W0119-QES-118

Quanterra
Environmental Services

0048246

CERTIFICATE OF ANALYSIS

AUG 1994
RECEIVED
SDLA

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

August 3, 1994

Attention: J. A. Lerch

Project number	:	519.66
Date Received by Lab	:	July 1, 1994
Number of Samples	:	One (1)
Sample Type	:	Water
SDG Number	:	W0119
Data Deliverable	:	Summary

NOV 1997
RECEIVED
EDMC

I. Introduction

On July 1, 1994, one (1) water sample was received by ITAS-Richland and transferred to ITAS-St. Louis for chemical analysis. Upon receipt, the sample was given the following laboratory ID number to correspond with the specific client ID:

St Louis ID	WHC ID	Richland ID	Matrix	Date of Receipt
5484-001	BOC6P0	40700901	Water	07/01/94

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: BNA and VOA by EPA CLP90 protocol. Total Organic Halides by EPA method 9020. Total Organic Carbon by EPA method 9060. Total Phenolics by EPA method 9066.

Regional Office
13715 Rider Trail North • Earth City, Missouri 63045-1205 • 314-298-8566 • fax: 314-298-8757

000002

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 as sample volume permitted.

IV. Definitions

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

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

V. Comments

The sample fractions received for the Volatile analysis and the TOC analysis were not preserved as dictated by the protocol (both to pH < 2).

It is noted that the concentrations of chloroform found in the sample and its MS/MSD are not consistent. The sample gave ug/L of chloroform, while the MS and MSD gave 18 and 8 ug/L. The sample and the MS/MSD were aliquotted from separate sample vials, so perhaps the samples were heterogenous.

Insufficient sample was supplied to run matrix specific QC for the Semi-volatile analysis. The Laboratory extracted the entire amount of sample for the sample analysis and concentrated the extract to 0.5 ml. The resulting detection limit was two times greater than the normal reporting limit. For Quality Control, a Laboratory Control sample was analyzed which is not normally called for by the CLP protocol.

The Laboratory was unable to calculate the RPD for the Phenol duplicate analysis because both values were below the detection limit.

Quanterra
Environmental Services

I certify that this data package is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature.

Reviewed and approved:

Wade H. Price
Project Manager
z:\annelars\hanw0119.nar

ITAS - St. Louis July 05, 1994 09:34 am
Account: 10722 Project: 519.66 Quanterra-Richland QAS No. 622 Rev. 0
Master Sample Login: 15484

Project Manager: W. Price

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

Sample Header Template:

Sample No. / Comments / Date:	Client ID	C-Matrix	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No.
5484-001	B0C6P0	Water	30-JUN-94 09:25	01-JUL-94 11:45	15-JUL-94	FED-EX	1	Screening not Required
QUANTERRA RICHLAND I.D. 40700901								

#	Container Type	Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)
1	VI - Vial-40ml	HOLD//Q4	S	COLD	11-&&&-**	11-&&&-**	S4F	(84881:97)
3		VOA/CLP90/Q4	S	COLD	13-JUL-94	14-JUL-94	109P	(84878:100 84879:99 84880:98)
2	AN - Amber Glass-1L	PHENOL/9066/Q4	S	H2SO4	13-JUL-94	28-JUL-94	S4F	(84874:100 84875:99)
1	AN - Amber Glass-500ml	TOX/9020/Q4	S	COLD	13-JUL-94	28-JUL-94	S4F	(84877:100)
1	AN - Amber Glass-250ML	BNA/CLP90/Q4	S	COLD	13-JUL-94	07-JUL-94	S4F	(84882:100)
1	AN - Amber Glass-120ML	TOC/9060/Q4	S	HCL	13-JUL-94	28-JUL-94	S4F	(84876:100)

5484-001DUP	B0C6P0	Water	30-JUN-94 09:25	01-JUL-94 11:45	15-JUL-94	FED-EX	1	Screening not Required
QUANTERRA RICHLAND I.D. 40700901								

#	Container Type	Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)
2	AN - Amber Glass-1L	PHENOL/9066/Q4	S	H2SO4	13-JUL-94	28-JUL-94	S4F	(84874:100 84875:99)
1	AN - Amber Glass-500ml	TOX/9020/Q4	S	COLD	13-JUL-94	28-JUL-94	S4F	(84877:100)
1	AN - Amber Glass-120ML	TOC/9060/Q4	S	HCL	13-JUL-94	28-JUL-94	S4F	(84876:100)

5484-001MS	B0C6P0	Water	30-JUN-94 09:25	01-JUL-94 11:45	15-JUL-94	FED-EX	1	Screening not Required
QUANTERRA RICHLAND I.D. 40700901								

#	Container Type	Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)
3	VI - Vial-40ml	VOA/CLP90/Q4	S	COLD	13-JUL-94	14-JUL-94	109P	(84878:100 84879:99 84880:98)
2	AN - Amber Glass-1L	PHENOL/9066/Q4	S	H2SO4	13-JUL-94	28-JUL-94	S4F	(84874:100 84875:99)
1	AN - Amber Glass-500ml	TOX/9020/Q4	S	COLD	13-JUL-94	28-JUL-94	S4F	(84877:100)
1	AN - Amber Glass-250ML	BNA/CLP90/Q4	S	COLD	13-JUL-94	07-JUL-94	S4F	(84882:100)
1	AN - Amber Glass-120ML	TOC/9060/Q4	S	HCL	13-JUL-94	28-JUL-94	S4F	(84876:100)

5484-001MSD	B0C6P0	Water	30-JUN-94 09:25	01-JUL-94 11:45	15-JUL-94	FED-EX	1	Screening not Required
QUANTERRA RICHLAND I.D. 40700901								

#	Container Type	Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)
3	VI - Vial-40ml	VOA/CLP90/Q4	S	COLD	13-JUL-94	14-JUL-94	109P	(84878:100 84879:99 84880:98)
1	AN - Amber Glass-250ML	BNA/CLP90/Q4	S	COLD	13-JUL-94	07-JUL-94	S4F	(84882:100)

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3*=Sample has not been rad screened.

Temps CUR 615

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

Reference Document No. 453567
Page 1 of 2

Project Name/No. [1] 94-333
Sample Team Members [2]
Profit Center No. [3] 4632
Project Manager [4] Van Pettey
Purchase Order No. [6]
Required Report Date [11] 7/16/94 WHC Priority

Samples Shipment Date [7] 7/1/94
Lab Destination [8] St. Louis
Lab Contact [9]
Project Contact/Phone [12]
Carrier/Waybill No. [13]

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

ONE CONTAINER PER LINE

Sample Number [14]	Sample Description/Type [15]	Date/Time Collected [16]	Container Type [17]	Sample Volume [18]	Pre-servative [19]	Requested Testing Program [20]	Condition on Receipt [21]	Disposal Record No. [22]
40700901 A	BOC6PO/H_2O	063094 0925 See WHC	Amber COC/SAR	40 ml 1 L	H_2SO_4 4 C	See WHC COC/SAR ~~[illegible]~~	Phenol 100%	PH1
B		"	"	"	"	—	Phenol 100%	PH1
C		"	Amber "	120 mL	HCL "	TOC "	100%	PF-7
D		"	Amber	500 mL	—	TOX	100%	
E		0925 063094	Amber	40 mL	—	Vol TCL	100%	
F		"	"	"	—	"	100%	
G		"	"	"	—	"	100%	
H		"	Amber	250 mL	—	Semi Vol TCL	100%	

FOR LAB USE ONLY

FOR LAB USE ONLY

Special Instructions: [23]

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

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

Turnaround Time Required: [26]
Normal ☐ Rush ☒ WHC Priority

QC Level: [27]
I. ☐ II. ☐ III. ☐ Project Specific (specify): SDG W0119

1. Relinquished by [28] (Signature/Affiliation)	Date: Time:	1. Received by [28] (Signature/Affiliation) Bob Cowan	Date: 07-02-94 Time: 1000
2. Relinquished by (Signature/Affiliation)	Date: Time:	2. Received by (Signature/Affiliation)	Date: Time:
3. Relinquished by (Signature/Affiliation)	Date: Time:	3. Received by (Signature/Affiliation)	Date: Time:

Comments: [29]

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*See back of form for special instructions.

Yellow: Field copy

Temps CUR 615

INTERNATIONAL TECHNOLOGY CORPORATION

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

Reference Document No. 30453 567

Page 2 of 2

Project Name SDG W0119

Project No. SAF# 94-333

Samples Shipment Date 7/1/94

ONE CONTAINER PER LINE

Sample 14 Number	Sample 15 Description/Type	Date/Time 16 Collected	Container 17 Type	Sample 18 Volume	Pre-19 servative	Requested Testing 20 Program	Condition on 21 Receipt	Disposal 22 Record No.
4070090TX	BOC6PO/H_2O	0930 94 0925 See WHC	Amber COC/SAR	40 mL	4°C	See WHC COC/SAR Screen	100%	
7/1/94 I								
	7/1/94							

White: To accompany samples Yellow: Field copy

*See back of form for special instructions.

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070194C WQ2

TENNELEC #2

SCREENING CALCULATION SPREADSHEET

Cust Code	Recieved Date		Screening Prep Date		Count Date	Mnts Cntd	BACKGROUND Alpha	Beta	Mnts
WHC	7-1-94		7-1		7-1	10	14	263	240

All are Cat. I.
JRM 1 July 94

Customer ID WHC LIQ	pH <2 Rcvd/Req	Residue Wght mG	Vol Anal mG mL	Sample Size Gm L	SMPLE CNT DATA Hldr Num	Total Counts Alpha	Total Counts Beta	Net Sample Counts/Minute Alpha	Net Sample Counts/Minute Beta	DPM / Aliquot Alpha	DPM / Aliquot Beta	uCi per Sample Alpha	uCi per Sample Beta	2 Sigma Error uCi per Sample Alpha	2 Sigma Error uCi per Sample Beta	pCi/(Gm or L) Alpha	pCi/(Gm or L) Beta	Category 1 Yes/No	Aliquot to Cat 1 Gm or L Alpha	Aliquot to Cat 1 Gm or L Beta
B0C6P0		6 0	10	1 0	53	1	27	0 04	1 60	8 04E 02	3 36E +00	3 6E-06	1 5E-04	2 2E 06	8 0E 08	3 6E +00	1 5E +02	Yes	2 8E +03	8 8E +02
B0C1M6		4 8	10	2 0	54	3	22	0 24	1 10	8 41E 01	2 17E +00	7 6E-05	2 0E 04	1 1E 07	1 3E-07	3 8E +01	9 8E +01	Yes	2 8E +02	1 0E +03
B0C1L1		10 1	10	2 0	52	6	29	0 54	1 80	2 03E +00	3 48E +00	1 8E 04	3 1E 04	1 8E 07	2 9E-07	9 1E +01	1 6E +02	Yes	1 1E +02	6 4E +02
B0C1M2		5 9	10	2 0	49	4	19	0 34	0 80	1 24E +00	1 48E +00	1 1E 04	1 3E 04	1 3E-07	1 3E-07	5 8E +01	6 7E +01	Yes	1 8E +02	1 5E +03
TOTAL UCi												3 7E 04	7 9E 04							

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NOIJ

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [X] Priority [ ] Normal

Collector: J. D. Fancher	Company Contact: J. D. Fancher	Telephone No: 376-2081
Project Designation: Carbon Tetrachloride ERA	Sampling Location: 200-West	SAF No.: 94-333
Ice Chest No.: BETA 4	Field Logbook No.: EFL-1133	Method of Shipment: Government Vehicle
Shipped To: IT	Offsite Property No.: N/A W99-0-0746-10	Bill of Lading/Air Bill No.: N/A

Possible Sample Hazards/Remarks: Contains carbon tetrachloride

Special Handling and/or Storage:

Preservative	H2SO4	~~H2SO2~~ HCL	cool	cool	cool	none	
Type of Container	aG	aGs	aGs	Gs	aG	Gs	
No. of Container(s)	2	1	1	3	1	1	
Volume	1000ml	125 ml	500 ml	40 ml	250 ml	40 ml	
SAMPLE ANALYSIS	Phenolitics	TOC	TOX	VOA TCL	Semi-VOA TCL	Activity Scan	
40700901	AB	C	D	EFG	H	I	

Sample No.	Matrix*	Date Sampled	Time Sampled						
BOC6PO	W	6/30/94		X	X	X	X	X	X

JA 6/30/94

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
J.D. Fancher	6/30/94 1146	Loren E. Rogers	6-30-94 1146
Loren E. Rogers	6-30-94 1450	A.J. Simpson	6/30/94 1450
A.J. Simpson WHC	7/1/94 1145	[illegible]	7/1/94 1145

SPECIAL INSTRUCTIONS
PRIORITY/TURNAROUND

SDG W0119

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

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original - Sample Yellow - Sampler

BC-6000-828 (12/92)

000010

INTERNATIONAL TECHNOLOGY CORPORATION

Regional Office
2300 George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

(1 Per Shipping Container)

Date/Time Received 7/1/94 1145 Client Name WHC

Project/Client # 94-333, 94-256 Batch or Case # N/A

Cooler ID (if noted on the outside of cooler) Beta 4

1. Condition of shipping container? ok
2. Custody Seals on cooler intact? Yes ☑ No ☐
3. Custody Seals dated and signed? Yes ☑ No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes ☑ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☑
6. Each sample is in a plastic bag? Yes ☐ No ☑
7. Number of sample containers in cooler: 24
8. Samples have: ____ tape ____ hazard labels
   ✓ custody seals ✓ appropriate sample labels
9. Samples are: ✓ in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☑ No ☐

Sample temperature 1°C

11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #'(s) N/A
    Request for analysis #(s) N/A
    Airbill # N/A Carrier N/A
12. Have any anomalies been identified above? Yes ☑ No ☐
13. Memos have been initiated for all anomalies identified above? Yes ☑

Printed Name/Signature Tom Gilmore [signature] Date/Time 7/1/94 1145

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

SAMPLE STATUS REPORT FOR N 895. RAD SCREEN BOC690 TIME: 7/ 1/94 0:31
DISPATCHED: 6/30/94 8: 8 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 7/ 1/94 0:26

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	J12UP

END OF REPORT

Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)
WHC		N94-0-0746-10

PART I – TO BE COMPLETED BY ORIGINATOR

Department	Section	Unit
ER Eng Support	Field & Analytical Supp	ER Field Sampling

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

Routing ☒ Contractor ☐ Vendor

Shipped to
IT Analytical Services
2800 George Washington Way
Richland, WA 99352

Off-site Custodian

Full Title

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost
1 lbs	Sample #: BOC6P0 BOC249 BOC220 BOC248 ~~BOC149~~ ~~BOC120~~ AJS 7/1/94 Cooler ID: BETA4 Polycooler with groundwater samples packed in wet ice and vermiculite	N/A
1 lbs	Sample #: BOB4B1 BOC1L1 BOC1L0 BOC1K8 BO BOC1K9 BOC1L0 Cooler ID: ER-1D Polycooler with groundwater samples packed in wet ice and vermiculite	N/A

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

Necessity for the Off-Site Use of this Property

Sampling supports RI/FS work in the 200 area.

RECEIVED
JUL 1 1994
PROPERTY RECORDS

Bill of lading # NA

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
michael S. Jones	178881	7-1-94

Location of Property (Area & Bldg)	Contact	Phone
200-UP-1	P. H. Butcher	(509) 376-4388

Date Ready for Shipment	Cost Code to be Charged	Approximate Date This Property will be Returned
1/1/94	8B410 / PTIFA	NA

Originated By	Date	Authorized By	Date
AJ SIMPSON		AJ Simpson	7/1/94

Signature and Name of Property Control	Custodian Date	Property Management Approval	Date
		JP Hankel	7/1/94

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No	Date Issued	Purchase Order No.	Date Issued
R Boyd Quarterna				
Date 7-1-94 1155				

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

000014 54-3000-479 (09 89)

INTERNATIONAL TECHNOLOGY CORPORATION

Westinhouse Hanford Company
P.O. Box 1970
Richland, WA 99352

Project: 519.66

Category: VOA CLP
Method: EPA CLP
Matrix: Water

Sample Date : 06/30/94
Receipt Date : 07/01/94
Report Date : 07/14/94

Client ID: 80C6P0

ITAS - St. Louis ID: 5484-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	QCBLK40700-1	07/08/94	07/08/94	10	UG/L	U	10	1
Bromomethane	74-83-9	QCBLK40700-1	07/08/94	07/08/94	10	UG/L	U	10	1
Vinyl Chloride	75-01-4	QCBLK40700-1	07/08/94	07/08/94	10	UG/L	U	10	1
Chloroethane	75-00-3	QCBLK40700-1	07/08/94	07/08/94	10	UG/L	U	10	1
Methylene Chloride	75-09-2	QCBLK40700-1	07/08/94	07/08/94	4	UG/L	BJ	10	1
Acetone	67-64-1	QCBLK40700-1	07/08/94	07/08/94	34	UG/L	B	10	1
Carbon Disulfide	75-15-0	QCBLK40700-1	07/08/94	07/08/94	10	UG/L	U	10	1
1,1-Dichloroethene	75-35-4	QCBLK40700-1	07/08/94	07/08/94	10	UG/L	U	10	1
1,1-Dichloroethane	75-34-3	QCBLK40700-1	07/08/94	07/08/94	10	UG/L	U	10	1
1,2-Dichloroethene (total)	540-59-0	QCBLK40700-1	07/08/94	07/08/94	10	UG/L	U	10	1
Chloroform	67-66-3	QCBLK40700-1	07/08/94	07/08/94	130	UG/L		10	1
1,2-Dichloroethane	107-06-2	QCBLK40700-1	07/08/94	07/08/94	10	UG/L	U	10	1
2-Butanone	78-93-3	QCBLK40700-1	07/08/94	07/08/94	10	UG/L	U	10	1
1,1,1-Trichloroethane	71-55-6	QCBLK40700-1	07/08/94	07/08/94	10	UG/L	U	10	1
Carbon Tetrachloride	56-23-5	QCBLK40700-1	07/08/94	07/08/94	10	UG/L	J	10	1
Bromodichloromethane	75-27-4	QCBLK40700-1	07/08/94	07/08/94	10	UG/L	U	10	1
1,2-Dichloropropane	78-87-5	QCBLK40700-1	07/08/94	07/08/94	10	UG/L	U	10	1
cis-1,3-Dichloropropene	10061-01-5	QCBLK40700-1	07/08/94	07/08/94	10	UG/L	U	10	1
Trichloroethene	79-01-6	QCBLK40700-1	07/08/94	07/08/94	10	UG/L	U	10	1
Dibromochloromethane	124-48-1	QCBLK40700-1	07/08/94	07/08/94	10	UG/L	U	10	1
1,1,2-Trichloroethane	79-00-5	QCBLK40700-1	07/08/94	07/08/94	10	UG/L	U	10	1
Benzene	71-43-2	QCBLK40700-1	07/08/94	07/08/94	10	UG/L	U	10	1
trans-1,3-Dichloropropene	10061-02-6	QCBLK40700-1	07/08/94	07/08/94	10	UG/L	U	10	1
Bromoform	75-25-2	QCBLK40700-1	07/08/94	07/08/94	10	UG/L	U	10	1
4-Methyl-2-Pentanone	108-10-1	QCBLK40700-1	07/08/94	07/08/94	10	UG/L	U	10	1
2-Hexanone	591-78-6	QCBLK40700-1	07/08/94	07/08/94	10	UG/L	U	10	1
Tetrachloroethene	127-18-4	QCBLK40700-1	07/08/94	07/08/94	10	UG/L	U	10	1
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK40700-1	07/08/94	07/08/94	10	UG/L	U	10	1
Toluene	108-88-3	QCBLK40700-1	07/08/94	07/08/94	10	UG/L	U	10	1
Chlorobenzene	108-90-7	QCBLK40700-1	07/08/94	07/08/94	10	UG/L	U	10	1
Ethyl Benzene	100-41-4	QCBLK40700-1	07/08/94	07/08/94	10	UG/L	U	10	1
Styrene	100-42-5	QCBLK40700-1	07/08/94	07/08/94	10	UG/L	U	10	1
Xylenes (total)	1330-20-7	QCBLK40700-1	07/08/94	07/08/94	10	UG/L	U	10	1
Unknown-1	TIC-32	QCBLK40700-1	07/08/94	07/08/94	7	UG/L	J		1
Unknown-2	TIC-33	QCBLK40700-1	07/08/94	07/08/94	35	UG/L	J		1
Unknown-3	TIC-34	QCBLK40700-1	07/08/94	07/08/94	7	UG/L	J		1
Toluene-d8 (SURR)	2037-26-5	QCBLK40700-1	07/08/94	07/08/94	100	%REC			1
Bromofluorobenzene (SURR)	460-00-4	QCBLK40700-1	07/08/94	07/08/94	98	%REC			1
1,2-Dichloroethane-d4 (SURR)	17070-07-0	QCBLK40700-1	07/08/94	07/08/94	100	%REC			1

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0C6P0

Lab Name: ITAS-ST.LOUIS Contract: 519-66

Lab Code: ITSL Case No.: V48401 SAS No.: SDG No.: W0119

Matrix: (soil/water) WATER Lab Sample ID: 5484-001

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: F8904

Level: (low/med) LOW Date Received: 07/01/94

% Moisture: not dec. Date Analyzed: 07/08/94

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

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	4	BJ
67-64-1	Acetone	34	B
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	130	
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	J
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B0C6P0

Lab Name: ITAS-ST.LOUIS Contract: 519-66

Lab Code: ITSL Case No.: V48401 SAS No.: SDG No.: W0119

Matrix: (soil/water) WATER Lab Sample ID: 5484-001

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: F8904

Level: (low/med) LOW Date Received: 07/01/94

% Moisture: not dec. Date Analyzed: 07/08/94

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Number TICs found: 3

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	7.00	7	J
2.	UNKNOWN	7.50	35	J
3.	UNKNOWN	10.43	7	J

INTERNATIONAL TECHNOLOGY CORPORATION

Westinhouse Hanford Company
P.O. Box 1970
Richland, WA 99352

Project: 519.66

Category: BNA CLP
Method: EPA CLP
Matrix: Water

Sample Date : 06/30/94
Receipt Date : 07/01/94
Report Date : 07/14/94

Client ID: 80C6P0

ITAS - St. Louis ID: 5484-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Phenol	108-95-2	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	U	20	1
bis(2-Chloroethyl) Ether	111-44-4	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	U	20	1
2-Chlorophenol	95-57-8	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	U	20	1
1,3-Dichlorobenzene	541-73-1	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	U	20	1
1,4-Dichlorobenzene	106-46-7	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	U	20	1
1,2-Dichlorobenzene	95-50-1	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	U	20	1
2-Methylphenol	95-48-7	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	U	20	1
bis(2-Chloroisopropyl)Ether	108-60-1	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	U	20	1
4-Methylphenol	106-44-5	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	U	20	1
N-nitrosodi-n-propylamine	621-64-7	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	U	20	1
Hexachloroethane	67-72-1	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	U	20	1
Nitrobenzene	98-95-3	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	U	20	1
Isophorone	78-59-1	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	U	20	1
2-Nitrophenol	88-75-5	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	U	20	1
2,4-Dimethylphenol	105-67-9	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	U	20	1
bis(2-Chloroethoxy)Methane	111-91-1	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	U	20	1
2,4-Dichlorophenol	120-83-2	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	U	20	1
1,2,4-Trichlorobenzene	120-82-1	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	U	20	1
Naphthalene	91-20-3	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	U	20	1
4-Chloroaniline	106-47-8	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	U	20	1
Hexachlorobutadiene	87-68-3	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	U	20	1
4-Chloro-3-Methylphenol	59-50-7	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	U	20	1
2-Methylnaphthalene	91-57-6	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	U	20	1
Hexachlorocyclopentadiene	77-47-4	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	U	20	1
2,4,6-Trichlorophenol	88-06-2	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	U	20	1
2,4,5-Trichlorophenol	95-95-4	QCBLK40593-1	07/06/94	07/12/94	50	UG/L	U	50	1
2-Chloronaphthalene	91-58-7	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	U	20	1
2-Nitroaniline	88-74-4	QCBLK40593-1	07/06/94	07/12/94	50	UG/L	U	50	1
Dimethyl Phthalate	131-11-3	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	U	20	1
Acenaphthylene	208-96-8	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	U	20	1
2,6-Dinitrotoluene	606-20-2	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	U	20	1
3-Nitroaniline	99-09-2	QCBLK40593-1	07/06/94	07/12/94	50	UG/L	U	50	1
Acenaphthene	83-32-9	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	U	20	1
2,4-Dinitrophenol	51-28-5	QCBLK40593-1	07/06/94	07/12/94	50	UG/L	U	50	1
4-Nitrophenol	100-02-7	QCBLK40593-1	07/06/94	07/12/94	50	UG/L	U	50	1
Dibenzofuran	132-64-9	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	U	20	1
2,4-Dinitrotoluene	121-14-2	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	U	20	1
Diethylphthalate	84-66-2	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	U	20	1
4-Chlorophenyl Phenyl Ether	7005-72-3	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	U	20	1
Fluorene	86-73-7	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	U	20	1
4-Nitroaniline	100-01-6	QCBLK40593-1	07/06/94	07/12/94	50	UG/L	U	50	1
4,6-Dinitro-2-Methylphenol	534-52-1	QCBLK40593-1	07/06/94	07/12/94	50	UG/L	U	50	1
n-Nitrosodiphenylamine	86-30-6	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	U	20	1
4-Bromophenyl Phenyl Ether	101-55-3	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	U	20	1
Hexachlorobenzene	118-74-1	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	U	20	1
Pentachlorophenol	87-86-5	QCBLK40593-1	07/06/94	07/12/94	50	UG/L	U	50	1
Phenanthrene	85-01-8	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	U	20	1
Anthracene	120-12-7	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	U	20	1
Carbazole	86-74-8	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	U	20	1
Di-N-Butylphthalate	84-74-2	QCBLK40593-1	07/06/94	07/12/94	9	UG/L	J	20	1
Fluoranthene	206-44-0	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	U	20	1
Pyrene	129-00-0	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	U	20	1
Butyl Benzyl Phthalate	85-68-7	QCBLK40593-1	07/06/94	07/12/94	2	UG/L	J	20	1
3,3'-Dichlorobenzidine	91-94-1	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	U	20	1
Benzo(a)Anthracene	56-55-3	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	U	20	1
Chrysene	218-01-9	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	U	20	1
bis(2-Ethylhexyl)Phthalate	117-81-7	QCBLK40593-1	07/06/94	07/12/94	72	UG/L		20	1
di-N-Octyl Phthalate	117-84-0	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	U	20	1
Benzo(b)Fluoranthene	205-99-2	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	U	20	1
Benzo(k)Fluoranthene	207-08-9	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	U	20	1
Benzo(a)Pyrene	50-32-8	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	U	20	1

INTERNATIONAL TECHNOLOGY CORPORATION

Westinhouse Hanford Company
P.O. Box 1970
Richland, WA 99352

Project: 519.66

Category: BNA CLP
Method: EPA CLP
Matrix: Water

Sample Date : 06/30/94
Receipt Date : 07/01/94
Report Date : 07/14/94

Client ID: B0C6P0

ITAS - St. Louis ID: 5484-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Indeno(1,2,3-CD)Pyrene	193-39-5	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	U	20	1
Dibenzo(a,h)Anthracene	53-70-3	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	U	20	1
Benzo(g,h,i)Perylene	191-24-2	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	U	20	1
Urea, tetramethyl-	632-22-4	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	JN		1
Unknown-1	TIC-32	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	J		1
Unknown-2	TIC-33	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	J		1
Unknown-3	TIC-34	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	J		1
Unknown-4	TIC-35	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	J		1
Unknown-5	TIC-36	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	J		1
Unknown-6	TIC-37	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	J		1
Pyrazine, tetramethyl-	1124-11-4	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	JN		1
Unknown-7	TIC-7	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	J		1
Unknown-8	TIC-8	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	J		1
Unknown-9	TIC-9	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	J		1
Unknown-10	TIC-10	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	J		1
Unknown-11	TIC-11	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	J		1
Unknown-12	TIC-12	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	J		1
Unknown-13	TIC-13	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	J		1
Unknown-14	TIC-14	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	BJ		1
Unknown-15	TIC-15	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	J		1
Unknown-16	TIC-16	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	J		1
Unknown-17	TIC-17	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	J		1
Unknown-18	TIC-18	QCBLK40593-1	07/06/94	07/12/94	20	UG/L	J		1
Nitrobenzene-d5	4165-60-0	QCBLK40593-1	07/06/94	07/12/94	58	%REC			1
2-Fluorobiphenyl	321-60-8	QCBLK40593-1	07/06/94	07/12/94	52	%REC			1
Terphenyl-d14	1718-51-0	QCBLK40593-1	07/06/94	07/12/94	59	%REC			1
Phenol-d5	13127-88-3	QCBLK40593-1	07/06/94	07/12/94	66	%REC			1
2-Fluorophenol	367-12-4	QCBLK40593-1	07/06/94	07/12/94	58	%REC			1
2,4,6-Tribromophenol	118-79-6	QCBLK40593-1	07/06/94	07/12/94	55	%REC			1
2-Chlorophenol-d4	25167-80-0	QCBLK40593-1	07/06/94	07/12/94	59	%REC			1
1,2-Dichlorobenzene-d4	95-50-01	QCBLK40593-1	07/06/94	07/12/94	53	%REC			1

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0C6P0

Lab Name: ITAS-ST.LOUIS Contract: 519-66

Lab Code: ITSL Case No.: S48401 SAS No.: SDG No.: W0119

Matrix: (soil/water) WATER Lab Sample ID: 5484-001

Sample wt/vol: 250.0 (g/mL) ML Lab File ID: D5686

Level: (low/med) LOW Date Received: 07/01/94

% Moisture: decanted: (Y/N) Date Extracted: 07/06/94

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 07/12/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	20	U
111-44-4	bis(2-Chloroethyl)Ether	20	U
95-57-8	2-Chlorophenol	20	U
541-73-1	1,3-Dichlorobenzene	20	U
106-46-7	1,4-Dichlorobenzene	20	U
95-50-1	1,2-Dichlorobenzene	20	U
95-48-7	2-Methylphenol	20	U
108-60-1	2,2'-oxybis(1-Chloropropane)	20	U
106-44-5	4-Methylphenol	20	U
621-64-7	N-Nitroso-Di-n-Propylamine	20	U
67-72-1	Hexachloroethane	20	U
98-95-3	Nitrobenzene	20	U
78-59-1	Isophorone	20	U
88-75-5	2-Nitrophenol	20	U
105-67-9	2,4-Dimethylphenol	20	U
111-91-1	bis(2-Chloroethoxy)Methane	20	U
120-83-2	2,4-Dichlorophenol	20	U
120-82-1	1,2,4-Trichlorobenzene	20	U
91-20-3	Naphthalene	20	U
106-47-8	4-Chloroaniline	20	U
87-68-3	Hexachlorobutadiene	20	U
59-50-7	4-Chloro-3-Methylphenol	20	U
91-57-6	2-Methylnaphthalene	20	U
77-47-4	Hexachlorocyclopentadiene	20	U
88-06-2	2,4,6-Trichlorophenol	20	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	20	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	20	U
208-96-8	Acenaphthylene	20	U
606-20-2	2,6-Dinitrotoluene	20	U
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	20	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0C6P0

Lab Name: ITAS-ST.LOUIS Contract: 519-66

Lab Code: ITSL Case No.: S48401 SAS No.: SDG No.: W0119

Matrix: (soil/water) WATER Lab Sample ID: 5484-001

Sample wt/vol: 250.0 (g/mL) ML Lab File ID: D5686

Level: (low/med) LOW Date Received: 07/01/94

% Moisture: decanted: (Y/N) Date Extracted: 07/06/94

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 07/12/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	20	U
121-14-2	2,4-Dinitrotoluene	20	U
84-66-2	Diethylphthalate	20	U
7005-72-3	4-Chlorophenyl-phenylether	20	U
86-73-7	Fluorene	20	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	20	U
101-55-3	4-Bromophenyl-phenylether	20	U
118-74-1	Hexachlorobenzene	20	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	20	U
120-12-7	Anthracene	20	U
86-74-8	Carbazole	20	U
84-74-2	Di-n-Butylphthalate	9	J
206-44-0	Fluoranthene	20	U
129-00-0	Pyrene	20	U
85-68-7	Butylbenzylphthalate	2	J
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	20	U
218-01-9	Chrysene	20	U
117-81-7	bis(2-Ethylhexyl)Phthalate	72	
117-84-0	Di-n-Octyl Phthalate	20	U
205-99-2	Benzo(b)Fluoranthene	20	U
207-08-9	Benzo(k)Fluoranthene	20	U
50-32-8	Benzo(a)Pyrene	20	U
193-39-5	Indeno(1,2,3-cd)Pyrene	20	U
53-70-3	Dibenz(a,h)Anthracene	20	U
191-24-2	Benzo(g,h,i)Perylene	20	U

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B0C6P0

Lab Name: ITAS-ST.LOUIS Contract: 519-66

Lab Code: ITSL Case No.: S48401 SAS No.: SDG No.: W0119

Matrix: (soil/water) WATER Lab Sample ID: 5484-001

Sample wt/vol: 250.0 (g/mL) ML Lab File ID: D5686

Level: (low/med) LOW Date Received: 07/01/94

% Moisture: decanted: (Y/N) Date Extracted: 07/06/94

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 07/12/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 20

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 632224	Urea, tetramethyl-	9.99	54	JN
2.	UNKNOWN	14.88	130	J
3.	UNKNOWN	16.50	21	J
4.	UNKNOWN	17.86	130	J
5.	UNKNOWN	19.26	19	J
6.	UNKNOWN	19.46	69	J
7.	UNKNOWN	20.97	40	J
8. 1124114	Pyrazine, tetramethyl-	22.48	85	JN
9.	UNKNOWN	22.89	150	J
10.	UNKNOWN	24.68	35	J
11.	UNKNOWN	25.79	160	J
12.	UNKNOWN	27.84	17	J
13.	UNKNOWN	28.14	23	J
14.	UNKNOWN	28.31	100	J
15.	UNKNOWN	30.20	42	J
16. 0	UNKNOWN	30.62	18	BJ
17.	UNKNOWN	32.99	13	J
18.	UNKNOWN	33.10	22	J
19.	UNKNOWN	33.22	25	J
20.	UNKNOWN	37.24	15	J

ITAS-ST. LOUIS

PHENOL REPORT

Pg. 1 of 1

Prep Date: 07-06-94
Analysis Date: 07-08-94
Method No.: 420.2, 9066
Date: 07-11-94

Analyst: J. Flandreau
Project No.: 519.66355.01
Reviewed by: R. Patterson

Batch No.: 40701

LAB ID	STANDARD ID	RAW VALUE x	DILUTION ÷	SAMPLE VOLUME (L or g) =	PHENOL x	EXTRACT VOLUME (L) ÷	FRACTION SOLID =	PHENOL FINAL CONCENTRATION (ug/L) (ug/g)	% RECOVERY	RPD
QCBLK40701-1		10.04		.100		.100		~~10.04~~ <20.0		
QCLCS40701-1	AC2707-94	238.9						~~238.9~~ 239	96	
5447-001		30.59						~~30.59~~ 30.6		
5484-001		11.16						~~11.16~~ <20		can't calculate
001DUP		12.43						~~12.43~~ <20		
001MS	AC2708-94	103.4						~~103.4~~ 103	103	

Inf 07-11-94

J. Flandreau 07-11-94

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ITAS - ST. LOUIS

TOC ANALYSIS

PAGE 1 OF 1

PREP DATE: 07-12-94 05 ZMF 07-12-94
DATE OF ANALYSIS: 07-12-94 05 ZMF 07-12-94
ANALYST: J. Flandreau
BATCH #: 40508

REVIEWED BY: R. Patterson / 07-13-94
REVIEWED BY: R. Patterson / 07-13-94
METHOD #: 9060
PROJECT #: 519.66

ANALYSIS TIME	LAB ID	STANDARD CONC.	VOLUME/ml WEIGHT USED	DILUTION	FRACTION SOLID	INSTRUMENT PRINTOUT PPM C	CONC (MG/L OR UG/G)	SAMPLE AVERAGE & ~~RPD~~ Range
								RP 07-13-94
	QCBLK40508-1		1000			0.42	<1.00	
	AL2701-94 QCLCS40508-1	60mg/L				59.95	60.0	
	5484-001					4.558	4.56	
	001					4.358	4.36	$\bar{x}$ = 4.33
	001					4.279	4.28	range = 4.13 → 4.56
	001					4.13	4.13	
	001 Dup					4.135	4.14	
	001 Dup					4.117	4.12	$\bar{x}$ = 4.34
	001 Dup					4.637	4.64	range = 4.12 → 4.64
	001 Dup					4.437	4.44	
	AL2702-94 001 MS	50mg/L				55.3	55.3	
	001 MS					55.07	55.1	$\bar{x}$ = 55.2
	001 MS					55.18	55.2	range = 55.1 → 55.3
	001 MS					55.24	55.2	

J. Flandreau 07-12-94

LCS True Value = 60mg/L
Percent Recovery = 100
SL 91-INORG-0013 WESTON

MS True Value = 50mg/L
Percent Recovery = 102

MSD True Value = N/A
Percent Recovery = ↓
RPD = <1

mg/L TOC (water) = Instr. Printout (PPMC) x Dil. Factor
ug/g TOC (soil) = Instr. Printout (PPMC) / Fraction Solid

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ITAS - ST. LOUIS

TOX ANALYSIS

Pg. 1 of 2

Rep:
DATE OF ANALYSIS: 07-12-94
ANALYST: J. Carpio
BATCH #: 40884

APPROVED: R. Patterson / 07-13-94
METHOD #: 9020
PROJECT #: 519.66, 519.67, 500.01

SAMPLE ID	STANDARD CONCENTRATION 4	VOLUME USED L	DILUTIONS	Column 1 C1	Column 2 C2	AVG NITRATE BLANK C3	FINAL CONC UG/L	AVERAGE CONC UG/L
QCBLK40884-1		0.1		0.46	0.33	0.34	<5	
↓		↓		0.52	0.40	↓	<5	<5
QCLCS40884-1	100 ug/L	↓		10.77	0.55	↓	106	↓
↓	AL2747-94	↓		10.89	0.54	↓	108	107 107%
S484-001		↓		2.47	0.54	↓	23.3	↓
↓		↓		2.39	0.47	↓	21.8	22.6
S484-001DP		↓		2.43	0.51	↓	22.6	↓
↓		↓		2.58	0.46	↓	23.6	23.1 RPD 2
S484-001MS	100 ug/L	0.05		6.28	0.36	↓	119	↓
↓	AL2780-94	↓		6.42	0.46	↓	124	122 91%
SS03-001		0.1		1.43	0.29	↓	10.9	↓
↓		↓		1.39	0.33	↓	10.5	10.7
SS03-001DP		↓		1.46	0.37	↓	11.5	↓
↓		↓		1.40	0.35	↓	10.7	11.1 RPD 4
SS03-001MS	100 ug/L	0.05		5.98	0.44	↓	115	↓
↓	AL2851-94	↓		5.71	0.36	↓	108	112 101%
~~S479~~ S479-037		0.1		0.86	0.38	↓	5.6	↓
↓		↓		0.84	0.42	↓	5.8	5.7
S479-038		↓		0.75	0.56	↓	6.3	

Calculation: $\frac{(C1 - C3) + (C2 - C3) \times \text{dilution factor}}{\text{Volume, Liter}}$

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ITAS - ST. LOUIS

TOX ANALYSIS

Prep'd

DATE OF ANALYSIS: 07-12-94
ANALYST: J. CARRIO
BATCH #: 40884

Pg. 2 of 2

APPROVED: R. Pattison/07-13-94
METHOD #: 9020
PROJECT #: 519.66, 519.67, 500.01

SAMPLE ID	STANDARD CONCENTRATION	VOLUME USED L	DILUTIONS	Column 1 C1	Column 2 C2	AVG NITRATE BLANK C3	FINAL CONC UG/L	AVERAGE CONC UG/L
5479-038		0.1		0.86	0.56	0.34	7.4	6.85

JR 07-13-94

Calculation: $\frac{(C1 - C3) + (C2 - C3) \times \text{dilution factor}}{\text{Volume, Liter}}$

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SL-91-INORG-0014

INTERNATIONAL TECHNOLOGY CORPORATION

Westinhouse Hanford Company
P.O. Box 1970
Richland, WA 99352

Project: 519.66

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

Sample Date : 06/30/94
Receipt Date : 07/01/94
Report Date : 07/14/94

Client ID	ITAS ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	D
B0C6P0	5484-001	TOC	10-35-5	QCBLK40508-1	07/05/94	07/05/94	4.33	MG/L		1.00	
B0C6P0	5484-001DUP	TOC	10-35-5	QCBLK40508-1	07/05/94	07/05/94	4.34	MG/L		1.00	
B0C6P0	5484-001MS	TOC	10-35-5	QCBLK40508-1	07/05/94	07/05/94	102	%REC			
NA	QCBLK40508-1	TOC	10-35-5	QCBLK40508-1	07/05/94	07/05/94	1.00	MG/L	U	1.00	
NA	QCLCS40508-1	TOC	10-35-5	QCBLK40508-1	07/05/94	07/05/94	100	%REC			

INTERNATIONAL TECHNOLOGY CORPORATION

Westinhouse Hanford Company
P.O. Box 1970
Richland, WA 99352

Project: 519.66

Category: TOX
Method: EPA 9020
Matrix: Water

Sample Date : 06/30/94
Receipt Date : 07/01/94
Report Date : 07/14/94

Client ID	ITAS ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	D
B0C6P0	5484-001	TOX	59473-04-0	QCBLK40884-1	07/12/94	07/12/94	22.6	UG/L		5.0	
B0C6P0	5484-001DUP	TOX	59473-04-0	QCBLK40884-1	07/12/94	07/12/94	23.1	UG/L		5.0	
B0C6P0	5484-001MS	TOX	59473-04-0	QCBLK40884-1	07/12/94	07/12/94	99	%REC			
NA	QCBLK40884-1	TOX	59473-04-0	QCBLK40884-1	07/12/94	07/12/94	5.0	UG/L	U	5.0	
NA	QCLCS40884-1	TOX	59473-04-0	QCBLK40884-1	07/12/94	07/12/94	107	%REC			