Quanterra
Environmental Services

0045006

W0693-QES-415

October 2, 1995

OCT 1995
RECEIVED
SDLA

Karl Pool
Buyer's Technical Representative
Westinghouse Hanford
P.O. Box 1970
2355 Stevens Drive
Richland, WA 99352

Reference: Contract MPV-SVV-239000.

Dear Mr. Pool:

Accompanying this letter are the Data Package Deliverables for Chemical analyses on the following WHC samples:

SDG NUMBER	SAF NUMBER
W0687	95-063
W0689	95-083
W0693	95-0138
W0694	95-083
W0698	95-090

If you have any questions regarding this data package or require any additional information please contact me at 375-3131.

Sincerely,

Jodie Carnes
Document Control Officer

AUG 1996
RECEIVED
EDMC

Receipt of this letter and the package are acknowledged by:

Briana Colley 10/2/95 3:55
Name Date Time

XC: Vicki Parr
Van Pettey File

Analytical Data Package Prepared For

Westinghouse Hanford

OCT 1995
RECEIVED
SDLA

Chemical Analysis By

Quanterra Environmental Services
St. Louis Laboratory

Sample Delivery Group Number: W0693

WHC IDENTIFICATION NUMBER	QUANTERRA ID NUMBER
B0FBT2	9243-001
B0FBT3	9243-002

RECORD COPY

Quanterra Environmental Services

Quanterra Incorporated
13715 Rider Trail North
Earth City, Missouri 63045

314 298-8566 Telephone
314 298-8757 Fax

CERTIFICATE OF ANALYSIS

Westinghouse Hanford Company
P.O. Box 1970
Richland, Washington 99352

September 19, 1995

Attention: Karl Pool

Project number	:	519.136
Date Received by Lab	:	August 31, 1995
Number of Samples	:	Two (2)
Sample Type	:	Water
SDG Number	:	W0693
Data Deliverable	:	Summary

I. Introduction

On August 31, 1995, two (2) water samples were received by Quanterra, St Louis for chemical analyses. 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
9243-001	B0FBT2	50849601	Water	08/31/95
9243-002	B0FBT3	50849602	Water	08/31/95

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: Total Organic Carbon by EPA method 9060. ICP Metals by EPA method 6010. Arsenic by EPA method 7060. Selenium by EPA method 7740. pH by EPA method 9040. Mercury by EPA method 7470. Volatiles by EPA method 8240.

RECORD COPY

III. Quality Control

A Laboratory Control Sample and Method Blank were analyzed with each preparation batch. Matrix Spike and Matrix Spike Duplicate or Sample Duplicate analyses were performed per the protocol. pH analysis uses only Sample Duplicate for matrix QC.

IV. Definitions

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

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

V. Comments

There were no comments for the Volatiles, TOC and pH analyses.

The recoveries of the Matrix Spike (65.0%) and Matrix Spike Duplicate (71.7%) for Arsenic were less than 75% therefore all associated data was flagged with an "N".

Quanterra
Environmental Services

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:\\sqtlmo01\price$\abbydave\hanford\hanw0693.nar

Quanterra September 11, 1995 08:10 am
Account: 10722 Project: 519.136 Quanterra-Richland QAS No. 861 Rev. 1
Master Sample Login: 9243

Project Manager: W. Price

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

Sample Header Template:

Sample No. / Comments / # Container Type / Data:	Client ID	C-Matrix	Analysis	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No.	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)
9243-001	BOFBT2	Water		23-AUG-95 10:15	31-AUG-95 12:30	14-SEP-95	FED-EX	1	Screening not Required						
NOTE: RICHLAND ID 50849601															
4 VI - Vial-40ml			VOA/8240/Q4							S	COLD	12-SEP-95	06-SEP-95	109A	(176365:100 176366:100 176367:100 176368:100)
1 AN - Amber Glass-1L			AS/7060/Q4							S	COLD	12-SEP-95	19-FEB-96	TOE	(176364:100)
1			HG/7470/Q4							S	COLD	12-SEP-95	20-SEP-95	TOE	(176364:100)
1			ICAP/6010/Q4							S	COLD	12-SEP-95	19-FEB-96	TOE	(176364:100)
1			PH/9040/Q4							S	COLD	12-SEP-95	24-AUG-95	TOE	(176364:100)
1			SE/7740/Q4							S	COLD	12-SEP-95	19-FEB-96	TOE	(176364:100)
1			TOC/9060/Q4							S	COLD	12-SEP-95	20-SEP-95	TOE	(176364:100)
9243-001DUP	BOFBT2	Water		23-AUG-95 10:15	31-AUG-95 12:30	14-SEP-95	FED-EX	1	Screening not Required						
NOTE: RICHLAND ID 50849601															
1 AN - Amber Glass-1L			PH/9040/Q4							S	COLD	12-SEP-95	24-AUG-95	TOE	(176364:100)
1			TOC/9060/Q4							S	COLD	12-SEP-95	20-SEP-95	TOE	(176364:100)
9243-001MS	BOFBT2	Water		23-AUG-95 10:15	31-AUG-95 12:30	14-SEP-95	FED-EX	1	Screening not Required						
NOTE: RICHLAND ID 50849601															
4 VI - Vial-40ml			VOA/8240/Q4							S	COLD	12-SEP-95	06-SEP-95	109A	(176365:100 176366:100 176367:100 176368:100)
1 AN - Amber Glass-1L			AS/7060/Q4							S	COLD	12-SEP-95	19-FEB-96	TOE	(176364:100)
1			ICAP/6010/Q4							S	COLD	12-SEP-95	19-FEB-96	TOE	(176364:100)
1			SE/7740/Q4							S	COLD	12-SEP-95	19-FEB-96	TOE	(176364:100)
1			TOC/9060/Q4							S	COLD	12-SEP-95	20-SEP-95	TOE	(176364:100)
9243-001MSD	BOFBT2	Water		23-AUG-95 10:15	31-AUG-95 12:30	14-SEP-95	FED-EX	1	Screening not Required						
NOTE: RICHLAND ID 50849601															
4 VI - Vial-40ml			VOA/8240/Q4							S	COLD	12-SEP-95	06-SEP-95	109A	(176365:100 176366:100 176367:100 176368:100)
1 AN - Amber Glass-1L			AS/7060/Q4							S	COLD	12-SEP-95	19-FEB-96	TOE	(176364:100)
1			ICAP/6010/Q4							S	COLD	12-SEP-95	19-FEB-96	TOE	(176364:100)
1			SE/7740/Q4							S	COLD	12-SEP-95	19-FEB-96	TOE	(176364:100)
9243-002	BOFBT3	Water		23-AUG-95 10:30	31-AUG-95 12:30	14-SEP-95	FED-EX	1	Screening not Required						
NOTE: RICHLAND ID 50849602															
4 VI - Vial-40ml			VOA/8240/Q4							S	COLD	12-SEP-95	06-SEP-95	109A	(176389:100 176390:100 176391:100 176392:100)
1 AN - Amber Glass-1L			AS/7060/Q4							S	COLD	12-SEP-95	19-FEB-96	TOE	(176388:100)

3*=Sample has not been rad screened.

000005

Quanterra September 11, 1995 08:10 am
Account: 10722 Project: 519.136 Quanterra-Richland QAS No. 861 Rev. 1
Master Sample Login: 9243

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.
# Container Type	Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)	
Data:								
1	HG/7470/Q4	S	COLD	12-SEP-95	20-SEP-95	TOE	(176388:100)	
1	ICAP/6010/Q4	S	COLD	12-SEP-95	19-FEB-96	TOE	(176388:100)	
1	PH/9040/Q4	S	COLD	12-SEP-95	24-AUG-95	TOE	(176388:100)	
1	SE/7740/Q4	S	COLD	12-SEP-95	19-FEB-96	TOE	(176388:100)	
1	TOC/9060/Q4	S	COLD	12-SEP-95	20-SEP-95	TOE	(176388:100)	
9243-002MS	B0FBT3	Water	23-AUG-95 10:30	31-AUG-95 12:30	14-SEP-95	FED-EX	1	Screening not Required
NOTE: RICHLAND ID 50849602								
1 AN - Amber Glass-1L	HG/7470/Q4	S	COLD	12-SEP-95	20-SEP-95	TOE	(176388:100)	
9243-002MSD	B0FBT3	Water	23-AUG-95 10:30	31-AUG-95 12:30	14-SEP-95	FED-EX	1	Screening not Required
NOTE: RICHLAND ID 50849602								
1 AN - Amber Glass-1L	HG/7470/Q4	S	COLD	12-SEP-95	20-SEP-95	TOE	(176388:100)	

9000000

3*=Sample has not been rad screened.

TEMPS CUR # 5272

[redacted]

Chain of Custody Record

To: St Louis

Quanterra Environmental Services

QUA-4124

Client	Project Manager	Date	Chain Of Custody Number
Westinghouse	Van Pettey	8-31-95	04947
Address	Telephone Number (Area Code)/Fax Number	Lab Number	Page 1 of 1

City	State	Zip Code	Site Contact

Project Name: SAF 95-013B

Carrier/Waybill Number:

Contract/Purchase Order/Quote No.:

Analysis: SEE COC

Sample I.D. No. and Description	Date	Time	Sample Type	Total Volume	Containers Type	Containers No.	Preservative	Condition on Receipt
50849601 B0FBT2	SEE COC							1 X 1L A/glass. 4 X 40 ml vials
↓ 02 ↓ BT3								1 X 1L A glass 4 X 40 ml vials

Special Instructions

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

Sample Disposal: ☒ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months

Turn Around Time Required: ☐ Normal ☒ Rush Due 9-15-95

QC Level: ☐ I. ☐ II. ☐ III.

Project Specific (Specify): SDL W0693

1. Relinquished By	Date	Time	1. Received By	Date	Time
Heidelberg Quanterra	8-31-95	16:00	George W Byrd	09-01-95	08:15
2. Relinquished By	Date	Time	2. Received By	Date	Time
3. Relinquished By	Date	Time	3. Received By	Date	Time

Comments

DISTRIBUTION: WHITE - Stays with Sample; CANARY - Returned to Client with Report; PINK - Field Copy

0000007

Westinghouse Hanford Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C# 9502
		Page 1 of 2

Collector RICHARDS, DAVID	Contact/Requestor VILLALOBOS, CARMEN	Tel. No. 373-4753 MSIN S6-19 FAX
SAF Number 95-013B	Sample Origin F-10 Sampler	Purchase Order/Charge Code KP51T/om624
Project Title PUREX Vessel Flush -2	Logbook # AK 8-31-95 ~~WHC-205~~ N WHC-N-205 #52	Ice Chest # ~~Temp~~ AK 8-31-95
Shipped To (Lab) Quanterra	Method of Shipment Government Vehicle	Bill of Lading/Air Bill No. N/A
Protocol RCRA	Data Turnaround PRIORITY	~~Offsite Property No.~~ RSR # 100316 and 100315.

Sample No.	Lab. ID	A	Date	Time	No/Type Container	Sample Analysis	Preservative
B0FBT2		L	8/23/95	1015	(1) 20 aGs	ACTIVITY SCAN (Lab Specific) 1000 CPM	4 deg. C
B0FBT2		L	8/23/95	1015	(1) 1000 aG	ICP METALS TAL (6010); to include lead. (Cr<5.0mg/L, Cd<1.0mg/L, Ba<100.0mg/L, Pb<5.0mg/L, Ag<5.0mg/L, Ar<5.0mg/L, Se<1.0mg/L, Hg<0.2mg/L), As (9060), se (7740), Hg (7470)	4 deg C.
B0FBT2		L	8/23/95	1015	(1) 40 aGs	pH(9040)	None
B0FBT2		L	8/23/95	1015	(1) 40 aGs	TOC (9060) 50849601	COOL TO 4 C
B0FBT2		W	8/23/95	1015	(1) ~~20~~ 40 aGs	VOA (8240)	4°C HCL
B0FBT2		W	8/23/95	1015	(1) ~~20~~ 40 aGs	VOA (8240)	4 deg. C
~~B0FBT2~~		~~W~~	~~8/23/95~~	~~1015~~	~~(1) 40 aGs~~	~~VOA (8240)~~	~~Cool 4 Deg C~~
B0FBT3		W	8/23/95	1030	(1) 20 aGs	ACTIVITY SCAN (Lab Specific) 1100 CPM	4 deg. C
B0FBT3		W	8/23/95	1030	(1) 1000 aG	ICP METALS TAL (6010); to include lead. (Cr<5.0mg/L, Cd<1.0mg/L, Ba<100.0mg/L, Pb<5.0mg/L, Ag<5.0mg/L, Ar<5.0mg/L, Se<1.0mg/L, Hg<0.2mg/L), As (9060), se (7740), Hg (7470)	4 deg. C
B0FBT3		W	8/23/95	1030	(1) 40 aGs	pH(9040)	None
B0FBT3		W	8/23/95	1030	(1) 40 aGs	TOC (9060) 50849602	COOL TO 4 C
B0FBT3		W	8/23/95	1030	(1) 40 aGs	VOA (8240)	Cool 4 Deg C

POSSIBLE SAMPLE HAZARDS/REMARKS MSDS Yes ☐ No ☒

List all known wastes.

Radioactive Material. SDS W0693

SPECIAL INSTRUCTIONS Hold Time

SUMMARY DELIVERABLE. 15 DAY TURNAROUND. ICP METALS LIMITS: Cr<5.0 mg/L, Cd<1.0 mg/L, Ba<100.0 mg/L, Pb<5.0 mg/L, Ag<5.0 mg/L, Ar<5.0 mg/L, Se<1.0 mg/L, Hg<0.2 mg/L. Sample B0FBT0 shipped in ice chest #SMLL-593. Sample B0FBS9 * (1000ml aG)

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
David Richards	David Richards		8/31/95 0715	Karen Dahlenburg	quanterra		8-31-95 12:30
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

S = Soil		DS = Drum Solids	
SB = Sediment		DL = Drum Liquids	
SO = Solid		T = Tissue	
SL = Sludge		WI = Wipe	
W = Water		L = Liquid	
O = Oil		V = Vegetation	
A = Air		X = Other	

FINAL SAMPLE DISPOSITION Disposal Method e.g. Return to customer, per lab procedure, used in process | Disposed By | Date/Time

All samples containing hazardous materials shall be picked up by requestor and returned to parent container or site of origin.

A-6001-500 (07/95)

0000008

Westinghouse Hanford Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C # 9502
		Page 2 of 2

Collector RICHARDS, DAVID	Contact/Requester VILLALOBOS, CARMEN	Tel. No. 373-4753 MSIN S6-19 FAX
SAF Number 95-013B	Sample Origin F-10 Sampler	Purchase Order/Charge Code KP51T / 0m624
Project Title PUREX Vessel Flush -2	Logbook # WHC-N-205 #52	Ice Chest # Temp. HX 8/31/95
Shipped To (Lab) Quanterra	Method of Shipment Government Vehicle	Bill of Lading/Air Bill No. n/a
Protocol RCRA	Data Turnaround PRIORITY	Offsite Property No. HX 8-31-95 RSR # 100316 and 100315.

Sample No.	Lab. ID	*	Date	Time	No/Type Container	Sample Analysis	Perservative
B0FBT3		W	8/23/95	1030	(1) 40 aGs	VOA (8240)	Cool 4 Deg C

50849602

SDD 100693

POSSIBLE SAMPLE HAZARDS/REMARKS	MSDS Yes ☐ No ☒	SPECIAL INSTRUCTIONS	Hold Time
List all known wastes. Radioactive Material		SUMMARY DELIVERABLE 15 DAY TURNAROUND ICP METALS LIMITS: Cr<5.0 mg/L, Cd<1.0 mg/L, Ba<100.0 mg/L, Pb<5.0 mg/L, Ag<5.0 mg/L, As<5.0 mg/L, Se<1.0 mg/L, Hg<0.2 mg/L. Sample B0FBT0 shipped in ice chest #SML-593. Sample B0FBS9 * (1000ml aG)	

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
David Richards			8/31/95 0745	Karen Schteuling	Quanterra		8/31/95 12:30
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

S	= Soil	DS	= Drum Solids
SE	= Sediment	DL	= Drum Liquids
SO	= Solid	T	= Tissue
SL	= Sludge	WI	= Wipe
W	= Water	L	= Liquid
O	= Oil	V	= Vegetation
A	= Air	X	= Other

FINAL SAMPLE DISPOSITION	Disposal Method e.g. Return to customer, per lab procedure, used in process	Disposed By	Date/Time

All samples containing hazardous materials shall be picked up by requester and returned to parent container or site of origin.

A-6001-500 (07/95)

6000000

Emergency Contact: (509) 373-3800 ERG in Vehicle - #63 Guide

RADIOACTIVE SHIPMENT RECORD

3. Page 1 of 1

1. SHIP TO
Company: Quanterra
Address: 2800 G. Wash. Way
City, State, Zip: Richland WA 99352
Attention: Tami Heidelberg
Phone:

2. SHIP FROM U.S. DEPT. OF ENERGY C/O
Company: WHC
Address: 600 Area / 6269 Bldg
City, State, Zip: Richland WA 99352
Contact: Dave Richards
Phone: (509) ~~5~~ 373-7002

4. Ship [X] Prepaid [ ] Collect
Via: [X] Motor ~~Rail~~ [ ] Air Pssgr [ ] Excl. Use [ ] Air Cargo [ ] UPS Surface [ ] Mail [ ] Site Carrier
SHIPMENT AUTHORIZATION NUMBER: 100316

5. HM Proper Shipping Name: Radioactive Material,

	excepted package - empty packaging	7	UN2910
	excepted package - instruments or articles	7	UN2910
	excepted package - limited quantity of material	7	UN2910
	excepted package - articles manufactured from natural or depleted uranium or natural thorium	7	UN2910
	Special Form, n.o.s.	7	UN2974
	Low Specific Activity, n.o.s.	7	UN2912
X	n.o.s.	7	UN2982
	Fissile, n.o.s.	7	UN2918
	(other)		

6. Markings Applied
Package Orientation [X]
Gross Weight [ ]
Radioactive - LSA [ ]
Type A [X]
Type B [ ]

7. For Normal Form
Identify
Physical Form: [X] Liquid [ ] Gas [ ] Solid
Chemical Form: [ ] Metal [ ] Oxide [ ] Elemental [X] Nitrate [ ] Mixture
Other:

8. Additional RAM Desc.
Limited Quantity Radioactive Material [ ]
Highway Route Controlled Quantity N/A [ ]

9. Placards Applied [ ] Yes [X] No
If Rail Specify Placards
Route Plan [ ] Yes [X] No

11a. TYPE PACKAGE
Strong Tight [ ]
Type A [X]
Type B [ ]
Type B(U) [ ]
Type B(M) [ ]

11b. CONSTRUCTION
[ ] Box, FB
[ ] Wood
[ ] Steel
[ ] Drum
[ ] Cask
Other: Poly Box

11c. FISSILE CLASS
Non-Fissile [X]
Fissile Exempt [ ]
Fissile I [ ]
Fissile II [ ]
Fissile III [ ]
Gms Fissile:

11d. Labels Applied
Empty [ ]
Radioactive White I [X]
Radioactive Yellow II [ ]
Radioactive Yellow III [ ]
Subsidiary Hazard [ ]

10. EMERGENCY RESPONSE
Telephone: (509) 373-3800
Emergency Response Guide(s): #63.

Warning -- Fissile Class III Shipment. Do Not Load More Than N/A Packages Per Vehicle. In Loading and Storage Areas, Keep at Least 20 Feet From Other Packages Bearing Radioactive Labels.

12.

No. Pkgs.	Model Package	COC/Spec	Serial No.	Seal No.	Isotopes	T.I.	Curies/Pkg	Gr. Wt.
1	Type A	~~M2~~ 1/X21/5/95	01-95/10000	Tape	Cs^{137}, Sb^{125}, Am^{241}, Eu^{155}, Eu^{154}, Co^{60}, $Ru\,Rh^{106}$.	N/A	9.88 uCi	24 lbs.
(Sample	#BOFBT2, COC # 9502, Glass							
Sample	bottle packed on Blue Ice)							
					TOTALS	N/A	9.88 uCi	24 lbs

(Shipper may describe package in detail on one of the unused lines above)

13. This is to certify that the above named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation, according to the applicable federal, state, local and international regulations for the transportation of hazardous materials.
Certifier's Signature: On behalf of DOE-RL DE Richards | Date: 8/30/95 | Organization: Sampling and Mobile Labs | Complete Cost Code (Inc. End Function): KP51T/0m624

14. Surface Dose Rate of Package: [✓] <0.5 or ____ mrem/hr (N + β γ)
Dose Rate at 1 Meter from Surface of Package: [✓] <0.5 or ____ mrem/hr (N + β γ)
Smears of Outer Container: [✓] <22 dpm β γ /cm² [✓] <2.2 dpm α /cm² [ ] <Tbl. 2-2 HSRCM Onsite Limits
TRUCK LOAD OR EXCLUSIVE USE: Surface [✓] <200 mrem/hr (N + β γ); @ 6 feet [✓] <10 mrem/hr (N + β γ); @ Cab or sleeper [✓] <2 mrem/hr (N + β γ)
Additional Data and Instructions (inc. Readings on Internal Packaging)
Signature Radiation Monitoring: Curtis Zimmerman | Bldg. 202 S | Survey No. I-200-526 | Date 8-31-95

15. PICKUP OF SHIPMENT / RECEIPT
Vehicle: 688-4630 | Driver: DE Richards | Signature: DE Richards | Date: 8/30/95

16. Shipment has been inspected and verified to be in compliance with DOT regulations
Authorized Signature: [signature] | Printed Name: Keith R. Smith | Date: 8-31-95

17. AIR TRANSPORT CERTIFICATION
CARGO AIRCRAFT: [ ] Cargo Aircraft Only [ ] Labels Applied
PASSENGER AIRCRAFT: [ ] 1. Ltd Qty [ ] 2. <3 T.I. [ ] ~~3. Research/Medical Diagnosis~~ [ ] 4. Human Medical Research
Pkg. Dimensions: N/A

18. OFFSITE AUTHORIZATION
B/L: RMW 9556B | Date Shipped: 8-31-95 | Routing: WHC Vehicle | ETA: 8-31-95
Surveyed By: N/A | Date: N/A | Approved for Shipment Offsite: R Smith | Date: 8-31-95
0000010

Karen Stattenberg - Quanterra 8-31-95 12:15

54-6000-088 (07/95)

RADIOACTIVE SHIPMENT RECORD

3. Page 1 of 1

1. SHIP TO
Company: Quanterra
Address: 2800 Geo. Wash Way
City, State, Zip: Richland WA 99352
Attention: Tami Heidberg
Phone:

2. SHIP FROM U.S. DEPT. OF ENERGY C/O
Company: WHC
Address: 600 Area / 6269 Bldg.
City, State, Zip: Richland WA 99352
Contact: Dave Richards
Phone: (509) 373-7002

4. Ship [X] Prepaid [ ] Collect

Via: [X] Motor ~~Rail~~ [ ] Air Psgr [ ] Excl. Use [ ] Air Cargo [ ] UPS Surface [ ] Mail [ ] Site Carrier

SHIPMENT AUTHORIZATION NUMBER: 100318

5. HM Proper Shipping Name: Radioactive Material,

	excepted package - empty packaging	7	UN2910
	excepted package - instruments or articles	7	UN2910
X	excepted package - limited quantity of material	7	UN2910
	excepted package - articles manufactured from natural or depleted uranium or natural thorium	7	UN2910
	Special Form, n.o.s.	7	UN2974
	Low Specific Activity, n.o.s.	7	UN2912
	n.o.s.	7	UN2982
	Fissile, n.o.s.	7	UN2918
	(other)		

6. Markings Applied
- [X] Package Orientation
- [ ] Gross Weight
- [ ] Radioactive - LSA
- [ ] Type A
- [ ] Type B

7. For Normal Form
Identify
Physical Form: [X] Liquid [ ] Gas [ ] Solid
Chemical Form: [ ] Metal [ ] Oxide [ ] Elemental [X] Nitrate [ ] Mixture
Other:

8. Additional RAM Desc.
- Limited Quantity Radioactive Material [X]
- Highway Route Controlled Quantity [ ]

9. Placards Applied [ ] Yes [X] No
If Rail Specify Placards

Route Plan [ ] Yes [X] No

11a. TYPE PACKAGE
- Strong Tight [X]
- Type A [ ]
- Type B [ ]
- Type B(U) [ ]
- Type B(M) [ ]

11b. CONSTRUCTION
- [ ] Box, FB
- [ ] Wood
- [ ] Steel
- [ ] Drum
- [ ] Cask
- Other: Polycooler

11c. FISSILE CLASS
- Non-Fissile [X]
- Fissile Exempt [ ]
- Fissile I [ ]
- Fissile II [ ]
- Fissile III [ ]
- Gms Fissile

11d. Labels Applied
- Empty: N/A [ ]
- Radioactive White I [ ]
- Radioactive Yellow II [ ]
- Radioactive Yellow III [ ]
- Subsidiary Hazard [ ]

10. EMERGENCY RESPONSE
Telephone: (509) 373-3800
Emergency Response Guide(s): IN Vehicle #61

Warning – Fissile Class III Shipment. Do Not Load More Than N/A Packages Per Vehicle. In Loading and Storage Areas, Keep at Least 20 Feet From Other Packages Bearing Radioactive Labels.

12.

No. Pkgs.	Model Package	COC/Soec	Serial No.	Seal No.	Isotopes	T.I.	Curies/Pkg	Gr. Wt.
1	Strong Tight	N/A	N/A	Tamper Tape	(Co^{137}, Sb^{125}, Am^{241}, Eu^{155})	N/A	2.3 mCi	11 lbs
(Sample	# BOFBT2, COC # 8502, class				Eu^{154}, Co^{60},			
sample bottles packed on Blue Ice)					Ru Rh^{106}.			
TOTALS						N/A	2.3 mCi	11 lbs

(Shipper may describe package in detail on one of the unused lines above)

13. This is to certify that the above named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation, according to the applicable federal, state, local and international regulations for the transportation of hazardous materials.
Certifier's Signature On behalf of DOE-RL: [signature] Date: 8/30/95 Organization: Sampling & Mobile Labs Complete Cost Code (Inc. End Function): KPSIT/OM624

14. Surface Dose Rate of Package: [X] <0.5 or ____ mrem/hr (N + β γ)
Dose Rate at 1 Meter from Surface of Package: [X] <0.5 or ____ mrem/hr (N + β γ)
Smears of Outer Container:
- [X] <22 dpm β γ /cm²
- [X] <2.2 dpm α /cm²
- [ ] <Tbl. 2-2 HSRCM Onsite Limits

TRUCK LOAD OR EXCLUSIVE USE
- Surface [X] <200 mrem/hr (N + β γ)
- @ 6 feet [X] <10 mrem/hr (N + β γ)
- @ Cab or sleeper [X] <2 mrem/hr (N + β γ)

Additional Data and Instructions (inc. Readings on Internal Packaging)

Signature - Radiation Monitoring: [signature] Bldg. 202-S Survey No. I-200-526 Date 8-31-95

15. PICKUP OF SHIPMENT
Vehicle: 688-4630 Driver: DE Richards
RECEIPT
Signature: [signature] Date: 8/31/95

16. Shipment has been inspected and verified to be in compliance with DOT regulations
Authorized Signature: [signature] Printed Name: Keith R. Smith Date: 8-31-95

17. AIR TRANSPORT CERTIFICATION
CARGO AIRCRAFT: [ ] Cargo Aircraft Only; Labels Applied
PASSENGER AIRCRAFT: [ ] 1. Ltd Qty [ ] 2. <3 T.I. [ ] 3. Research/Medical Diagnosis [ ] 4. Human Medical Research
Pkg. Dimensions: N/A

18. OFFSITE AUTHORIZATION
B/L: RMW 9556A Date Shipped: 8-31-95 Routing: WHC Vehicle ETA: 8-31-95
Surveyed By: N/A Date: N/A Approved for Shipment Offsite: [signature] 0000011 Date: 8-31-95

Karen Hartenberg Quanterra 8-31-95 12:15

54-6000-088 (07/95)

BOFBT3 PBL 8-31-95

SAMPLE STATUS REPORT FOR E 7977. E-BLANK ~~S3031 03~~ TIME: 3/15/93 8:25
DISPATCHED: 3/12/93 10:20 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 3/12/93 10:30

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

END OF REPORT

SAMPLE STATUS REPORT FOR E 800. E-BLANK F-10 TIME: 8/28/95 13:46
DISPATCHED: 8/23/95 14:22 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 8/24/95 7:42

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
1213	TB-FLTRT	1.11000E 01 uCi/L	N	Y	KP51T
1773	AT-FLTRT	6.59000E-01 uCi/L	N	Y	KP51T
2162	GEA-LIQ	4.74000E-03 uCi/L Co-60	N	Y	KP51T
2162	GEA-LIQ	1.10-1 uCi/L RuRh-106 27% ERROR			KP51T
2162	GEA-LIQ	8.66000E-01 uCi/L Sb-125	N	Y	KP51T
2162	GEA-LIQ	1.44000E 00 uCi/L Cs-137	N	Y	KP51T
2162	GEA-LIQ	8.14-3 uCi/L Eu-154 33% ERROR			KP51T
2162	GEA-LIQ	1.73-2 uCi/L Eu-155 32% ERROR			KP51T
2162	GEA-LIQ	3.62-2 uCi/L Am-241 34% ERROR			KP51T

END OF REPORT

Figure 1

SAMPLE CHECK-IN LIST

(1 Per Shipping Container)

Date/Time Received 8-31-95 12:30 Client Name WHC

Project/Client # 95-013B Batch or Case # _____

Cooler ID (if noted on outside of cooler) SML-214

1. Condition of shipping container? O.K.
2. Custody Seals on cooler intact? Yes [X] No [ ]
3. Custody Seals dated and signed? Yes [X] No [ ]
4. Chain of Custody record is taped on inside of cooler lid? Yes [ ] No [X]
5. Vermiculite/packing material is: Wet [ ] Dry [X] _____
6. Each sample is in a plastic bag? Yes [X] No [ ] _____
7. Number of sample containers in cooler: 5
8. Samples have: ✓ tape ____ hazard labels
   X custody seals ____ 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):
    Chain of Custody #(s) n/a
    Request for Analysis #(s) /
    Airbill # ✓ Carrier n/a
12. Have any anomalies been identified above? Yes [ ] No [ ]
13. Memos have been initiated for all anomalies identified above? Yes [ ]

Printed Name/Signature Karen Dettinberg Date/Time 8-31-95 12:40

Figure 1

SAMPLE CHECK-IN LIST

(1 Per Shipping Container)

Date/Time Received 8-31-95 12:30 Client Name WHC

Project/Client # 95-013B Batch or Case # _____

Cooler ID (if noted on outside of cooler) not marked

1. Condition of shipping container? O.K.
2. Custody Seals on cooler intact? Yes [X] No [ ]
3. Custody Seals dated and signed? Yes [X] No [ ]
4. Chain of Custody record is taped on inside of cooler lid? Yes [ ] No [X]
5. Vermiculite/packing material is: Wet [ ] Dry [X] _____
6. Each sample is in a plastic bag? Yes [X] No [ ] _____
7. Number of sample containers in cooler: 1/6
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; other
10. Coolant Present? Yes [X] No [ ] Sample Temperature 6°
11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #(s) n/a
    Request for Analysis #(s) _____
    Airbill # ✓ Carrier n/a
12. Have any anomalies been identified above? Yes [ ] No [ ]
13. Memos have been initiated for all anomalies identified above? Yes [ ]

Printed Name/Signature Karen Ackerley Date/Time 8-31-95 12:40

Quanterra
Environmental Services

C.U.R. and C.O.C.
COPIED TO: BW/WP
DATE: 09-01-95
TIME:
BY: BWB

Work Order No.: 9243

Condition Upon Receipt Variance Report
St. Louis Laboratory

Client: Westinghouse
Date: 09-01-95 08.15
Project No: 519.135
Initiated by: Dawn W Byrd
Analysis Requested: Refer to RFA/COC
RFA/COC Numbers: # 04947
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:	8.	☐	Custody tape disturbed/broken/missing.
			9.	NA	Sample splits performed by lab.
2.	☐	Sample received broken/leaking.	10.	NA	Volatile sample received with approximately _____ mm headspace.
3.	☐	Sample received without proper preservative.			
	☐	Cooler temperature not within 4°C ± 2°C. Record temperature: 5°	11.	☐	Sample ID on container does not match sample ID on paperwork. Explain:
	☐	pH			
	☐	other:			
4.	☐	Sample received in improper container.	12.	☐	All coolers on airbill not received with shipment.
5.	☐	Sample received without proper paperwork. Explain:	13.	☐	Other (explain below): Shipping containers not rad surveyed. 1760467284
6.	☐	Paperwork received without sample.			
7.	☐	No sample ID on sample container.			

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) Dawn W Byrd Date: 09-01-95

Project Management Review: Abby Calder Date: 9/5/95

0000016

5272

VOLATILE ORGANICS

Quanterra
Environmental Services

Quanterra-Richland
Westinghouse Hanford Company
P.O. Box 1970
Richland, WA 99352

Project: 519.136

Category: Volatiles
Method: EPA 8240
Matrix: LIQUID

Client ID: BOFBT2

Sample Date : 08/23/95
Receipt Date : 08/31/95
Report Date : 09/13/95

Quanterra ID : 9243-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	QCBLK77274-1	09/06/95	09/06/95	10	UG/L	U	10	1
Bromomethane	74-83-9	QCBLK77274-1	09/06/95	09/06/95	10	UG/L	U	10	1
Vinyl Chloride	75-01-4	QCBLK77274-1	09/06/95	09/06/95	10	UG/L	U	10	1
Chloroethane	75-00-3	QCBLK77274-1	09/06/95	09/06/95	10	UG/L	U	10	1
Methylene Chloride	75-09-2	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Acetone	67-64-1	QCBLK77274-1	09/06/95	09/06/95	10	UG/L	J	100	1
Carbon Disulfide	75-15-0	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
1,1-Dichloroethene	75-35-4	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
1,1-Dichloroethane	75-34-3	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
1,2-Dichloroethene (total)	540-59-0	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Chloroform	67-66-3	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
1,2-Dichloroethane	107-06-2	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
2-Butanone	78-93-3	QCBLK77274-1	09/06/95	09/06/95	100	UG/L	U	100	1
1,1,1-Trichloroethane	71-55-6	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Carbon Tetrachloride	56-23-5	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Bromodichloromethane	75-27-4	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
1,2-Dichloropropane	78-87-5	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
cis-1,3-Dichloropropene	10061-01-5	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Trichloroethene	79-01-6	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Dibromochloromethane	124-48-1	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
1,1,2-Trichloroethane	79-00-5	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Benzene	71-43-2	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
trans-1,3-Dichloropropene	10061-02-6	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Bromoform	75-25-2	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
4-Methyl-2-Pentanone	108-10-1	QCBLK77274-1	09/06/95	09/06/95	50	UG/L	U	50	1
2-Hexanone	591-78-6	QCBLK77274-1	09/06/95	09/06/95	50	UG/L	U	50	1
Tetrachloroethene	127-18-4	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Toluene	108-88-3	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Chlorobenzene	108-90-7	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
EthylBenzene	100-41-4	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Styrene	100-42-5	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Xylene (total)	1330-20-7	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Unknown-1	TIC-32	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	J		1
Unknown-2	TIC-33	QCBLK77274-1	09/06/95	09/06/95	7	UG/L	J		1
Dodecane	112-40-3	QCBLK77274-1	09/06/95	09/06/95	78	UG/L	J		1
Tridecane	629-50-5	QCBLK77274-1	09/06/95	09/06/95	880	UG/L	J		1
Tetradecane	629-59-4	QCBLK77274-1	09/06/95	09/06/95	37	UG/L	J		1
Toluene-d8 (SURR)	2037-26-5	QCBLK77274-1	09/06/95	09/06/95	100	%REC			1
Bromofluorobenzene (SURR)	460-00-4	QCBLK77274-1	09/06/95	09/06/95	97	%REC			1
1,2-Dichloroethane-d4 (SURR)	17070-07-0	QCBLK77274-1	09/06/95	09/06/95	106	%REC			1

Quanterra
Environmental Services

Quanterra-Richland
Westinghouse Hanford Company
P.O. Box 1970
Richland, WA 99352

Project: 519.136

Category: Volatiles
Method: EPA 8240
Matrix: LIQUID

Client ID: BOFBT2

Sample Date : 08/23/95
Receipt Date : 08/31/95
Report Date : 09/13/95

Quanterra ID : 9243-001MS

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
1,1-Dichloroethene	75-35-4	QCBLK77274-1	09/06/95	09/06/95	108	%REC			1
Trichloroethene	79-01-6	QCBLK77274-1	09/06/95	09/06/95	96	%REC			1
Benzene	71-43-2	QCBLK77274-1	09/06/95	09/06/95	92	%REC			1
Toluene	108-88-3	QCBLK77274-1	09/06/95	09/06/95	97	%REC			1
Chlorobenzene	108-90-7	QCBLK77274-1	09/06/95	09/06/95	97	%REC			1
Toluene-d8 (SURR)	2037-26-5	QCBLK77274-1	09/06/95	09/06/95	100	%REC			1
Bromofluorobenzene (SURR)	460-00-4	QCBLK77274-1	09/06/95	09/06/95	98	%REC			1
1,2-Dichloroethane-d4 (SURR)	17070-07-0	QCBLK77274-1	09/06/95	09/06/95	107	%REC			1

Quanterra
Environmental Services

Quanterra-Richland
Westinghouse Hanford Company
P.O. Box 1970
Richland, WA 99352

Project: 519.136

Category: Volatiles
Method: EPA 8240
Matrix: LIQUID

Client ID: BOFBT2

Sample Date : 08/23/95
Receipt Date : 08/31/95
Report Date : 09/13/95

Quanterra ID : 9243-001MSD

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
1,1-Dichloroethene	75-35-4	QCBLK77274-1	09/06/95	09/06/95	103	%REC			1
Trichloroethene	79-01-6	QCBLK77274-1	09/06/95	09/06/95	92	%REC			1
Benzene	71-43-2	QCBLK77274-1	09/06/95	09/06/95	90	%REC			1
Toluene	108-88-3	QCBLK77274-1	09/06/95	09/06/95	97	%REC			1
Chlorobenzene	108-90-7	QCBLK77274-1	09/06/95	09/06/95	98	%REC			1
Toluene-d8 (SURR)	2037-26-5	QCBLK77274-1	09/06/95	09/06/95	100	%REC			1
Bromofluorobenzene (SURR)	460-00-4	QCBLK77274-1	09/06/95	09/06/95	94	%REC			1
1,2-Dichloroethane-d4 (SURR)	17070-07-0	QCBLK77274-1	09/06/95	09/06/95	104	%REC			1

Quanterra Environmental Services

Quanterra-Richland
Westinghouse Hanford Company
P.O. Box 1970
Richland, WA 99352

Project: 519.136

Category: Volatiles
Method: EPA 8240
Matrix: LIQUID

Client ID: BOFBT3

Sample Date : 08/23/95
Receipt Date : 08/31/95
Report Date : 09/13/95

Quanterra ID : 9243-002

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	QCBLK77274-1	09/06/95	09/06/95	10	UG/L	U	10	1
Bromomethane	74-83-9	QCBLK77274-1	09/06/95	09/06/95	10	UG/L	U	10	1
Vinyl Chloride	75-01-4	QCBLK77274-1	09/06/95	09/06/95	10	UG/L	U	10	1
Chloroethane	75-00-3	QCBLK77274-1	09/06/95	09/06/95	10	UG/L	U	10	1
Methylene Chloride	75-09-2	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Acetone	67-64-1	QCBLK77274-1	09/06/95	09/06/95	100	UG/L	U	100	1
Carbon Disulfide	75-15-0	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
1,1-Dichloroethene	75-35-4	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
1,1-Dichloroethane	75-34-3	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
1,2-Dichloroethene (total)	540-59-0	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Chloroform	67-66-3	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
1,2-Dichloroethane	107-06-2	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
2-Butanone	78-93-3	QCBLK77274-1	09/06/95	09/06/95	100	UG/L	U	100	1
1,1,1-Trichloroethane	71-55-6	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Carbon Tetrachloride	56-23-5	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Bromodichloromethane	75-27-4	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
1,2-Dichloropropane	78-87-5	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
cis-1,3-Dichloropropene	10061-01-5	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Trichloroethene	79-01-6	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Dibromochloromethane	124-48-1	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
1,1,2-Trichloroethane	79-00-5	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Benzene	71-43-2	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
trans-1,3-Dichloropropene	10061-02-6	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Bromoform	75-25-2	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
4-Methyl-2-Pentanone	108-10-1	QCBLK77274-1	09/06/95	09/06/95	50	UG/L	U	50	1
2-Hexanone	591-78-6	QCBLK77274-1	09/06/95	09/06/95	50	UG/L	U	50	1
Tetrachloroethene	127-18-4	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Toluene	108-88-3	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Chlorobenzene	108-90-7	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
EthylBenzene	100-41-4	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Styrene	100-42-5	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Xylene (total)	1330-20-7	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Tridecane	629-50-5	QCBLK77274-1	09/06/95	09/06/95	7.5	UG/L	J		1
Toluene-d8 (SURR)	2037-26-5	QCBLK77274-1	09/06/95	09/06/95	97	%REC			1
Bromofluorobenzene (SURR)	460-00-4	QCBLK77274-1	09/06/95	09/06/95	97	%REC			1
1,2-Dichloroethane-d4 (SURR) *	17070-07-0	QCBLK77274-1	09/06/95	09/06/95	109	%REC			1

Quanterra
Environmental Services

Quanterra-Richland
Westinghouse Hanford Company
P.O. Box 1970
Richland, WA 99352

Project: 519.136

Category: Volatiles
Method: EPA 8240
Matrix: LIQUID

Client ID: NA

Sample Date : NA
Receipt Date : NA
Report Date : 09/13/95

Quanterra ID : QCBLK77274-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	QCBLK77274-1	09/06/95	09/06/95	10	UG/L	U	10	1
Bromomethane	74-83-9	QCBLK77274-1	09/06/95	09/06/95	10	UG/L	U	10	1
Vinyl Chloride	75-01-4	QCBLK77274-1	09/06/95	09/06/95	10	UG/L	U	10	1
Chloroethane	75-00-3	QCBLK77274-1	09/06/95	09/06/95	10	UG/L	U	10	1
Methylene Chloride	75-09-2	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Acetone	67-64-1	QCBLK77274-1	09/06/95	09/06/95	100	UG/L	U	100	1
Carbon Disulfide	75-15-0	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
1,1-Dichloroethene	75-35-4	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
1,1-Dichloroethane	75-34-3	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
1,2-Dichloroethene (total)	540-59-0	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Chloroform	67-66-3	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
1,2-Dichloroethane	107-06-2	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
2-Butanone	78-93-3	QCBLK77274-1	09/06/95	09/06/95	100	UG/L	U	100	1
1,1,1-Trichloroethane	71-55-6	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Carbon Tetrachloride	56-23-5	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Bromodichloromethane	75-27-4	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
1,2-Dichloropropane	78-87-5	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
cis-1,3-Dichloropropene	10061-01-5	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Trichloroethene	79-01-6	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Dibromochloromethane	124-48-1	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
1,1,2-Trichloroethane	79-00-5	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Benzene	71-43-2	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
trans-1,3-Dichloropropene	10061-02-6	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Bromoform	75-25-2	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
4-Methyl-2-Pentanone	108-10-1	QCBLK77274-1	09/06/95	09/06/95	50	UG/L	U	50	1
2-Hexanone	591-78-6	QCBLK77274-1	09/06/95	09/06/95	50	UG/L	U	50	1
Tetrachloroethene	127-18-4	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Toluene	108-88-3	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Chlorobenzene	108-90-7	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
EthylBenzene	100-41-4	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Styrene	100-42-5	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Xylene (total)	1330-20-7	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Toluene-d8 (SURR)	2037-26-5	QCBLK77274-1	09/06/95	09/06/95	100	%REC			1
Bromofluorobenzene (SURR)	460-00-4	QCBLK77274-1	09/06/95	09/06/95	100	%REC			1
1,2-Dichloroethane-d4 (SURR)	17070-07-0	QCBLK77274-1	09/06/95	09/06/95	104	%REC			1

Quanterra
Environmental Services

Quanterra-Richland
Westinghouse Hanford Company
P.O. Box 1970
Richland, WA 99352

Project: 519.136

Category: Volatiles
Method: EPA 8240
Matrix: LIQUID

Client ID: NA

Sample Date : NA
Receipt Date : NA
Report Date : 09/13/95

Quanterra ID : QCLCS77274-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
1,1-Dichloroethene	75-35-4	QCBLK77274-1	09/06/95	09/06/95	101	%REC			1
Trichloroethene	79-01-6	QCBLK77274-1	09/06/95	09/06/95	96	%REC			1
Benzene	71-43-2	QCBLK77274-1	09/06/95	09/06/95	91	%REC			1
Toluene	108-88-3	QCBLK77274-1	09/06/95	09/06/95	95	%REC			1
Chlorobenzene	108-90-7	QCBLK77274-1	09/06/95	09/06/95	97	%REC			1
Toluene-d8 (SURR)	2037-26-5	QCBLK77274-1	09/06/95	09/06/95	102	%REC			1
Bromofluorobenzene (SURR)	460-00-4	QCBLK77274-1	09/06/95	09/06/95	101	%REC			1
1,2-Dichloroethane-d4 (SURR)	17070-07-0	QCBLK77274-1	09/06/95	09/06/95	103	%REC			1

2A
WATER VOLATILE SURROGATE RECOVERY

Lab Name: QUANTERRA MO Contract: 519-136

Lab Code: ITMO Case No.: V24301 SAS No.: SDG No.: W0693

	EPA SAMPLE NO.	S1 (TOL) #	S2 (BFB) #	S3 (DCE) #	OTHER	TOT OUT
01	B0FBT2	100	97	106	0	0
02	B0FBT3	97	97	109	0	0
03	VSPK01	102	101	103	0	0
04	B0FBT2MS	100	98	107	0	0
05	B0FBT2MSD	100	94	104	0	0
06	VBLK01	100	100	104	0	0

		QC LIMITS
S1 (TOL)	= Toluene-d8	(88-110)
S2 (BFB)	= Bromofluorobenzene	(86-115)
S3 (DCE)	= 1,2-Dichloroethane-d4	(76-114)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0FBT2

Lab Name: QUANTERRA MO Contract: 519-136

Lab Code: ITMO Case No.: V24301 SDG No.: W0693

Matrix: (soil/water) WATER Lab Sample ID: 9243-001

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: G2645

Level: (low/med) LOW Date Received: 08/31/95

% Moisture: not dec. Date Analyzed: 09/06/95

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	10	J
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	100	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	50	U
591-78-6	2-Hexanone	50	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B0FBT2

Lab Name: QUANTERRA MO Contract: 519-136

Lab Code: ITMO Case No.: V24301 SDG No.: W0693

Matrix: (soil/water) WATER Lab Sample ID: 9243-001

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: G2645

Level: (low/med) LOW Date Received: 08/31/95

% Moisture: not dec. Date Analyzed: 09/06/95

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 5

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	11.07	5	J
2.	UNKNOWN	16.78	7	J
3. 112403	Dodecane	22.78	78	J
4. 629505	Tridecane	24.32	880	J
5. 629594	Tetradecane	25.98	37	J

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0FBT3

Lab Name: QUANTERRA MO Contract: 519-136

Lab Code: ITMO Case No.: V24301 SAS No.: SDG No.: W0693

Matrix: (soil/water) WATER Lab Sample ID: 9243-002

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: G2648

Level: (low/med) LOW Date Received: 08/31/95

% Moisture: not dec. Date Analyzed: 09/06/95

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	100	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	100	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	50	U
591-78-6	2-Hexanone	50	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B0FBT3

Lab Name: QUANTERRA MO Contract: 519-136

Lab Code: ITMO Case No.: V24301 SAS No.: SDG No.: W0693

Matrix: (soil/water) WATER Lab Sample ID: 9243-002

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: G2648

Level: (low/med) LOW Date Received: 08/31/95

% Moisture: not dec. Date Analyzed: 09/06/95

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 629505	Tridecane	24.30	7.5	J

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: QUANTERRA MO Contract: 519-136

Lab Code: ITMO Case No.: V24301 SDG No.: W0693

Matrix Spike - EPA Sample No.: B0FBT2

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	50.0	0	54.2	108	61-145
Trichloroethene	50.0	0	48.1	96	71-120
Benzene	50.0	0	45.9	92	76-127
Toluene	50.0	0	48.3	97	76-125
Chlorobenzene	50.0	0	48.4	97	75-130

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	50.0	51.3	103	5	14	61-145
Trichloroethene	50.0	46.0	92	4	14	71-120
Benzene	50.0	44.9	90	2	11	76-127
Toluene	50.0	48.3	97	0	13	76-125
Chlorobenzene	50.0	49.0	98	-1	13	75-130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

COMMENTS: 9243-001
MSG;RER PORT#6,5ML,;

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0FBT2MS

Lab Name: QUANTERRA MO Contract: 519-136

Lab Code: ITMO Case No.: V24301 SDG No.: W0693

Matrix: (soil/water) WATER Lab Sample ID: 9243-001MS

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: G2646

Level: (low/med) LOW Date Received: 08/31/95

% Moisture: not dec. Date Analyzed: 09/06/95

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	100	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	54	
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	100	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	48	
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	46	
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	50	U
591-78-6	2-Hexanone	50	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	48	
108-90-7	Chlorobenzene	48	
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0FBT2MSD

Lab Name: QUANTERRA MO Contract: 519-136

Lab Code: ITMO Case No.: V24301 SDG No.: W0693

Matrix: (soil/water) WATER Lab Sample ID: 9243-001MSD

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: G2647

Level: (low/med) LOW Date Received: 08/31/95

% Moisture: not dec. Date Analyzed: 09/06/95

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	8	J
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	51	
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	100	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	46	
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	45	
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	50	U
591-78-6	2-Hexanone	50	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	48	
108-90-7	Chlorobenzene	49	
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

4A
VOLATILE METHOD BLANK SUMMARY

Lab Name: QUANTERRA MO Contract: 519-136

Lab Code: ITMO Case No.: V24301 SAS No.: SDG No.: W0693

Lab File ID: G2643 Lab Sample ID: QCBLK77274

Date Analyzed: 09/06/95 Time Analyzed: 0006

Matrix: (soil/water) WATER Level:(low/med) LOW

Instrument ID: MSG

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	B0FBT2	9243-001	G2645	0112
02	B0FBT3	9243-002	G2648	0246
03	VSPK01	QCSPK77274	G2644	0041
04	B0FBT2MS	9243-001MS	G2646	0143
05	B0FBT2MSD	9243-001MSD	G2647	0214

COMMENTS:

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK01

Lab Name: QUANTERRA MO Contract: 519-136

Lab Code: ITMO Case No.: V24301 SDG No.: W0693

Matrix: (soil/water) WATER Lab Sample ID: QCBLK77274

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: G2643

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 09/06/95

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	100	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	100	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	50	U
591-78-6	2-Hexanone	50	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK01

Lab Name: QUANTERRA MO Contract: 519-136

Lab Code: ITMO Case No.: V24301 SDG No.: W0693

Matrix: (soil/water) WATER Lab Sample ID: QCBLK77274

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: G2643

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 09/06/95

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

9A-LCS
VOA WATER LCS RECOVERY

Lab Name: QUANTERRA MO Contract: 519-136

Lab Code: ITMO Case No.: V24301 SAS No.: SDG No.: W0693

EPA Sample No.: VSPK01 Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC LIMITS REC.
1,1-Dichloroethene	50	50	101	1-234
Trichloroethene	50	48	96	71-157
Benzene	50	46	91	37-151
Toluene	50	48	95	47-150
Chlorobenzene	50	49	97	37-160

\# Column to be used to flag recovery values with an asterisk.
* Values outside of QC limits.
D Detected.
NG: Not Given. Determined by QC Charting Procedures.

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VSPK01

Lab Name: QUANTERRA MO Contract: 519-136

Lab Code: ITMO Case No.: V24301 SDG No.: W0693

Matrix: (soil/water) WATER Lab Sample ID: QCSPK77274

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: G2644

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 09/06/95

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	100	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	50	
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	100	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	48	
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	46	
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	50	U
591-78-6	2-Hexanone	50	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	48	
108-90-7	Chlorobenzene	49	
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

METALS

Quanterra
Environmental Services

Quanterra-Richland
Westinghouse Hanford Company
P.O. Box 1970
Richland, WA 99352

Project: 519.136

Category: ICAP Metals
Method: EPA 6010
Matrix: LIQUID

Sample Date : 08/23/95
Receipt Date : 08/31/95
Report Date : 09/13/95

Client ID: BOFBT2

Quanterra ID : 9243-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK77590-1	09/08/95	09/11/95	102	UG/L	B	200	1
Antimony	7440-36-0	QCBLK77590-1	09/08/95	09/11/95	45.9	UG/L	U	100	1
Barium	7440-39-3	QCBLK77590-1	09/08/95	09/11/95	21.0	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK77590-1	09/08/95	09/11/95	0.50	UG/L	U	7.0	1
Cadmium	7440-43-9	QCBLK77590-1	09/08/95	09/11/95	3.8	UG/L	B	20.0	1
Calcium	7440-70-2	QCBLK77590-1	09/08/95	09/11/95	25900	UG/L		5000	1
Chromium	7440-47-3	QCBLK77590-1	09/08/95	09/11/95	42.1	UG/L		20.0	1
Cobalt	7440-48-4	QCBLK77590-1	09/08/95	09/11/95	4.3	UG/L	U	50.0	1
Copper	7440-50-8	QCBLK77590-1	09/08/95	09/11/95	13.6	UG/L	B	25.0	1
Iron	7439-89-6	QCBLK77590-1	09/08/95	09/11/95	466	UG/L		100	1
Lead	7439-92-1	QCBLK77590-1	09/08/95	09/11/95	41.3	UG/L	U	100	1
Magnesium	7439-95-4	QCBLK77590-1	09/08/95	09/11/95	8140	UG/L		5000	1
Manganese	7439-96-5	QCBLK77590-1	09/08/95	09/11/95	383	UG/L		15.0	1
Nickel	7440-02-0	QCBLK77590-1	09/08/95	09/11/95	78.2	UG/L		40.0	1
Potassium	7440-09-7	QCBLK77590-1	09/08/95	09/11/95	1060	UG/L	U	5000	1
Silver	7440-22-4	QCBLK77590-1	09/08/95	09/11/95	2.2	UG/L	U	200	1
Sodium	7440-23-5	QCBLK77590-1	09/08/95	09/11/95	2420	UG/L		1000	1
Vanadium	7440-62-2	QCBLK77590-1	09/08/95	09/11/95	3.8	UG/L	U	50.0	1
Zinc	7440-66-6	QCBLK77590-1	09/08/95	09/11/95	29.0	UG/L		20.0	1

Quanterra
Environmental Services

Quanterra-Richland
Westinghouse Hanford Company
P.O. Box 1970
Richland, WA 99352

Project: 519.136

Category: ICAP Metals
Method: EPA 6010
Matrix: LIQUID

Client ID: BOFBT2

Sample Date : 08/23/95
Receipt Date : 08/31/95
Report Date : 09/13/95

Quanterra ID : 9243-001MS

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK77590-1	09/08/95	09/11/95	99	%REC			1
Antimony	7440-36-0	QCBLK77590-1	09/08/95	09/11/95	102	%REC			1
Barium	7440-39-3	QCBLK77590-1	09/08/95	09/11/95	96	%REC			1
Beryllium	7440-41-7	QCBLK77590-1	09/08/95	09/11/95	101	%REC			1
Cadmium	7440-43-9	QCBLK77590-1	09/08/95	09/11/95	100	%REC			1
Chromium	7440-47-3	QCBLK77590-1	09/08/95	09/11/95	95	%REC			1
Cobalt	7440-48-4	QCBLK77590-1	09/08/95	09/11/95	96	%REC			1
Copper	7440-50-8	QCBLK77590-1	09/08/95	09/11/95	98	%REC			1
Iron	7439-89-6	QCBLK77590-1	09/08/95	09/11/95	97	%REC			1
Lead	7439-92-1	QCBLK77590-1	09/08/95	09/11/95	102	%REC			1
Manganese	7439-96-5	QCBLK77590-1	09/08/95	09/11/95	98	%REC			1
Nickel	7440-02-0	QCBLK77590-1	09/08/95	09/11/95	95	%REC			1
Silver	7440-22-4	QCBLK77590-1	09/08/95	09/11/95	93	%REC			1
Vanadium	7440-62-2	QCBLK77590-1	09/08/95	09/11/95	97	%REC			1
Zinc	7440-66-6	QCBLK77590-1	09/08/95	09/11/95	99	%REC			1

Quanterra Environmental Services

Quanterra-Richland
Westinghouse Hanford Company
P.O. Box 1970
Richland, WA 99352

Project: 519.136

Category: ICAP Metals
Method: EPA 6010
Matrix: LIQUID

Sample Date : 08/23/95
Receipt Date : 08/31/95
Report Date : 09/13/95

Client ID: BOFBT2

Quanterra ID : 9243-001MSD

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK77590-1	09/08/95	09/11/95	96	%REC			1
Antimony	7440-36-0	QCBLK77590-1	09/08/95	09/11/95	100	%REC			1
Barium	7440-39-3	QCBLK77590-1	09/08/95	09/11/95	95	%REC			1
Beryllium	7440-41-7	QCBLK77590-1	09/08/95	09/11/95	98	%REC			1
Cadmium	7440-43-9	QCBLK77590-1	09/08/95	09/11/95	104	%REC			1
Chromium	7440-47-3	QCBLK77590-1	09/08/95	09/11/95	92	%REC			1
Cobalt	7440-48-4	QCBLK77590-1	09/08/95	09/11/95	94	%REC			1
Copper	7440-50-8	QCBLK77590-1	09/08/95	09/11/95	95	%REC			1
Iron	7439-89-6	QCBLK77590-1	09/08/95	09/11/95	92	%REC			1
Lead	7439-92-1	QCBLK77590-1	09/08/95	09/11/95	94	%REC			1
Manganese	7439-96-5	QCBLK77590-1	09/08/95	09/11/95	92	%REC			1
Nickel	7440-02-0	QCBLK77590-1	09/08/95	09/11/95	92	%REC			1
Silver	7440-22-4	QCBLK77590-1	09/08/95	09/11/95	88	%REC			1
Vanadium	7440-62-2	QCBLK77590-1	09/08/95	09/11/95	95	%REC			1
Zinc	7440-66-6	QCBLK77590-1	09/08/95	09/11/95	96	%REC			1

Quanterra Environmental Services

Quanterra-Richland
Westinghouse Hanford Company
P.O. Box 1970
Richland, WA 99352

Project: 519.136

Category: ICAP Metals
Method: EPA 6010
Matrix: LIQUID

Sample Date : 08/23/95
Receipt Date : 08/31/95
Report Date : 09/13/95

Client ID: BOFBT3

Quanterra ID : 9243-002

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK77590-1	09/08/95	09/11/95	24.6	UG/L	U	200	1
Antimony	7440-36-0	QCBLK77590-1	09/08/95	09/11/95	45.9	UG/L	U	100	1
Barium	7440-39-3	QCBLK77590-1	09/08/95	09/11/95	2.1	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK77590-1	09/08/95	09/11/95	0.50	UG/L	U	7.0	1
Cadmium	7440-43-9	QCBLK77590-1	09/08/95	09/11/95	3.1	UG/L	U	20.0	1
Calcium	7440-70-2	QCBLK77590-1	09/08/95	09/11/95	1700	UG/L	B	5000	1
Chromium	7440-47-3	QCBLK77590-1	09/08/95	09/11/95	2.8	UG/L	U	20.0	1
Cobalt	7440-48-4	QCBLK77590-1	09/08/95	09/11/95	4.3	UG/L	U	50.0	1
Copper	7440-50-8	QCBLK77590-1	09/08/95	09/11/95	4.7	UG/L	U	25.0	1
Iron	7439-89-6	QCBLK77590-1	09/08/95	09/11/95	22.0	UG/L	B	100	1
Lead	7439-92-1	QCBLK77590-1	09/08/95	09/11/95	41.3	UG/L	U	100	1
Magnesium	7439-95-4	QCBLK77590-1	09/08/95	09/11/95	253	UG/L	B	5000	1
Manganese	7439-96-5	QCBLK77590-1	09/08/95	09/11/95	1.4	UG/L	U	15.0	1
Nickel	7440-02-0	QCBLK77590-1	09/08/95	09/11/95	14.2	UG/L	U*	40.0	1
Potassium	7440-09-7	QCBLK77590-1	09/08/95	09/11/95	1090	UG/L	B	5000	1
Silver	7440-22-4	QCBLK77590-1	09/08/95	09/11/95	2.2	UG/L	U	200	1
Sodium	7440-23-5	QCBLK77590-1	09/08/95	09/11/95	1950	UG/L		1000	1
Vanadium	7440-62-2	QCBLK77590-1	09/08/95	09/11/95	3.8	UG/L	U	50.0	1
Zinc	7440-66-6	QCBLK77590-1	09/08/95	09/11/95	8.3	UG/L	B	20.0	1

Quanterra
Environmental Services

Quanterra-Richland
Westinghouse Hanford Company
P.O. Box 1970
Richland, WA 99352

Project: 519.136

Category: ICAP Metals
Method: EPA 6010
Matrix: LIQUID

Sample Date : NA
Receipt Date : NA
Report Date : 09/13/95

Client ID: NA

Quanterra ID : QCBLK77590-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK77590-1	09/08/95	09/11/95	70.8	UG/L	B	200	1
Antimony	7440-36-0	QCBLK77590-1	09/08/95	09/11/95	45.9	UG/L	U	100	1
Barium	7440-39-3	QCBLK77590-1	09/08/95	09/11/95	-1.0	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK77590-1	09/08/95	09/11/95	0.50	UG/L	U	7.0	1
Cadmium	7440-43-9	QCBLK77590-1	09/08/95	09/11/95	3.1	UG/L	U	20.0	1
Calcium	7440-70-2	QCBLK77590-1	09/08/95	09/11/95	56.7	UG/L	B	5000	1
Chromium	7440-47-3	QCBLK77590-1	09/08/95	09/11/95	2.8	UG/L	U	20.0	1
Cobalt	7440-48-4	QCBLK77590-1	09/08/95	09/11/95	4.3	UG/L	U	50.0	1
Copper	7440-50-8	QCBLK77590-1	09/08/95	09/11/95	4.7	UG/L	U	25.0	1
Iron	7439-89-6	QCBLK77590-1	09/08/95	09/11/95	36.4	UG/L	B	100	1
Lead	7439-92-1	QCBLK77590-1	09/08/95	09/11/95	41.3	UG/L	U	100	1
Magnesium	7439-95-4	QCBLK77590-1	09/08/95	09/11/95	53.2	UG/L	B	5000	1
Manganese	7439-96-5	QCBLK77590-1	09/08/95	09/11/95	1.4	UG/L	U	15.0	1
Nickel	7440-02-0	QCBLK77590-1	09/08/95	09/11/95	14.2	UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK77590-1	09/08/95	09/11/95	1490	UG/L	B	5000	1
Silver	7440-22-4	QCBLK77590-1	09/08/95	09/11/95	2.2	UG/L	U	200	1
Sodium	7440-23-5	QCBLK77590-1	09/08/95	09/11/95	47.4	UG/L	U	1000	1
Vanadium	7440-62-2	QCBLK77590-1	09/08/95	09/11/95	3.8	UG/L	U	50.0	1
Zinc	7440-66-6	QCBLK77590-1	09/08/95	09/11/95	2.5	UG/L	U	20.0	1

Quanterra Environmental Services

Quanterra-Richland
Westinghouse Hanford Company
P.O. Box 1970
Richland, WA 99352

Project: 519.136

Category: ICAP Metals
Method: EPA 6010
Matrix: LIQUID

Client ID: NA

Sample Date : NA
Receipt Date : NA
Report Date : 09/13/95

Quanterra ID : QCLCS77590-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK77590-1	09/08/95	09/11/95	101	%REC			1
Antimony	7440-36-0	QCBLK77590-1	09/08/95	09/11/95	100	%REC			1
Barium	7440-39-3	QCBLK77590-1	09/08/95	09/11/95	98	%REC			1
Beryllium	7440-41-7	QCBLK77590-1	09/08/95	09/11/95	99	%REC			1
Cadmium	7440-43-9	QCBLK77590-1	09/08/95	09/11/95	99	%REC			1
Calcium	7440-70-2	QCBLK77590-1	09/08/95	09/11/95	100	%REC			1
Chromium	7440-47-3	QCBLK77590-1	09/08/95	09/11/95	99	%REC			1
Cobalt	7440-48-4	QCBLK77590-1	09/08/95	09/11/95	98	%REC			1
Copper	7440-50-8	QCBLK77590-1	09/08/95	09/11/95	101	%REC			1
Iron	7439-89-6	QCBLK77590-1	09/08/95	09/11/95	105	%REC			1
Lead	7439-92-1	QCBLK77590-1	09/08/95	09/11/95	99	%REC			1
Magnesium	7439-95-4	QCBLK77590-1	09/08/95	09/11/95	100	%REC			1
Manganese	7439-96-5	QCBLK77590-1	09/08/95	09/11/95	98	%REC			1
Nickel	7440-02-0	QCBLK77590-1	09/08/95	09/11/95	99	%REC			1
Potassium	7440-09-7	QCBLK77590-1	09/08/95	09/11/95	103	%REC			1
Silver	7440-22-4	QCBLK77590-1	09/08/95	09/11/95	80	%REC			1
Sodium	7440-23-5	QCBLK77590-1	09/08/95	09/11/95	101	%REC			1
Vanadium	7440-62-2	QCBLK77590-1	09/08/95	09/11/95	99	%REC			1
Zinc	7440-66-6	QCBLK77590-1	09/08/95	09/11/95	103	%REC			1

Quanterra
Environmental Services

Quanterra-Richland
Westinghouse Hanford Company
P.O. Box 1970
Richland, WA 99352

Project: 519.136

Category: Arsenic
Method: EPA 7060
Matrix: LIQUID

Sample Date : 08/23/95
Receipt Date : 08/31/95
Report Date : 09/13/95

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
BOFBT2	9243-001	Arsenic	7440-38-2	QCBLK77592-1	09/08/95	09/11/95	1.0	UG/L	U	10.0	1
BOFBT2	9243-001MS	Arsenic	7440-38-2	QCBLK77592-1	09/08/95	09/11/95	65	%REC			1
BOFBT2	9243-001MSD	Arsenic	7440-38-2	QCBLK77592-1	09/08/95	09/11/95	72	%REC			1
BOFBT3	9243-002	Arsenic	7440-38-2	QCBLK77592-1	09/08/95	09/11/95	1.0	UG/L	U	10.0	1
NA	QCBLK77592-1	Arsenic	7440-38-2	QCBLK77592-1	09/08/95	09/11/95	1.0	UG/L	U	10.0	1
NA	QCLCS77592-1	Arsenic	7440-38-2	QCBLK77592-1	09/08/95	09/11/95	95	%REC			1

Quanterra Environmental Services

Quanterra-Richland
Westinghouse Hanford Company
P.O. Box 1970
Richland, WA 99352

Project: 519.136

Category: Selenium
Method: EPA 7740
Matrix: LIQUID

Sample Date : 08/23/95
Receipt Date : 08/31/95
Report Date : 09/13/95

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
BOFBT2	9243-001	Selenium	7782-49-2	QCBLK77592-1	09/08/95	09/11/95	1.0	UG/L	U	5.0	1
BOFBT2	9243-001MS	Selenium	7782-49-2	QCBLK77592-1	09/08/95	09/11/95	84	%REC			1
BOFBT2	9243-001MSD	Selenium	7782-49-2	QCBLK77592-1	09/08/95	09/11/95	82	%REC			1
BOFBT3	9243-002	Selenium	7782-49-2	QCBLK77592-1	09/08/95	09/11/95	1.0	UG/L	U	5.0	1
NA	QCBLK77592-1	Selenium	7782-49-2	QCBLK77592-1	09/08/95	09/11/95	1.0	UG/L	U	5.0	1
NA	QCLCS77592-1	Selenium	7782-49-2	QCBLK77592-1	09/08/95	09/11/95	97	%REC			1

Quanterra
Environmental Services

Quanterra-Richland
Westinghouse Hanford Company
P.O. Box 1970
Richland, WA 99352

Project: 519.136

Category: Mercury
Method: EPA 7470
Matrix: LIQUID

Sample Date : 08/23/95
Receipt Date : 08/31/95
Report Date : 09/13/95

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
BOFBT2	9243-001	Mercury	7439-97-6	QCBLK77506-1	09/08/95	09/08/95	1.9	UG/L		0.20	1
BOFBT3	9243-002	Mercury	7439-97-6	QCBLK77506-1	09/08/95	09/08/95	0.10	UG/L	U	0.20	1
BOFBT3	9243-002MS	Mercury	7439-97-6	QCBLK77506-1	09/08/95	09/08/95	107	%REC			1
BOFBT3	9243-002MSD	Mercury	7439-97-6	QCBLK77506-1	09/08/95	09/08/95	104	%REC			1
NA	QCBLK77506-1	Mercury	7439-97-6	QCBLK77506-1	09/08/95	09/08/95	0.10	UG/L	U	0.20	1
NA	QCLCS77506-1	Mercury	7439-97-6	QCBLK77506-1	09/08/95	09/08/95	102	%REC			1

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0FBT2

Lab Name: QUANTERRA_MO Contract: 519.136
Lab Code: ITMO Case No.: SAS No.: SDG No.: W0693
Matrix (soil/water): WATER Lab Sample ID: 9243-001
Level (low/med): LOW Date Received: 08/31/95
% 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	102	B		P
7440-36-0	Antimony	45.9	U		P
7440-38-2	Arsenic	1.0	U	N	F
7440-39-3	Barium	21.0	B		P
7440-41-7	Beryllium	0.50	U		P
7440-43-9	Cadmium	3.8	B		P
7440-70-2	Calcium	25900			P
7440-47-3	Chromium	42.1			P
7440-48-4	Cobalt	4.3	U		P
7440-50-8	Copper	13.6	B		P
7439-89-6	Iron	466			P
7439-92-1	Lead	41.3	U		P
7439-95-4	Magnesium	8140			P
7439-96-5	Manganese	383			P
7439-97-6	Mercury	1.9			CV
7440-02-0	Nickel	78.2			P
7440-09-7	Potassium	1060	U		P
7782-49-2	Selenium	1.0	U		F
7440-22-4	Silver	2.2	U		P
7440-23-5	Sodium	2420			P
7440-62-2	Vanadium	3.8	U		P
7440-66-6	Zinc	29.0			P

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

Comments:

FORM I - IN

SW-846

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0FBT3

Lab Name: QUANTERRA MO Contract: 519.136
Lab Code: ITMO Case No.: SAS No.: SDG No.: W0693
Matrix (soil/water): WATER Lab Sample ID: 9243-002
Level (low/med): LOW Date Received: 08/31/95
% 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	U		P
7440-36-0	Antimony	45.9	U		P
7440-38-2	Arsenic	1.0	U	N	F
7440-39-3	Barium	2.1	B		P
7440-41-7	Beryllium	0.50	U		P
7440-43-9	Cadmium	3.1	U		P
7440-70-2	Calcium	1700	B		P
7440-47-3	Chromium	2.8	U		P
7440-48-4	Cobalt	4.3	U		P
7440-50-8	Copper	4.7	U		P
7439-89-6	Iron	22.0	B		P
7439-92-1	Lead	41.3	U		P
7439-95-4	Magnesium	253	B		P
7439-96-5	Manganese	1.4	U		P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	14.2	U		P
7440-09-7	Potassium	1090	B		P
7782-49-2	Selenium	1.0	U		F
7440-22-4	Silver	2.2	U		P
7440-23-5	Sodium	1950			P
7440-62-2	Vanadium	3.8	U		P
7440-66-6	Zinc	8.3	B		P

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

Comments:

FORM I - IN

SW-846

U.S. EPA - CLP

3
BLANKS

Lab Name: QUANTERRA_MO Contract: 519.136

Lab Code: ITMO Case No.: SAS No.: SDG No.: W0693

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	24.6	U	24.6	U	32.6	B			70.780	B	P
Antimony	45.9	U	45.9	U	45.9	U			45.900	U	P
Arsenic	1.0	U	1.0	U	1.0	U			1.000	U	F
Barium	0.4	U	0.4	U	0.4	U			-1.040	B	P
Beryllium	0.5	U	0.5	U	0.6	B			0.500	U	P
Cadmium	3.1	U	3.1	U	3.1	U			3.100	U	P
Calcium	-25.0	B	18.2	U	18.2	U			56.660	B	P
Chromium	2.8	U	2.8	U	2.8	U			2.800	U	P
Cobalt	4.3	U	4.3	U	4.3	U			4.300	U	P
Copper	4.7	U	4.7	U	4.7	U			4.700	U	P
Iron	13.0	B	12.7	U	24.3	B			36.380	B	P
Lead	41.3	U	41.3	U	41.3	U			41.300	U	P
Magnesium	51.2	U	51.2	U	51.2	U			53.170	B	P
Manganese	1.4	U	1.4	U	1.4	U			1.400	U	P
Mercury	0.2	U	0.2	U	0.2	U			0.200	U	CV
Nickel	14.2	U	14.2	U	14.2	U			14.200	U	P
Potassium	1055.0	U	1055.0	U	1055.0	U			1488.230	B	P
Selenium	1.0	U	1.0	U	1.0	U			1.000	U	F
Silver	3.0	B	2.2	U	-2.3	B			2.200	U	P
Sodium	47.4	U	47.4	U	148.5	B			47.400	U	P
Vanadium	3.8	U	3.8	U	3.8	U			3.800	U	P
Zinc	-2.6	B	-3.0	B	2.5	U			2.500	U	P

FORM III - IN

SW-846

U.S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

B0FBT2S

Lab Name: QUANTERRA_MO Contract: 519.136

Lab Code: ITMO Case No.: SAS No.: SDG No.: W0693

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	2079.6500		101.9400	B	2000.00	98.9		P
Antimony	75-125	509.8500		45.9000	U	500.00	102.0		P
Arsenic	75-125	26.0100		1.0000	U	40.00	65.0	N	F
Barium	75-125	1951.9600		21.0000	B	2000.00	96.5		P
Beryllium	75-125	50.5700		0.5000	U	50.00	101.1		P
Cadmium	75-125	53.5800		3.8000	B	50.00	99.6		P
Calcium									NR
Chromium	75-125	232.0500		42.0700		200.00	95.0		P
Cobalt	75-125	479.9900		4.3000	U	500.00	96.0		P
Copper	75-125	257.3500		13.6100	B	250.00	97.5		P
Iron	75-125	1438.4500		466.3900		1000.00	97.2		P
Lead	75-125	509.0700		41.3000	U	500.00	101.8		P
Magnesium									NR
Manganese	75-125	870.6600		383.2900		500.00	97.5		P
Mercury									NR
Nickel	75-125	551.9700		78.2200		500.00	94.8		P
Potassium									NR
Selenium	75-125	8.4400		1.0000	U	10.00	84.4		F
Silver	75-125	46.5400	B	2.2000	U	50.00	93.1		P
Sodium									NR
Vanadium	75-125	486.0700		3.8000	U	500.00	97.2		P
Zinc	75-125	524.0500		29.0400		500.00	99.0		P

Comments:

U.S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

B0FBT2SD

Lab Name: QUANTERRA_MO Contract: 519.136

Lab Code: ITMO Case No.: SAS No.: SDG No.: W0693

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	2026.5400		101.9400	B	2000.00	96.2		P
Antimony	75-125	499.8500		45.9000	U	500.00	100.0		P
Arsenic	75-125	28.6700		1.0000	U	40.00	71.7	N	F
Barium	75-125	1917.0700		21.0000	B	2000.00	94.8		P
Beryllium	75-125	49.1800		0.5000	U	50.00	98.4		P
Cadmium	75-125	55.8200		3.8000	B	50.00	104.0		P
Calcium									NR
Chromium	75-125	226.4900		42.0700		200.00	92.2		P
Cobalt	75-125	471.5900		4.3000	U	500.00	94.3		P
Copper	75-125	251.4200		13.6100	B	250.00	95.1		P
Iron	75-125	1387.8300		466.3900		1000.00	92.1		P
Lead	75-125	472.5200		41.3000	U	500.00	94.5		P
Magnesium									NR
Manganese	75-125	842.1700		383.2900		500.00	91.8		P
Mercury									NR
Nickel	75-125	538.4400		78.2200		500.00	92.0		P
Potassium									NR
Selenium	75-125	8.1900		1.0000	U	10.00	81.9		F
Silver	75-125	43.8500	B	2.2000	U	50.00	87.7		P
Sodium									NR
Vanadium	75-125	474.2500		3.8000	U	500.00	94.8		P
Zinc	75-125	511.2600		29.0400		500.00	96.4		P

Comments:

U.S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

B0FBT3S

Lab Name: QUANTERRA_MO Contract: 519.136

Lab Code: ITMO Case No.: _____ SAS No.: _____ SDG No.: W0693

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									NR
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead									NR
Magnesium									NR
Manganese									NR
Mercury	75-125	1.0700		0.1000	U	1.00	107.0		CV
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Vanadium									NR
Zinc									NR

Comments:

U.S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

B0FBT3SD

Lab Name: QUANTERRA_MO Contract: 519.136

Lab Code: ITMO Case No.: _____ SAS No.: _____ SDG No.: W0693

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									NR
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead									NR
Magnesium									NR
Manganese									NR
Mercury	75-125	1.0400		0.1000	U	1.00	104.0		CV
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Vanadium									NR
Zinc									NR

Comments:

U.S. EPA - CLP

6A
MATRIX SPIKE DUPLICATES

EPA SAMPLE NO.

B0FBT2SD

Lab Name: QUANTERRA MO Contract: 519.136

Lab Code: ITMO Case No.: SAS No.: SDG No.: W0693

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%	98.90		96.20		2.8		P
Sb	20%	102.00		100.00		2.0		P
As	20%	65.00		71.70		9.8		F
Ba	20%	96.50		94.80		1.8		P
Be	20%	101.10		98.40		2.7		P
Cd	20%	99.60		104.00		4.3		P
Ca	20%							NR
Cr	20%	95.00		92.20		3.0		P
Co	20%	96.00		94.30		1.8		P
Cu	20%	97.50		95.10		2.5		P
Fe	20%	97.20		92.10		5.4		P
Pb	20%	101.80		94.50		7.4		P
Mg	20%							NR
Mn	20%	97.50		91.80		6.0		P
Hg	20%							NR
Ni	20%	94.80		92.00		3.0		P
K	20%							NR
Se	20%	84.40		81.90		3.0		F
Ag	20%	93.10		87.70		6.0		P
Na	20%							NR
V	20%	97.20		94.80		2.5		P
Zn	20%	99.00		96.40		2.7		P

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6A
MATRIX SPIKE DUPLICATES

EPA SAMPLE NO.

B0FBT3SD

Lab Name: QUANTERRA MO Contract: 519.136

Lab Code: ITMO Case No.: SAS No.: SDG No.: W0693

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%							NR
Sb	20%							NR
As	20%							NR
Ba	20%							NR
Be	20%							NR
Cd	20%							NR
Ca	20%							NR
Cr	20%							NR
Co	20%							NR
Cu	20%							NR
Fe	20%							NR
Pb	20%							NR
Mg	20%							NR
Mn	20%							NR
Hg	20%	107.00		104.00		2.8		CV
Ni	20%							NR
K	20%							NR
Se	20%							NR
Ag	20%							NR
Na	20%							NR
V	20%							NR
Zn	20%							NR

FORM VI - IN

U.S. EPA - CLP

7

LABORATORY CONTROL SAMPLE

Lab Name: QUANTERRA_MO Contract: 519.136

Lab Code: ITMO Case No.: SAS No.: SDG No.: W0693

Solid LCS Source:

Aqueous LCS Source: SOL+/LL

Analyte	Aqueous (ug/L) True	Found	%R	Solid (mg/kg) True	Found	C	Limits		%R
Aluminum	1000.0	1012.02	101.2						
Antimony	1000.0	999.20	99.9						
Arsenic									
Barium	1000.0	980.97	98.1						
Beryllium	1000.0	991.12	99.1						
Cadmium	1000.0	987.90	98.8						
Calcium	20000.0	19911.98	99.6						
Chromium	1000.0	993.48	99.3						
Cobalt	1000.0	980.97	98.1						
Copper	1000.0	1007.16	100.7						
Iron	1000.0	1046.07	104.6						
Lead	1000.0	987.82	98.8						
Magnesium	20000.0	19985.08	99.9						
Manganese	1000.0	983.19	98.3						
Mercury									
Nickel	1000.0	991.92	99.2						
Potassium	20000.0	20579.23	102.9						
Selenium									
Silver	250.0	199.50	79.8						
Sodium	20000.0	20182.87	100.9						
Vanadium	1000.0	988.59	98.9						
Zinc	1000.0	1025.62	102.6						

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U.S. EPA - CLP

7

LABORATORY CONTROL SAMPLE

Lab Name: QUANTERRA_MO_____ Contract: 519.136___

Lab Code: ITMO__ Case No.: _____ SAS No.: _____ SDG No.: W0693_____

Solid LCS Source: _____

Aqueous LCS Source: SOL+/LL_____

Analyte	Aqueous (ug/L) True	Found	%R	Solid (mg/kg) True	Found	C	Limits		%R
Aluminum									
Antimony									
Arsenic									
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead									
Magnesium									
Manganese									
Mercury	3.0	3.07	102.3						
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Vanadium									
Zinc									

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U.S. EPA - CLP

7

LABORATORY CONTROL SAMPLE

Lab Name: QUANTERRA_MO Contract: 519.136

Lab Code: ITMO Case No.: SAS No.: SDG No.: W0693

Solid LCS Source:

Aqueous LCS Source: SOL+/LL

Analyte	Aqueous (ug/L) True	Found	%R	Solid (mg/kg) True	Found	C	Limits		%R
Aluminum									
Antimony									
Arsenic	40.0	38.00	95.0						
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead									
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium	40.0	38.63	96.6						
Silver									
Sodium									
Vanadium									
Zinc									

FORM VII - IN

SW-846

WET CHEMISTRY

Quanterra
Environmental Services

Quanterra-Richland
Westinghouse Hanford Company
P.O. Box 1970
Richland, WA 99352

Project: 519.136

Category: pH
Method: EPA 9040
Matrix: LIQUID

Sample Date : 08/23/95
Receipt Date : 08/31/95
Report Date : 09/13/95

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
BOFBT2	9243-001	pH	C-006	QCBLK77427-1	09/07/95	09/07/95	5.86	PH			1
BOFBT2	9243-001DUP	pH	C-006	QCBLK77427-1	09/07/95	09/07/95	5.86	PH			1
BOFBT3	9243-002	pH	C-006	QCBLK77427-1	09/07/95	09/07/95	6.96	PH			1
NA	QCBLK77427-1	pH	C-006	QCBLK77427-1	09/07/95	09/07/95	5.73	PH			1

Quanterra Environmental Services

Quanterra-Richland
Westinghouse Hanford Company
P.O. Box 1970
Richland, WA 99352

Project: 519.136

Category: Total Organic Carbon
Method: EPA 9060
Matrix: LIQUID

Sample Date : 08/23/95
Receipt Date : 08/31/95
Report Date : 09/13/95

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
BOFBT2	9243-001	Total Organic C	C-012	QCBLK77503-1	09/07/95	09/07/95	160	MG/L		2.00	2
BOFBT2	9243-001DUP	Total Organic C	C-012	QCBLK77503-1	09/07/95	09/07/95	156	MG/L		2.00	2
BOFBT2	9243-001MS	Total Organic C	C-012	QCBLK77503-1	09/07/95	09/07/95	86	%REC			3
BOFBT3	9243-002	Total Organic C	C-012	QCBLK77503-1	09/07/95	09/07/95	1.00	MG/L	U	1.00	1
NA	QCBLK77503-1	Total Organic C	C-012	QCBLK77503-1	09/07/95	09/07/95	1.00	MG/L	U	1.00	1
NA	QCLCS77503-1	Total Organic C	C-012	QCBLK77503-1	09/07/95	09/07/95	103	%REC			1

Westinghouse
Hanford Company

P.O. Box 1970 Richland, WA 99352

September 27, 1995 9555211

J. E. Mecca, Director
Transition Programs Division
U.S. Department of Energy
Richland Operations Office
Richland, Washington 99352

Dear Mr. Mecca:

TRANSMITTAL OF PLUTONIUM-URANIUM EXTRACTION PLANT F11 SYSTEM VESSELS, PART 1, LOOP FLUSH ANALYTICAL RESULTS

Attachment 1 is the laboratory analytical results conducted on the final flush for the Plutonium Uranium Extraction Plant (PUREX) F11 System Vessels, Part I. These results are transmitted in accordance with U.S. Department of Energy, Richland Operations Office/Westinghouse Hanford Company agreement with State of Washington Department of Ecology (Ecology) and the U. S. Environmental Protection Agency (EPA).

Analytical results from future flushes will be transmitted as they are obtained.

A copy of the Predetermination Report, designating the final flush solution based on the analytical results, is also included in Attachment 1. The final flush for these vessels was designated as non-dangerous waste.

Attachment 2 is a letter for your transmittal to Ecology and the EPA of these results.

If you have any questions, please contact Mr. G. J. LeBaron (373-1792) of my staff.

~~Very~~ truly yours,

Ronald W. Bailey for
D. G. Hamrick, Director
PUREX Transition Project
Transition Project Division

jft

Attachments 2
DOE-HQ - B. K. Nelson (w/o attachment)
RL - w/o attachments
B. L. Charboneau
L. E. Rogers
L. D. Romine
A. H. Wirkkala

9555211

Attachment 2

TRANSMITTAL OF PLUTONIUM URANIUM EXTRACTION PLANT F11 SYSTEM VESSELS, PART I, LOOP FLUSH ANALYTICAL RESULTS

Ghost Letter

CORRESPONDENCE DISTRIBUTION COVERSHEET

Author	Addressee	Correspondence No.
J. E. Mecca, RL (D. G. Hamrick, WHC)	D. G. Hamrick, WHC	Incoming XRef 9555211

Subject: TRANSMITTAL OF PLUTONIUM-URANIUM EXTRACTION PLANT F11 SYSTEM VESSELS, PART 1, LOOP FLUSH ANALYTICAL RESULTS

INTERNAL DISTRIBUTION

Approval	Date	Name	Location	w/att
		Correspondence Control	A3-01	
		R. W. Bailey	S6-15	
		R. J. Bliss (Sr.Staff/Assignee)	B3-04	
		A. A. Grasher	S6-15	
		D. G. Hamrick	S6-15	X
DGH	9/28/95	D. G. Harlow	S6-19	
		J. P. Hayfield	S6-55	X
		W. G. Jasen	S6-17	
		G. J. LeBaron	S6-19	X
		W. A. Peiffer	S6-19	
		J. R. Robertson	H6-21	X
		M. J. Stephenson	H6-20	
		J. F. Tea	S6-19	X
		C. N. Villalobos	S6-19	X

Department of Energy
Richland Operations Office
P.O. Box 550
Richland, Washington 99352

Mr. Douglas R. Sherwood
Hanford Project Manager
U.S. Environmental Protection Agency
712 Swift Boulevard, Suite 5
Richland, Washington 99352

Mr. David Lundstrom
200 Area Section Manager
State of Washington
Department of Ecology
1315 W. 4th Avenue
Kennewick, Washington 99336

Dear Messrs. Sherwood and Lundstrom:

TRANSMITTAL OF PLUTONIUM URANIUM EXTRACTION PLANT F11 SYSTEM VESSELS, PART I, LOOP FLUSH ANALYTICAL RESULTS

Enclosed is the laboratory analytical results conducted on the final flush for the Plutonium Uranium Extraction (PUREX) F11 System Vessels, Part I. These results are transmitted in accordance with U.S. Department of Energy, Richland Operations Office/Westinghouse Hanford Company agreement with State of Washington Department of Ecology (Ecology) and the U. S. Environmental Protection Agency (EPA).

Analytical results from future flushes will be transmitted as they are obtained.

A copy of the Predetermination Report, designating the final flush solution based on the analytical results, is also included in the enclosure. The final flush for these vessels was designated as non-dangerous waste.

If you have any questions, please contact L. D. Romine (376-4747) of my staff.

Sincerely,

J. E. Mecca, Director
Transition Programs Division

jft

Enclosure

cc: D. L. Duncan, EPA
M. N. Jaraysi, Ecology
D. G. Hamrick, WHC, w/o encl.
G. J. LeBaron, WHC, w/o encl.

9555211

Attachment 1

TRANSMITTAL OF PLUTONIUM URANIUM EXTRACTION PLANT F11 SYSTEM VESSELS, PART I, LOOP FLUSH ANALYTICAL RESULTS

PUREX F11 SYSTEM VESSELS PART I RCRA ANALYTICAL DATA
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RCRA ANALYTICAL DATA SUMMARY
PUREX F11 SYSTEM VESSELS PART I
SAMPLE LOCATION: TANK F10
SAMPLE ID# B0FBT2

Analyte	Dangerous Waste Designation Threshold (mg/L)	RCRA Sample Results (mg/L)
Cadmium	1.0	0.0038 (U)
Chromium	5.0	0.0421
Lead	5.0	0.0413 (U)
Barium	100.0	0.021 (B)
Silver	5.0	0.002 (U)
Arsenic	5.0	0.001 (U)
Selenium	1.0	0.001 (U)
Mercury	0.2	0.0019
pH	pH<2 or pH>12.5	5.86
Total Organic Carbon (TOC)	100,000 (10wt% based upon designation limits for tri-butyl phosphate)	160
Benzene	0.5	undetect (U)
Carbon Tetrachloride	0.5	undetect (U)
Chlorobenzene	100	undetect (U)
Chloroform	6.0	undetect (U)
1,2-Dichloroethane	0.5	undetect (U)
1,1 Dichloroethylene	0.7	undetect (U)
2-Butanone	200	undetect (U)
Tetrachloroethylene	0.7	undetect (U)
Trichloroethylene	0.5	undetect (U)
Vinyl Chloride	0.2	undetect (U)

Definitions:
U = compound not detected
B = compound was found in the blank

SAMPLE STATUS REPORT FOR S 3026. S-BLANK Fil Sys. Part I TIME: 9/26/95 11:45 2nd Flush
DISPATCHED: 8/17/95 12:36 SAMPLE HAS BEEN SLURPED
RECEIVED: 8/18/95 10:48

EXT.	DETER.	RESULTS OR STATUS		OUT OF RANGE?	GOOD ANS?	CHARGE CODE
2455	ICP/MTLS	< 1.00000E-02 uG/ML	Cd	N	Y	R43B1
2455	ICP/MTLS	2.60000E-02 uG/ML	Cr	N	Y	R43B1
3201	pH	5.50000E 00 NONE		N	Y	R43B1
4419	U	1.39000E-02 G/L		N	Y	R43B1

END OF REPORT

Fil Sys. Vessels Part I

SAMPLE STATUS REPORT FOR E 800. E-BLANK F-10 TIME: 8/28/95 13:46
DISPATCHED: 8/23/95 14:22 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 8/24/95 7:42

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
1213	TB-FLTRT	1.11000E 01 uCi/L	N	Y	KP51T
1773	AT-FILTRT	6.59000E-01 uCi/L	N	Y	KP51T
2162	GEA-LIQ	4.74000E-03 uCi/L Co-60	N	Y	KP51T
2162	GEA-LIQ	1.10-1 uCi/L RuRh-106 27% ERROR			KP51T
2162	GEA-LIQ	8.66000E-01 uCi/L Sb-125	N	Y	KP51T
2162	GEA-LIQ	1.44000E 00 uCi/L Cs-137	N	Y	KP51T
2162	GEA-LIQ	8.14-3 uCi/L Eu-154 33% ERROR			KP51T
2162	GEA-LIQ	1.73-2 uCi/L Eu-155 32% ERROR			KP51T
2162	GEA-LIQ	3.62-2 uCi/L Am-241 34% ERROR			KP51T

END OF REPORT

PRIORITY

Quanterra
Environmental Services

Quanterra Incorporated
13715 Rider Trail North
Earth City, Missouri 63045

314 298-8566 Telephone
314 298-8757 Fax

CERTIFICATE OF ANALYSIS

SEP 1995
RECEIVED
SDLA

Westinghouse Hanford Company
P.O. Box 1970
Richland, Washington 99352

September 13, 1995

Attention: Karl Pool

Project number	:	519.136
Date Received by Lab	:	August 31, 1995
Number of Samples	:	Two (2)
Sample Type	:	Water
SDG Number	:	W0693
Data Deliverable	:	Summary

PRIORITY

I. Introduction

On August 31, 1995, two (2) water samples were received by Quanterra, St Louis for chemical analyses. 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
9243-001	B0FBT2	50849601	Water	08/31/95
9243-002	B0FBT3	50849602	Water	08/31/95

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: Total Organic Carbon by EPA method 9060. ICP Metals by EPA method 6010. Arsenic by EPA method 7060. Selenium by EPA method 7740. pH by EPA method 9040. Mercury by EPA method 7470. Volatiles by EPA method 8240.

Quanterra
Environmental Services

Westinghouse Hanford Company
September 13, 1995
Project Number: 519.136
SDG: W0693
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PRIORITY

III. Quality Control

A Laboratory Control Sample and Method Blank were analyzed with each preparation batch. Matrix Spike and Matrix Spike Duplicate or Sample Duplicate analyses were performed per the protocol. pH analysis uses only Sample Duplicate for matrix QC.

IV. Definitions

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

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

V. Comments

There were no comments for the Volatiles, TOC and pH analyses.

The recoveries of the Matrix Spike (65.0%) and Matrix Spike Duplicate (71.7%) for Arsenic were less than 75% therefore all associated data was flagged with an "N".

Quanterra
Environmental Services

Westinghouse Hanford Company
September 13, 1995
Project Number: 519.136
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PRIORITY

I certify that this Certificate of Analysis is in compliance with the terms and conditions of the contract 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:\\sqtlmo01\price$\abbydave\hanford\hanw0693.coa

METALS

Quanterra
Environmental Services

Quanterra-Richland
Westinghouse Hanford Company
P.O. Box 1970
Richland, WA 99352

Project: 519.136

Category: ICAP Metals
Method: EPA 6010
Matrix: LIQUID

Client ID: B0FB7Z

Sample Date : 08/23/95
Receipt Date : 08/31/95
Report Date : 09/13/95

Quanterra ID : 9243-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analysis Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK77590-1	09/08/95	09/11/95	102	UG/L	B	200	1
Antimony	7440-36-0	QCBLK77590-1	09/08/95	09/11/95	45.9	UG/L	U	100	1
Barium	7440-39-3	QCBLK77590-1	09/08/95	09/11/95	21.0	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK77590-1	09/08/95	09/11/95	0.50	UG/L	U	7.0	1
Cadmium	7440-43-9	QCBLK77590-1	09/08/95	09/11/95	3.8	UG/L	B	20.0	1
Calcium	7440-70-2	QCBLK77590-1	09/08/95	09/11/95	25900	UG/L		5000	1
Chromium	7440-47-3	QCBLK77590-1	09/08/95	09/11/95	42.1	UG/L		20.0	1
Cobalt	7440-48-4	QCBLK77590-1	09/08/95	09/11/95	4.3	UG/L	U	50.0	1
Copper	7440-50-8	QCBLK77590-1	09/08/95	09/11/95	13.6	UG/L	B	25.0	1
Iron	7439-89-6	QCBLK77590-1	09/08/95	09/11/95	466	UG/L		100	1
Lead	7439-92-1	QCBLK77590-1	09/08/95	09/11/95	41.3	UG/L	U	100	1
Magnesium	7439-95-4	QCBLK77590-1	09/08/95	09/11/95	8140	UG/L		5000	1
Manganese	7439-96-5	QCBLK77590-1	09/08/95	09/11/95	383	UG/L		15.0	1
Nickel	7440-02-0	QCBLK77590-1	09/08/95	09/11/95	78.2	UG/L		40.0	1
Potassium	7440-09-7	QCBLK77590-1	09/08/95	09/11/95	1060	UG/L	U	5000	1
Silver	7440-22-4	QCBLK77590-1	09/08/95	09/11/95	2.2	UG/L	U	200	1
Sodium	7440-23-5	QCBLK77590-1	09/08/95	09/11/95	2420	UG/L		1000	1
Vanadium	7440-62-2	QCBLK77590-1	09/08/95	09/11/95	3.8	UG/L	U	50.0	1
Zinc	7440-66-6	QCBLK77590-1	09/08/95	09/11/95	29.0	UG/L		20.0	1

PRIORITY

Quanterra
Environmental Services

Quanterra-Richland
Westinghouse Hanford Company
P.O. Box 1970
Richland, WA 99352

Project: 519.136

Category: ICAP Metals
Method: EPA 6010
Matrix: LIQUID

Client ID: 80FBT2

Sample Date : 08/23/95
Receipt Date : 08/31/95
Report Date : 09/13/95

Quanterra ID : 9243-001MS

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analysis Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK77590-1	09/08/95	09/11/95	99	%REC			1
Antimony	7440-36-0	QCBLK77590-1	09/08/95	09/11/95	102	%REC			1
Barium	7440-39-3	QCBLK77590-1	09/08/95	09/11/95	96	%REC			1
Beryllium	7440-41-7	QCBLK77590-1	09/08/95	09/11/95	101	%REC			1
Cadmium	7440-43-9	QCBLK77590-1	09/08/95	09/11/95	100	%REC			1
Chromium	7440-47-3	QCBLK77590-1	09/08/95	09/11/95	95	%REC			1
Cobalt	7440-48-4	QCBLK77590-1	09/08/95	09/11/95	96	%REC			1
Copper	7440-50-8	QCBLK77590-1	09/08/95	09/11/95	98	%REC			1
Iron	7439-89-6	QCBLK77590-1	09/08/95	09/11/95	97	%REC			1
Lead	7439-92-1	QCBLK77590-1	09/08/95	09/11/95	102	%REC			1
Manganese	7439-96-5	QCBLK77590-1	09/08/95	09/11/95	98	%REC			1
Nickel	7440-02-0	QCBLK77590-1	09/08/95	09/11/95	95	%REC			1
Silver	7440-22-4	QCBLK77590-1	09/08/95	09/11/95	93	%REC			1
Vanadium	7440-62-2	QCBLK77590-1	09/08/95	09/11/95	97	%REC			1
Zinc	7440-66-6	QCBLK77590-1	09/08/95	09/11/95	99	%REC			1

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Quanterra
Environmental Services

Quanterra-Richland
Westinghouse Hanford Company
P.O. Box 1970
Richland, WA 99352

Project: 519.136

Category: ICAP Metals
Method: EPA 6010
Matrix: LIQUID

Sample Date : 08/23/95
Receipt Date : 08/31/95
Report Date : 09/13/95

Client ID: 80FBT2

Quanterra ID : 9243-001MSD

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK77590-1	09/08/95	09/11/95	96	%REC			1
Antimony	7440-36-0	QCBLK77590-1	09/08/95	09/11/95	100	%REC			1
Barium	7440-39-3	QCBLK77590-1	09/08/95	09/11/95	95	%REC			1
Beryllium	7440-41-7	QCBLK77590-1	09/08/95	09/11/95	98	%REC			1
Cadmium	7440-43-9	QCBLK77590-1	09/08/95	09/11/95	104	%REC			1
Chromium	7440-47-3	QCBLK77590-1	09/08/95	09/11/95	92	%REC			1
Cobalt	7440-48-4	QCBLK77590-1	09/08/95	09/11/95	94	%REC			1
Copper	7440-50-8	QCBLK77590-1	09/08/95	09/11/95	95	%REC			1
Iron	7439-89-6	QCBLK77590-1	09/08/95	09/11/95	92	%REC			1
Lead	7439-92-1	QCBLK77590-1	09/08/95	09/11/95	94	%REC			1
Manganese	7439-96-5	QCBLK77590-1	09/08/95	09/11/95	92	%REC			1
Nickel	7440-02-0	QCBLK77590-1	09/08/95	09/11/95	92	%REC			1
Silver	7440-22-4	QCBLK77590-1	09/08/95	09/11/95	88	%REC			1
Vanadium	7440-62-2	QCBLK77590-1	09/08/95	09/11/95	95	%REC			1
Zinc	7440-66-6	QCBLK77590-1	09/08/95	09/11/95	96	%REC			1

PRIORITY

Quanterra
Environmental Services

Quanterra-Richland
Westinghouse Hanford Company
P.O. Box 1970
Richland, WA 99352

Project: 519.136

Category: ICAP Metals
Method: EPA 6010
Matrix: LIQUID

Sample Date : 08/23/95
Receipt Date : 08/31/95
Report Date : 09/13/95

Client ID: 80FBT3

Quanterra ID : 9243-002

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK77590-1	09/08/95	09/11/95	24.6	UG/L	U	200	1
Antimony	7440-36-0	QCBLK77590-1	09/08/95	09/11/95	45.9	UG/L	U	100	1
Barium	7440-39-3	QCBLK77590-1	09/08/95	09/11/95	2.1	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK77590-1	09/08/95	09/11/95	0.50	UG/L	U	7.0	1
Cadmium	7440-43-9	QCBLK77590-1	09/08/95	09/11/95	3.1	UG/L	U	20.0	1
Calcium	7440-70-2	QCBLK77590-1	09/08/95	09/11/95	1700	UG/L	B	5000	1
Chromium	7440-47-3	QCBLK77590-1	09/08/95	09/11/95	2.8	UG/L	U	20.0	1
Cobalt	7440-48-4	QCBLK77590-1	09/08/95	09/11/95	4.3	UG/L	U	50.0	1
Copper	7440-50-8	QCBLK77590-1	09/08/95	09/11/95	4.7	UG/L	U	25.0	1
Iron	7439-89-6	QCBLK77590-1	09/08/95	09/11/95	22.0	UG/L	B	100	1
Lead	7439-92-1	QCBLK77590-1	09/08/95	09/11/95	41.3	UG/L	U	100	1
Magnesium	7439-95-4	QCBLK77590-1	09/08/95	09/11/95	253	UG/L	B	5000	1
Manganese	7439-96-5	QCBLK77590-1	09/08/95	09/11/95	1.4	UG/L	U	15.0	1
Nickel	7440-02-0	QCBLK77590-1	09/08/95	09/11/95	14.2	UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK77590-1	09/08/95	09/11/95	1090	UG/L	B	5000	1
Silver	7440-22-4	QCBLK77590-1	09/08/95	09/11/95	2.2	UG/L	U	200	1
Sodium	7440-23-5	QCBLK77590-1	09/08/95	09/11/95	1950	UG/L		1000	1
Vanadium	7440-62-2	QCBLK77590-1	09/08/95	09/11/95	3.8	UG/L	U	50.0	1
Zinc	7440-66-6	QCBLK77590-1	09/08/95	09/11/95	8.3	UG/L	B	20.0	1

PRIORITY

Quanterra
Environmental Services

Quanterra-Richland
Westinghouse Hanford Company
P.O. Box 1970
Richland, WA 99352

Project: 519.136

Category: ICAP Metals
Method: EPA 6010
Matrix: LIQUID

Sample Date : NA
Receipt Date : NA
Report Date : 09/13/95

Client ID: NA

Quanterra ID : QCBLK77590-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK77590-1	09/08/95	09/11/95	70.8	UG/L	B	200	1
Antimony	7440-36-0	QCBLK77590-1	09/08/95	09/11/95	45.9	UG/L	U	100	1
Barium	7440-39-3	QCBLK77590-1	09/08/95	09/11/95	-1.0	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK77590-1	09/08/95	09/11/95	0.50	UG/L	U	7.0	1
Cadmium	7440-43-9	QCBLK77590-1	09/08/95	09/11/95	3.1	UG/L	U	20.0	1
Calcium	7440-70-2	QCBLK77590-1	09/08/95	09/11/95	56.7	UG/L	B	5000	1
Chromium	7440-47-3	QCBLK77590-1	09/08/95	09/11/95	2.8	UG/L	U	20.0	1
Cobalt	7440-48-4	QCBLK77590-1	09/08/95	09/11/95	4.3	UG/L	U	50.0	1
Copper	7440-50-8	QCBLK77590-1	09/08/95	09/11/95	4.7	UG/L	U	25.0	1
Iron	7439-89-6	QCBLK77590-1	09/08/95	09/11/95	36.4	UG/L	B	100	1
Lead	7439-92-1	QCBLK77590-1	09/08/95	09/11/95	41.3	UG/L	U	100	1
Magnesium	7439-95-4	QCBLK77590-1	09/08/95	09/11/95	53.2	UG/L	B	5000	1
Manganese	7439-96-5	QCBLK77590-1	09/08/95	09/11/95	1.4	UG/L	U	15.0	1
Nickel	7440-02-0	QCBLK77590-1	09/08/95	09/11/95	14.2	UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK77590-1	09/08/95	09/11/95	1490	UG/L	B	5000	1
Silver	7440-22-4	QCBLK77590-1	09/08/95	09/11/95	2.2	UG/L	U	200	1
Sodium	7440-23-5	QCBLK77590-1	09/08/95	09/11/95	47.4	UG/L	U	1000	1
Vanadium	7440-62-2	QCBLK77590-1	09/08/95	09/11/95	3.8	UG/L	U	50.0	1
Zinc	7440-66-6	QCBLK77590-1	09/08/95	09/11/95	2.5	UG/L	U	20.0	1

PRIORITY

Quanterra
Environmental Services

Quanterra-Richland
Westinghouse Hanford Company
P.O. Box 1970
Richland, WA 99352

Project: 519.136

Category: ICAP Metals
Method: EPA 6010
Matrix: LIQUID

Sample Date : NA
Receipt Date : NA
Report Date : 09/13/95

Client ID: NA

Quanterra ID : QCLCS77590-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK77590-1	09/08/95	09/11/95	101	%REC			1
Antimony	7440-36-0	QCBLK77590-1	09/08/95	09/11/95	100	%REC			1
Barium	7440-39-3	QCBLK77590-1	09/08/95	09/11/95	98	%REC			1
Beryllium	7440-41-7	QCBLK77590-1	09/08/95	09/11/95	99	%REC			1
Cadmium	7440-43-9	QCBLK77590-1	09/08/95	09/11/95	99	%REC			1
Calcium	7440-70-2	QCBLK77590-1	09/08/95	09/11/95	100	%REC			1
Chromium	7440-47-3	QCBLK77590-1	09/08/95	09/11/95	99	%REC			1
Cobalt	7440-48-4	QCBLK77590-1	09/08/95	09/11/95	98	%REC			1
Copper	7440-50-8	QCBLK77590-1	09/08/95	09/11/95	101	%REC			1
Iron	7439-89-6	QCBLK77590-1	09/08/95	09/11/95	105	%REC			1
Lead	7439-92-1	QCBLK77590-1	09/08/95	09/11/95	99	%REC			1
Magnesium	7439-95-4	QCBLK77590-1	09/08/95	09/11/95	100	%REC			1
Manganese	7439-96-5	QCBLK77590-1	09/08/95	09/11/95	98	%REC			1
Nickel	7440-02-0	QCBLK77590-1	09/08/95	09/11/95	99	%REC			1
Potassium	7440-09-7	QCBLK77590-1	09/08/95	09/11/95	103	%REC			1
Silver	7440-22-4	QCBLK77590-1	09/08/95	09/11/95	80	%REC			1
Sodium	7440-23-5	QCBLK77590-1	09/08/95	09/11/95	101	%REC			1
Vanadium	7440-62-2	QCBLK77590-1	09/08/95	09/11/95	99	%REC			1
Zinc	7440-66-6	QCBLK77590-1	09/08/95	09/11/95	103	%REC			1

PRIORITY

Quanterra
Environmental Services

Quanterra-Richland
Westinghouse Hanford Company
P.O. Box 1970
Richland, WA 99352

Project: 519.136

Category: Arsenic
Method: EPA 7060
Matrix: LIQUID

Sample Date : 08/23/95
Receipt Date : 08/31/95
Report Date : 09/13/95

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
80FBT2	9243-001	Arsenic	7440-38-2	QCBLK77592-1	09/08/95	09/11/95	1.0	UG/L	U	10.0	1
80FBT2	9243-001MS	Arsenic	7440-38-2	QCBLK77592-1	09/08/95	09/11/95	65	%REC			1
80FBT2	9243-001MSD	Arsenic	7440-38-2	QCBLK77592-1	09/08/95	09/11/95	72	%REC			1
80FBT3	9243-002	Arsenic	7440-38-2	QCBLK77592-1	09/08/95	09/11/95	1.0	UG/L	U	10.0	1
NA	QCBLK77592-1	Arsenic	7440-38-2	QCBLK77592-1	09/08/95	09/11/95	1.0	UG/L	U	10.0	1
NA	QCLCS77592-1	Arsenic	7440-38-2	QCBLK77592-1	09/08/95	09/11/95	95	%REC			1

PRIORITY

Quanterra
Environmental Services

Quanterra-Richland
Westinghouse Hanford Company
P.O. Box 1970
Richland, WA 99352

Project: 519.136

Category: Selenium
Method: EPA 7740
Matrix: LIQUID

Sample Date : 08/23/95
Receipt Date : 08/31/95
Report Date : 09/13/95

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
BOFBT2	9243-001	Selenium	7782-49-2	QCBLK77592-1	09/08/95	09/11/95	1.0	UG/L	U	5.0	1
BOFBT2	9243-001MS	Selenium	7782-49-2	QCBLK77592-1	09/08/95	09/11/95	84	%REC			1
BOFBT2	9243-001MSD	Selenium	7782-49-2	QCBLK77592-1	09/08/95	09/11/95	82	%REC			1
BOFBT3	9243-002	Selenium	7782-49-2	QCBLK77592-1	09/08/95	09/11/95	1.0	UG/L	U	5.0	1
NA	QCBLK77592-1	Selenium	7782-49-2	QCBLK77592-1	09/08/95	09/11/95	1.0	UG/L	U	5.0	1
NA	QCLCS77592-1	Selenium	7782-49-2	QCBLK77592-1	09/08/95	09/11/95	97	%REC			1

PRIORITY

Quanterra
Environmental Services

Quanterra-Richland
Westinghouse Hanford Company
P.O. Box 1970
Richland, WA 99352

Project: 519.136

Category: Mercury
Method: EPA 7470
Matrix: LIQUID

Sample Date : 08/23/95
Receipt Date : 08/31/95
Report Date : 09/13/95

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
B0FBT2	9243-001	Mercury	7439-97-6	QCBLK77506-1	09/08/95	09/08/95	1.9	UG/L		0.20	1
B0FBT3	9243-002	Mercury	7439-97-6	QCBLK77506-1	09/08/95	09/08/95	0.10	UG/L	U	0.20	1
B0FBT3	9243-002MS	Mercury	7439-97-6	QCBLK77506-1	09/08/95	09/08/95	107	%REC			1
B0FBT3	9243-002MSD	Mercury	7439-97-6	QCBLK77506-1	09/08/95	09/08/95	104	%REC			1
NA	QCBLK77506-1	Mercury	7439-97-6	QCBLK77506-1	09/08/95	09/08/95	0.10	UG/L	U	0.20	1
NA	QCLCS77506-1	Mercury	7439-97-6	QCBLK77506-1	09/08/95	09/08/95	102	%REC			1

PRIORITY

WET CHEMISTRY

Quanterra
Environmental Services

Quanterra-Richland
Westinghouse Hanford Company
P.O. Box 1970
Richland, WA 99352

Project: 519.136

Category: pH
Method: EPA 9040
Matrix: LIQUID

Sample Date : 08/23/95
Receipt Date : 08/31/95
Report Date : 09/13/95

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
BOFBT2	9243-001	pH	C-006	QCBLK77427-1	09/07/95	09/07/95	5.86	PH			1
BOFBT2	9243-001DUP	pH	C-006	QCBLK77427-1	09/07/95	09/07/95	5.86	PH			1
BOFBT3	9243-002	pH	C-006	QCBLK77427-1	09/07/95	09/07/95	6.96	PH			1
NA	QCBLK77427-1	pH	C-006	QCBLK77427-1	09/07/95	09/07/95	5.73	PH			1

PRIORITY

Quanterra Environmental Services

Quanterra-Richland
Westinghouse Hanford Company
P.O. Box 1970
Richland, WA 99352

Project: 519.136

Category: Total Organic Carbon
Method: EPA 9060
Matrix: LIQUID

Sample Date : 08/23/95
Receipt Date : 08/31/95
Report Date : 09/13/95

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
BOFBT2	9243-001	Total Organic C	C-012	QCBLK77503-1	09/07/95	09/07/95	160	MG/L		2.00	2
BOFBT2	9243-001DUP	Total Organic C	C-012	QCBLK77503-1	09/07/95	09/07/95	156	MG/L		2.00	2
BOFBT2	9243-001MS	Total Organic C	C-012	QCBLK77503-1	09/07/95	09/07/95	86	%REC			3
BOFBT3	9243-002	Total Organic C	C-012	QCBLK77503-1	09/07/95	09/07/95	1.00	MG/L	U	1.00	1
NA	QCBLK77503-1	Total Organic C	C-012	QCBLK77503-1	09/07/95	09/07/95	1.00	MG/L	U	1.00	1
NA	QCLCS77503-1	Total Organic C	C-012	QCBLK77503-1	09/07/95	09/07/95	103	%REC			1

PRIORITY

VOLATILE ORGANICS

Quanterra Environmental Services

Quanterra-Richland
Westinghouse Hanford Company
P.O. Box 1970
Richland, WA 99352

Project: 519.136

Category: Volatiles
Method: EPA 8240
Matrix: LIQUID

Sample Date : 08/23/95
Receipt Date : 08/31/95
Report Date : 09/13/95

Client ID: BOFBT2

Quanterra ID : 9243-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	QCBLK77274-1	09/06/95	09/06/95	10	UG/L	U	10	1
Bromomethane	74-83-9	QCBLK77274-1	09/06/95	09/06/95	10	UG/L	U	10	1
Vinyl Chloride	75-01-4	QCBLK77274-1	09/06/95	09/06/95	10	UG/L	U	10	1
Chloroethane	75-00-3	QCBLK77274-1	09/06/95	09/06/95	10	UG/L	U	10	1
Methylene Chloride	75-09-2	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Acetone	67-64-1	QCBLK77274-1	09/06/95	09/06/95	10	UG/L	J	100	1
Carbon Disulfide	75-15-0	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
1,1-Dichloroethene	75-35-4	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
1,1-Dichloroethane	75-34-3	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
1,2-Dichloroethene (total)	540-59-0	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Chloroform	67-66-3	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
1,2-Dichloroethane	107-06-2	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
2-Butanone	78-93-3	QCBLK77274-1	09/06/95	09/06/95	100	UG/L	U	100	1
1,1,1-Trichloroethane	71-55-6	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Carbon Tetrachloride	56-23-5	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Bromodichloromethane	75-27-4	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
1,2-Dichloropropane	78-87-5	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
cis-1,3-Dichloropropene	10061-01-5	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Trichloroethene	79-01-6	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Dibromochloromethane	124-48-1	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
1,1,2-Trichloroethane	79-00-5	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Benzene	71-43-2	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
trans-1,3-Dichloropropene	10061-02-6	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Bromoform	75-25-2	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
4-Methyl-2-Pentanone	108-10-1	QCBLK77274-1	09/06/95	09/06/95	50	UG/L	U	50	1
2-Hexanone	591-78-6	QCBLK77274-1	09/06/95	09/06/95	50	UG/L	U	50	1
Tetrachloroethene	127-18-4	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Toluene	108-88-3	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Chlorobenzene	108-90-7	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
EthylBenzene	100-41-4	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Styrene	100-42-5	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Xylene (total)	1330-20-7	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Unknown-1	TIC-32	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	J		1
Unknown-2	TIC-33	QCBLK77274-1	09/06/95	09/06/95	7	UG/L	J		1
Dodecane	112-40-3	QCBLK77274-1	09/06/95	09/06/95	78	UG/L	J		1
Tridecane	629-50-5	QCBLK77274-1	09/06/95	09/06/95	880	UG/L	J		1
Tetradecane	629-59-4	QCBLK77274-1	09/06/95	09/06/95	37	UG/L	J		1
Toluene-d8 (SURR)	2037-26-5	QCBLK77274-1	09/06/95	09/06/95	100	%REC			1
Bromofluorobenzene (SURR)	460-00-4	QCBLK77274-1	09/06/95	09/06/95	97	%REC			1
1,2-Dichloroethane-d4 (SURR)	17070-07-0	QCBLK77274-1	09/06/95	09/06/95	106	%REC			1

PRIORITY

Quanterra
Environmental Services

Quanterra-Richland
Westinghouse Hanford Company
P.O. Box 1970
Richland, WA 99352

Project: 519.136

Category: Volatiles
Method: EPA 8240
Matrix: LIQUID

Sample Date : 08/23/95
Receipt Date : 08/31/95
Report Date : 09/13/95

Client ID: B0FBT2

Quanterra ID : 9243-001NS

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
1,1-Dichloroethene	75-35-4	QCBLK77274-1	09/06/95	09/06/95	108	%REC			1
Trichloroethene	79-01-6	QCBLK77274-1	09/06/95	09/06/95	96	%REC			1
Benzene	71-43-2	QCBLK77274-1	09/06/95	09/06/95	92	%REC			1
Toluene	108-88-3	QCBLK77274-1	09/06/95	09/06/95	97	%REC			1
Chlorobenzene	108-90-7	QCBLK77274-1	09/06/95	09/06/95	97	%REC			1
Toluene-d8 (SURR)	2037-26-5	QCBLK77274-1	09/06/95	09/06/95	100	%REC			1
Bromofluorobenzene (SURR)	460-00-4	QCBLK77274-1	09/06/95	09/06/95	98	%REC			1
1,2-Dichloroethane-d4 (SURR)	17070-07-0	QCBLK77274-1	09/06/95	09/06/95	107	%REC			1

PRIORITY

2

Quanterra
Environmental Services

Quanterra-Richland
Westinghouse Hanford Company
P.O. Box 1970
Richland, WA 99352

Project: 519.136

Category: Volatiles
Method: EPA 8240
Matrix: LIQUID

Sample Date : 08/23/95
Receipt Date : 08/31/95
Report Date : 09/13/95

Client ID: 80FBT2

Quanterra ID : 9243-001MSD

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
1,1-Dichloroethene	75-35-4	QCBLK77274-1	09/06/95	09/06/95	103	%REC			1
Trichloroethene	79-01-6	QCBLK77274-1	09/06/95	09/06/95	92	%REC			1
Benzene	71-43-2	QCBLK77274-1	09/06/95	09/06/95	90	%REC			1
Toluene	108-88-3	QCBLK77274-1	09/06/95	09/06/95	97	%REC			1
Chlorobenzene	108-90-7	QCBLK77274-1	09/06/95	09/06/95	98	%REC			1
Toluene-d8 (SURR)	2037-26-5	QCBLK77274-1	09/06/95	09/06/95	100	%REC			1
Bromofluorobenzene (SURR)	460-00-4	QCBLK77274-1	09/06/95	09/06/95	94	%REC			1
1,2-Dichloroethane-d4 (SURR)	17070-07-0	QCBLK77274-1	09/06/95	09/06/95	104	%REC			1

PRIORITY

2

Quanterra Environmental Services

Quanterra-Richland
Westinghouse Hanford Company
P.O. Box 1970
Richland, WA 99352

Project: 519.136

Category: Volatiles
Method: EPA 8240
Matrix: LIQUID

Client ID: B0FB73

Sample Date : 08/23/95
Receipt Date : 08/31/95
Report Date : 09/13/95

Quanterra ID : 9243-002

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	QCBLK77274-1	09/06/95	09/06/95	10	UG/L	U	10	1
Bromomethane	74-83-9	QCBLK77274-1	09/06/95	09/06/95	10	UG/L	U	10	1
Vinyl Chloride	75-01-4	QCBLK77274-1	09/06/95	09/06/95	10	UG/L	U	10	1
Chloroethane	75-00-3	QCBLK77274-1	09/06/95	09/06/95	10	UG/L	U	10	1
Methylene Chloride	75-09-2	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Acetone	67-64-1	QCBLK77274-1	09/06/95	09/06/95	100	UG/L	U	100	1
Carbon Disulfide	75-15-0	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
1,1-Dichloroethene	75-35-4	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
1,1-Dichloroethane	75-34-3	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
1,2-Dichloroethene (total)	540-59-0	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Chloroform	67-66-3	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
1,2-Dichloroethane	107-06-2	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
2-Butanone	78-93-3	QCBLK77274-1	09/06/95	09/06/95	100	UG/L	U	100	1
1,1,1-Trichloroethane	71-55-6	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Carbon Tetrachloride	56-23-5	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Bromodichloromethane	75-27-4	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
1,2-Dichloropropane	78-87-5	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
cis-1,3-Dichloropropene	10061-01-5	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Trichloroethene	79-01-6	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Dibromochloromethane	124-48-1	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
1,1,2-Trichloroethane	79-00-5	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Benzene	71-43-2	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
trans-1,3-Dichloropropene	10061-02-6	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Bromoform	75-25-2	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
4-Methyl-2-Pentanone	108-10-1	QCBLK77274-1	09/06/95	09/06/95	50	UG/L	U	50	1
2-Hexanone	591-78-6	QCBLK77274-1	09/06/95	09/06/95	50	UG/L	U	50	1
Tetrachloroethene	127-18-4	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Toluene	108-88-3	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Chlorobenzene	108-90-7	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
EthylBenzene	100-41-4	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Styrene	100-42-5	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Xylene (total)	1330-20-7	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Tridecane	629-50-5	QCBLK77274-1	09/06/95	09/06/95	7.5	UG/L	J		1
Toluene-d8 (SURR)	2037-26-5	QCBLK77274-1	09/06/95	09/06/95	97	%REC			1
Bromofluorobenzene (SURR)	460-00-4	QCBLK77274-1	09/06/95	09/06/95	97	%REC			1
1,2-Dichloroethane-d4 (SURR) *	17070-07-0	QCBLK77274-1	09/06/95	09/06/95	109	%REC			1

PRIORITY

Quanterra
Environmental Services

Quanterra-Richland
Westinghouse Hanford Company
P.O. Box 1970
Richland, WA 99352

Project: 519.136

Category: Volatiles
Method: EPA 8240
Matrix: LIQUID

Sample Date : NA
Receipt Date : NA
Report Date : 09/13/95

Client ID: NA

Quanterra ID : QCBLK77274-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analysis Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	QCBLK77274-1	09/06/95	09/06/95	10	UG/L	U	10	1
Bromomethane	74-83-9	QCBLK77274-1	09/06/95	09/06/95	10	UG/L	U	10	1
Vinyl Chloride	75-01-4	QCBLK77274-1	09/06/95	09/06/95	10	UG/L	U	10	1
Chloroethane	75-00-3	QCBLK77274-1	09/06/95	09/06/95	10	UG/L	U	10	1
Methylene Chloride	75-09-2	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Acetone	67-64-1	QCBLK77274-1	09/06/95	09/06/95	100	UG/L	U	100	1
Carbon Disulfide	75-15-0	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
1,1-Dichloroethene	75-35-4	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
1,1-Dichloroethane	75-34-3	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
1,2-Dichloroethene (total)	540-59-0	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Chloroform	67-66-3	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
1,2-Dichloroethane	107-06-2	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
2-Butanone	78-93-3	QCBLK77274-1	09/06/95	09/06/95	100	UG/L	U	100	1
1,1,1-Trichloroethane	71-55-6	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Carbon Tetrachloride	56-23-5	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Bromodichloromethane	75-27-4	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
1,2-Dichloropropane	78-87-5	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
cis-1,3-Dichloropropene	10061-01-5	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Trichloroethene	79-01-6	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Dibromochloromethane	124-48-1	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
1,1,2-Trichloroethane	79-00-5	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Benzene	71-43-2	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
trans-1,3-Dichloropropene	10061-02-6	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Bromoform	75-25-2	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
4-Methyl-2-Pentanone	108-10-1	QCBLK77274-1	09/06/95	09/06/95	50	UG/L	U	50	1
2-Hexanone	591-78-6	QCBLK77274-1	09/06/95	09/06/95	50	UG/L	U	50	1
Tetrachloroethene	127-18-4	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Toluene	108-88-3	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Chlorobenzene	108-90-7	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
EthylBenzene	100-41-4	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Styrene	100-42-5	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Xylene (total)	1330-20-7	QCBLK77274-1	09/06/95	09/06/95	5	UG/L	U	5	1
Toluene-d8 (SURR)	2037-26-5	QCBLK77274-1	09/06/95	09/06/95	100	%REC			1
Bromofluorobenzene (SURR)	460-00-4	QCBLK77274-1	09/06/95	09/06/95	100	%REC			1
1,2-Dichloroethane-d4 (SURR)	17070-07-0	QCBLK77274-1	09/06/95	09/06/95	104	%REC			1

PRIORITY

Quanterra
Environmental Services

Quanterra-Richland
Westinghouse Hanford Company
P.O. Box 1970
Richland, WA 99352

Project: 519.136

Category: Volatiles
Method: EPA 8240
Matrix: LIQUID

Client ID: NA

Sample Date : NA
Receipt Date : NA
Report Date : 09/13/95

Quanterra ID : QCLCS77274-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
1,1-Dichloroethene	75-35-4	QCBLK77274-1	09/06/95	09/06/95	101	%REC			1
Trichloroethene	79-01-6	QCBLK77274-1	09/06/95	09/06/95	96	%REC			1
Benzene	71-43-2	QCBLK77274-1	09/06/95	09/06/95	91	%REC			1
Toluene	108-88-3	QCBLK77274-1	09/06/95	09/06/95	95	%REC			1
Chlorobenzene	108-90-7	QCBLK77274-1	09/06/95	09/06/95	97	%REC			1
Toluene-d8 (SURR)	2037-26-5	QCBLK77274-1	09/06/95	09/06/95	102	%REC			1
Bromofluorobenzene (SURR)	460-00-4	QCBLK77274-1	09/06/95	09/06/95	101	%REC			1
1,2-Dichloroethane-d4 (SURR)	17070-07-0	QCBLK77274-1	09/06/95	09/06/95	103	%REC			1

PRIORITY

WESTINGHOUSE HANFORD COMPANY
GENERATOR & WASTE ACCEPTANCE SERVICES

PREDETERMINATION REPORT

REQUEST #: 26806 *DATE:* September 25, 1995

PRODUCT	PREDETERMINATION OF PUREX F11 SYSTEM VESSELS PART I FLUSH SOLUTION

TO	Carmen N. Villalobos	*COMPANY*	WHC		
PHONE	373-4753	*ADDRESS*	200E		
FACILITY	PUREX	*MSIN*	S6-19		
ANALYST	K. W. (Katie) Chang K.W Chang	*MSIN*	T3-05	*PHONE*	372-0679
REVIEWER	Clay V. Hawk 9/25/95	*MSIN*	T3-05	*PHONE*	372-0508
cc	File				

Based upon information from lab analysis, predetermination of the above flush solution has been performed according to current state and Federal laws (WAC 173-303 and 40 CFR 261) and the **flush solution does not designate as a Washington Dangerous Waste.** For any questions regarding this analysis, please call Acceptance Services' analyst above and refer the request number.

			REGULATED ?				
Item #	MSDS #	Product/Material	Unused Product	Used Product	Empty Container	Rags with 10% Product	Possible Waste Codes
1	BOFBT2	PUREX F11 SYSTEM VESSELS PART I FLUSH SOLUTION	N/A	NO	NO	NO	NONE

Comments: Waste analysis worksheet is attached for your reference.

********** *DISCLAIMER* **********

This predetermination is believed accurate based on the information provided. Predeterminations are performed to assist generators in selecting less hazardous products. Since solid waste regulations are subject to constant revision, waste status may change without notice. *Waste designations must be performed on all wastes* by Generator & Waste Acceptance Services to assure proper disposal in the event products are spilled or contained within a waste matrix.

CORRESPONDENCE DISTRIBUTION COVERSHEET

Author	Addressee	Correspondence No.
C. N. Villalobos, 373-4753	J. E. Mecca, RL	9555211

Subject: TRANSMITTAL OF PLUTONIUM-URANIUM EXTRACTION PLANT F11 SYSTEM VESSELS, PART I, LOOP FLUSH ANALYTICAL RESULTS

INTERNAL DISTRIBUTION

Approval	Date	Name	Location	w/att
		Correspondence Control	A3-01	X
		R. W. Bailey	S6-15	
		R. J. Bliss	B3-04	
		A. A. Grasher	S6-15	
		D. G. Hamrick	S6-15	X
DGH	9/28/95	D. G. Harlow	S6-19	
		J. P. Hayfield	S6-55	X
		W. G. Jasen	S6-17	
		G. J. LeBaron	S6-19	X
		W. A. Peiffer	S6-19	
		J. R. Robertson	H6-21	X
		M. J. Stephenson	H6-20	
		J. F. Tea	S6-19	X
		C. N. Villalobos	S6-19	X
		DGH/LB	S6-15	