Quanterra
Environmental Services

W0683-QES-406

0045005

September 22, 1995

SEP 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 and the Diskette Deliverable for Chemical analyses on the following WHC samples:

SDG NUMBER	SAF NUMBER
W0685	95-083
W0682	95-083
W0673	95-083
W0668	95-083
W0683	95-013
W0675	95-082
W0674	95-082
W0670	95-082
W0667	95-082
W0665	95-072

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

Sincerely,

Jodie Carries
Document Control Officer

Receipt of this letter and the package are acknowledged by:

Sandra K Wells — Name
9-22-95 — Date
3:55 — Time

XC: Vicki Parr
Van Pettey File

Analytical Data Package Prepared For

Westinghouse Hanford

Chemical Analysis By

Quanterra Environmental Services
St. Louis Laboratory

Sample Delivery Group Number: W0683

SEP 1995
RECEIVED
SDLA

WHC IDENTIFICATION NUMBER	QUANTERRA ID NUMBER
B0FBS9	9093-001
B0FBT0	9093-002

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

August 25, 1995

Attention: Karl Pool

Project number	:	519.136
Date Received by Lab	:	August 11, 1995
Number of Samples	:	Two (2)
Sample Type	:	Water
SDG Number	:	W0683
Data Deliverable	:	Summary

I. Introduction

On August 11, 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
9093-001	B0FBS9	50835301	Water	08/11/95
9093-002	B0FBT0	50835302	Water	08/11/95

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 are no comments or nonconformances associated with the VOA, pH or TOC analyses.

The GFAA digestion for samples 9093-001MS and 9093-001MSD were performed on 50 mls due to limited sample volume. The final volume was adjusted so that no affect on detection limits was incurred.

The following Matrix Spike and/or Matrix Spike Duplicates were not within the 75%-125%. All associated data was therefore flagged with an "N".

	MS%	MSD%
Selenium	30.9	*
Arsenic	68.8	67.7

* Within range

Quanterra
Environmental Services

RECORD COPY

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:\\squimo01\price$\abbydave\hanford\hanw0683.nar

Quanterra August 15, 1995 11:57 am
Account: 10722 Project: 519.136 Quanterra-Richland QAS No. 861 Rev. 1
Master Sample Login: 9093

Project Manager: W. Price

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

Sample Header Template:

Sample No. #	Client ID / Container Type	Analysis	C-Matrix / Class	Date: Collected / Preservative	Received / Anal. Due Date	Due / Hold Date	Shipper / Site	Rad Category / (Container Numbers:% Filled)	Rad Sample No.
9093-001	BOFBS9		Liquid	02-AUG-95 09:30	11-AUG-95 08:45	25-AUG-95	FED-EX	3	R4172-001
NOTE: RICHLAND ID NOT GIVEN									
1	VI - Vial-40ml	HOLD//Q4	S	COLD	11-&&&-**	11-&&&-**	T12A	(173554:99)	
1		PH/9040/Q4	S	COLD	18-AUG-95	03-AUG-95	T12A	(173555:98)	
1		TOC/9060/Q4	S	COLD	18-AUG-95	30-AUG-95	T12A	(173556:97)	
1		VOA/8240/Q4	S	COLD	18-AUG-95	16-AUG-95	109C	(173552:100)	
1	AN - Amber Glass-1L	AS/7060/Q4	S	HNO3	18-AUG-95	29-JAN-96	T12A	(173549:90)	
1		HG/7470/Q4	S	HNO3	18-AUG-95	30-AUG-95	T12A	(173549:90)	
1		ICAP/6010/Q4	S	HNO3	18-AUG-95	29-JAN-96	T12A	(173549:90)	
1		SE/7740/Q4	S	HNO3	18-AUG-95	29-JAN-96	T12A	(173549:90)	
9093-001DUP	BOFBS9		Liquid	02-AUG-95 09:30	11-AUG-95 08:45	25-AUG-95	FED-EX	3	R4172-001
NOTE: RICHLAND ID NOT GIVEN									
1	VI - Vial-40ml	PH/9040/Q4	S	COLD	18-AUG-95	03-AUG-95	T12A	(173555:98)	
1		TOC/9060/Q4	S	COLD	18-AUG-95	30-AUG-95	T12A	(173556:97)	
9093-001MS	BOFBS9		Liquid	02-AUG-95 09:30	11-AUG-95 08:45	25-AUG-95	FED-EX	3	R4172-001
NOTE: RICHLAND ID NOT GIVEN									
1	VI - Vial-40ml	TOC/9060/Q4	S	COLD	18-AUG-95	30-AUG-95	T12A	(173556:97)	
1		VOA/8240/Q4	S	COLD	18-AUG-95	16-AUG-95	109C	(173552:100)	
1	AN - Amber Glass-1L	AS/7060/Q4	S	HNO3	18-AUG-95	29-JAN-96	T12A	(173549:90)	
1		HG/7470/Q4	S	HNO3	18-AUG-95	30-AUG-95	T12A	(173549:90)	
1		ICAP/6010/Q4	S	HNO3	18-AUG-95	29-JAN-96	T12A	(173549:90)	
1		SE/7740/Q4	S	HNO3	18-AUG-95	29-JAN-96	T12A	(173549:90)	
9093-001MSD	BOFBS9		Liquid	02-AUG-95 09:30	11-AUG-95 08:45	25-AUG-95	FED-EX	3	R4172-001
NOTE: RICHLAND ID NOT GIVEN									
1	VI - Vial-40ml	VOA/8240/Q4	S	COLD	18-AUG-95	16-AUG-95	109C	(173552:100)	
1	AN - Amber Glass-1L	AS/7060/Q4	S	HNO3	18-AUG-95	29-JAN-96	T12A	(173549:90)	
1		HG/7470/Q4	S	HNO3	18-AUG-95	30-AUG-95	T12A	(173549:90)	
1		ICAP/6010/Q4	S	HNO3	18-AUG-95	29-JAN-96	T12A	(173549:90)	
1		SE/7740/Q4	S	HNO3	18-AUG-95	29-JAN-96	T12A	(173549:90)	
9093-002	BOFBT0		Liquid	02-AUG-95 09:30	11-AUG-95 08:45	25-AUG-95	FED-EX	3*	R4173-001
NOTE: RICHLAND ID NOT GIVEN									
1	VI - Vial-40ml	HOLD//Q4	S	COLD	11-&&&-**	11-&&&-**	T12A	(173559:99)	
1		PH/9040/Q4	S	COLD	18-AUG-95	03-AUG-95	T12A	(173560:98)	
1		RAD/SCREEN/Q4	S	COLD	18-AUG-95	07-FEB-96	T12A	(173560:98)	

3*=Sample has not been rad screened.

0000005

Quanterra August 15, 1995 11:57 am
Account: 10722 Project: 519.136 Quanterra-Richland QAS No. 861 Rev. 1
Master Sample Login: 9093

Project Manager: W. Price

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

Sample Header Template:

Sample No. #	Client ID / Comments / Container Type	Analysis	Class	C-Matrix / Preservative	Date: Collected / Anal. Due Date	Received / Hold Date	Due / Site	Shipper	Rad Category Rad Sample No. (Container Numbers:% Filled)
Data:									
1		TOC/9060/Q4	S	COLD	18-AUG-95	30-AUG-95	T12A		(173561:97)
1		VOA/8240/Q4	S	COLD	18-AUG-95	16-AUG-95	109C		(173558:100)
1	AN - Amber Glass-1L	AS/7060/Q4	S	HNO3	18-AUG-95	29-JAN-96	T12A		(173557:90)
1		HG/7470/Q4	S	HNO3	18-AUG-95	30-AUG-95	T12A		(173557:90)
1		ICAP/6010/Q4	S	HNO3	18-AUG-95	29-JAN-96	T12A		(173557:90)
1		SE/7740/Q4	S	HNO3	18-AUG-95	29-JAN-96	T12A		(173557:90)

3*=Sample has not been rad screened.

Temp 2°C Cuk# 5062

Westinghouse Hanford Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C # 9470 Page 1 of 1

Collector RICHARDS, DAVID	Contact/Requestor VILLALOBOS, CARMEN	Tel. No. 373-4753 MSIN S6-19 FAX
SAF Number 95-013B	Sample Origin PUREX, D5/E6 Cell	Purchase Order/Charge Code KP51T
Project Title PUREX Vessel Flush -2	Logbook # WHC-N-205 #52	Ice Chest # see Special Instructions Temp.
Shipped To (Lab) Quanterra	Method of Shipment Federal Express	Bill of Lading/Air Bill No.
Protocol RCRA	Data Turnaround PRIORITY (15 Day Turnaround)	Offsite Property No.

Sample No.	Lab. ID	*	Date	Time	No/Type Container	Sample Analysis	Perservative
B0FBS9		L	8/2/95	0930	(1) 20 aGs	ACTIVITY SCAN (Lab Specific)	4 deg. C
B0FBS9 *		L	8/2/95	0930	(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
B0FBS9		L	8/2/95	0930	(1) 40 aGs	pH(9040)	None
B0FBS9		L	8/2/95	0930	(1) 40 aGs	TOC (9060)	COOL TO 4 C
B0FBS9		L	8/2/95	0930	~~(2)~~ 1 40 aGs	VOA (8240)	Cool 4 Deg C
B0FBT0		L	8/2/95	0930	(1) 20 aGs	ACTIVITY SCAN (Lab Specific) 100%	4 deg. C
B0FBT0		L	8/2/95	0930	(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) 100%	4 deg. C
B0FBT0		L	8/2/95	0930	(1) 40 aGs	pH(9040) 100%	None
B0FBT0		L	8/2/95	0930	(1) 40 aGs	TOC (9060) 100	COOL TO 4 C
B0FBT0		L	8/2/95	0930	(1) 40 aGs	VOA (8240) 100%	Cool 4 Deg C

POSSIBLE SAMPLE HAZARDS/REMARKS MSDS Yes ☐ No ☒

List all known wastes.

Radioactive Material (Sample B0FBS9 ONLY!)

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 #SML-593. Sample B0FBS9 * (1000ml aG) shipped in container # 01-95/100001. Sample B0FBS9 (20ml & 40ml aGs) shipped in container # 01-95/100002.

Relinquished By Print	Sign	Date/Time	Received By Print	Sign	Date/Time
DE Richards	[signature]	8/10/95 0930	Fred Mitchell	[signature]	8-11-95 0830
Relinquished By		Date/Time	Received By		Date/Time
Relinquished By		Date/Time	Received By		Date/Time
Relinquished By 0000007		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

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

A-6001-500 (07/95)

SAMPLE STATUS REPORT FOR E 758. E-BLANK 80FBS9 TIME: 8/ 8/95 10: 4
DISPATCHED: 8/ 2/95 13:44 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 8/ 2/95 15: 9

EXT.	DETER.	RESULTS OR STATUS		OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********		***	***	******
1213	TB-FLTRT	5.33000E 01 uCi/L		N	Y	KP51T
1223	AT-FLTRT	4.67000E 00 uCi/L		N	Y	KP51T
2162	GEA-LIQ	6.75E-3 uCi/L Co60 28% ERROR				KP51T
2162	GEA-LIQ	2.29000E 00 uCi/L	Sb-125	N	Y	KP51T
2162	GEA-LIQ	7.81000E 00 uCi/L	Cs-137	N	Y	KP51T
2162	GEA-LIQ	3.14000E-01 uCi/L	CE-144	N	Y	KP51T
2162	GEA-LIQ	6.90000E-02 uCi/L	Eu-154	N	Y	KP51T
2162	GEA-LIQ	1.83000E-01 uCi/L	Eu-155	N	Y	KP51T
2162	GEA-LIQ	4.23000E-01 uCi/L	Am-241	N	Y	KP51T

END OF REPORT

To Joe
8/12

SAMPLE STATUS REPORT FOR E 7977. E-BLANK ~~93031-02~~ BOFBTO 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

HEALTH HAZARDS

Radiation presents minimal risk to lives of persons during transportation accidents.

Undamaged packages are safe; damaged packages or released material can cause external radiation exposure; released material entering or contaminating the body can cause internal radiation exposure.

Type A packages (cartons, boxes, drums, articles, etc.) identified as "Type A" by marking on packages or by shipping papers contain non-life endangering amounts. Partial releases might be expected if packages are damaged in moderately severe accidents.

Type B packages (large and small, usually metal) identified as "Type B" by marking on packages or by shipping papers contain potentially life endagering amounts. Because of design, evaluation, and testing of packages, life endangering releases are not expected in accidents except those of utmost severity.

Some radioactive materials cannot be detected by commonly available instruments.

Water from control of cargo fire may cause pollution.

FIRE OR EXPLOSION

Some of these materials may burn, but most do not ignite readily.

Radioactivity does not change flammability or other properties of the materials.

Type B packages are designed to withstand temperatures of 1475 deg F(800 deg C)

EMERGENCY ACTION

Priority response actions may be performed before taking radiation measurements.

Priorities are life saving, control of fire and other hazards, and first aid.

Isolate hazard area and deny entry. Notify Radiation Authority of accident conditions.

Keep unnecessary people at least 150 feet upwind of spill; greater distances may be necessary for people downwind, or if advised by Radiation Authority.

Uninjured persons or equipment with suspected contamination should be detained or isolated; delay cleanup until instructions are received from Radiation Authority.

Positive pressure self-contained breathing apparatus (SCBA) and structural firefighters' protective clothing will provide adequate protection against internal radiation exposure, but not external exposure.

CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, CALL CHEMTREC AT 1-800-424-9300.

If water pollution occurs, notify the appropriate authorities.

FIRE

Do not move damaged packages; move undamaged packages out of fire zone.

Small Fires: Dry chemical, CO_2, water spray or regular foam.

Large Fires: Water spray, fog (flooding amounts).

SPILL OR LEAK

Do not touch damaged packages or spilled material.

Slightly damaged or damp outer surfaces seldom indicate failure of inner container.

Small Liquid Spills: Cover with sand, earth or other noncombustible absorbent material.

Dike to collect cargo fire control water.

FIRST AID

Use first aid treatment according to the nature of the injury.

If persons have contacted released material, use standard hazmat procedures for care of contaminated persons, for transport of the injured, and for notifications to authorities.

RADIOACTIVE MATERIAL, NOS, 7, UN-2982

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

OFFSITE RADIOACTIVE SHIPMENT RECORD
- EXTERIOR INSPECTION PERMITTED -

19684

SHIPPING INST.

SHIP TO:
Company: Quanterra Incorporated
Address: 13715 Rider Trail North
City, State, Zip: Earth City Missouri 63045
Attention: George Byrd

Contractor: ☐ PNL ☐ KEH ☒ WHC
Site Carrier: DE Richards
PR No: VG144 Veh. No. 4630

Ship: ☒ Prepaid ☐ Collect Via:
☐ Motor-Rail ☐ Air Psgr
☐ Excl. Use ☒ Air Cargo
☐ DOE Veh. ☐ Mail
☐ UPS Sur. ☐

SHIPMENT DESCRIPTION AND CERTIFICATION

Proper Shipping Name / UN Number
Radioactive Material,
1. Empty Packages ☐ UN 2908
2. Low Specific Activity, n.o.s ☐ UN 2912
3. Limited quantity, n.o.s. ☐ UN 2910
4. N.O.S., 7 ☒ UN 2982
5. Fissile n.o.s. ☐ UN 2918
6. Special Form, n.o.s. ☐ UN 2974
7. Instruments & Articles ☐ UN 2911
8. ☐

Material Form: ☐ Special (A1) ☒ Normal (A2)

Labels Applied: ☐ Empty ☐ Radioactive LSA ☒ White I ☐ Yellow II ☐ Yellow III ☐ None ☐ Danger (Air Cargo) ☐ Secondary

Material Category: ☐ Empty ☐ Low Specific Act. (LSA) ☐ Limited Quantity ☒ Type A Quantity ☐ Type B Quantity ☐ Highway Route Controlled Quantity

For Normal Form Identify:
Physical Form: ☐ Solid ☒ Liquid ☐ Gas
Chemical Form: ☐ Metal ☐ Oxide ☐ Elemental ☒ Nitrate
Other

TYPE PACKAGE: ☐ Strong Tight ☒ Type A ☐ Type B ☐ Type B (U) ☐ Type B (M)

CONSTRUCTION: ☐ Box, FB ☐ Wood ☐ Steel ☐ Drum ☐ Cask ☒ Other Poly Box

FISSILE CLASS: ☒ Non Fissile ☐ Fissile Exempt ☐ Fissile I ☐ Fissile II ☐ Fissile III
Grams Fissile

SNM: ☒ No ☐ Yes ☐ <1 gr ☐ Category I ☐ Category II ☐ Category III

ACCOUNTABILITY/SECURITY CONTROL: ☐ Classified ☒ Unclassified
Consignee authorized to receive this qty ☒
Sig. Security Svc. Req. ☐ NA ☒
~~Pu, EU > 1g ☐ N/A NU, DU > 1 Kg ☐ N/A~~
Security Escorts Req. ☐ Not. Req. ☒
External Cask Temperature (Max. 122° F LTL, 180° F Ex. Use) N/A ☒ °F

Packaging conforms to appropriate packaging procedure ☐ N/A ☒ Yes
Complies with D. O. T packaging marking and labeling requirements ☐ N/A ☒ Yes
Container acceptability documented (incl. 7A cert.) ☐ N/A ☒ Yes

Container examined: No evidence of deterioration or damage ☒ Yes
QA Inspection Current ☒ Yes ☐ N/A Seals required ~~☒ No~~ ☒ Yes
Shipping Doc. 49 CFR 173.415 Authorization No. N/A

No. Pkgs.	Model Package	COC/Spec. No.	Serial No.	Seal No.	Isotopes	Curies/Pkg (MBq/Pkg)	T. I.	Gr. Wt.
1	Type A	4H2V/X21/S/95	01-95/100001	Tamper Tape	Cs^{137}, Am^{241}, Ce^{144}, Eu^{155}, Sb^{125}	1.732 MBq (46.8 μCi)	N/A	18.5 Kg 47.5
1	Type A	4H2V/X21/S/95	01-95/100002	Tamper Tape	Cs^{137}, Am^{241}, Ce^{144}, Eu^{155}, Sb^{125}	0.372 MBq (10.06 μCi)	N/A	18.6 Kg
(Emergency Contact (509) 373-3800)								
(Sample #B0FBS9. C.O.C. #9470. Bottles packed on Blue Ice)								
(Shipper may describe package in detail on one of unused lines above)					TOTAL (56.86 MBq)	2.104 MBq	N/A	38.1 Kg

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: DE Richards | Date: 8/10/95 | Organization: Sampling & Mobile Labs | Complete Cost Code (inc. end function): KP51T / OM612

AREA MONITOR

Surface Dose Rate of Package: ☑ ≤0.5 or ___ mrem/hr (N + βγ)
Dose Rate at 1 Meter from Surface of Package: ☑ ≤0.5 or ___ mrem/hr (N + βγ)
Smears of Outer Container: ☑ ≤22 dpm βγ/cm² ☑ ≤2.2 dpm α/cm²
TRUCK LOAD OR EXCLUSIVE USE
Surface: ☑ ≤200 mrem/hr (N + βγ)
@ 6 feet: ☑ ≤10 mrem/hr (N + βγ)
@ Cab or Sleeper: ☑ ≤2.0 mrem/hr (N + βγ)

Additional Data and Instructions (inc. Readings on Internal Packaging)
Contact <0.5 mR/hr on all internal pkgs

Signature - Radiation Monitoring: Curtis Gyemeyer | Bldg. 202S | Survey No. 444 I-200-40 CE 8-10-95 | Date 8-10-95

AUTHORIZATION FOR SHIPMENT

APPROVAL

AIR TRANSPORT CERTIFICATION ▸ Cargo Only: ☒ Danger Labels Applied
Passenger: ☐ 1. Ltd. Qty. ☐ 2. ≤3 T.I. ☐ 3. Research or Medical Diagnosis ☐ 4. Human Medical Research
Pkg. Dimensions: 43cm x 43cm x 45cm

Traffic has inspected and verified preshipment compliance to DOT regulations.

Authorized Signature ▸ Merrie C. Schilperoort | Printed Name ▸ Merrie C. Schilperoort | Date ▸ 8/10/95

APPROVED FOR OFFSITE SHIPMENT

TRAFFIC

B. L. No. 2MW-9512 | Date Shipped 8/10/95 | E.T.A. 8/11/95 | Routing FEDX ☐ N/A | Placards ☐ Yes ☒ No
Surveyed By | Date 8-10-95 | Approved for Shipment Westinghouse Hanford Company George J. Bonn | Date 8/10/95 | Route Plan ☐ Yes ☒ No

*U.S. GPO: 1992-791-064/80001 S4-6000-088 (10/88)

0000011

Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)
Westinghouse Hanford		[illegible]

PART I – TO BE COMPLETED BY ORIGINATOR

Department	Section	Unit
Hanford Technical Services	Environmental Monitoring	Sampling & Mobile Labs

The following items are to be shipped from ☒ Contractor ☐ Vendor

Routing Federal Express ☒ Contractor ☐ Vendor

Shipped to	Off-site Custodian
QUANTERRA INCORPORATED 13715 Rider Trail North Earth City, Missouri 63045	~~DE Richards~~ George Byrd Full Title: Sample Custodian

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost
1	polycooler. contains glass sample bottles bubble wraped, and double bagged. samples are packed on wet ice. WEIGHT 36 lbs. COOLER # SML-573 BILL OF LADING# [illegible]	N/A

☐ Classified ☒ Unclassified ☐ Shipped Under DOE Contract ☐ Shipped Under Contractor's Use Permit Contract

Necessity for the Off-Site Use of this Property

Project #SAF 95-013. Samples require analysis not currently available at this site.
Sampl. # BTFBTC ; C.o.C # [illegible].

Samples contain radioactive material below DOT limits and Lab Acceptance criteria.

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING.

RM Clearance for Public Release	RM Survey No	Date
N/A per RAD CON Manual requirments	N/A	N/A

Location of Property (Area & Bldg.)	Contact	Phone
600 Area, 6269 bldg.	DE Richards. 373-7002. S3-27 (600/6269)	373-7002

Date Ready for Shipment	Cost Code to be Charged	Approximate Date This Property will be Returned
8/10/95	KP51T/OM624	N/A

Originated By / Relinquished By	Date	Authorized By	Date
DE Richards [signature]	8/10/95	[signature]	[illegible]
Signature and Name of Property Control	**Custodian Date**	**Property Management Approval**	**Date**
		[signature]	[illegible]

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
[signature]				
Date 8-11-95				

DISTRIBUTION

By Originator	Shipping Operation – Sign all Copies and Forward to:	
White, Green, Yellow, Pink – Property Management Goldenrod – Retain	White – Property Management Yellow – Retain	Green – Property Control Custodian (Issuing Office) Pink – Originator

54-3000-479 (09/89)

Quanterra
Environmental Services

NOTIFIED: BW & WP
DATE: 8-11-95
TIME: 10:30
2m

Work Order No.: ~~9094~~ 9093 881

Condition Upon Receipt Variance Report
St. Louis Laboratory

Client: Richland

Date: 8-11-95 @ 8:30

Project No: 519136

Initiated by: [illegible]

Analysis Requested: Refer to RFA/COC

RFA/COC Numbers: 9470

Client Sample Numbers Affected: Entire Login

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

1. NA Not enough sample received for proper analysis. Received approximately: _____
2. ☐ Sample received broken/leaking.
3. ☐ Sample received without proper preservative.
   - ☐ Cooler temperature not within 4°C ± 2°C. Record temperature: 2°C
   - ☐ pH Vol 2°C
   - ☐ other: _____
4. ☐ Sample received in improper container.
5. ☐ Sample received without proper paperwork. Explain: _____
6. ☐ Paperwork received without sample.
7. ☐ No sample ID on sample container.
8. ☐ Custody tape disturbed/broken/missing.
9. NA Sample splits performed by lab.
10. NA Volatile sample received with approximately _____ mm headspace.
11. ☐ Sample ID on container does not match sample ID on paperwork. Explain: _____
12. ☐ All coolers on airbill not received with shipment.
13. ☐ Other (explain below): Shipping containers not rad surveyed. 290 4637 373

Notes:

Corrective Action:

☐ Client's Name: _____ Informed verbally on: _____ By: _____

☐ Client's Name: _____ Informed in writing on: _____ By: _____

☐ Sample(s) processed "as is". Comments: _____

☐ Sample(s) on hold until: _____ If released, notify: _____

Sample Control Supervisor Review: (or designate) [illegible] Date: 8-11-95

Project Management Review: [illegible] Date: 8-14-95

0000013

5862

Westinghouse Hanford Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C # 9470
		Page 1 of 1

Collector RICHARDS, DAVID	Contact/Requestor VILLALOBOS, CARMEN	Tel. No. 373-4753 MSIN S6-19 FAX
SAF Number 95-013B	Sample Origin PUREX, DS/E6 Cell	Purchase Order/Charge Code KP51T
Project Title PUREX Vessel Flush -2	Logbook # WHC-N-205 #52	Ice Chest # See Special Instructions. Temp.
Shipped To (Lab) Quanterra	Method of Shipment Federal Express	Bill of Lading/Air Bill No.
Protocol RCRA	Data Turnaround PRIORITY (15 Day Turnaround)	Offsite Property No. ORSR 8-10-95 ORSR No. 196964

Sample No.	Lab. ID	*	Date	Time	No/Type Container	Sample Analysis	Perservative
B0FBS9		L	8/2/95	0930	(1) 20 aGs ✓	ACTIVITY SCAN (Lab Specific)	4 deg. C
B0FBS9*		L	8/2/95	0930	(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
B0FBS9		L	8/2/95	0930	(1) 40 aGs ✓	pH(9040)	None
B0FBS9		L	8/2/95	0930	(1) 40 aGs ✓	TOC (9060)	COOL TO 4 C
B0FBS9		L	8/2/95	0930	~~(2)~~ 1 40 aGs ✓	VOA (8240)	Cool 4 Deg C
B0FBT0		L	8/2/95	0930	(1) 20 aGs	ACTIVITY SCAN (Lab Specific)	4 deg. C
B0FBT0		L	8/2/95	0930	(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
B0FBT0		L	8/2/95	0930	(1) 40 aGs	pH(9040)	None
B0FBT0		L	8/2/95	0930	(1) 40 aGs	TOC (9060)	COOL TO 4 C
B0FBT0		L	8/2/95	0930	(1) 40 aGs	VOA (8240)	Cool 4 Deg C

POSSIBLE SAMPLE HAZARDS/REMARKS MSDS Yes ☐ No ☒

List all known wastes.

Radioactive Materia/(Sample B0FBS9 ONLY!)

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 #SML-593. Sample B0FBS9 * (1000ml aG) shipped in container # 01-95/100001. Sample B0FBS9 (20ml & 40ml aGs) shipped in container # 01-95/100001

Relinquished By Print / Sign	Date/Time	Received By Print / Sign	Date/Time
DE Richards	8/10/95 0930	George W. Byrd	8-11-95 0845

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)

100001

Quanterra
Environmental Services

C.O.R. and S.O.C.
COPIED TO: Bw/wp
DATE: 8-11-95
TIME: 10:08
Gwa

Work Order No.: 9093

Condition Upon Receipt Variance Report
St. Louis Laboratory

Client: Richland

Date: 8-11-95 0 8~~3~~5

Project No: 519.136

Initiated by: George W Byrd

Analysis Requested: Refer to RFA/COC

RFA/COC Numbers: # 9470

Client Sample Numbers Affected: Entire Login

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

1	NA	Not enough sample received for proper analysis. Received approximately: _____
2	☐	Sample received broken/leaking.
3	☐	Sample received without proper preservative.
	☑	~~Cooler~~ Box temperature not within 4°C ± 2°C. Record temperature: 8.10° C
	☐	pH _____
	☐	other: _____
4	☐	Sample received in improper container.
5	☐	Sample received without proper paperwork. Explain: _____
6	☐	Paperwork received without sample.
7	☐	No sample ID on sample container.
8	☐	Custody tape disturbed/broken/missing.
9.	NA	Sample splits performed by lab.
10.	NA	Volatile sample received with approximately _____ mm headspace.
11	☐	Sample ID on container does not match sample ID on paperwork. Explain: _____
12	☐	All coolers on airbill not received with shipment.
13.	☐	Other (explain below): Shipping containers not rad surveyed. 4936684804

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) George W Byrd Date: 8-11-95

Project Management Review: [illegible] Date: 8-14-95

0000015

5866

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: BOFBS9

Sample Date : 08/02/95
Receipt Date : 08/11/95
Report Date : 08/23/95

Quanterra ID : 9093-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	QCBLK75412-1	08/15/95	08/15/95	10	UG/L	U	10	1
Bromomethane	74-83-9	QCBLK75412-1	08/15/95	08/15/95	10	UG/L	U	10	1
Vinyl Chloride	75-01-4	QCBLK75412-1	08/15/95	08/15/95	10	UG/L	U	10	1
Chloroethane	75-00-3	QCBLK75412-1	08/15/95	08/15/95	10	UG/L	U	10	1
Methylene Chloride	75-09-2	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Acetone	67-64-1	QCBLK75412-1	08/15/95	08/15/95	38	UG/L	J	100	1
Carbon Disulfide	75-15-0	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
1,1-Dichloroethene	75-35-4	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
1,1-Dichloroethane	75-34-3	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
1,2-Dichloroethene (total)	540-59-0	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Chloroform	67-66-3	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
1,2-Dichloroethane	107-06-2	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
2-Butanone	78-93-3	QCBLK75412-1	08/15/95	08/15/95	100	UG/L	U	100	1
1,1,1-Trichloroethane	71-55-6	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Carbon Tetrachloride	56-23-5	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Bromodichloromethane	75-27-4	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
1,2-Dichloropropane	78-87-5	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
cis-1,3-Dichloropropene	10061-01-5	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Trichloroethene	79-01-6	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Dibromochloromethane	124-48-1	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
1,1,2-Trichloroethane	79-00-5	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Benzene	71-43-2	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
trans-1,3-Dichloropropene	10061-02-6	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Bromoform	75-25-2	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
4-Methyl-2-Pentanone	108-10-1	QCBLK75412-1	08/15/95	08/15/95	50	UG/L	U	50	1
2-Hexanone	591-78-6	QCBLK75412-1	08/15/95	08/15/95	50	UG/L	U	50	1
Tetrachloroethene	127-18-4	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Toluene	108-88-3	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Chlorobenzene	108-90-7	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
EthylBenzene	100-41-4	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Styrene	100-42-5	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Xylene (total)	1330-20-7	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Unknown-1	TIC-32	QCBLK75412-1	08/15/95	08/15/95	12	UG/L	J		1
Unknown-2	TIC-33	QCBLK75412-1	08/15/95	08/15/95	15	UG/L	J		1
Unknown-3	TIC-34	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	J		1
Unknown C12H12-1	TIC-181	QCBLK75412-1	08/15/95	08/15/95	9	UG/L	J		1
Unknown C12H12-2	TIC-182	QCBLK75412-1	08/15/95	08/15/95	12	UG/L	J		1
Unknown C12H12-3	TIC-183	QCBLK75412-1	08/15/95	08/15/95	10	UG/L	J		1
Unknown-4	TIC-35	QCBLK75412-1	08/15/95	08/15/95	30	UG/L	J		1
Unknown-5	TIC-36	QCBLK75412-1	08/15/95	08/15/95	280	UG/L	J		1
Toluene-d8 (SURR)	2037-26-5	QCBLK75412-1	08/15/95	08/15/95	99	%REC			1
Bromofluorobenzene (SURR)	460-00-4	QCBLK75412-1	08/15/95	08/15/95	97	%REC			1
1,2-Dichloroethane-d4 (SURR)	17070-07-0	QCBLK75412-1	08/15/95	08/15/95	103	%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

Sample Date : 08/02/95
Receipt Date : 08/11/95
Report Date : 08/23/95

Client ID: BOFBS9

Quanterra ID : 9093-001MS

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
1,1-Dichloroethene	75-35-4	QCBLK75413-1	08/16/95	08/16/95	132	%REC			1
Trichloroethene	79-01-6	QCBLK75413-1	08/16/95	08/16/95	104	%REC			1
Benzene	71-43-2	QCBLK75413-1	08/16/95	08/16/95	108	%REC			1
Toluene	108-88-3	QCBLK75413-1	08/16/95	08/16/95	101	%REC			1
Chlorobenzene	108-90-7	QCBLK75413-1	08/16/95	08/16/95	102	%REC			1
Toluene-d8 (SURR)	2037-26-5	QCBLK75413-1	08/16/95	08/16/95	97	%REC			1
Bromofluorobenzene (SURR)	460-00-4	QCBLK75413-1	08/16/95	08/16/95	95	%REC			1
1,2-Dichloroethane-d4 (SURR)	17070-07-0	QCBLK75413-1	08/16/95	08/16/95	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: BOFBS9

Sample Date : 08/02/95
Receipt Date : 08/11/95
Report Date : 08/23/95

Quanterra ID : 9093-001MSD

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
1,1-Dichloroethene	75-35-4	QCBLK75413-1	08/16/95	08/16/95	133	%REC			1
Trichloroethene	79-01-6	QCBLK75413-1	08/16/95	08/16/95	105	%REC			1
Benzene	71-43-2	QCBLK75413-1	08/16/95	08/16/95	111	%REC			1
Toluene	108-88-3	QCBLK75413-1	08/16/95	08/16/95	102	%REC			1
Chlorobenzene	108-90-7	QCBLK75413-1	08/16/95	08/16/95	103	%REC			1
Toluene-d8 (SURR)	2037-26-5	QCBLK75413-1	08/16/95	08/16/95	97	%REC			1
Bromofluorobenzene (SURR)	460-00-4	QCBLK75413-1	08/16/95	08/16/95	97	%REC			1
1,2-Dichloroethane-d4 (SURR)	17070-07-0	QCBLK75413-1	08/16/95	08/16/95	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: BOFBTO

Sample Date : 08/02/95
Receipt Date : 08/11/95
Report Date : 08/23/95

Quanterra ID : 9093-002

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	QCBLK75412-1	08/15/95	08/15/95	10	UG/L	U	10	1
Bromomethane	74-83-9	QCBLK75412-1	08/15/95	08/15/95	10	UG/L	U	10	1
Vinyl Chloride	75-01-4	QCBLK75412-1	08/15/95	08/15/95	10	UG/L	U	10	1
Chloroethane	75-00-3	QCBLK75412-1	08/15/95	08/15/95	10	UG/L	U	10	1
Methylene Chloride	75-09-2	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Acetone	67-64-1	QCBLK75412-1	08/15/95	08/15/95	100	UG/L	U	100	1
Carbon Disulfide	75-15-0	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
1,1-Dichloroethene	75-35-4	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
1,1-Dichloroethane	75-34-3	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
1,2-Dichloroethene (total)	540-59-0	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Chloroform	67-66-3	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
1,2-Dichloroethane	107-06-2	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
2-Butanone	78-93-3	QCBLK75412-1	08/15/95	08/15/95	100	UG/L	U	100	1
1,1,1-Trichloroethane	71-55-6	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Carbon Tetrachloride	56-23-5	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Bromodichloromethane	75-27-4	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
1,2-Dichloropropane	78-87-5	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
cis-1,3-Dichloropropene	10061-01-5	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Trichloroethene	79-01-6	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Dibromochloromethane	124-48-1	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
1,1,2-Trichloroethane	79-00-5	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Benzene	71-43-2	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
trans-1,3-Dichloropropene	10061-02-6	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Bromoform	75-25-2	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
4-Methyl-2-Pentanone	108-10-1	QCBLK75412-1	08/15/95	08/15/95	50	UG/L	U	50	1
2-Hexanone	591-78-6	QCBLK75412-1	08/15/95	08/15/95	50	UG/L	U	50	1
Tetrachloroethene	127-18-4	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Toluene	108-88-3	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Chlorobenzene	108-90-7	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
EthylBenzene	100-41-4	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Styrene	100-42-5	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Unknown-1	TIC-32	QCBLK75412-1	08/15/95	08/15/95	7	UG/L	J		1
Unknown-2	TIC-33	QCBLK75412-1	08/15/95	08/15/95	6	UG/L	J		1
Xylene (total)	1330-20-7	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Toluene-d8 (SURR)	2037-26-5	QCBLK75412-1	08/15/95	08/15/95	100	%REC			1
Bromofluorobenzene (SURR)	460-00-4	QCBLK75412-1	08/15/95	08/15/95	103	%REC			1
1,2-Dichloroethane-d4 (SURR)	17070-07-0	QCBLK75412-1	08/15/95	08/15/95	103	%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

Sample Date : NA
Receipt Date : NA
Report Date : 08/23/95

Client ID: NA

Quanterra ID : QCBLK75412-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	QCBLK75412-1	08/15/95	08/15/95	10	UG/L	U	10	1
Bromomethane	74-83-9	QCBLK75412-1	08/15/95	08/15/95	10	UG/L	U	10	1
Vinyl Chloride	75-01-4	QCBLK75412-1	08/15/95	08/15/95	10	UG/L	U	10	1
Chloroethane	75-00-3	QCBLK75412-1	08/15/95	08/15/95	10	UG/L	U	10	1
Methylene Chloride	75-09-2	QCBLK75412-1	08/15/95	08/15/95	9	UG/L		5	1
Acetone	67-64-1	QCBLK75412-1	08/15/95	08/15/95	100	UG/L	U	100	1
Carbon Disulfide	75-15-0	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
1,1-Dichloroethene	75-35-4	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
1,1-Dichloroethane	75-34-3	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
1,2-Dichloroethene (total)	540-59-0	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Chloroform	67-66-3	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
1,2-Dichloroethane	107-06-2	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
2-Butanone	78-93-3	QCBLK75412-1	08/15/95	08/15/95	100	UG/L	U	100	1
1,1,1-Trichloroethane	71-55-6	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Carbon Tetrachloride	56-23-5	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Bromodichloromethane	75-27-4	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
1,2-Dichloropropane	78-87-5	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
cis-1,3-Dichloropropene	10061-01-5	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Trichloroethene	79-01-6	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Dibromochloromethane	124-48-1	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
1,1,2-Trichloroethane	79-00-5	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Benzene	71-43-2	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
trans-1,3-Dichloropropene	10061-02-6	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Bromoform	75-25-2	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
4-Methyl-2-Pentanone	108-10-1	QCBLK75412-1	08/15/95	08/15/95	50	UG/L	U	50	1
2-Hexanone	591-78-6	QCBLK75412-1	08/15/95	08/15/95	50	UG/L	U	50	1
Tetrachloroethene	127-18-4	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Toluene	108-88-3	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Chlorobenzene	108-90-7	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
EthylBenzene	100-41-4	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Styrene	100-42-5	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Xylene (total)	1330-20-7	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Toluene-d8 (SURR)	2037-26-5	QCBLK75412-1	08/15/95	08/15/95	99	%REC			1
Bromofluorobenzene (SURR)	460-00-4	QCBLK75412-1	08/15/95	08/15/95	100	%REC			1
1,2-Dichloroethane-d4 (SURR)	17070-07-0	QCBLK75412-1	08/15/95	08/15/95	101	%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 : 08/24/95

Quanterra ID : QCBLK75413-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	QCBLK75413-1	08/15/95	08/15/95	10	UG/L	U	10	1
Bromomethane	74-83-9	QCBLK75413-1	08/15/95	08/15/95	10	UG/L	U	10	1
Vinyl Chloride	75-01-4	QCBLK75413-1	08/15/95	08/15/95	10	UG/L	U	10	1
Chloroethane	75-00-3	QCBLK75413-1	08/15/95	08/15/95	10	UG/L	U	10	1
Methylene Chloride	75-09-2	QCBLK75413-1	08/15/95	08/15/95	5	UG/L	U	5	1
Acetone	67-64-1	QCBLK75413-1	08/15/95	08/15/95	100	UG/L	U	100	1
Carbon Disulfide	75-15-0	QCBLK75413-1	08/15/95	08/15/95	5	UG/L	U	5	1
1,1-Dichloroethene	75-35-4	QCBLK75413-1	08/15/95	08/15/95	5	UG/L	U	5	1
1,1-Dichloroethane	75-34-3	QCBLK75413-1	08/15/95	08/15/95	5	UG/L	U	5	1
1,2-Dichloroethene (total)	540-59-0	QCBLK75413-1	08/15/95	08/15/95	5	UG/L	U	5	1
Chloroform	67-66-3	QCBLK75413-1	08/15/95	08/15/95	5	UG/L	U	5	1
1,2-Dichloroethane	107-06-2	QCBLK75413-1	08/15/95	08/15/95	5	UG/L	U	5	1
2-Butanone	78-93-3	QCBLK75413-1	08/15/95	08/15/95	100	UG/L	U	100	1
1,1,1-Trichloroethane	71-55-6	QCBLK75413-1	08/15/95	08/15/95	5	UG/L	U	5	1
Carbon Tetrachloride	56-23-5	QCBLK75413-1	08/15/95	08/15/95	5	UG/L	U	5	1
Bromodichloromethane	75-27-4	QCBLK75413-1	08/15/95	08/15/95	5	UG/L	U	5	1
1,2-Dichloropropane	78-87-5	QCBLK75413-1	08/15/95	08/15/95	5	UG/L	U	5	1
cis-1,3-Dichloropropene	10061-01-5	QCBLK75413-1	08/15/95	08/15/95	5	UG/L	U	5	1
Trichloroethene	79-01-6	QCBLK75413-1	08/15/95	08/15/95	5	UG/L	U	5	1
Dibromochloromethane	124-48-1	QCBLK75413-1	08/15/95	08/15/95	5	UG/L	U	5	1
1,1,2-Trichloroethane	79-00-5	QCBLK75413-1	08/15/95	08/15/95	5	UG/L	U	5	1
Benzene	71-43-2	QCBLK75413-1	08/15/95	08/15/95	5	UG/L	U	5	1
trans-1,3-Dichloropropene	10061-02-6	QCBLK75413-1	08/15/95	08/15/95	5	UG/L	U	5	1
Bromoform	75-25-2	QCBLK75413-1	08/15/95	08/15/95	5	UG/L	U	5	1
4-Methyl-2-Pentanone	108-10-1	QCBLK75413-1	08/15/95	08/15/95	50	UG/L	U	50	1
2-Hexanone	591-78-6	QCBLK75413-1	08/15/95	08/15/95	50	UG/L	U	50	1
Tetrachloroethene	127-18-4	QCBLK75413-1	08/15/95	08/15/95	5	UG/L	U	5	1
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK75413-1	08/15/95	08/15/95	5	UG/L	U	5	1
Toluene	108-88-3	QCBLK75413-1	08/15/95	08/15/95	5	UG/L	U	5	1
Chlorobenzene	108-90-7	QCBLK75413-1	08/15/95	08/15/95	5	UG/L	U	5	1
EthylBenzene	100-41-4	QCBLK75413-1	08/15/95	08/15/95	5	UG/L	U	5	1
Styrene	100-42-5	QCBLK75413-1	08/15/95	08/15/95	5	UG/L	U	5	1
Xylene (total)	1330-20-7	QCBLK75413-1	08/15/95	08/15/95	5	UG/L	U	5	1
Toluene-d8 (SURR)	2037-26-5	QCBLK75413-1	08/15/95	08/15/95	97	%REC			1
Bromofluorobenzene (SURR)	460-00-4	QCBLK75413-1	08/15/95	08/15/95	94	%REC			1
1,2-Dichloroethane-d4 (SURR)	17070-07-0	QCBLK75413-1	08/15/95	08/15/95	103	%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

Sample Date : NA
Receipt Date : NA
Report Date : 08/23/95

Client ID: NA

Quanterra ID : QCLCS75412-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
1,1-Dichloroethene	75-35-4	QCBLK75412-1	08/15/95	08/15/95	126	%REC			1
Trichloroethene	79-01-6	QCBLK75412-1	08/15/95	08/15/95	104	%REC			1
Benzene	71-43-2	QCBLK75412-1	08/15/95	08/15/95	108	%REC			1
Toluene	108-88-3	QCBLK75412-1	08/15/95	08/15/95	104	%REC			1
Chlorobenzene	108-90-7	QCBLK75412-1	08/15/95	08/15/95	101	%REC			1
Toluene-d8 (SURR)	2037-26-5	QCBLK75412-1	08/15/95	08/15/95	99	%REC			1
Bromofluorobenzene (SURR)	460-00-4	QCBLK75412-1	08/15/95	08/15/95	104	%REC			1
1,2-Dichloroethane-d4 (SURR)	17070-07-0	QCBLK75412-1	08/15/95	08/15/95	105	%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 : 08/23/95

Quanterra ID : QCLCS75413-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
1,1-Dichloroethene	75-35-4	QCBLK75413-1	08/15/95	08/15/95	125	%REC			1
Trichloroethene	79-01-6	QCBLK75413-1	08/15/95	08/15/95	104	%REC			1
Benzene	71-43-2	QCBLK75413-1	08/15/95	08/15/95	107	%REC			1
Toluene	108-88-3	QCBLK75413-1	08/15/95	08/15/95	100	%REC			1
Chlorobenzene	108-90-7	QCBLK75413-1	08/15/95	08/15/95	103	%REC			1
Toluene-d8 (SURR)	2037-26-5	QCBLK75413-1	08/15/95	08/15/95	98	%REC			1
Bromofluorobenzene (SURR)	460-00-4	QCBLK75413-1	08/15/95	08/15/95	98	%REC			1
1,2-Dichloroethane-d4 (SURR)	17070-07-0	QCBLK75413-1	08/15/95	08/15/95	105	%REC			1

2A
WATER VOLATILE SURROGATE RECOVERY

Lab Name: QUANTERRA MO Contract: 519-136

Lab Code: ITMO Case No.: V09301 SDG No.: W0683

	EPA SAMPLE NO.	S1 (TOL) #	S2 (BFB) #	S3 (DCE) #	OTHER	TOT OUT
01	B0FBS9	99	97	103	0	0
02	B0FBT0	100	103	103	0	0
03	VSPK01	99	104	105	0	0
04	VSPK02	98	98	105	0	0
05	B0FBS9MS	97	95	106	0	0
06	B0FBS9MSD	97	97	104	0	0
07	VBLK01	99	100	101	0	0
08	VBLK02	97	94	103	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.

B0FBS9

Lab Name: QUANTERRA MO Contract: 519-136

Lab Code: ITMO Case No.: V09301 SDG No.: W0683

Matrix: (soil/water) WATER Lab Sample ID: 9093-001

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: B4963

Level: (low/med) LOW Date Received: 08/11/95

% Moisture: not dec. Date Analyzed: 08/15/95

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	38	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.

B0FBS9

Lab Name: QUANTERRA MO Contract: 519-136

Lab Code: ITMO Case No.: V09301 SDG No.: W0683

Matrix: (soil/water) WATER Lab Sample ID: 9093-001

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: B4963

Level: (low/med) LOW Date Received: 08/11/95

% Moisture: not dec. Date Analyzed: 08/15/95

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 8

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	13.72	12	J
2.	UNKNOWN	20.72	15	J
3.	UNKNOWN	26.41	5	J
4.	Unknown C12H12	26.95	9	J
5.	Unknown C12H12	27.17	12	J
6.	Unknown C12H12	27.75	10	J
7.	UNKNOWN	28.40	30	J
8.	UNKNOWN	29.76	280	J

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0FBT0

Lab Name: QUANTERRA MO Contract: 519-136

Lab Code: ITMO Case No.: V09301 SDG No.: W0683

Matrix: (soil/water) WATER Lab Sample ID: 9093-002

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: B4964

Level: (low/med) LOW Date Received: 08/11/95

% Moisture: not dec. Date Analyzed: 08/15/95

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.

B0FBT0

Lab Name: QUANTERRA MO Contract: 519-136

Lab Code: ITMO Case No.: V09301 SDG No.: W0683

Matrix: (soil/water) WATER Lab Sample ID: 9093-002

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: B4964

Level: (low/med) LOW Date Received: 08/11/95

% Moisture: not dec. Date Analyzed: 08/15/95

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	25.95	7	J
2.	UNKNOWN	29.74	6	J

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: QUANTERRA MO Contract: 519-136

Lab Code: ITMO Case No.: V09301 SDG No.: W0683

Matrix Spike - EPA Sample No.: B0FBS9

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	50.0	0	65.8	132	61-145
Trichloroethene	50.0	0	52.1	104	71-120
Benzene	50.0	0	54.1	108	76-127
Toluene	50.0	0	50.4	101	76-125
Chlorobenzene	50.0	0	50.8	102	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	66.4	133	-1	14	61-145
Trichloroethene	50.0	52.7	105	-1	14	71-120
Benzene	50.0	55.4	111	-3	11	76-127
Toluene	50.0	51.1	102	-1	13	76-125
Chlorobenzene	50.0	51.4	103	-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: 9093-001
MSB,RER,519.136,WATE

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0FBS9MS

Lab Name: QUANTERRA MO Contract: 519-136

Lab Code: ITMO Case No.: V09301 SDG No.: W0683

Matrix: (soil/water) WATER Lab Sample ID: 9093-001MS

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: B4971

Level: (low/med) LOW Date Received: 08/11/95

% Moisture: not dec. Date Analyzed: 08/16/95

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	46	J
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	66	
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	52	
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	54	
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	50	
108-90-7	Chlorobenzene	51	
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.

B0FBS9MSD

Lab Name: QUANTERRA MO Contract: 519-136

Lab Code: ITMO Case No.: V09301 SDG No.: W0683

Matrix: (soil/water) WATER Lab Sample ID: 9093-001MSD

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: B4972

Level: (low/med) LOW Date Received: 08/11/95

% Moisture: not dec. Date Analyzed: 08/16/95

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	44	J
75-15-0	Carbon Disulfide	5	J
75-35-4	1,1-Dichloroethene	66	
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	53	
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	55	
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	51	
108-90-7	Chlorobenzene	51	
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.: V09301 SDG No.: W0683

Lab File ID: B4953 Lab Sample ID: QCBLK75412

Date Analyzed: 08/15/95 Time Analyzed: 0954

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

Instrument ID: MSB

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	B0FBS9	9093-001	B4963	1815
02	B0FBT0	9093-002	B4964	1852
03	VSPK01	QCSPK75412	B4962	1629

COMMENTS:

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK01

Lab Name: QUANTERRA MO Contract: 519-136

Lab Code: ITMO Case No.: V09301 SDG No.: W0683

Matrix: (soil/water) WATER Lab Sample ID: QCBLK75412

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: B4953

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 08/15/95

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	9	
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.: V09301 SDG No.: W0683

Matrix: (soil/water) WATER Lab Sample ID: QCBLK75412

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: B4953

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 08/15/95

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

4A
VOLATILE METHOD BLANK SUMMARY

Lab Name: QUANTERRA MO Contract: 519-136

Lab Code: ITMO Case No.: V09301 SDG No.: W0683

Lab File ID: B4968 Lab Sample ID: QCBLK75413

Date Analyzed: 08/15/95 Time Analyzed: 2233

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

Instrument ID: MSB

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	VSPK02	QCSPK75413	B4969	2310
02	B0FBS9MS	9093-001MS	B4971	0147
03	B0FBS9MSD	9093-001MSD	B4972	0224

COMMENTS:

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK02

Lab Name: QUANTERRA MO Contract: 519-136

Lab Code: ITMO Case No.: V09301 SDG No.: W0683

Matrix: (soil/water) WATER Lab Sample ID: QCBLK75413

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: B4968

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 08/15/95

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.

VBLK02

Lab Name: QUANTERRA MO Contract: 519-136

Lab Code: ITMO Case No.: V09301 SDG No.: W0683

Matrix: (soil/water) WATER Lab Sample ID: QCBLK75413

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: B4968

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 08/15/95

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.: V09301 SAS No.: SDG No.: W0683

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	63	126	1-234
Trichloroethene	50	52	104	71-157
Benzene	50	54	108	37-151
Toluene	50	52	104	47-150
Chlorobenzene	50	50	101	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.: V09301 SDG No.: W0683

Matrix: (soil/water) WATER Lab Sample ID: QCSPK75412

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: B4962

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 08/15/95

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	9	B
67-64-1	Acetone	100	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	63	
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	52	
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	54	--
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	52	
108-90-7	Chlorobenzene	50	
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

9A-LCS
VOA WATER LCS RECOVERY

Lab Name: QUANTERRA MO Contract: 519-136

Lab Code: ITMO Case No.: V09301 SAS No.: SDG No.: W0683

EPA Sample No.: VSPK02 Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC LIMITS REC.
1,1-Dichloroethene	50	62	125	1-234
Trichloroethene	50	52	104	71-157
Benzene	50	54	107	37-151
Toluene	50	50	100	47-150
Chlorobenzene	50	52	103	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.

VSPK02

Lab Name: QUANTERRA MO Contract: 519-136

Lab Code: ITMO Case No.: V09301 SDG No.: W0683

Matrix: (soil/water) WATER Lab Sample ID: QCSPK75413

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: B4969

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 08/15/95

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	62	
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	52	
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	54	
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	50	
108-90-7	Chlorobenzene	52	
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 : 08/02/95
Receipt Date : 08/11/95
Report Date : 08/23/95

Client ID: B0FBS9

Quanterra ID : 9093-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK75589-1	08/17/95	08/18/95	24.6	UG/L	U	200	1
Antimony	7440-36-0	QCBLK75589-1	08/17/95	08/18/95	45.9	UG/L	U	100	1
Barium	7440-39-3	QCBLK75589-1	08/17/95	08/18/95	12.1	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK75589-1	08/17/95	08/18/95	0.50	UG/L	U	7.0	1
Cadmium	7440-43-9	QCBLK75589-1	08/17/95	08/18/95	74.5	UG/L		20.0	1
Calcium	7440-70-2	QCBLK75589-1	08/17/95	08/18/95	14300	UG/L		5000	1
Chromium	7440-47-3	QCBLK75589-1	08/17/95	08/18/95	215	UG/L		20.0	1
Cobalt	7440-48-4	QCBLK75589-1	08/17/95	08/18/95	4.3	UG/L	U	50.0	1
Copper	7440-50-8	QCBLK75589-1	08/17/95	08/18/95	36.8	UG/L		25.0	1
Iron	7439-89-6	QCBLK75589-1	08/17/95	08/18/95	507	UG/L		100	1
Lead	7439-92-1	QCBLK75589-1	08/17/95	08/18/95	41.3	UG/L	U	100	1
Magnesium	7439-95-4	QCBLK75589-1	08/17/95	08/18/95	3320	UG/L	B	5000	1
Manganese	7439-96-5	QCBLK75589-1	08/17/95	08/18/95	165	UG/L		15.0	1
Nickel	7440-02-0	QCBLK75589-1	08/17/95	08/18/95	148	UG/L		40.0	1
Potassium	7440-09-7	QCBLK75589-1	08/17/95	08/18/95	1060	UG/L	U	5000	1
Silver	7440-22-4	QCBLK75589-1	08/17/95	08/18/95	2.2	UG/L	U	200	1
Sodium	7440-23-5	QCBLK75589-1	08/17/95	08/18/95	2800	UG/L		1000	1
Vanadium	7440-62-2	QCBLK75589-1	08/17/95	08/18/95	5.8	UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK75589-1	08/17/95	08/18/95	26.0	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: BOFBS9

Sample Date : 08/02/95
Receipt Date : 08/11/95
Report Date : 08/23/95

Quanterra ID : 9093-001MS

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK75589-1	08/17/95	08/18/95	97	%REC			1
Antimony	7440-36-0	QCBLK75589-1	08/17/95	08/18/95	110	%REC			1
Barium	7440-39-3	QCBLK75589-1	08/17/95	08/18/95	102	%REC			1
Beryllium	7440-41-7	QCBLK75589-1	08/17/95	08/18/95	106	%REC			1
Cadmium	7440-43-9	QCBLK75589-1	08/17/95	08/18/95	98	%REC			1
Chromium	7440-47-3	QCBLK75589-1	08/17/95	08/18/95	110	%REC			1
Cobalt	7440-48-4	QCBLK75589-1	08/17/95	08/18/95	103	%REC			1
Copper	7440-50-8	QCBLK75589-1	08/17/95	08/18/95	103	%REC			1
Iron	7439-89-6	QCBLK75589-1	08/17/95	08/18/95	106	%REC			1
Lead	7439-92-1	QCBLK75589-1	08/17/95	08/18/95	86	%REC			1
Manganese	7439-96-5	QCBLK75589-1	08/17/95	08/18/95	105	%REC			1
Nickel	7440-02-0	QCBLK75589-1	08/17/95	08/18/95	105	%REC			1
Silver	7440-22-4	QCBLK75589-1	08/17/95	08/18/95	77	%REC			1
Vanadium	7440-62-2	QCBLK75589-1	08/17/95	08/18/95	103	%REC			1
Zinc	7440-66-6	QCBLK75589-1	08/17/95	08/18/95	104	%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 : 08/02/95
Receipt Date : 08/11/95
Report Date : 08/23/95

Client ID: B0FBS9

Quanterra ID : 9093-001MSD

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK75589-1	08/17/95	08/18/95	96	%REC			1
Antimony	7440-36-0	QCBLK75589-1	08/17/95	08/18/95	104	%REC			1
Barium	7440-39-3	QCBLK75589-1	08/17/95	08/18/95	102	%REC			1
Beryllium	7440-41-7	QCBLK75589-1	08/17/95	08/18/95	105	%REC			1
Cadmium	7440-43-9	QCBLK75589-1	08/17/95	08/18/95	97	%REC			1
Chromium	7440-47-3	QCBLK75589-1	08/17/95	08/18/95	107	%REC			1
Cobalt	7440-48-4	QCBLK75589-1	08/17/95	08/18/95	102	%REC			1
Copper	7440-50-8	QCBLK75589-1	08/17/95	08/18/95	102	%REC			1
Iron	7439-89-6	QCBLK75589-1	08/17/95	08/18/95	105	%REC			1
Lead	7439-92-1	QCBLK75589-1	08/17/95	08/18/95	85	%REC			1
Manganese	7439-96-5	QCBLK75589-1	08/17/95	08/18/95	104	%REC			1
Nickel	7440-02-0	QCBLK75589-1	08/17/95	08/18/95	103	%REC			1
Silver	7440-22-4	QCBLK75589-1	08/17/95	08/18/95	77	%REC			1
Vanadium	7440-62-2	QCBLK75589-1	08/17/95	08/18/95	102	%REC			1
Zinc	7440-66-6	QCBLK75589-1	08/17/95	08/18/95	104	%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

Client ID: BOFBTO

Sample Date : 08/02/95
Receipt Date : 08/11/95
Report Date : 08/23/95

Quanterra ID : 9093-002

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK75589-1	08/17/95	08/18/95	24.6	UG/L	U	200	1
Antimony	7440-36-0	QCBLK75589-1	08/17/95	08/18/95	45.9	UG/L	U	100	1
Barium	7440-39-3	QCBLK75589-1	08/17/95	08/18/95	3.4	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK75589-1	08/17/95	08/18/95	0.50	UG/L	U	7.0	1
Cadmium	7440-43-9	QCBLK75589-1	08/17/95	08/18/95	3.1	UG/L	U	20.0	1
Calcium	7440-70-2	QCBLK75589-1	08/17/95	08/18/95	1890	UG/L	B	5000	1
Chromium	7440-47-3	QCBLK75589-1	08/17/95	08/18/95	2.8	UG/L	U	20.0	1
Cobalt	7440-48-4	QCBLK75589-1	08/17/95	08/18/95	4.3	UG/L	U	50.0	1
Copper	7440-50-8	QCBLK75589-1	08/17/95	08/18/95	10.2	UG/L	B	25.0	1
Iron	7439-89-6	QCBLK75589-1	08/17/95	08/18/95	41.0	UG/L	B	100	1
Lead	7439-92-1	QCBLK75589-1	08/17/95	08/18/95	41.3	UG/L	U	100	1
Magnesium	7439-95-4	QCBLK75589-1	08/17/95	08/18/95	359	UG/L	B	5000	1
Manganese	7439-96-5	QCBLK75589-1	08/17/95	08/18/95	2.2	UG/L	B	15.0	1
Nickel	7440-02-0	QCBLK75589-1	08/17/95	08/18/95	14.2	UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK75589-1	08/17/95	08/18/95	1060	UG/L	U	5000	1
Silver	7440-22-4	QCBLK75589-1	08/17/95	08/18/95	2.2	UG/L	U	200	1
Sodium	7440-23-5	QCBLK75589-1	08/17/95	08/18/95	486	UG/L	B	1000	1
Vanadium	7440-62-2	QCBLK75589-1	08/17/95	08/18/95	3.9	UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK75589-1	08/17/95	08/18/95	14.9	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

Client ID: NA

Sample Date : NA
Receipt Date : NA
Report Date : 08/23/95

Quanterra ID : QCBLK75589-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK75589-1	08/17/95	08/18/95	91.5	UG/L	B	200	1
Antimony	7440-36-0	QCBLK75589-1	08/17/95	08/18/95	45.9	UG/L	U	100	1
Barium	7440-39-3	QCBLK75589-1	08/17/95	08/18/95	0.64	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK75589-1	08/17/95	08/18/95	0.50	UG/L	U	7.0	1
Cadmium	7440-43-9	QCBLK75589-1	08/17/95	08/18/95	3.1	UG/L	U	20.0	1
Calcium	7440-70-2	QCBLK75589-1	08/17/95	08/18/95	82.4	UG/L	B	5000	1
Chromium	7440-47-3	QCBLK75589-1	08/17/95	08/18/95	3.0	UG/L	B	20.0	1
Cobalt	7440-48-4	QCBLK75589-1	08/17/95	08/18/95	4.3	UG/L	U	50.0	1
Copper	7440-50-8	QCBLK75589-1	08/17/95	08/18/95	5.2	UG/L	B	25.0	1
Iron	7439-89-6	QCBLK75589-1	08/17/95	08/18/95	44.5	UG/L	B	100	1
Lead	7439-92-1	QCBLK75589-1	08/17/95	08/18/95	41.3	UG/L	U	100	1
Magnesium	7439-95-4	QCBLK75589-1	08/17/95	08/18/95	158	UG/L	B	5000	1
Manganese	7439-96-5	QCBLK75589-1	08/17/95	08/18/95	1.4	UG/L	U	15.0	1
Nickel	7440-02-0	QCBLK75589-1	08/17/95	08/18/95	14.2	UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK75589-1	08/17/95	08/18/95	1060	UG/L	U	5000	1
Silver	7440-22-4	QCBLK75589-1	08/17/95	08/18/95	2.2	UG/L	U	200	1
Sodium	7440-23-5	QCBLK75589-1	08/17/95	08/18/95	64.2	UG/L	B	1000	1
Vanadium	7440-62-2	QCBLK75589-1	08/17/95	08/18/95	5.4	UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK75589-1	08/17/95	08/18/95	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 : 08/23/95

Quanterra ID : QCLCS75589-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK75589-1	08/17/95	08/18/95	104	%REC			1
Antimony	7440-36-0	QCBLK75589-1	08/17/95	08/18/95	103	%REC			1
Barium	7440-39-3	QCBLK75589-1	08/17/95	08/18/95	97	%REC			1
Beryllium	7440-41-7	QCBLK75589-1	08/17/95	08/18/95	102	%REC			1
Cadmium	7440-43-9	QCBLK75589-1	08/17/95	08/18/95	100	%REC			1
Calcium	7440-70-2	QCBLK75589-1	08/17/95	08/18/95	101	%REC			1
Chromium	7440-47-3	QCBLK75589-1	08/17/95	08/18/95	103	%REC			1
Cobalt	7440-48-4	QCBLK75589-1	08/17/95	08/18/95	101	%REC			1
Copper	7440-50-8	QCBLK75589-1	08/17/95	08/18/95	102	%REC			1
Iron	7439-89-6	QCBLK75589-1	08/17/95	08/18/95	106	%REC			1
Lead	7439-92-1	QCBLK75589-1	08/17/95	08/18/95	103	%REC			1
Magnesium	7439-95-4	QCBLK75589-1	08/17/95	08/18/95	101	%REC			1
Manganese	7439-96-5	QCBLK75589-1	08/17/95	08/18/95	101	%REC			1
Nickel	7440-02-0	QCBLK75589-1	08/17/95	08/18/95	102	%REC			1
Potassium	7440-09-7	QCBLK75589-1	08/17/95	08/18/95	97	%REC			1
Silver	7440-22-4	QCBLK75589-1	08/17/95	08/18/95	81	%REC			1
Sodium	7440-23-5	QCBLK75589-1	08/17/95	08/18/95	101	%REC			1
Vanadium	7440-62-2	QCBLK75589-1	08/17/95	08/18/95	102	%REC			1
Zinc	7440-66-6	QCBLK75589-1	08/17/95	08/18/95	103	%REC			1

Quanterra-Richland
Westinghouse Hanford Company
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Richland, WA 99352

Quanterra Environmental Services

Project: 519.136

Category: Arsenic
Method: EPA 7060
Matrix: LIQUID

Sample Date : 08/02/95
Receipt Date : 08/11/95
Report Date : 08/23/95

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
B0FBS9	9093-001	Arsenic	7440-38-2	QCBLK75649-1	08/17/95	08/17/95	1.0	UG/L	U	10.0	1
B0FBS9	9093-001MS	Arsenic	7440-38-2	QCBLK75649-1	08/17/95	08/17/95	69	%REC			1
B0FBS9	9093-001MSD	Arsenic	7440-38-2	QCBLK75649-1	08/17/95	08/17/95	68	%REC			1
B0FBT0	9093-002	Arsenic	7440-38-2	QCBLK75649-1	08/17/95	08/17/95	1.0	UG/L	U	10.0	1
NA	QCBLK75649-1	Arsenic	7440-38-2	QCBLK75649-1	08/17/95	08/17/95	1.0	UG/L	U	10.0	1
NA	QCLCS75649-1	Arsenic	7440-38-2	QCBLK75649-1	08/17/95	08/17/95	102	%REC			1

Quanterra Environmental Services

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

Project: 519.136

Category: Selenium
Method: EPA 7000 Series
Matrix: LIQUID

Sample Date : 08/02/95
Receipt Date : 08/11/95
Report Date : 08/23/95

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
B0FBS9	9093-001	Selenium	7782-49-2	QCBLK75649-1	08/17/95	08/21/95	1.0	UG/L	U	5.0	1
B0FBS9	9093-001MS	Selenium	7782-49-2	QCBLK75649-1	08/17/95	08/21/95	31	%REC			1
B0FBS9	9093-001MSD	Selenium	7782-49-2	QCBLK75649-1	08/17/95	08/21/95	99	%REC			1
B0FBT0	9093-002	Selenium	7782-49-2	QCBLK75649-1	08/17/95	08/21/95	1.0	UG/L	U	5.0	1
NA	QCBLK75649-1	Selenium	7782-49-2	QCBLK75649-1	08/17/95	08/21/95	1.0	UG/L	U	5.0	1
NA	QCLCS75649-1	Selenium	7782-49-2	QCBLK75649-1	08/17/95	08/21/95	100	%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 : 08/02/95
Receipt Date : 08/11/95
Report Date : 08/23/95

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
B0FBS9	9093-001	Mercury	7439-97-6	QCBLK75575-1	08/17/95	08/17/95	9.0	UG/L		0.20	1
B0FBS9	9093-001MS	Mercury	7439-97-6	QCBLK75575-1	08/17/95	08/17/95	85	%REC			1
B0FBS9	9093-001MSD	Mercury	7439-97-6	QCBLK75575-1	08/17/95	08/17/95	86	%REC			1
B0FBT0	9093-002	Mercury	7439-97-6	QCBLK75575-1	08/17/95	08/17/95	0.10	UG/L	B	0.20	1
NA	QCBLK75575-1	Mercury	7439-97-6	QCBLK75575-1	08/17/95	08/17/95	0.10	UG/L	U	0.20	1
NA	QCLCS75575-1	Mercury	7439-97-6	QCBLK75575-1	08/17/95	08/17/95	101	%REC			1

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1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0FBS9

Lab Name: QUANTERRA MO Contract: 519.136
Lab Code: ITMO Case No.: SAS No.: SDG No.: W0683
Matrix (soil/water): WATER Lab Sample ID: 9093-001
Level (low/med): LOW Date Received: 08/11/95
% 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	12.1	B		P
7440-41-7	Beryllium	0.50	U		P
7440-43-9	Cadmium	74.5			P
7440-70-2	Calcium	14300			P
7440-47-3	Chromium	215			P
7440-48-4	Cobalt	4.3	U		P
7440-50-8	Copper	36.8			P
7439-89-6	Iron	507			P
7439-92-1	Lead	41.3	U		P
7439-95-4	Magnesium	3320	B	E	P
7439-96-5	Manganese	165			P
7439-97-6	Mercury	9.0			CV
7440-02-0	Nickel	148			P
7440-09-7	Potassium	1060	U		P
7782-49-2	Selenium	1.0	U	N	F
7440-22-4	Silver	2.2	U		P
7440-23-5	Sodium	2800			P
7440-62-2	Vanadium	5.8	B		P
7440-66-6	Zinc	26.0			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.

B0FBT0

Lab Name: QUANTERRA MO Contract: 519.136
Lab Code: ITMO Case No.: SAS No.: SDG No.: W0683
Matrix (soil/water): WATER Lab Sample ID: 9093-002
Level (low/med): LOW Date Received: 08/11/95
% 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	3.4	B		P
7440-41-7	Beryllium	0.50	U		P
7440-43-9	Cadmium	3.1	U		P
7440-70-2	Calcium	1890	B		P
7440-47-3	Chromium	2.8	U		P
7440-48-4	Cobalt	4.3	U		P
7440-50-8	Copper	10.2	B		P
7439-89-6	Iron	41.0	B		P
7439-92-1	Lead	41.3	U		P
7439-95-4	Magnesium	359	B	E	P
7439-96-5	Manganese	2.2	B		P
7439-97-6	Mercury	0.10	B		CV
7440-02-0	Nickel	14.2	U		P
7440-09-7	Potassium	1060	U		P
7782-49-2	Selenium	1.0	U	N	F
7440-22-4	Silver	2.2	U		P
7440-23-5	Sodium	486	B		P
7440-62-2	Vanadium	3.9	B		P
7440-66-6	Zinc	14.9	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.: W0683_____

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	24.6	U	45.1	B	91.520	B	P
Antimony	45.9	U	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	1.2	B	1.3	B	1.8	B	1.4	B	0.640	B	P
Beryllium	1.0	B	1.3	B	1.6	B	1.4	B	0.500	U	P
Cadmium	3.1	U	3.1	U	3.1	U	3.1	U	3.100	U	P
Calcium	18.2	U	19.3	B	22.2	B	38.9	B	82.420	B	P
Chromium	3.3	B	3.7	B	3.0	B	2.9	B	2.970	B	P
Cobalt	4.3	U	4.3	U	4.3	U	4.3	U	4.300	U	P
Copper	5.6	B	5.9	B	8.6	B	9.1	B	5.210	B	P
Iron	14.8	B	15.1	B	20.0	B	27.7	B	44.480	B	P
Lead	41.3	U	41.3	U	41.3	U	41.3	U	41.300	U	P
Magnesium	72.3	B	105.4	B	94.9	B	134.6	B	158.040	B	P
Manganese	2.0	B	2.0	B	2.5	B	2.3	B	1.400	U	P
Mercury	0.1	U	0.1	U	0.1	U	0.1	U	0.100	U	CV
Nickel	14.2	U	14.2	U	14.2	U	14.2	U	14.200	U	P
Potassium	1060.0	U	1060.0	U	-1611.1	B	-1261.7	B	1060.000	U	P
Selenium	1.0	U	1.0	U	1.0	U			1.000	U	F
Silver	2.2	U	2.2	U	2.2	U	2.2	U	2.200	U	P
Sodium	47.4	U	66.7	B	70.8	B	70.8	B	64.240	B	P
Vanadium	5.0	B	7.4	B	6.8	B	8.6	B	5.400	B	P
Zinc	2.5	U	2.5	U	2.5	U	2.5	U	2.500	U	P

FORM III - IN

SW-846

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3
BLANKS

Lab Name: QUANTERRA_MO_____ Contract: 519.136___

Lab Code: ITMO__ Case No.: _____ SAS No.: _____ SDG No.: W0683_____

Preparation Blank Matrix (soil/water): _____

Preparation Blank Concentration Units (ug/L or mg/kg): _____

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	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			0.1	U							CV
Nickel											NR
Potassium											NR
Selenium											NR
Silver											NR
Sodium											NR
Vanadium											NR
Zinc											NR

FORM III - IN

SW-846

U.S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

B0FBS9S

Lab Name: QUANTERRA_MO Contract: 519.136

Lab Code: ITMO Case No.: _____ SAS No.: _____ SDG No.: W0683

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	1935.2600		24.6000	U	2000.00	96.8		P
Antimony	75-125	548.2300		45.9000	U	500.00	109.6		P
Arsenic	75-125	27.5400		1.0000	U	40.00	68.8	N	F
Barium	75-125	2051.8700		12.0800	B	2000.00	102.0		P
Beryllium	75-125	52.9900		0.5000	U	50.00	106.0		P
Cadmium	75-125	123.6300		74.5000		50.00	98.3		P
Calcium									NR
Chromium	75-125	436.2600		215.2900		200.00	110.5		P
Cobalt	75-125	514.1700		4.3000	U	500.00	102.8		P
Copper	75-125	294.4700		36.8100		250.00	103.1		P
Iron	75-125	1569.3700		507.2300		1000.00	106.2		P
Lead	75-125	432.4800		41.3000	U	500.00	86.5		P
Magnesium									NR
Manganese	75-125	689.4900		164.9100		500.00	104.9		P
Mercury		9.8800		9.0300		1.00	85.0		CV
Nickel	75-125	673.5600		148.1100		500.00	105.1		P
Potassium									NR
Selenium	75-125	3.0900	B	1.0000	U	10.00	30.9	N	F
Silver	75-125	38.3000	B	2.2000	U	50.00	76.6		P
Sodium									NR
Vanadium	75-125	522.7400		5.7500	B	500.00	103.4		P
Zinc	75-125	546.0700		26.0000		500.00	104.0		P

Comments:

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5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

B0FBS9SD

Lab Name: QUANTERRA_MO Contract: 519.136

Lab Code: ITMO Case No.: SAS No.: SDG No.: W0683

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	1913.0000		24.6000	U	2000.00	95.6		P
Antimony	75-125	521.5400		45.9000	U	500.00	104.3		P
Arsenic	75-125	27.0600		1.0000	U	40.00	67.6	N	F
Barium	75-125	2047.8500		12.0800	B	2000.00	101.8		P
Beryllium	75-125	52.7200		0.5000	U	50.00	105.4		P
Cadmium	75-125	123.1900		74.5000		50.00	97.4		P
Calcium									NR
Chromium	75-125	430.0400		215.2900		200.00	107.4		P
Cobalt	75-125	510.0300		4.3000	U	500.00	102.0		P
Copper	75-125	293.0700		36.8100		250.00	102.5		P
Iron	75-125	1561.1300		507.2300		1000.00	105.4		P
Lead	75-125	423.4500		41.3000	U	500.00	84.7		P
Magnesium									NR
Manganese	75-125	686.1400		164.9100		500.00	104.2		P
Mercury		9.8900		9.0300		1.00	86.0		CV
Nickel	75-125	663.5100		148.1100		500.00	103.1		P
Potassium									NR
Selenium	75-125	9.9100		1.0000	U	10.00	99.1		F
Silver	75-125	38.4000	B	2.2000	U	50.00	76.8		P
Sodium									NR
Vanadium	75-125	514.5700		5.7500	B	500.00	101.8		P
Zinc	75-125	543.6900		26.0000		500.00	103.5		P

Comments:

U.S. EPA - CLP

6A
MATRIX SPIKE DUPLICATES

EPA SAMPLE NO.

B0FBS9SD

Lab Name: QUANTERRA MO Contract: 519.136

Lab Code: ITMO Case No.: SAS No.: SDG No.: W0683

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%	96.80		95.60		1.2		P
Sb	20%	109.60		104.30		5.0		P
As	20%	68.80		67.60		1.8		F
Ba	20%	102.00		101.80		0.2		P
Be	20%	106.00		105.40		0.6		P
Cd	20%	98.30		97.40		0.9		P
Ca	20%							NR
Cr	20%	110.50		107.40		2.8		P
Co	20%	102.80		102.00		0.8		P
Cu	20%	103.10		102.50		0.6		P
Fe	20%	106.20		105.40		0.8		P
Pb	20%	86.50		84.70		2.1		P
Mg	20%							NR
Mn	20%	104.90		104.20		0.7		P
Hg	20%	85.00		86.00		1.2		CV
Ni	20%	105.10		103.10		1.9		P
K	20%							NR
Se	20%	30.90		99.10		104.9		F
Ag	20%	76.60		76.80		0.3		P
Na	20%							NR
V	20%	103.40		101.80		1.6		P
Zn	20%	104.00		103.50		0.5		P

U.S. EPA - CLP

7

LABORATORY CONTROL SAMPLE

Lab Name: QUANTERRA_MO Contract: 519.136

Lab Code: ITMO Case No.: SAS No.: SDG No.: W0683

Solid LCS Source:

Aqueous LCS Source: SOL+

Analyte	Aqueous (ug/L) True	Found	%R	Solid (mg/kg) True	Found	C	Limits		%R
Aluminum	1000.0	1042.57	104.3						
Antimony	1000.0	1030.55	103.1						
Arsenic									
Barium	1000.0	970.72	97.1						
Beryllium	1000.0	1018.72	101.9						
Cadmium	1000.0	1004.00	100.4						
Calcium	20000.0	20273.53	101.4						
Chromium	1000.0	1026.49	102.6						
Cobalt	1000.0	1007.25	100.7						
Copper	1000.0	1016.15	101.6						
Iron	1000.0	1060.76	106.1						
Lead	1000.0	1028.41	102.8						
Magnesium	20000.0	20245.42	101.2						
Manganese	1000.0	1013.54	101.4						
Mercury									
Nickel	1000.0	1021.79	102.2						
Potassium	20000.0	19396.52	97.0						
Selenium									
Silver	250.0	202.98	81.2						
Sodium	20000.0	20219.76	101.1						
Vanadium	1000.0	1016.42	101.6						
Zinc	1000.0	1031.86	103.2						

FORM VII - IN

SW-846

U.S. EPA - CLP

7

LABORATORY CONTROL SAMPLE

Lab Name: QUANTERRA_MO Contract: 519.136

Lab Code: ITMO Case No.: SAS No.: SDG No.: W0683

Solid LCS Source:

Aqueous LCS Source: SOL+

Analyte	Aqueous (ug/L) True	Found	%R	Solid (mg/kg) True	Found	C	Limits		%R
Aluminum									
Antimony									
Arsenic	40.0	40.84	102.1						
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead									
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium	40.0	39.97	99.9						
Silver									
Sodium									
Vanadium									
Zinc									

FORM VII - IN

SW-846

000061

U.S. EPA - CLP

7

LABORATORY CONTROL SAMPLE

Lab Name: QUANTERRA_MO_____ Contract: 519.136___

Lab Code: ITMO__ Case No.: _____ SAS No.: _____ SDG No.: W0683_____

Solid LCS Source: _____

Aqueous LCS Source: SOL+_____

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	3.04	101.3						
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Vanadium									
Zinc									

FORM VII - IN

SW-846

WET CHEMISTRY

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

Quanterra Environmental Services

Project: 519.136

Category: pH
Method: EPA 9040
Matrix: LIQUID

Sample Date : 08/02/95
Receipt Date : 08/11/95
Report Date : 08/23/95

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
B0FBS9	9093-001	pH	C-006	QCBLK75864-1	08/18/95	08/18/95	2.33	PH			1
B0FBS9	9093-001DUP	pH	C-006	QCBLK75864-1	08/18/95	08/18/95	2.29	PH			1
B0FBT0	9093-002	pH	C-006	QCBLK75414-1	08/15/95	08/15/95	8.42	PH			1
NA	QCBLK75414-1	pH	C-006	QCBLK75414-1	08/15/95	08/15/95	5.86	PH			1
NA	QCBLK75864-1	pH	C-006	QCBLK75864-1	08/18/95	08/18/95	5.78	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 : 08/02/95
Receipt Date : 08/11/95
Report Date : 08/23/95

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
BOFBS9	9093-001	Total Organic C	C-012	QCBLK75587-1	08/17/95	08/17/95	144	MG/L		2.00	2
BOFBS9	9093-001DUP	Total Organic C	C-012	QCBLK75587-1	08/17/95	08/17/95	142	MG/L		2.00	2
BOFBS9	9093-001MS	Total Organic C	C-012	QCBLK75587-1	08/17/95	08/17/95	90	%REC			2
BOFBT0	9093-002	Total Organic C	C-012	QCBLK75587-1	08/17/95	08/17/95	1.00	MG/L	U	1.00	1
NA	QCBLK75587-1	Total Organic C	C-012	QCBLK75587-1	08/17/95	08/17/95	1.00	MG/L	U	1.00	1
NA	QCLCS75587-1	Total Organic C	C-012	QCBLK75587-1	08/17/95	08/17/95	98	%REC			1

CORRESPONDENCE DISTRIBUTION COVERSHEET

Author	Addressee	Correspondence No.
C. N. Villalobos, 373-4753	J. E. Mecca, RL	9554750

Subject: TRANSMITTAL OF PLUTONIUM-URANIUM EXTRACTION D5/E6/F15/F16 VESSELS, 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
		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	

Westinghouse
Hanford Company

P.O. Box 1970 Richland, WA 99352

September 6, 1995 9554750

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 D5/E6/F15/F16 VESSELS LOOP FLUSH ANALYTICAL RESULTS

Attachment 1 is the laboratory analytical results conducted on the final flush for the Plutonium Uranium Extraction (PUREX) D5/E6/F15/F16 Vessels. 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,

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

PUREX D5/E6/F15/F16 VESSELS RCRA ANALYTICAL DATA
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9554750

Attachment 1

TRANSMITTAL OF PLUTONIUM URANIUM EXTRACTION PLANT D5/E6/F15/F16 VESSELS, LOOP FLUSH ANALYTICAL RESULTS

RCRA ANALYTICAL DATA SUMMARY
PUREX D5/E6/F15/F16 VESSELS
SAMPLE LOCATION: TANK F10
SAMPLE ID# BOFBS9

Analyte	Dangerous Waste Designation Threshold (mg/L)	RCRA Sample Results (mg/L)
Cadmium	1.0	0.074
Chromium	5.0	0.215
Lead	5.0	0.041 (U)
Barium	100.0	0.121 (U)
Silver	5.0	0.002 (U)
Arsenic	5.0	0.001 (U)
Selenium	1.0	0.001 (U)
Mercury	0.2	0.009
pH	pH<2 or pH>12.5	2.33
Total Organic Carbon (TOC)	100,000 (10wt% based upon designation limits for tri-butyl phosphate)	144
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

D5/E6/F15/F16 6th Flush

SAMPLE STATUS REPORT FOR P 3383. F10-3WF TIME: 7/28/95 8:20
DISPATCHED: 7/27/95 9:29 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 7/27/95 14:24

EXT.	DETER.	RESULTS OR STATUS		OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********		***	***	******
1203	TB	4.06000E 02 uCi/L		N	Y	R43B1
1267	AT	6.11000E 01 uCi/L		N	Y	R43B1
1383	Cr	9.50000E-02 uG/ML		N	Y	R43B1
1482	Cd	2.72000E-01 uG/ML		N	Y	R43B1
2108	GEA	< 1.07540E 00 uCi/L	CePr-144	N	Y	R43B1
2108	GEA	1.28200E-01 uCi/L	Co-60	N	Y	R43B1
2108	GEA	< 1.54830E-01 uCi/L	Cs-134	N	Y	R43B1
2108	GEA	4.43600E 01 uCi/L	Cs-137	N	Y	R43B1
2108	GEA	< 1.49900E-02 uCi/L	Nb-95	N	Y	R43B1
2108	GEA	< 9.70699E-02 uCi/L	Ru-103	N	Y	R43B1
2108	GEA	1.01500E 01 uCi/L	RuRh-106	N	Y	R43B1
2108	GEA	< 2.94490E-02 uCi/L	Zr-95	N	Y	R43B1
3203	pH	2.72000E 00 NONE		N	Y	R43B1
4411	U	7.40799E-02 G/L		N	Y	R43B1
6015	Cd-STD	COMPLETED				R43B1
6022	Cr-STD	COMPLETED				R43B1
6422	TOTA-STD	COMPLETED				R43B1
6427	TOTB-STD	COMPLETED				R43B1

END OF REPORT

F-Cell (Part I)

AMPLE STATUS REPORT FOR E 758. E-BLANK BOFBS9 TIME: 8/ 8/95 10: 4
ISPATCHED: 8/ 2/95 13:44 SAMPLE HAS NOT BEEN SLURPED
ECEIVED: 8/ 2/95 15: 9

XT.	DETER.	RESULTS OR STATUS		OUT OF RANGE?	GOOD ANS?	CHARGE CODE
***	********	**********		***	***	******
.213	TB-FLTRT	5.33000E 01 uCi/L		N	Y	KP51T
.223	AT-FLTRT	4.67000E 00 uCi/L		N	Y	KP51T
2162	GEA-LIQ	6.75E-3 uCi/L Co60 28% ERROR				KP51T
2162	GEA-LIQ	2.29000E 00 uCi/L	Sb-125	N	Y	KP51T
2162	GEA-LIQ	7.81000E 00 uCi/L	Cs-137	N	Y	KP51T
2162	GEA-LIQ	3.14000E-01 uCi/L	CE-144	N	Y	KP51T
2162	GEA-LIQ	6.90000E-02 uCi/L	Eu-154	N	Y	KP51T
2162	GEA-LIQ	1.83000E-01 uCi/L	Eu-155	N	Y	KP51T
2162	GEA-LIQ	4.23000E-01 uCi/L	Am-241	N	Y	KP51T

END OF REPORT

Quanterra Environmental Services

Quanterra Incorporated
13715 Rider Trail North
Earth City, Missouri 63045

314 298-8566 Telephone
314 298-8757 Fax

AUG 1995 RECEIVED SDLA

CERTIFICATE OF ANALYSIS

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

August 24, 1995

Attention: Karl Pool

Project number	:	519.136
Date Received by Lab	:	August 11, 1995
Number of Samples	:	Two (2)
Sample Type	:	Water
SDG Number	:	W0683
Data Deliverable	:	Summary

PRIORITY

I. Introduction

On August 11, 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
9093-001	B0FBS9	50835301	Water	08/11/95
9093-002	B0FBT0	50835302	Water	08/11/95

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.

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 are no comments or nonconformances associated with the VOA, pH or TOC analyses.

The GFAA digestion for samples 9093-001MS and 9093-001MSD were performed on 50 mls due to limited sample volume. The final volume was adjusted so that no affect on detection limits was incurred.

The following Matrix Spike and/or Matrix Spike Duplicates were not within the 75%-125%. All associated data was therefore flagged with an "N".

	MS%	MSD%
Selenium	30.9	*
Arsenic	68.8	67.7

* Within range

Quanterra
Environmental Services

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\priceS\abbydave\hanford\hanw0683.coa

6

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: B0FBS9

Sample Date : 08/02/95
Receipt Date : 08/11/95
Report Date : 08/23/95

Quanterra ID : 9093-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK75589-1	08/17/95	08/18/95	24.6	UG/L	U	200	1
Antimony	7440-36-0	QCBLK75589-1	08/17/95	08/18/95	45.9	UG/L	U	100	1
Barium	7440-39-3	QCBLK75589-1	08/17/95	08/18/95	12.1	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK75589-1	08/17/95	08/18/95	0.50	UG/L	U	7.0	1
Cadmium	7440-43-9	QCBLK75589-1	08/17/95	08/18/95	74.5	UG/L		20.0	1
Calcium	7440-70-2	QCBLK75589-1	08/17/95	08/18/95	14300	UG/L		5000	1
Chromium	7440-47-3	QCBLK75589-1	08/17/95	08/18/95	215	UG/L		20.0	1
Cobalt	7440-48-4	QCBLK75589-1	08/17/95	08/18/95	4.3	UG/L	U	50.0	1
Copper	7440-50-8	QCBLK75589-1	08/17/95	08/18/95	36.8	UG/L		25.0	1
Iron	7439-89-6	QCBLK75589-1	08/17/95	08/18/95	507	UG/L		100	1
Lead	7439-92-1	QCBLK75589-1	08/17/95	08/18/95	41.3	UG/L	U	100	1
Magnesium	7439-95-4	QCBLK75589-1	08/17/95	08/18/95	3320	UG/L	B	5000	1
Manganese	7439-96-5	QCBLK75589-1	08/17/95	08/18/95	165	UG/L		15.0	1
Nickel	7440-02-0	QCBLK75589-1	08/17/95	08/18/95	148	UG/L		40.0	1
Potassium	7440-09-7	QCBLK75589-1	08/17/95	08/18/95	1060	UG/L	U	5000	1
Silver	7440-22-4	QCBLK75589-1	08/17/95	08/18/95	2.2	UG/L	U	200	1
Sodium	7440-23-5	QCBLK75589-1	08/17/95	08/18/95	2800	UG/L		1000	1
Vanadium	7440-62-2	QCBLK75589-1	08/17/95	08/18/95	5.8	UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK75589-1	08/17/95	08/18/95	26.0	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: BOFBS9

Sample Date : 08/02/95
Receipt Date : 08/11/95
Report Date : 08/23/95

Quanterra ID : 9093-001MS

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK75589-1	08/17/95	08/18/95	97	%REC			1
Antimony	7440-36-0	QCBLK75589-1	08/17/95	08/18/95	110	%REC			1
Barium	7440-39-3	QCBLK75589-1	08/17/95	08/18/95	102	%REC			1
Beryllium	7440-41-7	QCBLK75589-1	08/17/95	08/18/95	106	%REC			1
Cadmium	7440-43-9	QCBLK75589-1	08/17/95	08/18/95	98	%REC			1
Chromium	7440-47-3	QCBLK75589-1	08/17/95	08/18/95	110	%REC			1
Cobalt	7440-48-4	QCBLK75589-1	08/17/95	08/18/95	103	%REC			1
Copper	7440-50-8	QCBLK75589-1	08/17/95	08/18/95	103	%REC			1
Iron	7439-89-6	QCBLK75589-1	08/17/95	08/18/95	106	%REC			1
Lead	7439-92-1	QCBLK75589-1	08/17/95	08/18/95	86	%REC			1
Manganese	7439-96-5	QCBLK75589-1	08/17/95	08/18/95	105	%REC			1
Nickel	7440-02-0	QCBLK75589-1	08/17/95	08/18/95	105	%REC			1
Silver	7440-22-4	QCBLK75589-1	08/17/95	08/18/95	77	%REC			1
Vanadium	7440-62-2	QCBLK75589-1	08/17/95	08/18/95	103	%REC			1
Zinc	7440-66-6	QCBLK75589-1	08/17/95	08/18/95	104	%REC			1

PRIORITY

Quanterra Environmental Services

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

Project: 519.136

:ategory: ICAP Metals
Method: EPA 6010
Matrix: LIQUID

Sample Date : 08/02/95
Receipt Date : 08/11/95
Report Date : 08/23/95

ient ID: BOFBS9

Quanterra ID : 9093-001MSD

ıalyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
uminum	7429-90-5	QCBLK75589-1	08/17/95	08/18/95	96	%REC			1
timony	7440-36-0	QCBLK75589-1	08/17/95	08/18/95	104	%REC			1
rium	7440-39-3	QCBLK75589-1	08/17/95	08/18/95	102	%REC			1
ryllium	7440-41-7	QCBLK75589-1	08/17/95	08/18/95	105	%REC			1
dmium	7440-43-9	QCBLK75589-1	08/17/95	08/18/95	97	%REC			1
romium	7440-47-3	QCBLK75589-1	08/17/95	08/18/95	107	%REC			1
balt	7440-48-4	QCBLK75589-1	08/17/95	08/18/95	102	%REC			1
pper	7440-50-8	QCBLK75589-1	08/17/95	08/18/95	102	%REC			1
on	7439-89-6	QCBLK75589-1	08/17/95	08/18/95	105	%REC			1
ad	7439-92-1	QCBLK75589-1	08/17/95	08/18/95	85	%REC			1
nganese	7439-96-5	QCBLK75589-1	08/17/95	08/18/95	104	%REC			1
ckel	7440-02-0	QCBLK75589-1	08/17/95	08/18/95	103	%REC			1
lver	7440-22-4	QCBLK75589-1	08/17/95	08/18/95	77	%REC			1
nadium	7440-62-2	QCBLK75589-1	08/17/95	08/18/95	102	%REC			1
nc	7440-66-6	QCBLK75589-1	08/17/95	08/18/95	104	%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 : 08/02/95
Receipt Date : 08/11/95
Report Date : 08/23/95

lient ID: BOFBTO

Quanterra ID : 9093-002

nalyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
luminum	7429-90-5	QCBLK75589-1	08/17/95	08/18/95	24.6	UG/L	U	200	1
ntimony	7440-36-0	QCBLK75589-1	08/17/95	08/18/95	45.9	UG/L	U	100	1
arium	7440-39-3	QCBLK75589-1	08/17/95	08/18/95	3.4	UG/L	B	200	1
eryllium	7440-41-7	QCBLK75589-1	08/17/95	08/18/95	0.50	UG/L	U	7.0	1
admium	7440-43-9	QCBLK75589-1	08/17/95	08/18/95	3.1	UG/L	U	20.0	1
alcium	7440-70-2	QCBLK75589-1	08/17/95	08/18/95	1890	UG/L	B	5000	1
hromium	7440-47-3	QCBLK75589-1	08/17/95	08/18/95	2.8	UG/L	U	20.0	1
obalt	7440-48-4	QCBLK75589-1	08/17/95	08/18/95	4.3	UG/L	U	50.0	1
opper	7440-50-8	QCBLK75589-1	08/17/95	08/18/95	10.2	UG/L	B	25.0	1
ron	7439-89-6	QCBLK75589-1	08/17/95	08/18/95	41.0	UG/L	B	100	1
ead	7439-92-1	QCBLK75589-1	08/17/95	08/18/95	41.3	UG/L	U	100	1
agnesium	7439-95-4	QCBLK75589-1	08/17/95	08/18/95	359	UG/L	B	5000	1
anganese	7439-96-5	QCBLK75589-1	08/17/95	08/18/95	2.2	UG/L	B	15.0	1
ickel	7440-02-0	QCBLK75589-1	08/17/95	08/18/95	14.2	UG/L	U	40.0	1
otassium	7440-09-7	QCBLK75589-1	08/17/95	08/18/95	1060	UG/L	U	5000	1
ilver	7440-22-4	QCBLK75589-1	08/17/95	08/18/95	2.2	UG/L	U	200	1
odium	7440-23-5	QCBLK75589-1	08/17/95	08/18/95	486	UG/L	B	1000	1
anadium	7440-62-2	QCBLK75589-1	08/17/95	08/18/95	3.9	UG/L	B	50.0	1
inc	7440-66-6	QCBLK75589-1	08/17/95	08/18/95	14.9	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

Client ID: NA

Sample Date. : NA
Receipt Date : NA
Report Date : 08/23/95

Quanterra ID : QCBLK75589-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK75589-1	08/17/95	08/18/95	91.5	UG/L	B	200	1
Antimony	7440-36-0	QCBLK75589-1	08/17/95	08/18/95	45.9	UG/L	U	100	1
Barium	7440-39-3	QCBLK75589-1	08/17/95	08/18/95	0.64	UG/L	B	200	1
Beryllium	7440-41-7	QCBLK75589-1	08/17/95	08/18/95	0.50	UG/L	U	7.0	1
Cadmium	7440-43-9	QCBLK75589-1	08/17/95	08/18/95	3.1	UG/L	U	20.0	1
Calcium	7440-70-2	QCBLK75589-1	08/17/95	08/18/95	82.4	UG/L	B	5000	1
Chromium	7440-47-3	QCBLK75589-1	08/17/95	08/18/95	3.0	UG/L	B	20.0	1
Cobalt	7440-48-4	QCBLK75589-1	08/17/95	08/18/95	4.3	UG/L	U	50.0	1
Copper	7440-50-8	QCBLK75589-1	08/17/95	08/18/95	5.2	UG/L	B	25.0	1
Iron	7439-89-6	QCBLK75589-1	08/17/95	08/18/95	44.5	UG/L	B	100	1
Lead	7439-92-1	QCBLK75589-1	08/17/95	08/18/95	41.3	UG/L	U	100	1
Magnesium	7439-95-4	QCBLK75589-1	08/17/95	08/18/95	158	UG/L	B	5000	1
Manganese	7439-96-5	QCBLK75589-1	08/17/95	08/18/95	1.4	UG/L	U	15.0	1
Nickel	7440-02-0	QCBLK75589-1	08/17/95	08/18/95	14.2	UG/L	U	40.0	1
Potassium	7440-09-7	QCBLK75589-1	08/17/95	08/18/95	1060	UG/L	U	5000	1
Silver	7440-22-4	QCBLK75589-1	08/17/95	08/18/95	2.2	UG/L	U	200	1
Sodium	7440-23-5	QCBLK75589-1	08/17/95	08/18/95	64.2	UG/L	B	1000	1
Vanadium	7440-62-2	QCBLK75589-1	08/17/95	08/18/95	5.4	UG/L	B	50.0	1
Zinc	7440-66-6	QCBLK75589-1	08/17/95	08/18/95	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

Client ID: NA

Sample Date : NA
Receipt Date : NA
Report Date : 08/23/95

Quanterra ID : QCLCS75589-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK75589-1	08/17/95	08/18/95	104	%REC			1
Antimony	7440-36-0	QCBLK75589-1	08/17/95	08/18/95	103	%REC			1
Barium	7440-39-3	QCBLK75589-1	08/17/95	08/18/95	97	%REC			1
Beryllium	7440-41-7	QCBLK75589-1	08/17/95	08/18/95	102	%REC			1
Cadmium	7440-43-9	QCBLK75589-1	08/17/95	08/18/95	100	%REC			1
Calcium	7440-70-2	QCBLK75589-1	08/17/95	08/18/95	101	%REC			1
Chromium	7440-47-3	QCBLK75589-1	08/17/95	08/18/95	103	%REC			1
Cobalt	7440-48-4	QCBLK75589-1	08/17/95	08/18/95	101	%REC			1
Copper	7440-50-8	QCBLK75589-1	08/17/95	08/18/95	102	%REC			1
Iron	7439-89-6	QCBLK75589-1	08/17/95	08/18/95	106	%REC			1
Lead	7439-92-1	QCBLK75589-1	08/17/95	08/18/95	103	%REC			1
Magnesium	7439-95-4	QCBLK75589-1	08/17/95	08/18/95	101	%REC			1
Manganese	7439-96-5	QCBLK75589-1	08/17/95	08/18/95	101	%REC			1
Nickel	7440-02-0	QCBLK75589-1	08/17/95	08/18/95	102	%REC			1
Potassium	7440-09-7	QCBLK75589-1	08/17/95	08/18/95	97	%REC			1
Silver	7440-22-4	QCBLK75589-1	08/17/95	08/18/95	81	%REC			1
Sodium	7440-23-5	QCBLK75589-1	08/17/95	08/18/95	101	%REC			1
Vanadium	7440-62-2	QCBLK75589-1	08/17/95	08/18/95	102	%REC			1
Zinc	7440-66-6	QCBLK75589-1	08/17/95	08/18/95	103	%REC			1

PRIORITY

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

Quanterra Environmental Services

Project: 519.136

Category: Arsenic
Method: EPA 7060
Matrix: LIQUID

Sample Date : 08/02/95
Receipt Date : 08/11/95
Report Date : 08/23/95

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
BOFBS9	9093-001	Arsenic	7440-38-2	QCBLK75649-1	08/17/95	08/17/95	1.0	UG/L	U	10.0	1
BOFBS9	9093-001MS	Arsenic	7440-38-2	QCBLK75649-1	08/17/95	08/17/95	69	%REC			1
BOFBS9	9093-001MSD	Arsenic	7440-38-2	QCBLK75649-1	08/17/95	08/17/95	68	%REC			1
BOFBT0	9093-002	Arsenic	7440-38-2	QCBLK75649-1	08/17/95	08/17/95	1.0	UG/L	U	10.0	1
NA	QCBLK75649-1	Arsenic	7440-38-2	QCBLK75649-1	08/17/95	08/17/95	1.0	UG/L	U	10.0	1
NA	QCLCS75649-1	Arsenic	7440-38-2	QCBLK75649-1	08/17/95	08/17/95	102	%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 7000 Series
Matrix: LIQUID

Sample Date : 08/02/95
Receipt Date : 08/11/95
Report Date : 08/23/95

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
BOFBS9	9093-001	Selenium	7782-49-2	QCBLK75649-1	08/17/95	08/21/95	1.0	UG/L	U	5.0	1
BOFBS9	9093-001MS	Selenium	7782-49-2	QCBLK75649-1	08/17/95	08/21/95	31	%REC			1
BOFBS9	9093-001MSD	Selenium	7782-49-2	QCBLK75649-1	08/17/95	08/21/95	99	%REC			1
BOFBT0	9093-002	Selenium	7782-49-2	QCBLK75649-1	08/17/95	08/21/95	1.0	UG/L	U	5.0	1
NA	QCBLK75649-1	Selenium	7782-49-2	QCBLK75649-1	08/17/95	08/21/95	1.0	UG/L	U	5.0	1
NA	QCLCS75649-1	Selenium	7782-49-2	QCBLK75649-1	08/17/95	08/21/95	100	%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 : 08/02/95
Receipt Date : 08/11/95
Report Date : 08/23/95

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
B0FBS9	9093-001	Mercury	7439-97-6	QCBLK75575-1	08/17/95	08/17/95	9.0	UG/L		0.20	1
B0FBS9	9093-001MS	Mercury	7439-97-6	QCBLK75575-1	08/17/95	08/17/95	85	%REC			1
B0FBS9	9093-001MSD	Mercury	7439-97-6	QCBLK75575-1	08/17/95	08/17/95	86	%REC			1
B0FBT0	9093-002	Mercury	7439-97-6	QCBLK75575-1	08/17/95	08/17/95	0.10	UG/L	B	0.20	1
NA	QCBLK75575-1	Mercury	7439-97-6	QCBLK75575-1	08/17/95	08/17/95	0.10	UG/L	U	0.20	1
NA	QCLCS75575-1	Mercury	7439-97-6	QCBLK75575-1	08/17/95	08/17/95	101	%REC			1

PRIORITY

WET CHEMISTRY

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

Quanterra Environmental Services

Project: 519.136

Category: pH
Method: EPA 9040
Matrix: LIQUID

Sample Date : 08/02/95
Receipt Date : 08/11/95
Report Date : 08/23/95

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
80FBS9	9093-001	pH	C-006	QCBLK75864-1	08/18/95	08/18/95	2.33	PH			1
80FBS9	9093-001DUP	pH	C-006	QCBLK75864-1	08/18/95	08/18/95	2.29	PH			1
80FBT0	9093-002	pH	C-006	QCBLK75414-1	08/15/95	08/15/95	8.42	PH			1
NA	QCBLK75414-1	pH	C-006	QCBLK75414-1	08/15/95	08/15/95	5.86	PH			1
NA	QCBLK75864-1	pH	C-006	QCBLK75864-1	08/18/95	08/18/95	5.78	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 : 08/02/95
Receipt Date : 08/11/95
Report Date : 08/23/95

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
BOFBS9	9093-001	Total Organic C	C-012	QCBLK75587-1	08/17/95	08/17/95	144	MG/L		2.00	2
BOFBS9	9093-001DUP	Total Organic C	C-012	QCBLK75587-1	08/17/95	08/17/95	142	MG/L		2.00	2
BOFBS9	9093-001MS	Total Organic C	C-012	QCBLK75587-1	08/17/95	08/17/95	90	%REC			2
BOFBT0	9093-002	Total Organic C	C-012	QCBLK75587-1	08/17/95	08/17/95	1.00	MG/L	U	1.00	1
NA	QCBLK75587-1	Total Organic C	C-012	QCBLK75587-1	08/17/95	08/17/95	1.00	MG/L	U	1.00	1
NA	QCLCS75587-1	Total Organic C	C-012	QCBLK75587-1	08/17/95	08/17/95	98	%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

Client ID: BOFBS9

Sample Date : 08/02/95
Receipt Date : 08/11/95
Report Date : 08/23/95

Quanterra ID : 9093-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	QCBLK75412-1	08/15/95	08/15/95	10	UG/L	U	10	1
Bromomethane	74-83-9	QCBLK75412-1	08/15/95	08/15/95	10	UG/L	U	10	1
Vinyl Chloride	75-01-4	QCBLK75412-1	08/15/95	08/15/95	10	UG/L	U	10	1
Chloroethane	75-00-3	QCBLK75412-1	08/15/95	08/15/95	10	UG/L	U	10	1
Methylene Chloride	75-09-2	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Acetone	67-64-1	QCBLK75412-1	08/15/95	08/15/95	38	UG/L	J	100	1
Carbon Disulfide	75-15-0	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
1,1-Dichloroethene	75-35-4	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
1,1-Dichloroethane	75-34-3	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
1,2-Dichloroethene (total)	540-59-0	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Chloroform	67-66-3	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
1,2-Dichloroethane	107-06-2	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
2-Butanone	78-93-3	QCBLK75412-1	08/15/95	08/15/95	100	UG/L	U	100	1
1,1,1-Trichloroethane	71-55-6	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Carbon Tetrachloride	56-23-5	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Bromodichloromethane	75-27-4	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
1,2-Dichloropropane	78-87-5	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
cis-1,3-Dichloropropene	10061-01-5	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Trichloroethene	79-01-6	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Dibromochloromethane	124-48-1	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
1,1,2-Trichloroethane	79-00-5	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Benzene	71-43-2	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
trans-1,3-Dichloropropene	10061-02-6	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Bromoform	75-25-2	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
4-Methyl-2-Pentanone	108-10-1	QCBLK75412-1	08/15/95	08/15/95	50	UG/L	U	50	1
2-Hexanone	591-78-6	QCBLK75412-1	08/15/95	08/15/95	50	UG/L	U	50	1
Tetrachloroethene	127-18-4	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Toluene	108-88-3	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Chlorobenzene	108-90-7	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
EthylBenzene	100-41-4	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Styrene	100-42-5	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Xylene (total)	1330-20-7	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Unknown-1	TIC-32	QCBLK75412-1	08/15/95	08/15/95	12	UG/L	J		1
Unknown-2	TIC-33	QCBLK75412-1	08/15/95	08/15/95	15	UG/L	J		1
Unknown-3	TIC-34	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	J		1
Unknown C12H12-1	TIC-181	QCBLK75412-1	08/15/95	08/15/95	9	UG/L	J		1
Unknown C12H12-2	TIC-182	QCBLK75412-1	08/15/95	08/15/95	12	UG/L	J		1
Unknown C12H12-3	TIC-183	QCBLK75412-1	08/15/95	08/15/95	10	UG/L	J		1
Unknown-4	TIC-35	QCBLK75412-1	08/15/95	08/15/95	30	UG/L	J		1
Unknown-5	TIC-36	QCBLK75412-1	08/15/95	08/15/95	280	UG/L	J		1
Toluene-d8 (SURR)	2037-26-5	QCBLK75412-1	08/15/95	08/15/95	99	%REC			1
Bromofluorobenzene (SURR)	460-00-4	QCBLK75412-1	08/15/95	08/15/95	97	%REC			1
1,2-Dichloroethane-d4 (SURR)	17070-07-0	QCBLK75412-1	08/15/95	08/15/95	103	%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: BOFBS9

Sample Date : 08/02/95
Receipt Date : 08/11/95
Report Date : 08/23/95

Quanterra ID : 9093-001MS

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
1,1-Dichloroethene	75-35-4	QCBLK75413-1	08/16/95	08/16/95	132	%REC			1
Trichloroethene	79-01-6	QCBLK75413-1	08/16/95	08/16/95	104	%REC			1
Benzene	71-43-2	QCBLK75413-1	08/16/95	08/16/95	108	%REC			1
Toluene	108-88-3	QCBLK75413-1	08/16/95	08/16/95	101	%REC			1
Chlorobenzene	108-90-7	QCBLK75413-1	08/16/95	08/16/95	102	%REC			1
Toluene-d8 (SURR)	2037-26-5	QCBLK75413-1	08/16/95	08/16/95	97	%REC			1
Bromofluorobenzene (SURR)	460-00-4	QCBLK75413-1	08/16/95	08/16/95	95	%REC			1
1,2-Dichloroethane-d4 (SURR)	17070-07-0	QCBLK75413-1	08/16/95	08/16/95	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

Client ID: B0FBS9

Sample Date : 08/02/95
Receipt Date : 08/11/95
Report Date : 08/23/95

Quanterra ID : 9093-001MSD

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
1,1-Dichloroethene	75-35-4	QCBLK75413-1	08/16/95	08/16/95	133	%REC			1
Trichloroethene	79-01-6	QCBLK75413-1	08/16/95	08/16/95	105	%REC			1
Benzene	71-43-2	QCBLK75413-1	08/16/95	08/16/95	111	%REC			1
Toluene	108-88-3	QCBLK75413-1	08/16/95	08/16/95	102	%REC			1
Chlorobenzene	108-90-7	QCBLK75413-1	08/16/95	08/16/95	103	%REC			1
Toluene-d8 (SURR)	2037-26-5	QCBLK75413-1	08/16/95	08/16/95	97	%REC			1
Bromofluorobenzene (SURR)	460-00-4	QCBLK75413-1	08/16/95	08/16/95	97	%REC			1
1,2-Dichloroethane-d4 (SURR)	17070-07-0	QCBLK75413-1	08/16/95	08/16/95	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

Sample Date : 08/02/95
Receipt Date : 08/11/95
Report Date : 08/23/95

Client ID: BOFBTO

Quanterra ID : 9093-002

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	QCBLK75412-1	08/15/95	08/15/95	10	UG/L	U	10	1
Bromomethane	74-83-9	QCBLK75412-1	08/15/95	08/15/95	10	UG/L	U	10	1
Vinyl Chloride	75-01-4	QCBLK75412-1	08/15/95	08/15/95	10	UG/L	U	10	1
Chloroethane	75-00-3	QCBLK75412-1	08/15/95	08/15/95	10	UG/L	U	10	1
Methylene Chloride	75-09-2	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Acetone	67-64-1	QCBLK75412-1	08/15/95	08/15/95	100	UG/L	U	100	1
Carbon Disulfide	75-15-0	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
1,1-Dichloroethene	75-35-4	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
1,1-Dichloroethane	75-34-3	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
1,2-Dichloroethene (total)	540-59-0	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Chloroform	67-66-3	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
1,2-Dichloroethane	107-06-2	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
2-Butanone	78-93-3	QCBLK75412-1	08/15/95	08/15/95	100	UG/L	U	100	1
1,1,1-Trichloroethane	71-55-6	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Carbon Tetrachloride	56-23-5	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Bromodichloromethane	75-27-4	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
1,2-Dichloropropane	78-87-5	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
cis-1,3-Dichloropropene	10061-01-5	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Trichloroethene	79-01-6	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Dibromochloromethane	124-48-1	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
1,1,2-Trichloroethane	79-00-5	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Benzene	71-43-2	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
trans-1,3-Dichloropropene	10061-02-6	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Bromoform	75-25-2	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
4-Methyl-2-Pentanone	108-10-1	QCBLK75412-1	08/15/95	08/15/95	50	UG/L	U	50	1
2-Hexanone	591-78-6	QCBLK75412-1	08/15/95	08/15/95	50	UG/L	U	50	1
Tetrachloroethene	127-18-4	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Toluene	108-88-3	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Chlorobenzene	108-90-7	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
EthylBenzene	100-41-4	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Styrene	100-42-5	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Unknown-1	TIC-32	QCBLK75412-1	08/15/95	08/15/95	7	UG/L	J		1
Unknown-2	TIC-33	QCBLK75412-1	08/15/95	08/15/95	6	UG/L	J		1
Xylene (total)	1330-20-7	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Toluene-d8 (SURR)	2037-26-5	QCBLK75412-1	08/15/95	08/15/95	100	%REC			1
Bromofluorobenzene (SURR)	460-00-4	QCBLK75412-1	08/15/95	08/15/95	103	%REC			1
1,2-Dichloroethane-d4 (SURR)	17070-07-0	QCBLK75412-1	08/15/95	08/15/95	103	%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 : 08/23/95

Quanterra ID : QCBLK75412-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	QCBLK75412-1	08/15/95	08/15/95	10	UG/L	U	10	1
Bromomethane	74-83-9	QCBLK75412-1	08/15/95	08/15/95	10	UG/L	U	10	1
Vinyl Chloride	75-01-4	QCBLK75412-1	08/15/95	08/15/95	10	UG/L	U	10	1
Chloroethane	75-00-3	QCBLK75412-1	08/15/95	08/15/95	10	UG/L	U	10	1
Methylene Chloride	75-09-2	QCBLK75412-1	08/15/95	08/15/95	9	UG/L		5	1
Acetone	67-64-1	QCBLK75412-1	08/15/95	08/15/95	100	UG/L	U	100	1
Carbon Disulfide	75-15-0	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
1,1-Dichloroethene	75-35-4	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
1,1-Dichloroethane	75-34-3	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
1,2-Dichloroethene (total)	540-59-0	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Chloroform	67-66-3	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
1,2-Dichloroethane	107-06-2	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
2-Butanone	78-93-3	QCBLK75412-1	08/15/95	08/15/95	100	UG/L	U	100	1
1,1,1-Trichloroethane	71-55-6	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Carbon Tetrachloride	56-23-5	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Bromodichloromethane	75-27-4	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
1,2-Dichloropropane	78-87-5	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
cis-1,3-Dichloropropene	10061-01-5	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Trichloroethene	79-01-6	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Dibromochloromethane	124-48-1	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
1,1,2-Trichloroethane	79-00-5	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Benzene	71-43-2	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
trans-1,3-Dichloropropene	10061-02-6	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Bromoform	75-25-2	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
4-Methyl-2-Pentanone	108-10-1	QCBLK75412-1	08/15/95	08/15/95	50	UG/L	U	50	1
2-Hexanone	591-78-6	QCBLK75412-1	08/15/95	08/15/95	50	UG/L	U	50	1
Tetrachloroethene	127-18-4	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Toluene	108-88-3	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Chlorobenzene	108-90-7	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
EthylBenzene	100-41-4	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Styrene	100-42-5	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Xylene (total)	1330-20-7	QCBLK75412-1	08/15/95	08/15/95	5	UG/L	U	5	1
Toluene-d8 (SURR)	2037-26-5	QCBLK75412-1	08/15/95	08/15/95	99	%REC			1
Bromofluorobenzene (SURR)	460-00-4	QCBLK75412-1	08/15/95	08/15/95	100	%REC			1
1,2-Dichloroethane-d4 (SURR)	17070-07-0	QCBLK75412-1	08/15/95	08/15/95	101	%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 : 08/24/95

Quanterra ID : QCBLK75413-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	QCBLK75413-1	08/15/95	08/15/95	10	UG/L	U	10	1
Bromomethane	74-83-9	QCBLK75413-1	08/15/95	08/15/95	10	UG/L	U	10	1
Vinyl Chloride	75-01-4	QCBLK75413-1	08/15/95	08/15/95	10	UG/L	U	10	1
Chloroethane	75-00-3	QCBLK75413-1	08/15/95	08/15/95	10	UG/L	U	10	1
Methylene Chloride	75-09-2	QCBLK75413-1	08/15/95	08/15/95	5	UG/L	U	5	1
Acetone	67-64-1	QCBLK75413-1	08/15/95	08/15/95	100	UG/L	U	100	1
Carbon Disulfide	75-15-0	QCBLK75413-1	08/15/95	08/15/95	5	UG/L	U	5	1
1,1-Dichloroethene	75-35-4	QCBLK75413-1	08/15/95	08/15/95	5	UG/L	U	5	1
1,1-Dichloroethane	75-34-3	QCBLK75413-1	08/15/95	08/15/95	5	UG/L	U	5	1
1,2-Dichloroethene (total)	540-59-0	QCBLK75413-1	08/15/95	08/15/95	5	UG/L	U	5	1
Chloroform	67-66-3	QCBLK75413-1	08/15/95	08/15/95	5	UG/L	U	5	1
1,2-Dichloroethane	107-06-2	QCBLK75413-1	08/15/95	08/15/95	5	UG/L	U	5	1
2-Butanone	78-93-3	QCBLK75413-1	08/15/95	08/15/95	100	UG/L	U	100	1
1,1,1-Trichloroethane	71-55-6	QCBLK75413-1	08/15/95	08/15/95	5	UG/L	U	5	1
Carbon Tetrachloride	56-23-5	QCBLK75413-1	08/15/95	08/15/95	5	UG/L	U	5	1
Bromodichloromethane	75-27-4	QCBLK75413-1	08/15/95	08/15/95	5	UG/L	U	5	1
1,2-Dichloropropane	78-87-5	QCBLK75413-1	08/15/95	08/15/95	5	UG/L	U	5	1
cis-1,3-Dichloropropene	10061-01-5	QCBLK75413-1	08/15/95	08/15/95	5	UG/L	U	5	1
Trichloroethene	79-01-6	QCBLK75413-1	08/15/95	08/15/95	5	UG/L	U	5	1
Dibromochloromethane	124-48-1	QCBLK75413-1	08/15/95	08/15/95	5	UG/L	U	5	1
1,1,2-Trichloroethane	79-00-5	QCBLK75413-1	08/15/95	08/15/95	5	UG/L	U	5	1
Benzene	71-43-2	QCBLK75413-1	08/15/95	08/15/95	5	UG/L	U	5	1
trans-1,3-Dichloropropene	10061-02-6	QCBLK75413-1	08/15/95	08/15/95	5	UG/L	U	5	1
Bromoform	75-25-2	QCBLK75413-1	08/15/95	08/15/95	5	UG/L	U	5	1
4-Methyl-2-Pentanone	108-10-1	QCBLK75413-1	08/15/95	08/15/95	50	UG/L	U	50	1
2-Hexanone	591-78-6	QCBLK75413-1	08/15/95	08/15/95	50	UG/L	U	50	1
Tetrachloroethene	127-18-4	QCBLK75413-1	08/15/95	08/15/95	5	UG/L	U	5	1
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK75413-1	08/15/95	08/15/95	5	UG/L	U	5	1
Toluene	108-88-3	QCBLK75413-1	08/15/95	08/15/95	5	UG/L	U	5	1
Chlorobenzene	108-90-7	QCBLK75413-1	08/15/95	08/15/95	5	UG/L	U	5	1
Ethylbenzene	100-41-4	QCBLK75413-1	08/15/95	08/15/95	5	UG/L	U	5	1
Styrene	100-42-5	QCBLK75413-1	08/15/95	08/15/95	5	UG/L	U	5	1
Xylene (total)	1330-20-7	QCBLK75413-1	08/15/95	08/15/95	5	UG/L	U	5	1
Toluene-d8 (SURR)	2037-26-5	QCBLK75413-1	08/15/95	08/15/95	97	%REC			1
Bromofluorobenzene (SURR)	460-00-4	QCBLK75413-1	08/15/95	08/15/95	94	%REC			1
1,2-Dichloroethane-d4 (SURR)	17070-07-0	QCBLK75413-1	08/15/95	08/15/95	103	%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 : 08/23/95

Quanterra ID : QCLCS75412-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
1,1-Dichloroethene	75-35-4	QCBLK75412-1	08/15/95	08/15/95	126	%REC			1
Trichloroethene	79-01-6	QCBLK75412-1	08/15/95	08/15/95	104	%REC			1
Benzene	71-43-2	QCBLK75412-1	08/15/95	08/15/95	108	%REC			1
Toluene	108-88-3	QCBLK75412-1	08/15/95	08/15/95	104	%REC			1
Chlorobenzene	108-90-7	QCBLK75412-1	08/15/95	08/15/95	101	%REC			1
Toluene-d8 (SURR)	2037-26-5	QCBLK75412-1	08/15/95	08/15/95	99	%REC			1
Bromofluorobenzene (SURR)	460-00-4	QCBLK75412-1	08/15/95	08/15/95	104	%REC			1
1,2-Dichloroethane-d4 (SURR)	17070-07-0	QCBLK75412-1	08/15/95	08/15/95	105	%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 : 08/23/95

lient ID: NA

Quanterra ID : QCLCS75413-1

nalyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
,1-Dichloroethene	75-35-4	QCBLK75413-1	08/15/95	08/15/95	125	%REC			1
richloroethene	79-01-6	QCBLK75413-1	08/15/95	08/15/95	104	%REC			1
enzene	71-43-2	QCBLK75413-1	08/15/95	08/15/95	107	%REC			1
oluene	108-88-3	QCBLK75413-1	08/15/95	08/15/95	100	%REC			1
hlorobenzene	108-90-7	QCBLK75413-1	08/15/95	08/15/95	103	%REC			1
oluene-d8 (SURR)	2037-26-5	QCBLK75413-1	08/15/95	08/15/95	98	%REC			1
romofluorobenzene (SURR)	460-00-4	QCBLK75413-1	08/15/95	08/15/95	98	%REC			1
,2-Dichloroethane-d4 (SURR)	17070-07-0	QCBLK75413-1	08/15/95	08/15/95	105	%REC			1

PRIORITY

WESTINGHOUSE HANFORD COMPANY
GENERATOR & WASTE ACCEPTANCE SERVICES

PREDETERMINATION REPORT

REQUEST #: 26702 *DATE:* August 29, 1995

PRODUCT	PREDETERMINATION OF PUREX D5/E6/F13/F15/F16 VESSELS' FLUSH SOLUTION

TO	Carmen N. Villalobos	*COMPANY*	S6-19		
PHONE	373-4753	*ADDRESS*	200E		
FACILITY	PUREX	*MSIN*	S6-19		
ANALYST	K. W. (Katie) Chang KW Chang	*MSIN*	T3-05	*PHONE*	372-0679
REVIEWER	Richard L. Christian 8-29-95	*MSIN*	T3-05	*PHONE*	
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 vessels' **flush solution is 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	BOFBS9	PUREX VESSELS' FLUSH WATER	N/A	N/A	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.

9554750

Attachment 2

TRANSMITTAL OF PLUTONIUM URANIUM EXTRACTION PLANT D5/E6/F15/F16 VESSELS, LOOP FLUSH ANALYTICAL RESULTS

Ghost Letter

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 D5/E6/F15/F16 VESSELS, LOOP FLUSH ANALYTICAL RESULTS

Enclosed is the laboratory analytical results conducted on the final flush for the Plutonium Uranium Extraction (PUREX) D5/E6/F15/F16 Vessels. 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.