02	U	2.41E+00		5.88E-01		NR	
Gross Beta	BETA	pCi/L	9.91E+00		7.85E+02		6.55E+00		6.39E+00		5.08E+00		NR	
Strontium-90	10098-97-2	pCi/L	9.83E-01		3.34E+02		2.28E-01	U	-4.51E-02	U	2.63E-01	U	1.48E-01	U
Tritium	10028-17-8	pCi/L	9.81E+02		6.45E+03		2.78E+04		2.50E+04		3.54E+04		4.07E+02	
GAMMA-SCAN														
Cesium-137	10045-97-3	pCi/L	4.01E+00	U	-7.20E-01	U	2.51E+00	U	9.15E-01	U	5.52E-01	U	6.50E-01	U
Cobalt-58	13981-38-9	pCi/L	5.03E+00	U	-4.82E+00	U	3.07E+00	U	2.59E-01	U	-1.84E-01	U	-7.53E+00	U
Cobalt-60	10198-40-0	pCi/L	-6.64E+00	U	2.84E+00	U	-1.79E+00	U	-1.39E+00	U	4.68E+00	U	-1.47E+00	U
Europium-152	14683-23-9	pCi/L	2.07E+00	U	-5.11E+00	U	-5.56E+00	U	2.90E+00	U	1.74E+00	U	6.52E+00	U
Europium-154	15585-10-1	pCi/L	6.32E+00	U	-3.71E+00	U	2.15E+00	U	-2.53E+01	U	-8.06E-01	U	1.74E+01	U
Europium-155	14391-16-3	pCi/L	-1.83E+00	U	-8.99E-01	U	-3.77E+00	U	2.19E+00	U	-4.07E+00	U	6.52E+00	U
Iron-59	14596-12-4	pCi/L	1.98E+01	U	-1.52E+01	U	7.49E+00	U	-7.97E+00	U	-7.89E-01	U	-6.84E+00	U

LATA ID#: VB403.47		HEIS #:	B0DX75		B0DX76		B0DX86		B0DX92		B0DX94	
		Date:	3-Mar-95		3-Mar-95		6-Mar-95		6-Mar-95		28-Feb-95	
		Matrix:	WATER		WATER		WATER		WATER		WATER	
Constituent	CAS #	Units	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q
Gross Alpha	ALPHA	pCi/L	NR		2.70E+00		-6.90E-02	U	1.95E+00		1.58E+00	
Gross Beta	BETA	pCi/L	NR		6.09E+00		9.09E-01	U	8.15E+02		7.20E+00	
Strontium-90	10098-97-2	pCi/L	3.53E-01	U	NR		-3.81E-02	U	3.40E+02		-3.18E-01	U
Tritium	10028-17-8	pCi/L	1.85E+04		NR		1.37E+02	U	6.50E+03		3.41E+04	
GAMMA-SCAN												
Cesium-137	10045-97-3	pCi/L	3.60E+00	U	NR		-7.47E-01	U	-4.37E-01	U	-3.25E+00	U
Cobalt-58	13981-38-9	pCi/L	-3.06E+00	U	NR		1.04E+00	U	7.88E+00	U	-8.82E+00	U
Cobalt-60	10198-40-0	pCi/L	4.87E+00	U	NR		-5.53E-01	U	-1.61E+00	U	9.06E-01	U
Europium-152	14683-23-9	pCi/L	-6.51E+00	U	NR		-1.82E+00	U	1.74E+00	U	-1.05E+00	U
Europium-154	15585-10-1	pCi/L	6.97E+00	U	NR		-2.98E+00	U	-1.14E+01	U	1.63E+01	U
Europium-155	14391-16-3	pCi/L	4.48E+00	U	NR		3.35E+00	U	8.27E+00	U	1.46E+00	U
Iron-59	14596-12-4	pCi/L	-6.75E+00	U	NR		1.12E+01	U	-2.19E+00	U	0.00E+00	U

NOTES:

The "U" qualifers added to the Data Summary Tables and Form Is are laboratory concentration qualifiers to indicate that the results are <MDA and are not due to validation deficiencies.

NR=NOT REQUESTED

Sample Results (Form I's)

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Quanterra
Environmental Services

SAMPLE RESULTS

LAB NAME:	ITAS-RICHLAND	SDG:	W0436
LAB SAMPLE ID:	50310801	MATRIX:	WATER
CLIENT ID:	B0DX48	DATE RECEIVED:	3/6/95

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	
CO-58	5.03E+00	4.9E+00	4.9E+00	1.09E+01	pCi/L	N/A	RD3219	u
CO-60	-6.64E+00	5.2E+00	5.2E+00	6.91E+00	pCi/L	N/A	RD3219	u
CS-137DA	4.01E+00	4.3E+00	4.3E+00	8.80E+00	pCi/L	N/A	RD3219	u
EU-152	2.07E+00	1.1E+01	1.1E+01	2.02E+01	pCi/L	N/A	RD3219	u
EU-154	6.32E+00	1.3E+01	1.3E+01	2.87E+01	pCi/L	N/A	RD3219	u
EU-155	-1.83E+00	8.2E+00	8.2E+00	1.43E+01	pCi/L	N/A	RD3219	u
FE-59	1.98E+01	1.3E+01	1.4E+01	3.18E+01	pCi/L	N/A	RD3219	u
ALPHA	2.94E+00	1.5E+00	1.6E+00	1.86E+00	pCi/L	100.00%	RD3214	
BETA	9.91E+00	3.0E+00	3.1E+00	4.68E+00	pCi/L	100.00%	RD3214	
STRONTIUM	9.83E-01	3.1E-01	4.0E-01	7.79E-01	pCi/L	95.50%	RD3204	
TRITIUM	9.81E+02	1.7E+02	2.5E+02	2.84E+02	pCi/L	88.10%	RD3205	

Number of Results: 11

5-19-95

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Quanterra Environmental Services

SAMPLE RESULTS

LAB NAME:	ITAS-RICHLAND	SDG:	W0436
LAB SAMPLE ID:	50313102	MATRIX:	WATER
CLIENT ID:	B0DX54	DATE RECEIVED:	3/7/95

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	
CO-58	-4.82E+00	5.5E+00	5.6E+00	8.60E+00	pCi/L	N/A	RD3219	U
CO-60	2.84E+00	3.9E+00	4.0E+00	9.17E+00	pCi/L	N/A	RD3219	U
CS-137DA	-7.20E-01	4.3E+00	4.3E+00	7.81E+00	pCi/L	N/A	RD3219	U
EU-152	-5.11E+00	9.9E+00	9.9E+00	1.65E+01	pCi/L	N/A	RD3219	U
EU-154	-3.71E+00	1.3E+01	1.3E+01	2.35E+01	pCi/L	N/A	RD3219	U
EU-155	-8.99E-01	7.4E+00	7.4E+00	1.29E+01	pCi/L	N/A	RD3219	U
FE-59	-1.52E+01	1.3E+01	1.3E+01	1.81E+01	pCi/L	N/A	RD3219	U
ALPHA	2.43E+00	1.3E+00	1.3E+00	1.54E+00	pCi/L	100.00%	RD3214	
BETA	7.85E+02	2.0E+01	5.9E+01	4.46E+00	pCi/L	100.00%	RD3214	
STRONTIUM	3.34E+02	4.8E+00	8.0E+01	9.22E-01	pCi/L	72.10%	RD3204	
TRITIUM	6.45E+03	3.5E+02	6.4E+02	2.84E+02	pCi/L	88.10%	RD3205	

Number of Results: 11

5-19-95

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Quanterra Environmental Services

SAMPLE RESULTS

LAB NAME:	ITAS-RICHLAND	SDG:	W0436
LAB SAMPLE ID:	50251302	MATRIX:	WATER
CLIENT ID:	B0DX61	DATE RECEIVED:	2/28/95

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	
CO-58	3.07E+00	4.5E+00	4.6E+00	1.01E+01	pCi/L	N/A	RD3219	U
CO-60	-1.79E+00	5.7E+00	5.7E+00	1.04E+01	pCi/L	N/A	RD3219	U
CS-137DA	2.51E+00	3.7E+00	3.7E+00	7.65E+00	pCi/L	N/A	RD3219	U
EU-152	-5.56E+00	1.2E+01	1.2E+01	1.91E+01	pCi/L	N/A	RD3219	U
EU-154	2.15E+00	1.4E+01	1.4E+01	2.81E+01	pCi/L	N/A	RD3219	U
EU-155	-3.77E+00	1.1E+01	1.1E+01	1.76E+01	pCi/L	N/A	RD3219	U
FE-59	7.49E+00	1.2E+01	1.2E+01	2.67E+01	pCi/L	N/A	RD3219	U
ALPHA	4.96E-02	4.9E-01	4.9E-01	1.45E+00	pCi/L	100.00%	RD3214	U
BETA	6.55E+00	2.5E+00	2.5E+00	4.22E+00	pCi/L	100.00%	RD3214	
STRONTIUM	2.28E-01	2.4E-01	2.4E-01	7.86E-01	pCi/L	87.80%	RD3204	U
TRITIUM	2.78E+04	6.9E+02	2.2E+03	2.84E+02	pCi/L	88.10%	RD3205	

Number of Results: 11

5-14-95

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Quanterra
Environmental Services

SAMPLE RESULTS

LAB NAME:	ITAS-RICHLAND	SDG:	W0436
LAB SAMPLE ID:	50251301	MATRIX:	WATER
CLIENT ID:	B0DX63	DATE RECEIVED:	2/28/95

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	
CO-58	2.59E-01	6.0E+00	6.0E+00	1.11E+01	pCi/L	N/A	RD3219	U
CO-60	-1.39E+00	6.4E+00	6.4E+00	1.05E+01	pCi/L	N/A	RD3219	U
CS-137DA	9.15E-01	5.4E+00	5.4E+00	9.30E+00	pCi/L	N/A	RD3219	U
EU-152	2.90E+00	1.1E+01	1.1E+01	1.96E+01	pCi/L	N/A	RD3219	U
EU-154	-2.53E+01	1.7E+01	1.7E+01	2.20E+01	pCi/L	N/A	RD3219	U
EU-155	2.19E+00	1.1E+01	1.1E+01	1.81E+01	pCi/L	N/A	RD3219	U
FE-59	-7.97E+00	1.6E+01	1.6E+01	2.69E+01	pCi/L	N/A	RD3219	U
ALPHA	2.41E+00	1.3E+00	1.4E+00	1.40E+00	pCi/L	100.00%	RD3214	
BETA	6.39E+00	2.4E+00	2.5E+00	4.14E+00	pCi/L	100.00%	RD3214	
STRONTIUM	-4.51E-02	1.9E-01	1.9E-01	7.59E-01	pCi/L	95.00%	RD3204	U
TRITIUM	2.50E+04	6.6E+02	2.0E+03	2.84E+02	pCi/L	88.10%	RD3205	

Number of Results: 11

5-14-95

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Quanterra
Environmental Services

SAMPLE RESULTS

LAB NAME:	ITAS-RICHLAND	SDG:	W0436
LAB SAMPLE ID:	50301901	MATRIX:	WATER
CLIENT ID:	B0DX67	DATE RECEIVED:	3/1/95

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	
CO-58	-1.84E-01	6.7E+00	6.7E+00	1.23E+01	pCi/L	N/A	RD3219	U
CO-60	4.68E+00	4.2E+00	4.2E+00	1.04E+01	pCi/L	N/A	RD3219	U
CS-137DA	5.52E-01	4.3E+00	4.3E+00	8.25E+00	pCi/L	N/A	RD3219	U
EU-152	1.74E+00	1.1E+01	1.1E+01	1.93E+01	pCi/L	N/A	RD3219	U
EU-154	-8.06E-01	1.1E+01	1.1E+01	2.25E+01	pCi/L	N/A	RD3219	U
EU-155	-4.07E+00	1.0E+01	1.0E+01	1.69E+01	pCi/L	N/A	RD3219	U
FE-59	-7.89E-01	1.1E+01	1.1E+01	2.22E+01	pCi/L	N/A	RD3219	U
ALPHA	5.88E-01	7.9E-01	7.9E-01	1.49E+00	pCi/L	100.00%	RD3214	
BETA	5.08E+00	2.3E+00	2.3E+00	4.06E+00	pCi/L	100.00%	RD3214	
STRONTIUM	2.63E-01	2.3E-01	2.4E-01	7.61E-01	pCi/L	94.00%	RD3204	U
TRITIUM	3.54E+04	7.8E+02	2.7E+03	2.84E+02	pCi/L	88.10%	RD3205	

Number of Results: 11

5-19-95

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Quanterra Environmental Services

SAMPLE RESULTS

LAB NAME:	ITAS-RICHLAND	SDG:	W0436
LAB SAMPLE ID:	50305101	MATRIX:	WATER
CLIENT ID:	B0DX73	DATE RECEIVED:	3/2/95

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	
CO-58	-7.53E+00	5.8E+00	5.9E+00	8.31E+00	pCi/L	N/A	RD3219	U
CO-60	-1.47E+00	5.3E+00	5.3E+00	9.68E+00	pCi/L	N/A	RD3219	U
CS-137DA	6.50E-01	4.8E+00	4.8E+00	8.60E+00	pCi/L	N/A	RD3219	U
EU-152	6.52E+00	1.4E+01	1.4E+01	2.44E+01	pCi/L	N/A	RD3219	U
EU-154	1.74E+01	1.1E+01	1.1E+01	2.87E+01	pCi/L	N/A	RD3219	U
EU-155	6.52E+00	7.3E+00	7.4E+00	1.42E+01	pCi/L	N/A	RD3219	U
FE-59	-6.84E+00	1.7E+01	1.7E+01	2.88E+01	pCi/L	N/A	RD3219	U
STRONTIUM	1.48E-01	2.2E-01	2.3E-01	7.70E-01	pCi/L	88.40%	RD3204	U
TRITIUM	4.07E+02	1.4E+02	2.1E+02	2.84E+02	pCi/L	88.10%	RD3205	

Number of Results: 9

5-19-95

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Quanterra
Environmental Services

SAMPLE RESULTS

LAB NAME:	ITAS-RICHLAND	SDG:	W0436
LAB SAMPLE ID:	50313104	MATRIX:	WATER
CLIENT ID:	B0DX75	DATE RECEIVED:	3/7/95

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	
CO-58	-3.06E+00	4.8E+00	4.8E+00	7.73E+00	pCi/L	N/A	RD3219	4
CO-60	4.87E+00	4.8E+00	4.8E+00	1.12E+01	pCi/L	N/A	RD3219	4
CS-137DA	3.60E+00	3.9E+00	3.9E+00	8.47E+00	pCi/L	N/A	RD3219	4
EU-152	-6.51E+00	9.2E+00	9.3E+00	1.42E+01	pCi/L	N/A	RD3219	4
EU-154	6.97E+00	1.4E+01	1.4E+01	3.03E+01	pCi/L	N/A	RD3219	4
EU-155	4.48E+00	9.7E+00	9.7E+00	1.71E+01	pCi/L	N/A	RD3219	4
FE-59	-6.75E+00	1.2E+01	1.2E+01	2.07E+01	pCi/L	N/A	RD3219	4
STRONTIUM	3.53E-01	4.7E-01	4.7E-01	1.60E+00	pCi/L	88.70%	RD3204	4
TRITIUM	1.85E+04	5.7E+02	1.5E+03	2.84E+02	pCi/L	88.10%	RD3205	

Number of Results: 9

5-19-95

9613451.0742

Quanterra
Environmental Services

SAMPLE RESULTS

LAB NAME:	ITAS-RICHLAND	SDG:	W0436
LAB SAMPLE ID:	50313105	MATRIX:	WATER
CLIENT ID:	B0DX76	DATE RECEIVED:	3/7/95

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	2.70E+00	1.6E+00	1.6E+00	1.84E+00	pCi/L	100.00%	RD3214
BETA	6.09E+00	1.7E+00	1.8E+00	2.85E+00	pCi/L	100.00%	RD3214

Number of Results: 2

000018

5-14-95

~~0015~~

Quanterra
Environmental Services

SAMPLE RESULTS

LAB NAME:	ITAS-RICHLAND	SDG:	W0436
LAB SAMPLE ID:	50313101	MATRIX:	WATER
CLIENT ID:	B0DX86	DATE RECEIVED:	3/7/95

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	
CO-58	1.04E+00	5.6E+00	5.6E+00	1.05E+01	pCi/L	N/A	RD3219	U
CO-60	-5.53E-01	4.0E+00	4.0E+00	7.80E+00	pCi/L	N/A	RD3219	U
CS-137DA	-7.47E-01	4.5E+00	4.5E+00	7.79E+00	pCi/L	N/A	RD3219	U
EU-152	-1.82E+00	9.9E+00	9.9E+00	1.74E+01	pCi/L	N/A	RD3219	U
EU-154	-2.98E+00	1.0E+01	1.0E+01	1.87E+01	pCi/L	N/A	RD3219	U
EU-155	3.35E+00	7.1E+00	7.1E+00	1.27E+01	pCi/L	N/A	RD3219	U
FE-59	1.12E+01	1.0E+01	1.1E+01	2.49E+01	pCi/L	N/A	RD3219	U
ALPHA	-6.90E-02	2.1E-01	2.1E-01	8.64E-01	pCi/L	100.00%	RD3214	U
BETA	9.09E-01	1.7E+00	1.7E+00	3.85E+00	pCi/L	100.00%	RD3214	U
STRONTIUM	-3.81E-02	2.4E-01	2.4E-01	9.18E-01	pCi/L	74.10%	RD3204	U
TRITIUM	1.37E+02	1.3E+02	1.9E+02	2.84E+02	pCi/L	88.10%	RD3205	U

Number of Results: 11

5-15-95

9613451.0744

Quanterra Environmental Services

SAMPLE RESULTS

LAB NAME:	ITAS-RICHLAND	SDG:	W0436
LAB SAMPLE ID:	50313103	MATRIX:	WATER
CLIENT ID:	B0DX92	DATE RECEIVED:	3/7/95

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	
CO-58	7.88E+00	4.9E+00	5.0E+00	1.19E+01	pCi/L	N/A	RD3219	U
CO-60	-1.61E+00	4.3E+00	4.3E+00	7.26E+00	pCi/L	N/A	RD3219	U
CS-137DA	-4.37E-01	4.9E+00	4.9E+00	8.42E+00	pCi/L	N/A	RD3219	U
EU-152	1.74E+00	1.2E+01	1.2E+01	2.16E+01	pCi/L	N/A	RD3219	U
EU-154	-1.14E+01	1.5E+01	1.5E+01	2.45E+01	pCi/L	N/A	RD3219	U
EU-155	8.27E+00	9.5E+00	9.5E+00	1.79E+01	pCi/L	N/A	RD3219	U
FE-59	-2.19E+00	6.9E+00	6.9E+00	1.36E+01	pCi/L	N/A	RD3219	U
ALPHA	1.95E+00	1.2E+00	1.2E+00	1.56E+00	pCi/L	100.00%	RD3214	
BETA	8.15E+02	2.0E+01	6.1E+01	4.34E+00	pCi/L	100.00%	RD3214	
STRONTIUM	3.40E+02	4.7E+00	8.2E+01	9.03E-01	pCi/L	75.30%	RD3204	
TRITIUM	6.50E+03	3.5E+02	6.4E+02	2.84E+02	pCi/L	88.10%	RD3205	

Number of Results: 11

5-16-95

9613451.0745

Quanterra
Environmental Services

SAMPLE RESULTS

LAB NAME:	ITAS-RICHLAND	SDG:	W0436
LAB SAMPLE ID:	50301902	MATRIX:	WATER
CLIENT ID:	B0DX94	DATE RECEIVED:	3/1/95

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	
CO-58	-8.82E+00	7.8E+00	7.8E+00	1.15E+01	pCi/L	N/A	RD3219	U
CO-60	9.06E-01	6.0E+00	6.0E+00	1.12E+01	pCi/L	N/A	RD3219	U
CS-137DA	-3.25E+00	5.6E+00	5.6E+00	8.43E+00	pCi/L	N/A	RD3219	U
EU-152	-1.05E+00	1.2E+01	1.2E+01	2.05E+01	pCi/L	N/A	RD3219	U
EU-154	1.63E+01	1.0E+01	1.1E+01	2.85E+01	pCi/L	N/A	RD3219	U
EU-155	1.46E+00	7.9E+00	7.9E+00	1.45E+01	pCi/L	N/A	RD3219	U
FE-59	0.00E+00	1.2E+01	1.2E+01	2.32E+01	pCi/L	N/A	RD3219	U
ALPHA	1.58E+00	1.2E+00	1.2E+00	1.58E+00	pCi/L	100.00%	RD3214	
BETA	7.20E+00	2.5E+00	2.6E+00	4.15E+00	pCi/L	100.00%	RD3214	
STRONTIUM	-3.18E-01	2.7E-01	2.8E-01	1.21E+00	pCi/L	54.40%	RD3204	U
TRITIUM	3.41E+04	7.6E+02	2.7E+03	2.84E+02	pCi/L	88.10%	RD3205	

Number of Results: 11

5-19-95

9613451.0746

Checklist

9613451.0747

LATA RADIOCHEMISTRY
DATA VALIDATION CHECKLIST

VALIDATION LEVEL:	A	B	C	D	E

VALIDATION PROCEDURE:	☐ WHC-CM-5-3, Rev. 0		☒ WHC-SD-EN-SPP-001, Rev. 1
PROJECT:	100-NR-2 ROUND 7	SDG:	W0436-QES
VALIDATOR:	MC WEBB 5-25-95	LATA NO:	VB403.47
DATE:	19-May-95		
REVIEWER:	AM FREIER 5-30-95	LAB:	QES
CASE:	N/A		
SAF NO:	B95-030	QAPP NO:	WHC-SD-EN-QAPP-001, R2
SAP NO:	N/A		

ANALYSES REQUESTED

☒ Gross Alpha ITAS-RD-3214	☒ Gross Beta ITAS-RD-3214	☒ Strontium-90 ITAS-RD-3204	☒ Gamma Spec ITAS-RD-3219	☒ Tritium ITAS-RD-3205	☒ Activity Scan Lab Specific

SAMPLE NO.	MATRIX
B0DX48 B0DX54	WATER
B0DX61 B0DX63	
B0DX67 B0DX73	
B0DX75 B0DX76	
B0DX86 B0DX92	
B0DX94	

COMMENTS:

Not all analyses were requested for each sample. Refer to Analyses Requested in the case narrative for details.

ROD 95-0016 Total activity sample (B0DX76) for 222-S analysis was not collected. The lab was instructed to perform the requested analyses and note the lack of the total activity sample in the case narrative.

1. DATA PACKAGE COMPLETENESS AND CASE NARRATIVE	YES	NO	N/A
Is technical verification documentation present?	☒	☐	☐
Is a case narrative present?	☒	☐	☐

2. HOLDING TIMES	YES	NO	N/A
Are sample holding times acceptable?	☒	☐	☐
Are samples preserved correctly?	☒	☐	☐

See HOLDING TIME SUMMARY form

3. INSTRUMENT PERFORMANCE AND CALIBRATIONS	YES	NO	N/A
Were instruments/detectors calibrated within one year of sample analysis?	☐	☐	☒
Are initial calibrations acceptable?	☐	☐	☒
Are standards NIST traceable?	☐	☐	☒
Are standards acceptable?	☐	☐	☒

Comments:

DATA RADIOCHEMISTRY
DATA VALIDATION CHECKLIST

4. CONTINUING CALIBRATION

	YES	NO	N/A
Background checked at proper frequency?			X
Background check acceptable?			X
Efficiency checked at proper frequency?			X
Efficiency check acceptable?			X
Calibration check standards NIST traceable?			X
Calibration check standards acceptable?			X

If NO(s) are checked, see CALIBRATION DATA SUMMARY form

5. BLANKS

	YES	NO	N/A
Were method blanks analyzed?	X		
Are the method blanks free of analytes?	X		
Were method blank results acceptable?	X		
Validation calculation/transcription checks were performed and are acceptable.			X

If NO(s) are checked, see BLANK DATA SUMMARY form

6. ACCURACY

	YES	NO	N/A
Were spike samples analyzed at the proper frequency?	X		
Are all spike sample recoveries acceptable?	X		
Were laboratory control standards (LCS) analyzed at the proper frequency?	X		
Are all LCS recoveries acceptable?	X		
Was a tracer/chemical carrier added?	X		
Was the tracer/chemical carrier recovery acceptable?	X		
Are standard sources traceable?			X
Are standards acceptable?			X
Validation calculation checks were performed and are acceptable.			X

If NO(s) are checked, see ACCURACY DATA SUMMARY form

7. PRECISION

	YES	NO	N/A
Were laboratory duplicates analyzed at the proper frequency?	X		
Are all duplicate RPD values acceptable?	X		
Validation calculation checks were performed and are acceptable.			X

If NO(s) are checked, see PRECISION DATA SUMMARY form

8. FIELD QC SAMPLES

	YES	NO	N/A
Were field QC samples (field/trip blanks, duplicates, splits, performance audit) identified?	X		
Are field blank results acceptable? (see Blank Data Summary form)	X		
Are field duplicate RPD values acceptable? (see Field QC Evaluation)	X		
Are field split RPD values acceptable? (see Comments)			X
Are performance audit sample results acceptable?			X

Comments: B0DX48 is a split of B0DX98. The field split is evaluated in the VB403.46 (LK3999-LAS).

B0DX86 is a field blank. B0DX92 is a duplicate of B0DX54. B0DX94 is a duplicate of B0DX67.

9. REPORTED RESULTS AND DETECTION LIMITS

	YES	NO	N/A
Are results reported for all requested analyses?	X		
Are all results supported in the raw data?			X
Are results calculated properly?			X
Do MDAs meet the RDLs?	X		
Validation calculation checks were performed and are acceptable.			X

Comments: Ru-106 and Sb-25 are requested in the QAPP, but not in the SAF or on the COC.

VALIDATION SUMMARY

For deficiencies (major and minor) and comments, please refer to the Qualification Summary Table.

LATA RADIOCHEMISTRY
DATA VALIDATION CHECKLIST

HOLDING TIME SUMMARY

SDG:	W0436-QES	VALIDATOR:	MC WEBB	DATE:	19-May-95
PROJECT:	100-NR-2 ROUND 7	REVIEWER:	AM FREIER	LATA NO.:	VB403.47

HEIS-SN	MATRIX CODE	ANALYSIS	DATE COLLECTED	PREP DATE	ANALYSIS DATE	PREP HT (days)	*Required HT (days)*	ANALYSIS HT (days)	*Required HT (days)*	VAL Q
B0DX48	WATER	Gamma Scan	3-Mar-95	NA	5-Apr-95	NA	***180***	33	***180***	None
B0DX54	WATER	Gamma Scan	6-Mar-95	NA	5-Apr-95	NA	***180***	30	***180***	None
B0DX61	WATER	Gamma Scan	27-Feb-95	NA	5-Apr-95	NA	***180***	37	***180***	None
B0DX63	WATER	Gamma Scan	27-Feb-95	NA	5-Apr-95	NA	***180***	37	***180***	None
B0DX67	WATER	Gamma Scan	28-Feb-95	NA	5-Apr-95	NA	***180***	36	***180***	None
B0DX73	WATER	Gamma Scan	1-Mar-95	NA	5-Apr-95	NA	***180***	35	***180***	None
B0DX75	WATER	Gamma Scan	3-Mar-95	NA	5-Apr-95	NA	***180***	33	***180***	None
B0DX76	WATER	Gamma Scan	3-Mar-95	NA	5-Apr-95	NA	***180***	33	***180***	None
B0DX86	WATER	Gamma Scan	6-Mar-95	NA	5-Apr-95	NA	***180***	30	***180***	None
B0DX92	WATER	Gamma Scan	6-Mar-95	NA	5-Apr-95	NA	***180***	30	***180***	None
B0DX94	WATER	Gamma Scan	28-Feb-95	NA	5-Apr-95	NA	***180***	36	***180***	None
B0DX48	WATER	Tritium	3-Mar-95	31-Mar-95	04-Apr-95	28	***180***	32	***180***	None
B0DX54	WATER	Tritium	6-Mar-95	31-Mar-95	04-Apr-95	25	***180***	29	***180***	None
B0DX61	WATER	Tritium	27-Feb-95	31-Mar-95	04-Apr-95	32	***180***	36	***180***	None
B0DX63	WATER	Tritium	27-Feb-95	31-Mar-95	04-Apr-95	32	***180***	36	***180***	None
B0DX67	WATER	Tritium	28-Feb-95	31-Mar-95	04-Apr-95	31	***180***	35	***180***	None
B0DX73	WATER	Tritium	1-Mar-95	31-Mar-95	04-Apr-95	30	***180***	34	***180***	None
B0DX75	WATER	Tritium	3-Mar-95	31-Mar-95	04-Apr-95	28	***180***	32	***180***	None
B0DX76	WATER	Tritium	3-Mar-95	31-Mar-95	04-Apr-95	28	***180***	32	***180***	None
B0DX86	WATER	Tritium	6-Mar-95	31-Mar-95	04-Apr-95	25	***180***	29	***180***	None
B0DX92	WATER	Tritium	6-Mar-95	31-Mar-95	04-Apr-95	25	***180***	29	***180***	None
B0DX94	WATER	Tritium	28-Feb-95	31-Mar-95	04-Apr-95	31	***180***	35	***180***	None
B0DX48	WATER	Strontium-90	3-Mar-95	NA	09-Apr-95	NA	***180***	37	***180***	None
B0DX54	WATER	Strontium-90	6-Mar-95	NA	09-Apr-95	NA	***180***	34	***180***	None
B0DX61	WATER	Strontium-90	27-Feb-95	NA	09-Apr-95	NA	***180***	41	***180***	None
B0DX63	WATER	Strontium-90	27-Feb-95	NA	09-Apr-95	NA	***180***	41	***180***	None
B0DX67	WATER	Strontium-90	28-Feb-95	NA	09-Apr-95	NA	***180***	40	***180***	None
B0DX73	WATER	Strontium-90	1-Mar-95	NA	09-Apr-95	NA	***180***	39	***180***	None
B0DX75	WATER	Strontium-90	3-Mar-95	NA	09-Apr-95	NA	***180***	37	***180***	None
B0DX76	WATER	Strontium-90	3-Mar-95	NA	09-Apr-95	NA	***180***	37	***180***	None
B0DX86	WATER	Strontium-90	6-Mar-95	NA	09-Apr-95	NA	***180***	34	***180***	None
B0DX92	WATER	Strontium-90	6-Mar-95	NA	09-Apr-95	NA	***180***	34	***180***	None

LATA RADIOCHEMISTRY
DATA VALIDATION CHECKLIST

HEIS-SN	MATRIX CODE	ANALYSIS	DATE COLLECTED	PREP DATE	ANALYSIS DATE	PREP HT (days)	***Required HT (days)***	ANALYSIS HT (days)	***Required HT (days)***	VAL Q
B0DX94	WATER	Strontium-90	28-Feb-95	NA	09-Apr-95	NA	***180***	40	***180***	None
B0DX48	WATER	Gross Alpha	3-Mar-95	NA	17-Apr-95	NA	***180***	45	***180***	None
B0DX54	WATER	Gross Alpha	6-Mar-95	NA	17-Apr-95	NA	***180***	42	***180***	None
B0DX61	WATER	Gross Alpha	27-Feb-95	NA	06-Apr-95	NA	***180***	38	***180***	None
B0DX63	WATER	Gross Alpha	27-Feb-95	NA	06-Apr-95	NA	***180***	38	***180***	None
B0DX67	WATER	Gross Alpha	28-Feb-95	NA	06-Apr-95	NA	***180***	37	***180***	None
B0DX73	WATER	Gross Alpha	1-Mar-95	NA	06-Apr-95	NA	***180***	36	***180***	None
B0DX75	WATER	Gross Alpha	3-Mar-95	NA	06-Apr-95	NA	***180***	34	***180***	None
B0DX76	WATER	Gross Alpha	3-Mar-95	NA	06-Apr-95	NA	***180***	34	***180***	None
B0DX86	WATER	Gross Alpha	6-Mar-95	NA	06-Apr-95	NA	***180***	31	***180***	None
B0DX92	WATER	Gross Alpha	6-Mar-95	NA	17-Apr-95	NA	***180***	42	***180***	None
B0DX94	WATER	Gross Alpha	28-Feb-95	NA	06-Apr-95	NA	***180***	37	***180***	None
B0DX48	WATER	Gross Beta	3-Mar-95	NA	06-Apr-95	NA	***180***	34	***180***	None
B0DX54	WATER	Gross Beta	6-Mar-95	NA	06-Apr-95	NA	***180***	31	***180***	None
B0DX61	WATER	Gross Beta	27-Feb-95	NA	06-Apr-95	NA	***180***	38	***180***	None
B0DX63	WATER	Gross Beta	27-Feb-95	NA	06-Apr-95	NA	***180***	38	***180***	None
B0DX67	WATER	Gross Beta	28-Feb-95	NA	06-Apr-95	NA	***180***	37	***180***	None
B0DX73	WATER	Gross Beta	1-Mar-95	NA	06-Apr-95	NA	***180***	36	***180***	None
B0DX75	WATER	Gross Beta	3-Mar-95	NA	06-Apr-95	NA	***180***	34	***180***	None
B0DX76	WATER	Gross Beta	3-Mar-95	NA	17-Apr-95	NA	***180***	45	***180***	None
B0DX86	WATER	Gross Beta	6-Mar-95	NA	06-Apr-95	NA	***180***	31	***180***	None
B0DX92	WATER	Gross Beta	6-Mar-95	NA	06-Apr-95	NA	***180***	31	***180***	None
B0DX94	WATER	Gross Beta	28-Feb-95	NA	06-Apr-95	NA	***180***	37	***180***	None

LATA RADIOCHEMISTRY
DATA VALIDATION CHECKLIST

BLANK DATA SUMMARY

SDG:	W0436-QES		VALIDATOR: MC WEBB			DATE: 19-May-95	
PROJECT:	100-NR-2 ROUND 7		REVIEWER: AM FREIER			LATA NO.: VB403.47	
BLANK ID	ANALYTE	RESULT	LAB Q	UNITS	5X RESULT	SAMPLES AFFECTED	VAL Q
B0DX86 Field Blank	All	ND				NONE	NONE

FIELD QC RADIOCHEMISTRY
FIELD DUPLICATE EVALUATION

LATA ID#: VB403.47		HEIS #:	B0DX54		B0DX92		RPD	DIF	RDL
		Date:	6-Mar-95		6-Mar-95				pCi/L
		Matrix:	WATER		WATER				
			ORIGINAL		DUPLICATE				
Constituent	CAS #	Units	Results	Q	Results	Q			
Gross Alpha	ALPHA	pCi/L	2.43E+00		1.95E+00			0.48	3
Gross Beta	BETA	pCi/L	7.85E+02		8.15E+02		3.8%		4
Strontium-90	10098-97-2	pCi/L	3.34E+02		3.40E+02		1.8%		2
Tritium	10028-17-8	pCi/L	6.45E+03		6.50E+03		0.8%		400
GAMMA-SCAN									
Cesium-137	10045-97-3	pCi/L	-7.20E-01	U	-4.37E-01	U			15
Cobalt-58	13981-38-9	pCi/L	-4.82E+00	U	7.88E+00	U			15
Cobalt-60	10198-40-0	pCi/L	2.84E+00	U	-1.61E+00	U			25
Europium-152	14683-23-9	pCi/L	-5.11E+00	U	1.74E+00	U			50
Europium-154	15585-10-1	pCi/L	-3.71E+00	U	-1.14E+01	U			50
Europium-155	14391-16-3	pCi/L	-8.99E-01	U	8.27E+00	U			50
Iron-59	14596-12-4	pCi/L	-1.52E+01	U	-2.19E+00	U			30

LATA ID#: VB403.47		HEIS #:	B0DX67		B0DX94		RPD	DIF	RDL
		Date:	28-Feb-95		28-Feb-95				pCi/L
		Matrix:	WATER		WATER				
			ORIGINAL		DUPLICATE				
Constituent	CAS #	Units	Results	Q	Results	Q			
Gross Alpha	ALPHA	pCi/L	5.88E-01		1.58E+00			0.99	3
Gross Beta	BETA	pCi/L	5.08E+00		7.20E+00			2.12	4
Strontium-90	10098-97-2	pCi/L	2.63E-01	U	-3.18E-01	U			2
Tritium	10028-17-8	pCi/L	3.54E+04		3.41E+04		3.7%		400
GAMMA-SCAN									
Cesium-137	10045-97-3	pCi/L	5.52E-01	U	-3.25E+00	U			15
Cobalt-58	13981-38-9	pCi/L	-1.84E-01	U	-8.82E+00	U			15
Cobalt-60	10198-40-0	pCi/L	4.68E+00	U	9.06E-01	U			25
Europium-152	14683-23-9	pCi/L	1.74E+00	U	-1.05E+00	U			50
Europium-154	15585-10-1	pCi/L	-8.06E-01	U	1.63E+01	U			50
Europium-155	14391-16-3	pCi/L	-4.07E+00	U	1.46E+00	U			50
Iron-59	14596-12-4	pCi/L	-7.89E-01	U	0.00E+00	U			30

EVALUATION:

1. Field duplicates are not evaluated for precision if both results are non-detect.
2. If sample results are >5*RDL, the RPD is used for evaluation.
3. If sample results are <5*RDL, the DIF is used for evaluation.
4. All positive results have exhibited acceptable precision.

Shaded areas indicate changes by the validator.

9613451.0754

Laboratory Case Narrative

9613451.0755

Quanterra Environmental Services

Quanterra Incorporated
2800 George Washington Way
Richland, Washington 99352

509 375-3131 Telephone
509 375-5590 Fax

CERTIFICATE OF ANALYSIS

Bechtel Hanford, Inc.
345 Hills
Richland, WA 99352

April 18, 1995

Attention: Joan Kessner

SAF Number	:	B95-030
Date SDG Closed	:	March 7, 1995
Number of Samples	:	Eleven (11)
Sample Type	:	Water
SDG Number	:	W0436
Data Deliverable	:	Summary

APR 1995
RECEIVED
Data
Log In

I. Introduction

On February 28, March 1, 2, 6, and 7, 1995, a total of eleven water samples were received by the Quanterra Environmental Services Richland Laboratory (QTESRL) for radiochemical analysis. Upon receipt, the samples were assigned the following laboratory ID numbers to correspond with the Bechtel Hanford, Inc. (BHI) specific IDs:

QTESRL ID	BHI ID	Matrix	Date of Receipt
50251301	B0DX63	Water	2/28/95
50251302	B0DX61	Water	2/28/95
50301901	B0DX67	Water	3/1/95
50301902	B0DX94	Water	3/1/95
50305101	B0DX73	Water	3/2/95
50310801	B0DX48	Water	3/6/95
50313101	B0DX86	Water	3/7/95
50313102	B0DX54	Water	3/7/95
50313103	B0DX92	Water	3/7/95
50313104	B0DX75	Water	3/7/95
50313105	B0DX76	Water	3/7/95

~~0002~~
CMS 5-30-95

II. Analytical Results/Methodology

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information, analytical results and the appropriate associated statistical errors.

The requested analyses were:

Gamma Spectroscopy
Gamma Scan by method ITAS-RD-3219
Gas Proportional Counting
Gross Alpha by method ITAS-RD-3214
Gross Beta by method ITAS-RD-3214
Strontium-90 by method ITAS-RD-3204
Liquid Scintillation Counting
Tritium by method ITAS-RD-3205

III. Quality Control

The analytical results for each analysis performed under SDG W0436 include a minimum of one Laboratory Control Sample (LCS), one method (reagent) blank, and one duplicate. Any exceptions have been noted in the "Comments" section.

Quality control sample results are reported in the same units as sample results.

IV. Comments

Gamma Spectroscopy

Gamma Scan by method ITAS-RD-3219
The Fe-59 RDL was exceeded for sample B0DX48. The RDLs were achieved by the blank, therefore, the sample data is accepted. The LCS, batch blank, sample and sample duplicate (B0DX67) results are within contractual requirements, except as noted.

Gas Proportional Counting

Gross Alpha by method ITAS-RD-3214
Samples B0DX48, B0DX54, and B0DX92 did not meet the RDL on the initial count. The sample aliquot sizes had been reduced to 75, 80, and 90 mL respectively, due to high dissolved solids (matrix effect). The reduction in sample aliquot size is required to keep the precipitate weight within the calibration range for the analysis. The samples were recounted for 200 minutes. The recount results are within contractual limits and reported. The LCS, batch blank, sample and sample duplicate (B0DX67) results are within contractual requirements.

Gross Beta by method ITAS-RD-3214
Sample B0DX76 was recounted for 100 minutes because the achieved MDA of 4.4 pCi/L exceeded the RDL of 4 pCi/L. The recount result is within contractual limits and reported. The LCS, batch blank, sample and sample duplicate (B0DX67) results are within contractual requirements.

Strontium-90 by method ITAS-RD-3204
The LCS, batch blank, sample and sample duplicate (B0DX75) results are within contractual requirements.

Liquid Scintillation Counting

Tritium by method ITAS-RD-3205
BHI SDG W0436 was batched and analyzed with BHI SDG W0437. Each SDG was analyzed using separate LCS and blank samples, however, the instrument blanks are shared for the batch. The LCS, batch blank, sample and sample duplicate (B0DX48) results are within contractual requirements.

Quanterra
Environmental Services

I certify that this Certificate of Analysis 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:

Suzanne Gaines

Suzanne Gaines
Project Manager

Chain-of-Custody Information

Bechtel Hanford Incorporated

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Date Turnaround: [ ] Priority [X] Normal

Collector: K. Lee / A Rizzo	Company Contact: J. V. Borghese	Telephone No.: (509) 372-9584
Project Designation: 100-NR-2 Groundwater Sampling - Round 7	Sampling Location: 100 N	SAF No.: B95-030
Ice Chest No.: SML-502	Field Logbook No.: EFL-1058	Method of Shipment: Hand Delivered
Shipped To: Quanterra	Offsite Property No.: PH. / NA / /	Bill of Lading/Air Bill No.: NA /

Possible Sample Hazards/Remarks

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

SAMPLE ANALYSIS: 503107

Sample No.	Matrix*	Date Sampled	Time Sampled	A	B	C	D	E	F	G	H	I	J	K	5031080		A	B
Preservative				HNO3	Cool 4C	H2SO4	HCl		Cool 4C	Cool 4C		Cool 4C	Cool 4C	Cool 4C	HNO3	HNO3	HNO3	Cool 4C
Type of Container				G	P/G	G	Gs*		P/G	P/G		P	G	P	G	G	G	P/G
No. of Container(s)				1	1	3	3		1	1		1	3	1	7 3	3	1	1
Volume				500mL	500mL	1L	1L		500mL	250mL		250mL	500mL	20mL	1L	500mL	500mL	500mL
SAMPLE ANALYSIS				ICP Metals-TAL Unfiltered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Unfiltered	Oil and Grease	TPH —		Conductivity	Turbidity		pH	Tritium	Activity Scan	Gross Alpha, Gross Beta, Sr-90, Gamma Spec	Gross Alpha, Gross Beta, Sr-90, Gamma Spec	ICP Metals-TAL Filtered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Filtered
01 BODX48	W	3-3-95	1054	X	X	X	X		X	X		X	X	X	X	X		
02 BODX49	W	3-3-95	1054													3341	X	X

SDG W0436

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: AGR 220	Date/Time: 3-3-95 1225	Received By: David Stillman EPC	Date/Time: 3-3-95 1225
Relinquished By: David Stillman EPC	Date/Time: 3-3-95 1315	Received By: K. Trapp / K. Trapp	Date/Time: 3/3/95 1311
Relinquished By: K. Trapp / K. Trapp	Date/Time: 11.50	Received By: Karen Stettenbenz	Date/Time: 3-6-95 11 50
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS

Sample analysis for PO4, NO2, and NO3 by EPA 300.0; turbidity by EPA 180.1; and pH by SW-846 9040 are being requested for information only. The ERC Contractor acknowledges that the hold times will not be met.

The Activity Scan is for all samples listed on this chain of custody.

Gs* = Glass with septum top. No head space.

Gross Alpha, Gross Beta provided in 7 (4) Glass Bottles instead of 6 (4) and 1 Sterile AR 3-3-95

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 | Title | Date/Time

FINAL SAMPLE DISPOSITION: Disposal Method | Disposed By | Date/Time

DISTRIBUTION: Original Sample Yellow - Sampler

BC-6000-828 (12/92)

9613451.0760

CMO 5-30-95

0000036

0000039

Bechtel Hanford Incorporated

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: K. Lee / A. Rizzo	Company Contact: J. V. Borghese	Telephone No.: (509) 372-9584
Project Designation: 100-NR-2 Groundwater Sampling - Round 7	Sampling Location: 100 N	SAF No.: B95-030
Ice Chest No.: ER26	Field Logbook No.: EFL -1058	Method of Shipment: Hand Delivered
Shipped To: Quanterra	Offsite Property No.: N/A	Bill of Lading/Air Bill No.: N/A
Possible Sample Hazards/Remarks		

Sample No.	Matrix*	Date Sampled	Time Sampled	A	B	C/D/E	F/G/H	I	J	K								
Preservative				HNO3	Cool 4C	H2SO4	HCl	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	HNO3	HNO3		HNO3	Cool 4C	
Type of Container				G	P/G	G	Gs*	P/G	P/G	P	G	P	G	G		G	P/G	
No. of Container(s)				1	1	3	3	1	1	1	3	1	6	1		1	1	
Volume				500mL	500mL	1L	1L	500mL	250mL	250mL	500mL	20mL	1L	500mL		500mL	500mL	
SAMPLE ANALYSIS 50313C				ICP Metals-TAL Unfiltered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Unfiltered	Oil and Grease	TPH	Conductivity	Turbidity	pH	Tritium 50313	Activity Scan 3102	Gross Alpha, Gross Beta, Sr-90, Gamma Spec	Gross Alpha, Gross Beta, Sr-90, Gamma Spec		ICP Metals-TAL Filtered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Filtered	
BODX54 03	W	3-6-95	1115	X	X	X	X	X	X	X	X	X	X	X				
BODX55 04	W	3-6-95	1115													A X	B X	

CHAIN OF POSSESSION	Sign/Print Names	Date/Time
Relinquished By: AG Rizzo (ERC)		3-6-95 1330
Received By: J. Trapp/K. Trapp ERC		3/6/95 1330
Relinquished By: K. Moore/K. Trapp ERC		3/7/95 0905
Received By: Bwhitten		3-7-95 0905
Relinquished By: Bwhitten		3-7-95 1030
Received By: Heidelberg		3/7/95 1030
Relinquished By		
Received By		

SPECIAL INSTRUCTIONS

Sample analysis for PO4, NO2, and NO3 by EPA 300.0; turbidity by EPA 180.1; and pH by SW-846 9040 are being requested for information only. The ERC Contractor acknowledges that the hold times will not be met.

The Activity Scan is for all samples listed on this chain of custody.

Gs* = Glass with septum top. No head space.

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	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original - Sample Yellow - Sampler

BC-6000-B2B (12/92)

Cms 5-30-95

000037

000051

Bechtel Hanford Incorporated

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Date Turnaround: [ ] Priority [X] Normal

Collector: K. Lee / A Rizzo	Company Contact: J. V. Borghese	Telephone No.: (509) 372-9584
Project Designation: 100-NR-2 Groundwater Sampling - Round 7	Sampling Location: 100 N	SAF No.: B95-030
Ice Chest No.: KT 2/27/95 ~~GW5-122~~ Homeboy	Field Logbook No.: EFL-1058	Method of Shipment: Hand Delivered
Shipped To: Quanterra	Offsite Property No.: PH 1 NA	Bill of Lading/Air Bill No.: NA 1
Possible Sample Hazards/Remarks:		

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

SAMPLE ANALYSIS: 502512

Sample No.	Matrix*	Date Sampled	Time Sampled	A	B	~~C~~	~~D~~	~~E~~	~~F~~	~~G~~	~~H~~	~~I~~	~~J~~	~~K~~	~~L~~	~~M~~	~~N~~	~~O~~	~~P~~	A	B
				Preservative	HNO3	Cool 4C	H2SO4	HCl	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	HNO3	HNO3		HNO3	Cool 4C		
				Type of Container	G	P/G	G	Gs*	P/G	P/G	P	G	P	G	G			G	P/G		
				No. of Container(s)	1	1	3	3	1	1	1	3	1	6	1			1	1		
				Volume	500mL	500mL	1L	1L	500mL	250mL	250mL	500mL	20mL	1L	500mL			500mL	500mL		
					ICP Metals-TAL Unfiltered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Unfiltered	Oil and Grease	TPH	Conductivity	Turbidity	pH	Tritium	Activity Scan	Gross Alpha, Gross Beta, Sr-90, Gamma Spec	Gross Alpha, Gross Beta, Sr-90, Gamma Spec			ICP Metals-TAL Filtered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Filtered		
									C	O	E	502513	02								
03	BOOX61	W	2-27-95	1040	X	X			X	X	X	X	X	X	X						
04	BOOX62	W	2-27-95	1040														X	X		
										D - label on PH Container											
										E - LABel on Turbidity container											

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: A. Rizzo	Date/Time: 2-27-95 1345	Received By: K. Trapp/K. Trapp	Date/Time: 2/27/95 1315
Relinquished By: K. Trapp/K. Trapp	Date/Time: 2/28/95 1041	Received By: A. Boyd Quoten	Date/Time: 2-28-95 1050
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:

SPECIAL INSTRUCTIONS

Sample analysis for PO4, NO2, and NO3 by EPA 300.0; turbidity by EPA 180.1; and pH by SW-846 9040 are being requested for information only. The ERC Contractor acknowledges that the hold times will not be met.

The Activity Scan is for all samples listed on this chain of custody.

Gs* = Glass with septum top. No head space.

SDG W0436

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	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

OMO 530-95

0000038

Bechtel Hanford Incorporated

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priority [X] Normal

Collector	K. Lee / A. Rizzo
Company Contact	J. V. Borghese
Telephone No.	(509) 372-9584
Project Designation	100-NR-2 Groundwater Sampling - Round 7
Sampling Location	100 N
SAF No.	B95-030
Ice Chest No.	SML-502
Field Logbook No.	EFL-1058
Method of Shipment	Hand Delivered
Shipped To	Quanterra
Offsite Property No.	PH= 1 NA
Bill of Lading/Air Bill No.	NA 1
Possible Sample Hazards/Remarks	
Special Handling and/or Storage	Maintain samples between 2C and 6C.

SAMPLE ANALYSIS: 502512

Sample No.	Matrix*	Date Sampled	Time Sampled	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
Preservative				HNO3	Cool 4C	H2SO4	HCl	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	HNO3	HNO3		HNO3	Cool 4C	
Type of Container				G	P/G	G	Gs*	P/G	P/G	P	G	P	G	G		G	P/G	
No. of Container(s)				1	1	3	3	1	1	1	3	1	6	1		1	1	
Volume				500mL	500mL	1L	1L	500mL	250mL	250mL	500mL	20mL	1L	500mL		500mL	500mL	
				ICP Metals-TAL Unfiltered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Unfiltered	Oil and Grease	TPH	Conductivity	Turbidity	pH	Tritium	Activity Scan	Gross Alpha, Gross Beta, Sr-90, Gamma Spec	Gross Alpha, Gross Beta, Sr-90, Gamma Spec		ICP Metals-TAL Filtered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Filtered	
								C	D	E	5025	1301						
01 BOOX63	W	2-27-95	0932	X	X			X	X	X	X	X	X	X				
02 BOOX64	W	2-27-95	0932													X	X	

A B ~~C D E F G H I J K~~ L M N O

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
A. Rizzo	2-27-95 1315	K. Trapp / K. Trapp	2/27/95 1315
K. Trapp / K. Trapp	2/28/95 1041	A. Boyd Quanterra	2-28-95 1050

SPECIAL INSTRUCTIONS

Sample analysis for PO4, NO2, and NO3 by EPA 300.0; turbidity by EPA 180.1; and pH by SW-846 9040 are being requested for information only. The ERC Contractor acknowledges that the hold times will not be met.

The Activity Scan is for all samples listed on this chain of custody.

Gs* = Glass with septum top. No head space.

SDG W0436

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 | Title | Date/Time

FINAL SAMPLE DISPOSITION: Disposal Method | Disposed By | Date/Time

DISTRIBUTION: Original - Sample Yellow - Sampler

BC-6000-828 (12/92)

AMO 5-30-95

0000008

000039

9613151.0763

Bechtel Hanford Incorporated

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priority [X] Normal

Collector: K. D. Lee
Company Contact: J. V. Borghese
Telephone No.: (509) 372-9584
Project Designation: 100-NR-2 Groundwater Sampling - Round 7
Sampling Location: 100 N
SAF No.: B95-030
Ice Chest No.: GW-133
Field Logbook No.: EFL - ~~1058~~ 1053
Method of Shipment: Hand Delivered
Shipped To: Quanterra
Offsite Property No.: PH 1 NA
Bill of Lading/Air Bill No.: NA 1
Possible Sample Hazards/Remarks: UNKNOWN

Preservative	HNO3	Cool 4C	H2SO4	HCl	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	HNO3	HNO3		HNO3	Cool 4C	
Type of Container	G	~~P~~/G	G	Gs*	~~P~~/G	P/~~G~~	P	G	P	G	G		G	~~P~~/G	
No. of Container(s)	1	1	3	3	1	1	1	3	1	6	1		1	1	
Volume	500mL	500mL	1L	1L	500mL	250mL	250mL	500mL	20mL	1L	500mL		500mL	500mL	
SAMPLE ANALYSIS 503018	ICP Metals-TAL Unfiltered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Unfiltered	Oil and Grease	TPH	Conductivity C	Turbidity D	pH E	Tritium	Activity Scan	Gross Alpha, Gross Beta, Sr-90, Gamma Spec	Gross Alpha, Gross Beta, Sr-90, Gamma Spec		ICP Metals-TAL Filtered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Filtered	

Sample No.	Matrix*	Date Sampled	Time Sampled															
B0DX67 01	W	2/28/95	1052	A X	B X			X	X	X	X	X	503018 X	101 X				
B0DX68 02	W	2/28/95	1052													A X	B X	

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By	Date/Time	Received By	Date/Time
K. D. Lee	2/28/95 1340	K. Trapp / K. Trapp	2/28/95 1340
K. Trapp / K. Trapp	3/1/95 100	[illegible]	3/1/95 1020
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS

Sample analysis for PO4, NO2, and NO3 by EPA 300.0; turbidity by EPA 180.1; and pH by SW-846 9040 are being requested for information only. The ERC Contractor acknowledges that the hold times will not be met.

The Activity Scan is for all samples listed on this chain of custody.

Gs* = Glass with septum top. No head space.

SDG W0436

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	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION Original - Sample Yellow - Sampler

BC-6000-828 (12/92)

CMW 5-30-95

0000019

0000340

Temp 5° All cont. 100% Full CUR 3078

Bechtel Hanford Incorporated

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Date Turnaround: ☐ Priority ☒ Normal

Collector: Moreno / Golt	Company Contact: J. V. Borghese	Telephone No.: (509) 372-9584
Project Designation: 100-NR-2 Groundwater Sampling - Round 7	Sampling Location: 100 N	SAF No.: B95-030
Ice Chest No.: ER-402.	Field Logbook No.: NA	Method of Shipment: Hand Delivered
Shipped To: Quanterra	Offsite Property No.: NA	Bill of Lading/Air Bill No.: NA
Possible Sample Hazards/Remarks:		

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

SAMPLE ANALYSIS: 5030:5C

Sample No.	Matrix*	Date Sampled	Time Sampled	ICP Metals-TAL Unfiltered A	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Unfiltered	Oil and Grease	TPH	Conductivity	Turbidity	pH	Tritium	Activity Scan	Gross Alpha	Gross Beta	Sr-90	Gamma Spec	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Filtered B	ICP Metals-TAL Filtered
Preservative				pH HNO3 1	Cool 4C	H2SO4	HCl	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	HNO3	HNO3	HNO3	HNO3	Cool 4C	HNO3
Type of Container				AG	P/G	G	Gs*	P/G	P/G	P	G	P	G	G	G	G	(P)/G	G
No. of Container(s)				1	1	3	3	1	1	1	3	1	1	1	3	*1	1	1
Volume				500mL	500mL	1L	1L	500mL	250mL	250mL	500mL	20mL	1L	1L	1L	*1	500mL	500mL
B00X73	01	W	3-1-95	11:00	X						X	X			X	X	X	

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: Moreno Jr.	Date/Time: 3-1-95 1305	Received By: K. Trapp / K. Trapp	Date/Time: 1305 3/1/95
Relinquished By: K. Trapp / K. Trapp	Date/Time: 3/2/95	Received By: Karen Richterlenz	Date/Time: 3-2-95
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:

SPECIAL INSTRUCTIONS

Sample analysis for PO4, NO2, and NO3 by EPA 300.0; turbidity by EPA 180.1; and pH by SW-846 9040 are being requested for information only. The ERC Contractor acknowledges that the hold times will not be met.

The Activity Scan is for all samples listed on this chain of custody.

Gs* = Glass with septum top. No head space.

*1. 2, 1L bottles and 1, 250mL bottle

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	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original - Sample Yellow - Sampler

BC-6000-828 (12/92)

0000041

0000028 CWO 5-30-95

Bechtel Hanford Incorporated

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priority [X] Normal

Collector: Harrison/Almarode PNL

Company Contact: J. V. Borghese

Telephone No.: (509) 372-9584

Project Designation: 100-NR-2 Groundwater Sampling - Round 7

Sampling Location: 100 N

SAF No.: B95-030

Ice Chest No.: SML-423

Field Logbook No.:

Method of Shipment: Hand Delivered

Shipped To: Quanterra

Offsite Property No.: N/A

Bill of Lading/Air Bill No.: N/A

Possible Sample Hazards/Remarks:

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

SAMPLE ANALYSIS: 503130

Sample No.	Matrix*	Date Sampled	Time Sampled	ICP Metals-TAL Unfiltered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Unfiltered	Oil and Grease	TPH	Conductivity	Turbidity	pH	Tritium	Activity Scan	Gross Alpha	Gross Beta	Sr-90	Gamma Spec	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Filtered	ICP Metals-TAL Filtered
Preservative				HNO3	Cool 4C	H2SO4	HCl	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	HNO3	HNO3	HNO3	HNO3	Cool 4C	HNO3
Type of Container				G	P/G	G	Gs*	P/G	P/G	P	G	P	G	G	G	G	P/G	G
No. of Container(s)				1	1	3	3	1	1	1	3	1	1	1	3	*1	1	1
Volume				500mL	500mL	1L	1L	500mL	250mL	250mL	500mL	20mL	1L	1L	1L	*1	500mL	500mL
BOOX75 07	W	3/3/95	1030	X							X	X			X	X	X	

A B

Sm 3-3-95

CHAIN OF POSSESSION	Sign/Print Names	Date/Time
Relinquished By	Sm. Almarode	3-3-95 1230
Received By	K. Trapp / K. Trapp ERC	3/3/95 1230
Relinquished By	K. Trapp / K. Trapp ERC	3/3/95 0905
Received By	B. Whitten	3-7-95 0905
Relinquished By	B. Whitten	3-7-95 1030
Received By		3/7/95 10:30
Relinquished By		
Received By		

SPECIAL INSTRUCTIONS

Sample analysis for PO4, NO2, and NO3 by EPA 300.0; turbidity by EPA 180.1; and pH by SW-846 9040 are being requested for information only. The ERC Contractor acknowledges that the hold times will not be met.

The Activity Scan is for all samples listed on this chain of custody.

Gs* = Glass with septum top. No head space.

*1. 2, 1L bottles and 1, 250mL bottle

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	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original - Sample Yellow - Sampler

BC-6000-020 (12/92)

CWD5-30-95 00000852

9513131.0766

Bechtel Hanford Incorporated

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priority [X] Normal

Collector: Harrison / Ellsworth PNL
Company Contact: J. V. Borghese
Telephone No.: (509) 372-9584
Project Designation: 100-NR-2 Groundwater Sampling - Round 7
Sampling Location: 100 N
SAF No.: B95-030
Ice Chest No.: SML-423
Field Logbook No.:
Method of Shipment: Hand Delivered
Shipped To: Quanterra
Offsite Property No.: N/A
Bill of Lading/Air Bill No.: N/A
Possible Sample Hazards/Remarks:
Special Handling and/or Storage: Maintain samples between 2C and 6C.

SAMPLE ANALYSIS: 503130

Sample No.	Matrix*	Date Sampled	Time Sampled	A				B		C							D	
Preservative				HNO3	Cool 4C	H2SO4	HCl	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	HNO3	HNO3	HNO3	HNO3	Cool 4C	HNO3
Type of Container				G	P/G	G	Gs*	P/G	P/G	P	G	P	G	G	G	G	P/G	G
No. of Container(s)				1	1	3	3	1	1	1	3	1	1	1	3	*1	1	1
Volume				500mL	500mL	1L	1L	500mL	250mL	250mL	500mL	20mL	1L	1L	1L	*1	500mL	500mL
				ICP Metals-TAL Unfiltered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Unfiltered	Oil and Grease	TPH	Conductivity	Turbidity	pH	Tritium	Activity Scan	Gross Alpha	Gross Beta	Sr-90	Gamma Spec	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Filtered	ICP Metals-TAL Filtered
BOOX76 08	W	3/3/95	09:15	X				X		X		X	X	X			X	

3-3-95

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
K. Ellsworth	3-3-95 1230	K. Trapp / K. Trapp	3/7/95 1230
K. Trapp / K. Trapp (ERC)	3/7/95 0909	K. Trapp (ERC) / B. Walton	3-7-95 0909
K. Trapp (ERC) / B. Walton	3-7-95 1030	Heidelberg	3/7/95 10:30
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS

Sample analysis for PO4, NO2, and NO3 by EPA 300.0; turbidity by EPA 180.1; and pH by SW-846 9040 are being requested for information only. The ERC Contractor acknowledges that the hold times will not be met.

The Activity Scan is for all samples listed on this chain of custody.

Gs* = Glass with septum top. No head space.

*1. 2, 1L bottles and 1, 250mL bottle

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 | Title | Date/Time

FINAL SAMPLE DISPOSITION: Disposal Method | Disposed By | Date/Time

DISTRIBUTION: Original - Sample Yellow - Sampler

BC-6000 028 (12/92)

96 MAR 11 PM 12:06

CWO 5-32-95 00054

00013

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

BW 3-7-95

Page 1/2 of 1/2

Data Turnaround: [X] Priority [ ] Normal

Collector: SAME AS PAGE 1 OF 2	Company Contact	Telephone No.
Project Designation	Sampling Location	SAF No.
Ice Chest No.	Field Logbook No.	Method of Shipment: Hand Deliver
Shipped To: Quanterra	Offsite Property No.	Bill of Lading/Air Bill No.
Possible Sample Hazards/Remarks: Unknown		
Special Handling and/or Storage: Cool to 4C		

SAMPLE ANALYSIS																	
			Preservative	HCL	H2SO4	HCL	none	none									
			Type of Container	aGs	P/G	aG	P/G	P/G	P								
			No. of Container(s)	3	1	1	1	1	1								
			Volume	40 mL	500 mL	250 mL	20 mL	20 mL									
				VOA-TCL	NO2-NO3	TOC	Activity Scan	Rad Screening									
Sample No.	Matrix*	Date Sampled	Time Sampled														
BODX76	W	3-3-95	09:15				X										
BODX75	W	3-3-95	10:30				X										
BODX79	W	3-3-95	8:45				X										

9513191.0768

CHAIN OF POSSESSION	Sign/Print Names	
Relinquished By: K. Trapp / K. Trapp 3/7/95 — Date/Time 0905	Received By: ERC / B. Whitten 3-7-95 — Date/Time 0905	
Relinquished By: ERC / B. Whitten 3-7-95 — Date/Time 1030	Received By: Heidelberg 3/7/95 1030	
Relinquished By — Date/Time	Received By — Date/Time	
Relinquished By — Date/Time	Received By — Date/Time	

SPECIAL INSTRUCTIONS: Data Deliverable - Summary

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	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

000044

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

Bechtel Hanford Incorporated

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: K. Lee / A Rizzo	Company Contact: J. V. Borghese	Telephone No.: (509) 372-9584
Project Designation: 100-NR-2 Groundwater Sampling - Round 7	Sampling Location: 100 N	SAF No.: B95-030
Ice Chest No.: GWS-122	Field Logbook No.: EFL-1058	Method of Shipment: Hand Delivered
Shipped To: Quanterra	Offsite Property No.: N/A	Bill of Lading/Air Bill No.: N/A
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: Maintain samples between 2C and 6C.		

Preservative	HNO3	Cool 4C	H2SO4	HCl	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	HNO3	HNO3		HNO3	Cool 4C	
Type of Container	G	P/G	G	Gs*	P/G	P/G	P	G	P	G	G		G	P/G	
No. of Container(s)	1	1	3	3	1	1	1	3	1	6	1		1	1	
Volume	500mL	500mL	1L	1L	500mL	250mL	250mL	500mL	20mL	1L	500mL		500mL	500mL	
SAMPLE ANALYSIS 503130	ICP Metals-TAL Unfiltered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Unfiltered	Oil and Grease	TPH	Conductivity	Turbidity	pH	Tritium 503130	Activity Scan	Gross Alpha, Gross Beta, Sr-90, Gamma Spec	Gross Alpha, Gross Beta, Sr-90, Gamma Spec		ICP Metals-TAL Filtered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Filtered	
	A	B	C	D E	F G H	I	J	K							

Sample No.	Matrix*	Date Sampled	Time Sampled	A	B	C	D E	F G H	I	J	K							
B0DX86 01	W	3-6-95	~~1115~~ 1235	X	X	X	X	X	X	X	X	X	X	X				
B0DX87 02	W	3-6-95	~~1115~~ 1235													A X	B X	
		3-6-95																

CHAIN OF POSSESSION	Sign/Print Names	Date/Time
Relinquished By: AGRizzo (ERC)		3-6-95 1330
Received By: K. Trapp / K. Trapp (ERC)		3/6/95 1330
Relinquished By: K. Trapp / K. Trapp (ERC)		3/7/95 0905
Received By: Bill Hutton (BHC)		3-7-95 0905
Relinquished By: Bill Hutton (BHC)		3-7-95 1230
Received By: Heidelberg (ERC)		3/7/95 1030
Relinquished By		
Received By		

SPECIAL INSTRUCTIONS

Sample analysis for PO4, NO2, and NO3 by EPA 300.0; turbidity by EPA 180.1; and pH by SW-846 9040 are being requested for information only. The ERC Contractor acknowledges that the hold times will not be met.

The Activity Scan is for all samples listed on this chain of custody.

Gs* = Glass with septum top. No head space.

STD-W0436

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	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

CMO 5-30-95

~~0000050~~

0000045

9519471.0740

Bechtel Hanford Incorporated

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Date Turnaround: [ ] Priority [X] Normal

Collector: K. Lee / A Rizzo	Company Contact: J. V. Borghese	Telephone No.: (509) 372-9584
Project Designation: 100-NR-2 Groundwater Sampling - Round 7	Sampling Location: 100 N	SAF No.: B95-030
Ice Chest No.: SML-502	Field Logbook No.: EFL-1058	Method of Shipment: Hand Delivered
Shipped To: Quanterra	Offsite Property No.: N/A	Bill of Lading/Air Bill No.: N/A
Possible Sample Hazards/Remarks:		

Preservative	HNO3	Cool 4C	H2SO4	HCl	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	HNO3	HNO3		HNO3	Cool 4C
Type of Container	G	P/G	G	Gs*	P/G	P/G	P	G	P	G	G		G	P/G
No. of Container(s)	1	1	3	3	1	1	1	3	1	6	1		1	1
Volume	500mL	500mL	1L	1L	500mL	250mL	250mL	500mL	20mL	1L	500mL		500mL	500mL
SAMPLE ANALYSIS	ICP Metals-TAL Unfiltered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Unfiltered	Oil and Grease	TPH	Conductivity	Turbidity	pH	Tritium 503130 3	Activity Scan	Gross Alpha, Gross Beta, Sr-90, Gamma Spec	Gross Alpha, Gross Beta, Sr-90, Gamma Spec		ICP Metals-TAL Filtered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Filtered
	A	B	C	D E	F G H	I	J	K						

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

Sample No.	Matrix*	Date Sampled	Time Sampled	A	B	C	D E	F G H	I	J	K								
B0DX92 05	W	3-6-95	1115	X	X	X	X	X	X	X	X	X	X	X					
B0DX93 06	W	3-6-95	1115													A X	B X		

CHAIN OF POSSESSION	Sign/Print Names	Date/Time	Received By	Date/Time
Relinquished By	AGRizzo (ERC)	3-6-95 1330	K. Trapp / K. Trapp	3/6/95 1330
Relinquished By	K. Trapp / K. Trapp ERC	3/7/95 0905	Buhtten ERC	3-7-95 0909
Relinquished By	Buhtten ERC	3-7-95 1030	Hudelberg	3/7/95 1030
Relinquished By			Received By	

SPECIAL INSTRUCTIONS

Sample analysis for PO4, NO2, and NO3 by EPA 300.0; turbidity by EPA 180.1; and pH by SW-846 9040 are being requested for information only. The ERC Contractor acknowledges that the hold times will not be met.

The Activity Scan is for all samples listed on this chain of custody.

Gs* = Glass with septum top. No head space.

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	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original - Sample Yellow - Sampler

BC-6000-828 (12/92)

9516931.0770

9500052 000000

Bechtel Hanford Incorporated

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priority [X] Normal

Collector: K.D Lee	Company Contact: J. V. Borghese	Telephone No.: (509) 372-9584
Project Designation: 100-NR-2 Groundwater Sampling - Round 7	Sampling Location: 100 N	SAF No.: B95-030
Ice Chest No.: Homeboy	Field Logbook No.: EFL-1058	Method of Shipment: Hand Delivered
Shipped To: Quanterra	Offsite Property No.: PH / NA	Bill of Lading/Air Bill No.: NA /
Possible Sample Hazards/Remarks: Unknown		

Preservative	HNO3	Cool 4C	H2SO4	HCl	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	HNO3	HNO3		HNO3	Cool 4C
Type of Container	G	~~P~~/G	G	Gs*	~~P~~/G	P/~~G~~	P	G	P	G	G		G	~~P~~/G
No. of Container(s)	1	1	3	3	1	1	1	3	1	6	1		1	1
Volume	500mL	500mL	1L	1L	500mL	250mL	250mL	500mL	20mL	1L	500mL		500mL	500mL
SAMPLE ANALYSIS 503018	ICP Metals-TAL Unfiltered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Unfiltered	Oil and Grease	TPH	Conductivity C	Turbidity D	pH E	Tritium	Activity Scan	Gross Alpha, Gross Beta, Sr-90, Gamma Spec	Gross Alpha, Gross Beta, Sr-90, Gamma Spec		ICP Metals-TAL Filtered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Filtered

Sample No.	Matrix*	Date Sampled	Time Sampled														
B0DX94 03	W	2/28/95	1052	A X	B X			X	X	X	X	X	5030 X	1902 X			
B0DX95 04	W	2/28/95	1052													A X	B X

CHAIN OF POSSESSION	Sign/Print Names	Date/Time
Relinquished By: K.D. Lee		2/28/95 1340
Received By: K. Trapp / K. Trapp		2/28/95 1710
Relinquished By: K. Trapp / K. Trapp		3/1/95
Received By: [illegible]		3/1/95
Relinquished By		
Received By		
Relinquished By		
Received By		

SPECIAL INSTRUCTIONS

Sample analysis for PO4, NO2, and NO3 by EPA 300.0; turbidity by EPA 180.1; and pH by SW-846 9040 are being requested for information only. The ERC Contractor acknowledges that the hold times will not be met.

The Activity Scan is for all samples listed on this chain of custody.

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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	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original - Sample Yellow - Sampler

BC-6000-828 (12/92)

9615951.0771

CWM 5-30-95

000027

9613451.0772

AMPLE STATUS REPORT FOR N 4871. RAD SCREEN 199-N-21 TIME: 3/ 6/95 8:30
DISPATCHED: 2/22/95 14:38 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 3/ 6/95 7:48

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	XR5561

END OF REPORT

BODX48
BODX49
BODX98
BODX99

KT 3/6/95

BEST AVAILABLE COPY

CWO 5-30-95

9613451.0773

AMPLE STATUS REPORT FOR N 4876. RAD SCREEN 199-N-54 TIME: 3/ 7/95 8:16
DISPATCHED: 2/22/95 14:38 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 3/ 7/95 7: 9

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	XR5561

END OF REPORT

BODX54
BODX55 BW 3-7-95

PRESS ANY KEY TO CONTINUE

ERIAL NUMBER STATUS REPORT 3/ 7/95 8:17

SERIAL NUMBER (PNNNN) ? N4884

AMPLE STATUS REPORT FOR N 4884. RAD SCREEN FIELDBK1 TIME: 3/ 7/95 8:17
DISPATCHED: 2/22/95 14:39 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 3/ 7/95 7: 9

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	XR5561

END OF REPORT

000049

~~0000058~~
CMO 5-30-95

9613451.0774

AMPLE STATUS REPORT FOR N 4878. RAD SCREEN 199-N-70 TIME: 3/ 1/95 8:13
DISPATCHED: 2/22/95 14:38 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 2/28/95 14:30

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	XR5561

END OF REPORT

BODX67
BODX68 KT 3/1/95
BODX94
BODX95

BEST AVAILABLE COPY

9613451.0775

03/07/95 10:16 ☎373 7076 F.A.S. 003

AMPLE STATUS REPORT FOR N 4396. RAD SCREEN 1-N-74 TIME: 3/ 6/95 8:
DISPATCHED: 1/13/95 18:32 SAMPLE HAS NOT BEEN SLURPED PAGE
RECEIVED: 3/ 6/95 7:47

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARG CODE
****	********	**********	***	***	*****
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	R4006

END OF REPORT

BOOX45
BW
3-7-95

PRESS ANY KEY TO CONTINUE

ERIAL NUMBER STATUS REPORT 3/ 6/95 8: 7

0000060

000051

CM05-30-1
60

9613451.0776

AMPLE STATUS REPORT FOR N 4876. RAD SCREEN 199-N-54 TIME: 3/ 7/95 8:16
DISPATCHED: 2/22/95 14:38 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 3/ 7/95 7: 9

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	XR5561

END OF REPORT

PRESS ANY KEY TO CONTINUE

ERIAL NUMBER STATUS REPORT 3/ 7/95 8:17

SERIAL NUMBER (PNNNN) ? N4884

AMPLE STATUS REPORT FOR N 4884. RAD SCREEN FIELDBK1 TIME: 3/ 7/95 8:17
DISPATCHED: 2/22/95 14:39 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 3/ 7/95 7: 9

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	XR5561

END OF REPORT

BOD X86
BOD X87
BW
3-7-95

BEST AVAILABLE COPY

000252

~~0044~~
CMO 5-30-95

9613451.0777

AMPLE STATUS REPORT FOR N 4876. RAD SCREEN 199-N-54 TIME: 3/ 7/95 8:16
DISPATCHED: 2/22/95 14:38 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 3/ 7/95 7: 9

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	XR5561

END OF REPORT

BOD X92
BOD X93
BW
3-7-95

PRESS ANY KEY TO CONTINUE

ERIAL NUMBER STATUS REPORT 3/ 7/95 8:17

SERIAL NUMBER (PNNNN) ? N4884

AMPLE STATUS REPORT FOR N 4884. RAD SCREEN FIELDBK1 TIME: 3/ 7/95 8:17
DISPATCHED: 2/22/95 14:39 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 3/ 7/95 7: 9

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	XR5561

END OF REPORT

9613451.0778

AMPLE STATUS REPORT FOR N 4383. RAD SCREEN 1-N-3 TIME: 3/ 2/95 10:34
DISPATCHED: 1/13/95 18:31 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 0/ 0/ 0 0: 0

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	INCOMPLETE			R4006

END OF REPORT

PRESS ANY KEY TO CONTINUE

ERIAL NUMBER STATUS REPORT 3/ 2/95 10:34

SERIAL NUMBER (PNNNN) ? N4393

AMPLE STATUS REPORT FOR N 4393. RAD SCREEN 1-N-71 TIME: 3/ 2/95 10:34
DISPATCHED: 1/13/95 18:31 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 3/ 2/95 8:22

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	R4006

END OF REPORT

BEST AVAILABLE COPY

9613451.0779

AMPLE STATUS REPORT FOR N 4384. RAD SCREEN 1-N-32 TIME: 3/ 2/95 10:41
DISPATCHED: 1/13/95 18:31 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 3/ 2/95 8:22

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	R4006

END OF REPORT

BEST AVAILABLE COPY

000055

CWS 5-30-95

0062

9613451.0780

AMPLE STATUS REPORT FOR N 4874. RAD SCREEN 199-N-50 TIME: 2/28/95 8: 3
DISPATCHED: 2/22/95 14:38 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 2/28/95 7:47

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	XR5561

END OF REPORT

PRESS ANY KEY TO CONTINUE

ERIAL NUMBER STATUS REPORT 2/28/95 8: 3

SERIAL NUMBER (PNNNN) ? N4875

AMPLE STATUS REPORT FOR N 4875. RAD SCREEN 199-N-51 TIME: 2/28/95 8: 3
DISPATCHED: 2/22/95 14:38 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 2/28/95 7:47

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	XR5561

END OF REPORT

BEST AVAILABLE COPY

all Cat I (B) 2/28/95

Client Sample Screening Results

28-Feb-95

CLIENT	CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
WHC	B0DQW7	LIQUID	2/28/95 2:49:43 PM	QUAD23A	2/28/95	B0DQW7	30	10	0.26331373	82	1.8470852
				Bkg:	2/28/95 6:04:34 PM	BKG	499.86	35	0.07001961	443	0.8862481
Anl Date: 2/28/95	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp; (Dpm/ 7.62E-01	(uCi/ 3.43E-05	(pCi/ 3.43E+01	± 2.2E+01	CAT I	7.3E-01	Lab Alq		
Ppt mg: 4.5	Units: L	, ml	Bet; Alq): 3.37E+00	Sa): 1.52E-04	L/g): 1.52E+02	± 2.6E+01		3.3E-01	L/g		
WHC	B0DQW9	LIQUID	2/28/95 2:51:01 PM	QUAD24A	2/28/95 1:53:02 PM	B0DQW9	30	14	0.41666667	60	1.132
				Bkg:	2/28/95 6:04:34 PM	BKG	500	25	0.05	434	0.868
Anl Date: 2/28/95	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp; (Dpm/ 1.32E+00	(uCi/ 5.96E-05	(pCi/ 5.96E+01	± 2.5E+01	CAT I	4.2E-01	Lab Alq		
Ppt mg: 3.7	Units: L	, ml	Bet; Alq): 1.98E+00	Sa): 8.91E-05	L/g): 8.91E+01	± 2.2E+01		5.6E-01	L/g		
WHC	B0DQX1	LIQUID	2/28/95 2:51:54 PM	QUAD24B	2/28/95 1:53:02 PM	B0DQX1	30	16	0.44933333	72	1.412
				Bkg:	2/28/95 6:04:34 PM	BKG	500	42	0.084	494	0.988
Anl Date: 2/28/95	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp; (Dpm/ 1.41E+00	(uCi/ 6.34E-05	(pCi/ 6.34E+01	± 2.7E+01	CAT I	3.9E-01	Lab Alq		
Ppt mg: 5.7	Units: L	, ml	Bet; Alq): 2.51E+00	Sa): 1.13E-04	L/g): 1.13E+02	± 2.5E+01		4.4E-01	L/g		
WHC	B0DX61	LIQUID	2/28/95 2:52:34 PM	QUAD24C	2/28/95 1:53:02 PM	B0DX61	30	30	0.934	95	2.2266667
03+04 (2)				Bkg:	2/28/95 6:04:34 PM	BKG	500	33	0.066	470	0.94
Anl Date: 2/28/95	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp; (Dpm/ 2.76E+00	(uCi/ 1.25E-04	(pCi/ 1.25E+02	± 2.9E+01	CAT I	2.0E-01	Lab Alq		
Ppt mg: 1.9	Units: L	, ml	Bet; Alq): 3.66E+00	Sa): 1.65E-04	L/g): 1.65E+02	± 2.7E+01		3.0E-01	L/g		
WHC	B0DX63	LIQUID	2/28/95 2:53:19 PM	QUAD24D	2/28/95 1:53:02 PM	B0DX63	30	13	0.40533333	94	2.1333333
01+02 (1)				Bkg:	2/28/95 6:04:34 PM	BKG	500	14	0.028	500	1
Anl Date: 2/28/95	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp; (Dpm/ 1.13E+00	(uCi/ 5.10E-05	(pCi/ 5.10E+01	± 2.4E+01	CAT I	4.9E-01	Lab Alq		
Ppt mg: 1.8	Units: L	, ml	Bet; Alq): 3.90E+00	Sa): 1.76E-04	L/g): 1.76E+02	± 2.8E+01		2.8E-01	L/g		

9612451.0781

CMM5-30-95 00177

255000

all Cat I (R3) 3/1/95

Client Sample Screening Results

01-Mar-95

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
WHC B0DX67	LIQUID	3/1/95 12:52:42 PM	QUAD21A	3/1/95 11:55:53 AM	B0DX67	30	28	0.86333333	98	2.3646667
01+02	(1)		Bkg:	3/1/95 5:54:51 PM	BKG	500	35	0.07	451	0.902
Anl Date: 3/1/95	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp; (Dpm/ 2.53E+00	(uCi/ 1.14E-04	(pCi/ 1.14E+02	± 2.9E+01	CAT I	2.2E-01	Lab Alq	
Ppt mg: 2.1	Units: L	, ml	Bet; Alq): 4.29E+00	Sa): 1.93E-04	L/g): 1.93E+02	± 2.9E+01		2.6E-01	L/g	
WHC B0DX94	LIQUID	3/1/95 12:54:27 PM	QUAD21B	3/1/95 11:55:53 AM	B0DX94	30	16	0.45933333	78	1.708
03+04	(2)		Bkg:	3/1/95 5:54:51 PM	BKG	500	37	0.074	446	0.892
Anl Date: 3/1/95	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp; (Dpm/ 1.42E+00	(uCi/ 6.39E-05	(pCi/ 6.39E+01	± 2.5E+01	CAT I	3.9E-01	Lab Alq	
Ppt mg: 2.2	Units: L	, ml	Bet; Alq): 3.04E+00	Sa): 1.37E-04	L/g): 1.37E+02	± 2.5E+01		3.7E-01	L/g	

503018 Chem
(503019 Rad)

SDG W0436

0071
CW05-30-95
0050000
9613451.0782

(R3) 3/2/95

Client Sample Screening Results

02-Mar-95

CLIENT	CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
WHC	B0DRL2	SOLID	3/2/95 3:40:04 PM	QUAD21A	3/2/95 3:06:18 PM	B0DRL2	30	9	0.26	122	3.1446667
				Bkg:	3/2/95 4:30:40 PM	BKG	500	20	0.04	461	0.922

Anl Date: 3/2/95 Tot Sa, Alq: 9.12E+02 , 9.89E+01 Alp; (Dpm/ 1.58E+00 (uCi/ 6.55E-03 (pCi/ 7.19E+00 ± 5.3E+00 CAT I ✓ 7.0E+00 Lab Alq
Ppt mg: 98.9 Units: g , mg Bet; Alq): 7.12E+00 Sa): 2.96E-02 Lig): 3.24E+01 ± 3.9E+00 3.1E+00 Lig

WHC	B0DRL4	SOLID	3/2/95 3:40:47 PM	QUAD21B	3/2/95 3:06:18 PM	B0DRL4	30	18	0.512	161	4.3146667
				Bkg:	3/2/95 4:30:40 PM	BKG	500	44	0.088	526	1.052

Anl Date: 3/2/95 Tot Sa, Alq: 9.22E+02 , 9.25E+01 Alp; (Dpm/ 3.19E+00 (uCi/ 1.43E-02 (pCi/ 1.55E+01 ± 6.4E+00 CAT II ✓ 3.2E+00 Lab Alq
Ppt mg: 92.5 Units: g , mg Bet; Alq): 9.32E+00 Sa): 4.19E-02 Lig): 4.54E+01 ± 4.6E+00 2.2E+00 Lig

WHC	B0DX59	LIQUID	3/2/95 3:45:37 PM	QUAD22D	3/2/95 3:06:18 PM	B0DX59	30	50	1.61266667	136	3.6613333
02				Bkg:	3/2/95 4:30:40 PM	BKG	500	27	0.054	436	0.872

Anl Date: 3/2/95 Tot Sa, Alq: 5.00E-01 , 1.00E+01 Alp; (Dpm/ 4.89E+00 (uCi/ 1.10E-04 (pCi/ 2.20E+02 ± 3.4E+01 CAT I ✓ 1.1E-01 Lab Alq
Ppt mg: 3.2 Units: L , ml Bet; Alq): 5.98E+00 Sa): 1.35E-04 Lig): 2.69E+02 ± 3.1E+01 1.9E-01 Lig

WHC	B0DXH3	LIQUID	3/2/95 3:41:29 PM	QUAD21C	3/2/95 3:06:18 PM	B0DXH3	30	43	1.39133333	555	17.636
				Bkg:	3/2/95 4:30:40 PM	BKG	500	21	0.042	432	0.864

Anl Date: 3/2/95 Tot Sa, Alq: 1.00E+00 , 1.00E+01 Alp; (Dpm/ 3.78E+00 (uCi/ 1.70E-04 (pCi/ 1.70E+02 ± 3.2E+01 CAT I ✓ 1.5E-01 Lab Alq
Ppt mg: 4.6 Units: L , ml Bet; Alq): 3.41E+01 Sa): 1.54E-03 Lig): 1.54E+03 ± 6.9E+01 3.3E-02 Lig

WHC	B0DZC0	LIQUID	3/2/95 3:42:37 PM	QUAD21D	3/2/95 3:06:18 PM	B0DZC0	30	38	1.21266667	512	16.126667
				Bkg:	3/2/95 4:30:40 PM	BKG	500	27	0.054	470	0.94

Anl Date: 3/2/95 Tot Sa, Alq: 1.00E+00 , 1.00E+01 Alp; (Dpm/ 3.70E+00 (uCi/ 1.67E-04 (pCi/ 1.67E+02 ± 3.5E+01 CAT I ✓ 1.5E-01 Lab Alq
Ppt mg: 10.7 Units: L , ml Bet; Alq): 3.16E+01 Sa): 1.42E-03 Lig): 1.42E+03 ± 6.7E+01 3.5E-02 Lig

503050 Chem

SDL-W04326

0065 MW5-30-95
650000
08/01/1995 07:83

Client Sample Screening Results

03-Mar-95

(R3) 3/3/95

CLIENT	CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
WHC	B0C346	LIQUID	3/3/95 2:07:41 PM	QUAD21A	3/3/95 12:28:17 PM	B0C346	30	158	5.23066667	2985	98.574
				Bkg:	3/3/95 5:23:04 PM	BKG	500	18	0.036	463	0.926

Anl Date: 3/3/95 Tot Sa, Alq: 1.00E+00 , 1.00E+01 Alp; (Dpm/ 1.51E+01 (uCi/ 6.80E-04 (pCi/ 6.80E+02 ± 6.1E+01 CAT I 3.7E-02 Lab Alq
Ppt mg: 16 Units: L , ml Bet; Alq): 2.00E+02 Sa): 9.03E-03 L/g): 9.03E+03 ± 1.7E+02 5.5E-03 L/g

WHC	B0D347	LIQUID	3/3/95 2:09:32 PM	QUAD21B	3/3/95 12:28:17 PM	B0D347	30	12	0.336	107	2.5986667
				Bkg:	3/3/95 5:23:04 PM	BKG	500	32	0.064	484	0.968

Anl Date: 3/3/95 Tot Sa, Alq: 1.00E+00 , 1.00E+01 Alp; (Dpm/ 1.18E+00 (uCi/ 5.32E-05 (pCi/ 5.32E+01 ± 3.0E+01 CAT I 4.7E-01 Lab Alq
Ppt mg: 17.1 Units: L , ml Bet; Alq): 5.00E+00 Sa): 2.25E-04 L/g): 2.25E+02 ± 3.1E+01 2.2E-01 L/g

WHC	B0DX73	LIQUID	3/3/95 3:36:23 PM	QUAD23A	3/3/95 3:04:38 PM	B0DX73	30	27	0.826	110	2.7126667
01				Bkg:	3/3/95 5:23:04 PM	BKG	500	37	0.074	477	0.954

Anl Date: 3/3/95 Tot Sa, Alq: 1.00E+00 , 1.00E+01 Alp; (Dpm/ 2.40E+00 (uCi/ 1.08E-04 (pCi/ 1.08E+02 ± 2.7E+01 CAT I 2.3E-01 Lab Alq
Ppt mg: 2.9 Units: L , ml Bet; Alq): 4.66E+00 Sa): 2.10E-04 L/g): 2.10E+02 ± 2.9E+01 2.4E-01 L/g

WHC	B0DZB0	LIQUID	3/3/95 2:10:10 PM	QUAD21C	3/3/95 12:28:17 PM	B0DZB0	30	25	0.77133333	855	27.606
				Bkg:	3/3/95 5:23:04 PM	BKG	500	31	0.062	447	0.894

Anl Date: 3/3/95 Tot Sa, Alq: 1.00E+00 , 1.00E+01 Alp; (Dpm/ 1.49E+00 (uCi/ 6.71E-05 (pCi/ 6.71E+01 ± 2.5E+01 CAT I 3.7E-01 Lab Alq
Ppt mg: 2.6 Units: L , ml Bet; Alq): 5.40E+01 Sa): 2.43E-03 L/g): 2.43E+03 ± 8.6E+01 2.1E-02 L/g

WHC	B0DZB1	LIQUID	3/3/95 2:13:56 PM	QUAD21D	3/3/95 12:28:17 PM	B0DZB1	30	21	0.658	674	21.558667
				Bkg:	3/3/95 5:23:04 PM	BKG	500	21	0.042	454	0.908

Anl Date: 3/3/95 Tot Sa, Alq: 1.00E+00 , 1.00E+01 Alp; (Dpm/ 1.44E+00 (uCi/ 6.48E-05 (pCi/ 6.48E+01 ± 2.5E+01 CAT I 3.9E-01 Lab Alq
Ppt mg: 2.4 Units: L , ml Bet; Alq): 4.21E+01 Sa): 1.90E-03 L/g): 1.90E+03 ± 7.6E+01 2.6E-02 L/g

503050 Chem.
503051 Rad.

CMO 5-30-95

Client Sample Screening Results

06-Mar-95

CLIENT CODE	ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
WHC	B0DX48	LIQUID	3/6/95 2:53:04 PM	QUAD22A	3/6/95 1:55:58 PM	B0DX48	30	17	0.51066667	71	1.4026667
01 +02				Bkg:	3/4/95 4:02:34 PM	BKG	500	28	0.056	482	0.964

Anl Date:	3/6/95	Tot Sa, Alq:	1.00E+00	,	1.00E+01	Alp;	(Dpm/	1.60E+00	(uCi/	7.21E-05	(pCi/	7.21E+01	± 2.7E+01	CAT I	3.5E-01	Lab Alq
Ppt mg:	8	Units:	L	,	ml	Bet;	Alq):	2.35E+00	Sa):	1.06E-04	Lig):	1.06E+02	± 2.3E+01		4.7E-01	Lig

503107- Chem
503108- Rad

SDG- WQ436

0058
CMW 5-30-95

9613451.0785

Client Sample Screening Results

07-Mar-95

(Rs) 3/7/95

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
WHC B0DX54	LIQUID	3/7/95 2:16:39 PM	QUAD24A	3/7/95 1:36:51 PM	B0DX54	30	13	0.37733333	214	6.1913333
03+04 (2)			Bkg:	3/7/95 4:20:31 PM	BKG	500	28	0.056	471	0.942
Ani Date: 3/7/95	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp; (Dpm/ 1.08E+00	(uCi/ 4.86E-05	(pCi/ 4.86E+01	± 2.6E+01	CAT I ✓	5.1E-01	Lab Alq Lig	
Ppt mg: 7.2	Units: L	, ml	Bet; Alq): 1.20E+01	Sa): 5.40E-04	Lig): 5.40E+02	± 4.3E+01		9.3E-02		
WHC B0DX75	LIQUID	3/7/95 2:17:41 PM	QUAD21B	3/7/95 1:17:44 PM	B0DX75	30	6	0.142	52	0.7713333
07 (4)			Bkg:	3/7/95 4:20:31 PM	BKG	500	29	0.058	481	0.962
Ani Date: 3/7/95	Tot Sa, Alq: 2.00E-02	, 1.00E+01	Alp; (Dpm/ 4.31E-01	(uCi/ 3.88E-07	(pCi/ 1.94E+01	± 2.3E+01	CAT I ✓	1.3E+00	Lab Alq Lig	
Ppt mg: 2.2	Units: L	, ml	Bet; Alq): 1.41E+00	Sa): 1.27E-06	Lig): 6.36E+01	± 2.1E+01		7.9E-01		
WHC B0DX76	LIQUID	3/7/95 2:21:08 PM	QUAD21C	3/7/95 1:17:44 PM	B0DX76	30	17	0.52266667	74	1.5966667
08 (5)			Bkg:	3/7/95 4:20:31 PM	BKG	500	22	0.044	435	0.87
Ani Date: 3/7/95	Tot Sa, Alq: 2.00E-02	, 1.00E+01	Alp; (Dpm/ 1.53E+00	(uCi/ 1.38E-06	(pCi/ 6.89E+01	± 2.4E+01	CAT I ✓	3.6E-01	Lab Alq Lig	
Ppt mg: 2.6	Units: L	, ml	Bet; Alq): 2.85E+00	Sa): 2.57E-06	Lig): 1.28E+02	± 2.5E+01		3.9E-01		
WHC B0DX79	LIQUID	3/7/95 2:50:27 PM	QUAD21D	3/7/95 1:17:44 PM	B0DX79	30	6	0.156	114	2.812
			Bkg:	3/7/95 4:20:31 PM	BKG	500	22	0.044	494	0.988
Ani Date: 3/7/95	Tot Sa, Alq: 2.00E-02	, 1.00E+01	Alp; (Dpm/ 4.03E-01	(uCi/ 3.63E-07	(pCi/ 1.82E+01	± 2.2E+01	CAT I ✓	1.4E+00	Lab Alq Lig	
Ppt mg: 1.2	Units: L	, ml	Bet; Alq): 5.44E+00	Sa): 4.90E-06	Lig): 2.45E+02	± 3.2E+01		2.0E-01		
WHC B0DX86	LIQUID	3/7/95 2:22:02 PM	QUAD22A	3/7/95	B0DX86	30	4	0.09733333	31	0.1393333
01+02 (1)			Bkg:	3/7/95 4:20:31 PM	BKG	500	18	0.036	447	0.894
Ani Date: 3/7/95	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp; (Dpm/ 2.73E-01	(uCi/ 1.23E-05	(pCi/ 1.23E+01	± 1.9E+01	CAT I ✓	2.0E+00	Lab Alq Lig	
Ppt mg: 0.3	Units: L	, ml	Bet; Alq): 2.00E-01	Sa): 9.00E-06	Lig): 9.00E+00	± 1.6E+01		5.6E+00		

503130 chem
(503131 Rad)

SDL W0436

9613451.0786

0009562 0052 WMS-30-95

(R) 3/7/95

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
WHC B0DX86	LIQUID	3/7/95 2:22:02 PM	QUAD22A	3/7/95 1:17:44 PM	B0DX86	30	4	0.09733333	31	0.1393333
			Bkg:	3/7/95 4:20:31 PM	BKG	500	18	0.036	447	0.894

Anl Date: 3/7/95	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp;	(Dpm/ 2.73E-01	(uCi/ 1.23E-05	(pCi/ 1.23E+01	± 1.9E+01	CAT I ✓	2.0E+00	Lab Alq
Ppt mg: 0.3	Units: L	, ml	Bet;	Alq): 2.00E-01	Sa): 9.00E-06	L/g): 9.00E+00	± 1.6E+01		5.6E+00	L/g

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
WHC B0DX92	LIQUID	3/7/95 2:23:49 PM	QUAD22B	3/7/95 1:17:44 PM	B0DX92	30	22	0.67533333	267	8.052
05 + 06	(3)		Bkg:	3/7/95 4:20:31 PM	BKG	500	29	0.058	424	0.848

Anl Date: 3/7/95	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp;	(Dpm/ 1.98E+00	(uCi/ 8.92E-05	(pCi/ 8.92E+01	± 2.7E+01	CAT I ✓	2.8E-01	Lab Alq
Ppt mg: 6.8	Units: L	, ml	Bet;	Alq): 1.51E+01	Sa): 6.79E-04	L/g): 6.79E+02	± 4.7E+01		7.4E-02	L/g

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
WHC B0DX92	LIQUID	3/7/95 2:23:49 PM	QUAD22B	3/7/95 2:22:02 PM	B0DX92	30	22	0.67533333	267	8.052
			Bkg:	3/7/95 4:20:31 PM	BKG	500	29	0.058	424	0.848

Anl Date: 3/7/95	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp;	(Dpm/ 1.98E+00	(uCi/ 8.92E-05	(pCi/ 8.92E+01	± 2.7E+01	CAT I ✓	2.8E-01	Lab Alq
Ppt mg: 6.8	Units: L	, ml	Bet;	Alq): 1.51E+01	Sa): 6.79E-04	L/g): 6.79E+02	± 4.7E+01		7.4E-02	L/g

503130-Chem
(503131- Rad)

SDW0436

96134510787

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0053
MMS-30-95

9613451.0788

Supplemental Information

Sample Disposition Record

Control #: 95-0016
Revision #:
Date Initiated: 03/23/95

Section 1 - BACKGROUND
SAF #: B95-030
OU: 100-NR-2
Project ID: 100-NR-2 LFI
Task ID: 6
Sampling Event: 100-NR-2 Groundwater Sampling - Round 7
Laboratory: Quanterra
Project Coordinator: R. C. Smith
Task Manager: J. V. Borghese

Section 2 - SAMPLE INFORMATION
Number of Samples: 1
ID Numbers: B0DX76
Matrix: Water
Collection Date: 03/03/95

Section 3 - ISSUE
Class: Lab Direction
NCR Number: N/A
Type: Other
Description: The total activity sample for 222-S analysis was not collected.

N/A
NCR Validation (Print/Sign) — Date

Section 4 - DISPOSITION
Type: Use As Is
Description: Perform requested analyses; note lack of total activity sample in case narrative.

R. C. Smith/ R Clayt Smith — 3/23/95
Project Coordinator (Print/Sign) — Date

J. V. Borghese/ JV Borghese — 3/23/95
Task Manager (Print/Sign) — Date

N/A
QA (Print/Sign) — Date

Section 5 - INSPECTION (Issue Class: Nonconformance Only)
Inspection Number:
Inspection Results:

N/A
Inspector (Print/Sign) — Date

9613451.0790

END OF PACKAGE

9613451.0791

DATA VALIDATION REPORT
for
100-NR-2 Round 7
General Chemistry Analysis
SDG W0436-QES
LATA VB403.47

Bechtel Hanford Inc.
Richland, Washington

May 30, 1995

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100-NR-2 Round 7
Data Validation Narrative

INTRODUCTION

All samples in Sample Delivery Group (SDG) W0436-QES (VB403.47) were validated at level C as defined in the Data Validation Procedures for Chemical Analysis (WHC-SD-EN-SPP-002).

The analyses were performed by Quanterra Environmental Services.

ANALYSES REQUESTED

LATA ID #: VB403.47 SDG: W0436-QES

Sample Information							Analyses Requested						
SAMPLE NO.	DATE COLLECTED	MATRIX	SAF	SAMPLING LOCATION	FIELD QC INFO	TEMP °C	1	2	3	4	5	6	7
B0DX48	3-Mar-95	WATER	B95-030	199-N-21	SPLIT OF B0DX98	4		X	X	X	X	X	X
B0DX49	3-Mar-95	WATER	B95-030	199-N-21	SPLIT OF B0DX99	4	X						
B0DX54	6-Mar-95	WATER	B95-030	199-N-54		4		X	X	X	X	X	X
B0DX55	6-Mar-95	WATER	B95-030	199-N-54		4	X						
B0DX59	1-Mar-95	WATER	B95-030	199-N-32		4	X						
B0DX61	27-Feb-95	WATER	B95-030	199-N-50		4		X			X	X	X
B0DX62	27-Feb-95	WATER	B95-030	199-N-50		4	X						
B0DX63	27-Feb-95	WATER	B95-030	199-N-51		4		X			X	X	X
B0DX64	27-Feb-95	WATER	B95-030	199-N-51		4	X						
B0DX67	28-Feb-95	WATER	B95-030	199-N-70		4		X			X	X	X
B0DX68	28-Feb-95	WATER	B95-030	199-N-70		4	X						
B0DX73	1-Mar-95	WATER	B95-030	199-N-71		4	X						
B0DX75	3-Mar-95	WATER	B95-030	199-N-74		4	X						
B0DX76	3-Mar-95	WATER	B95-030	199-N-80		4	X				X		X
B0DX86	6-Mar-95	WATER	B95-030	199-N-54	FIELD BLK 1	4		X			X	X	X
B0DX87	6-Mar-95	WATER	B95-030	199-N-54	FIELD BLK 1	4	X						
B0DX92	6-Mar-95	WATER	B95-030	199-N-54	DUPE OF B0DX54	4		X			X	X	X
B0DX93	6-Mar-95	WATER	B95-030	199-N-54	DUPE OF B0DX55	4	X						
B0DX94	28-Feb-95	WATER	B95-030	199-N-70	DUPE OF B0DX67	4		X			X	X	X
B0DX95	28-Feb-95	WATER	B95-030	199-N-70	DUPE OF B0DX68	4	X						

Method References:

	Analysis	Method
1.	Anions (F, Cl, SO_4, PO_4, NO_2, NO_3) filtered	300.0
2.	Anions (F, Cl, SO_4, PO_4, NO_2, NO_3) unfiltered	300.0
3.	Oil & Grease	413.1
4.	Total Petroleum Hydrocarbons (TPH)	418.1
5.	Conductivity	120.1
6.	Turbidity	180.1
7.	pH	9040

DATA QUALITY OBJECTIVES

Precision: Goals for precision were met.

Accuracy: Goals for accuracy were met with the exception of those items discussed in the "**Qualification Summary Table**".

Sample Result Verification: Not applicable since the data package contains no raw data.

Detection Limits: Detection limit goals were met for all sample results as specified in the *Quality Assurance Project Plan for Groundwater Monitoring Activities*, WHC-SD-EN-QAPP-001, Rev. 2.

Completeness: The data package was 72.7% complete for all requested analyses.

MAJOR DEFICIENCIES

Major deficiencies were identified as discussed in the "**Qualification Summary Table**".

MINOR DEFICIENCIES

Minor deficiencies were identified as discussed in the "**Qualification Summary Table**".

REFERENCES

EPA July 1992, *Test Methods for Evaluating Solid Waste (SW-846),* Third Edition; U.S. Environmental Protection Agency, Washington, D.C.

WHC 1993, *Data Validation Procedures for Chemical Analyses*, WHC-SD-EN-SPP-002, Rev. 2, Westinghouse Hanford Company, Richland, Washington.

WHC 1993, *Quality Assurance Project Plan for Groundwater Monitoring Activities*, WHC-SD-EN-QAPP-001, Rev. 2., Westinghouse Hanford Company, Richland, Washington.

GLOSSARY OF VALIDATION APPLIED QUALIFIERS (CHEMISTRY)

Qualifiers which may be applied by data validators in compliance with the procedures herein are as follows.

U- Indicates the compound or analyte was analyzed for and not detected in the sample. The value reported is the sample quantitation limit corrected for sample dilution and moisture content by the laboratory.

UJ- Indicates the compound or analyte was analyzed for and not detected in the sample. Due to a QC deficiency identified during data validation, the associated quantitation limit is an estimate.

J- Indicates the compound or analyte was analyzed for and detected. The associated concentration is an estimate, but the data are usable for decision making purposes.

BJ- Applied to inorganic analyses only. Indicates the analyte concentration was greater than the IDL but less than the CRDL and is considered an estimated value.

R- Indicates the compound or analyte was analyzed for, detected, and due to an identified QC deficiency the data are unusable.

UR- Indicates the compound or analyte was analyzed for and not detected in the sample. Additionally, the data are unusable due to an identified QC deficiency.

GLOSSARY OF LABORATORY APPLIED QUALIFIERS

Qualifiers which may be applied by the laboratory in compliance with applicable requirements are as follows.

Commonly used laboratory general chemistry qualifiers:

U- Indicates the analyte was analyzed for but not detected in the sample.

Qualification Summary Table

Qualification Summary Table
General Chemistry

ANALYTE	TYPE	QUALIFIER	SAMPLES AFFECTED	DQO	REASON
Nitrate by IC	**MAJOR**	**UR**	B0DX86 B0DX87	HOLD TIME	Holding time is exceeded by greater than 2 times.
Nitrite by IC	**MAJOR**	**UR**	B0DX48 B0DX49 B0DX54 B0DX55 B0DX59 B0DX61 B0DX62 B0DX63 B0DX64 B0DX67 B0DX68 B0DX73 B0DX75 B0DX76 B0DX86 B0DX87 B0DX92 B0DX93 B0DX94 B0DX95	HOLD TIME	Holding time is exceeded by greater than 2 times.
Ortho-Phosphate by IC	**MAJOR**	**UR**	B0DX48 B0DX49 B0DX54 B0DX55 B0DX59 B0DX61 B0DX62 B0DX63 B0DX64 B0DX67 B0DX68 B0DX73 B0DX75 B0DX76 B0DX86 B0DX87 B0DX92 B0DX93 B0DX94 B0DX95	HOLD TIME	Holding time is exceeded by greater than 2 times.
Nitrate by IC	MINOR	J/UJ	B0DX48 B0DX49 B0DX54 B0DX55 B0DX59 B0DX61 B0DX62 B0DX63 B0DX64 B0DX67 B0DX68 B0DX73 B0DX75 B0DX76 B0DX86 B0DX87 B0DX92 B0DX93 B0DX94 B0DX95	ACCURACY	Matrix spike recovery is outside acceptance criteria.
Nitrate by IC	MINOR	J	B0DX48 B0DX49 B0DX54 B0DX55 B0DX59 B0DX61 B0DX62 B0DX63 B0DX64 B0DX67 B0DX68 B0DX73 B0DX75 B0DX76 B0DX92 B0DX93 B0DX94 B0DX95	HOLD TIME	Holding time is exceeded by greater than 2 times.
pH	MINOR	J	B0DX48 B0DX54 B0DX61 B0DX63 B0DX67 B0DX76 B0DX86 B0DX92 B0DX94	HOLD TIME	Holding time is exceeded by greater than 2 times.
Turbidity	MINOR	J	B0DX48 B0DX54 B0DX61 B0DX63 B0DX67 B0DX86 B0DX92 B0DX94	HOLD TIME	Holding time is exceeded by greater than 2 times.

Qualification Summary Table

General Chemistry (continued)

ANALYTE	TYPE	QUALIFIER	SAMPLES AFFECTED	DQO
Nitrate by IC	MINOR	UJ	B0DX86 B0DX87	ACCURACY
Nitrate by IC	**MAJOR**	**UR**	B0DX86 B0DX87	HOLD TIME
Final Qualifier		**UR**	B0DX86 B0DX87	

General Chemistry Field QC

ANALYTE	TYPE	QUALIFIER	FIELD QC SAMPLES	DQO	ASSESSMENT
Turbidity	FIELD QC	NONE	B0DX68/B0DX94	PRECISION	Field duplicate precision is unacceptable.
Specific Conductivity	FIELD QC	NONE	B0DX86	BLANKS	Blank contamination noted.
Turbidity	FIELD QC	NONE	B0DX86	BLANKS	Blank contamination noted.

Comments:

1. Data qualification is not required based on field duplicate precision, however field duplicate precision results are noted here to alert the data user to uncertainties in the data set during decision making processes.
2. Data qualification is not required based on field blanks, however field blank results are noted here to alert the data user to uncertainties in the data set during decision making processes.
3. The field split samples are evaluated in SDG # LK3999-LAS (VB403.46).

9613451.0800

Data Summary Table

GENERAL CHEMISTRY
DATA SUMMARY TABLE

LATA ID#: VB403.47		HEIS #:	B0DX48		B0DX49		B0DX54		B0DX55		B0DX59	
		Date:	3-Mar-95		3-Mar-95		6-Mar-95		6-Mar-95		1-Mar-95	
		Matrix:	WATER		WATER		WATER		WATER		WATER	
Constituent	CAS #	Units	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q
Chloride by IC	16887-00-6	mg/L	21.9		22.4		19.5		19.4		2.02	
Fluoride by IC	16984-48-8	mg/L	0.38		0.36		0.10	U	0.10	U	0.15	
Nitrate by IC	14797-55-8	mg/L	5.00	J	5.23	J	3.89	J	3.91	J	10.4	J
Nitrite by IC	7632-00-0	mg/L	0.020	UR	0.020	UR	0.020	UR	0.020	UR	0.020	UR
Ortho-Phosphate by IC	7778-77-0	mg/L	1.00	UR	1.00	UR	1.00	UR	1.00	UR	1.00	UR
Sulfate by IC	14808-79-8	mg/L	448		460		283		283		23.3	
Specific Conductivity	10-34-4	µmhos/cm	1217		NR		987		NR		NR	
Oil & Grease	10-30-0	mg/L	2.32		NR		3.34		NR		NR	
pH	10-29-7	pH units	7.95	J	NR		7.55	J	NR		NR	
TPH	10-90-2	mg/L	0.48	U	NR		0.48	U	NR		NR	
Turbidity	G-019	NTU	1.37	J	NR		0.81	J	NR		NR	

NR=NOT REQUESTED

LATA ID#: VB403.47		HEIS #:	B0DX61		B0DX62		B0DX63		B0DX64		B0DX67	
		Date:	27-Feb-95		27-Feb-95		27-Feb-95		27-Feb-95		28-Feb-95	
		Matrix:	WATER		WATER		WATER		WATER		WATER	
Constituent	CAS #	Units	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q
Chloride by IC	16887-00-6	mg/L	4.41		4.64		4.38		4.50		4.60	
Fluoride by IC	16984-48-8	mg/L	0.21		0.21		0.24		0.24		0.17	
Nitrate by IC	14797-55-8	mg/L	3.42	J	3.43	J	3.27	J	3.27	J	4.50	J
Nitrite by IC	7632-00-0	mg/L	0.020	UR	0.020	UR	0.020	UR	0.020	UR	0.020	UR
Ortho-Phosphate by IC	7778-77-0	mg/L	1.00	UR	1.00	UR	1.00	UR	1.00	UR	1.00	UR
Sulfate by IC	14808-79-8	mg/L	30.9		30.6		32.8		32.5		53.5	
Specific Conductivity	10-34-4	µmhos/cm	260		NR		274		NR		313	
Oil & Grease	10-30-0	mg/L	NR		NR		NR		NR		NR	
pH	10-29-7	pH units	8.06	J	NR		8.03	J	NR		8.10	J
TPH	10-90-2	mg/L	NR		NR		NR		NR		NR	
Turbidity	G-019	NTU	1.08	J	NR		0.73	J	NR		0.82	J

NR=NOT REQUESTED

GENERAL CHEMISTRY
DATA SUMMARY TABLE

LATA ID#: VB403.47		HEIS #:	B0DX68		B0DX73		B0DX75		B0DX76		B0DX86	
		Date:	28-Feb-95		1-Mar-95		3-Mar-95		3-Mar-95		6-Mar-95	
		Matrix:	WATER		WATER		WATER		WATER		WATER	
Constituent	CAS #	Units	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q
Chloride by IC	16887-00-6	mg/L	4.93		3.29		5.86		2.41		0.25	U
Fluoride by IC	16984-48-8	mg/L	0.18		0.36		0.26		0.34		0.10	U
Nitrate by IC	14797-55-8	mg/L	4.46	J	0.47	J	1.94	J	2.23	J	0.020	UR
Nitrite by IC	7632-00-0	mg/L	0.020	UR	0.020	UR	0.020	UR	0.020	UR	0.020	UR
Ortho-Phosphate by IC	7778-77-0	mg/L	1.00	UR	1.00	UR	1.00	UR	1.00	UR	1.00	UR
Sulfate by IC	14808-79-8	mg/L	53.4		25.7		94.2		47.5		1.00	U
Specific Conductivity	10-34-4	µmhos/cm	NR		NR		NR		390		0.89	
Oil & Grease	10-30-0	mg/L	NR		NR		NR		NR		1.00	U
pH	10-29-7	pH units	NR		NR		NR		8.01	J	5.66	J
TPH	10-90-2	mg/L	NR		NR		NR		NR		0.48	U
Turbidity	G-019	NTU	NR		NR		NR		NR		0.68	J

NR=NOT REQUESTED

LATA ID#: VB403.47		HEIS #:	B0DX87		B0DX92		B0DX93		B0DX94		B0DX95	
		Date:	6-Mar-95		6-Mar-95		6-Mar-95		28-Feb-95		28-Feb-95	
		Matrix:	WATER		WATER		WATER		WATER		WATER	
Constituent	CAS #	Units	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q
Chloride by IC	16887-00-6	mg/L	0.25	U	19.4		19.2		4.62		4.93	
Fluoride by IC	16984-48-8	mg/L	0.10	U	0.10	U	0.10	U	0.17		0.18	
Nitrate by IC	14797-55-8	mg/L	0.020	UR	3.91	J	3.94	J	4.49	J	4.56	J
Nitrite by IC	7632-00-0	mg/L	0.020	UR	0.020	UR	0.020	UR	0.020	UR	0.020	UR
Ortho-Phosphate by IC	7778-77-0	mg/L	1.00	UR	1.00	UR	1.00	UR	1.00	UR	1.00	UR
Sulfate by IC	14808-79-8	mg/L	1.00	U	284		282		53.5		53.6	
Specific Conductivity	10-34-4	µmhos/cm	NR		982		NR		311		NR	
Oil & Grease	10-30-0	mg/L	NR		2.87		NR		NR		NR	
pH	10-29-7	pH units	NR		7.73	J	NR		8.10	J	NR	
TPH	10-90-2	mg/L	NR		0.48	U	NR		NR		NR	
Turbidity	G-019	NTU	NR		0.82	J	NR		1.22	J	NR	

NR=NOT REQUESTED

Sample Results (Form I's)

9613451.0804

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

Project: 550.69

Category: Chloride
Method: EPA 300.0
Matrix: LIQUID

Sample Date : 02/27/95
Receipt Date : 02/28/95
Report Date : 04/05/95

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
B0DX63	7669-001	Chloride	16887-00-6	QCBLK61698-1	03/07/95	03/07/95	4.38	MG/L		0.25	1
B0DX63	7669-001DUP	Chloride	16887-00-6	QCBLK61698-1	03/07/95	03/07/95	4.28	MG/L		0.25	1
B0DX63	7669-001MS	Chloride	16887-00-6	QCBLK61698-1	03/07/95	03/07/95	96	%REC			10
B0DX61	7669-002	Chloride	16887-00-6	QCBLK61698-1	03/07/95	03/07/95	4.41	MG/L		0.25	1
B0DX64	7669-003	Chloride	16887-00-6	QCBLK61698-1	03/07/95	03/07/95	4.50	MG/L		0.25	1
B0DX62	7669-004	Chloride	16887-00-6	QCBLK61698-1	03/07/95	03/07/95	4.64	MG/L		0.25	1
B0DX67	7672-001	Chloride	16887-00-6	QCBLK61698-1	03/07/95	03/07/95	4.60	MG/L		1.25	5
B0DX94	7672-002	Chloride	16887-00-6	QCBLK61698-1	03/07/95	03/07/95	4.62	MG/L		1.25	5
B0DX68	7672-003	Chloride	16887-00-6	QCBLK61698-1	03/07/95	03/07/95	4.93	MG/L		0.25	1
B0DX95	7672-004	Chloride	16887-00-6	QCBLK61698-1	03/07/95	03/07/95	4.93	MG/L		0.25	1
B0DX73	7703-001	Chloride	16887-00-6	QCBLK61890-1	03/09/95	03/09/95	3.29	MG/L		0.25	1
B0DX59	7703-002	Chloride	16887-00-6	QCBLK61890-1	03/09/95	03/09/95	2.02	MG/L		0.25	1
B0DX48	7721-001	Chloride	16887-00-6	QCBLK61890-1	03/09/95	03/09/95	21.9	MG/L		1.25	5
B0DX49	7721-002	Chloride	16887-00-6	QCBLK61890-1	03/09/95	03/09/95	22.4	MG/L		1.25	5
B0DX86	7733-001	Chloride	16887-00-6	QCBLK62499-2	03/14/95	03/14/95	0.25	MG/L	U	0.25	1
B0DX54	7733-002	Chloride	16887-00-6	QCBLK62499-2	03/14/95	03/14/95	19.5	MG/L		1.25	5
B0DX92	7733-003	Chloride	16887-00-6	QCBLK62499-2	03/14/95	03/14/95	19.4	MG/L		1.25	5
B0DX87	7733-004	Chloride	16887-00-6	QCBLK62499-2	03/14/95	03/14/95	0.25	MG/L	U	0.25	1
B0DX55	7733-005	Chloride	16887-00-6	QCBLK62499-2	03/14/95	03/14/95	19.4	MG/L		1.25	5
B0DX93	7733-006	Chloride	16887-00-6	QCBLK62499-2	03/14/95	03/14/95	19.2	MG/L		1.25	5
B0DX75	7733-007	Chloride	16887-00-6	QCBLK62499-2	03/14/95	03/14/95	5.86	MG/L		1.25	5
B0DX76	7733-008	Chloride	16887-00-6	QCBLK62499-2	03/14/95	03/14/95	2.41	MG/L		0.25	1
NA	QCBLK61698-1	Chloride	16887-00-6	QCBLK61698-1	03/07/95	03/07/95	0.25	MG/L	U	0.25	1
NA	QCBLK61890-1	Chloride	16887-00-6	QCBLK61890-1	03/09/95	03/09/95	0.25	MG/L	U	0.25	1
NA	QCBLK62499-2	Chloride	16887-00-6	QCBLK62499-2	03/14/95	03/14/95	0.25	MG/L	U	0.25	1
NA	QCLCS61698-1	Chloride	16887-00-6	QCBLK61698-1	03/07/95	03/07/95	94	%REC			1
NA	QCLCS61890-1	Chloride	16887-00-6	QCBLK61890-1	03/09/95	03/09/95	91	%REC			1
NA	QCLCS62499-2	Chloride	16887-00-6	QCBLK62499-2	03/14/95	03/14/95	97	%REC			1

5-23-95

9613451.0805

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

Project: 550.69

Category: Fluoride
Method: EPA 300.0
Matrix: LIQUID

Sample Date : 02/27/95
Receipt Date : 02/28/95
Report Date : 04/05/95

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
B0DX63	7669-001	Fluoride	16984-48-8	QCBLK61698-1	03/07/95	03/07/95	0.24	MG/L		0.10	1
B0DX63	7669-001DUP	Fluoride	16984-48-8	QCBLK61698-1	03/07/95	03/07/95	0.24	MG/L		0.10	1
B0DX63	7669-001MS	Fluoride	16984-48-8	QCBLK61698-1	03/07/95	03/07/95	104	%REC			1
B0DX61	7669-002	Fluoride	16984-48-8	QCBLK61698-1	03/07/95	03/07/95	0.21	MG/L		0.10	1
B0DX64	7669-003	Fluoride	16984-48-8	QCBLK61698-1	03/07/95	03/07/95	0.24	MG/L		0.10	1
B0DX62	7669-004	Fluoride	16984-48-8	QCBLK61698-1	03/07/95	03/07/95	0.21	MG/L		0.10	1
B0DX67	7672-001	Fluoride	16984-48-8	QCBLK61698-1	03/07/95	03/07/95	0.17	MG/L		0.10	1
B0DX94	7672-002	Fluoride	16984-48-8	QCBLK61698-1	03/07/95	03/07/95	0.17	MG/L		0.10	1
B0DX68	7672-003	Fluoride	16984-48-8	QCBLK61698-1	03/07/95	03/07/95	0.18	MG/L		0.10	1
B0DX95	7672-004	Fluoride	16984-48-8	QCBLK61698-1	03/07/95	03/07/95	0.18	MG/L		0.10	1
B0DX73	7703-001	Fluoride	16984-48-8	QCBLK61890-1	03/09/95	03/09/95	0.36	MG/L		0.10	1
B0DX59	7703-002	Fluoride	16984-48-8	QCBLK61890-1	03/09/95	03/09/95	0.15	MG/L		0.10	1
B0DX48	7721-001	Fluoride	16984-48-8	QCBLK62060-1	03/10/95	03/10/95	0.38	MG/L		0.20	2
B0DX49	7721-002	Fluoride	16984-48-8	QCBLK62060-1	03/10/95	03/10/95	0.36	MG/L		0.20	2
B0DX86	7733-001	Fluoride	16984-48-8	QCBLK62499-2	03/14/95	03/14/95	0.10	MG/L	U	0.10	1
B0DX54	7733-002	Fluoride	16984-48-8	QCBLK62499-2	03/14/95	03/14/95	0.10	MG/L	U	0.10	1
B0DX92	7733-003	Fluoride	16984-48-8	QCBLK62499-2	03/14/95	03/14/95	0.10	MG/L	U	0.10	1
B0DX87	7733-004	Fluoride	16984-48-8	QCBLK62499-2	03/14/95	03/14/95	0.10	MG/L	U	0.10	1
B0DX55	7733-005	Fluoride	16984-48-8	QCBLK62499-2	03/14/95	03/14/95	0.10	MG/L	U	0.10	1
B0DX93	7733-006	Fluoride	16984-48-8	QCBLK62499-2	03/14/95	03/14/95	0.10	MG/L	U	0.10	1
B0DX75	7733-007	Fluoride	16984-48-8	QCBLK62499-2	03/14/95	03/14/95	0.26	MG/L		0.10	1
B0DX76	7733-008	Fluoride	16984-48-8	QCBLK62499-2	03/14/95	03/14/95	0.34	MG/L		0.10	1
NA	QCBLK61698-1	Fluoride	16984-48-8	QCBLK61698-1	03/07/95	03/07/95	0.10	MG/L	U	0.10	1
NA	QCBLK61890-1	Fluoride	16984-48-8	QCBLK61890-1	03/09/95	03/09/95	0.10	MG/L	U	0.10	1
NA	QCBLK62060-1	Fluoride	16984-48-8	QCBLK62060-1	03/10/95	03/10/95	0.10	MG/L	U	0.10	1
NA	QCBLK62499-2	Fluoride	16984-48-8	QCBLK62499-2	03/14/95	03/14/95	0.10	MG/L	U	0.10	1
NA	QCLCS61698-1	Fluoride	16984-48-8	QCBLK61698-1	03/07/95	03/07/95	98	%REC			1
NA	QCLCS61890-1	Fluoride	16984-48-8	QCBLK61890-1	03/09/95	03/09/95	90	%REC			1
NA	QCLCS62060-1	Fluoride	16984-48-8	QCBLK62060-1	03/10/95	03/10/95	101	%REC			1
NA	QCLCS62499-2	Fluoride	16984-48-8	QCBLK62499-2	03/14/95	03/14/95	88	%REC			1

5-23-95

9613451.0806

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

Project: 550.69

Category: Nitrite
Method: EPA 300.0
Matrix: LIQUID

Sample Date : 02/27/95
Receipt Date : 02/28/95
Report Date : 04/05/95

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
B0DX63	7669-001	Nitrite	7632-00-0	QCBLK61698-1	03/07/95	03/07/95	0.020	MG/L	~~U~~ UR	0.020	1
B0DX63	7669-001DUP	Nitrite	7632-00-0	QCBLK61698-1	03/07/95	03/07/95	0.020	MG/L	U	0.020	1
B0DX63	7669-001MS	Nitrite	7632-00-0	QCBLK61698-1	03/07/95	03/07/95	99	%REC			1
B0DX61	7669-002	Nitrite	7632-00-0	QCBLK61698-1	03/07/95	03/07/95	0.020	MG/L	~~U~~ UR	0.020	1
B0DX64	7669-003	Nitrite	7632-00-0	QCBLK61698-1	03/07/95	03/07/95	0.020	MG/L	~~U~~ UR	0.020	1
B0DX62	7669-004	Nitrite	7632-00-0	QCBLK61698-1	03/07/95	03/07/95	0.020	MG/L	~~U~~ UR	0.020	1
B0DX67	7672-001	Nitrite	7632-00-0	QCBLK61698-1	03/07/95	03/07/95	0.020	MG/L	~~U~~ UR	0.020	1
B0DX94	7672-002	Nitrite	7632-00-0	QCBLK61698-1	03/07/95	03/07/95	0.020	MG/L	~~U~~ UR	0.020	1
B0DX68	7672-003	Nitrite	7632-00-0	QCBLK61698-1	03/07/95	03/07/95	0.020	MG/L	~~U~~ UR	0.020	1
B0DX95	7672-004	Nitrite	7632-00-0	QCBLK61698-1	03/07/95	03/07/95	0.020	MG/L	~~U~~ UR	0.020	1
B0DX73	7703-001	Nitrite	7632-00-0	QCBLK61890-1	03/09/95	03/09/95	0.020	MG/L	~~U~~ UR	0.020	1
B0DX59	7703-002	Nitrite	7632-00-0	QCBLK61890-1	03/09/95	03/09/95	0.020	MG/L	~~U~~ UR	0.020	1
B0DX48	7721-001	Nitrite	7632-00-0	QCBLK61890-1	03/09/95	03/09/95	0.020	MG/L	~~U~~ UR	0.020	1
B0DX49	7721-002	Nitrite	7632-00-0	QCBLK61890-1	03/09/95	03/09/95	0.020	MG/L	~~U~~ UR	0.020	1
B0DX86	7733-001	Nitrite	7632-00-0	QCBLK62499-2	03/14/95	03/14/95	0.020	MG/L	~~U~~ UR	0.020	1
B0DX54	7733-002	Nitrite	7632-00-0	QCBLK62499-2	03/14/95	03/14/95	0.020	MG/L	~~U~~ UR	0.020	1
B0DX92	7733-003	Nitrite	7632-00-0	QCBLK62499-2	03/14/95	03/14/95	0.020	MG/L	~~U~~ UR	0.020	1
B0DX87	7733-004	Nitrite	7632-00-0	QCBLK62499-2	03/14/95	03/14/95	0.020	MG/L	~~U~~ UR	0.020	1
B0DX55	7733-005	Nitrite	7632-00-0	QCBLK62499-2	03/14/95	03/14/95	0.020	MG/L	~~U~~ UR	0.020	1
B0DX93	7733-006	Nitrite	7632-00-0	QCBLK62499-2	03/14/95	03/14/95	0.020	MG/L	~~U~~ UR	0.020	1
B0DX75	7733-007	Nitrite	7632-00-0	QCBLK62499-2	03/14/95	03/14/95	0.020	MG/L	~~U~~ UR	0.020	1
B0DX76	7733-008	Nitrite	7632-00-0	QCBLK62499-2	03/14/95	03/14/95	0.020	MG/L	~~U~~ UR	0.020	1
NA	QCBLK61698-1	Nitrite	7632-00-0	QCBLK61698-1	03/07/95	03/07/95	0.020	MG/L	U	0.020	1
NA	QCBLK61890-1	Nitrite	7632-00-0	QCBLK61890-1	03/09/95	03/09/95	0.020	MG/L	U	0.020	1
NA	QCBLK62499-2	Nitrite	7632-00-0	QCBLK62499-2	03/14/95	03/14/95	0.020	MG/L	U	0.020	1
NA	QCLCS61698-1	Nitrite	7632-00-0	QCBLK61698-1	03/07/95	03/07/95	96	%REC			1
NA	QCLCS61890-1	Nitrite	7632-00-0	QCBLK61890-1	03/09/95	03/09/95	98	%REC			1
NA	QCLCS62499-2	Nitrite	7632-00-0	QCBLK62499-2	03/14/95	03/14/95	98	%REC			1

5-23-95

9613451.0807

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

Project: 550.69

Category: Nitrate
Method: EPA 300.0
Matrix: LIQUID

Sample Date : 02/27/95
Receipt Date : 02/28/95
Report Date : 04/05/95

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
B0DX63	7669-001	Nitrate	14797-55-8	QCBLK61698-1	03/07/95	03/07/95	3.27	MG/L	J	0.10	5
B0DX63	7669-001DUP	Nitrate	14797-55-8	QCBLK61698-1	03/07/95	03/07/95	3.24	MG/L		0.10	5
B0DX63	7669-001MS	Nitrate	14797-55-8	QCBLK61698-1	03/07/95	03/07/95	73	%REC			5
B0DX61	7669-002	Nitrate	14797-55-8	QCBLK61698-1	03/07/95	03/07/95	3.42	MG/L	J	0.10	5
B0DX64	7669-003	Nitrate	14797-55-8	QCBLK61698-1	03/07/95	03/07/95	3.27	MG/L	J	0.10	5
B0DX62	7669-004	Nitrate	14797-55-8	QCBLK61698-1	03/07/95	03/07/95	3.43	MG/L	J	0.10	5
B0DX67	7672-001	Nitrate	14797-55-8	QCBLK61698-1	03/07/95	03/07/95	4.50	MG/L	J	0.10	5
B0DX94	7672-002	Nitrate	14797-55-8	QCBLK61698-1	03/07/95	03/07/95	4.49	MG/L	J	0.10	5
B0DX68	7672-003	Nitrate	14797-55-8	QCBLK61698-1	03/07/95	03/07/95	4.46	MG/L	J	0.10	5
B0DX95	7672-004	Nitrate	14797-55-8	QCBLK61698-1	03/07/95	03/07/95	4.56	MG/L	J	0.10	5
B0DX73	7703-001	Nitrate	14797-55-8	QCBLK61890-1	03/09/95	03/09/95	0.47	MG/L	J	0.020	1
B0DX59	7703-002	Nitrate	14797-55-8	QCBLK62060-1	03/10/95	03/10/95	10.4	MG/L	J	0.40	20
B0DX48	7721-001	Nitrate	14797-55-8	QCBLK62060-1	03/10/95	03/10/95	5.00	MG/L	J	0.20	10
B0DX49	7721-002	Nitrate	14797-55-8	QCBLK62060-1	03/10/95	03/10/95	5.23	MG/L	J	0.20	10
B0DX86	7733-001	Nitrate	14797-55-8	QCBLK62499-2	03/14/95	03/14/95	0.020	MG/L	~~U~~ UR	0.020	1
B0DX54	7733-002	Nitrate	14797-55-8	QCBLK62499-2	03/14/95	03/14/95	3.89	MG/L	J	0.10	5
B0DX92	7733-003	Nitrate	14797-55-8	QCBLK62499-2	03/14/95	03/14/95	3.91	MG/L	J	0.10	5
B0DX87	7733-004	Nitrate	14797-55-8	QCBLK62499-2	03/14/95	03/14/95	0.020	MG/L	~~U~~ UR	0.020	1
B0DX55	7733-005	Nitrate	14797-55-8	QCBLK62499-2	03/14/95	03/14/95	3.91	MG/L	J	0.10	5
B0DX93	7733-006	Nitrate	14797-55-8	QCBLK62499-2	03/14/95	03/14/95	3.94	MG/L	J	0.10	5
B0DX75	7733-007	Nitrate	14797-55-8	QCBLK62499-2	03/14/95	03/14/95	1.94	MG/L	J	0.10	5
B0DX76	7733-008	Nitrate	14797-55-8	QCBLK62499-2	03/14/95	03/14/95	2.23	MG/L	J	0.10	5
NA	QCBLK61698-1	Nitrate	14797-55-8	QCBLK61698-1	03/07/95	03/07/95	0.020	MG/L	U	0.020	1
NA	QCBLK61890-1	Nitrate	14797-55-8	QCBLK61890-1	03/09/95	03/09/95	0.020	MG/L	U	0.020	1
NA	QCBLK62060-1	Nitrate	14797-55-8	QCBLK62060-1	03/10/95	03/10/95	0.020	MG/L	U	0.020	1
NA	QCBLK62499-2	Nitrate	14797-55-8	QCBLK62499-2	03/14/95	03/14/95	0.020	MG/L	U	0.020	1
NA	QCLCS61698-1	Nitrate	14797-55-8	QCBLK61698-1	03/07/95	03/07/95	100	%REC			1
NA	QCLCS61890-1	Nitrate	14797-55-8	QCBLK61890-1	03/09/95	03/09/95	99	%REC			1
NA	QCLCS62060-1	Nitrate	14797-55-8	QCBLK62060-1	03/10/95	03/10/95	98	%REC			1
NA	QCLCS62499-2	Nitrate	14797-55-8	QCBLK62499-2	03/14/95	03/14/95	100	%REC			1

5-23-95

9613451.0808

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

Project: 550.69

Category: Orthophosphate
Method: EPA 300.0
Matrix: LIQUID

Sample Date : 02/27/95
Receipt Date : 02/28/95
Report Date : 04/05/95

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
B0DX63	7669-001	Ortho-Phosphate	7778-77-0	QCBLK61698-1	03/07/95	03/07/95	1.00	MG/L	~~U~~ UR	1.00	1
B0DX63	7669-001DUP	Ortho-Phosphate	7778-77-0	QCBLK61698-1	03/07/95	03/07/95	1.00	MG/L	U	1.00	1
B0DX63	7669-001MS	Ortho-Phosphate	7778-77-0	QCBLK61698-1	03/07/95	03/07/95	100	%REC			1
B0DX61	7669-002	Ortho-Phosphate	7778-77-0	QCBLK61698-1	03/07/95	03/07/95	1.00	MG/L	~~U~~ UR	1.00	1
B0DX64	7669-003	Ortho-Phosphate	7778-77-0	QCBLK61698-1	03/07/95	03/07/95	1.00	MG/L	~~U~~ UR	1.00	1
B0DX62	7669-004	Ortho-Phosphate	7778-77-0	QCBLK61698-1	03/07/95	03/07/95	1.00	MG/L	~~U~~ UR	1.00	1
B0DX67	7672-001	Ortho-Phosphate	7778-77-0	QCBLK61698-1	03/07/95	03/07/95	1.00	MG/L	~~U~~ UR	1.00	1
B0DX94	7672-002	Ortho-Phosphate	7778-77-0	QCBLK61698-1	03/07/95	03/07/95	1.00	MG/L	~~U~~ UR	1.00	1
B0DX68	7672-003	Ortho-Phosphate	7778-77-0	QCBLK61698-1	03/07/95	03/07/95	1.00	MG/L	~~U~~ UR	1.00	1
B0DX95	7672-004	Ortho-Phosphate	7778-77-0	QCBLK61698-1	03/07/95	03/07/95	1.00	MG/L	~~U~~ UR	1.00	1
B0DX73	7703-001	Ortho-Phosphate	7778-77-0	QCBLK61890-1	03/09/95	03/09/95	1.00	MG/L	~~U~~ UR	1.00	1
B0DX59	7703-002	Ortho-Phosphate	7778-77-0	QCBLK61890-1	03/09/95	03/09/95	1.00	MG/L	~~U~~ UR	1.00	1
B0DX48	7721-001	Ortho-Phosphate	7778-77-0	QCBLK61890-1	03/09/95	03/09/95	1.00	MG/L	~~U~~ UR	1.00	1
B0DX49	7721-002	Ortho-Phosphate	7778-77-0	QCBLK61890-1	03/09/95	03/09/95	1.00	MG/L	~~U~~ UR	1.00	1
B0DX86	7733-001	Ortho-Phosphate	7778-77-0	QCBLK62499-2	03/14/95	03/14/95	1.00	MG/L	~~U~~ UR	1.00	1
B0DX54	7733-002	Ortho-Phosphate	7778-77-0	QCBLK62499-2	03/14/95	03/14/95	1.00	MG/L	~~U~~ UR	1.00	1
B0DX92	7733-003	Ortho-Phosphate	7778-77-0	QCBLK62499-2	03/14/95	03/14/95	1.00	MG/L	~~U~~ UR	1.00	1
B0DX87	7733-004	Ortho-Phosphate	7778-77-0	QCBLK62499-2	03/14/95	03/14/95	1.00	MG/L	~~U~~ UR	1.00	1
B0DX55	7733-005	Ortho-Phosphate	7778-77-0	QCBLK62499-2	03/14/95	03/14/95	1.00	MG/L	~~U~~ UR	1.00	1
B0DX93	7733-006	Ortho-Phosphate	7778-77-0	QCBLK62499-2	03/14/95	03/14/95	1.00	MG/L	~~U~~ UR	1.00	1
B0DX75	7733-007	Ortho-Phosphate	7778-77-0	QCBLK62499-2	03/14/95	03/14/95	1.00	MG/L	~~U~~ UR	1.00	1
B0DX76	7733-008	Ortho-Phosphate	7778-77-0	QCBLK62499-2	03/14/95	03/14/95	1.00	MG/L	~~U~~ UR	1.00	1
NA	QCBLK61698-1	Ortho-Phosphate	7778-77-0	QCBLK61698-1	03/07/95	03/07/95	1.00	MG/L	U	1.00	1
NA	QCBLK61890-1	Ortho-Phosphate	7778-77-0	QCBLK61890-1	03/09/95	03/09/95	1.00	MG/L	U	1.00	1
NA	QCBLK62499-2	Ortho-Phosphate	7778-77-0	QCBLK62499-2	03/14/95	03/14/95	1.00	MG/L	U	1.00	1
NA	QCLCS61698-1	Ortho-Phosphate	7778-77-0	QCBLK61698-1	03/07/95	03/07/95	93	%REC			1
NA	QCLCS61890-1	Ortho-Phosphate	7778-77-0	QCBLK61890-1	03/09/95	03/09/95	94	%REC			1
NA	QCLCS62499-2	Ortho-Phosphate	7778-77-0	QCBLK62499-2	03/14/95	03/14/95	96	%REC			1

5-23-95

9613451.0809

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

Project: 550.69

Category: Sulfate
Method: EPA 300.0
Matrix: LIQUID

Sample Date : 02/27/95
Receipt Date : 02/28/95
Report Date : 04/05/95

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
B0DX63	7669-001	Sulfate	14808-79-8	QCBLK61698-1	03/07/95	03/07/95	32.8	MG/L		5.00	5
B0DX63	7669-001DUP	Sulfate	14808-79-8	QCBLK61698-1	03/07/95	03/07/95	32.4	MG/L		5.00	5
B0DX63	7669-001MS	Sulfate	14808-79-8	QCBLK61698-1	03/07/95	03/07/95	100	%REC			5
B0DX61	7669-002	Sulfate	14808-79-8	QCBLK61698-1	03/07/95	03/07/95	30.9	MG/L		5.00	5
B0DX64	7669-003	Sulfate	14808-79-8	QCBLK61698-1	03/07/95	03/07/95	32.5	MG/L		5.00	5
B0DX62	7669-004	Sulfate	14808-79-8	QCBLK61698-1	03/07/95	03/07/95	30.6	MG/L		5.00	5
B0DX67	7672-001	Sulfate	14808-79-8	QCBLK61698-1	03/07/95	03/07/95	53.5	MG/L		5.00	5
B0DX94	7672-002	Sulfate	14808-79-8	QCBLK61698-1	03/07/95	03/07/95	53.5	MG/L		5.00	5
B0DX68	7672-003	Sulfate	14808-79-8	QCBLK61698-1	03/07/95	03/07/95	53.4	MG/L		5.00	5
B0DX95	7672-004	Sulfate	14808-79-8	QCBLK61698-1	03/07/95	03/07/95	53.6	MG/L		5.00	5
B0DX73	7703-001	Sulfate	14808-79-8	QCBLK61890-1	03/09/95	03/09/95	25.7	MG/L		5.00	5
B0DX59	7703-002	Sulfate	14808-79-8	QCBLK61890-1	03/09/95	03/09/95	23.3	MG/L		5.00	5
B0DX48	7721-001	Sulfate	14808-79-8	QCBLK62060-1	03/10/95	03/10/95	448	MG/L		25.0	25
B0DX49	7721-002	Sulfate	14808-79-8	QCBLK62060-1	03/10/95	03/10/95	460	MG/L		25.0	25
B0DX86	7733-001	Sulfate	14808-79-8	QCBLK62499-2	03/14/95	03/14/95	1.00	MG/L	U	1.00	1
B0DX54	7733-002	Sulfate	14808-79-8	QCBLK62499-2	03/14/95	03/14/95	283	MG/L		25.0	25
B0DX92	7733-003	Sulfate	14808-79-8	QCBLK62499-2	03/14/95	03/14/95	284	MG/L		25.0	25
B0DX87	7733-004	Sulfate	14808-79-8	QCBLK62499-2	03/14/95	03/14/95	1.00	MG/L	U	1.00	1
B0DX55	7733-005	Sulfate	14808-79-8	QCBLK62499-2	03/14/95	03/14/95	283	MG/L		25.0	25
B0DX93	7733-006	Sulfate	14808-79-8	QCBLK62499-2	03/14/95	03/14/95	282	MG/L		25.0	25
B0DX75	7733-007	Sulfate	14808-79-8	QCBLK62499-2	03/14/95	03/14/95	94.2	MG/L		10.0	10
B0DX76	7733-008	Sulfate	14808-79-8	QCBLK62499-2	03/14/95	03/14/95	47.5	MG/L		5.00	5
NA	QCBLK61698-1	Sulfate	14808-79-8	QCBLK61698-1	03/07/95	03/07/95	1.00	MG/L	U	1.00	1
NA	QCBLK61890-1	Sulfate	14808-79-8	QCBLK61890-1	03/09/95	03/09/95	1.00	MG/L	U	1.00	1
NA	QCBLK62060-1	Sulfate	14808-79-8	QCBLK62060-1	03/10/95	03/10/95	1.00	MG/L	U	1.00	1
NA	QCBLK62499-2	Sulfate	14808-79-8	QCBLK62499-2	03/14/95	03/14/95	1.00	MG/L	U	1.00	1
NA	QCLCS61698-1	Sulfate	14808-79-8	QCBLK61698-1	03/07/95	03/07/95	93	%REC			1
NA	QCLCS61890-1	Sulfate	14808-79-8	QCBLK61890-1	03/09/95	03/09/95	95	%REC			1
NA	QCLCS62060-1	Sulfate	14808-79-8	QCBLK62060-1	03/10/95	03/10/95	98	%REC			1
NA	QCLCS62499-2	Sulfate	14808-79-8	QCBLK62499-2	03/14/95	03/14/95	95	%REC			1

5-23-95

9613451.0810

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

Project: 550.69

Category: Conductivity
Method: EPA 120.1
Matrix: LIQUID

Sample Date : 02/27/95
Receipt Date : 02/28/95
Report Date : 04/05/95

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
B0DX63	7669-001	Specific Conduc	10-34-4	QCBLK61629-1	03/08/95	03/08/95	274	UMHOS/CM		0.066	1
B0DX63	7669-001DUP	Specific Conduc	10-34-4	QCBLK61629-1	03/08/95	03/08/95	273	UMHOS/CM		0.066	1
B0DX61	7669-002	Specific Conduc	10-34-4	QCBLK61629-1	03/08/95	03/08/95	260	UMHOS/CM		0.066	1
B0DX67	7672-001	Specific Conduc	10-34-4	QCBLK61629-1	03/08/95	03/08/95	313	UMHOS/CM		0.066	1
B0DX94	7672-002	Specific Conduc	10-34-4	QCBLK61629-1	03/08/95	03/08/95	311	UMHOS/CM		0.066	1
B0DX48	7721-001	Specific Conduc	10-34-4	QCBLK61629-1	03/08/95	03/08/95	1217	UMHOS/CM		0.066	1
B0DX86	7733-001	Specific Conduc	10-34-4	QCBLK61885-1	03/10/95	03/10/95	0.89	UMHOS/CM		0.066	1
B0DX54	7733-002	Specific Conduc	10-34-4	QCBLK61885-1	03/10/95	03/10/95	987	UMHOS/CM		0.066	1
B0DX92	7733-003	Specific Conduc	10-34-4	QCBLK61885-1	03/10/95	03/10/95	982	UMHOS/CM		0.066	1
B0DX76	7733-008	Specific Conduc	10-34-4	QCBLK61885-1	03/10/95	03/10/95	390	UMHOS/CM		0.066	1
NA	QCBLK61629-1	Specific Conduc	10-34-4	QCBLK61629-1	03/08/95	03/08/95	0.45	UMHOS/CM		0.066	1
NA	QCBLK61885-1	Specific Conduc	10-34-4	QCBLK61885-1	03/10/95	03/10/95	0.45	UMHOS/CM		0.066	1

5-23-95

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9613451.0811

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

Project: 550.69

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

Sample Date : 03/03/95
Receipt Date : 03/06/95
Report Date : 04/05/95

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
B0DX48	7721-001	Oil & Grease	10-30-0	QCBLK62215-1	03/14/95	03/14/95	2.32	MG/L		0.97	1
B0DX48	7721-001DUP	Oil & Grease	10-30-0	QCBLK62215-1	03/14/95	03/14/95	2.44	MG/L		0.98	1
B0DX86	7733-001	Oil & Grease	10-30-0	QCBLK62215-1	03/14/95	03/14/95	1.00	MG/L	U	1.00	1
B0DX54	7733-002	Oil & Grease	10-30-0	QCBLK62215-1	03/14/95	03/14/95	3.34	MG/L		0.95	1
B0DX92	7733-003	Oil & Grease	10-30-0	QCBLK62215-1	03/14/95	03/14/95	2.87	MG/L		0.96	1
NA	QCBLK62215-1	Oil & Grease	10-30-0	QCBLK62215-1	03/14/95	03/14/95	1.00	MG/L	U	1.00	1
NA	QCLCS62215-1	Oil & Grease	10-30-0	QCBLK62215-1	03/14/95	03/14/95	96	%REC			1

5-23-95

9613451.0812

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

Project: 550.69

Category: pH
Method: EPA 9040
Matrix: LIQUID

Sample Date : 02/27/95
Receipt Date : 02/28/95
Report Date : 04/05/95

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
B0DX63	7669-001	pH	10-29-7	QCBLK61605-1	03/08/95	03/08/95	8.03	PH	J		1
B0DX63	7669-001DUP	pH	10-29-7	QCBLK61605-1	03/08/95	03/08/95	8.04	PH			1
B0DX61	7669-002	pH	10-29-7	QCBLK61605-1	03/08/95	03/08/95	8.06	PH	J		1
B0DX67	7672-001	pH	10-29-7	QCBLK61605-1	03/08/95	03/08/95	8.10	PH	J		1
B0DX94	7672-002	pH	10-29-7	QCBLK61605-1	03/08/95	03/08/95	8.10	PH	J		1
B0DX48	7721-001	pH	10-29-7	QCBLK61605-1	03/08/95	03/08/95	7.95	PH	J		1
B0DX86	7733-001	pH	10-29-7	QCBLK61887-1	03/10/95	03/10/95	5.66	PH	J		1
B0DX54	7733-002	pH	10-29-7	QCBLK61887-1	03/10/95	03/10/95	7.55	PH	J		1
B0DX92	7733-003	pH	10-29-7	QCBLK61887-1	03/10/95	03/10/95	7.73	PH	J		1
B0DX76	7733-008	pH	10-29-7	QCBLK61887-1	03/10/95	03/10/95	8.01	PH	J		1
NA	QCBLK61605-1	pH	10-29-7	QCBLK61605-1	03/08/95	03/08/95	5.70	PH			1
NA	QCBLK61887-1	pH	10-29-7	QCBLK61887-1	03/10/95	03/10/95	5.64	PH			1

5-23-95

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9613451.0813

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

Project: 550.69

Category: TPH-418.1
Method: EPA 418.1
Matrix: LIQUID

Sample Date : 03/03/95
Receipt Date : 03/06/95
Report Date : 04/05/95

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
B0DX48	7721-001	TPH	10-90-2	QCBLK62100-1	03/13/95	03/14/95	0.48	MG/L	U	0.48	1
B0DX48	7721-001DUP	TPH	10-90-2	QCBLK62100-1	03/13/95	03/14/95	0.48	MG/L	U	0.48	1
B0DX48	7721-001MS	TPH	10-90-2	QCBLK62100-1	03/13/95	03/14/95	98	%REC			1
B0DX86	7733-001	TPH	10-90-2	QCBLK62100-1	03/13/95	03/14/95	0.48	MG/L	U	0.48	1
B0DX54	7733-002	TPH	10-90-2	QCBLK62100-1	03/13/95	03/14/95	0.48	MG/L	U	0.48	1
B0DX92	7733-003	TPH	10-90-2	QCBLK62100-1	03/13/95	03/14/95	0.48	MG/L	U	0.48	1
NA	QCBLK62100-1	TPH	10-90-2	QCBLK62100-1	03/13/95	03/14/95	0.50	MG/L	U	0.50	1
NA	QCLCS62100-1	TPH	10-90-2	QCBLK62100-1	03/13/95	03/14/95	114	%REC			1

5-23-95

9613451.0814

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

Project: 550.69

Category: Turbidity
Method: EPA 180.1
Matrix: LIQUID

Sample Date : 02/27/95
Receipt Date : 02/28/95
Report Date : 04/05/95

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
B0DX63	7669-001	Turbidity	G-019	QCBLK61618-1	03/08/95	03/08/95	0.73	NTU	J	0.01	1
B0DX63	7669-001DUP	Turbidity	G-019	QCBLK61618-1	03/08/95	03/08/95	0.71	NTU		0.01	1
B0DX61	7669-002	Turbidity	G-019	QCBLK61618-1	03/08/95	03/08/95	1.08	NTU	J	0.01	1
B0DX67	7672-001	Turbidity	G-019	QCBLK61618-1	03/08/95	03/08/95	0.82	NTU	J	0.01	1
B0DX94	7672-002	Turbidity	G-019	QCBLK61618-1	03/08/95	03/08/95	1.22	NTU	J	0.01	1
B0DX48	7721-001	Turbidity	G-019	QCBLK61618-1	03/08/95	03/08/95	1.37	NTU	J	0.01	1
B0DX86	7733-001	Turbidity	G-019	QCBLK62636-1	03/18/95	03/18/95	0.68	NTU	J	0.01	1
B0DX54	7733-002	Turbidity	G-019	QCBLK62636-1	03/18/95	03/18/95	0.81	NTU	J	0.01	1
B0DX92	7733-003	Turbidity	G-019	QCBLK62636-1	03/18/95	03/18/95	0.82	NTU	J	0.01	1
NA	QCBLK61618-1	Turbidity	G-019	QCBLK61618-1	03/08/95	03/08/95	0.64	NTU		0.01	1
NA	QCBLK62636-1	Turbidity	G-019	QCBLK62636-1	03/18/95	03/18/95	0.13	NTU		0.01	1

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Checklist

9613451.0816

LATA GENERAL CHEMISTRY
DATA VALIDATION CHECKLIST

VALIDATION LEVEL:	A	B	C	D	E

VALIDATION PROCEDURE:	☐ WHC-CM-5-3, Rev. 0		☒ WHC-SD-EN-SPP-002, Rev. 2		
PROJECT:	100-NR-2 ROUND 7		SDG:	W0436-QES	
VALIDATOR:	MC WEBB 6-7-95	LATA NO:	VB403.47	DATE:	23-May-95
REVIEWER:	AM FREIER 6-14-95	LAB:	QES	CASE:	N/A
SAF NO:	B95-030	QAPP NO:	WHC-SD-EN-QAPP-001, R2	SAP NO:	N/A

ANALYSES REQUESTED

☒ Anions 300.0	☒ Specific Conductivity 120.1	☒ Oil & Grease 413.1	☒ pH 9040	☒ TPH 418.1	☒ Turbidity 180.1

SAMPLE NO.	MATRIX
B0DX48 B0DX49	WATER
B0DX54 B0DX55	
B0DX59 B0DX61	
B0DX62 B0DX63	
B0DX64 B0DX67	
B0DX68 B0DX73	
B0DX75 B0DX76	
B0DX86 B0DX87	
B0DX92 B0DX93	
B0DX94 B0DX95	

COMMENTS:

	YES	NO	N/A
1. DATA PACKAGE COMPLETENESS AND CASE NARRATIVE			
Is technical verification documentation present?	☒	☐	☐
Is a case narrative present?	☒	☐	☐
2. HOLDING TIMES			
Are sample holding times acceptable?	☐	☒	☐

See HOLDING TIME SUMMARY form

	YES	NO	N/A
3. INSTRUMENT PERFORMANCE AND CALIBRATIONS			
Were initial calibrations performed on all instruments?	☐	☐	☒
Are initial calibrations acceptable?	☐	☐	☒
Were calibration checks performed on all instruments?	☐	☐	☒
Are calibration checks acceptable?	☐	☐	☒
Validation calculation checks were performed and are acceptable.	☐	☐	☒

LATA GENERAL CHEMISTRY
DATA VALIDATION CHECKLIST

4. BLANKS

	YES	NO	N/A
Were laboratory blanks performed for all applicable analyses?			X
Are laboratory blank results acceptable?			X
Were preparation blanks analyzed?	X		
Are preparation blank results acceptable?		X	

If NO(s) are checked, see BLANK AND SAMPLE DATA SUMMARY form

5. ACCURACY

	YES	NO	N/A
Were spike samples analyzed at the proper frequency?	X		
Are all spike sample recoveries acceptable?		X	
Were laboratory control samples (LCS) analyzed at the proper frequency?			X
Are all LCS recoveries acceptable?			X
Validation calculation checks were performed and are acceptable.			X

If NO(s) are checked, see ACCURACY DATA SUMMARY form

6. PRECISION

	YES	NO	N/A
Were laboratory duplicates analyzed at the proper frequency?	X		
Are all duplicate RPD values acceptable?	X		
Were MS/MSDs analyzed?		X	
Are all MS/MSD RPD values acceptable?			X
Validation calculation checks were performed and are acceptable.			X

If NO(s) are checked, see PRECISION DATA SUMMARY form

7. FIELD QC SAMPLES

	YES	NO	N/A
Were field QC samples (field/trip blanks, duplicates, splits, performance audit) identified?	X		
Are field/trip blank results acceptable? (see Blank Data Summary form)		X	
Are field duplicate RPD values acceptable? (see Field QC evaluation)		X	
Are field split RPD values acceptable? (see Field QC calculations)			X
Are performance audit sample results acceptable?			X

Comments: B0DX48 is a split with B0DX98 and B0DX49 is a split with B0DX99. The field split is evaluated in VB403.46 (LK3999-LAS). B0DX86 and B0DX87 are field blanks. B0DX92/B0DX54, B0DX93/B0DX55, B0DX94/B0DX67, and B0DX95/B0DX68 are field duplicates.

8. ANALYTE QUANTITATION

	YES	NO	N/A
Was analyte quantitation performed properly?	☐	☐	X
Are results calculated properly?	☐	☐	X
Validation calculation checks were performed and are acceptable.	☐	☐	X

Comments:

9. REPORTED RESULTS AND DETECTION LIMITS

	YES	NO	N/A
Are results reported for all requested analyses?	X	☐	☐
Are all results supported in the raw data?	☐	☐	X
Do results meet the CRDLs?	X	☐	☐
Validation calculation checks were performed and are acceptable.	☐	☐	X

Comments:

VALIDATION SUMMARY

For deficiencies (major and minor) and comments, please refer to the Qualification Summary Table.

LATA GENERAL CHEMISTRY
DATA VALIDATION CHECKLIST

HOLDING TIME SUMMARY

SDG:	W0436-QES	VALIDATOR: MC WEBB	DATE: 23-May-95
PROJECT:	100-NR-2 ROUND 7	REVIEWER: AM FREIER	LATA NO.: VB403.47

HEIS-SN	MATRIX CODE	ANALYSIS	DATE COLLECTED	PREP DATE	ANALYSIS DATE	PREP HT (days)	*Required HT (days)*	ANALYSIS HT (days)	*Required HT (days)*	VAL Q
B0DX48	WATER	Anions Cl, F, SO_4	3-Mar-95	09-Mar-95	09-Mar-95	6	*NA*	6	*28*	NONE
B0DX49	WATER	Anions Cl, F, SO_4	3-Mar-95	09-Mar-95	09-Mar-95	6	*NA*	6	*28*	NONE
B0DX54	WATER	Anions Cl, F, SO_4	6-Mar-95	14-Mar-95	14-Mar-95	8	*NA*	8	*28*	NONE
B0DX55	WATER	Anions Cl, F, SO_4	6-Mar-95	14-Mar-95	14-Mar-95	8	*NA*	8	*28*	NONE
B0DX59	WATER	Anions Cl, F, SO_4	1-Mar-95	09-Mar-95	09-Mar-95	8	*NA*	8	*28*	NONE
B0DX61	WATER	Anions Cl, F, SO_4	27-Feb-95	07-Mar-95	07-Mar-95	8	*NA*	8	*28*	NONE
B0DX62	WATER	Anions Cl, F, SO_4	27-Feb-95	07-Mar-95	07-Mar-95	8	*NA*	8	*28*	NONE
B0DX63	WATER	Anions Cl, F, SO_4	27-Feb-95	07-Mar-95	07-Mar-95	8	*NA*	8	*28*	NONE
B0DX64	WATER	Anions Cl, F, SO_4	27-Feb-95	07-Mar-95	07-Mar-95	8	*NA*	8	*28*	NONE
B0DX67	WATER	Anions Cl, F, SO_4	28-Feb-95	07-Mar-95	07-Mar-95	7	*NA*	7	*28*	NONE
B0DX68	WATER	Anions Cl, F, SO_4	28-Feb-95	07-Mar-95	07-Mar-95	7	*NA*	7	*28*	NONE
B0DX73	WATER	Anions Cl, F, SO_4	1-Mar-95	09-Mar-95	09-Mar-95	8	*NA*	8	*28*	NONE
B0DX75	WATER	Anions Cl, F, SO_4	3-Mar-95	14-Mar-95	14-Mar-95	11	*NA*	11	*28*	NONE
B0DX76	WATER	Anions Cl, F, SO_4	3-Mar-95	14-Mar-95	14-Mar-95	11	*NA*	11	*28*	NONE
B0DX86	WATER	Anions Cl, F, SO_4	6-Mar-95	14-Mar-95	14-Mar-95	8	*NA*	8	*28*	NONE
B0DX87	WATER	Anions Cl, F, SO_4	6-Mar-95	14-Mar-95	14-Mar-95	8	*NA*	8	*28*	NONE
B0DX92	WATER	Anions Cl, F, SO_4	6-Mar-95	14-Mar-95	14-Mar-95	8	*NA*	8	*28*	NONE
B0DX93	WATER	Anions Cl, F, SO_4	6-Mar-95	14-Mar-95	14-Mar-95	8	*NA*	8	*28*	NONE
B0DX94	WATER	Anions Cl, F, SO_4	28-Feb-95	07-Mar-95	07-Mar-95	7	*NA*	7	*28*	NONE
B0DX95	WATER	Anions Cl, F, SO_4	28-Feb-95	07-Mar-95	07-Mar-95	7	*NA*	7	*28*	NONE
B0DX48	WATER	Anions NO_2, NO_3, PO_4	3-Mar-95	09-Mar-95	09-Mar-95	6	*NA*	6	*2*	J/UR
B0DX49	WATER	Anions NO_2, NO_3, PO_4	3-Mar-95	09-Mar-95	09-Mar-95	6	*NA*	6	*2*	J/UR
B0DX54	WATER	Anions NO_2, NO_3, PO_4	6-Mar-95	14-Mar-95	14-Mar-95	8	*NA*	8	*2*	J/UR
B0DX55	WATER	Anions NO_2, NO_3, PO_4	6-Mar-95	14-Mar-95	14-Mar-95	8	*NA*	8	*2*	J/UR
B0DX59	WATER	Anions NO_2, NO_3, PO_4	1-Mar-95	09-Mar-95	09-Mar-95	8	*NA*	8	*2*	J/UR
B0DX61	WATER	Anions NO_2, NO_3, PO_4	27-Feb-95	07-Mar-95	07-Mar-95	8	*NA*	8	*2*	J/UR
B0DX62	WATER	Anions NO_2, NO_3, PO_4	27-Feb-95	07-Mar-95	07-Mar-95	8	*NA*	8	*2*	J/UR
B0DX63	WATER	Anions NO_2, NO_3, PO_4	27-Feb-95	07-Mar-95	07-Mar-95	8	*NA*	8	*2*	J/UR
B0DX64	WATER	Anions NO_2, NO_3, PO_4	27-Feb-95	07-Mar-95	07-Mar-95	8	*NA*	8	*2*	J/UR
B0DX67	WATER	Anions NO_2, NO_3, PO_4	28-Feb-95	07-Mar-95	07-Mar-95	7	*NA*	7	*2*	J/UR
B0DX68	WATER	Anions NO_2, NO_3, PO_4	28-Feb-95	07-Mar-95	07-Mar-95	7	*NA*	7	*2*	J/UR
B0DX73	WATER	Anions NO_2, NO_3, PO_4	1-Mar-95	09-Mar-95	09-Mar-95	8	*NA*	8	*2*	J/UR
B0DX75	WATER	Anions NO_2, NO_3, PO_4	3-Mar-95	14-Mar-95	14-Mar-95	11	*NA*	11	*2*	J/UR
B0DX76	WATER	Anions NO_2, NO_3, PO_4	3-Mar-95	14-Mar-95	14-Mar-95	11	*NA*	11	*2*	J/UR
B0DX86	WATER	Anions NO_2, NO_3, PO_4	6-Mar-95	14-Mar-95	14-Mar-95	8	*NA*	8	*2*	UR
B0DX87	WATER	Anions NO_2, NO_3, PO_4	6-Mar-95	14-Mar-95	14-Mar-95	8	*NA*	8	*2*	UR
B0DX92	WATER	Anions NO_2, NO_3, PO_4	6-Mar-95	14-Mar-95	14-Mar-95	8	*NA*	8	*2*	J/UR

LATA GENERAL CHEMISTRY
DATA VALIDATION CHECKLIST

HOLDING TIME SUMMARY

SDG:	W0436-QES	VALIDATOR: MC WEBB	DATE: 23-May-95
PROJECT:	100-NR-2 ROUND 7	REVIEWER: AM FREIER	LATA NO.: VB403.47

HEIS-SN	MATRIX CODE	ANALYSIS	DATE COLLECTED	PREP DATE	ANALYSIS DATE	PREP HT (days)	*Required HT (days)*	ANALYSIS HT (days)	*Required HT (days)*	VAL Q
B0DX93	WATER	Anions NO_2, NO_3, PO_4	6-Mar-95	14-Mar-95	14-Mar-95	8	*NA*	8	*2*	J/UR
B0DX94	WATER	Anions NO_2, NO_3, PO_4	28-Feb-95	07-Mar-95	07-Mar-95	7	*NA*	7	*2*	J/UR
B0DX95	WATER	Anions NO_2, NO_3, PO_4	28-Feb-95	07-Mar-95	07-Mar-95	7	*NA*	7	*2*	J/UR
B0DX48	WATER	Specific Conductivity	3-Mar-95	08-Mar-95	08-Mar-95	5	*NA*	5	*28*	NONE
B0DX54	WATER	Specific Conductivity	6-Mar-95	10-Mar-95	10-Mar-95	4	*NA*	4	*28*	NONE
B0DX61	WATER	Specific Conductivity	27-Feb-95	08-Mar-95	08-Mar-95	9	*NA*	9	*28*	NONE
B0DX63	WATER	Specific Conductivity	27-Feb-95	07-Mar-95	07-Mar-95	8	*NA*	8	*28*	NONE
B0DX67	WATER	Specific Conductivity	28-Feb-95	08-Mar-95	08-Mar-95	8	*NA*	8	*28*	NONE
B0DX76	WATER	Specific Conductivity	3-Mar-95	10-Mar-95	10-Mar-95	7	*NA*	7	*28*	NONE
B0DX86	WATER	Specific Conductivity	6-Mar-95	10-Mar-95	10-Mar-95	4	*NA*	4	*28*	NONE
B0DX92	WATER	Specific Conductivity	6-Mar-95	10-Mar-95	10-Mar-95	4	*NA*	4	*28*	NONE
B0DX94	WATER	Specific Conductivity	28-Feb-95	08-Mar-95	08-Mar-95	8	*NA*	8	*28*	NONE
B0DX48	WATER	Oil & Grease	3-Mar-95	14-Mar-95	14-Mar-95	11	*NA*	11	*28*	NONE
B0DX54	WATER	Oil & Grease	6-Mar-95	14-Mar-95	14-Mar-95	8	*NA*	8	*28*	NONE
B0DX86	WATER	Oil & Grease	6-Mar-95	14-Mar-95	14-Mar-95	8	*NA*	8	*28*	NONE
B0DX92	WATER	Oil & Grease	6-Mar-95	14-Mar-95	14-Mar-95	8	*NA*	8	*28*	NONE
B0DX48	WATER	pH	3-Mar-95	08-Mar-95	08-Mar-95	5	*NA*	5	*ASAP*	J
B0DX54	WATER	pH	6-Mar-95	10-Mar-95	10-Mar-95	4	*NA*	4	*ASAP*	J
B0DX61	WATER	pH	27-Feb-95	08-Mar-95	08-Mar-95	9	*NA*	9	*ASAP*	J
B0DX63	WATER	pH	27-Feb-95	08-Mar-95	08-Mar-95	9	*NA*	9	*ASAP*	J
B0DX67	WATER	pH	28-Feb-95	08-Mar-95	08-Mar-95	8	*NA*	8	*ASAP*	J
B0DX76	WATER	pH	3-Mar-95	10-Mar-95	10-Mar-95	7	*NA*	7	*ASAP*	J
B0DX86	WATER	pH	6-Mar-95	10-Mar-95	10-Mar-95	4	*NA*	4	*ASAP*	J
B0DX92	WATER	pH	6-Mar-95	10-Mar-95	10-Mar-95	4	*NA*	4	*ASAP*	J
B0DX94	WATER	pH	28-Feb-95	08-Mar-95	08-Mar-95	8	*NA*	8	*ASAP*	J
B0DX48	WATER	TPH	3-Mar-95	13-Mar-95	14-Mar-95	10	*NA*	11	*14*	NONE
B0DX54	WATER	TPH	6-Mar-95	13-Mar-95	14-Mar-95	7	*NA*	8	*14*	NONE
B0DX86	WATER	TPH	6-Mar-95	13-Mar-95	14-Mar-95	7	*NA*	8	*14*	NONE
B0DX92	WATER	TPH	6-Mar-95	13-Mar-95	14-Mar-95	7	*NA*	8	*14*	NONE
B0DX48	WATER	Turbidity	3-Mar-95	08-Mar-95	08-Mar-95	5	*NA*	5	*2*	J
B0DX54	WATER	Turbidity	6-Mar-95	18-Mar-95	18-Mar-95	12	*NA*	12	*2*	J
B0DX61	WATER	Turbidity	27-Feb-95	08-Mar-95	08-Mar-95	9	*NA*	9	*2*	J
B0DX63	WATER	Turbidity	27-Feb-95	08-Mar-95	08-Mar-95	9	*NA*	9	*2*	J
B0DX67	WATER	Turbidity	28-Feb-95	08-Mar-95	08-Mar-95	8	*NA*	8	*2*	J
B0DX86	WATER	Turbidity	6-Mar-95	18-Mar-95	18-Mar-95	12	*NA*	12	*2*	J
B0DX92	WATER	Turbidity	6-Mar-95	18-Mar-95	18-Mar-95	12	*NA*	12	*2*	J
B0DX94	WATER	Turbidity	28-Feb-95	08-Mar-95	08-Mar-95	8	*NA*	8	*2*	J

BLANK DATA SUMMARY

SDG:	W0436-QES		VALIDATOR:	MC WEBB					DATE:	23-May-95
PROJECT:	100-NR-2 ROUND 7		REVIEWER:	AM FREIER					LATA NO.:	VB403.47
BLANK ID	ANALYTE	RESULT	LAB Q	RT	UNITS	2X RESULT	5X RESULT	10X RESULT	SAMPLES AFFECTED	VAL Q
QCBLK61629-1	Specific Conductivity	0.45			µmhos/cm				NONE	NONE
QCBLK61885-1	Specific Conductivity	0.45			µmhos/cm				NONE	NONE
QCBLK61618-1	Turbidity	0.64			NTU				NONE	NONE
QCBLK62636-1	Turbidity	0.13			NTU				NONE	NONE
Field Blank B0DX86	Specific Conductivity	0.89			µmhos/cm				NONE	NONE
Field Blank B0DX86	Turbidity	0.68			NTU				NONE	NONE

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

Project: 550.69

Category: Conductivity
Method: EPA 120.1
Matrix: LIQUID

Sample Date : 02/27/95
Receipt Date : 02/28/95
Report Date : 04/05/95

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
B0DX63	7669-001	Specific Conduc	10-34-4	QCBLK61629-1	03/08/95	03/08/95	274	UMHOS/CM		0.066	1
B0DX63	7669-001DUP	Specific Conduc	10-34-4	QCBLK61629-1	03/08/95	03/08/95	273	UMHOS/CM		0.066	1
B0DX61	7669-002	Specific Conduc	10-34-4	QCBLK61629-1	03/08/95	03/08/95	260	UMHOS/CM		0.066	1
B0DX67	7672-001	Specific Conduc	10-34-4	QCBLK61629-1	03/08/95	03/08/95	313	UMHOS/CM		0.066	1
B0DX94	7672-002	Specific Conduc	10-34-4	QCBLK61629-1	03/08/95	03/08/95	311	UMHOS/CM		0.066	1
B0DX48	7721-001	Specific Conduc	10-34-4	QCBLK61629-1	03/08/95	03/08/95	1217	UMHOS/CM		0.066	1
B0DX86	7733-001	Specific Conduc	10-34-4	QCBLK61885-1	03/10/95	03/10/95	0.89	UMHOS/CM		0.066	1
B0DX54	7733-002	Specific Conduc	10-34-4	QCBLK61885-1	03/10/95	03/10/95	987	UMHOS/CM		0.066	1
B0DX92	7733-003	Specific Conduc	10-34-4	QCBLK61885-1	03/10/95	03/10/95	982	UMHOS/CM		0.066	1
B0DX76	7733-008	Specific Conduc	10-34-4	QCBLK61885-1	03/10/95	03/10/95	390	UMHOS/CM		0.066	1
NA	QCBLK61629-1	Specific Conduc	10-34-4	QCBLK61629-1	03/08/95	03/08/95	0.45	UMHOS/CM		0.066	1
NA	QCBLK61885-1	Specific Conduc	10-34-4	QCBLK61885-1	03/10/95	03/10/95	0.45	UMHOS/CM		0.066	1

5-23-95

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000031

9613451.0823

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

Project: 550.69

Category: Turbidity
Method: EPA 180.1
Matrix: LIQUID

Sample Date : 02/27/95
Receipt Date : 02/28/95
Report Date : 04/05/95

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
B00X63	7669-001	Turbidity	G-019	QCBLK61618-1	03/08/95	03/08/95	0.73	NTU		0.01	1
B00X63	7669-001DUP	Turbidity	G-019	QCBLK61618-1	03/08/95	03/08/95	0.71	NTU		0.01	1
B00X61	7669-002	Turbidity	G-019	QCBLK61618-1	03/08/95	03/08/95	1.08	NTU		0.01	1
B00X67	7672-001	Turbidity	G-019	QCBLK61618-1	03/08/95	03/08/95	0.82	NTU		0.01	1
B00X94	7672-002	Turbidity	G-019	QCBLK61618-1	03/08/95	03/08/95	1.22	NTU		0.01	1
B00X48	7721-001	Turbidity	G-019	QCBLK61618-1	03/08/95	03/08/95	1.37	NTU		0.01	1
B00X86	7733-001	Turbidity	G-019	QCBLK62636-1	03/18/95	03/18/95	0.68	NTU		0.01	1
B00X54	7733-002	Turbidity	G-019	QCBLK62636-1	03/18/95	03/18/95	0.81	NTU		0.01	1
B00X92	7733-003	Turbidity	G-019	QCBLK62636-1	03/18/95	03/18/95	0.82	NTU		0.01	1
NA	QCBLK61618-1	Turbidity	G-019	QCBLK61618-1	03/08/95	03/08/95	0.64	NTU		0.01	1
NA	QCBLK62636-1	Turbidity	G-019	QCBLK62636-1	03/18/95	03/18/95	0.13	NTU		0.01	1

5-23-95

DATA GENERAL CHEMISTRY
DATA VALIDATION CHECKLIST

ACCURACY DATA SUMMARY

SDG:	W0436-QES	VALIDATOR:	MC WEBB	DATE:	23-May-95
PROJECT:	100-NR-2 ROUND 7	REVIEWER:	AM FREIER	LATA NO.:	VB403.47

HEIS-SN	ANALYTE	RESULTS	Lab Q	PERCENT RECOVERY (%R) Matrix Spike	Matrix Spike Duplicate	Laboratory Control Standard	SAMPLES AFFECTED	VAL Q
B0DX63	Nitrate by IC	3.27		73.0%	N/A	N/A	B0DX48 B0DX49 B0DX54 B0DX55 B0DX59 B0DX61 B0DX62 B0DX63 B0DX64 B0DX67 B0DX68 B0DX73 B0DX75 B0DX76 B0DX86 B0DX87 B0DX92 B0DX93 B0DX94 B0DX95	J/UJ

9613451.0825

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

Project: 550.69

Category: Nitrate
Method: EPA 300.0
Matrix: LIQUID

Sample Date : 02/27/95
Receipt Date : 02/28/95
Report Date : 04/05/95

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
B00X63	7669-001	Nitrate	14797-55-8	QCBLK61698-1	03/07/95	03/07/95	3.27	MG/L		0.10	5
B00X63	7669-001DUP	Nitrate	14797-55-8	QCBLK61698-1	03/07/95	03/07/95	3.24	MG/L		0.10	5
B00X63	7669-001MS	Nitrate	14797-55-8	QCBLK61698-1	03/07/95	03/07/95	73	%REC			5
B00X61	7669-002	Nitrate	14797-55-8	QCBLK61698-1	03/07/95	03/07/95	3.42	MG/L		0.10	5
B00X64	7669-003	Nitrate	14797-55-8	QCBLK61698-1	03/07/95	03/07/95	3.27	MG/L		0.10	5
B00X62	7669-004	Nitrate	14797-55-8	QCBLK61698-1	03/07/95	03/07/95	3.43	MG/L		0.10	5
B00X67	7672-001	Nitrate	14797-55-8	QCBLK61698-1	03/07/95	03/07/95	4.50	MG/L		0.10	5
B00X94	7672-002	Nitrate	14797-55-8	QCBLK61698-1	03/07/95	03/07/95	4.49	MG/L		0.10	5
B00X68	7672-003	Nitrate	14797-55-8	QCBLK61698-1	03/07/95	03/07/95	4.46	MG/L		0.10	5
B00X95	7672-004	Nitrate	14797-55-8	QCBLK61698-1	03/07/95	03/07/95	4.56	MG/L		0.10	5
B00X73	7703-001	Nitrate	14797-55-8	QCBLK61890-1	03/09/95	03/09/95	0.47	MG/L		0.020	1
B00X59	7703-002	Nitrate	14797-55-8	QCBLK62060-1	03/10/95	03/10/95	10.4	MG/L		0.40	20
B00X48	7721-001	Nitrate	14797-55-8	QCBLK62060-1	03/10/95	03/10/95	5.00	MG/L		0.20	10
B00X49	7721-002	Nitrate	14797-55-8	QCBLK62060-1	03/10/95	03/10/95	5.23	MG/L		0.20	10
B00X86	7733-001	Nitrate	14797-55-8	QCBLK62499-2	03/14/95	03/14/95	0.020	MG/L	U	0.020	1
B00X54	7733-002	Nitrate	14797-55-8	QCBLK62499-2	03/14/95	03/14/95	3.89	MG/L		0.10	5
B00X92	7733-003	Nitrate	14797-55-8	QCBLK62499-2	03/14/95	03/14/95	3.91	MG/L		0.10	5
B00X87	7733-004	Nitrate	14797-55-8	QCBLK62499-2	03/14/95	03/14/95	0.020	MG/L	U	0.020	1
B00X55	7733-005	Nitrate	14797-55-8	QCBLK62499-2	03/14/95	03/14/95	3.91	MG/L		0.10	5
B00X93	7733-006	Nitrate	14797-55-8	QCBLK62499-2	03/14/95	03/14/95	3.94	MG/L		0.10	5
B00X75	7733-007	Nitrate	14797-55-8	QCBLK62499-2	03/14/95	03/14/95	1.94	MG/L		0.10	5
B00X76	7733-008	Nitrate	14797-55-8	QCBLK62499-2	03/14/95	03/14/95	2.23	MG/L		0.10	5
NA	QCBLK61698-1	Nitrate	14797-55-8	QCBLK61698-1	03/07/95	03/07/95	0.020	MG/L	U	0.020	1
NA	QCBLK61890-1	Nitrate	14797-55-8	QCBLK61890-1	03/09/95	03/09/95	0.020	MG/L	U	0.020	1
NA	QCBLK62060-1	Nitrate	14797-55-8	QCBLK62060-1	03/10/95	03/10/95	0.020	MG/L	U	0.020	1
NA	QCBLK62499-2	Nitrate	14797-55-8	QCBLK62499-2	03/14/95	03/14/95	0.020	MG/L	U	0.020	1
NA	QCLCS61698-1	Nitrate	14797-55-8	QCBLK61698-1	03/07/95	03/07/95	100	%REC			1
NA	QCLCS61890-1	Nitrate	14797-55-8	QCBLK61890-1	03/09/95	03/09/95	99	%REC			1
NA	QCLCS62060-1	Nitrate	14797-55-8	QCBLK62060-1	03/10/95	03/10/95	98	%REC			1
NA	QCLCS62499-2	Nitrate	14797-55-8	QCBLK62499-2	03/14/95	03/14/95	100	%REC			1

5-23-95

FIELD QC GENERAL CHEMISTRY
FIELD DUPLICATE EVALUATION

LATA ID#: VB403.47		HEIS #:	B0DX54		B0DX92		RPD	DIF	DL
		Date:	6-Mar-95		6-Mar-95				
		Matrix:	WATER		WATER				
			ORIGINAL		DUPLICATE				
Constituent	CAS #	Units	Results	Q	Results	Q			
Chloride by IC	16887-00-6	mg/L	19.5		19.4		0.5%		0.25
Fluoride by IC	16984-48-8	mg/L	0.10	U	0.10	U			
Nitrate by IC	14797-55-8	mg/L	3.89	J	3.91	J	0.5%		0.02
Nitrite by IC	7632-00-0	mg/L	0.020	UR	0.020	UR			
Ortho-Phosphate by IC	7778-77-0	mg/L	1.00	UR	1.00	UR			
Sulfate by IC	14808-79-8	mg/L	283		284		0.4%		1.00
Specific Conductivity	10-34-4	µmhos/cm	987		982		0.5%		0.066
Oil & Grease	10-30-0	mg/L	3.34		2.87			0.47	1.00
pH	10-29-7	pH units	7.55	J	7.73	J	2.4%		0.02
TPH	10-90-2	mg/L	0.48	U	0.48	U			
Turbidity	G-019	NTU	0.81	J	0.82	J	1.2%		0.01

EVALUATION:

1. Field duplicates are not evaluated for precision if both results are non-detect.
2. If sample results are >5*RDL, the RPD is used for evaluation.
3. If sample results are <5*RDL, the DIF is used for evaluation.
4. All positive results have exhibited acceptable precision.

LATA ID#: VB403.47		HEIS #:	B0DX55		B0DX93		RPD	DIF	DL
		Date:	6-Mar-95		6-Mar-95				
		Matrix:	WATER		WATER				
			ORIGINAL		DUPLICATE				
Constituent	CAS #	Units	Results	Q	Results	Q			
Chloride by IC	16887-00-6	mg/L	19.4		19.2		1.0%		0.25
Fluoride by IC	16984-48-8	mg/L	0.10	U	0.10	U			
Nitrate by IC	14797-55-8	mg/L	3.91	J	3.94	J	0.8%		0.02
Nitrite by IC	7632-00-0	mg/L	0.020	UR	0.020	UR			
Ortho-Phosphate by IC	7778-77-0	mg/L	1.00	UR	1.00	UR			
Sulfate by IC	14808-79-8	mg/L	283		282		0.4%		1.00

EVALUATION:

1. Field duplicates are not evaluated for precision if both results are non-detect.
2. If sample results are >5*RDL, the RPD is used for evaluation.
3. If sample results are <5*RDL, the DIF is used for evaluation.
4. All positive results have exhibited acceptable precision.

FIELD QC GENERAL CHEMISTRY
FIELD DUPLICATE EVALUATION

LATA ID#: VB403.47		HEIS #:	B0DX67		B0DX94		RPD	DIF	DL
		Date:	28-Feb-95		28-Feb-95				
		Matrix:	WATER		WATER				
			ORIGINAL		DUPLICATE				
Constituent	CAS #	Units	Results	Q	Results	Q			
Chloride by IC	16887-00-6	mg/L	4.60		4.62		0.4%		0.25
Fluoride by IC	16984-48-8	mg/L	0.17		0.17			0	0.1
Nitrate by IC	14797-55-8	mg/L	4.50	J	4.49	J	0.2%		0.02
Nitrite by IC	7632-00-0	mg/L	0.020	UR	0.020	UR			
Ortho-Phosphate by IC	7778-77-0	mg/L	1.00	UR	1.00	UR			
Sulfate by IC	14808-79-8	mg/L	53.5		53.5		0.0%		1.00
Specific Conductivity	10-34-4	µmhos/cm	313		311		0.6%		0.066
pH	10-29-7	pH units	8.10	J	8.10	J	0.0%		0.02
Turbidity	G-019	NTU	0.82	J	1.22	J	**39.2%**		0.01

EVALUATION:

1. Field duplicates are not evaluated for precision if both results are non-detect.
2. If sample results are >5*RDL, the RPD is used for evaluation.
3. If sample results are <5*RDL, the DIF is used for evaluation.
4. Turbidity is outside the RPD criteria.
5. All other positive results have exhibited acceptable precision.

LATA ID#: VB403.47		HEIS #:	B0DX68		B0DX95		RPD	DIF	DL
		Date:	28-Feb-95		28-Feb-95				
		Matrix:	WATER		WATER				
			ORIGINAL		DUPLICATE				
Constituent	CAS #	Units	Results	Q	Results	Q			
Chloride by IC	16887-00-6	mg/L	4.93		4.93		0.0%		0.25
Fluoride by IC	16984-48-8	mg/L	0.18		0.18			0	0.1
Nitrate by IC	14797-55-8	mg/L	4.46	J	4.56	J	2.2%		0.02
Nitrite by IC	7632-00-0	mg/L	0.020	UR	0.020	UR			
Ortho-Phosphate by IC	7778-77-0	mg/L	1.00	UR	1.00	UR			
Sulfate by IC	14808-79-8	mg/L	53.4		53.6		0.4%		1.00

EVALUATION:

1. Field duplicates are not evaluated for precision if both results are non-detect.
2. If sample results are >5*RDL, the RPD is used for evaluation.
3. If sample results are <5*RDL, the DIF is used for evaluation.
4. All positive results have exhibited acceptable precision.

Shaded areas indicate changes by the validator.

9613451.0828

Laboratory Case Narrative

9613451.0829

Quanterra
Environmental Services

Quanterra Incorporated
13715 Rider Trail North
Earth City, Missouri 63045

314 298-8566 Telephone
314 298-8757 Fax

CERTIFICATE OF ANALYSIS

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

April 7, 1995

Attention: Joan Kessner

APR 1995 RECEIVED Data Log In

Project number	:	550.69
Date Received by Lab	:	February 28, & March 1, 2, 6, & 7, 1995
Number of Samples	:	Twenty (20)
Sample Type	:	Water
SDG Number	:	W0436
Data Deliverable	:	Summary

I. Introduction

Between February 28 and March 7, 1995, twenty (20) water samples were received by Quanterra, Richland and transferred to Quanterra, St. Louis for chemical analysis. Upon receipt, the samples were given the following laboratory ID numbers to correspond with the specific client ID's:

St Louis ID	WHC ID	Richland ID	Matrix	Date of Receipt
7669-001	B0DX63	50251201	Water	02/28/95
7669-002	B0DX61	50251203	Water	02/28/95
7669-003	B0DX64	50251202	Water	02/28/95
7669-004	B0DX62	50251204	Water	02/28/95
7672-001	B0DX67	50301801	Water	03/01/95
7672-002	B0DX94	50301803	Water	03/01/95
7672-003	B0DX68	50301802	Water	03/01/95
7672-004	B0DX95	50301804	Water	03/01/95
7703-001	B0DX73	50305001	Water	03/02/95
7703-002	B0DX59	50305002	Water	03/02/95
7721-001	B0DX48	50310701	Water	03/06/95
7721-002	B0DX49	50310702	Water	03/06/95
7733-001	B0DX86	50313001	Water	03/07/95
7733-002	B0DX54	50313003	Water	03/07/95

DMO 5-30-95

Quanterra
Environmental Services

Bechtel Hanford Incorporated
April 7, 1995
Project Number: 550.69
SDG: W0436
Page 2

St Louis ID	WHC ID	Richland ID	Matrix	Date of Receipt
7733-003	B0DX92	50313005	Water	03/07/95
7733-004	B0DX87	50313002	Water	03/07/95
7733-005	B0DX55	50313004	Water	03/07/95
7733-006	B0DX93	50313006	Water	03/07/95
7733-007	B0DX75	50313007	Water	03/07/95
7733-008	B0DX76	50313008	Water	03/07/95

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: Chloride, Fluoride, Sulfate, Nitrate, Nitrite and Phosphate by EPA method 300.0. Conductivity by EPA method 120.1. pH by EPA method 9040. SW846 Metals including Total and Dissolved ICP Metals by method 6010. Oil & Grease by EPA method 413.1. Total Petroleum Hydrocarbons by EPA method 418.1. Turbidity by EPA method 180.1.

III. Quality Control

A Laboratory Control Sample and Method Blank were analyzed with each preparation batch. Matrix Spike and Matrix Spike Duplicate or Duplicate analyses were performed per the protocol for each analyte. Sample Duplicate analysis was performed per the protocol for the Oil & Grease, Conductivity, Turbidity and pH analyses in this SDG.

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:

~~000003~~
MW 5-30-95

Quanterra
Environmental Services

QCBLK- Quality Control Blank, Method Blank
QCLCS- Quality Control Laboratory Control Sample, Blank Spike

V. Comments

There are no comments or nonconformances associated with the metals analysis.

The Nitrate, Nitrite and Phosphate holding times were expired upon receipt at laboratory.

The Matrix Spike for the Nitrate analysis on sample 7669-001 was not within the suggested regulatory limits of 75-125 percent recovery due to the concentration of the sample exceeding the spike concentration by a factor of four or more.

The Relative Percent Difference could not be calculated because both values were below the the detection limits for Phosphate and Nitrite on sample 7669-001.

The Relative Percent Difference could not be calculated because both values were below the the detection limits for TPH on sample 7721-001DUP.

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$\abbydave\hanw0436.nar

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CMO 5-30-95

Chain-of-Custody Information

Bechtel Hanford Incorporated

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnarbund: [ ] Priority [X] Normal

Collector: K. Lee / A Rizzo	Company Contact: J. V. Borghese	Telephone No.: (509) 372-9584
Project Designation: 100-NR-2 Groundwater Sampling - Round 7	Sampling Location: 100 N	SAF No.: B95-030
Ice Chest No.: SML-502	Field Logbook No.: EFL-1058	Method of Shipment: Hand Delivered
Shipped To: Quanterra	Offsite Property No.: PH. 1 NA 1 1	Bill of Lading/Air Bill No.: NA 1
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: Maintain samples between 2C and 6C.		

Preservative	HNO3	Cool 4C	H2SO4	HCl	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	HNO3	HNO3		HNO3	Cool 4C	
Type of Container	G	P/[illegible]	G	Gs*	P/[illegible]	P/[illegible]	P	G	P	G	G		G	P/[illegible]	
No. of Container(s)	1	1	3	3	1	1	1	3	1	7	3		1	1	
Volume	500mL	500mL	1L	1L	500mL	250mL	250mL	500mL	20mL	1L	500mL		500mL	500mL	
SAMPLE ANALYSIS	ICP Metals-TAL Unfiltered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Unfiltered	Oil and Grease	TPH	Conductivity	Turbidity	pH	Tritium	Activity Scan	Gross Alpha, Gross Beta, Sr-90, Gamma Spec	Gross Alpha, Gross Beta, Sr-90, Gamma Spec		ICP Metals-TAL Filtered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Filtered	
503107															

	Sample No.	Matrix*	Date Sampled	Time Sampled	A	B	C	D	E	F	G	H	I	J	K	5031080		A	B	
01	B0DX48	W	3-3-95	1059	X	X	X	X	X	X	X	X	X	X	X	X	X			
02	B0DX49	W	3-3-95	1059														X	X	
																SDG W0436				

CHAIN OF POSSESSION	Sign/Print Names	Date/Time	Received By	Date/Time
Relinquished By: AGR.220		3-3-95 1225	David St. John ERC	3-3-95 1225
Relinquished By: David St. John ERC		3-3-95 1315	K. Trapp / K. Trapp	3/3/95 1315
Relinquished By: K. Trapp / K. Trapp		3/3/95 1150	[illegible]	3-6-95 11 50
Relinquished By		Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS

Sample analysis for PO4, NO2, and NO3 by EPA 300.0; turbidity by EPA 180.1; and pH by SW-846 9040 are being requested for information only. The ERC Contractor acknowledges that the hold times will not be met.

The Activity Scan is for all samples listed on this chain of custody.

Gs* = Glass with septum top. No head space.

Gross Alpha, Gross Beta provided in 7 (4) Glass Bottles instead of 6 (4) and 1 Sterile AR 3-3-95

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	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION Original Sample Yellow - Sampler

BC-6000-828 (12/92)

0000039
CMM 5-30-95

0000042

9613150833

Bechtel Hanford Incorporated

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priority [X] Normal

Collector: K. Lee / A Rizzo	Company Contact: J. V. Borghese	Telephone No.: (509) 372-9584
Project Designation: 100-NR-2 Groundwater Sampling - Round 7	Sampling Location: 100 N	SAF No.: B95-030
Ice Chest No.: ER26	Field Logbook No.: EFL -1058	Method of Shipment: Hand Delivered
Shipped To: Quanterra	Offsite Property No.: N/A	Bill of Lading/Air Bill No.: N/A
Possible Sample Hazards/Remarks		

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

SAMPLE ANALYSIS: 50313C

Sample No.	Matrix*	Date Sampled	Time Sampled	A	B	C	D/E	F	G/H	I	J	K							
Preservative				HNO3	Cool 4C	H2SO4	HCl	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	HNO3	HNO3		HNO3	Cool 4C		
Type of Container				G	P/G	G	Gs*	P/G	P/G	P	G	P	G	G		G	P/G		
No. of Container(s)				1	1	3	3	1	1	1	3	1	6	1		1	1		
Volume				500mL	500mL	1L	1L	500mL	250mL	250mL	500mL	20mL	1L	500mL		500mL	500mL		
				ICP Metals-TAL Unfiltered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Unfiltered	Oil and Grease	TPH	Conductivity	Turbidity	pH	Tritium	Activity Scan	Gross Alpha, Gross Beta, Sr-90, Gamma Spec	Gross Alpha, Gross Beta, Sr-90, Gamma Spec		ICP Metals-TAL Filtered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Filtered		
BODX54	03	w	3-6-95	1115	X	X	X	X	X	X	X	X	X	X	X				
BODX55	04	w	3-6-95	1115													A X	B X	

50313 3102

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
AG Rizzo (ERC)	3-6-95 1330	K. Trapp/K. Trapp ERC	3/6/95 1330
K. Trapp/K. Trapp ERC	3/7/95 0905	Bwhtn	3-7-95 0905
Bwhtn	3-7-95 1030	Hudelhen	3/7/95 1030

SPECIAL INSTRUCTIONS

Sample analysis for PO4, NO2, and NO3 by EPA 300.0; turbidity by EPA 180.1; and pH by SW-846 9040 are being requested for information only. The ERC Contractor acknowledges that the hold times will not be met.

The Activity Scan is for all samples listed on this chain of custody.

Gs* = Glass with septum top. No head space.

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 | Title | Date/Time

FINAL SAMPLE DISPOSITION: Disposal Method | Disposed By | Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

Cmw 5-30-95

~~0000051~~

000043

Bechtel Hanford Incorporated

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Date Turnaround: [ ] Priority [X] Normal

Collector: MORENO / BILH	Company Contact: J. V. Borghese	Telephone No.: (509) 372-9584
Project Designation: 100-NR-2 Groundwater Sampling - Round 7	Sampling Location: 100 N	SAF No.: B95-030
Ice Chest No.: ER-402 -	Field Logbook No.: NA	Method of Shipment: Hand Delivered
Shipped To: Quanterra	Offsite Property No.: NA	Bill of Lading/Air Bill No.: NA
Possible Sample Hazards/Remarks		

Preservative	pH 1 HNO3	Cool 4C	H2SO4	HCl	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	HNO3	HNO3	HNO3	HNO3	Cool 4C	HNO3
Type of Container	AG	P/G	G	Gs*	P/G	P/G	P	G	P	G	G	G	G	P/G	G
No. of Container(s)	1	1	3	3	1	1	1	3	1	1	1	3	*1	1	1
Volume	500mL	500mL	1L	1L	500mL	250mL	250mL	500mL	20mL	1L	1L	1L	*1	500mL	500mL
SAMPLE ANALYSIS 503050	ICP Metals-TAL Unfiltered A	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Unfiltered	Oil and Grease	TPH	Conductivity	Turbidity	pH	Tritium	Activity Scan B	Gross Alpha	Gross Beta	Sr-90	Gamma Spec	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Filtered C	ICP Metals TAL Filtered

Sample No.	Matrix*	Date Sampled	Time Sampled														
B0DX59 C2	W	3-1-95	08.45	X								X					X

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: Moreno Sr	Date/Time: 3-1-95	Received By: K. Trapp / K. Trapp	Date/Time: 3/1/95 1305
Relinquished By: K. Trapp / K. Trapp	Date/Time: 3/2/95	Received By: [illegible]	Date/Time: 3/2/95
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:

SPECIAL INSTRUCTIONS

Sample analysis for PO4, NO2, and NO3 by EPA 300.0; turbidity by EPA 180.1; and pH by SW-846 9040 are being requested for information only. The ERC Contractor acknowledges that the hold times will not be met.

The Activity Scan is for all samples listed on this chain of custody.

Gs* = Glass with septum top. No head space.

*1. 2, 1L bottles and 1, 250mL bottle

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	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-B28 (12/92)

0000044

~~0000029~~

CMO 5-30-95

Bechtel Hanford Incorporated

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Date Turnaround: [ ] Priority [X] Normal

Collector: K. Lee / A Rizzo	Company Contact: J. V. Borghese	Telephone No.: (509) 372-9584
Project Designation: 100-NR-2 Groundwater Sampling - Round 7	Sampling Location: 100 N	SAF No.: B95-030
Ice Chest No.: KT 2/27/95 ~~GW05-122~~ Homeboy	Field Logbook No.: EFL-1058	Method of Shipment: Hand Delivered
Shipped To: Quanterra	Offsite Property No.: PH 1 NA	Bill of Lading/Air Bill No.: NA 1

Possible Sample Hazards/Remarks:

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

SAMPLE ANALYSIS: 502512

Sample No.	Matrix*	Date Sampled	Time Sampled	A	B	~~C D G~~	~~F G H~~	~~I~~	~~J~~	~~K~~	~~DS 2-28-95~~							A	B
			Preservative	HNO3	Cool 4C	H2SO4	HCl	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	HNO3	HNO3		HNO3	Cool 4C
			Type of Container	G	~~P~~/G	G	Gs*	~~P~~/G	P/~~G~~	P	G	P	G	G		G	P/~~G~~
			No. of Container(s)	1	1	3	3	1	1	1	3	1	6	1		1	1
			Volume	500mL	500mL	1L	1L	500mL	250mL	250mL	500mL	20mL	1L	500mL		500mL	500mL
				ICP Metals-TAL Unfiltered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Unfiltered	Oil and Grease	TPH	Conductivity	Turbidity	pH	Tritium	Activity Scan	Gross Alpha, Gross Beta, Sr-90, Gamma Spec	Gross Alpha, Gross Beta, Sr-90, Gamma Spec		ICP Metals-TAL Filtered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Filtered
								C	O	E	5025	13D2					
03 BOOX61	W	2-27-95	1040	X	X			X	X	X	X	X	X	X			
04 BOOX62	W	2-27-95	1040													X	X
									D - label on PH Container								
									E - LABel on Turbidity container								

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: AG Rizzo	Date/Time: 2-27-95 1345	Received By: K. Trapp/K. Trapp	Date/Time: 2/27/95 1315
Relinquished By: K. Trapp/K. Trapp	Date/Time: 2/28/95 1041	Received By: A. Boyd Quaten	Date/Time: 2-28-95 1050
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:

SPECIAL INSTRUCTIONS

Sample analysis for PO4, NO2, and NO3 by EPA 300.0; turbidity by EPA 180.1; and pH by SW-846 9040 are being requested for information only. The ERC Contractor acknowledges that the hold times will not be met.

The Activity Scan is for all samples listed on this chain of custody.

Gs* = Glass with septum top. No head space.

SDG W0436

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	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

CMO 5-30-95

0000045

96GW0436

Bechtel Hanford Incorporated

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Date Turnaround: [ ] Priority [X] Normal

Collector: K-Lee / A. Rizzo	Company Contact: J. V. Borghese	Telephone No.: (509) 372-9584	
Project Designation: 100-NR-2 Groundwater Sampling - Round 7	Sampling Location: 100 N	SAF No.: B95-030	
Ice Chest No.: SML-502	Field Logbook No.: EFL-105e	Method of Shipment: Hand Delivered	
Shipped To: Quanterra	Offsite Property No.: PH = 1 NA	Bill of Lading/Air Bill No.: NA 1	
Possible Sample Hazards/Remarks			
Special Handling and/or Storage: Maintain samples between 2C and 6C.			

Sample No.	Matrix*	Date Sampled	Time Sampled	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
Preservative				HNO3	Cool 4C	H2SO4	HCl	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	HNO3	HNO3		HNO3	Cool 4C	
Type of Container				G	~~P~~/G	G	Gs*	~~P~~/G	P/~~G~~	P	G	P	G	G		G	P/~~G~~	
No. of Container(s)				1	1	3	3	1	1	1	3	1	6	1		1	1	
Volume				500mL	500mL	1L	1L	500mL	250mL	250mL	500mL	20mL	1L	500mL		500mL	500mL	
SAMPLE ANALYSIS				ICP Metals-TAL Unfiltered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Unfiltered	Oil and Grease	TPH	Conductivity	Turbidity	pH	Tritium	Activity Scan	Gross Alpha, Gross Beta, Sr-90, Gamma Spec	Gross Alpha, Gross Beta, Sr-90, Gamma Spec		ICP Metals-TAL Filtered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Filtered	
502512								C	D	E	5025	1301						
~~A B C D E F G H I J K L M N O~~																A	B	
01 BOOX63	W	2-27-95	0932	X	X			X	X	X	X	X	X	X				
02 BOOX64	W	2-27-95	0932													X	X	

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: A.G. Rizzo	Date/Time: 2-27-95 1315	Received By: K. Trapp/K. Trapp	Date/Time: 2/27/95 1315
Relinquished By: K. Trapp/K. Trapp	Date/Time: 2/28/95 1041	Received By: A. Boyd Quinere	Date/Time: 2-28-95 1050
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS

Sample analysis for PO4, NO2, and NO3 by EPA 300.0; turbidity by EPA 180.1; and pH by SW-846 9040 are being requested for information only. The ERC Contractor acknowledges that the hold times will not be met.

The Activity Scan is for all samples listed on this chain of custody.

Gs* = Glass with septum top. No head space.

SDG W0436

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	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

CWD 5-30-95

0000008

0000046

9615451.0857

Bechtel Hanford Incorporated

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Date Turnaround: [ ] Priority [X] Normal

Collector: K.D Lee	Company Contact: J. V. Borghese	Telephone No.: (509) 372-9584
Project Designation: 100-NR-2 Groundwater Sampling - Round 7	Sampling Location: 100 N	SAF No.: B95-030
Ice Chest No.: GWS-133	Field Logbook No.: EFL-1058	Method of Shipment: Hand Delivered
Shipped To: Quanterra	Offsite Property No.: PH 1 NA	Bill of Lading/Air Bill No.: NA 1
Possible Sample Hazards/Remarks: UNKNOWN		
Special Handling and/or Storage: Maintain samples between 2C and 6C.		

Preservative	HNO3	Cool 4C	H2SO4	HCl	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	HNO3	HNO3		HNO3	Cool 4C
Type of Container	G	P/G	G	Gs*	P/G	P/G	P	G	P	G	G		G	P/G
No. of Container(s)	1	1	3	3	1	1	1	3	1	6	1		1	1
Volume	500mL	500mL	1L	1L	500mL	250mL	250mL	500mL	20mL	1L	500mL		500mL	500mL
SAMPLE ANALYSIS 503018	ICP Metals-TAL Unfiltered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Unfiltered	Oil and Grease	TPH	Conductivity C	Turbidity D	pH E	Tritium	Activity Scan	Gross Alpha, Gross Beta, Sr-90, Gamma Spec	Gross Alpha, Gross Beta, Sr-90, Gamma Spec		ICP Metals-TAL Filtered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Filtered

Sample No.	Matrix*	Date Sampled	Time Sampled	A	B													
B0DX67 01	W	2/28/95	1052	X	X			X	X	X	X	X	X	X				
B0DX68 02	W	2/28/95	1052													A X	B X	

CHAIN OF POSSESSION	Sign/Print Names	Date/Time
Relinquished By	K.D. Lee	2/28/95 1340
Received By	K. Trapp / K. Trapp	2/28/95 1340
Relinquished By	K. Trapp / K. Trapp	3/1/95 1020
Received By	[illegible]	3/1/95 1020
Relinquished By		
Received By		
Relinquished By		
Received By		

SPECIAL INSTRUCTIONS

Sample analysis for PO4, NO2, and NO3 by EPA 300.0; turbidity by EPA 180.1; and pH by SW-846 9040 are being requested for information only. The ERC Contractor acknowledges that the hold times will not be met.

The Activity Scan is for all samples listed on this chain of custody.

Gs* = Glass with septum top. No head space.

SDG W0436

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	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION Original - Sample Yellow - Sampler

BC-6000-828 (12/92)

0000047

0000019

CMOS-30-95

96134610838

Temp 5° M1 cont. 100% full CUR 3078

Bechtel Hanford Incorporated

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Date Turnaround: ☐ Priority ☒ Normal

Collector: Moreno / Golt	Company Contact: J. V. Borghese	Telephone No.: (509) 372-9584
Project Designation: 100-NR-2 Groundwater Sampling - Round 7	Sampling Location: 100 N	SAF No.: B95-030
Ice Chest No.: ER-402	Field Logbook No.: NA	Method of Shipment: Hand Delivered
Shipped To: Quanterra	Offsite Property No.: NA	Bill of Lading/Air Bill No.: NA
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: Maintain samples between 2C and 6C.		

Sample No.	Matrix*	Date Sampled	Time Sampled	ICP Metals-TAL Unfiltered A	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Unfiltered	Oil and Grease	TPH	Conductivity	Turbidity	pH	Tritium	Activity Scan	Gross Alpha	Gross Beta	Sr-90	Gamma Spec	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Filtered B	ICP Metals-TAL Filtered
Preservative				pH 1 HNO3	Cool 4C	H2SO4	HCl	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	HNO3	HNO3	HNO3	HNO3	Cool 4C	HNO3
Type of Container				AG	P/G	G	Gs*	P/G	P/G	P	G	P	G	G	G	G	P/G	G
No. of Container(s)				1	1	3	3	1	1	1	3	1	1	1	3	*1	1	1
Volume				500mL	500mL	1L	1L	500mL	250mL	250mL	500mL	20mL	1L	1L	1L	*1	500mL	500mL
SAMPLE ANALYSIS				5030:50											5030:51			
B0DX73 01	W	3-1-95	11:00	X							X	X			X	X	X	

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By	Date/Time	Received By	Date/Time
T Moreno Jr	3-1-95 ~~1:00~~ 1305	K. Trapp / K. Trapp	3/1/95 1305
K. Trapp / K. Trapp	3/2/95	Karen Richtenberg	3-2-95 12:10

SPECIAL INSTRUCTIONS

Sample analysis for PO4, NO2, and NO3 by EPA 300.0; turbidity by EPA 180.1; and pH by SW-846 9040 are being requested for information only. The ERC Contractor acknowledges that the hold times will not be met.

The Activity Scan is for all samples listed on this chain of custody.

Gs* = Glass with septum top. No head space.

*1. 2, 1L bottles and 1, 250mL bottle

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	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original - Sample Yellow - Sampler

BC-6000-828 (12/92)

0000048

0000028 CMO 5-30-95

Bechtel Hanford Incorporated

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priority [X] Normal

Collector: Harrison/Almarode PNL

Company Contact: J. V. Borghese

Telephone No.: (509) 372-9584

Project Designation: 100-HR-2 Groundwater Sampling - Round 7

Sampling Location: 100 N

SAF No.: B95-030

Ice Chest No.: SML-423

Field Logbook No.:

Method of Shipment: Hand Delivered

Shipped To: Quanterra

Offsite Property No.: N/A

Bill of Lading/Air Bill No.: N/A

Possible Sample Hazards/Remarks:

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

SAMPLE ANALYSIS: 503130

Sample No.	Matrix*	Date Sampled	Time Sampled	ICP Metals-TAL Unfiltered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Unfiltered	Oil and Grease	TPH	Conductivity	Turbidity	pH	Tritium 503130 4	Activity Scan	Gross Alpha	Gross Beta	Sr-90	Gamma Spec	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Filtered	ICP Metals-TAL Filtered
Preservative				HNO3	Cool 4C	H2SO4	HCl	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	HNO3	HNO3	HNO3	HNO3	Cool 4C	HNO3
Type of Container				G	P/G	G	Gs*	P/G	P/G	P	G	P	G	G	G	G	P/G	G
No. of Container(s)				1	1	3	3	1	1	1	3	1	1	1	3	*1	1	1
Volume				500mL	500mL	1L	1L	500mL	250mL	250mL	500mL	20mL	1L	1L	1L	*1	500mL	500mL
				A								2					B	
BODX75 07	W	3/3/95	1030	X							X	X			X	X	X	

Activity Scan: 3-3-95

CHAIN OF POSSESSION

Relinquished By	Date/Time	Received By	Date/Time
M. Almarode	3-3-95 1230	K. Trapp/K. Trapp ERC	3/3/95 1230
K. Trapp/K. Trapp ERC	3/3/95 0905	B. Whitten	0905 3-7-95
B. Whitten	3-7-95 1030	Hudellie	3/7/95 10:30

Sign/Print Names

SPECIAL INSTRUCTIONS

Sample analysis for PO4, NO2, and NO3 by EPA 300.0; turbidity by EPA 180.1; and pH by SW-846 9040 are being requested for information only. The ERC Contractor acknowledges that the hold times will not be met.

The Activity Scan is for all samples listed on this chain of custody.

Gs* = Glass with septum top. No head space.

*1. 2, 1L bottles and 1, 250mL bottle

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 | Title | Date/Time

FINAL SAMPLE DISPOSITION: Disposal Method | Disposed By | Date/Time

DISTRIBUTION: Original - Sample Yellow - Sampler

HC-6000-B2B (12/92)

9513461.0840

CWO5-30-95 000045

Bechtel Hanford Incorporated

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priority [X] Normal

Collector: Harrison / C. Ulmanoch PNL

Company Contact: J. V. Borghese

Telephone No.: (509) 372-9584

Project Designation: 100-NR-2 Groundwater Sampling - Round 7

Sampling Location: 100 N

SAF No.: B95-030

Ice Chest No.: SMC-423

Field Logbook No.:

Method of Shipment: Hand Delivered

Shipped To: Quanterra

Offsite Property No.: N/A

Bill of Lading/Air Bill No.: N/A

Possible Sample Hazards/Remarks:

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

SAMPLE ANALYSIS: 503130

Sample No.	Matrix*	Date Sampled	Time Sampled	A				B		C								D	
Preservative				HNO3	Cool 4C	H2SO4	HCl	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	HNO3	HNO3	HNO3	HNO3	Cool 4C	HNO3
Type of Container				G	P/G	G	Gs*	P/G	P/G	P	G	P	G	G	G	G	P/G	G
No. of Container(s)				1	1	3	3	1	1	1	3	1	1	1	3	*1	1	1
Volume				500mL	500mL	1L	1L	500mL	250mL	250mL	500mL	20mL	1L	1L	1L	*1	500mL	500mL
				ICP Metals-TAL Unfiltered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Unfiltered	Oil and Grease	TPH	Conductivity	Turbidity	pH	Tritium	Activity Scan	Gross Alpha	Gross Beta	Sr-90	Gamma Spec	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Filtered	ICP Metals TAL Filtered
BOOX76 08	W	3/3/95	09:15	X				X		X		X	X	X			X	

3-3-95

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
C. Ulmanoch	3-3-95 1230	K. Trapp / K. Trapp	3/7/95 (230)
K. Trapp / K. Trapp (ERC)	3/7/95 0909	(ERC)	0909 3-7-95
(ERC) B. Walkton	3-7-95 1030	Heidelberg	3/7/95 10:30
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS

Sample analysis for PO4, NO2, and NO3 by EPA 300.0; turbidity by EPA 180.1; and pH by SW-846 9040 are being requested for information only. The ERC Contractor acknowledges that the hold times will not be met.

The Activity Scan is for all samples listed on this chain of custody.

Gs* = Glass with septum top. No head space.

*1. 2, 1L bottles and 1, 250mL bottle

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 | Title | Date/Time

FINAL SAMPLE DISPOSITION: Disposal Method | Disposed By | Date/Time

DISTRIBUTION: Original - Sample Yellow - Sampler

BC-6000 B20 (12/92)

9513130.0011

CM05-30-95-0000054

000050

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 2 (BW 3-7-95)

Date Turnaround: [X] Priority [ ] Normal

Collector: SAME AS PAGE 1 OF 2	Company Contact	Telephone No.
Project Designation	Sampling Location	SAF No.
Ice Chest No.	Field Logbook No.	Method of Shipment: Hand Deliver
Shipped To: Quanterra	Offsite Property No.	Bill of Lading/Air Bill No.
Possible Sample Hazards/Remarks: Unknown		
Special Handling and/or Storage: Cool to 4C		

Preservative	HCL	H2SO4	HCL	none	none		
Type of Container	aGs	P/G	aG	P/G	P/G	P	
No. of Container(s)	3	1	1	1	1	1	
Volume	40 mL	500 mL	250 mL	20 mL	20 mL		
SAMPLE ANALYSIS	VOA-TCL	NO2-NO3	TOC	Activity Scan	Rad Screening		

Sample No.	Matrix*	Date Sampled	Time Sampled	VOA-TCL	NO2-NO3	TOC	Activity Scan	Rad Screening	
BODX76	W	3-3-95	09:15				X		
BODX75	W	3-3-95	10:30				X		
BODX79	W	3-3-95	8:45				X		

CHAIN OF POSSESSION	Sign/Print Names	Date/Time
Relinquished By	K. Trapp / K. Trapp	3/7/95 0905
Received By	ERC / B. Whitten	3-7-95 0905
Relinquished By	ERC / B. Whitten	3-7-95 1030
Received By	Heidelberg	3/7/95 1030
Relinquished By		
Received By		
Relinquished By		
Received By		

SPECIAL INSTRUCTIONS: Data Deliverable - Summary

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	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

0000051

CWP5-32-93

Bechtel Hanford Incorporated

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: K. Lee / A Rizzo	Company Contact: J. V. Borghese	Telephone No.: (509) 372-9584
Project Designation: 100-NR-2 Groundwater Sampling - Round 7	Sampling Location: 100 N	SAF No.: B95-030
Ice Chest No.: GWS-122	Field Logbook No.: EFL-1058	Method of Shipment: Hand Delivered
Shipped To: Quanterra	Offsite Property No.: N/A	Bill of Lading/Air Bill No.: N/A
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: Maintain samples between 2C and 6C.		

Preservative	HNO3	Cool 4C	H2SO4	HCl	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	HNO3	HNO3		HNO3	Cool 4C	
Type of Container	G	P/G	G	Gs*	P/G	P/G	P	G	P	G	G		G	P/G	
No. of Container(s)	1	1	3	3	1	1	1	3	1	6	1		1	1	
Volume	500mL	500mL	1L	1L	500mL	250mL	250mL	500mL	20mL	1L	500mL		500mL	500mL	
SAMPLE ANALYSIS 503130	ICP Metals-TAL Unfiltered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Unfiltered	Oil and Grease	TPH	Conductivity	Turbidity	pH	Tritium 503130	Activity Scan	Gross Alpha, Gross Beta, Sr-90, Gamma Spec	Gross Alpha, Gross Beta, Sr-90, Gamma Spec		ICP Metals-TAL Filtered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Filtered	
	A	B	C	D E	F	G H	I	J	K						

Sample No.	Matrix*	Date Sampled	Time Sampled	A	B	C	D E	F	G H	I	J	K						
B0DX86 01	W	3-6-95	~~1115~~ 1235	X	X	X	X	X	X	X	X	X	X	X				
B0DX87 02	W	3-6-95	~~1115~~ 1235													A X	B X	
		3675.1C																

CHAIN OF POSSESSION	Sign/Print Names	Date/Time	Received By	Date/Time
Relinquished By: A G Rizzo (ERC)		3-6-95 1530	Received By: K. Trapp / K. Trapp (ERC)	3/6/95 1330
Relinquished By: K. Trapp / K. Trapp (ERC)		3/7/95 0905	Received By: B. Walther (ERC)	3-7-95 0905
Relinquished By: B. Walther (ERC)		3-7-95 1030	Received By: Heidelberg	3/7/95 1030
Relinquished By			Received By	

SPECIAL INSTRUCTIONS

Sample analysis for PO4, NO2, and NO3 by EPA 300.0; turbidity by EPA 180.1; and pH by SW-846 9040 are being requested for information only. The ERC Contractor acknowledges that the hold times will not be met.

The Activity Scan is for all samples listed on this chain of custody.

Gs* = Glass with septum top. No head space.

SDW-W0436

Matrix*

S	=	Soil
SE	=	Sediment
SO	=	Solid
SL	=	Sludge
W	=	Water
D	=	Oil
A	=	Air
DS	=	Drum Solids
DL	=	Drum Liquids
T	=	Tissue
WI	=	Wipe
L	=	Liquid
V	=	Vegetation
X	=	Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

CMO 5-30-95

0000050

0000052

9613 0 1 5 4 1 9 6

Bechtel Hanford Incorporated

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Date Turnaround: [ ] Priority [X] Normal

Collector: K. Lee / A Rizzo	Company Contact: J. V. Borghese	Telephone No.: (509) 372-9584
Project Designation: 100-NR-2 Groundwater Sampling - Round 7	Sampling Location: 100 N	SAF No.: B95-030
Ice Chest No.: SML-502	Field Logbook No.: EFL-1058	Method of Shipment: Hand Delivered
Shipped To: Quanterra	Offsite Property No.: N/A	Bill of Lading/Air Bill No.: N/A
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: Maintain samples between 2C and 6C.		

Preservative	HNO3	Cool 4C	H2SO4	HCl	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	HNO3	HNO3		HNO3	Cool 4C
Type of Container	G	P/G	G	Gs*	P/G	P/G	P	G	P	G	G		G	P/G
No. of Container(s)	1	1	3	3	1	1	1	3	1	6	1		1	1
Volume	500mL	500mL	1L	1L	500mL	250mL	250mL	500mL	20mL	1L	500mL		500mL	500mL
SAMPLE ANALYSIS 503130	ICP Metals-TAL Unfiltered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Unfiltered	Oil and Grease	TPH	Conductivity	Turbidity	pH	Tritium 503130 3	Activity Scan	Gross Alpha, Gross Beta, Sr-90, Gamma Spec	Gross Alpha, Gross Beta, Sr-90, Gamma Spec		ICP Metals-TAL Filtered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Filtered

Sample No.	Matrix*	Date Sampled	Time Sampled	A	B	C	D	E	F	G	H	I	J	K			
B0DX92 05	W	3-6-95	1115	X	X	X	X	X	X	X	X	X	X	X			
B0DX93 06	W	3-6-95	1115													A X	B X

CHAIN OF POSSESSION	Sign/Print Names	Date/Time	Received By	Date/Time
Relinquished By	A G Rizzo (ERC)	3-6-95 1330	K. J. Trapp / K. Trapp	3/6/95 1330
Relinquished By	K. Trapp / K. Trapp	3/7/95 0905	B. Whitten	3-7-95 0909
Relinquished By	B. Whitten	3-7-95 1030	Hudelleng	3/7/95 1032
Relinquished By				

SPECIAL INSTRUCTIONS

Sample analysis for PO4, NO2, and NO3 by EPA 300.0; turbidity by EPA 180.1; and pH by SW-846 9040 are being requested for information only. The ERC Contractor acknowledges that the hold times will not be met.

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Gs* = Glass with septum top. No head space.

Matrix*

S	=	Soil
SE	=	Sediment
SO	=	Solid
SL	=	Sludge
W	=	Water
O	=	Oil
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DS	=	Drum Solids
DL	=	Drum Liquids
T	=	Tissue
WI	=	Wipe
L	=	Liquid
V	=	Vegetation
X	=	Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original - Sample Yellow - Sampler

BC-6000-828 (12/92)

9513151.0849

00003553

Bechtel Hanford Incorporated

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priority [X] Normal

Collector: K. D. Lee	Company Contact: J. V. Borghese	Telephone No.: (509) 372-9584
Project Designation: 100-NR-2 Groundwater Sampling - Round 7	Sampling Location: 100 N	SAF No.: B95-030
Ice Chest No.: Homeboy	Field Logbook No.: EFL-1058	Method of Shipment: Hand Delivered
Shipped To: Quanterra	Offsite Property No.: PH 1 NA	Bill of Lading/Air Bill No.: NA 1
Possible Sample Hazards/Remarks: Unknown		

Preservative	HNO3	Cool 4C	H2SO4	HCl	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	HNO3	HNO3		HNO3	Cool 4C	
Type of Container	G	P/G	G	Gs*	P/G	P/G	P	G	P	G	G		G	P/G	
No. of Container(s)	1	1	3	3	1	1	1	3	1	6	1		1	1	
Volume	500mL	500mL	1L	1L	500mL	250mL	250mL	500mL	20mL	1L	500mL		500mL	500mL	
SAMPLE ANALYSIS 503018	ICP Metals-TAL Unfiltered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Unfiltered	Oil and Grease	TPH	Conductivity C	Turbidity D	pH E	Tritium	Activity Scan	Gross Alpha, Gross Beta, Sr-90, Gamma Spec	Gross Alpha, Gross Beta, Sr-90, Gamma Spec		ICP Metals-TAL Filtered	Anions (IC) F, Cl, SO4, PO4, NO2 NO3. Filtered	

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

Sample No.	Matrix*	Date Sampled	Time Sampled														
B0DX94 03	W	2/28/95	1052	A X	B X			X	X	X	X	X	X	5030 1902 X			
B0DX95 04	W	2/28/95	1052													A X	B X

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: K. D. Lee	Date/Time: 2/28/95 1340	Received By: K. Trapp/K. Trapp	Date/Time: 2/28/95 1710
Relinquished By: K. Trapp/K. Trapp	Date/Time: 3/1/95 1200	Received By: [illegible]	Date/Time: 3-2-95
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:

SPECIAL INSTRUCTIONS

Sample analysis for PO4, NO2, and NO3 by EPA 300.0; turbidity by EPA 180.1; and pH by SW-846 9040 are being requested for information only. The ERC Contractor acknowledges that the hold times will not be met.

The Activity Scan is for all samples listed on this chain of custody.

Gs* = Glass with septum top. No head space.

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	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original - Sample Yellow - Sampler

BC-6000-828 (12/92)

0000020
CMM 5-30-95

000054

9613451.0845

AMPLE STATUS REPORT FOR N 4871. RAD SCREEN 199-N-21 TIME: 3/ 6/95 8:30
DISPATCHED: 2/22/95 14:38 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 3/ 6/95 7:48

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	XR5561

END OF REPORT

BODX48
BODX49
BODX98
BODX99

KT 3/6/95

BEST AVAILABLE COPY

9613451.0847

AMPLE STATUS REPORT FOR N 4876. RAD SCREEN 199-N-54 TIME: 3/ 7/95 8:16
DISPATCHED: 2/22/95 14:38 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 3/ 7/95 7: 9

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	XR5561

END OF REPORT

BODX54
BODX55
BW
3-7-95

PRESS ANY KEY TO CONTINUE

ERIAL NUMBER STATUS REPORT 3/ 7/95 8:17

SERIAL NUMBER (PNNNN) ? N4884

AMPLE STATUS REPORT FOR N 4884. RAD SCREEN FIELDBK1 TIME: 3/ 7/95 8:17
DISPATCHED: 2/22/95 14:39 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 3/ 7/95 7: 9

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	XR5561

END OF REPORT

9613451.0848

AMPLE STATUS REPORT FOR N 4878. RAD SCREEN 199-N-70 TIME: 3/ 1/95 8:13
DISPATCHED: 2/22/95 14:38 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 2/28/95 14:30

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	XR5561

END OF REPORT

BODX67
BODX68 KT 3/1/95
BODX94
BODX95

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000057

~~0068~~
CMS 5-30-95

9613451.0849

03/07/95 10:16 ☎373 7076 F.A.S. 003

AMPLE STATUS REPORT FOR N 4396. RAD SCREEN 1-N-74 TIME: 3/ 6/95 8:
DISPATCHED: 1/13/95 18:32 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 3/ 6/95 7:47

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	R4006

END OF REPORT

BOX 45
BW
3-7-95

PRESS ANY KEY TO CONTINUE

ERIAL NUMBER STATUS REPORT 3/ 6/95 8: 7

000060

000058

9613451.0850

AMPLE STATUS REPORT FOR N 4876. RAD SCREEN 199-N-54 TIME: 3/ 7/95 8:16
DISPATCHED: 2/22/95 14:38 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 3/ 7/95 7: 9

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	XR5561

END OF REPORT

PRESS ANY KEY TO CONTINUE

ERIAL NUMBER STATUS REPORT 3/ 7/95 8:17

SERIAL NUMBER (PNNNN) ? N4884

AMPLE STATUS REPORT FOR N 4884. RAD SCREEN FIELDBK1 TIME: 3/ 7/95 8:17
DISPATCHED: 2/22/95 14:39 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 3/ 7/95 7: 9

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	XR5561

END OF REPORT

BODX86
BODX87
BW
3-7-95

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~~0044~~
CWB 5-30-95

9613451.0851

AMPLE STATUS REPORT FOR N 4876. RAD SCREEN 199-N-54 TIME: 3/ 7/95 8:16
DISPATCHED: 2/22/95 14:38 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 3/ 7/95 7: 9

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	XR5561

END OF REPORT

PRESS ANY KEY TO CONTINUE

BOOX92
BOOX93
BW
3-7-95

ERIAL NUMBER STATUS REPORT 3/ 7/95 8:17

SERIAL NUMBER (PNNNN) ? N4884

AMPLE STATUS REPORT FOR N 4884. RAD SCREEN FIELDBK1 TIME: 3/ 7/95 8:17
DISPATCHED: 2/22/95 14:39 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 3/ 7/95 7: 9

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	XR5561

END OF REPORT

9613451.0852

AMPLE STATUS REPORT FOR N 4383. RAD SCREEN 1-N-3 TIME: 3/ 2/95 10:34
DISPATCHED: 1/13/95 18:31 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 0/ 0/ 0 0: 0

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	INCOMPLETE			R4006

END OF REPORT

PRESS ANY KEY TO CONTINUE

ERIAL NUMBER STATUS REPORT 3/ 2/95 10:34

SERIAL NUMBER (PNNNN) ? N4393

AMPLE STATUS REPORT FOR N 4393. RAD SCREEN 1-N-71 TIME: 3/ 2/95 10:34
DISPATCHED: 1/13/95 18:31 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 3/ 2/95 8:22

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	R4006

END OF REPORT

BEST AVAILABLE COPY

000061

~~0061~~
CMO 5-30-95

9613451.0853

AMPLE STATUS REPORT FOR N 4384. RAD SCREEN 1-N-32 TIME: 3/ 2/95 10:41
DISPATCHED: 1/13/95 18:31 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 3/ 2/95 8:22

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	R4006

END OF REPORT

BEST AVAILABLE COPY

000062

~~0062~~
CMS 5-30-95

9613451.0854

AMPLE STATUS REPORT FOR N 4874. RAD SCREEN 199-N-50 TIME: 2/28/95 8: 3
DISPATCHED: 2/22/95 14:38 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 2/28/95 7:47

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	XR5561

END OF REPORT

PRESS ANY KEY TO CONTINUE

ERIAL NUMBER STATUS REPORT 2/28/95 8: 3

SERIAL NUMBER (PNNNN) ? N4875

AMPLE STATUS REPORT FOR N 4875. RAD SCREEN 199-N-51 TIME: 2/28/95 8: 3
DISPATCHED: 2/22/95 14:38 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 2/28/95 7:47

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	XR5561

END OF REPORT

BEST AVAILABLE COPY

all Cat I (B) 2/28/95

Client Sample Screening Results

28-Feb-95

CLIENT	CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
WHC	B0DQW7	LIQUID	2/28/95 2:49:43 PM	QUAD23A	2/28/95	B0DQW7	30	10	0.26331373	82	1.8470852
				Bkg:	2/28/95 6:04:34 PM	BKG	499.86	35	0.07001961	443	0.8862481

Anl Date: 2/28/95 Tot Sa, Alq: 1.00E+00 , 1.00E+01 Alp; (Dpm/ 7.62E-01 (uCi/ 3.43E-05 (pCi/ 3.43E+01 ± 2.2E+01 CAT I 7.3E-01 Lab Alq
Ppt mg: 4.5 Units: L , ml Bet; Alq): 3.37E+00 Sa): 1.52E-04 L/g): 1.52E+02 ± 2.6E+01 3.3E-01 L/g

WHC	B0DQW9	LIQUID	2/28/95 2:51:01 PM	QUAD24A	2/28/95 1:53:02 PM	B0DQW9	30	14	0.41666667	60	1.132
				Bkg:	2/28/95 6:04:34 PM	BKG	500	25	0.05	434	0.868

Anl Date: 2/28/95 Tot Sa, Alq: 1.00E+00 , 1.00E+01 Alp; (Dpm/ 1.32E+00 (uCi/ 5.96E-05 (pCi/ 5.96E+01 ± 2.5E+01 CAT I 4.2E-01 Lab Alq
Ppt mg: 3.7 Units: L , ml Bet; Alq): 1.98E+00 Sa): 8.91E-05 L/g): 8.91E+01 ± 2.2E+01 5.6E-01 L/g

WHC	B0DQX1	LIQUID	2/28/95 2:51:54 PM	QUAD24B	2/28/95 1:53:02 PM	B0DQX1	30	16	0.44933333	72	1.412
				Bkg:	2/28/95 6:04:34 PM	BKG	500	42	0.084	494	0.988

Anl Date: 2/28/95 Tot Sa, Alq: 1.00E+00 , 1.00E+01 Alp; (Dpm/ 1.41E+00 (uCi/ 6.34E-05 (pCi/ 6.34E+01 ± 2.7E+01 CAT I 3.9E-01 Lab Alq
Ppt mg: 5.7 Units: L , ml Bet; Alq): 2.51E+00 Sa): 1.13E-04 L/g): 1.13E+02 ± 2.5E+01 4.4E-01 L/g

WHC	B0DX61	LIQUID	2/28/95 2:52:34 PM	QUAD24C	2/28/95 1:53:02 PM	B0DX61	30	30	0.934	95	2.2266667
03+04 (2)				Bkg:	2/28/95 6:04:34 PM	BKG	500	33	0.066	470	0.94

Anl Date: 2/28/95 Tot Sa, Alq: 1.00E+00 , 1.00E+01 Alp; (Dpm/ 2.76E+00 (uCi/ 1.25E-04 (pCi/ 1.25E+02 ± 2.9E+01 CAT I 2.0E-01 Lab Alq
Ppt mg: 1.9 Units: L , ml Bet; Alq): 3.66E+00 Sa): 1.65E-04 L/g): 1.65E+02 ± 2.7E+01 3.0E-01 L/g

WHC	B0DX63	LIQUID	2/28/95 2:53:19 PM	QUAD24D	2/28/95 1:53:02 PM	B0DX63	30	13	0.40533333	94	2.1333333
01+02		(1)		Bkg:	2/28/95 6:04:34 PM	BKG	500	14	0.028	500	1

Anl Date: 2/28/95 Tot Sa, Alq: 1.00E+00 , 1.00E+01 Alp; (Dpm/ 1.13E+00 (uCi/ 5.10E-05 (pCi/ 5.10E+01 ± 2.4E+01 CAT I 4.9E-01 Lab Alq
Ppt mg: 1.8 Units: L , ml Bet; Alq): 3.90E+00 Sa): 1.76E-04 L/g): 1.76E+02 ± 2.8E+01 2.8E-01 L/g

502512 Chem.
(502513 Rad.)

000964

~~00157~~ CMA 5-30-95

9612451.0855

all Cat I (R3) 3/1/95

Client Sample Screening Results

01-Mar-95

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
WHC B0DX67	LIQUID	3/1/95 12:52:42 PM	QUAD21A	3/1/95 11:55:53 AM	B0DX67	30	28	0.86333333	98	2.3646667
01+02	(1)		Bkg:	3/1/95 5:54:51 PM	BKG	500	35	0.07	451	0.902

Anl Date: 3/1/95	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp;	(Dpm/ 2.53E+00	(uCi/ 1.14E-04	(pCi/ 1.14E+02	± 2.9E+01	CAT I	2.2E-01	Lab Alq
Ppt mg: 2.1	Units: L	, ml	Bet;	Alq): 4.29E+00	Sa): 1.93E-04	L/g): 1.93E+02	± 2.9E+01		2.6E-01	Lab L/g

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
WHC B0DX94	LIQUID	3/1/95 12:54:27 PM	QUAD21B	3/1/95 11:55:53 AM	B0DX94	30	16	0.45933333	78	1.708
03+04	(2)		Bkg:	3/1/95 5:54:51 PM	BKG	500	37	0.074	446	0.892

Anl Date: 3/1/95	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp;	(Dpm/ 1.42E+00	(uCi/ 6.39E-05	(pCi/ 6.39E+01	± 2.5E+01	CAT I	3.9E-01	Lab Alq
Ppt mg: 2.2	Units: L	, ml	Bet;	Alq): 3.04E+00	Sa): 1.37E-04	L/g): 1.37E+02	± 2.5E+01		3.7E-01	Lab L/g

503018 Chem
(503019 Rad)

SDG W0436

96134961.0856

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CMS 5-30-95

(R3) 3/2/95

Client Sample Screening Results

02-Mar-95

CLIENT	CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
WHC	B0DRL2	SOLID	3/2/95 3:40:04 PM	QUAD21A	3/2/95 3:06:18 PM	B0DRL2	30	9	0.26	122	3.1446667
				Bkg:	3/2/95 4:30:40 PM	BKG	500	20	0.04	461	0.922
Anl Date: 3/2/95	Tot Sa, Alq: 9.12E+02	, 9.89E+01	Alp; (Dpm/ 1.58E+00	(uCi/ 6.55E-03	(pCi/ 7.19E+00	± 5.3E+00	CAT I	7.0E+00	Lab Alq L/g		
Ppt mg: 98.9	Units: g	, mg	Bet; Alq): 7.12E+00	Sa): 2.96E-02	L/g): 3.24E+01	± 3.9E+00		3.1E+00			
WHC	B0DRL4	SOLID	3/2/95 3:40:47 PM	QUAD21B	3/2/95 3:06:18 PM	B0DRL4	30	18	0.512	161	4.3146667
				Bkg:	3/2/95 4:30:40 PM	BKG	500	44	0.088	526	1.052
Anl Date: 3/2/95	Tot Sa, Alq: 9.22E+02	, 9.25E+01	Alp; (Dpm/ 3.19E+00	(uCi/ 1.43E-02	(pCi/ 1.55E+01	± 6.4E+00	CAT II	3.2E+00	Lab Alq L/g		
Ppt mg: 92.5	Units: g	, mg	Bet; Alq): 9.32E+00	Sa): 4.19E-02	L/g): 4.54E+01	± 4.6E+00		2.2E+00			
WHC	B0DX59	LIQUID	3/2/95 3:45:37 PM	QUAD22D	3/2/95 3:06:18 PM	B0DX59	30	50	1.61266667	136	3.6613333
02				Bkg:	3/2/95 4:30:40 PM	BKG	500	27	0.054	436	0.872
Anl Date: 3/2/95	Tot Sa, Alq: 5.00E-01	, 1.00E+01	Alp; (Dpm/ 4.89E+00	(uCi/ 1.10E-04	(pCi/ 2.20E+02	± 3.4E+01	CAT I	1.1E-01	Lab Alq L/g		
Ppt mg: 3.2	Units: L	, ml	Bet; Alq): 5.98E+00	Sa): 1.35E-04	L/g): 2.69E+02	± 3.1E+01		1.9E-01			
WHC	B0DXH3	LIQUID	3/2/95 3:41:29 PM	QUAD21C	3/2/95 3:06:18 PM	B0DXH3	30	43	1.39133333	555	17.636
				Bkg:	3/2/95 4:30:40 PM	BKG	500	21	0.042	432	0.864
Anl Date: 3/2/95	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp; (Dpm/ 3.78E+00	(uCi/ 1.70E-04	(pCi/ 1.70E+02	± 3.2E+01	CAT I	1.5E-01	Lab Alq L/g		
Ppt mg: 4.6	Units: L	, ml	Bet; Alq): 3.41E+01	Sa): 1.54E-03	L/g): 1.54E+03	± 6.9E+01		3.3E-02			
WHC	B0DZC0	LIQUID	3/2/95 3:42:37 PM	QUAD21D	3/2/95 3:06:18 PM	B0DZC0	30	38	1.21266667	512	16.126667
				Bkg:	3/2/95 4:30:40 PM	BKG	500	27	0.054	470	0.94
Anl Date: 3/2/95	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp; (Dpm/ 3.70E+00	(uCi/ 1.67E-04	(pCi/ 1.67E+02	± 3.5E+01	CAT I	1.5E-01	Lab Alq L/g		
Ppt mg: 10.7	Units: L	, ml	Bet; Alq): 3.16E+01	Sa): 1.42E-03	L/g): 1.42E+03	± 6.7E+01		3.5E-02			

503050 Chem

SDL-W04364

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~~00065~~ 5-30-95

9613451.0857

Client Sample Screening Results

03-Mar-95

(R3) 3/3/95

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
WHC B0C346	LIQUID	3/3/95 2:07:41 PM	QUAD21A	3/3/95 12:28:17 PM	B0C346	30	158	5.23066667	2985	98.574
			Bkg:	3/3/95 5:23:04 PM	BKG	500	18	0.036	463	0.926
Anl Date: 3/3/95	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp; (Dpm/ 1.51E+01	(uCi/ 6.80E-04	(pCi/ 6.80E+02	± 6.1E+01	CAT I	3.7E-02	Lab Alq	
Ppt mg: 16	Units: L	, ml	Bet; Alq): 2.00E+02	Sa): 9.03E-03	L/g): 9.03E+03	± 1.7E+02		5.5E-03	L/g	
WHC B0D347	LIQUID	3/3/95 2:09:32 PM	QUAD21B	3/3/95 12:28:17 PM	B0D347	30	12	0.336	107	2.5986667
			Bkg:	3/3/95 5:23:04 PM	BKG	500	32	0.064	484	0.968
Anl Date: 3/3/95	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp; (Dpm/ 1.18E+00	(uCi/ 5.32E-05	(pCi/ 5.32E+01	± 3.0E+01	CAT I	4.7E-01	Lab Alq	
Ppt mg: 17.1	Units: L	, ml	Bet; Alq): 5.00E+00	Sa): 2.25E-04	L/g): 2.25E+02	± 3.1E+01		2.2E-01	L/g	
WHC B0DX73	LIQUID	3/3/95 3:36:23 PM	QUAD23A	3/3/95 3:04:38 PM	B0DX73	30	27	0.826	110	2.7126667
01			Bkg:	3/3/95 5:23:04 PM	BKG	500	37	0.074	477	0.954
Anl Date: 3/3/95	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp; (Dpm/ 2.40E+00	(uCi/ 1.08E-04	(pCi/ 1.08E+02	± 2.7E+01	CAT I	2.3E-01	Lab Alq	
Ppt mg: 2.9	Units: L	, ml	Bet; Alq): 4.66E+00	Sa): 2.10E-04	L/g): 2.10E+02	± 2.9E+01		2.4E-01	L/g	
WHC B0DZB0	LIQUID	3/3/95 2:10:10 PM	QUAD21C	3/3/95 12:28:17 PM	B0DZB0	30	25	0.77133333	855	27.606
			Bkg:	3/3/95 5:23:04 PM	BKG	500	31	0.062	447	0.894
Anl Date: 3/3/95	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp; (Dpm/ 1.49E+00	(uCi/ 6.71E-05	(pCi/ 6.71E+01	± 2.5E+01	CAT I	3.7E-01	Lab Alq	
Ppt mg: 2.6	Units: L	, ml	Bet; Alq): 5.40E+01	Sa): 2.43E-03	L/g): 2.43E+03	± 8.6E+01		2.1E-02	L/g	
WHC B0DZB1	LIQUID	3/3/95 2:13:56 PM	QUAD21D	3/3/95 12:28:17 PM	B0DZB1	30	21	0.658	674	21.558667
			Bkg:	3/3/95 5:23:04 PM	BKG	500	21	0.042	454	0.908
Anl Date: 3/3/95	Tot Sa, Alq: 1.00E+00	, 1.00E+01	Alp; (Dpm/ 1.44E+00	(uCi/ 6.48E-05	(pCi/ 6.48E+01	± 2.5E+01	CAT I	3.9E-01	Lab Alq	
Ppt mg: 2.4	Units: L	, ml	Bet; Alq): 4.21E+01	Sa): 1.90E-03	L/g): 1.90E+03	± 7.6E+01		2.6E-02	L/g	

503050 Chem.
503051 Rad.

000067

~~0004~~ CMO 5-30-95

961346.0658

Client Sample Screening Results

06-Mar-95

CLIENT CODE	ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
WHC	B0DX48	LIQUID	3/6/95 2:53:04 PM	QUAD22A	3/6/95 1:55:58 PM	B0DX48	30	17	0.51066667	71	1.4026667
01 + 02				Bkg:	3/4/95 4:02:34 PM	BKG	500	28	0.056	482	0.964

Anl Date:	3/6/95	Tot Sa, Alq:	1.00E+00	, 1.00E+01	Alp;	(Dpm/	1.60E+00	(uCi/	7.21E-05	(pCi/	7.21E+01	± 2.7E+01	CAT I	3.5E-01	Lab Alq
Ppt mg:	8	Units:	L	, ml	Bet;	Alq):	2.35E+00	Sa):	1.06E-04	Lig):	1.06E+02	± 2.3E+01		4.7E-01	Lig

503107- Chem
503108- Rad

SDG WO4136

000968
0058
CMA 5-30-95
96134510859

Client Sample Screening Results

07-Mar-95

(R3) 3/7/95

CLIENT CODE	ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
WHC	B0DX54	LIQUID	3/7/95 2:16:39 PM	QUAD24A	3/7/95 1:36:51 PM	B0DX54	30	13	0.37733333	214	6.1913333
03+04	(2)			Bkg:	3/7/95 4:20:31 PM	BKG	500	28	0.056	471	0.942

Anl Date: 3/7/95 Tot Sa, Alq: 1.00E+00 , 1.00E+01 Alp; (Dpm/ 1.08E+00 (uCi/ 4.86E-05 (pCi/ 4.86E+01 ± 2.6E+01 CAT I ✓ 5.1E-01 Lab
Ppt mg: 7.2 Units: L , ml Bet; Alq): 1.20E+01 Sa): 5.40E-04 L/g): 5.40E+02 ± 4.3E+01 9.3E-02 Alq L/g

WHC	B0DX75	LIQUID	3/7/95 2:17:41 PM	QUAD21B	3/7/95 1:17:44 PM	B0DX75	30	6	0.142	52	0.7713333
07	(4)			Bkg:	3/7/95 4:20:31 PM	BKG	500	29	0.058	481	0.962

Anl Date: 3/7/95 Tot Sa, Alq: 2.00E-02 , 1.00E+01 Alp; (Dpm/ 4.31E-01 (uCi/ 3.88E-07 (pCi/ 1.94E+01 ± 2.3E+01 CAT I ✓ 1.3E+00 Lab
Ppt mg: 2.2 Units: L , ml Bet; Alq): 1.41E+00 Sa): 1.27E-06 L/g): 6.36E+01 ± 2.1E+01 7.9E-01 Alq L/g

WHC	B0DX76	LIQUID	3/7/95 2:21:08 PM	QUAD21C	3/7/95 1:17:44 PM	B0DX76	30	17	0.52266667	74	1.5966667
08	(5)			Bkg:	3/7/95 4:20:31 PM	BKG	500	22	0.044	435	0.87

Anl Date: 3/7/95 Tot Sa, Alq: 2.00E-02 , 1.00E+01 Alp; (Dpm/ 1.53E+00 (uCi/ 1.38E-06 (pCi/ 6.89E+01 ± 2.4E+01 CAT I ✓ 3.6E-01 Lab
Ppt mg: 2.6 Units: L , ml Bet; Alq): 2.85E+00 Sa): 2.57E-06 L/g): 1.28E+02 ± 2.5E+01 3.9E-01 Alq L/g

WHC	B0DX79	LIQUID	3/7/95 2:50:27 PM	QUAD21D	3/7/95 1:17:44 PM	B0DX79	30	6	0.156	114	2.812
				Bkg:	3/7/95 4:20:31 PM	BKG	500	22	0.044	494	0.988

Anl Date: 3/7/95 Tot Sa, Alq: 2.00E-02 , 1.00E+01 Alp; (Dpm/ 4.03E-01 (uCi/ 3.63E-07 (pCi/ 1.82E+01 ± 2.2E+01 CAT I ✓ 1.4E+00 Lab
Ppt mg: 1.2 Units: L , ml Bet; Alq): 5.44E+00 Sa): 4.90E-06 L/g): 2.45E+02 ± 3.2E+01 2.0E-01 Alq L/g

WHC	B0DX86	LIQUID	3/7/95 2:22:02 PM	QUAD22A	3/7/95	B0DX86	30	4	0.09733333	31	0.1393333
01+02	(1)			Bkg:	3/7/95 4:20:31 PM	BKG	500	18	0.036	447	0.894

Anl Date: 3/7/95 Tot Sa, Alq: 1.00E+00 , 1.00E+01 Alp; (Dpm/ 2.73E-01 (uCi/ 1.23E-05 (pCi/ 1.23E+01 ± 1.9E+01 CAT I ✓ 2.0E+00 Lab
Ppt mg: 0.3 Units: L , ml Bet; Alq): 2.00E-01 Sa): 9.00E-06 L/g): 9.00E+00 ± 1.6E+01 5.6E+00 Alq L/g

503130 chem
(503131 Rad)

SDG W0436

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CMO 5-30-95

96134510860

(R3) 3/7/95

CLIENT	CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
WHC	B0DX86	LIQUID	3/7/95 2:22:02 PM	QUAD22A	3/7/95 1:17:44 PM	B0DX86	30	4	0.09733333	31	0.1393333
				Bkg:	3/7/95 4:20:31 PM	BKG	500	18	0.036	447	0.894

Anl Date: 3/7/95 Tot Sa, Alq: 1.00E+00 , 1.00E+01 Alp; (Dpm/ 2.73E-01 (uCi/ 1.23E-05 (pCi/ 1.23E+01 ± 1.9E+01 CAT I ✓ 2.0E+00 Lab
Ppt mg: 0.3 Units: L , ml Bet; Alq): 2.00E-01 Sa): 9.00E-06 L/g): 9.00E+00 ± 1.6E+01 5.6E+00 Alq L/g

WHC	B0DX92	LIQUID	3/7/95 2:23:49 PM	QUAD22B	3/7/95 1:17:44 PM	B0DX92	30	22	0.67533333	267	8.052
05 + 06	(3)			Bkg:	3/7/95 4:20:31 PM	BKG	500	29	0.058	424	0.848

Anl Date: 3/7/95 Tot Sa, Alq: 1.00E+00 , 1.00E+01 Alp; (Dpm/ 1.98E+00 (uCi/ 8.92E-05 (pCi/ 8.92E+01 ± 2.7E+01 CAT I ✓ 2.8E-01 Lab
Ppt mg: 6.8 Units: L , ml Bet; Alq): 1.51E+01 Sa): 6.79E-04 L/g): 6.79E+02 ± 4.7E+01 7.4E-02 Alq L/g

WHC	B0DX92	LIQUID	3/7/95 2:23:49 PM	QUAD22B	3/7/95 2:22:02 PM	B0DX92	30	22	0.67533333	267	8.052
				Bkg:	3/7/95 4:20:31 PM	BKG	500	29	0.058	424	0.848

Anl Date: 3/7/95 Tot Sa, Alq: 1.00E+00 , 1.00E+01 Alp; (Dpm/ 1.98E+00 (uCi/ 8.92E-05 (pCi/ 8.92E+01 ± 2.7E+01 CAT I ✓ 2.8E-01 Lab
Ppt mg: 6.8 Units: L , ml Bet; Alq): 1.51E+01 Sa): 6.79E-04 L/g): 6.79E+02 ± 4.7E+01 7.4E-02 Alq L/g

503130 - Chem
(503131 - Rad)

SDW W0436

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CWO 5-30-95

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