0047515

100-IU-3 WASTE SITE 600-104

2,4-D "HOT SPOT" ANALYTICAL DATA

JUL 1997
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100-IU-3 WASTE SITE 600-104:

2,4-D "HOT SPOT" ANALYTICAL DATA

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1. ERC Immunoassay Test Kit 2,4-D Data Summary

Table 1: Waste Site 600-104 Engineering Study 2,4-D Data Summary

GOEPROBE HOLE #	DEPTH INTERVAL (ft)	SOIL TYPE	COMMENTS	2,4-D IA RESULTS			2,4-D LAB RESULTS		
				HEIS #	mg/kg	Comment	HEIS #	mg/kg	Comment
B8080	near surface dig	gravel/sand		B0L349	>15		B0L421	17000	dilution factor 20K
							B0L422	17000	duplicate of B0L421
B8080	2 to 3	gravel/sand		B0L355	>15				archived
B8080	3 to 4	gravel/sand		B0L353	>15		B0L424	17000	dilution factor 20K
B8080	4 to 5	native sand		B0L356	na	no soil added			archived
B8080	8.7 to 9.2		red stain	B0L354	>15		B0L425	10	dilution factor 20
B8081	3 to 4	native sand		B0L351	<0.6		B0L427	0.44	
B8082	3 to 4	native sand		B0L352	<0.6				archived
B8083	3 to 4	native sand		B0L369	<0.6				archived
B8084	5 to 6	native sand		B0L359	>15				archived
B8084	7 to 8	native sand		B0L360	<0.6				archived
B8085	3 to 4	native sand		B0L361	<0.6				archived
B8085	5 to 6	native sand		B0L362	<0.6				archived
B8086	3 to 4	gravel/sand		B0L363	>15				archived
B8086	5 to 6	native sand		B0L364	>3		B0L426	6.4	dilution factor 20
B8087	2 to 3	gravel/sand		B0L365	>15				archived
B8087	4 to 5	native sand		B0L366	>15				archived
B8088	2 to 3	gravel/sand		B0L367	>15				archived
B8088	5 to 6	native sand		B0L368	<0.6				archived
B8089	4.5 to 5.5	native sand	dune slope	B0L414	>3				archived
B8090	2 to 3 ft	native sand		B0L412	<0.6				archived
B8091	2 to 3	native sand		B0L413	<0.6				archived
B8099	3 to 4	native sand	background hole	B0L350	<0.6				archived

Notes:
1. All samples were collected on 5/29/97.
2. 2,4-D screening was performed using an immunoassay (IA) test kit.
3. Laboratory samples were analyzed for 2,4-D according to method 8150A.

2. ERC Laboratory Data Summary

Table 2: Waste Site 600-104 Engineering Study Laboratory Data Summary

	sample ID	**B0L421**	**B0L422**	**B0L424**	**B0L425**	**B0L426**	**B0L427**
	location	B8080	B0L421 dup	B8080	B8080	B8086	B8081
	depth interval	surface dig		3-4 ft	8.7-9.2 ft	5-6 ft	3-4 ft
	soil type	gravel/sand	gravel/sand	gravel/sand	red stain	native sand	native sand
	IA sample ID	B0L349	n/a	B0L353	B0L354	B0L364	B0L351
	IA result (2,4-D)	>15 mg/kg	n/a	>15 mg/kg	>15 mg/kg	>3 mg/kg	<0.6 mg/kg
herbicides-8150A	***mg/kg***						
2,4-D	94-75-7	17000 D^{20K}	17000 D^{20K}	17000 D^{20K}	10 D^{20}	6.4 D^{20}	0.44
2,4,5-T	93-76-5	3 D^{100}	2.1 D^{100}	3.1 D^{100}	0.021 U	0.045	0.021 U
TCLP herb-1311/8150A	***mg/L***	nr	nr			nr	nr
2,4-D	94-75-7			410 D^{1K}	0.87 D^{5}		
2,4,5-T	93-76-5			5 U	0.01 U		
volatile organics-8240A	***mg/kg***		nr	nr	nr	nr	nr
methylene chloride	75-09-2	0.013					
semivolatile organics-8270A	***mg/kg***		nr	nr		nr	nr
2,4-dichlorophenol	120-83-2	38 D^{20}			0.35 U		
2,4,6-trichlorophenol	88-06-2	9.3 D^{20}			0.35 U		
dioxins-8290	***ug/kg***		nr	nr		nr	nr
2,3,7,8-TCDD	1746-01-6	0.0092			0.001 U		
total TCDD		0.07			0.0017 U		
1,2,3,7,8-PeCDD	40321-76-4	0.0041 J			0.002 U		
total PeCDD		0.018 JQ			0.002 U		
1,2,3,6,7,8-HxCDD	57653-85-7	0.003 J			0.0014 U		
total HxCDD		0.013 JQ			0.0016 U		
2,3,7,8-TCDF	51207-31-9	0.014 Q			0.0017 U		
total TCDF		8.6 EQ			0.012		
1,2,3,7,8-PeCDF	57117-41-6	0.2 Q			0.0016 U		
2,3,4,7,8-PeCDF	57117-31-4	0.0085 J			0.0015 U		
total PeCDF		3.3 Q			0.0043 J		
1,2,3,4,7,8-HxCDF	70648-26-9	0.0053 JQ			0.001 U		
1,2,3,6,7,8-HxCDF	57117-44-9	0.004 J			0.0005 U		
2,3,4,6,7,8-HxCDF	60851-34-5	0.0045 J			0.0021 U		
total HxCDF		0.3 Q			0.0022 U		
1,2,3,4,6,7,8-HpCDD	35822-46-9	0.004 J			0.0026 U		
total HpCDD		0.0085 J			0.0026 U		
OCDD	3268-87-9	0.015 J			0.0024 J		
1,2,3,4,6,7,8-HpCDF	67562-39-4	0.13			0.0007 U		
1,2,3,4,7,8,9-HpCDF	55673-89-7	0.0031 JQ			0.0008 U		
total HpCDF		0.24 Q			0.0007 U		
OCDF	39001-02-0	0.11			0.0014 U		
anions-300.0	***mg/kg***	nr	nr				
chloride	16887-00-6			1000 D^{25}	32.7	49.6	2.52
fluoride	16984-48-8			2.05 U	1 U	1.45	1.06 U
nitrate	NO3-N			12.5 D^{2}	2.88	5.42	0.97
sulfate	14808-79-8			8.49	5.02 U	5.26 U	5.32 U
ammonia-350.1	***mg/kg***	nr	nr				
ammonia	7664-41-7			223 D^{50}	0.52 U	0.54 U	0.67 U

nr Analysis was not requested.
D Quantitated following sample dilution. Superscript ## is the dilution factor.
U Not detected. The associated value is the quantitation limit for the sample.
J Estimated result - less than the quantitation limit for the sample.
E Estimated result - exceeds the calibration range.
Q Estimated maximum possible concentration.

3. ERC Laboratory Data - Quanterra/St. Louis

Analytical Data Package Prepared For

Bechtel Hanford

Chemical Analysis By

Quanterra Environmental Services
St. Louis Laboratory

Sample Delivery Group Number: W01697

JUN 1997
RECEIVED
Data
Log In

BHI IDENTIFICATION NUMBER	QUANTERRA ID NUMBER
BOL421	14877-001
BOL422	14877-002
BOL424	14877-003
BOL425	14877-004
BOL426	14877-005
BOL427	14877-006

Quanterra Incorporated
13715 Rider Trail North
Earth City, Missouri 63045

314 298-8566 Telephone
314 298 8757 Fax

Quanterra Environmental Services

CERTIFICATE OF ANALYSIS

Bechtel Hanford Incorporated
3350 George Washington Way
Richland, Washington 99352

June 27, 1997

Attention: Joan Kessner

JUN 1997 RECEIVED Data Log In

Project number	:	550.227
Date Received by Lab	:	June 2, 1997
Number of Samples	:	Six (6)
Sample Type	:	Soil
SDG Number	:	W01697
Data Deliverable	:	Summary

I. Introduction

On June 2, 1997, six (6) soil samples were received by Quanterra, St. Louis for chemical analysis. Upon receipt, the samples were given the following laboratory ID numbers to correspond with the specific client IDs:

St. Louis ID	BHI ID	Matrix	Date of Receipt
14877-001	B0L421	Soil	06/02/97
14877-002	B0L422	Soil	06/02/97
14877-003	B0L424	Soil	06/02/97
14877-004	B0L425	Soil	06/02/97
14877-005	B0L426	Soil	06/02/97
14877-006	B0L427	Soil	06/02/97

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: Semivolatiles by EPA Method 8270. Volatiles by EPA Method 8240. Total Herbicides by EPA Method 8150. TCLP Herbicides by EPA Method 8150 following TCLP Extraction by EPA Method 1311. Ammonia by EPA Method 350.1. Anions (Cl,F,NO3, NO2, and SO4) by EPA Method 300.0.

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 were performed per the protocol for each analyte in this SDG.

IV. Definitions

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

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

V. Comments

Shipping and Receiving
There were no variances associated with sample receipt.

Volatiles
For reasons of efficiency and with client permission, these samples were analyzed by method 8260 instead of method 8240.

Sample 14877-001 gave a slightly low recovery for toluene-d8 surrogate at 78% (LCL=80%). Re-analysis gave a similar result. However, the MS and MSD analyses performed on this sample gave marginally acceptable recoveries at 81% and 84%. All four analyses are reported.

Semivolatiles
Samples 14877-001MS and MSD gave a high RPD for 2,4-dinitrotoluene at 22% (UCL=19%) for an unknown reason. All recoveries were in-control.

Herbicides
Samples 14877-001, 14877-002, and 14877-003 had to be diluted 1:20000 in order to quantitate 2,4-D; therefore, the surrogate for each sample was diluted out.

Due to the large concentration of target analytes which required large dilutions for quantification, the Matrix Spike and Matrix Spike Duplicate target analytes were diluted out. No recovery data is available.

The Laboratory Control Sample gave high recovery for 2,4-D. See NCM #3359.

Quanterra
Environmental Services

TCLP Herbicides
Sample 14877-003 required dilutions of 1:500 and 1:1000, therefore the surrogate was diluted out.

The Method Blank showed contamination from 2,4-D which was traced to Diazomethane used in the extraction process. See NCM #3360.

The Laboratory Control Sample, Matrix Spike and Matrix Spike Duplicate each gave high 2,4-D recoveries, outside of suggested control limits.

Wet Chemistry
The Relative Percent Difference for the duplicate analyses of Fluoride and Nitrite could not be calculated due to values below the detection limit.

The Matrix Spike Recovery for Ammonia was outside of the suggested control limits, however, the sample concentration was greater than four times the spike amount making the recovery limits invalid.

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
c:\price$\hanford\hanw11697.nar

LOG #: _____

LABORATORY NONCONFORMANCE MEMO (NCM)

Quanterra Incorporated

Project ID/Client: 552-227

NCM Initiated by Date: [illegible] 06-16-97 Project Manager: PRICE

Sample Numbers QC batch or lot numbers: 14877-003, 004, 004MS+MSD ~~004~~ 06-16-97 Batch 142695

Tests: Herb TCLP

Analytical Area (check appropriate area):

- ☐ Sample control
- ☒ Organic preparation
- ☐ Inorganic preparation
- ☒ GC
- ☐ HPLC
- ☐ GC MS
- ☐ Wet chemistry
- ☐ Metals
- ☐ Reporting
- ☐ Data review
- ☐ Radiochemistry
- ☐ _____

Nonconformance (check appropriate area): *To be completed by analyst*

Holding Time Violations (exceeded by _____ days)

Category I: Laboratory Independent

- ☐ 1. Holding time expired in transit
- ☐ 2. Sample rec'd > 48 hrs after sampling, or ½ holding time has expired
- ☐ 3. Test added by client after expiration

Category II: Laboratory Dependent

- ☐ 4. Instrument failure
- ☐ 5. Analyst error
- ☐ 6. Log-in error
- ☐ 7. Miscommunication
- ☐ 8. Other (explanation required) _____

Category III: Analysis Reruns (QA/QC)

- ☐ 9. Surrogates
- ☐ 10. Internal standards
- ☐ 11. Spike recoveries
- ☐ 12. Blank contamination

Category IV: Analysis Reruns (Confirmation)

- ☐ 13. Second column
- ☐ 14. Contamination check
- ☐ 15. Confirmation of matrix effects
- ☐ 16. Other (explanation required) _____

Category V: Analysis Reruns (Dilution)

- ☐ 17. Over calibration
- ☐ 18. Under calibration
- ☐ 19. Other (explanation required) _____

Quality Assurance/Quality Control

- ☒ 20. QC data reported outside of controls
- ☐ 21. Incorrect procedure used
- ☐ 22. SOP intentionally modified with QA and tech approval
- ☐ 23. Invalid instrument calibration
- ☐ 24. Received insufficient sample for proper analysis

Incorrect or Incomplete Client Deliverable

- ☐ 25. Hardcopy deliverable error
- ☐ 26. Electronic deliverable error

Reported Detection Limits Elevated Due to:

- ☐ 27. Sample matrix: Does not include high analyte content
- ☐ 28. Insufficient sample volume
- ☐ 29. Other (explanation required)

Miscellaneous

- ☐ 30. Instrument equipment Tag-out
- ☐ 31. Other (explanation required)

Notification (check appropriate area): ☒ Required ☐ Not Required *To be completed by project manager*

Client notified by (name and date): [illegible] 6/27/97

- ☒ In writing
- ☐ By telephone
- ☐ By facsimile
- ☐ Other (explain)

Client's name and response: _____

- ☐ Process "as is"
- ☐ On hold until _____
- ☐ Re-sample
- ☐ Other (explain)

Project manager (signature and date): [illegible] 6/27/97

000005

QUANTERRA LABORATORY NONCONFORMANCE MEMO

LOG #: 3360

Corrective Action: *To be completed and reviewed by all associates involved*

Problem Description/Root Cause Author's initials and date: V. Smith 06-16-97

Blank is contaminated w/2,4D. LCS % recoveries are out of control for 2,4D.

Corrective Actions (Short Term) Author's initials and date: V. Smith 06-16-97

none - Client wants data reported regardless of QC problems

Corrective Actions to Prevent Reoccurrence (Long Term)

An apparent contamination problem from the diazomethane. New diazomethane to be used.

Corrective Action approved by (Supervisor/Group Leader) and date:

Additional Comments:

Corrective Action to be completed by (if other than Supervisor/Group Leader):

Date Corrective Action is to be completed:

Quality Assurance Review *To be completed by a QA associate*

☐ Anomaly ☒ Deficiency ☐ Notified Ops/Sys Manager (Initials)

☐ Further action required:

Further action assigned to:

QA signature: M Wruiter Date: 6/18/97

Corrective Action Verification: *To be completed by a QA associate*

☐ Verification not required or requested

☐ Verified / CA completed on: _____ by _____

☐ Cannot verify (specify reason)

Verified by: _____ Date: _____

Nonconformance Memo Closure:

QA signature: _____ Date: _____

The Office of Quality Assurance maintains a copy of this NCM indicating its final status.

000006

LOG #: 3354

LABORATORY NONCONFORMANCE MEMO (NCM)

Quanterra Incorporated

WO 16:97

Project ID/Client: 550-227

NCM Initiated by/Date: V. Snee 06 16-97 Project Manager: PRICE

Sample Numbers/QC batch or lot numbers: 14877-001 - 004, - 005, - 006 / 142444

Tests: Herb 8150

Analytical Area (check appropriate area):

- ☐ Sample control
- ☑ GC
- ☐ Wet chemistry
- ☐ Data review
- ☐ Organic preparation
- ☐ HPLC
- ☐ Metals
- ☐ Radiochemistry
- ☐ Inorganic preparation
- ☐ GC/MS
- ☐ Reporting
- ☐ _____

Nonconformance (check appropriate area): *To be completed by analyst*

Holding Time Violations (exceeded by _____ days)

Category I: Laboratory Independent

- ☐ 1. Holding time expired in transit
- ☐ 2. Sample rec'd > 48 hrs after sampling, or ½ holding time has expired
- ☐ 3. Test added by client after expiration

Category II: Laboratory Dependent

- ☐ 4. Instrument failure
- ☐ 5. Analyst error
- ☐ 6. Log-in error
- ☐ 7. Miscommunication
- ☐ 8. Other (explanation required) _____

Category III: Analysis Reruns (QA/QC)

- ☐ 9. Surrogates
- ☐ 10. Internal standards
- ☐ 11. Spike recoveries
- ☐ 12. Blank contamination

Category IV: Analysis Reruns (Confirmation)

- ☐ 13. Second column
- ☐ 14. Contamination check
- ☐ 15. Confirmation of matrix effects
- ☐ 16. Other (explanation required) _____

Category V: Analysis Reruns (Dilution)

- ☐ 17. Over calibration
- ☐ 18. Under calibration
- ☐ 19. Other (explanation required) _____

Quality Assurance/Quality Control

- ☑ 20. QC data reported outside of controls
- ☐ 21. Incorrect procedure used
- ☐ 22. SOP intentionally modified with QA and tech approval
- ☐ 23. Invalid instrument calibration
- ☐ 24. Received insufficient sample for proper analysis

Incorrect or Incomplete Client Deliverable

- ☐ 25. Hardcopy deliverable error
- ☐ 26. Electronic deliverable error

Reported Detection Limits Elevated Due to:

- ☐ 27. Sample matrix: Does not include high analyte content
- ☐ 28. Insufficient sample volume
- ☐ 29. Other (explanation required)

Miscellaneous

- ☐ 30. Instrument/equipment Tag-out
- ☐ 31. Other (explanation required) _____

Notification (check appropriate area): ☑ Required ☐ Not Required *To be completed by project manager*

Client notified by (name and date): MAP 6/27/97

- ☑ In writing
- ☐ By facsimile
- ☐ By telephone
- ☐ Other (explain)

Client's name and response: _____

- ☐ Process "as is"
- ☐ Re-sample
- ☐ On hold until _____
- ☐ Other (explain)

Project manager (signature and date): Mark Price 6/27/97

0000064

QUANTERRA LABORATORY NONCONFORMANCE MEMO LOG #: 3359

Corrective Action: *To be completed and reviewed by all associates involved*

Problem Description/Root Cause Author's initials and date: VS 06-16-97

VS 06-16-97

2,4-D contamination in the ~~BH~~ LCS. MS/MSD not reportable
2,4-D present in all samples

Corrective Actions (Short Term) Author's initials and date: VS 06-16-97

Client wants data reported regardless of QC failures

Corrective Actions to Prevent Reoccurrence (Long Term)

seems to be contamination from diazomethane
New diazo. will be used

Corrective Action approved by (Supervisor/Group Leader) and date:

Additional Comments:

Corrective Action to be completed by (if other than Supervisor/Group Leader):

Date Corrective Action is to be completed:

Quality Assurance Review *To be completed by a QA associate*

☐ Anomaly ☒ Deficiency ☐ Notified Ops/Sys Manager (Initials)

☐ Further action required.

Further action assigned to:

QA signature: [signature] Date: 6/13/97

Corrective Action Verification: *To be completed by a QA associate*

☐ Verification not required or requested

☐ Verified / CA completed on: _____ by _____

☐ Cannot verify (specify reason)

Verified by: _____ Date: _____

Nonconformance Memo Closure:

QA signature: _____ Date: _____

The Office of Quality Assurance maintains a copy of this NCM indicating its final status.

000006B

Quanterra June 11, 1997 04:58 pm
Account: 10722 Project: 550.227 Quanterra-Richland QAS No. 550.227 Rev. 0
Master Sample Login: 14877

ect Manager: W. Price

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

le Header Template:

le No. / Comments / Container Type	Client ID	C-Matrix	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No.
77-001	BOL421	Soil	29-MAY-97 15:36	02-JUN-97 16:10	12-JUN-97	AIRBORNE	1	Screening not Required
RICHLAND I.D. 70601501								

Container Type	Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)
1 AN - Amber Glass-120ML	BNA/8270/Q4	S	COLD	10-JUN-97	12-JUN-97	S4E	(304581:99)
1	HERB/8150/Q4	S	COLD	10-JUN-97	12-JUN-97	S4E	(304580:100)
1	PM/IT/Q4	S	COLD	10-JUN-97	25-NOV-97	S4E	(304581:99)
1 AN - Amber Glass-60ML	VOA/8240/Q4	S	COLD	10-JUN-97	12-JUN-97	S4E	(304579:99)

77-001MS	BOL421	Soil	29-MAY-97 15:36	02-JUN-97 16:10	12-JUN-97	AIRBORNE	1	Screening not Required
RICHLAND I.D. 70601501								

Container Type	Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)
1 AN - Amber Glass-120ML	BNA/8270/Q4	S	COLD	10-JUN-97	12-JUN-97	S4E	(304581:99)
1	HERB/8150/Q4	S	COLD	10-JUN-97	12-JUN-97	S4E	(304580:100)
1 AN - Amber Glass-60ML	VOA/8240/Q4	S	COLD	10-JUN-97	12-JUN-97	S4E	(304579:99)

77-001MSD	BOL421	Soil	29-MAY-97 15:36	02-JUN-97 16:10	12-JUN-97	AIRBORNE	1	Screening not Required
RICHLAND I.D. 70601501								

Container Type	Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)
1 AN - Amber Glass-120ML	BNA/8270/Q4	S	COLD	10-JUN-97	12-JUN-97	S4E	(304581:99)
1	HERB/8150/Q4	S	COLD	10-JUN-97	12-JUN-97	S4E	(304580:100)
1 AN - Amber Glass-60ML	VOA/8240/Q4	S	COLD	10-JUN-97	12-JUN-97	S4E	(304579:99)

77-002	BOL422	Soil	29-MAY-97 11:50	02-JUN-97 16:10	12-JUN-97	AIRBORNE	1	Screening not Required
RICHLAND I.D. 70601502								

Container Type	Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)
1 AN - Amber Glass-120ML	HERB/8150/Q4	S	COLD	10-JUN-97	12-JUN-97	S4E	(304584:100)
1	PM/IT/Q4	S	COLD	10-JUN-97	25-NOV-97	S4E	(304584:100)

77-003	BOL424	Soil	29-MAY-97 09:40	02-JUN-97 16:10	12-JUN-97	AIRBORNE	1	Screening not Required
RICHLAND I.D. 70601503								

Container Type	Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)
1 AN - Amber Glass-500ml	CL/300.0/Q4	S	COLD	10-JUN-97	26-JUN-97	S4E	(304587:100)
1	EXT/TCLP/Q4	S	COLD	10-JUN-97	12-JUN-97	S4E	(304587:100)
1	FL/300.0/Q4	S	COLD	10-JUN-97	26-JUN-97	S4E	(304587:100)
1	HERB/8150/Q4	S	COLD	10-JUN-97	12-JUN-97	S4E	(304587:100)
1	HERB/TCLP/Q4	S	COLD	10-JUN-97	05-JUN-97	S4E	(304587:100)
1	NH3/350.1/Q4	S	COLD	10-JUN-97	26-JUN-97	S4E	(304587:100)
1	NO2/300.0/Q4	S	COLD	10-JUN-97	31-MAY-97	S4E	(304587:100)
1	NO3/300.0/Q4	S	COLD	10-JUN-97	31-MAY-97	S4E	(304587:100)
1	PM/IT/Q4	S	COLD	10-JUN-97	25-NOV-97	S4E	(304587:100)
1	SO4/300.0/Q4	S	COLD	10-JUN-97	26-JUN-97	S4E	(304587:100)

=Sample has not been rad screened.

000007

Quanterra June 11, 1997 04:58 pm
Account: 10722 Project: 550.227 Quanterra-Richland QAS No. 550.227 Rev. 0
Master Sample Login: 14877

ject Manager: W. Price

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

ple Header Template: _____

ple No. / Comments / Container Type	Client ID	C-Matrix / Analysis	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No. / (Container Numbers:% Filled)
377-003DUP	B0L424	Soil	29-MAY-97 09:40	02-JUN-97 16:10	12-JUN-97	AIRBORNE	1	Screening not Required
RICHLAND I.D. 70601503								
1 AN - Amber Glass-500ml		CL/300.0/Q4	S COLD	10-JUN-97	26-JUN-97	S4E		(304587:100)
1		FL/300.0/Q4	S COLD	10-JUN-97	26-JUN-97	S4E		(304587:100)
1		NH3/350.1/Q4	S COLD	10-JUN-97	26-JUN-97	S4E		(304587:100)
1		NO2/300.0/Q4	S COLD	10-JUN-97	31-MAY-97	S4E		(304587:100)
1		NO3/300.0/Q4	S COLD	10-JUN-97	31-MAY-97	S4E		(304587:100)
1		SO4/300.0/Q4	S COLD	10-JUN-97	26-JUN-97	S4E		(304587:100)
377-003MS	B0L424	Soil	29-MAY-97 09:40	02-JUN-97 16:10	12-JUN-97	AIRBORNE	1	Screening not Required
RICHLAND I.D. 70601503								
1 AN - Amber Glass-500ml		CL/300.0/Q4	S COLD	10-JUN-97	26-JUN-97	S4E		(304587:100)
1		FL/300.0/Q4	S COLD	10-JUN-97	26-JUN-97	S4E		(304587:100)
1		NH3/350.1/Q4	S COLD	10-JUN-97	26-JUN-97	S4E		(304587:100)
1		NO2/300.0/Q4	S COLD	10-JUN-97	31-MAY-97	S4L		(304587:100)
1		NO3/300.0/Q4	S COLD	10-JUN-97	31-MAY-97	S4E		(304587:100)
1		SO4/300.0/Q4	S COLD	10-JUN-97	26-JUN-97	S4E		(304587:100)
377-004	B0L425	Soil	29-MAY-97 09:40	02-JUN-97 16:10	12-JUN-97	AIRBORNE	1	Screening not Required
RICHLAND I.D. 70601504								
1 AN - Amber Glass-500ml		BNA/8270/Q4	S COLD	10-JUN-97	12-JUN-97	S4E		(304622:100)
1		CL/300.0/Q4	S COLD	10-JUN-97	26-JUN-97	S4E		(304622:100)
1		EXT/TCLP/Q4	S COLD	10-JUN-97	12-JUN-97	S4E		(304622:100)
1		FL/300.0/Q4	S COLD	10-JUN-97	26-JUN-97	S4E		(304622:100)
1		HERB/8150/Q4	S COLD	10-JUN-97	12-JUN-97	S4E		(304622:100)
1		HERB/TCLP/Q4	S COLD	10-JUN-97	05-JUN-97	S4E		(304622:100)
1		NH3/350.1/Q4	S COLD	10-JUN-97	26-JUN-97	S4E		(304622:100)
1		NO2/300.0/Q4	S COLD	10-JUN-97	31-MAY-97	S4E		(304622:100)
1		NO3/300.0/Q4	S COLD	10-JUN-97	31-MAY-97	S4E		(304622:100)
1		PM/IT/Q4	S COLD	10-JUN-97	25-NOV-97	S4E		(304622:100)
1		SO4/300.0/Q4	S COLD	10-JUN-97	26-JUN-97	S4E		(304622:100)
877-004MS	B0L425	Soil	29-MAY-97 09:40	02-JUN-97 16:10	12-JUN-97	AIRBORNE	1	Screening not Required
RICHLAND I.D. 70601504								
1 AN - Amber Glass-500ml		EXT/TCLP/Q4	S COLD	10-JUN-97	12-JUN-97	S4E		(304622:100)
1		HERB/TCLP/Q4	S COLD	10-JUN-97	05-JUN-97	S4E		(304622:100)

*=Sample has not been rad screened.

000008

Quanterra June 11, 1997 04:58 pm
Account: 10722 Project: 550.227 Quanterra-Richland QAS No. 550.227 Rev. 0
Master Sample Login: 14877

ject Manager: W. Price

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

ple Header Template: _____

ple No. / Comments / # Container Type / ta:	Client ID	C-Matrix / Analysis	Date: Collected / Class	Received / Preservative	Due / Anal. Due Date	Shipper / Hold Date	Rad Category / Site	Rad Sample No. / (Container Numbers:% Filled)
877-004MSD	B0L425	Soil	29-MAY-97 09:40	02-JUN-97 16:10	12-JUN-97	AIRBORNE	1	Screening not Required
RICHLAND I.D. 70601504								
1 AN - Amber Glass-500ml		EXT/TCLP/Q4	S	COLD	10-JUN-97	12-JUN-97	S4E	(304622:100)
1		HERB/TCLP/Q4	S	COLD	10-JUN-97	05-JUN-97	S4E	(304622:100)
877-005	B0L426	Soil	29-MAY-97 15:00	02-JUN-97 16:10	12-JUN-97	AIRBORNE	1	Screening not Required
RICHLAND I.D. 70601505								
1 AN - Amber Glass-500ml		CL/300.0/Q4	S	COLD	10-JUN-97	26-JUN-97	S4E	(304626:100)
1		FL/300.0/Q4	S	COLD	10-JUN-97	26-JUN-97	S4E	(304626:100)
1		HERB/8150/Q4	S	COLD	10-JUN-97	12-JUN-97	S4E	(304626:100)
1		NH3/350.1/Q4	S	COLD	10-JUN-97	26-JUN-97	S4E	(304626:100)
1		NO2/300.0/Q4	S	COLD	10-JUN-97	31-MAY-97	S4E	(304626:100)
1		NO3/300.0/Q4	S	COLD	10-JUN-97	31-MAY-97	S4E	(304626:100)
1		PM/IT/Q4	S	COLD	10-JUN-97	25-NOV-97	S4E	(304626:100)
1		SO4/300.0/Q4	S	COLD	10-JUN-97	26-JUN-97	S4E	(304626:100)
877-006	B0L427	Soil	29-MAY-97 09:00	02-JUN-97 16:10	12-JUN-97	AIRBORNE	1	Screening not Required
RICHLAND I.D. 70601506								
1 AN - Amber Glass-500ml		CL/300.0/Q4	S	COLD	10-JUN-97	26-JUN-97	S4E	(304627:100)
1		FL/300.0/Q4	S	COLD	10-JUN-97	26-JUN-97	S4E	(304627:100)
1		HERB/8150/Q4	S	COLD	10-JUN-97	12-JUN-97	S4E	(304627:100)
1		NH3/350.1/Q4	S	COLD	10-JUN-97	26-JUN-97	S4E	(304627:100)
1		NO2/300.0/Q4	S	COLD	10-JUN-97	31-MAY-97	S4E	(304627:100)
1		NO3/300.0/Q4	S	COLD	10-JUN-97	31-MAY-97	S4E	(304627:100)
1		PM/IT/Q4	S	COLD	10-JUN-97	25-NOV-97	S4E	(304627:100)
1		SO4/300.0/Q4	S	COLD	10-JUN-97	26-JUN-97	S4E	(304627:100)

=Sample has not been rad screened.

000009

S-4-E

Temp 4°c cur# 11191
ST LOUIS

Chain of Custody Record

Quanterra Environmental Services

A-4124-1

Client: Bechtel	Project Manager: Jodie Carnes	Date: 6 3 97	Chain Of Custody Number: 67062
Address:	Telephone Number (Area Code) Fax Number:	Lab Number:	Page 1 of 1
City: State: Zip Code:	Site Contact: Lab Contact:		
Project Name: SAF B97-132	Carrier Waybill Number:		
Contract Purchase Order Quote No:			

Analysis (Attach list if more space is needed): SEE COC

Special Instructions Conditions of Receipt

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Aqueous	Sed	Soil	Containers & Preservatives: Unpres	H2SO4	HNO3	HCl	NaOH	ZnAc NaOH
0601501 BOL421											
02 422											
03 424											
04 425											
05 426											
06 427											

all bottles

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

Sample Disposal: ☒ Return To Client ☐ Disposal By Lab ☐ Archive For Months (A fee may be assessed if samples are retained longer than 3 months)

Turn Around Time Required: ☐ 24 Hours ☐ 48 Hours ☒ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other Due 6-4-97

QC Requirements (Specify): SDL-W01697

Relinquished By	Date	Time	Received By	Date	Time
Heidelberg Quanterra	6-3-97	16:00	2nd Matthew	6-5-97	0930

Comments:

000010

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

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B97-132-01	Page 1 of 1

llector: Frank Gustafson	Company Contact: Chuck Hedel — Telephone No.: 372-9637	Project Coordinator: Lerch, JA	Data Turnaround: 7 Days
oject Designation: North Slope	Sampling Location: 600 Area	SAF No.: B97-132	
e Chest No.: SML-349	Field Logbook No.	Method of Shipment: hand deliver	
ipped To: Quanterra	Offsite Property No.: NA	Bill of Lading/Air Bill No.: NA	

OSSIBLE SAMPLE HAZARDS/REMARKS

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C					
Type of Container	P	aG	aG	aG	aG					
No. of Container(s)	1	1	1	1	1					
Volume	20ml	60ml	60ml	125ml	125ml					
	Activity Scan	Dioxins - ~~8250~~ 8290	VOA - 8240A (TCL)	Herbicides - 8150A	Semi VOA - 8270A (TCL)					

pecial Handling and/or Storage: Cool 4C

SAMPLE ANALYSIS: 70601501 SDG W01697

Sample No	Matrix *	Sample Date	Sample Time										
0L421	Soil	5/29/97	1150	X	X	X	X	X					
					100	100	100	100					

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
[signature]	5/30/97 11:45	D. Jacques / Duane Jacques EPC	11:45 5/30/97
D. Jacques / Duane Jacques	5-30-97 1350	Doug Bowers	5-30-97/1350
[signature] for Doug Bowers	06/02/97 1535	D. Jacques / Duane Jacques	1535 06/2/97
D. Jacques / Duane Jacques	1610 6-2-97	[signature]	1610 6-2-97

SPECIAL INSTRUCTIONS

- close SDG on receipt
- sample removed from archival at 4701 on 6/2/97

Matrix *
- S - Soil
- SE - Sediment
- SO - Solid
- SI - 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

Bechtel Hanford Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

B97-132-02

ollector: Frank Gustafson	Company Contact: Chuck Hedel	Telephone No.: 372-9637	Project Coordinator: Lerch, JA
Data Turnaround: 7 Days			
rject Designation: North Slope	Sampling Location: 600 Area		SAF No.: B97-132
e Chest No.: SML-349	Field Logbook No.		Method of Shipment: hand deliver
hipped To: Quanterra	Offsite Property No.: NA		Bill of Lading/Air Bill No.: NA

OSSIBLE SAMPLE HAZARDS/REMARKS

pecial Handling and/or Storage: Cool 4C

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C						
Type of Container	P	aG	aG	aG	aG						
No. of Container(s)	1	1	1	1	1						
Volume	20ml	60ml	60ml	125ml	125ml						
SAMPLE ANALYSIS 70601502	Activity Scan	Dioxins - 8280	VOA - 8240A (TCL)	Herbicides - 8150A	Semi-VOA - 8270A (TCL)						
Sample No. / Matrix * / Sample Date / Sample Time											
0L422 / Soil / 5/29/97 / 11:50				X							
				100							

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: [signature]	Date/Time: 5/30/97 11:45	Received By: D Jacques [signature]	Date/Time: 5/30/97 11:45
Relinquished By: D Jacques [signature]	Date/Time: 1350 5-30-97	Received By: [signature]	Date/Time: 5-30-97 1350
Relinquished By: for Doug Bowers [signature]	Date/Time: 06/02/97 1535	Received By: D. Jacques [signature]	Date/Time: 6/2/97 1535
Relinquished By: D. Jacques [signature]	Date/Time: 1610 6-2-97	Received By: [signature]	Date/Time: 1616 6-2-97

SPECIAL INSTRUCTIONS

- close SDG on receipt
- sample removed from archived storage at 4701 on 06/02/97

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	-	Liquids
V	-	Vegetation
X	-	Other

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

Bechtel Hanford Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

B97-132-04 | Page 1 of 1

Collector: JAL	Company Contact: Chuck Hedel	Telephone No.: 372-9637	Project Coordinator: Lerch, JA
Data Turnaround: 7 Days			
Project Designation: North Slope	Sampling Location: 600 Area		SAF No.: B97-132
Ice Chest No.: SML-349	Field Logbook No.		Method of Shipment: hand deliver
Shipped To: Quanterra	Offsite Property No.: NA		Bill of Lading/Air Bill No.: NA

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage: Cool 4C

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	cool 4C				
Type of Container	P	aG	aG	aG	aG	aG				
No. of Container(s)	1	1	1	1	1	1				
Volume	20ml	60ml	60ml	125ml	125ml	500ml				
	Activity Scan	Dioxins - 8280	VOA - 8240A (TCL)	Herbicides - 8150A	Semi VOA - 8270A (TCL)	See Note ①				

SAMPLE ANALYSIS

70601503

Sample No.	Matrix *	Sample Date	Sample Time										
30L424	Soil	05/29/97	0940	X					X				
									100				

CHAIN OF POSSESSION

Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
[signature] for Doug Bowers	06/02/97 1430	[signature]	06/02/97 1430
[signature]	06/02/97 1535	D Jacques [signature]	1535 6-2-97
D. Jacques [signature]	1610 6-2-97	[signature]	1610 6-2-97

SPECIAL INSTRUCTIONS

① requested analyses: herbicides-8150A; TCLP herbicides-1311/8150A, Anions-300.0, Ammonia-350.1

. close SDG on receipt

. Sample was selected on 6/2/97 from group that was archived at 4701 on 5/30/97

Matrix *

- S - Soil
- SE - Sediment
- SO - Solid
- SI - Sludge
- W - Water
- O - Oil
- A - Air
- DS - Drum Solids
- DI - 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

3

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B97-132-05	Page 1 of 1

ollector: JAL	Company Contact: Chuck Hedel — Telephone No.: 372-9637	Project Coordinator: Lerch, JA	Data Turnaround: 7 Days
oject Designation: North Slope	Sampling Location: 600 Area	SAF No.: B97-132	
e Chest No.: SML-349	Field Logbook No.	Method of Shipment: hand deliver	
ipped To: Quanterra	Offsite Property No.: NA	Bill of Lading/Air Bill No.: NA	

OSSIBLE SAMPLE HAZARDS/REMARKS

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	cool 4C				
Type of Container	P	aG	aG	aG	aG	aG				
No. of Container(s)	1	1	1	1	1	1				
Volume	20ml	60ml	60ml	125ml	125ml	500ml				
	Activity Scan	Dioxins - ~~8280~~ 8290	VOA - 8240A (TCL)	Herbicides - 8150A	Semi VOA - 8270A (TCL)	see Note ①				

ecial Handling and/or Storage: Cool 4C

SAMPLE ANALYSIS

70601504

Sample No.	Matrix *	Sample Date	Sample Time										
OL425	Soil	05/29/97	0940	X	X				X				
					100				100				

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
[signature] for Doug Bowers	06/02/97 1445	[signature]	06/02/97 1445
[signature]	06/02/97 1535	D Jacques / Duane Jacques	1535 / 6/2/97
D Jacques / Duane Jacques	1610 / 6-2-97	[signature]	1610 / 6-2-97

SPECIAL INSTRUCTIONS

① analyses requested: herbicides-8150A, TCLP herbicides-1311/8150A, anions-300.0, ammonia-350.1, semiVOA-8270A

- close SDG on receipt
- sample selected on 06/02/97 from group archived at 4701 on 05/29/97

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

Bechtel Hanford Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

B97-132-06 | Page 1 of 1

lector: JAL	Company Contact: Chuck Hedel	Telephone No.: 372-9637	Project Coordinator: Lerch, JA
Data Turnaround: 7 Days			
ject Designation: North Slope	Sampling Location: 600 Area		SAF No.: B97-132
Chest No.: SML-349	Field Logbook No.		Method of Shipment: hand deliver
pped To: Quanterra	Offsite Property No.: NA		Bill of Lading/Air Bill No.: NA

SSIBLE SAMPLE HAZARDS/REMARKS

cial Handling and/or Storage: Cool 4C

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	cool 4C				
Type of Container	P	aG	aG	aG	aG	aG				
No. of Container(s)	1	1	1	1	1	1				
Volume	20ml	60ml	60ml	125ml	125ml	500ml				
	Activity Scan	Dioxins - 8280	VOA - 8240A (TCL)	Herbicides - 8150A	Semi-VOA - 8270A (TCL)	see note (1)				

SAMPLE ANALYSIS

70601505

Sample No.	Matrix *	Sample Date	Sample Time										
.426	Soil	05/29/97	1500	X					X				
									100				

HAIN OF POSSESSION

Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
[signature] for Doris Bowels	06/02/97 1500	[signature]	06/02/97 1500
[signature]	06/02/97 1535	D. Jarg[illegible] / Duane Jarg[illegible]	1535 / 6-2-97
D. Jarg[illegible] / Duane Jarg[illegible]	1610 / 6-2-97	[signature]	[illegible]

SPECIAL INSTRUCTIONS

(1) analysis requested: herbicides-8150A, Anions 300.0, ammonia-350.1

- close SYC on receipt
- sample selected on 06/02/97 from group that was archived at 4701 on 5/30/97

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

ABORATORY SECTION	Received By	Title	Date/Time
NAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

00001

Bechtel Hanford Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

B97-132-07

llector: JAL	Company Contact: Chuck Hedel	Telephone No.: 372-9637	Project Coordinator: Lerch, JA
Data Turnaround: 7 Days			
oject Designation: North Slope	Sampling Location: 600 Area		SAF No.: B97-132
Chest No.: SML-349	Field Logbook No.		Method of Shipment: hand deliver
ipped To: Quanterra	Offsite Property No.: NA		Bill of Lading/Air Bill No.: NA

SSIBLE SAMPLE HAZARDS/REMARKS

ecial Handling and/or Storage: Cool 4C

SAMPLE ANALYSIS: 70601506

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4c				
Type of Container	P	aG	aG	aG	aG	aG				
No. of Container(s)	1	1	1	1	1	1				
Volume	20ml	60ml	60ml	125ml	125ml	500ml				
	Activity Scan	Dioxins – 8280	VOA - 8240A (TCL)	Herbicides - 8150A	Semi-VOA - 8270A (TCL)	see Note ①				

Sample No.	Matrix *	Sample Date	Sample Time										
L427	Soil	05/29/97	0900	X					X				
									100				

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: for Doug Bowers	Date/Time: 06/02/97 1510	Received By:	Date/Time: 06/02/97 1510
Relinquished By:	Date/Time: 06/02/97 1535	Received By: O Jacques	Date/Time: 1535 6-2-97
Relinquished By: O Jacques	Date/Time: 1610 6-2-97	Received By:	Date/Time: 1610 6-2-97
Relinquished By:	Date/Time:	Received By:	Date/Time:

SPECIAL INSTRUCTIONS

① analyses requested: herbicides-8150A, anions-300.0, ammonia-350.1

- close SDG on receipt
- sample was selected on 06/02/97 from group archived at 4701 on 05/30/97

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

9700106

DON'T SAY IT --- *Write It!*

DATE: October 7, 1992

TO: JE Lindsey SO-05

FROM: KA Smith T3-11

Telephone: 3-1705

CC: RE Heineman R3-12
FW Gustafson H4-55

SUBJECT:
FACILITIES (AREAS) EXEMPT FROM RADIOLOGICAL RELEASE SURVEY

Add the following to the approved exempt facility/area list:

Facility/Area Names/Locations:

Waste sites, military landfills, sampling locations and general land areas within the Hanford Site area known as the North Slope, as shown on the attached Figure 1.

Basis: There is no history of activities in the North Slope area which might have resulted in radioactive contamination, nor is there reason to suspect the presence of radioactive material as a result of Hanford Site operations. The entire North Slope area is situated across the Columbia River from the remaining Hanford area.

Contact:

If there are questions, please contact TM Brun, Environmental Restoration Health Physics (3-5064), or KA Smith, Manager, Environmental Restoration Health Physics (3-1705).

KA Smith 10/6/92
Date

54-3000-101 (9/59) GEF014

Figure 1

SAMPLE CHECK-IN LIST

Date/Time Received 6/2/97 1605 Client Name BHG

Project/Client # B97-132 Batch or Case # _____

- Cooler ID (if noted on outside of cooler) SML-349

1. Condition of shipping container? O.K.
2. Custody Seals on cooler intact? Yes [X] No [ ]
3. Custody Seals dated and signed? Yes [X] No [ ]
4. Chain of Custody record is taped on inside of cooler lid? Yes [ ] No [X]
5. Vermiculite/packing material is: Wet [ ] Dry [X] _____
6. Each sample is in a plastic bag? Yes [X] No [ ] _____
7. Number of sample containers in cooler: 15
8. Samples have: X tape; X custody seals; ___ hazard labels; ___ appropriate sample labels
9. Samples are: X in good condition; ___ broken; ___ other; ___ leaking; ___ have air bubbles
10. Coolant Present? Yes [X] No [ ] Sample Temperature 4°C
11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #(s) N/A
    Request for Analysis #(s) _____
    Airbill # _____ Carrier Courier
12. Have any anomalies been identified above? Yes [ ] No [X]
13. Memos have been initiated for all anomalies identified above? Yes [ ]

Printed Name/Signature [illegible] Date/Time 1605 6-2-97

Quanterra Environmental Services

6-5-97
1230
2m

011191

Login No.: 14877

Condition Upon Receipt Variance Report
St. Louis Laboratory

Client: Richland

Date: 6-5-97 Time: 0930

Project No: 550.227

Initiated by: 2nd Mitchell

Shipper/No: A/B 599 9562 214

RFA/COC Numbers: 67062

Condition/Variance (Check all that apply):

1. ☐ Sample received broken/leaking.
2. ☐ Sample received without proper preservative.
   - ☐ Cooler temperature not within 4°C ± 2°C
     Record temperature: _____
   - ☐ pH _____
   - ☐ other: _____
3. ☐ Sample received in improper container.
4. ☐ Sample received without proper paperwork. Explain: _____
5. ☐ Paperwork received without sample.
6. ☐ No sample ID on sample container.
7. ☐ Custody tape disturbed/broken/missing.
8. ☐ Sample ID on container does not match sample ID on paperwork. Explain: _____
9. ☐ All coolers on airbill not received with shipment.
10. ☐ Other (explain below): _____

☑ No variances were noted during sample receipt. Cooler Temperature Upon Receipt: 4°C

Notes:

Corrective Action:

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

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

☐ Sample(s) processed "as is". _____

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

Sample Control Supervisor Review: (or designate) 2nd Mitchell Date: 6-5-97

Project Management Review: [signature] Date: 6/10/97

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

SL-ADMIN-0004, Revised 11/24/95

GC
Herb

Quanterra
Environmental Services

Bechtel Hanford Incorporated
3350 George Washington Way
Richland, WA 99352

Project: 550.227

Category: Herbicides
Method: SW8150
Matrix: SOLID

Client ID: BOL421

Sample Date : 05/29/97
Receipt Date : 06/02/97
Report Date : 06/13/97

Quanterra ID : 14877-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Dalapon	75-99-0	QCBLK142444-1	06/06/97	06/11/97	4200	UG/KG	U	4200	100
Dicamba	1918-00-9	QCBLK142444-1	06/06/97	06/11/97	4200	UG/KG	U	4200	100
MCPA	94-74-6	QCBLK142444-1	06/06/97	06/11/97	840000	UG/KG	U	840000	100
MCPP	93-65-2	QCBLK142444-1	06/06/97	06/11/97	840000	UG/KG	U	840000	100
Dichloroprop	120-36-5	QCBLK142444-1	06/06/97	06/11/97	8400	UG/KG	U	8400	100
2,4-D	94-75-7	QCBLK142444-1	06/06/97	06/12/97	17000000	UG/KG		1700000	20000
2,4,5-TP (Silvex)	93-72-1	QCBLK142444-1	06/06/97	06/11/97	2100	UG/KG	U	2100	100
2,4,5-T	93-76-5	QCBLK142444-1	06/06/97	06/11/97	3000	UG/KG		2100	100
Dinoseb	88-85-7	QCBLK142444-1	06/06/97	06/11/97	1300	UG/KG	U	1300	100
2,4-DB	94-82-6	QCBLK142444-1	06/06/97	06/11/97	8400	UG/KG	U	8400	100
2,4-DCPA	19719-28-9	QCBLK142444-1	06/06/97	06/11/97	0	%REC	D	--	100

Quanterra
Environmental Services

Bechtel Hanford Incorporated
3350 George Washington Way
Richland, WA 99352

Project: 550.227

Category: Herbicides
Method: SW8150
Matrix: SOLID

Client ID: B0L422

Sample Date : 05/29/97
Receipt Date : 06/02/97
Report Date : 06/13/97

Quanterra ID : 14877-002

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Dalapon	75-99-0	QCBLK142444-1	06/06/97	06/11/97	4200	UG/KG	U	4200	100
Dicamba	1918-00-9	QCBLK142444-1	06/06/97	06/11/97	4200	UG/KG	U	4200	100
MCPA	94-74-6	QCBLK142444-1	06/06/97	06/11/97	840000	UG/KG	U	840000	100
MCPP	93-65-2	QCBLK142444-1	06/06/97	06/11/97	840000	UG/KG	U	840000	100
Dichloroprop	120-36-5	QCBLK142444-1	06/06/97	06/11/97	8400	UG/KG	U	8400	100
2,4-D	94-75-7	QCBLK142444-1	06/06/97	06/12/97	17000000	UG/KG		1700000	20000
2,4,5-TP (Silvex)	93-72-1	QCBLK142444-1	06/06/97	06/11/97	2100	UG/KG	U	2100	100
2,4,5-T	93-76-5	QCBLK142444-1	06/06/97	06/11/97	2200	UG/KG		2100	100
Dinoseb	88-85-7	QCBLK142444-1	06/06/97	06/11/97	1300	UG/KG	U	1300	100
2,4-DB	94-82-6	QCBLK142444-1	06/06/97	06/11/97	8400	UG/KG	U	8400	100
2,4-DCPA	19719-28-9	QCBLK142444-1	06/06/97	06/11/97	0	%REC	D	--	100

Quanterra Environmental Services

Bechtel Hanford Incorporated
3350 George Washington Way
Richland, WA 99352

Project: 550.227

Category: Herbicides
Method: SW8150
Matrix: SOLID

Client ID: BOL424

Sample Date : 05/29/97
Receipt Date : 06/02/97
Report Date : 06/13/97

Quanterra ID : 14877-003

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Dalapon	75-99-0	QCBLK142444-1	06/06/97	06/11/97	4200	UG/KG	U	4200	100
Dicamba	1918-00-9	QCBLK142444-1	06/06/97	06/11/97	4200	UG/KG	U	4200	100
MCPA	94-74-6	QCBLK142444-1	06/06/97	06/11/97	840000	UG/KG	U	840000	100
MCPP	93-65-2	QCBLK142444-1	06/06/97	06/11/97	840000	UG/KG	U	840000	100
Dichloroprop	120-36-5	QCBLK142444-1	06/06/97	06/11/97	8400	UG/KG	U	8400	100
2,4-D	94-75-7	QCBLK142444-1	06/06/97	06/12/97	17000000	UG/KG		1700000	20000
2,4,5-TP (Silvex)	93-72-1	QCBLK142444-1	06/06/97	06/11/97	2100	UG/KG	U	2100	100
2,4,5-T	93-76-5	QCBLK142444-1	06/06/97	06/11/97	3100	UG/KG		2100	100
Dinoseb	88-85-7	QCBLK142444-1	06/06/97	06/11/97	1300	UG/KG	U	1300	100
2,4-DB	94-82-6	QCBLK142444-1	06/06/97	06/11/97	8400	UG/KG	U	8400	100
2,4-DCPA	19719-28-9	QCBLK142444-1	06/06/97	06/11/97	0	%REC	D		100

Quanterra
Environmental Services

Bechtel Hanford Incorporated
3350 George Washington Way
Richland, WA 99352

Project: 550.227

Category: Herbicides
Method: SW8150
Matrix: SOLID

Client ID: B0L425

Sample Date : 05/29/97
Receipt Date : 06/02/97
Report Date : 06/13/97

Quanterra ID : 14877-004

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Dalapon	75-99-0	QCBLK142444-1	06/06/97	06/11/97	42	UG/KG	U	42	1
Dicamba	1918-00-9	QCBLK142444-1	06/06/97	06/11/97	42	UG/KG	U	42	1
MCPA	94-74-6	QCBLK142444-1	06/06/97	06/11/97	8400	UG/KG	U	8400	1
MCPP	93-65-2	QCBLK142444-1	06/06/97	06/11/97	8400	UG/KG	U	8400	1
Dichloroprop	120-36-5	QCBLK142444-1	06/06/97	06/11/97	84	UG/KG	U	84	1
2,4-D	94-75-7	QCBLK142444-1	06/06/97	06/12/97	10000	UG/KG		1700	20
2,4,5-TP (Silvex)	93-72-1	QCBLK142444-1	06/06/97	06/11/97	21	UG/KG	U	21	1
2,4,5-T	93-76-5	QCBLK142444-1	06/06/97	06/11/97	21	UG/KG	U	21	1
Dinoseb	88-85-7	QCBLK142444-1	06/06/97	06/11/97	13	UG/KG	U	13	1
2,4-DB	94-82-6	QCBLK142444-1	06/06/97	06/11/97	84	UG/KG	U	84	1
2,4-DCPA	19719-28-9	QCBLK142444-1	06/06/97	06/11/97	81	%REC			1

Quanterra
Environmental Services

Bechtel Hanford Incorporated
3350 George Washington Way
Richland, WA 99352

Project: 550.227

Category: Herbicides
Method: SW8150
Matrix: SOLID

Sample Date : 05/29/97
Receipt Date : 06/02/97
Report Date : 06/13/97

Client ID: BOL426

Quanterra ID : 14877-005

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Dalapon	75-99-0	QCBLK142444-1	06/06/97	06/11/97	43	UG/KG	U	43	1
Dicamba	1918-00-9	QCBLK142444-1	06/06/97	06/11/97	43	UG/KG	U	43	1
MCPA	94-74-6	QCBLK142444-1	06/06/97	06/11/97	8600	UG/KG	U	8600	1
MCPP	93-65-2	QCBLK142444-1	06/06/97	06/11/97	8600	UG/KG	U	8600	1
Dichloroprop	120-36-5	QCBLK142444-1	06/06/97	06/11/97	86	UG/KG	U	86	1
2,4-D	94-75-7	QCBLK142444-1	06/06/97	06/12/97	6400	UG/KG		1700	20
2,4,5-TP (Silvex)	93-72-1	QCBLK142444-1	06/06/97	06/11/97	21	UG/KG	U	21	1
2,4,5-T	93-76-5	QCBLK142444-1	06/06/97	06/11/97	45	UG/KG		21	1
Dinoseb	88-85-7	QCBLK142444-1	06/06/97	06/11/97	13	UG/KG	U	13	1
2,4-DB	94-82-6	QCBLK142444-1	06/06/97	06/11/97	86	UG/KG	U	86	1
2,4-DCPA	19719-28-9	QCBLK142444-1	06/06/97	06/11/97	86	%REC			1

Quanterra
Environmental Services

Bechtel Hanford Incorporated
3350 George Washington Way
Richland, WA 99352

Project: 550.227

Category: Herbicides
Method: SW8150
Matrix: SOLID

Client ID: 80L427

Sample Date : 05/29/97
Receipt Date : 06/02/97
Report Date : 06/13/97

Quanterra ID : 14877-006

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Dalapon	75-99-0	QCBLK142444-1	06/06/97	06/11/97	43	UG/KG	U	43	1
Dicamba	1918-00-9	QCBLK142444-1	06/06/97	06/11/97	43	UG/KG	U	43	1
MCPA	94-74-6	QCBLK142444-1	06/06/97	06/11/97	8500	UG/KG	U	8500	1
MCPP	93-65-2	QCBLK142444-1	06/06/97	06/11/97	8500	UG/KG	U	8500	1
Dichloroprop	120-36-5	QCBLK142444-1	06/06/97	06/11/97	85	UG/KG	U	85	1
2,4-D	94-75-7	QCBLK142444-1	06/06/97	06/11/97	440	UG/KG		85	1
2,4,5-TP (Silvex)	93-72-1	QCBLK142444-1	06/06/97	06/11/97	21	UG/KG	U	21	1
2,4,5-T	93-76-5	QCBLK142444-1	06/06/97	06/11/97	21	UG/KG	U	21	1
Dinoseb	88-85-7	QCBLK142444-1	06/06/97	06/11/97	13	UG/KG	U	13	1
2,4-DB	94-82-6	QCBLK142444-1	06/06/97	06/11/97	85	UG/KG	U	85	1
2,4-DCPA	19719-28-9	QCBLK142444-1	06/06/97	06/11/97	80	%REC			1

Quanterra
Environmental Services

Bechtel Hanford Incorporated
3350 George Washington Way
Richland, WA 99352

Project: 550.227

Category: Herbicides
Method: SW8150
Matrix: SOLID

Client ID: NA

Sample Date : NA
Receipt Date : NA
Report Date : 06/13/97

Quanterra ID : QCBLK142444-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Dalapon	75-99-0	QCBLK142444-1	06/06/97	06/11/97	40	UG/KG	U	40	1
Dicamba	1918-00-9	QCBLK142444-1	06/06/97	06/11/97	40	UG/KG	U	40	1
MCPA	94-74-6	QCBLK142444-1	06/06/97	06/11/97	8000	UG/KG	U	8000	1
MCPP	93-65-2	QCBLK142444-1	06/06/97	06/11/97	8000	UG/KG	U	8000	1
Dichloroprop	120-36-5	QCBLK142444-1	06/06/97	06/11/97	80	UG/KG	U	80	1
2,4-D	94-75-7	QCBLK142444-1	06/06/97	06/11/97	80	UG/KG	U	80	1
2,4,5-TP (Silvex)	93-72-1	QCBLK142444-1	06/06/97	06/11/97	20	UG/KG	U	20	1
2,4,5-T	93-76-5	QCBLK142444-1	06/06/97	06/11/97	20	UG/KG	U	20	1
Dinoseb	88-85-7	QCBLK142444-1	06/06/97	06/11/97	12	UG/KG	U	12	1
2,4-DB	94-82-6	QCBLK142444-1	06/06/97	06/11/97	80	UG/KG	U	80	1
2,4-DCPA	19719-28-9	QCBLK142444-1	06/06/97	06/11/97	81	%REC			1

Quanterra
Environmental Services

Bechtel Hanford Incorporated
3350 George Washington Way
Richland, WA 99352

Project: 550.227

Category: Herbicides
Method: SW8150
Matrix: SOLID

Client ID: NA

Sample Date : NA
Receipt Date : NA
Report Date : 06/13/97

Quanterra ID : QCSPK142444-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Dalapon	75-99-0	QCBLK142444-1	06/06/97	06/11/97	103	%REC			1
2,4-D	94-75-7	QCBLK142444-1	06/06/97	06/11/97	1420	%REC			1
2,4,5-TP (Silvex)	93-72-1	QCBLK142444-1	06/06/97	06/11/97	117	%REC			1
2,4,5-T	93-76-5	QCBLK142444-1	06/06/97	06/11/97	167	%REC			1
2,4-DB	94-82-6	QCBLK142444-1	06/06/97	06/11/97	76	%REC			1
2,4-DCPA	19719-28-9	QCBLK142444-1	06/06/97	06/11/97	92	%REC			1

2K
SOIL HERBICIDE SURROGATE RECOVERY

Lab Name: Quanterra Contract: 550-227

Lab Code: ITMO Case No.: SAS No.: SDG No.: W01697

	EPA SAMPLE NO.	S1 (24DCPA) #	S2 (OTHER) #
01	HBLK01	81	
02	HSPK01	92	
03	BOL421	D	
04	BOL422	D	
05	BOL424	D	
06	BOL425	81	
07	BOL426	86	
08	BOL427	80	
09			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			

ADVISORY QC LIMITS not determined

S1 (24DCPA) = 2,4-Dichlorophenylacetic acid

Column to be used to flag recovery values

* Values outside of QC limits

D Surrogates diluted out

 FORM II HERB-1

1D
HERBICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BOL421

Lab Name: Quanterra Contract: 550-227

Lab Code: ITMO Case No.: _____ SAS No.: _____ SDG No.: W01697

Matrix: (soil/water) SOIL Lab Sample ID: 14877-001

Sample wt/vol: 50.1 (g/ml) G Lab File ID: _____

Level: (low/med) LOW Date Sampled: 05-29-97

% Moisture: not dec. 5 dec. _____ Date Extracted: 06-06-97

Extraction: (SepF/Cont/Sonc/Shak) SHAK Date Analyzed: 06-11-97

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 100

CAS NO.	Compound	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
75-99-0	Dalapon	4200	U
1918-00-9	Dicamba	4200	U
94-74-6	MCPA	840000	U
93-65-2	MCPP	840000	U
120-36-5	Dichloroprop	8400	U
94-75-7	2,4-D	17000000	*
93-72-1	2,4,5-TP	2100	U
93-76-5	2,4,5-T	3000	
88-85-7	Dinoseb	1200	U
94-82-6	2,4-DB	8400	U

U: Concentration of analyte is less than the value given.
*: Reported from a 20000X dilition on 06-12-97.

1D

HERBICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOL422

Lab Name: Quanterra Contract: 550-227

Lab Code: ITMO Case No.: _____ SAS No.: _____ SDG No.: W01697

Matrix: (soil/water) SOIL Lab Sample ID: 14877-002

Sample wt/vol: 50.1 (g/ml) G Lab File ID: _____

Level: (low/med) LOW Date Sampled: 05-29-97

% Moisture: not dec. 5 dec. _____ Date Extracted: 06-06-97

Extraction: (SepF/Cont/Sonc/Shak) SHAK Date Analyzed: 06-11-97

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 100

CAS NO.	Compound	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
75-99-0	Dalapon	4200	U
1918-00-9	Dicamba	4200	U
94-74-6	MCPA	840000	U
93-65-2	MCPP	840000	U
120-36-5	Dichloroprop	8400	U
94-75-7	2,4-D	17000000	*
93-72-1	2,4,5-TP	2100	U
93-76-5	2,4,5-T	2200	
88-85-7	Dinoseb	1300	U
94-82-6	2,4-DB	8400	U

U: Concentration of analyte is less than the value given.
*: Reported from a 20000X dilition on 06-12-97.

1D
HERBICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BOL424

Lab Name: Quanterra Contract: 550-227

Lab Code: ITMO Case No.: _____ SAS No.: _____ SDG No.: W01697

Matrix: (soil/water) SOIL Lab Sample ID: 14877-003

Sample wt/vol: 50.0 (g/ml) G Lab File ID: _____

Level: (low/med) LOW Date Sampled: 05-29-97

% Moisture: not dec. 5 dec. _____ Date Extracted: 06-06-97

Extraction: (SepF/Cont/Sonc/Shak) SHAK Date Analyzed: 06-11-97

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 100

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

CAS NO.	Compound		Q
75-99-0	Dalapon	4200	U
1918-00-9	Dicamba	4200	U
94-74-6	MCPA	840000	U
93-65-2	MCPP	840000	U
120-36-5	Dichloroprop	8400	U
94-75-7	2,4-D	17000000	*
93-72-1	2,4,5-TP	2100	U
93-76-5	2,4,5-T	3100	
88-85-7	Dinoseb	1200	U
94-82-6	2,4-DB	8400	U

U: Concentration of analyte is less than the value given.
*: Reported from a 20000X dilition on 06-12-97.

1D
HERBICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BOL425

Lab Name: Quanterra Contract: 550-227

Lab Code: ITMO Case No.: _____ SAS No.: _____ SDG No.: W01697

Matrix: (soil/water) SOIL Lab Sample ID: 14877-004

Sample wt/vol: 50.1 (g/ml) G Lab File ID: _____

Level: (low/med) LOW Date Sampled: 05-29-97

% Moisture: not dec. 5 dec. _____ Date Extracted: 06-06-97

Extraction: (SepF/Cont/Sonc/Shak) SHAK Date Analyzed: 06-12-97

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	Compound	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
75-99-0	Dalapon	42	U
1918-00-9	Dicamba	42	U
94-74-6	MCPA	8400	U
93-65-2	MCPP	8400	U
120-36-5	Dichloroprop	84	U
94-75-7	2,4-D	10000	**
93-72-1	2,4,5-TP	21	U
93-76-5	2,4,5-T	21	U
88-85-7	Dinoseb	12	U
94-82-6	2,4-DB	84	U

U: Concentration of analyte is less than the value given.
**: Reported from a 20X dilition on 06-12-97.

1D
HERBICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BOL426

Lab Name: Quanterra Contract: 550-227

Lab Code: ITMO Case No.: _____ SAS No.: _____ SDG No.: W01697

Matrix: (soil/water) SOIL Lab Sample ID: 14877-005

Sample wt/vol: 50.1 (g/ml) G Lab File ID: _____

Level: (low/med) LOW Date Sampled: 05-29-97

% Moisture: not dec. 5 dec. _____ Date Extracted: 06-06-97

Extraction: (SepF/Cont/Sonc/Shak) SHAK Date Analyzed: 06-12-97

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	Compound	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
75-99-0	Dalapon	43	U
1918-00-9	Dicamba	43	U
94-74-6	MCPA	8500	U
93-65-2	MCPP	8500	U
120-36-5	Dichloroprop	85	U
94-75-7	2,4-D	6500	**
93-72-1	2,4,5-TP	21	U
93-76-5	2,4,5-T	44	
88-85-7	Dinoseb	13	U
94-82-6	2,4-DB	85	U

U: Concentration of analyte is less than the value given.
5X: Reported from a 20X dilition on 06-12-97.

1D

HERBICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOL427

Lab Name: Quanterra Contract: 550-227

Lab Code: ITMO Case No.: _____ SAS No.: _____ SDG No.: W01697

Matrix: (soil/water) SOIL Lab Sample ID: 14877-006

Sample wt/vol: 50.2 (g/ml) G Lab File ID: _____

Level: (low/med) LOW Date Sampled: 05-29-97

% Moisture: not dec. 6 dec. _____ Date Extracted: 06-06-97

Extraction: (SepF/Cont/Sonc/Shak) SHAK Date Analyzed: 06-12-97

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

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

CAS NO.	Compound		Q
75-99-0	Dalapon	42	U
1918-00-9	Dicamba	42	U
94-74-6	MCPA	8500	U
93-65-2	MCPP	8500	U
120-36-5	Dichloroprop	85	U
94-75-7	2,4-D	440	
93-72-1	2,4,5-TP	21	U
93-76-5	2,4,5-T	21	U
88-85-7	Dinoseb	13	U
94-82-6	2,4-DB	85	U

U: Concentration of analyte is less than the value given.
**: Reported from a 20X dilition on 06-12-97.

4C
PESTICIDE METHOD BLANK SUMMARY

Lab Name: Quanterra Contract: 550-227

Lab Code: ITMO Case No.: SAS No.: SDG No.: W01697

Lab Sample ID: BLK 142444 Lab File ID:

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

Date Extracted: 06-06-97 Extraction: (SepF/Cont/Sonc) SHAK

Date Analyzed (1): 06-11-97 Date Analyzed (2): 06-11-96

Time Analyzed (1): 07:09 Time Analyzed (2): 07:09

Instrument ID (1): GCE Instrument ID (2): GCE

GC Column ID (1): DB-5MS GC Column ID (2): DB-17

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

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	HSPK03	SPK 142444	06-11-97	06-11-97
02	BOL421	14877-001	06-11-97	06-11-97
03	BOL422	14877-002	06-11-97	06-11-97
04	BOL424	14877-003	06-11-97	06-11-97
05	BOL425	14877-004	06-12-97	06-12-97
06	BOL426	14877-005	06-12-97	06-12-97
07	BOL427	14877-006	06-12-97	06-12-97
08				
09				
10				
11				
12				
13				
14				
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COMMENTS: Samples 001,002,003 also analyzed on 06-12-97 at a 20000X dilution.

FORM IV PEST 1/87 Rev.

1D
HERBICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
HBLK01

Lab Name: Quanterra Contract: 550-227

Lab Code: ITMO Case No.: _____ SAS No.: _____ SDG No.: W01697

Matrix: (soil/water) SOIL Lab Sample ID: BLK 142444

Sample wt/vol: 50.0 (g/ml) G Lab File ID: _____

Level: (low/med) LOW Date Sampled: _____

% Moisture: not dec. _____ dec. _____ Date Extracted: 06-06-97

Extraction: (SepF/Cont/Sonc/Shak) SHAK Date Analyzed: 06-11-97

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1

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

CAS NO.	Compound		Q
75-99-0	Dalapon	40	U
1918-00-9	Dicamba	40	U
94-74-6	MCPA	8000	U
93-65-2	MCPP	8000	U
120-36-5	Dichloroprop	80	U
94-75-7	2,4-D	80	U
93-72-1	2,4,5-TP	20	U
93-76-5	2,4,5-T	20	U
88-85-7	Dinoseb	12	U
94-82-6	2,4-DB	80	U

U: Concentration of analyte is less than the value given.

3Q

SOIL HERBICIDE SPIKE BLANK (LCS) RECOVERY

Lab Name: Quanterra Contract: 550-227

Lab Code: ITMQ Case No.: SAS No.: SDG No.: W01697

Spike Blank No.: SPK 142444

COMPOUND	SPIKE ADDED (ug/kg)	SPIKE CONCENTRATION (ug/kg)	SPK % REC #	QC LIMITS REC.
Dalapon	500	520	103	ND
2,4-D	200	2800	1415	ND
2,4,5-TP	20	23	117	ND
2,4,5-T	20	33	167	ND
2,4-DB	200	150	76	ND

Column to be used to flag recovery values with an asterisk

* Values outside of QC limits

ND Not Determined

COMMENTS: Permanent QC Limits are not established for Herbicides. QC Limits for % Recovery are established through control charting.

FORM III HERB

1D

HERBICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HSPK01

Lab Name: Quanterra Contract: 550-227

Lab Code: ITMO Case No.: _____ SAS No.: _____ SDG No.: W01697

Matrix: (soil/water) SOIL Lab Sample ID: SPK 142444

Sample wt/vol: 50.0 (g/ml) G Lab File ID: _____

Level: (low/med) LOW Date Sampled: _____

% Moisture: not dec. _____ dec. _____ Date Extracted: 06-06-97

Extraction: (SepF/Cont/Sonc/Shak) SHAK Date Analyzed: 06-11-97

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1

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

CAS NO.	Compound		Q
75-99-0	Dalapon	520	
1918-00-9	Dicamba	40	U
94-74-6	MCPA	8000	U
93-65-2	MCPP	8000	U
120-36-5	Dichloroprop	80	U
94-75-7	2,4-D	2800	
93-72-1	2,4,5-TP	23	
93-76-5	2,4,5-T	33	
88-85-7	Dinoseb	12	U
94-82-6	2,4-DB	150	

U: Concentration of analyte is less than the value given.

GC

TCLP Herb

Quanterra
Environmental Services

Bechtel Hanford Incorporated
3350 George Washington Way
Richland, WA 99352

Project: 550.227

Sample Date : 05/29/97
Receipt Date : 06/02/97
Report Date : 06/13/97

Category : TCLP HERBS
Matrix : SOLID

Client ID: BOL424

Quanterra ID : 14877-003

Analyte	Method	Extract Date	Prep Date	Analyses Date	Result	Units	Qual.	Detection Limit	Regulatory Level	Dilution
2,4-D	EPA 8150	06/07/97	06/09/97	06/12/97	410	MG/L		40	10.0	1000
2,4,5-TP (Silvex)	EPA 8150	06/07/97	06/09/97	06/12/97	5.0	MG/L	U	5.0	1.0	500
2,4-DCPA	EPA 8150	06/07/97	06/09/97	06/12/97	0	%REC	D			500

Quanterra
Environmental Services

Bechtel Hanford Incorporated
3350 George Washington Way
Richland, WA 99352

Project: 550.227

Category : TCLP HERBS
Matrix : SOLID

Client ID: BOL425

Sample Date : 05/29/97
Receipt Date : 06/02/97
Report Date : 06/13/97

Quanterra ID : 14877-004

Analyte	Method	Extract Date	Prep Date	Analyses Date	Result	Units	Qual.	Detection Limit	Regulatory Level	Dilution
2,4-D	EPA 8150	06/07/97	06/09/97	06/12/97	0.87	MG/L		0.20	10.0	5
2,4,5-TP (Silvex)	EPA 8150	06/07/97	06/09/97	06/12/97	0.010	MG/L	U	0.010	1.0	1
2,4-DCPA	EPA 8150	06/07/97	06/09/97	06/12/97	94	%REC				1

Bechtel Hanford Incorporated
3350 George Washington Way
Richland, WA 99352

Project: 550.227

Category : TCLP HERBS
Matrix : SOLID

Sample Date : 05/29/97
Receipt Date : 06/02/97
Report Date : 06/23/97

Client ID: B0L425

Quanterra ID : 14877-004MS

Analyte	Method	Extract Date	Prep Date	Analyses Date	Result	Units	Qual.	Detection Limit	Regulatory Level	Dilution
2,4-D	EPA 8150	06/07/97	06/09/97	06/11/97	427	%REC				5
2,4,5-TP (Silvex)	EPA 8150	06/07/97	06/09/97	06/11/97	154	%REC				1
2,4-DCPA	EPA 8150	06/07/97	06/09/97	06/11/97	83	%REC				1

Bechtel Hanford Incorporated
3350 George Washington Way
Richland, WA 99352

Project: 550.227

Category : TCLP HERBS
Matrix : SOLID

Sample Date : 05/29/97
Receipt Date : 06/02/97
Report Date : 06/23/97

Client ID: BOL425

Quanterra ID : 14877-004MSD

Analyte	Method	Extract Date	Prep Date	Analyses Date	Result	Units	Qual.	Detection Limit	Regulatory Level	Dilution
2,4-D	EPA 8150	06/07/97	06/09/97	06/11/97	484	%REC				5
2,4,5-TP (Silvex)	EPA 8150	06/07/97	06/09/97	06/11/97	147	%REC				1
2,4-DCPA	EPA 8150	06/07/97	06/09/97	06/11/97	84	%REC				1

000044

Quanterra Environmental Services

Bechtel Hanford Incorporated
3350 George Washington Way
Richland, WA 99352

Project: 550.227

Category : TCLP HERBS
Matrix : SOLID

Client ID: NA

Sample Date : NA
Receipt Date : NA
Report Date : 06/13/97

Quanterra ID : EXTBLK6797-1

Analyte	Method	Extract Date	Prep Date	Analyses Date	Result	Units	Qual.	Detection Limit	Regulatory Level	Dilutic
2,4-D	EPA 8150	06/07/97	06/09/97	06/12/97	0.34	MG/L		0.040	10.0	1
2,4,5-TP (Silvex)	EPA 8150	06/07/97	06/09/97	06/12/97	0.010	MG/L	U	0.010	1.0	1
2,4-DCPA	EPA 8150	06/07/97	06/09/97	06/12/97	83	%REC				1

Quanterra
Environmental Services

Bechtel Hanford Incorporated
3350 George Washington Way
Richland, WA 99352

Project: 550.227

Sample Date : NA
Receipt Date : NA
Report Date : 06/13/97

Category : TCLP HERBS
Matrix : SOLID

Client ID: NA

Quanterra ID : QCSPK142695-1

Analyte	Method	Extract Date	Prep Date	Analyses Date	Result	Units	Qual.	Detection Limit	Regulatory Level	Dilution
2,4-D	EPA 8150	NA	06/09/97	06/12/97	236	%REC				1
2,4,5-TP (Silvex)	EPA 8150	NA	06/09/97	06/12/97	112	%REC				1
2,4-DCPA	EPA 8150	NA	06/09/97	06/12/97	78	%REC				1

2K
TCLP HERBICIDE SURROGATE RECOVERY

Lab Name: Quanterra Contract: 550-227

Lab Code: ITMO Case No.: SAS No.: SDG No.: W01697

	EPA SAMPLE NO.	S1 (24DCPA) #	S2 (OTHER) #
01	HBLK01	83	
02	HSPK01	78	
03	BOL424	94	
04	BOL425	94	
05	BOL425MS	83	
06	BOL425MSD	84	
07			
08			
09			
10			
11			
12			
13			
14			
15			

ADVISORY QC LIMITS (40-132)

S1 (24DCPA) = 2,4-Dichlorophenylacetic acid

Column to be used to flag recovery values

* Values outside of QC limits

D Surrogates diluted out

 FORM II HERB-1

1D
HERBICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BOL424

Lab Name: Quanterra Contract: 550-227

Lab Code: ITMO Case No.: _____ SAS No.: _____ SDG No.: W01697

Matrix: (soil/water) TCLP Lab Sample ID: 14877-003

Sample wt/vol: 100 (g/ml) ml Lab File ID: _____

Level: (low/med) LOW Date Sampled: 05-29-97

% Moisture: not dec. _____ dec. _____ Date Extracted: 06-09-97

Extraction: (SepF/Cont/Sonc/Shak) SEPF Date Analyzed: 06-12-97

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1

CAS NO.	Compound	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
94-75-7	2,4-D	410000	*
93-72-1	2,4,5-TP	10	U

U: Concentration of analyte is less than the value given.
*: Reported from a 1000X dilution on 06-12-97.

1D
HERBICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BOL425

Lab Name: Quanterra Contract: 550-227

Lab Code: ITMO Case No.: _____ SAS No.: _____ SDG No.: W01697

Matrix: (soil/water) TCLP Lab Sample ID: 14877-004

Sample wt/vol: 100 (g/ml) ml Lab File ID: _____

Level: (low/med) LOW Date Sampled: 05-29-97

% Moisture: not dec. _____ dec. _____ Date Extracted: 06-09-97

Extraction: (SepF/Cont/Sonc/Shak) SEPF Date Analyzed: 06-12-97

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1

CAS NO.	Compound	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
94-75-7	2,4-D	870	**
93-72-1	2,4,5-TP	10	U

U: Concentration of analyte is less than the value given.
**: Reported from a 5X dilution on 06-12-97.

FORM I HERB 1/87 Rev.

3N

TCLP HERBICIDES MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Lab Name: QUANTERRA,MO Contract: 550-227

Lab Code: ITMO Case No.: SAS No.: SDG No.: W01697

Matrix Spike - EPA Sample No.: BOL425

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS %REC
2,4-D	100	870	1300	427 Q	96-160
2,4,5-TP	10	0	15	154	87-158

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS %REC	%RPD
2,4-D	100	1400	484 Q	12	96-160	17
2,4,5-TP	10	15	147	5	87-158	17

Column to be used to flag recovery values with an asterisk

Q: Values outside of QC limits

ND Not determined

COMMENTS: Permanent QC Limits are not established for Herbicides. QC Limits for % Recovery are established through control charting.

FORM III HERB-4

1D
HERBICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BOL425MS

Lab Name: Quanterra Contract: 550-227

Lab Code: ITMO Case No.: _____ SAS No.: _____ SDG No.: W01697

Matrix: (soil/water) TCLP Lab Sample ID: 14877-004MS

Sample wt/vol: 100 (g/ml) ml Lab File ID: _____

Level: (low/med) LOW Date Sampled: 05-29-97

% Moisture: not dec. _____ dec. _____ Date Extracted: 06-09-97

Extraction: (SepF/Cont/Sonc/Shak) SEPF Date Analyzed: 06-11-97

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1

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

CAS NO.	Compound		Q
94-75-7	2,4-D	1300	**
93-72-1	2,4,5-TP	15	

U: Concentration of analyte is less than the value given.
**: Reported from a 5X dilution on 06-12-97.

1D
HERBICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BOL425MSD

Lab Name: Quanterra Contract: 550-227

Lab Code: ITMO Case No.: _____ SAS No.: _____ SDG No.: W01697

Matrix: (soil/water) TCLP Lab Sample ID: 14877-004MSD

Sample wt/vol: 100 (g/ml) ml Lab File ID: _____

Level: (low/med) LOW Date Sampled: 05-29-97

% Moisture: not dec. _____ dec. _____ Date Extracted: 06-09-97

Extraction: (SepF/Cont/Sonc/Shak) SEPF Date Analyzed: 06-11-97

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1

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

CAS NO.	Compound		Q
94-75-7	2,4-D	1400	**
93-72-1	2,4,5-TP	15	

U: Concentration of analyte is less than the value given.
**: Reported from a 5X dilution on 06-12-97.

4C
PESTICIDE METHOD BLANK SUMMARY

Lab Name: Quanterra Contract: 550-227

Lab Code: ITMO Case No.: SAS No.: SDG No.: W01697

Lab Sample ID: BLK 142695 Lab File ID:

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

Date Extracted: 06-09-97 Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed (1): 06-12-97 Date Analyzed (2): 06-12-97

Time Analyzed (1): 11:23 Time Analyzed (2): 11:23

Instrument ID (1): GCE Instrument ID (2): GCE

GC Column ID (1): DB-5MS GC Column ID (2): DB-17

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

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	HSPK01	SPK 142695	06-17-97	06-12-97
02	BOL424	14877-003	06-12-97	06-12-97
03	BOL425	14877-004	06-12-97	06-12-97
04	BOL425MS	14877-004MS	06-11-97	06-11-97
05	BOL425MSD	14877-004MSD	06-11-97	06-11-97
06				
07				
08				
09				
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COMMENTS: 004 MS/MSD also analyzed at a 5X dilution on 06-12-97.

FORM IV PEST 1/87 Rev.

1D
HERBICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
HBLK01

Lab Name: Quanterra Contract: 550-227

Lab Code: ITMO Case No.: _____ SAS No.: _____ SDG No.: W01697

Matrix: (soil/water) TCLP Lab Sample ID: BLK 142695

Sample wt/vol: 100 (g/ml) ml Lab File ID: _____

Level: (low/med) LOW Date Sampled: _____

% Moisture: not dec. _____ dec. _____ Date Extracted: 06-09-97

Extraction: (SepF/Cont/Sonc/Shak) SEPF Date Analyzed: 06-12-97

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1

CAS NO.	Compound	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
94-75-7	2,4-D	40	U
93-72-1	2,4,5-TP	10	U

U: Concentration of analyte is less than the value given.

FORM I HERB 1/87 Rev.

3Q

TCLP HERBICIDE SPIKE BLANK (LCS) RECOVERY

Lab Name: Quanterra Contract: 550-227

Lab Code: ITMO Case No.: SAS No.: SDG No.: W01697

Spike Blank No.: SPK 142695

COMPOUND	SPIKE ADDED (ug/L)	SPIKE CONCENTRATION (ug/L))	SPK % REC #	QC LIMITS REC.
2,4-D	100	240	236 Q	78-175
2,4,5-TP	10	11	112	67-184

Column to be used to flag recovery values with an asterisk

Q: Values outside of QC limits

ND Not Determined

COMMENTS: Permanent QC Limits are not established for Herbicides. QC Limits for % Recovery are established through control charting.

FORM III HERB

1D

HERBICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HSPK01

Lab Name: Quanterra Contract: 550-227

Lab Code: ITMO Case No.: _____ SAS No.: _____ SDG No.: W01697

Matrix: (soil/water) TCLP Lab Sample ID: SPK 142695

Sample wt/vol: 100 (g/ml) ml Lab File ID: _____

Level: (low/med) LOW Date Sampled: _____

% Moisture: not dec. _____ dec. _____ Date Extracted: 06-09-97

Extraction: (SepF/Cont/Sonc/Shak) SEPF Date Analyzed: 06-12-97

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1

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

CAS NO.	Compound		Q
94-75-7	2,4-D	240	
93-72-1	2,4,5-TP	11	

U: Concentration of analyte is less than the value given.

FORM I HERB 1/87 Rev.

SEMI-VOLATILE ORGANICS

Quanterra
Environmental Services

Bechtel Hanford Incorporated
3350 George Washington Way
Richland, WA 99352

Project: 550.227

Category: Semi-VOA 8270A (TCL)
Method: EPA 8270
Matrix: SOLID

Client ID: B0L421

Sample Date : 05/29/97
Receipt Date : 06/02/97
Report Date : 06/13/97

Quanterra ID : 14877-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Phenol	108-95-2	QCBLK142213-1	06/06/97	06/06/97	350	UG/KG	U	350	1
bis(2-Chloroethyl)Ether	111-44-4	QCBLK142213-1	06/06/97	06/06/97	350	UG/KG	U	350	1
2-Chlorophenol	95-57-8	QCBLK142213-1	06/06/97	06/06/97	350	UG/KG	U	350	1
1,3-Dichlorobenzene	541-73-1	QCBLK142213-1	06/06/97	06/06/97	350	UG/KG	U	350	1
1,4-Dichlorobenzene	106-46-7	QCBLK142213-1	06/06/97	06/06/97	350	UG/KG	U	350	1
1,2-Dichlorobenzene	95-50-1	QCBLK142213-1	06/06/97	06/06/97	350	UG/KG	U	350	1
2-Methylphenol	95-48-7	QCBLK142213-1	06/06/97	06/06/97	350	UG/KG	U	350	1
2,2'-oxybis (1-Chloropropane)	108-60-1	QCBLK142213-1	06/06/97	06/06/97	350	UG/KG	U	350	1
4-Methylphenol	106-44-5	QCBLK142213-1	06/06/97	06/06/97	350	UG/KG	U	350	1
N-nitroso-di-n-propylamine	621-64-7	QCBLK142213-1	06/06/97	06/06/97	350	UG/KG	U	350	1
Hexachloroethane	67-72-1	QCBLK142213-1	06/06/97	06/06/97	350	UG/KG	U	350	1
Nitrobenzene	98-95-3	QCBLK142213-1	06/06/97	06/06/97	350	UG/KG	U	350	1
Isophorone	78-59-1	QCBLK142213-1	06/06/97	06/06/97	350	UG/KG	U	350	1
2-Nitrophenol	88-75-5	QCBLK142213-1	06/06/97	06/06/97	350	UG/KG	U	350	1
2,4-Dimethylphenol	105-67-9	QCBLK142213-1	06/06/97	06/06/97	350	UG/KG	U	350	1
bis(2-Chloroethoxy)Methane	111-91-1	QCBLK142213-1	06/06/97	06/06/97	350	UG/KG	U	350	1
2,4-Dichlorophenol	120-83-2	QCBLK142213-1	06/06/97	06/06/97	21000	UG/KG	E	350	1
1,2,4-Trichlorobenzene	120-82-1	QCBLK142213-1	06/06/97	06/06/97	350	UG/KG	U	350	1
Naphthalene	91-20-3	QCBLK142213-1	06/06/97	06/06/97	350	UG/KG	U	350	1
Hexachlorobutadiene	87-68-3	QCBLK142213-1	06/06/97	06/06/97	350	UG/KG	U	350	1
4-Chloro-3-Methylphenol	59-50-7	QCBLK142213-1	06/06/97	06/06/97	350	UG/KG	U	350	1
2-Methylnaphthalene	91-57-6	QCBLK142213-1	06/06/97	06/06/97	350	UG/KG	U	350	1
Hexachlorocyclopentadiene	77-47-4	QCBLK142213-1	06/06/97	06/06/97	1700	UG/KG	U	1700	1
2,4,6-Trichlorophenol	88-06-2	QCBLK142213-1	06/06/97	06/06/97	4800	UG/KG	E	350	1
2,4,5-Trichlorophenol	95-95-4	QCBLK142213-1	06/06/97	06/06/97	350	UG/KG	U	350	1
2-Chloronaphthalene	91-58-7	QCBLK142213-1	06/06/97	06/06/97	350	UG/KG	U	350	1
2-Nitroaniline	88-74-4	QCBLK142213-1	06/06/97	06/06/97	1700	UG/KG	U	1700	1
DimethylPhthalate	131-11-3	QCBLK142213-1	06/06/97	06/06/97	350	UG/KG	U	350	1
Acenaphthylene	208-96-8	QCBLK142213-1	06/06/97	06/06/97	350	UG/KG	U	350	1
2,6-Dinitrotoluene	606-20-2	QCBLK142213-1	06/06/97	06/06/97	350	UG/KG	U	350	1
3-Nitroaniline	99-09-2	QCBLK142213-1	06/06/97	06/06/97	1700	UG/KG	U	1700	1
Acenaphthene	83-32-9	QCBLK142213-1	06/06/97	06/06/97	350	UG/KG	U	350	1
2,4-Dinitrophenol	51-28-5	QCBLK142213-1	06/06/97	06/06/97	1700	UG/KG	U	1700	1
4-Nitrophenol	100-02-7	QCBLK142213-1	06/06/97	06/06/97	1700	UG/KG	U	1700	1
Dibenzofuran	132-64-9	QCBLK142213-1	06/06/97	06/06/97	350	UG/KG	U	350	1
2,4-Dinitrotoluene	121-14-2	QCBLK142213-1	06/06/97	06/06/97	350	UG/KG	U	350	1
Diethylphthalate	84-66-2	QCBLK142213-1	06/06/97	06/06/97	350	UG/KG	U	350	1
4-Chlorophenyl-PhenylEther	7005-72-3	QCBLK142213-1	06/06/97	06/06/97	350	UG/KG	U	350	1
Fluorene	86-73-7	QCBLK142213-1	06/06/97	06/06/97	350	UG/KG	U	350	1
4-Nitroaniline	100-01-6	QCBLK142213-1	06/06/97	06/06/97	1700	UG/KG	U	1700	1
4,6-Dinitro-2-Methylphenol	534-52-1	QCBLK142213-1	06/06/97	06/06/97	1700	UG/KG	U	1700	1
n-Nitrosodiphenylamine	86-30-6	QCBLK142213-1	06/06/97	06/06/97	350	UG/KG	U	350	1
4-Bromophenyl-Phenyl Ether	101-55-3	QCBLK142213-1	06/06/97	06/06/97	350	UG/KG	U	350	1
Hexachlorobenzene	118-74-1	QCBLK142213-1	06/06/97	06/06/97	350	UG/KG	U	350	1
Pentachlorophenol	87-86-5	QCBLK142213-1	06/06/97	06/06/97	1700	UG/KG	U	1700	1
Phenanthrene	85-01-8	QCBLK142213-1	06/06/97	06/06/97	350	UG/KG	U	350	1
Anthracene	120-12-7	QCBLK142213-1	06/06/97	06/06/97	350	UG/KG	U	350	1
Carbazole	86-74-8	QCBLK142213-1	06/06/97	06/06/97	350	UG/KG	U	350	1
Di-N-Butylphthalate	84-74-2	QCBLK142213-1	06/06/97	06/06/97	350	UG/KG	U	350	1
Fluoranthene	206-44-0	QCBLK142213-1	06/06/97	06/06/97	350	UG/KG	U	350	1
Pyrene	129-00-0	QCBLK142213-1	06/06/97	06/06/97	350	UG/KG	U	350	1
ButylBenzylPhthalate	85-68-7	QCBLK142213-1	06/06/97	06/06/97	350	UG/KG	U	350	1
3,3'-Dichlorobenzidine	91-94-1	QCBLK142213-1	06/06/97	06/06/97	1700	UG/KG	U	1700	1
Benzo(a)Anthracene	56-55-3	QCBLK142213-1	06/06/97	06/06/97	350	UG/KG	U	350	1
Chrysene	218-01-9	QCBLK142213-1	06/06/97	06/06/97	350	UG/KG	U	350	1
bis(2-Ethylhexyl)Phthalate	117-81-7	QCBLK142213-1	06/06/97	06/06/97	350	UG/KG	U	350	1
di-N-OctylPhthalate	117-84-0	QCBLK142213-1	06/06/97	06/06/97	350	UG/KG	U	350	1
Benzo(b)Fluoranthene	205-99-2	QCBLK142213-1	06/06/97	06/06/97	350	UG/KG	U	350	1
Benzo(k)Fluoranthene	207-08-9	QCBLK142213-1	06/06/97	06/06/97	350	UG/KG	U	350	1
Benzo(a)Pyrene	50-32-8	QCBLK142213-1	06/06/97	06/06/97	350	UG/KG	U	350	1
Indeno(1,2,3-CD)Pyrene	193-39-5	QCBLK142213-1	06/06/97	06/06/97	350	UG/KG	U	350	1

Quanterra
Environmental Services

Bechtel Hanford Incorporated
3350 George Washington Way
Richland, WA 99352

Project: 550.227

Category: Semi-VOA 8270A (TCL)
Method: EPA 8270
Matrix: SOLID

Sample Date : 05/29/97
Receipt Date : 06/02/97
Report Date : 06/13/97

Client ID: BOL421

Quanterra ID : 14877-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Dibenz(a,h)Anthracene	53-70-3	QCBLK142213-1	06/06/97	06/06/97	350	UG/KG	U	350	1
Benzo(g,h,i)Perylene	191-24-2	QCBLK142213-1	06/06/97	06/06/97	350	UG/KG	U	350	1
Unknown-1	TIC-32	QCBLK142213-1	06/06/97	06/06/97	140	UG/KG	J		1
Unknown-2	TIC-33	QCBLK142213-1	06/06/97	06/06/97	250	UG/KG	BJ		1
Unknown-3	TIC-34	QCBLK142213-1	06/06/97	06/06/97	120	UG/KG	J		1
Unknown-4	TIC-35	QCBLK142213-1	06/06/97	06/06/97	160	UG/KG	BJ		1
Unknown-5	TIC-36	QCBLK142213-1	06/06/97	06/06/97	390	UG/KG	BJ		1
Unknown-6	TIC-37	QCBLK142213-1	06/06/97	06/06/97	500	UG/KG	BJ		1
Unknown-7	TIC-7	QCBLK142213-1	06/06/97	06/06/97	250	UG/KG	BJ		1
Unknown-8	TIC-8	QCBLK142213-1	06/06/97	06/06/97	240	UG/KG	BJ		1
Unknown-9	TIC-9	QCBLK142213-1	06/06/97	06/06/97	130	UG/KG	BJ		1
Unknown-10	TIC-10	QCBLK142213-1	06/06/97	06/06/97	110	UG/KG	J		1
2,6-Dichlorophenol	87-65-0	QCBLK142213-1	06/06/97	06/06/97	3700	UG/KG	JN		1
Unknown-11	TIC-11	QCBLK142213-1	06/06/97	06/06/97	2400	UG/KG	J		1
Acetic acid, (4-chlorophenoxy)	122-88-3	QCBLK142213-1	06/06/97	06/06/97	420	UG/KG	JN		1
2,4-D(A)	94-75-7A	QCBLK142213-1	06/06/97	06/06/97	450	UG/KG	JN		1
2,4-D(B)	94-75-7B	QCBLK142213-1	06/06/97	06/06/97	280	UG/KG	JN		1
Unknown-12	TIC-12	QCBLK142213-1	06/06/97	06/06/97	380	UG/KG	J		1
Unknown-13	TIC-13	QCBLK142213-1	06/06/97	06/06/97	330	UG/KG	J		1
Unknown-14	TIC-14	QCBLK142213-1	06/06/97	06/06/97	1400	UG/KG	J		1
Unknown-15	TIC-15	QCBLK142213-1	06/06/97	06/06/97	240	UG/KG	BJ		1
Nitrobenzene-d5	4165-60-0	QCBLK142213-1	06/06/97	06/06/97	69	%REC			1
2-Fluorobiphenyl	321-60-8	QCBLK142213-1	06/06/97	06/06/97	74	%REC			1
Terphenyl-d14	1718-51-0	QCBLK142213-1	06/06/97	06/06/97	96	%REC			1
Phenol-d5	4165-62-2	QCBLK142213-1	06/06/97	06/06/97	81	%REC			1
2-Fluorophenol	367-12-4	QCBLK142213-1	06/06/97	06/06/97	78	%REC			1
2,4,6-Tribromophenol	118-79-6	QCBLK142213-1	06/06/97	06/06/97	78	%REC			1

Quanterra
Environmental Services

Bechtel Hanford Incorporated
3350 George Washington Way
Richland, WA 99352

Project: 550.227

Category: Semi-VOA 8270A (TCL)
Method: EPA 8270
Matrix: SOLID

Sample Date : 05/29/97
Receipt Date : 06/02/97
Report Date : 06/13/97

Client ID: B0L421

Quanterra ID : 14877-001DL

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Phenol	108-95-2	QCBLK142213-1	06/06/97	06/09/97	6900	UG/KG	U	6900	20
bis(2-Chloroethyl)Ether	111-44-4	QCBLK142213-1	06/06/97	06/09/97	6900	UG/KG	U	6900	20
2-Chlorophenol	95-57-8	QCBLK142213-1	06/06/97	06/09/97	6900	UG/KG	U	6900	20
1,3-Dichlorobenzene	541-73-1	QCBLK142213-1	06/06/97	06/09/97	6900	UG/KG	U	6900	20
1,4-Dichlorobenzene	106-46-7	QCBLK142213-1	06/06/97	06/09/97	6900	UG/KG	U	6900	20
1,2-Dichlorobenzene	95-50-1	QCBLK142213-1	06/06/97	06/09/97	6900	UG/KG	U	6900	20
2-Methylphenol	95-48-7	QCBLK142213-1	06/06/97	06/09/97	6900	UG/KG	U	6900	20
2,2'-oxybis (1-Chloropropane)	108-60-1	QCBLK142213-1	06/06/97	06/09/97	6900	UG/KG	U	6900	20
4-Methylphenol	106-44-5	QCBLK142213-1	06/06/97	06/09/97	6900	UG/KG	U	6900	20
N-nitroso-di-n-propylamine	621-64-7	QCBLK142213-1	06/06/97	06/09/97	6900	UG/KG	U	6900	20
Hexachloroethane	67-72-1	QCBLK142213-1	06/06/97	06/09/97	6900	UG/KG	U	6900	20
Nitrobenzene	98-95-3	QCBLK142213-1	06/06/97	06/09/97	6900	UG/KG	U	6900	20
Isophorone	78-59-1	QCBLK142213-1	06/06/97	06/09/97	6900	UG/KG	U	6900	20
2-Nitrophenol	88-75-5	QCBLK142213-1	06/06/97	06/09/97	6900	UG/KG	U	6900	20
2,4-Dimethylphenol	105-67-9	QCBLK142213-1	06/06/97	06/09/97	6900	UG/KG	U	6900	20
bis(2-Chloroethoxy)Methane	111-91-1	QCBLK142213-1	06/06/97	06/09/97	6900	UG/KG	U	6900	20
2,4-Dichlorophenol	120-83-2	QCBLK142213-1	06/06/97	06/09/97	38000	UG/KG	D	6900	20
1,2,4-Trichlorobenzene	120-82-1	QCBLK142213-1	06/06/97	06/09/97	6900	UG/KG	U	6900	20
Naphthalene	91-20-3	QCBLK142213-1	06/06/97	06/09/97	6900	UG/KG	U	6900	20
Hexachlorobutadiene	87-68-3	QCBLK142213-1	06/06/97	06/09/97	6900	UG/KG	U	6900	20
4-Chloro-3-Methylphenol	59-50-7	QCBLK142213-1	06/06/97	06/09/97	6900	UG/KG	U	6900	20
2-Methylnaphthalene	91-57-6	QCBLK142213-1	06/06/97	06/09/97	6900	UG/KG	U	6900	20
Hexachlorocyclopentadiene	77-47-4	QCBLK142213-1	06/06/97	06/09/97	33000	UG/KG	U	33000	20
2,4,6-Trichlorophenol	88-06-2	QCBLK142213-1	06/06/97	06/09/97	9300	UG/KG	D	6900	20
2,4,5-Trichlorophenol	95-95-4	QCBLK142213-1	06/06/97	06/09/97	6900	UG/KG	U	6900	20
2-Chloronaphthalene	91-58-7	QCBLK142213-1	06/06/97	06/09/97	6900	UG/KG	U	6900	20
2-Nitroaniline	88-74-4	QCBLK142213-1	06/06/97	06/09/97	33000	UG/KG	U	33000	20
DimethylPhthalate	131-11-3	QCBLK142213-1	06/06/97	06/09/97	6900	UG/KG	U	6900	20
Acenaphthylene	208-96-8	QCBLK142213-1	06/06/97	06/09/97	6900	UG/KG	U	6900	20
2,6-Dinitrotoluene	606-20-2	QCBLK142213-1	06/06/97	06/09/97	6900	UG/KG	U	6900	20
3-Nitroaniline	99-09-2	QCBLK142213-1	06/06/97	06/09/97	33000	UG/KG	U	33000	20
Acenaphthene	83-32-9	QCBLK142213-1	06/06/97	06/09/97	6900	UG/KG	U	6900	20
2,4-Dinitrophenol	51-28-5	QCBLK142213-1	06/06/97	06/09/97	33000	UG/KG	U	33000	20
4-Nitrophenol	100-02-7	QCBLK142213-1	06/06/97	06/09/97	33000	UG/KG	U	33000	20
Dibenzofuran	132-64-9	QCBLK142213-1	06/06/97	06/09/97	6900	UG/KG	U	6900	20
2,4-Dinitrotoluene	121-14-2	QCBLK142213-1	06/06/97	06/09/97	6900	UG/KG	U	6900	20
Diethylphthalate	84-66-2	QCBLK142213-1	06/06/97	06/09/97	6900	UG/KG	U	6900	20
4-Chlorophenyl-PhenylEther	7005-72-3	QCBLK142213-1	06/06/97	06/09/97	6900	UG/KG	U	6900	20
Fluorene	86-73-7	QCBLK142213-1	06/06/97	06/09/97	6900	UG/KG	U	6900	20
4-Nitroaniline	100-01-6	QCBLK142213-1	06/06/97	06/09/97	33000	UG/KG	U	33000	20
4,6-Dinitro-2-Methylphenol	534-52-1	QCBLK142213-1	06/06/97	06/09/97	33000	UG/KG	U	33000	20
n-Nitrosodiphenylamine	86-30-6	QCBLK142213-1	06/06/97	06/09/97	6900	UG/KG	U	6900	20
4-Bromophenyl-Phenyl Ether	101-55-3	QCBLK142213-1	06/06/97	06/09/97	6900	UG/KG	U	6900	20
Hexachlorobenzene	118-74-1	QCBLK142213-1	06/06/97	06/09/97	6900	UG/KG	U	6900	20
Pentachlorophenol	87-86-5	QCBLK142213-1	06/06/97	06/09/97	33000	UG/KG	U	33000	20
Phenanthrene	85-01-8	QCBLK142213-1	06/06/97	06/09/97	6900	UG/KG	U	6900	20
Anthracene	120-12-7	QCBLK142213-1	06/06/97	06/09/97	6900	UG/KG	U	6900	20
Carbazole	86-74-8	QCBLK142213-1	06/06/97	06/09/97	6900	UG/KG	U	6900	20
Di-N-Butylphthalate	84-74-2	QCBLK142213-1	06/06/97	06/09/97	6900	UG/KG	U	6900	20
Fluoranthene	206-44-0	QCBLK142213-1	06/06/97	06/09/97	6900	UG/KG	U	6900	20
Pyrene	129-00-0	QCBLK142213-1	06/06/97	06/09/97	6900	UG/KG	U	6900	20
ButylBenzylPhthalate	85-68-7	QCBLK142213-1	06/06/97	06/09/97	6900	UG/KG	U	6900	20
3,3'-Dichlorobenzidine	91-94-1	QCBLK142213-1	06/06/97	06/09/97	33000	UG/KG	U	33000	20
Benzo(a)Anthracene	56-55-3	QCBLK142213-1	06/06/97	06/09/97	6900	UG/KG	U	6900	20
Chrysene	218-01-9	QCBLK142213-1	06/06/97	06/09/97	6900	UG/KG	U	6900	20
bis(2-Ethylhexyl)Phthalate	117-81-7	QCBLK142213-1	06/06/97	06/09/97	6900	UG/KG	U	6900	20
di-N-OctylPhthalate	117-84-0	QCBLK142213-1	06/06/97	06/09/97	6900	UG/KG	U	6900	20
Benzo(b)Fluoranthene	205-99-2	QCBLK142213-1	06/06/97	06/09/97	6900	UG/KG	U	6900	20
Benzo(k)Fluoranthene	207-08-9	QCBLK142213-1	06/06/97	06/09/97	6900	UG/KG	U	6900	20
Benzo(a)Pyrene	50-32-8	QCBLK142213-1	06/06/97	06/09/97	6900	UG/KG	U	6900	20
Indeno(1,2,3-CD)Pyrene	193-39-5	QCBLK142213-1	06/06/97	06/09/97	6900	UG/KG	U	6900	20

Quanterra
Environmental Services

Bechtel Hanford Incorporated
3350 George Washington Way
Richland, WA 99352

Project: 550.227

Category: Semi-VOA 8270A (TCL)
Method: EPA 8270
Matrix: SOLID

Sample Date : 05/29/97
Receipt Date : 06/02/97
Report Date : 06/13/97

Client ID: B0L421

Quanterra ID : 14877-001DL

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Dibenz(a,h)Anthracene	53-70-3	QCBLK142213-1	06/06/97	06/09/97	6900	UG/KG	U	6900	20
Benzo(g,h,i)Perylene	191-24-2	QCBLK142213-1	06/06/97	06/09/97	6900	UG/KG	U	6900	20
Unknown-1	TIC-32	QCBLK142213-1	06/06/97	06/09/97	8400	UG/KG	J	--	20
2,6-Dichlorophenol	87-65-0	QCBLK142213-1	06/06/97	06/09/97	3000	UG/KG	JN	--	20
Unknown-2	TIC-33	QCBLK142213-1	06/06/97	06/09/97	1900	UG/KG	J	--	20
Unknown-3	TIC-34	QCBLK142213-1	06/06/97	06/09/97	6300	UG/KG	J	--	20
2,4-D	94-75-7	QCBLK142213-1	06/06/97	06/09/97	41000	UG/KG	JN	--	20
Nitrobenzene-d5	4165-60-0	QCBLK142213-1	06/06/97	06/09/97	40	%REC		--	20
2-Fluorobiphenyl	321-60-8	QCBLK142213-1	06/06/97	06/09/97	107	%REC		--	20
Terphenyl-d14	1718-51-0	QCBLK142213-1	06/06/97	06/09/97	65	%REC		--	20
Phenol-d5	4165-62-2	QCBLK142213-1	06/06/97	06/09/97	32	%REC		--	20
2-Fluorophenol	367-12-4	QCBLK142213-1	06/06/97	06/09/97	50	%REC			20
2,4,6-Tribromophenol	118-79-6	QCBLK142213-1	06/06/97	06/09/97	0	%REC	D		20

Quanterra
Environmental Services

Bechtel Hanford Incorporated
3350 George Washington Way
Richland, WA 99352

Project: 550.227

Category: Semi-VOA 8270A (TCL)
Method: EPA 8270
Matrix: SOLID

Sample Date : 05/29/97
Receipt Date : 06/02/97
Report Date : 06/13/97

Client ID: BOL421

Quanterra ID : 14877-001MS

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Phenol	108-95-2	QCBLK142213-1	06/06/97	06/06/97	66	%REC			1
2-Chlorophenol	95-57-8	QCBLK142213-1	06/06/97	06/06/97	73	%REC			1
1,4-Dichlorobenzene	106-46-7	QCBLK142213-1	06/06/97	06/06/97	59	%REC			1
N-nitroso-di-n-propylamine	621-64-7	QCBLK142213-1	06/06/97	06/06/97	70	%REC			1
1,2,4-Trichlorobenzene	120-82-1	QCBLK142213-1	06/06/97	06/06/97	59	%REC			1
4-Chloro-3-Methylphenol	59-50-7	QCBLK142213-1	06/06/97	06/06/97	63	%REC			1
Acenaphthene	83-32-9	QCBLK142213-1	06/06/97	06/06/97	60	%REC			1
4-Nitrophenol	100-02-7	QCBLK142213-1	06/06/97	06/06/97	70	%REC			1
2,4-Dinitrotoluene	121-14-2	QCBLK142213-1	06/06/97	06/06/97	47	%REC			1
Pentachlorophenol	87-86-5	QCBLK142213-1	06/06/97	06/06/97	98	%REC			1
Pyrene	129-00-0	QCBLK142213-1	06/06/97	06/06/97	64	%REC			1
Nitrobenzene-d5	4165-60-0	QCBLK142213-1	06/06/97	06/06/97	68	%REC			1
2-Fluorobiphenyl	321-60-8	QCBLK142213-1	06/06/97	06/06/97	62	%REC			1
Terphenyl-d14	1718-51-0	QCBLK142213-1	06/06/97	06/06/97	78	%REC			1
Phenol-d5	4165-62-2	QCBLK142213-1	06/06/97	06/06/97	71	%REC			1
2-Fluorophenol	367-12-4	QCBLK142213-1	06/06/97	06/06/97	66	%REC			1
2,4,6-Tribromophenol	118-79-6	QCBLK142213-1	06/06/97	06/06/97	64	%REC			1

Quanterra
Environmental Services

Bechtel Hanford Incorporated
3350 George Washington Way
Richland, WA 99352

Project: 550.227

Category: Semi-VOA 8270A (TCL)
Method: EPA 8270
Matrix: SOLID

Client ID: BOL421

Sample Date : 05/29/97
Receipt Date : 06/02/97
Report Date : 06/13/97

Quanterra ID : 14877-001MSD

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Phenol	108-95-2	QCBLK142213-1	06/06/97	06/06/97	82	%REC			1
2-Chlorophenol	95-57-8	QCBLK142213-1	06/06/97	06/06/97	95	%REC			1
1,4-Dichlorobenzene	106-46-7	QCBLK142213-1	06/06/97	06/06/97	74	%REC			1
N-nitroso-di-n-propylamine	621-64-7	QCBLK142213-1	06/06/97	06/06/97	85	%REC			1
1,2,4-Trichlorobenzene	120-82-1	QCBLK142213-1	06/06/97	06/06/97	71	%REC			1
4-Chloro-3-Methylphenol	59-50-7	QCBLK142213-1	06/06/97	06/06/97	84	%REC			1
Acenaphthene	83-32-9	QCBLK142213-1	06/06/97	06/06/97	75	%REC			1
4-Nitrophenol	100-02-7	QCBLK142213-1	06/06/97	06/06/97	84	%REC			1
2,4-Dinitrotoluene	121-14-2	QCBLK142213-1	06/06/97	06/06/97	58	%REC			1
Pentachlorophenol	87-86-5	QCBLK142213-1	06/06/97	06/06/97	121	%REC			1
Pyrene	129-00-0	QCBLK142213-1	06/06/97	06/06/97	78	%REC			1
Nitrobenzene-d5	4165-60-0	QCBLK142213-1	06/06/97	06/06/97	94	%REC			1
2-Fluorobiphenyl	321-60-8	QCBLK142213-1	06/06/97	06/06/97	74	%REC			1
Terphenyl-d14	1718-51-0	QCBLK142213-1	06/06/97	06/06/97	95	%REC			1
Phenol-d5	4165-62-2	QCBLK142213-1	06/06/97	06/06/97	85	%REC			1
2-Fluorophenol	367-12-4	QCBLK142213-1	06/06/97	06/06/97	80	%REC			1
2,4,6-Tribromophenol	118-79-6	QCBLK142213-1	06/06/97	06/06/97	75	%REC			1

Quanterra
Environmental Services

Bechtel Hanford Incorporated
3350 George Washington Way
Richland, WA 99352

Project: 550.227

Category: Semi-VOA 8270A (TCL)
Method: EPA 8270
Matrix: SOLID

Sample Date : 05/29/97
Receipt Date : 06/02/97
Report Date : 06/13/97

Client ID: BOL425

Quanterra ID : 14877-004

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Phenol	108-95-2	QCBLK142213-1	06/06/97	06/11/97	350	UG/KG	U	350	1
bis(2-Chloroethyl)Ether	111-44-4	QCBLK142213-1	06/06/97	06/11/97	350	UG/KG	U	350	1
2-Chlorophenol	95-57-8	QCBLK142213-1	06/06/97	06/11/97	350	UG/KG	U	350	1
1,3-Dichlorobenzene	541-73-1	QCBLK142213-1	06/06/97	06/11/97	350	UG/KG	U	350	1
1,4-Dichlorobenzene	106-46-7	QCBLK142213-1	06/06/97	06/11/97	350	UG/KG	U	350	1
1,2-Dichlorobenzene	95-50-1	QCBLK142213-1	06/06/97	06/11/97	350	UG/KG	U	350	1
2-Methylphenol	95-48-7	QCBLK142213-1	06/06/97	06/11/97	350	UG/KG	U	350	1
2,2'-oxybis (1-Chloropropane)	108-60-1	QCBLK142213-1	06/06/97	06/11/97	350	UG/KG	U	350	1
4-Methylphenol	106-44-5	QCBLK142213-1	06/06/97	06/11/97	350	UG/KG	U	350	1
N-nitroso-di-n-propylamine	621-64-7	QCBLK142213-1	06/06/97	06/11/97	350	UG/KG	U	350	1
Hexachloroethane	67-72-1	QCBLK142213-1	06/06/97	06/11/97	350	UG/KG	U	350	1
Nitrobenzene	98-95-3	QCBLK142213-1	06/06/97	06/11/97	350	UG/KG	U	350	1
Isophorone	78-59-1	QCBLK142213-1	06/06/97	06/11/97	350	UG/KG	U	350	1
2-Nitrophenol	88-75-5	QCBLK142213-1	06/06/97	06/11/97	350	UG/KG	U	350	1
2,4-Dimethylphenol	105-67-9	QCBLK142213-1	06/06/97	06/11/97	350	UG/KG	U	350	1
bis(2-Chloroethoxy)Methane	111-91-1	QCBLK142213-1	06/06/97	06/11/97	350	UG/KG	U	350	1
2,4-Dichlorophenol	120-83-2	QCBLK142213-1	06/06/97	06/11/97	350	UG/KG	U	350	1
1,2,4-Trichlorobenzene	120-82-1	QCBLK142213-1	06/06/97	06/11/97	350	UG/KG	U	350	1
Naphthalene	91-20-3	QCBLK142213-1	06/06/97	06/11/97	350	UG/KG	U	350	1
Hexachlorobutadiene	87-68-3	QCBLK142213-1	06/06/97	06/11/97	350	UG/KG	U	350	1
4-Chloro-3-Methylphenol	59-50-7	QCBLK142213-1	06/06/97	06/11/97	350	UG/KG	U	350	1
2-Methylnaphthalene	91-57-6	QCBLK142213-1	06/06/97	06/11/97	350	UG/KG	U	350	1
Hexachlorocyclopentadiene	77-47-4	QCBLK142213-1	06/06/97	06/11/97	1700	UG/KG	U	1700	1
2,4,6-Trichlorophenol	88-06-2	QCBLK142213-1	06/06/97	06/11/97	350	UG/KG	U	350	1
2,4,5-Trichlorophenol	95-95-4	QCBLK142213-1	06/06/97	06/11/97	350	UG/KG	U	350	1
2-Chloronaphthalene	91-58-7	QCBLK142213-1	06/06/97	06/11/97	350	UG/KG	U	350	1
2-Nitroaniline	88-74-4	QCBLK142213-1	06/06/97	06/11/97	1700	UG/KG	U	1700	1
DimethylPhthalate	131-11-3	QCBLK142213-1	06/06/97	06/11/97	350	UG/KG	U	350	1
Acenaphthylene	208-96-8	QCBLK142213-1	06/06/97	06/11/97	350	UG/KG	U	350	1
2,6-Dinitrotoluene	606-20-2	QCBLK142213-1	06/06/97	06/11/97	350	UG/KG	U	350	1
3-Nitroaniline	99-09-2	QCBLK142213-1	06/06/97	06/11/97	1700	UG/KG	U	1700	1
Acenaphthene	83-32-9	QCBLK142213-1	06/06/97	06/11/97	350	UG/KG	U	350	1
2,4-Dinitrophenol	51-28-5	QCBLK142213-1	06/06/97	06/11/97	1700	UG/KG	U	1700	1
4-Nitrophenol	100-02-7	QCBLK142213-1	06/06/97	06/11/97	1700	UG/KG	U	1700	1
Dibenzofuran	132-64-9	QCBLK142213-1	06/06/97	06/11/97	350	UG/KG	U	350	1
2,4-Dinitrotoluene	121-14-2	QCBLK142213-1	06/06/97	06/11/97	350	UG/KG	U	350	1
Diethylphthalate	84-66-2	QCBLK142213-1	06/06/97	06/11/97	350	UG/KG	U	350	1
4-Chlorophenyl-PhenylEther	7005-72-3	QCBLK142213-1	06/06/97	06/11/97	350	UG/KG	U	350	1
Fluorene	86-73-7	QCBLK142213-1	06/06/97	06/11/97	350	UG/KG	U	350	1
4-Nitroaniline	100-01-6	QCBLK142213-1	06/06/97	06/11/97	1700	UG/KG	U	1700	1
4,6-Dinitro-2-Methylphenol	534-52-1	QCBLK142213-1	06/06/97	06/11/97	1700	UG/KG	U	1700	1
n-Nitrosodiphenylamine	86-30-6	QCBLK142213-1	06/06/97	06/11/97	350	UG/KG	U	350	1
4-Bromophenyl-Phenyl Ether	101-55-3	QCBLK142213-1	06/06/97	06/11/97	350	UG/KG	U	350	1
Hexachlorobenzene	118-74-1	QCBLK142213-1	06/06/97	06/11/97	350	UG/KG	U	350	1
Pentachlorophenol	87-86-5	QCBLK142213-1	06/06/97	06/11/97	1700	UG/KG	U	1700	1
Phenanthrene	85-01-8	QCBLK142213-1	06/06/97	06/11/97	350	UG/KG	U	350	1
Anthracene	120-12-7	QCBLK142213-1	06/06/97	06/11/97	350	UG/KG	U	350	1
Carbazole	86-74-8	QCBLK142213-1	06/06/97	06/11/97	350	UG/KG	U	350	1
Di-N-Butylphthalate	84-74-2	QCBLK142213-1	06/06/97	06/11/97	350	UG/KG	U	350	1
Fluoranthene	206-44-0	QCBLK142213-1	06/06/97	06/11/97	350	UG/KG	U	350	1
Pyrene	129-00-0	QCBLK142213-1	06/06/97	06/11/97	350	UG/KG	U	350	1
ButylBenzylPhthalate	85-68-7	QCBLK142213-1	06/06/97	06/11/97	350	UG/KG	U	350	1
3,3'-Dichlorobenzidine	91-94-1	QCBLK142213-1	06/06/97	06/11/97	1700	UG/KG	U	1700	1
Benzo(a)Anthracene	56-55-3	QCBLK142213-1	06/06/97	06/11/97	350	UG/KG	U	350	1
Chrysene	218-01-9	QCBLK142213-1	06/06/97	06/11/97	350	UG/KG	U	350	1
bis(2-Ethylhexyl)Phthalate	117-81-7	QCBLK142213-1	06/06/97	06/11/97	350	UG/KG	U	350	1
di-N-OctylPhthalate	117-84-0	QCBLK142213-1	06/06/97	06/11/97	350	UG/KG	U	350	1
Benzo(b)Fluoranthene	205-99-2	QCBLK142213-1	06/06/97	06/11/97	350	UG/KG	U	350	1
Benzo(k)Fluoranthene	207-08-9	QCBLK142213-1	06/06/97	06/11/97	350	UG/KG	U	350	1
Benzo(a)Pyrene	50-32-8	QCBLK142213-1	06/06/97	06/11/97	350	UG/KG	U	350	1
Indeno(1,2,3-CD)Pyrene	193-39-5	QCBLK142213-1	06/06/97	06/11/97	350	UG/KG	U	350	1

Quanterra Environmental Services

Bechtel Hanford Incorporated
3350 George Washington Way
Richland, WA 99352

Project: 550.227

Category: Semi-VOA 8270A (TCL)
Method: EPA 8270
Matrix: SOLID

Client ID: B0L425

Sample Date : 05/29/97
Receipt Date : 06/02/97
Report Date : 06/13/97

Quanterra ID : 14877-004

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Dibenz(a,h)Anthracene	53-70-3	QCBLK142213-1	06/06/97	06/11/97	350	UG/KG	U	350	1
Benzo(g,h,i)Perylene	191-24-2	QCBLK142213-1	06/06/97	06/11/97	350	UG/KG	U	350	1
Aldol Condensation	TIC-4	QCBLK142213-1	06/06/97	06/11/97	2500	UG/KG	AJ		1
Unknown-1	TIC-32	QCBLK142213-1	06/06/97	06/11/97	90	UG/KG	J		1
Unknown-2	TIC-33	QCBLK142213-1	06/06/97	06/11/97	120	UG/KG	J		1
Unknown-3	TIC-34	QCBLK142213-1	06/06/97	06/11/97	120	UG/KG	BJ		1
Unknown-4	TIC-35	QCBLK142213-1	06/06/97	06/11/97	87	UG/KG	J		1
Unknown-5	TIC-36	QCBLK142213-1	06/06/97	06/11/97	550	UG/KG	BJ		1
Unknown-6	TIC-37	QCBLK142213-1	06/06/97	06/11/97	90	UG/KG	J		1
Unknown-7	TIC-7	QCBLK142213-1	06/06/97	06/11/97	190	UG/KG	J		1
Unknown-8	TIC-8	QCBLK142213-1	06/06/97	06/11/97	150	UG/KG	BJ		1
Unknown-9	TIC-9	QCBLK142213-1	06/06/97	06/11/97	85	UG/KG	BJ		1
Unknown-10	TIC-10	QCBLK142213-1	06/06/97	06/11/97	810	UG/KG	J		1
Unknown-11	TIC-11	QCBLK142213-1	06/06/97	06/11/97	270	UG/KG	J		1
Unknown-12	TIC-12	QCBLK142213-1	06/06/97	06/11/97	460	UG/KG	J		1
Unknown-13	TIC-13	QCBLK142213-1	06/06/97	06/11/97	99	UG/KG	J		1
Unknown-14	TIC-14	QCBLK142213-1	06/06/97	06/11/97	370	UG/KG	J		1
Unknown-15	TIC-15	QCBLK142213-1	06/06/97	06/11/97	110	UG/KG	BJ		1
Unknown-16	TIC-16	QCBLK142213-1	06/06/97	06/11/97	300	UG/KG	J		1
Unknown-17	TIC-17	QCBLK142213-1	06/06/97	06/11/97	110	UG/KG	J		1
2,4-D	94-75-7	QCBLK142213-1	06/06/97	06/11/97	630	UG/KG	JN		1
Unknown-18	TIC-18	QCBLK142213-1	06/06/97	06/11/97	420	UG/KG	J		1
Unknown-19	TIC-19	QCBLK142213-1	06/06/97	06/11/97	100	UG/KG	J		1
Unknown-20	TIC-20	QCBLK142213-1	06/06/97	06/11/97	210	UG/KG	J		1
Nitrobenzene-d5	4165-60-0	QCBLK142213-1	06/06/97	06/11/97	71	%REC			1
2-Fluorobiphenyl	321-60-8	QCBLK142213-1	06/06/97	06/11/97	74	%REC			1
Terphenyl-d14	1718-51-0	QCBLK142213-1	06/06/97	06/11/97	92	%REC			1
Phenol-d5	4165-62-2	QCBLK142213-1	06/06/97	06/11/97	79	%REC			1
2-Fluorophenol	367-12-4	QCBLK142213-1	06/06/97	06/11/97	73	%REC			1
2,4,6-Tribromophenol	118-79-6	QCBLK142213-1	06/06/97	06/11/97	59	%REC			1

Quanterra
Environmental Services

Bechtel Hanford Incorporated
3350 George Washington Way
Richland, WA 99352

Project: 550.227

Category: Semivolatile
Method: EPA 8270
Matrix: SOLID

Client ID: NA

Sample Date : NA
Receipt Date : NA
Report Date : 06/13/97

Quanterra ID : QCBLK142213-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Phenol	108-95-2	QCBLK142213-1	06/06/97	06/06/97	330	UG/KG	U	330	1
bis(2-Chloroethyl)Ether	111-44-4	QCBLK142213-1	06/06/97	06/06/97	330	UG/KG	U	330	1
2-Chlorophenol	95-57-8	QCBLK142213-1	06/06/97	06/06/97	330	UG/KG	U	330	1
1,3-Dichlorobenzene	541-73-1	QCBLK142213-1	06/06/97	06/06/97	330	UG/KG	U	330	1
1,4-Dichlorobenzene	106-46-7	QCBLK142213-1	06/06/97	06/06/97	330	UG/KG	U	330	1
1,2-Dichlorobenzene	95-50-1	QCBLK142213-1	06/06/97	06/06/97	330	UG/KG	U	330	1
2-Methylphenol	95-48-7	QCBLK142213-1	06/06/97	06/06/97	330	UG/KG	U	330	1
2,2'-oxybis (1-Chloropropane)	108-60-1	QCBLK142213-1	06/06/97	06/06/97	330	UG/KG	U	330	1
4-Methylphenol	106-44-5	QCBLK142213-1	06/06/97	06/06/97	330	UG/KG	U	330	1
N-nitroso-di-n-propylamine	621-64-7	QCBLK142213-1	06/06/97	06/06/97	330	UG/KG	U	330	1
Hexachloroethane	67-72-1	QCBLK142213-1	06/06/97	06/06/97	330	UG/KG	U	330	1
Nitrobenzene	98-95-3	QCBLK142213-1	06/06/97	06/06/97	330	UG/KG	U	330	1
Isophorone	78-59-1	QCBLK142213-1	06/06/97	06/06/97	330	UG/KG	U	330	1
2-Nitrophenol	88-75-5	QCBLK142213-1	06/06/97	06/06/97	330	UG/KG	U	330	1
2,4-Dimethylphenol	105-67-9	QCBLK142213-1	06/06/97	06/06/97	330	UG/KG	U	330	1
bis(2-Chloroethoxy)Methane	111-91-1	QCBLK142213-1	06/06/97	06/06/97	330	UG/KG	U	330	1
2,4-Dichlorophenol	120-83-2	QCBLK142213-1	06/06/97	06/06/97	330	UG/KG	U	330	1
1,2,4-Trichlorobenzene	120-82-1	QCBLK142213-1	06/06/97	06/06/97	330	UG/KG	U	330	1
Naphthalene	91-20-3	QCBLK142213-1	06/06/97	06/06/97	330	UG/KG	U	330	1
Hexachlorobutadiene	87-68-3	QCBLK142213-1	06/06/97	06/06/97	330	UG/KG	U	330	1
4-Chloro-3-Methylphenol	59-50-7	QCBLK142213-1	06/06/97	06/06/97	330	UG/KG	U	330	1
2-Methylnaphthalene	91-57-6	QCBLK142213-1	06/06/97	06/06/97	330	UG/KG	U	330	1
Hexachlorocyclopentadiene	77-47-4	QCBLK142213-1	06/06/97	06/06/97	1600	UG/KG	U	1600	1
2,4,6-Trichlorophenol	88-06-2	QCBLK142213-1	06/06/97	06/06/97	330	UG/KG	U	330	1
2,4,5-Trichlorophenol	95-95-4	QCBLK142213-1	06/06/97	06/06/97	330	UG/KG	U	330	1
2-Chloronaphthalene	91-58-7	QCBLK142213-1	06/06/97	06/06/97	330	UG/KG	U	330	1
2-Nitroaniline	88-74-4	QCBLK142213-1	06/06/97	06/06/97	1600	UG/KG	U	1600	1
DimethylPhthalate	131-11-3	QCBLK142213-1	06/06/97	06/06/97	330	UG/KG	U	330	1
Acenaphthylene	208-96-8	QCBLK142213-1	06/06/97	06/06/97	330	UG/KG	U	330	1
2,6-Dinitrotoluene	606-20-2	QCBLK142213-1	06/06/97	06/06/97	330	UG/KG	U	330	1
3-Nitroaniline	99-09-2	QCBLK142213-1	06/06/97	06/06/97	1600	UG/KG	U	1600	1
Acenaphthene	83-32-9	QCBLK142213-1	06/06/97	06/06/97	330	UG/KG	U	330	1
2,4-Dinitrophenol	51-28-5	QCBLK142213-1	06/06/97	06/06/97	1600	UG/KG	U	1600	1
4-Nitrophenol	100-02-7	QCBLK142213-1	06/06/97	06/06/97	1600	UG/KG	U	1600	1
Dibenzofuran	132-64-9	QCBLK142213-1	06/06/97	06/06/97	330	UG/KG	U	330	1
2,4-Dinitrotoluene	121-14-2	QCBLK142213-1	06/06/97	06/06/97	330	UG/KG	U	330	1
Diethylphthalate	84-66-2	QCBLK142213-1	06/06/97	06/06/97	330	UG/KG	U	330	1
4-Chlorophenyl-PhenylEther	7005-72-3	QCBLK142213-1	06/06/97	06/06/97	330	UG/KG	U	330	1
Fluorene	86-73-7	QCBLK142213-1	06/06/97	06/06/97	330	UG/KG	U	330	1
4-Nitroaniline	100-01-6	QCBLK142213-1	06/06/97	06/06/97	1600	UG/KG	U	1600	1
4,6-Dinitro-2-Methylphenol	534-52-1	QCBLK142213-1	06/06/97	06/06/97	1600	UG/KG	U	1600	1
n-Nitrosodiphenylamine	86-30-6	QCBLK142213-1	06/06/97	06/06/97	330	UG/KG	U	330	1
4-Bromophenyl-Phenyl Ether	101-55-3	QCBLK142213-1	06/06/97	06/06/97	330	UG/KG	U	330	1
Hexachlorobenzene	118-74-1	QCBLK142213-1	06/06/97	06/06/97	330	UG/KG	U	330	1
Pentachlorophenol	87-86-5	QCBLK142213-1	06/06/97	06/06/97	1600	UG/KG	U	1600	1
Phenanthrene	85-01-8	QCBLK142213-1	06/06/97	06/06/97	330	UG/KG	U	330	1
Anthracene	120-12-7	QCBLK142213-1	06/06/97	06/06/97	330	UG/KG	U	330	1
Carbazole	86-74-8	QCBLK142213-1	06/06/97	06/06/97	330	UG/KG	U	330	1
Di-N-Butylphthalate	84-74-2	QCBLK142213-1	06/06/97	06/06/97	330	UG/KG	U	330	1
Fluoranthene	206-44-0	QCBLK142213-1	06/06/97	06/06/97	330	UG/KG	U	330	1
Pyrene	129-00-0	QCBLK142213-1	06/06/97	06/06/97	330	UG/KG	U	330	1
ButylBenzylPhthalate	85-68-7	QCBLK142213-1	06/06/97	06/06/97	330	UG/KG	U	330	1
3,3'-Dichlorobenzidine	91-94-1	QCBLK142213-1	06/06/97	06/06/97	1600	UG/KG	U	1600	1
Benzo(a)Anthracene	56-55-3	QCBLK142213-1	06/06/97	06/06/97	330	UG/KG	U	330	1
Chrysene	218-01-9	QCBLK142213-1	06/06/97	06/06/97	330	UG/KG	U	330	1
bis(2-Ethylhexyl)Phthalate	117-81-7	QCBLK142213-1	06/06/97	06/06/97	330	UG/KG	U	330	1
di-N-OctylPhthalate	117-84-0	QCBLK142213-1	06/06/97	06/06/97	330	UG/KG	U	330	1
Benzo(b)Fluoranthene	205-99-2	QCBLK142213-1	06/06/97	06/06/97	330	UG/KG	U	330	1
Benzo(k)Fluoranthene	207-08-9	QCBLK142213-1	06/06/97	06/06/97	330	UG/KG	U	330	1
Benzo(a)Pyrene	50-32-8	QCBLK142213-1	06/06/97	06/06/97	330	UG/KG	U	330	1
Indeno(1,2,3-CD)Pyrene	193-39-5	QCBLK142213-1	06/06/97	06/06/97	330	UG/KG	U	330	1

Quanterra
Environmental Services

Bechtel Hanford Incorporated
3350 George Washington Way
Richland, WA 99352

Project: 550.227

Category: Semivolatile
Method: EPA 8270
Matrix: SOLID

Client ID: NA

Sample Date : NA
Receipt Date : NA
Report Date : 06/13/97

Quanterra ID : QCBLK142213-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Dibenz(a,h)Anthracene	53-70-3	QCBLK142213-1	06/06/97	06/06/97	330	UG/KG	U	330	1
Benzo(g,h,i)Perylene	191-24-2	QCBLK142213-1	06/06/97	06/06/97	330	UG/KG	U	330	1
Unknown-1	TIC-32	QCBLK142213-1	06/06/97	06/06/97	85	UG/KG	J		1
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK142213-1	06/06/97	06/06/97	100	UG/KG	JN		1
Unknown-2	TIC-33	QCBLK142213-1	06/06/97	06/06/97	240	UG/KG	J		1
Unknown-3	TIC-34	QCBLK142213-1	06/06/97	06/06/97	88	UG/KG	J		1
Unknown-4	TIC-35	QCBLK142213-1	06/06/97	06/06/97	180	UG/KG	J		1
Unknown-5	TIC-36	QCBLK142213-1	06/06/97	06/06/97	310	UG/KG	J		1
Unknown-6	TIC-37	QCBLK142213-1	06/06/97	06/06/97	270	UG/KG	J		1
Unknown-7	TIC-7	QCBLK142213-1	06/06/97	06/06/97	310	UG/KG	J		1
Unknown-8	TIC-8	QCBLK142213-1	06/06/97	06/06/97	99	UG/KG	J		1
Unknown-9	TIC-9	QCBLK142213-1	06/06/97	06/06/97	210	UG/KG	J		1
Unknown-10	TIC-10	QCBLK142213-1	06/06/97	06/06/97	440	UG/KG	J		1
Unknown-11	TIC-11	QCBLK142213-1	06/06/97	06/06/97	460	UG/KG	J		1
Unknown-12	TIC-12	QCBLK142213-1	06/06/97	06/06/97	160	UG/KG	J		1
Unknown-13	TIC-13	QCBLK142213-1	06/06/97	06/06/97	72	UG/KG	J		1
Unknown-14	TIC-14	QCBLK142213-1	06/06/97	06/06/97	180	UG/KG	J		1
Unknown-15	TIC-15	QCBLK142213-1	06/06/97	06/06/97	90	UG/KG	J		1
Unknown-16	TIC-16	QCBLK142213-1	06/06/97	06/06/97	67	UG/KG	J		1
Unknown-17	TIC-17	QCBLK142213-1	06/06/97	06/06/97	91	UG/KG	J		1
Unknown-18	TIC-18	QCBLK142213-1	06/06/97	06/06/97	150	UG/KG	J		1
Nitrobenzene-d5	4165-60-0	QCBLK142213-1	06/06/97	06/06/97	75	%REC			1
2-Fluorobiphenyl	321-60-8	QCBLK142213-1	06/06/97	06/06/97	70	%REC			1
Terphenyl-d14	1718-51-0	QCBLK142213-1	06/06/97	06/06/97	104	%REC			1
Phenol-d5	4165-62-2	QCBLK142213-1	06/06/97	06/06/97	83	%REC			1
2-Fluorophenol	367-12-4	QCBLK142213-1	06/06/97	06/06/97	76	%REC			1
2,4,6-Tribromophenol	118-79-6	QCBLK142213-1	06/06/97	06/06/97	77	%REC			1

2D
SOIL SEMIVOLATILE SURROGATE RECOVERY

Lab Name: QUANTERRA MO Contract: 550-227

Lab Code: ITMO Case No.: S87701 SAS No.: SDG No.: W01697

Level:(low/med) LOW

	EPA SAMPLE NO.	S1 (NBZ)#	S2 (FBP)#	S3 (TPH)#	S4 (PHL)#	S5 (2FP)#	S6 (TBP)#	OTHER	TOT OUT
01	B0L421	69	74	96	81	78	78	0	0
02	B0L421DL	40	107	65	32	50	0 D	0	0
03	B0L425	71	74	92	79	73	59	0	0
04	B0L421MS	68	62	78	71	66	64	0	0
05	B0L421MSD	94	74	95	85	80	75	0	0
06	SBLK01	75	70	104	83	76	77	0	0

		QC LIMITS
S1 (NBZ)	= Nitrobenzene-d5	(23-120)
S2 (FBP)	= 2-Fluorobiphenyl	(30-115)
S3 (TPH)	= Terphenyl	(18-137)
S4 (PHL)	= Phenol-d5	(24-113)
S5 (2FP)	= 2-Fluorophenol	(25-121)
S6 (TBP)	= 2,4,6-Tribromophenol	(19-122)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogates diluted out

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0L421

Lab Name: QUANTERRA MO Contract: 550-227

Lab Code: ITMO Case No.: S87701 SAS No.: SDG No.: W01697

Matrix: (soil/water) SOIL Lab Sample ID: 14877-001

Sample wt/vol: 30.20 (g/mL) G Lab File ID: A7783

Level: (low/med) LOW Date Received: 06/02/97

% Moisture: 5 decanted: (Y/N) N Date Extracted: 06/06/97

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/06/97

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/KG	Q
108-95-2	Phenol	350	U
111-44-4	bis(2-Chloroethyl)Ether	350	U
95-57-8	2-Chlorophenol	350	U
541-73-1	1,3-Dichlorobenzene	350	U
106-46-7	1,4-Dichlorobenzene	350	U
95-50-1	1,2-Dichlorobenzene	350	U
95-48-7	2-Methylphenol	350	U
108-60-1	2,2'-oxybis(1-Chloropropane)	350	U
106-44-5	4-Methylphenol	350	U
621-64-7	N-Nitroso-Di-n-Propylamine	350	U
67-72-1	Hexachloroethane	350	U
98-95-3	Nitrobenzene	350	U
78-59-1	Isophorone	350	U
88-75-5	2-Nitrophenol	350	U
105-67-9	2,4-Dimethylphenol	350	U
111-91-1	bis(2-Chloroethoxy)Methane	350	U
120-83-2	2,4-Dichlorophenol	21000	E
120-82-1	1,2,4-Trichlorobenzene	350	U
91-20-3	Naphthalene	350	U
106-47-8	4-Chloroaniline	350	U
87-68-3	Hexachlorobutadiene	350	U
59-50-7	4-Chloro-3-Methylphenol	350	U
91-57-6	2-Methylnaphthalene	350	U
77-47-4	Hexachlorocyclopentadiene	1700	U
88-06-2	2,4,6-Trichlorophenol	4800	E
95-95-4	2,4,5-Trichlorophenol	350	U
91-58-7	2-Chloronaphthalene	350	U
88-74-4	2-Nitroaniline	1700	U
131-11-3	Dimethyl Phthalate	350	U
208-96-8	Acenaphthylene	350	U
606-20-2	2,6-Dinitrotoluene	350	U
99-09-2	3-Nitroaniline	1700	U
83-32-9	Acenaphthene	350	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0L421

Lab Name: QUANTERRA MO Contract: 550-227

Lab Code: ITMO Case No.: S87701 SAS No.: SDG No.: W01697

Matrix: (soil/water) SOIL Lab Sample ID: 14877-001

Sample wt/vol: 30.20 (g/mL) G Lab File ID: A7783

Level: (low/med) LOW Date Received: 06/02/97

% Moisture: 5 decanted: (Y/N) N Date Extracted: 06/06/97

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/06/97

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/KG	Q
51-28-5	2,4-Dinitrophenol	1700	U
100-02-7	4-Nitrophenol	1700	U
132-64-9	Dibenzofuran	350	U
121-14-2	2,4-Dinitrotoluene	350	U
84-66-2	Diethylphthalate	350	U
7005-72-3	4-Chlorophenyl-phenylether	350	U
86-73-7	Fluorene	350	U
100-01-6	4-Nitroaniline	1700	U
534-52-1	4,6-Dinitro-2-Methylphenol	1700	U
86-30-6	N-Nitrosodiphenylamine (1)	350	U
101-55-3	4-Bromophenyl-phenylether	350	U
118-74-1	Hexachlorobenzene	350	U
87-86-5	Pentachlorophenol	1700	U
85-01-8	Phenanthrene	350	U
120-12-7	Anthracene	350	U
86-74-8	Carbazole	350	U
84-74-2	Di-n-Butylphthalate	350	U
206-44-0	Fluoranthene	350	U
129-00-0	Pyrene	350	U
85-68-7	Butylbenzylphthalate	350	U
91-94-1	3,3'-Dichlorobenzidine	1700	U
56-55-3	Benzo(a)Anthracene	350	U
218-01-9	Chrysene	350	U
117-81-7	bis(2-Ethylhexyl)Phthalate	350	U
117-84-0	Di-n-Octyl Phthalate	350	U
205-99-2	Benzo(b)Fluoranthene	350	U
207-08-9	Benzo(k)Fluoranthene	350	U
50-32-8	Benzo(a)Pyrene	350	U
193-39-5	Indeno(1,2,3-cd)Pyrene	350	U
53-70-3	Dibenz(a,h)Anthracene	350	U
191-24-2	Benzo(g,h,i)Perylene	350	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B0L421

Lab Name: QUANTERRA MO Contract: 550-227

Lab Code: ITMO Case No.: S87701 SAS No.: SDG No.: W01697

Matrix: (soil/water) SOIL Lab Sample ID: 14877-001

Sample wt/vol: 30.20 (g/mL) G Lab File ID: A7783

Level: (low/med) LOW Date Received: 06/02/97

% Moisture: 5 decanted: (Y/N) N Date Extracted: 06/06/97

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/06/97

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 19

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	5.18	140	J
2. 0	UNKNOWN	6.02	250	BJ
3.	UNKNOWN	6.30	120	J
4. 0	UNKNOWN	6.40	160	BJ
5. 0	UNKNOWN	7.12	390	BJ
6. 0	UNKNOWN	7.50	500	BJ
7. 0	UNKNOWN	8.08	250	BJ
8. 0	UNKNOWN	8.24	240	BJ
9. 0	UNKNOWN	8.61	130	BJ
10.	UNKNOWN	9.44	110	J
11. 87650	Phenol, 2,6-dichloro-	11.42	3700	JN
12.	UNKNOWN	16.80	2400	J
13. 122883	Acetic acid, (4-chlorophenox	17.15	420	JN
14. 94757	Acetic acid, (2,4-dichloroph	18.27	450	JN
15. 94757	Acetic acid, (2,4-dichloroph	19.47	280	JN
16.	UNKNOWN	24.31	380	J
17.	UNKNOWN	24.46	330	J
18.	UNKNOWN	25.46	1400	J
19. 0	UNKNOWN	26.14	240	BJ

3D

SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: QUANTERRA MO Contract: 550-227

Lab Code: ITMO Case No.: S87701 SAS No.: SDG No.: W01697

Matrix Spike - EPA Sample No.: B0L421 Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
Phenol	2490	0	1653	66	5-112
2-Chlorophenol	2490	0	1821	73	23-134
1,4-Dichlorobenzene	1660	0	973.0	59	19-121
N-Nitroso-di-n-prop.(1)	1660	0	1166	70	1-209
1,2,4-Trichlorobenzene	1660	0	982.3	59	43-142
4-Chloro-3-methylphenol	2490	0	1567	63	22-147
Acenaphthene	1660	0	995.6	60	50-142
4-Nitrophenol	2490	0	1732	70	1-132
2,4-Dinitrotoluene	1660	0	785.3	47	33-132
Pentachlorophenol	2490	0	2449	98	14-176
Pyrene	1660	0	1057	64	52-116

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Phenol	2480	2032	82	22	35	5-112
2-Chlorophenol	2480	2344	95	26	50	23-134
1,4-Dichlorobenzene	1650	1229	74	23	27	19-121
N-Nitroso-di-n-prop.(1)	1650	1396	85	19	38	1-209
1,2,4-Trichlorobenzene	1650	1174	71	18	23	43-142
4-Chloro-3-methylphenol	2480	2083	84	29	33	22-147
Acenaphthene	1650	1238	75	22 *	19	50-142
4-Nitrophenol	2480	2089	84	18	50	1-132
2,4-Dinitrotoluene	1650	953.0	58	21	47	33-132
Pentachlorophenol	2480	3009	121	21	47	14-176
Pyrene	1650	1282	78	20	36	52-116

(1) N-Nitroso-di-n-propylamine

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 1 out of 11 outside limits
Spike Recovery: 0 out of 22 outside limits

COMMENTS: BOL421
INST#MSA;JJB;550.228

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0L421MS

Lab Name: QUANTERRA MO Contract: 550-227

Lab Code: ITMO Case No.: S87701 SAS No.: SDG No.: W01697

Matrix: (soil/water) SOIL Lab Sample ID: 14877-001MS

Sample wt/vol: 30.10 (g/mL) G Lab File ID: A7784

Level: (low/med) LOW Date Received: 06/02/97

% Moisture: 5 decanted: (Y/N) N Date Extracted: 06/06/97

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/06/97

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/KG	Q
108-95-2	Phenol	1700	
111-44-4	bis(2-Chloroethyl)Ether	350	U
95-57-8	2-Chlorophenol	1900	
541-73-1	1,3-Dichlorobenzene	350	U
106-46-7	1,4-Dichlorobenzene	1000	
95-50-1	1,2-Dichlorobenzene	350	U
95-48-7	2-Methylphenol	350	U
108-60-1	2,2'-oxybis(1-Chloropropane)	350	U
106-44-5	4-Methylphenol	350	U
621-64-7	N-Nitroso-Di-n-Propylamine	1200	
67-72-1	Hexachloroethane	350	U
98-95-3	Nitrobenzene	350	U
78-59-1	Isophorone	350	U
88-75-5	2-Nitrophenol	350	U
105-67-9	2,4-Dimethylphenol	350	U
111-91-1	bis(2-Chloroethoxy)Methane	350	U
120-83-2	2,4-Dichlorophenol	23000	E
120-82-1	1,2,4-Trichlorobenzene	1000	
91-20-3	Naphthalene	350	U
106-47-8	4-Chloroaniline	350	U
87-68-3	Hexachlorobutadiene	350	U
59-50-7	4-Chloro-3-Methylphenol	1600	
91-57-6	2-Methylnaphthalene	350	U
77-47-4	Hexachlorocyclopentadiene	1700	U
88-06-2	2,4,6-Trichlorophenol	6100	E
95-95-4	2,4,5-Trichlorophenol	350	U
91-58-7	2-Chloronaphthalene	350	U
88-74-4	2-Nitroaniline	1700	U
131-11-3	Dimethyl Phthalate	350	U
208-96-8	Acenaphthylene	350	U
606-20-2	2,6-Dinitrotoluene	350	U
99-09-2	3-Nitroaniline	1700	U
83-32-9	Acenaphthene	1000	

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0L421MS

Lab Name: QUANTERRA MO Contract: 550-227

Lab Code: ITMO Case No.: S87701 SAS No.: SDG No.: W01697

Matrix: (soil/water) SOIL Lab Sample ID: 14877-001MS

Sample wt/vol: 30.10 (g/mL) G Lab File ID: A7784

Level: (low/med) LOW Date Received: 06/02/97

% Moisture: 5 decanted: (Y/N) N Date Extracted: 06/06/97

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/06/97

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/KG	Q
51-28-5	2,4-Dinitrophenol	1700	U
100-02-7	4-Nitrophenol	1800	
132-64-9	Dibenzofuran	350	U
121-14-2	2,4-Dinitrotoluene	830	
84-66-2	Diethylphthalate	350	U
7005-72-3	4-Chlorophenyl-phenylether	350	U
86-73-7	Fluorene	350	U
100-01-6	4-Nitroaniline	1700	U
534-52-1	4,6-Dinitro-2-Methylphenol	1700	U
86-30-6	N-Nitrosodiphenylamine (1)	350	U
101-55-3	4-Bromophenyl-phenylether	350	U
118-74-1	Hexachlorobenzene	350	U
87-86-5	Pentachlorophenol	2600	
85-01-8	Phenanthrene	350	U
120-12-7	Anthracene	350	U
86-74-8	Carbazole	350	U
84-74-2	Di-n-Butylphthalate	350	U
206-44-0	Fluoranthene	350	U
129-00-0	Pyrene	1100	
85-68-7	Butylbenzylphthalate	350	U
91-94-1	3,3'-Dichlorobenzidine	1700	U
56-55-3	Benzo(a)Anthracene	350	U
218-01-9	Chrysene	350	U
117-81-7	bis(2-Ethylhexyl)Phthalate	350	U
117-84-0	Di-n-Octyl Phthalate	350	U
205-99-2	Benzo(b)Fluoranthene	350	U
207-08-9	Benzo(k)Fluoranthene	350	U
50-32-8	Benzo(a)Pyrene	350	U
193-39-5	Indeno(1,2,3-cd)Pyrene	350	U
53-70-3	Dibenz(a,h)Anthracene	350	U
191-24-2	Benzo(g,h,i)Perylene	350	U

(1) - Cannot be separated from Diphenylamine

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0L421MSD

Lab Name: QUANTERRA MO Contract: 550-227

Lab Code: ITMO Case No.: S87701 SAS No.: SDG No.: W01697

Matrix: (soil/water) SOIL Lab Sample ID: 14877-001MSD

Sample wt/vol: 30.30 (g/mL) G Lab File ID: A7785

Level: (low/med) LOW Date Received: 06/02/97

% Moisture: 5 decanted: (Y/N) N Date Extracted: 06/06/97

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/06/97

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/KG	Q
108-95-2	Phenol	2100	
111-44-4	bis(2-Chloroethyl)Ether	340	U
95-57-8	2-Chlorophenol	2500	
541-73-1	1,3-Dichlorobenzene	340	U
106-46-7	1,4-Dichlorobenzene	1300	
95-50-1	1,2-Dichlorobenzene	340	U
95-48-7	2-Methylphenol	340	U
108-60-1	2,2'-oxybis(1-Chloropropane)	340	U
106-44-5	4-Methylphenol	340	U
621-64-7	N-Nitroso-Di-n-Propylamine	1500	
67-72-1	Hexachloroethane	340	U
98-95-3	Nitrobenzene	340	U
78-59-1	Isophorone	340	U
88-75-5	2-Nitrophenol	340	U
105-67-9	2,4-Dimethylphenol	340	U
111-91-1	bis(2-Chloroethoxy)Methane	340	U
120-83-2	2,4-Dichlorophenol	33000	E
120-82-1	1,2,4-Trichlorobenzene	1200	
91-20-3	Naphthalene	340	U
106-47-8	4-Chloroaniline	340	U
87-68-3	Hexachlorobutadiene	340	U
59-50-7	4-Chloro-3-Methylphenol	2200	
91-57-6	2-Methylnaphthalene	340	U
77-47-4	Hexachlorocyclopentadiene	1700	U
88-06-2	2,4,6-Trichlorophenol	8300	E
95-95-4	2,4,5-Trichlorophenol	340	U
91-58-7	2-Chloronaphthalene	340	U
88-74-4	2-Nitroaniline	1700	U
131-11-3	Dimethyl Phthalate	340	U
208-96-8	Acenaphthylene	340	U
606-20-2	2,6-Dinitrotoluene	340	U
99-09-2	3-Nitroaniline	1700	U
83-32-9	Acenaphthene	1300	

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0L421MSD

Lab Name: QUANTERRA MO Contract: 550-227

Lab Code: ITMO Case No.: S87701 SAS No.: SDG No.: W01697

Matrix: (soil/water) SOIL Lab Sample ID: 14877-001MSD

Sample wt/vol: 30.30 (g/mL) G Lab File ID: A7785

Level: (low/med) LOW Date Received: 06/02/97

% Moisture: 5 decanted: (Y/N) N Date Extracted: 06/06/97

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/06/97

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/KG	Q
51-28-5	2,4-Dinitrophenol	1700	U
100-02-7	4-Nitrophenol	2200	
132-64-9	Dibenzofuran	340	U
121-14-2	2,4-Dinitrotoluene	1000	
84-66-2	Diethylphthalate	340	U
7005-72-3	4-Chlorophenyl-phenylether	340	U
86-73-7	Fluorene	340	U
100-01-6	4-Nitroaniline	1700	U
534-52-1	4,6-Dinitro-2-Methylphenol	1700	U
86-30-6	N-Nitrosodiphenylamine (1)	340	U
101-55-3	4-Bromophenyl-phenylether	340	U
118-74-1	Hexachlorobenzene	340	U
87-86-5	Pentachlorophenol	3200	E
85-01-8	Phenanthrene	340	U
120-12-7	Anthracene	340	U
86-74-8	Carbazole	340	U
84-74-2	Di-n-Butylphthalate	340	U
206-44-0	Fluoranthene	340	U
129-00-0	Pyrene	1300	
85-68-7	Butylbenzylphthalate	340	U
91-94-1	3,3'-Dichlorobenzidine	1700	U
56-55-3	Benzo(a)Anthracene	340	U
218-01-9	Chrysene	340	U
117-81-7	bis(2-Ethylhexyl)Phthalate	340	U
117-84-0	Di-n-Octyl Phthalate	340	U
205-99-2	Benzo(b)Fluoranthene	340	U
207-08-9	Benzo(k)Fluoranthene	340	U
50-32-8	Benzo(a)Pyrene	340	U
193-39-5	Indeno(1,2,3-cd)Pyrene	340	U
53-70-3	Dibenz(a,h)Anthracene	340	U
191-24-2	Benzo(g,h,i)Perylene	340	U

(1) - Cannot be separated from Diphenylamine

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0L421DL

Lab Name: QUANTERRA MO Contract: 550-227

Lab Code: ITMO Case No.: S87701 SAS No.: SDG No.: W01697

Matrix: (soil/water) SOIL Lab Sample ID: 14877-001DL

Sample wt/vol: 30.20 (g/mL) G Lab File ID: A7796

Level: (low/med) LOW Date Received: 06/02/97

% Moisture: 5 decanted: (Y/N) N Date Extracted: 06/06/97

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/09/97

Injection Volume: 2.0(uL) Dilution Factor: 20.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	6900	U
111-44-4	bis(2-Chloroethyl)Ether	6900	U
95-57-8	2-Chlorophenol	6900	U
541-73-1	1,3-Dichlorobenzene	6900	U
106-46-7	1,4-Dichlorobenzene	6900	U
95-50-1	1,2-Dichlorobenzene	6900	U
95-48-7	2-Methylphenol	6900	U
108-60-1	2,2'-oxybis(1-Chloropropane)	6900	U
106-44-5	4-Methylphenol	6900	U
621-64-7	N-Nitroso-Di-n-Propylamine	6900	U
67-72-1	Hexachloroethane	6900	U
98-95-3	Nitrobenzene	6900	U
78-59-1	Isophorone	6900	U
88-75-5	2-Nitrophenol	6900	U
105-67-9	2,4-Dimethylphenol	6900	U
111-91-1	bis(2-Chloroethoxy)Methane	6900	U
120-83-2	2,4-Dichlorophenol	38000	D
120-82-1	1,2,4-Trichlorobenzene	6900	U
91-20-3	Naphthalene	6900	U
106-47-8	4-Chloroaniline	6900	U
87-68-3	Hexachlorobutadiene	6900	U
59-50-7	4-Chloro-3-Methylphenol	6900	U
91-57-6	2-Methylnaphthalene	6900	U
77-47-4	Hexachlorocyclopentadiene	33000	U
88-06-2	2,4,6-Trichlorophenol	9300	D
95-95-4	2,4,5-Trichlorophenol	6900	U
91-58-7	2-Chloronaphthalene	6900	U
88-74-4	2-Nitroaniline	33000	U
131-11-3	Dimethyl Phthalate	6900	U
208-96-8	Acenaphthylene	6900	U
606-20-2	2,6-Dinitrotoluene	6900	U
99-09-2	3-Nitroaniline	33000	U
83-32-9	Acenaphthene	6900	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0L421DL

Lab Name: QUANTERRA MO Contract: 550-227

Lab Code: ITMO Case No.: S87701 SAS No.: SDG No.: W01697

Matrix: (soil/water) SOIL Lab Sample ID: 14877-001DL

Sample wt/vol: 30.20 (g/mL) G Lab File ID: A7796

Level: (low/med) LOW Date Received: 06/02/97

% Moisture: 5 decanted: (Y/N) N Date Extracted: 06/06/97

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/09/97

Injection Volume: 2.0(uL) Dilution Factor: 20.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	33000	U
100-02-7	4-Nitrophenol	33000	U
132-64-9	Dibenzofuran	6900	U
121-14-2	2,4-Dinitrotoluene	6900	U
84-66-2	Diethylphthalate	6900	U
7005-72-3	4-Chlorophenyl-phenylether	6900	U
86-73-7	Fluorene	6900	U
100-01-6	4-Nitroaniline	33000	U
534-52-1	4,6-Dinitro-2-Methylphenol	33000	U
86-30-6	N-Nitrosodiphenylamine (1)	6900	U
101-55-3	4-Bromophenyl-phenylether	6900	U
118-74-1	Hexachlorobenzene	6900	U
87-86-5	Pentachlorophenol	33000	U
85-01-8	Phenanthrene	6900	U
120-12-7	Anthracene	6900	U
86-74-8	Carbazole	6900	U
84-74-2	Di-n-Butylphthalate	6900	U
206-44-0	Fluoranthene	6900	U
129-00-0	Pyrene	6900	U
85-68-7	Butylbenzylphthalate	6900	U
91-94-1	3,3'-Dichlorobenzidine	33000	U
56-55-3	Benzo(a)Anthracene	6900	U
218-01-9	Chrysene	6900	U
117-81-7	bis(2-Ethylhexyl)Phthalate	6900	U
117-84-0	Di-n-Octyl Phthalate	6900	U
205-99-2	Benzo(b)Fluoranthene	6900	U
207-08-9	Benzo(k)Fluoranthene	6900	U
50-32-8	Benzo(a)Pyrene	6900	U
193-39-5	Indeno(1,2,3-cd)Pyrene	6900	U
53-70-3	Dibenz(a,h)Anthracene	6900	U
191-24-2	Benzo(g,h,i)Perylene	6900	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B0L421DL

Lab Name: QUANTERRA MO Contract: 550-227

Lab Code: ITMO Case No.: S87701 SAS No.: SDG No.: W01697

Matrix: (soil/water) SOIL Lab Sample ID: 14877-001DL

Sample wt/vol: 30.20 (g/mL) G Lab File ID: A7796

Level: (low/med) LOW Date Received: 06/02/97

% Moisture: 5 decanted: (Y/N) N Date Extracted: 06/06/97

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/09/97

Injection Volume: 2.0(uL) Dilution Factor: 20.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 5

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	11.36	8400	J
2. 87650	Phenol, 2,6-dichloro-	11.43	3000	JN
3.	UNKNOWN	11.57	1900	J
4.	UNKNOWN	17.96	6300	J
5. 94757	Acetic acid, (2,4-dichloroph	18.82	41000	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0L425

Lab Name: QUANTERRA MO Contract: 550-227

Lab Code: ITMO Case No.: S87701 SAS No.: SDG No.: W01697

Matrix: (soil/water) SOIL Lab Sample ID: 14877-004

Sample wt/vol: 30.00 (g/mL) G Lab File ID: H2358

Level: (low/med) LOW Date Received: 06/02/97

% Moisture: 5 decanted: (Y/N) N Date Extracted: 06/06/97

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/11/97

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/KG	Q
108-95-2	Phenol	350	U
111-44-4	bis(2-Chloroethyl)Ether	350	U
95-57-8	2-Chlorophenol	350	U
541-73-1	1,3-Dichlorobenzene	350	U
106-46-7	1,4-Dichlorobenzene	350	U
95-50-1	1,2-Dichlorobenzene	350	U
95-48-7	2-Methylphenol	350	U
108-60-1	2,2'-oxybis(1-Chloropropane)	350	U
106-44-5	4-Methylphenol	350	U
621-64-7	N-Nitroso-Di-n-Propylamine	350	U
67-72-1	Hexachloroethane	350	U
98-95-3	Nitrobenzene	350	U
78-59-1	Isophorone	350	U
88-75-5	2-Nitrophenol	350	U
105-67-9	2,4-Dimethylphenol	350	U
111-91-1	bis(2-Chloroethoxy)Methane	350	U
120-83-2	2,4-Dichlorophenol	350	U
120-82-1	1,2,4-Trichlorobenzene	350	U
91-20-3	Naphthalene	350	U
106-47-8	4-Chloroaniline	350	U
87-68-3	Hexachlorobutadiene	350	U
59-50-7	4-Chloro-3-Methylphenol	350	U
91-57-6	2-Methylnaphthalene	350	U
77-47-4	Hexachlorocyclopentadiene	1700	U
88-06-2	2,4,6-Trichlorophenol	350	U
95-95-4	2,4,5-Trichlorophenol	350	U
91-58-7	2-Chloronaphthalene	350	U
88-74-4	2-Nitroaniline	1700	U
131-11-3	Dimethyl Phthalate	350	U
208-96-8	Acenaphthylene	350	U
606-20-2	2,6-Dinitrotoluene	350	U
99-09-2	3-Nitroaniline	1700	U
83-32-9	Acenaphthene	350	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0L425

Lab Name: QUANTERRA MO Contract: 550-227

Lab Code: ITMO Case No.: S87701 SAS No.: SDG No.: W01697

Matrix: (soil/water) SOIL Lab Sample ID: 14877-004

Sample wt/vol: 30.00 (g/mL) G Lab File ID: H2358

Level: (low/med) LOW Date Received: 06/02/97

% Moisture: 5 decanted: (Y/N) N Date Extracted: 06/06/97

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/11/97

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/KG	Q
51-28-5	2,4-Dinitrophenol	1700	U
100-02-7	4-Nitrophenol	1700	U
132-64-9	Dibenzofuran	350	U
121-14-2	2,4-Dinitrotoluene	350	U
84-66-2	Diethylphthalate	350	U
7005-72-3	4-Chlorophenyl-phenylether	350	U
86-73-7	Fluorene	350	U
100-01-6	4-Nitroaniline	1700	U
534-52-1	4,6-Dinitro-2-Methylphenol	1700	U
86-30-6	N-Nitrosodiphenylamine (1)	350	U
101-55-3	4-Bromophenyl-phenylether	350	U
118-74-1	Hexachlorobenzene	350	U
87-86-5	Pentachlorophenol	1700	U
85-01-8	Phenanthrene	350	U
120-12-7	Anthracene	350	U
86-74-8	Carbazole	350	U
84-74-2	Di-n-Butylphthalate	350	U
206-44-0	Fluoranthene	350	U
129-00-0	Pyrene	350	U
85-68-7	Butylbenzylphthalate	350	U
91-94-1	3,3'-Dichlorobenzidine	1700	U
56-55-3	Benzo(a)Anthracene	350	U
218-01-9	Chrysene	350	U
117-81-7	bis(2-Ethylhexyl)Phthalate	350	U
117-84-0	Di-n-Octyl Phthalate	350	U
205-99-2	Benzo(b)Fluoranthene	350	U
207-08-9	Benzo(k)Fluoranthene	350	U
50-32-8	Benzo(a)Pyrene	350	U
193-39-5	Indeno(1,2,3-cd)Pyrene	350	U
53-70-3	Dibenz(a,h)Anthracene	350	U
191-24-2	Benzo(g,h,i)Perylene	350	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B0L425

Lab Name: QUANTERRA MO Contract: 550-227

Lab Code: ITMO Case No.: S87701 SAS No.: SDG No.: W01697

Matrix: (soil/water) SOIL Lab Sample ID: 14877-004

Sample wt/vol: 30.00 (g/mL) G Lab File ID: H2358

Level: (low/med) LOW Date Received: 06/02/97

% Moisture: 5 decanted: (Y/N) N Date Extracted: 06/06/97

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/11/97

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 22

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Aldol Condensation	4.15	2500	AJ
2.	UNKNOWN	5.12	90	J
3.	UNKNOWN	5.29	120	J
4. 0	UNKNOWN	5.48	120	BJ
5.	UNKNOWN	5.56	87	J
6. 0	UNKNOWN	5.68	550	BJ
7.	UNKNOWN	5.87	90	J
8.	UNKNOWN	5.93	190	J
9. 0	UNKNOWN	5.97	150	BJ
10. 0	UNKNOWN	6.58	85	BJ
11.	UNKNOWN	6.84	810	J
12.	UNKNOWN	7.02	270	J
13.	UNKNOWN	7.22	460	J
14.	UNKNOWN	7.42	99	J
15.	UNKNOWN	7.75	370	J
16. 0	UNKNOWN	7.94	110	BJ
17.	UNKNOWN	8.34	300	J
18.	UNKNOWN	11.62	110	J
19. 94757	Acetic acid, (2,4-dichloroph	17.62	630	JN
20.	UNKNOWN	20.10	420	J
21.	UNKNOWN	22.11	100	J
22.	UNKNOWN	25.13	210	J

4B
SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

SBLK01

Lab Name: QUANTERRA MO Contract: 550-227

Lab Code: ITMO Case No.: S87701 SAS No.: SDG No.: W01697

Lab File ID: A7780 Lab Sample ID: QCBLK142213

Instrument ID: MSA Date Extracted: 06/06/97

Matrix: (soil/water) SOIL Date Analyzed: 06/06/97

Level:(low/med) LOW Time Analyzed: 1634

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	B0L421	14877-001	A7783	06/06/97
02	B0L421DL	14877-001DL	A7796	06/09/97
03	B0L425	14877-004	H2358	06/11/97
04	B0L421MS	14877-001MS	A7784	06/06/97
05	B0L421MSD	14877-001MSD	A7785	06/06/97

COMMENTS: BLK142213
INST#MSA;JJB;601.01/

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK01

Lab Name: QUANTERRA MO Contract: 550-227

Lab Code: ITMO Case No.: S87701 SAS No.: SDG No.: W01697

Matrix: (soil/water) SOIL Lab Sample ID: QCBLK142213

Sample wt/vol: 30.00 (g/mL) G Lab File ID: A7780

Level: (low/med) LOW Date Received:

% Moisture: decanted: (Y/N) N Date Extracted: 06/06/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/06/97

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/KG	Q
108-95-2	Phenol	330	U
111-44-4	bis(2-Chloroethyl)Ether	330	U
95-57-8	2-Chlorophenol	330	U
541-73-1	1,3-Dichlorobenzene	330	U
106-46-7	1,4-Dichlorobenzene	330	U
95-50-1	1,2-Dichlorobenzene	330	U
95-48-7	2-Methylphenol	330	U
108-60-1	2,2'-oxybis(1-Chloropropane)	330	U
106-44-5	4-Methylphenol	330	U
621-64-7	N-Nitroso-Di-n-Propylamine	330	U
67-72-1	Hexachloroethane	330	U
98-95-3	Nitrobenzene	330	U
78-59-1	Isophorone	330	U
88-75-5	2-Nitrophenol	330	U
105-67-9	2,4-Dimethylphenol	330	U
111-91-1	bis(2-Chloroethoxy)Methane	330	U
120-83-2	2,4-Dichlorophenol	330	U
120-82-1	1,2,4-Trichlorobenzene	330	U
91-20-3	Naphthalene	330	U
106-47-8	4-Chloroaniline	330	U
87-68-3	Hexachlorobutadiene	330	U
59-50-7	4-Chloro-3-Methylphenol	330	U
91-57-6	2-Methylnaphthalene	330	U
77-47-4	Hexachlorocyclopentadiene	1600	U
88-06-2	2,4,6-Trichlorophenol	330	U
95-95-4	2,4,5-Trichlorophenol	330	U
91-58-7	2-Chloronaphthalene	330	U
88-74-4	2-Nitroaniline	1600	U
131-11-3	Dimethyl Phthalate	330	U
208-96-8	Acenaphthylene	330	U
606-20-2	2,6-Dinitrotoluene	330	U
99-09-2	3-Nitroaniline	1600	U
83-32-9	Acenaphthene	330	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK01

Lab Name: QUANTERRA MO Contract: 550-227

Lab Code: ITMO Case No.: S87701 SAS No.: SDG No.: W01697

Matrix: (soil/water) SOIL Lab Sample ID: QCBLK142213

Sample wt/vol: 30.00 (g/mL) G Lab File ID: A7780

Level: (low/med) LOW Date Received:

% Moisture: decanted: (Y/N) N Date Extracted: 06/06/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/06/97

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/KG	Q
51-28-5	2,4-Dinitrophenol	1600	U
100-02-7	4-Nitrophenol	1600	U
132-64-9	Dibenzofuran	330	U
121-14-2	2,4-Dinitrotoluene	330	U
84-66-2	Diethylphthalate	330	U
7005-72-3	4-Chlorophenyl-phenylether	330	U
86-73-7	Fluorene	330	U
100-01-6	4-Nitroaniline	1600	U
534-52-1	4,6-Dinitro-2-Methylphenol	1600	U
86-30-6	N-Nitrosodiphenylamine (1)	330	U
101-55-3	4-Bromophenyl-phenylether	330	U
118-74-1	Hexachlorobenzene	330	U
87-86-5	Pentachlorophenol	1600	U
85-01-8	Phenanthrene	330	U
120-12-7	Anthracene	330	U
86-74-8	Carbazole	330	U
84-74-2	Di-n-Butylphthalate	330	U
206-44-0	Fluoranthene	330	U
129-00-0	Pyrene	330	U
85-68-7	Butylbenzylphthalate	330	U
91-94-1	3,3'-Dichlorobenzidine	1600	U
56-55-3	Benzo(a)Anthracene	330	U
218-01-9	Chrysene	330	U
117-81-7	bis(2-Ethylhexyl)Phthalate	330	U
117-84-0	Di-n-Octyl Phthalate	330	U
205-99-2	Benzo(b)Fluoranthene	330	U
207-08-9	Benzo(k)Fluoranthene	330	U
50-32-8	Benzo(a)Pyrene	330	U
193-39-5	Indeno(1,2,3-cd)Pyrene	330	U
53-70-3	Dibenz(a,h)Anthracene	330	U
191-24-2	Benzo(g,h,i)Perylene	330	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SBLK01

Lab Name: QUANTERRA MO Contract: 550-227

Lab Code: ITMO Case No.: S87701 SAS No.: SDG No.: W01697

Matrix: (soil/water) SOIL Lab Sample ID: QCBLK142213

Sample wt/vol: 30.00 (g/mL) G Lab File ID: A7780

Level: (low/med) LOW Date Received:

% Moisture: decanted: (Y/N) N Date Extracted: 06/06/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/06/97

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 19

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 0	UNKNOWN	5.46	85	J
2. 79345	Ethane, 1,1,2,2-tetrachloro-	5.71	100	JN
3. 0	UNKNOWN	6.01	240	J
4. 0	UNKNOWN	6.38	88	J
5. 0	UNKNOWN	6.61	180	J
6. 0	UNKNOWN	7.10	310	J
7. 0	UNKNOWN	7.49	270	J
8. 0	UNKNOWN	7.62	310	J
9. 0	UNKNOWN	7.94	99	J
10. 0	UNKNOWN	8.06	210	J
11. 0	UNKNOWN	8.26	440	J
12. 0	UNKNOWN	8.63	460	J
13. 0	UNKNOWN	9.35	160	J
14. 0	UNKNOWN	10.20	72	J
15. 0	UNKNOWN	10.46	180	J
16. 0	UNKNOWN	10.65	90	J
17. 0	UNKNOWN	12.73	67	J
18. 0	UNKNOWN	21.17	91	J
19. 0	UNKNOWN	26.19	150	J

VOLATILE ORGANICS

Quanterra
Environmental Services

Bechtel Hanford Incorporated
3350 George Washington Way
Richland, WA 99352

Project: 550.227

Category: VOA TCL EPA 8240
Method: EPA 8240
Matrix: SOLID

Sample Date : 05/29/97
Receipt Date : 06/02/97
Report Date : 06/13/97

Client ID: B0L421

Quanterra ID : 14877-001

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	QCBLK142792-1	06/11/97	06/11/97	11	UG/KG	U	11	1
Bromomethane	74-83-9	QCBLK142792-1	06/11/97	06/11/97	11	UG/KG	U	11	1
Vinyl Chloride	75-01-4	QCBLK142792-1	06/11/97	06/11/97	11	UG/KG	U	11	1
Chloroethane	75-00-3	QCBLK142792-1	06/11/97	06/11/97	11	UG/KG	U	11	1
Methylene Chloride	75-09-2	QCBLK142792-1	06/11/97	06/11/97	13	UG/KG		5	1
Acetone	67-64-1	QCBLK142792-1	06/11/97	06/11/97	21	UG/KG	U	21	1
Carbon Disulfide	75-15-0	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
1,1-Dichloroethene	75-35-4	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
1,1-Dichloroethane	75-34-3	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
1,2-Dichloroethene (total)	540-59-0	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
Chloroform	67-66-3	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
1,2-Dichloroethane	107-06-2	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
2-Butanone (MEK)	78-93-3	QCBLK142792-1	06/11/97	06/11/97	21	UG/KG	U	21	1
1,1,1-Trichloroethane	71-55-6	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
Carbon Tetrachloride	56-23-5	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
Bromodichloromethane	75-27-4	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
1,2-Dichloropropane	78-87-5	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
cis-1,3-Dichloropropene	10061-01-5	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
Trichloroethene	79-01-6	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
Dibromochloromethane	124-48-1	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
1,1,2-Trichloroethane	79-00-5	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
Benzene	71-43-2	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
trans-1,3-Dichloropropene	10061-02-6	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
Bromoform	75-25-2	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
4-Methyl-2-Pentanone (MIBK)	108-10-1	QCBLK142792-1	06/11/97	06/11/97	21	UG/KG	U	21	1
2-Hexanone	591-78-6	QCBLK142792-1	06/11/97	06/11/97	21	UG/KG	U	21	1
Tetrachloroethene	127-18-4	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
Toluene	108-88-3	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
Chlorobenzene	108-90-7	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
EthylBenzene	100-41-4	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
Styrene	100-42-5	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
Xylene (total)	1330-20-7	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
Toluene-d8	2037-26-5	QCBLK142792-1	06/11/97	06/11/97	78	%REC			1
Bromofluorobenzene	460-00-4	QCBLK142792-1	06/11/97	06/11/97	79	%REC			1
1,2-Dichloroethane-d4	17070-07-0	QCBLK142792-1	06/11/97	06/11/97	91	%REC			1

Quanterra Environmental Services

Bechtel Hanford Incorporated
3350 George Washington Way
Richland, WA 99352

Project: 550.227

Category: VOA TCL EPA 8240
Method: EPA 8240
Matrix: SOLID

Sample Date : 05/29/97
Receipt Date : 06/02/97
Report Date : 06/13/97

Client ID: B0L421

Quanterra ID : 14877-001MS

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
1,1-Dichloroethene	75-35-4	QCBLK142792-1	06/11/97	06/11/97	134	%REC			1
Trichloroethene	79-01-6	QCBLK142792-1	06/11/97	06/11/97	82	%REC			1
Benzene	71-43-2	QCBLK142792-1	06/11/97	06/11/97	92	%REC			1
Toluene	108-88-3	QCBLK142792-1	06/11/97	06/11/97	78	%REC			1
Chlorobenzene	108-90-7	QCBLK142792-1	06/11/97	06/11/97	87	%REC			1
Toluene-d8	2037-26-5	QCBLK142792-1	06/11/97	06/11/97	81	%REC			1
Bromofluorobenzene	460-00-4	QCBLK142792-1	06/11/97	06/11/97	81	%REC			1
1,2-Dichloroethane-d4	17070-07-0	QCBLK142792-1	06/11/97	06/11/97	121	%REC			1

Quanterra
Environmental Services

Bechtel Hanford Incorporated
3350 George Washington Way
Richland, WA 99352

Project: 550.227

Category: VOA TCL EPA 8240
Method: EPA 8240
Matrix: SOLID

Client ID: BOL421

Sample Date : 05/29/97
Receipt Date : 06/02/97
Report Date : 06/13/97

Quanterra ID : 14877-001MSD

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
1,1-Dichloroethene	75-35-4	QCBLK142792-1	06/11/97	06/11/97	124	%REC			1
Trichloroethene	79-01-6	QCBLK142792-1	06/11/97	06/11/97	86	%REC			1
Benzene	71-43-2	QCBLK142792-1	06/11/97	06/11/97	94	%REC			1
Toluene	108-88-3	QCBLK142792-1	06/11/97	06/11/97	83	%REC			1
Chlorobenzene	108-90-7	QCBLK142792-1	06/11/97	06/11/97	91	%REC			1
Toluene-d8	2037-26-5	QCBLK142792-1	06/11/97	06/11/97	84	%REC			1
Bromofluorobenzene	460-00-4	QCBLK142792-1	06/11/97	06/11/97	93	%REC			1
1,2-Dichloroethane-d4	17070-07-0	QCBLK142792-1	06/11/97	06/11/97	110	%REC			1

Quanterra Environmental Services

Bechtel Hanford Incorporated
3350 George Washington way
Richland, WA 99352

Project: 550.227

Category: VOA TCL EPA 8240
Method: EPA 8240
Matrix: SOLID

Sample Date : 05/29/97
Receipt Date : 06/02/97
Report Date : 06/13/97

Client ID: BOL421

Quanterra ID : 14877-001RE

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	QCBLK142792-1	06/11/97	06/11/97	11	UG/KG	U	11	1
Bromomethane	74-83-9	QCBLK142792-1	06/11/97	06/11/97	11	UG/KG	U	11	1
Vinyl Chloride	75-01-4	QCBLK142792-1	06/11/97	06/11/97	11	UG/KG	U	11	1
Chloroethane	75-00-3	QCBLK142792-1	06/11/97	06/11/97	11	UG/KG	U	11	1
Methylene Chloride	75-09-2	QCBLK142792-1	06/11/97	06/11/97	10	UG/KG		5	1
Acetone	67-64-1	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	J	21	1
Carbon Disulfide	75-15-0	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
1,1-Dichloroethene	75-35-4	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
1,1-Dichloroethane	75-34-3	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
1,2-Dichloroethene (total)	540-59-0	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
Chloroform	67-66-3	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
1,2-Dichloroethane	107-06-2	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
2-Butanone (MEK)	78-93-3	QCBLK142792-1	06/11/97	06/11/97	21	UG/KG	U	21	1
1,1,1-Trichloroethane	71-55-6	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
Carbon Tetrachloride	56-23-5	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
Bromodichloromethane	75-27-4	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
1,2-Dichloropropane	78-87-5	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
cis-1,3-Dichloropropene	10061-01-5	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
Trichloroethene	79-01-6	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
Dibromochloromethane	124-48-1	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
1,1,2-Trichloroethane	79-00-5	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
Benzene	71-43-2	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
trans-1,3-Dichloropropene	10061-02-6	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
Bromoform	75-25-2	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
4-Methyl-2-Pentanone (MIBK)	108-10-1	QCBLK142792-1	06/11/97	06/11/97	21	UG/KG	U	21	1
2-Hexanone	591-78-6	QCBLK142792-1	06/11/97	06/11/97	21	UG/KG	U	21	1
Tetrachloroethene	127-18-4	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
Toluene	108-88-3	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
Chlorobenzene	108-90-7	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
EthylBenzene	100-41-4	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
Styrene	100-42-5	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
Xylene (total)	1330-20-7	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
Toluene-d8	2037-26-5	QCBLK142792-1	06/11/97	06/11/97	77	%REC			1
Bromofluorobenzene	460-00-4	QCBLK142792-1	06/11/97	06/11/97	77	%REC			1
1,2-Dichloroethane-d4	17070-07-0	QCBLK142792-1	06/11/97	06/11/97	96	%REC			1

Quanterra
Environmental Services

Bechtel Hanford Incorporated
3350 George Washington Way
Richland, WA 99352

Project: 550.227

Category: Volatiles
Method: EPA 8240
Matrix: SOLID

Client ID: NA

Sample Date : NA
Receipt Date : NA
Report Date : 06/13/97

Quanterra ID : QCBLK142792-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Chloromethane	74-87-3	QCBLK142792-1	06/11/97	06/11/97	10	UG/KG	U	10	1
Bromomethane	74-83-9	QCBLK142792-1	06/11/97	06/11/97	10	UG/KG	U	10	1
Vinyl Chloride	75-01-4	QCBLK142792-1	06/11/97	06/11/97	10	UG/KG	U	10	1
Chloroethane	75-00-3	QCBLK142792-1	06/11/97	06/11/97	10	UG/KG	U	10	1
Methylene Chloride	75-09-2	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
Acetone	67-64-1	QCBLK142792-1	06/11/97	06/11/97	20	UG/KG	U	20	1
Carbon Disulfide	75-15-0	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
1,1-Dichloroethene	75-35-4	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
1,1-Dichloroethane	75-34-3	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
1,2-Dichloroethene (total)	540-59-0	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
Chloroform	67-66-3	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
1,2-Dichloroethane	107-06-2	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
2-Butanone (MEK)	78-93-3	QCBLK142792-1	06/11/97	06/11/97	20	UG/KG	U	20	1
1,1,1-Trichloroethane	71-55-6	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
Carbon Tetrachloride	56-23-5	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
Bromodichloromethane	75-27-4	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
1,2-Dichloropropane	78-87-5	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
cis-1,3-Dichloropropene	10061-01-5	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
Trichloroethene	79-01-6	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
Dibromochloromethane	124-48-1	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
1,1,2-Trichloroethane	79-00-5	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
Benzene	71-43-2	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
trans-1,3-Dichloropropene	10061-02-6	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
Bromoform	75-25-2	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
4-Methyl-2-Pentanone (MIBK)	108-10-1	QCBLK142792-1	06/11/97	06/11/97	20	UG/KG	U	20	1
2-Hexanone	591-78-6	QCBLK142792-1	06/11/97	06/11/97	20	UG/KG	U	20	1
Tetrachloroethene	127-18-4	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
1,1,2,2-Tetrachloroethane	79-34-5	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
Toluene	108-88-3	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
Chlorobenzene	108-90-7	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
EthylBenzene	100-41-4	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
Styrene	100-42-5	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
Xylene (total)	1330-20-7	QCBLK142792-1	06/11/97	06/11/97	5	UG/KG	U	5	1
Toluene-d8	2037-26-5	QCBLK142792-1	06/11/97	06/11/97	81	%REC			1
Bromofluorobenzene	460-00-4	QCBLK142792-1	06/11/97	06/11/97	87	%REC			1
1,2-Dichloroethane-d4	17070-07-0	QCBLK142792-1	06/11/97	06/11/97	98	%REC			1

2B
SOIL VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: QUANTERRA MO Contract: 550-227

Lab Code: ITMO Case No.: V87701 SAS No.: SDG No.: W01697

Level:(low/med) LOW

	EPA SAMPLE NO.	SMC1 (TOL) #	SMC2 (BFB) #	SMC3 (DCE) #	OTHER	TOT OUT
01	B0L421	78 *	79	91	0	1
02	B0L421RE	77 *	77	96	0	1
03	B0L421MS	81	81	121	0	0
04	B0L421MSD	84	93	110	0	0
05	VBLK01	81	87	98	0	0

		QC LIMITS
SMC1 (TOL)	= Toluene-d8	(80-120)
SMC2 (BFB)	= Bromofluorobenzene	(74-121)
SMC3 (DCE)	= 1,2-Dichloroethane-d4	(70-121)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0L421

Lab Name: QUANTERRA MO Contract: 550-227

Lab Code: ITMO Case No.: V87701 SAS No.: SDG No.: W01697

Matrix: (soil/water) SOIL Lab Sample ID: 14877-001

Sample wt/vol: 5.00 (g/mL) G Lab File ID: F0216

Level: (low/med) LOW Date Received: 06/02/97

% Moisture: not dec. 5 Date Analyzed: 06/11/97

GC Column: RTX-502.2 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/KG	Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	13	
67-64-1	Acetone	21	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	21	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	21	U
591-78-6	2-Hexanone	21	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.

B0L421

Lab Name: QUANTERRA MO Contract: 550-227

Lab Code: ITMO Case No.: V87701 SAS No.: SDG No.: W01697

Matrix: (soil/water) SOIL Lab Sample ID: 14877-001

Sample wt/vol: 5.00 (g/mL) G Lab File ID: F0216

Level: (low/med) LOW Date Received: 06/02/97

% Moisture: not dec. Date Analyzed: 06/11/97

GC Column: RTX-502.2 ID: 0.530 (mm) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

3B

SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: QUANTERRA MO Contract: 550-227

Lab Code: ITMO Case No.: V87701 SAS No.: SDG No.: W01697

Matrix Spike - EPA Sample No.: B0L421 Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	52.60	0	70.22	134	1-234
Trichloroethene	52.60	0	43.07	82	71-157
Benzene	52.60	0	48.64	92	37-151
Toluene	52.60	0	41.21	78	47-150
Chlorobenzene	52.60	0	45.90	87	37-160

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	52.60	64.99	124	8	22	1-234
Trichloroethene	52.60	45.19	86	5	24	71-157
Benzene	52.60	49.47	94	2	21	37-151
Toluene	52.60	43.43	83	6	21	47-150
Chlorobenzene	52.60	47.61	91	4	21	37-160

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:

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0L421MS

Lab Name: QUANTERRA MO Contract: 550-227

Lab Code: ITMO Case No.: V87701 SAS No.: SDG No.: W01697

Matrix: (soil/water) SOIL Lab Sample ID: 14877-001MS

Sample wt/vol: 5.00 (g/mL) G Lab File ID: F0217

Level: (low/med) LOW Date Received: 06/02/97

% Moisture: not dec. 5 Date Analyzed: 06/11/97

GC Column: RTX-502.2 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/KG	Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	45	
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	14	
67-64-1	Acetone	15	J
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	70	
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	54	
107-06-2	1,2-Dichloroethane	59	
78-93-3	2-Butanone	21	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	52	
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	43	
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	49	
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	21	U
591-78-6	2-Hexanone	21	U
127-18-4	Tetrachloroethene	31	
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	41	
108-90-7	Chlorobenzene	46	
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.

B0L421MSD

Lab Name: QUANTERRA MO Contract: 550-227

Lab Code: ITMO Case No.: V87701 SAS No.: SDG No.: W01697

Matrix: (soil/water) SOIL Lab Sample ID: 14877-001MSD

Sample wt/vol: 5.00 (g/mL) G Lab File ID: F0218

Level: (low/med) LOW Date Received: 06/02/97

% Moisture: not dec. 5 Date Analyzed: 06/11/97

GC Column: RTX-502.2 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/KG	Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	44	
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	8	
67-64-1	Acetone	21	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	65	
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	53	
107-06-2	1,2-Dichloroethane	57	
78-93-3	2-Butanone	73	
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	50	
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	45	
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	49	
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	21	U
591-78-6	2-Hexanone	21	U
127-18-4	Tetrachloroethene	32	
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	43	
108-90-7	Chlorobenzene	48	
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0L421RE

Lab Name: QUANTERRA MO Contract: 550-227

Lab Code: ITMO Case No.: V87701 SAS No.: SDG No.: W01697

Matrix: (soil/water) SOIL Lab Sample ID: 14877-001RE

Sample wt/vol: 5.00 (g/mL) G Lab File ID: F0219

Level: (low/med) LOW Date Received: 06/02/97

% Moisture: not dec. 5 Date Analyzed: 06/11/97

GC Column: RTX-502.2 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/KG	Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	10	
67-64-1	Acetone	5	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	21	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	21	U
591-78-6	2-Hexanone	21	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.

B0L421RE

Lab Name: QUANTERRA MO Contract: 550-227

Lab Code: ITMO Case No.: V87701 SAS No.: SDG No.: W01697

Matrix: (soil/water) SOIL Lab Sample ID: 14877-001RE

Sample wt/vol: 5.00 (g/mL) G Lab File ID: F0219

Level: (low/med) LOW Date Received: 06/02/97

% Moisture: not dec. 5 Date Analyzed: 06/11/97

GC Column: RTX-502.2 ID: 0.530 (mm) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

4A
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK01

Lab Name: QUANTERRA MO Contract: 550-227

Lab Code: ITMO Case No.: V87701 SAS No.: SDG No.: W01697

Lab File ID: F0213 Lab Sample ID: QCBLK142792

Date Analyzed: 06/11/97 Time Analyzed: 1114

GC Column: RTX-502.2 ID: 0.530(mm) Heated Purge: (Y/N) Y

Instrument ID: MSF

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	B0L421	14877-001	F0216	1351
02	B0L421RE	14877-001RE	F0219	1535
03	B0L421MS	14877-001MS	F0217	1426
04	B0L421MSD	14877-001MSD	F0218	1500

COMMENTS:

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK01

Lab Name: QUANTERRA MO Contract: 550-227

Lab Code: ITMO Case No.: V87701 SAS No.: SDG No.: W01697

Matrix: (soil/water) SOIL Lab Sample ID: QCBLK142792

Sample wt/vol: 5.00 (g/mL) G Lab File ID: F0213

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 06/11/97

GC Column: RTX-502.2 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/KG	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	20	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	20	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	20	U
591-78-6	2-Hexanone	20	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: 550-227

Lab Code: ITMO Case No.: V87701 SAS No.: SDG No.: W01697

Matrix: (soil/water) SOIL Lab Sample ID: QCBLK142792

Sample wt/vol: 5.00 (g/mL) G Lab File ID: F0213

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 06/11/97

GC Column: RTX-502.2 ID: 0.530 (mm) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

WET CHEMISTRY

Quanterra
Environmental Services

Bechtel Hanford Incorporated
3350 George Washington Way
Richland, WA 99352

Project: 550.227

Category: AMMONIA
Method: EPA 350.1
Matrix: SOLID

Sample Date : 05/29/97
Receipt Date : 06/02/97
Report Date : 06/13/97

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
B0L424	14877-003	Ammonia	7664-41-7	QCBLK142970-1	06/13/97	06/13/97	223	UG/G		26.1	50
B0L424	14877-003DUP	Ammonia	7664-41-7	QCBLK142970-1	06/13/97	06/13/97	220	UG/G		25.8	50
B0L424	14877-003MS	Ammonia	7664-41-7	QCBLK142970-1	06/13/97	06/13/97	900	%REC			50
B0L425	14877-004	Ammonia	7664-41-7	QCBLK142970-1	06/13/97	06/13/97	0.52	UG/G	U	0.52	1
B0L426	14877-005	Ammonia	7664-41-7	QCBLK142970-1	06/13/97	06/13/97	0.54	UG/G	U	0.54	1
B0L427	14877-006	Ammonia	7664-41-7	QCBLK142970-1	06/13/97	06/13/97	0.67	UG/G	U	0.53	1
NA	QCBLK142970-1	Ammonia	7664-41-7	QCBLK142970-1	06/13/97	06/13/97	0.50	UG/G	U	0.50	1
NA	QCLCS142970-1	Ammonia	7664-41-7	QCBLK142970-1	06/13/97	06/13/97	99	%REC			1

Quanterra
Environmental Services

Bechtel Hanford Incorporated
3350 George Washington Way
Richland, WA 99352

Project: 550.227

Category: CHLORIDE
Method: EPA 300.0
Matrix: SOLID

Sample Date : 05/29/97
Receipt Date : 06/02/97
Report Date : 06/13/97

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
B0L424	14877-003	Chloride	16887-00-6	QCBLK142828-1	06/12/97	06/12/97	1000	UG/G		51.2	25
B0L424	14877-003DUP	Chloride	16887-00-6	QCBLK142828-1	06/12/97	06/12/97	960	UG/G		51.2	25
B0L424	14877-003MS	Chloride	16887-00-6	QCBLK142828-1	06/12/97	06/12/97	112	%REC			25
B0L425	14877-004	Chloride	16887-00-6	QCBLK142828-1	06/12/97	06/12/97	32.7	UG/G		2.01	1
B0L426	14877-005	Chloride	16887-00-6	QCBLK142828-1	06/12/97	06/12/97	49.6	UG/G		2.10	1
B0L427	14877-006	Chloride	16887-00-6	QCBLK142828-1	06/12/97	06/12/97	3.52	UG/G		2.13	1
NA	QCBLK142828-1	Chloride	16887-00-6	QCBLK142828-1	06/12/97	06/12/97	2.00	UG/G	U	2.00	1
NA	QCLCS142828-1	Chloride	16887-00-6	QCBLK142828-1	06/12/97	06/12/97	94	%REC			1

Quanterra
Environmental Services

Bechtel Hanford Incorporated
3350 George Washington Way
Richland, WA 99352

Project: 550.227

Category: FLUORIDE
Method: EPA 300.0
Matrix: SOLID

Sample Date : 05/29/97
Receipt Date : 06/02/97
Report Date : 06/13/97

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil
B0L424	14877-003	Fluoride	16984-48-8	QCBLK142828-1	06/12/97	06/12/97	2.05	UG/G	U	2.05	2
B0L424	14877-003DUP	Fluoride	16984-48-8	QCBLK142828-1	06/12/97	06/12/97	2.05	UG/G	U	2.05	2
B0L424	14877-003MS	Fluoride	16984-48-8	QCBLK142828-1	06/12/97	06/12/97	116	%REC			5
B0L425	14877-004	Fluoride	16984-48-8	QCBLK142828-1	06/12/97	06/12/97	1.00	UG/G	U	1.00	1
B0L426	14877-005	Fluoride	16984-48-8	QCBLK142828-1	06/12/97	06/12/97	1.45	UG/G		1.05	1
B0L427	14877-006	Fluoride	16984-48-8	QCBLK142828-1	06/12/97	06/12/97	1.06	UG/G	U	1.06	1
NA	QCBLK142828-1	Fluoride	16984-48-8	QCBLK142828-1	06/12/97	06/12/97	1.00	UG/G	U	1.00	1
NA	QCLCS142828-1	Fluoride	16984-48-8	QCBLK142828-1	06/12/97	06/12/97	94	%REC			1

Quanterra Environmental Services

Bechtel Hanford Incorporated
3350 George Washington Way
Richland, WA 99352

Project: 550.227

Category: Nitrate
Method: EPA 300.0
Matrix: SOLID

Sample Date : 05/29/97
Receipt Date : 06/02/97
Report Date : 06/13/97

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil
B0L424	14877-003	Nitrate	NO3-N	QCBLK142828-1	06/12/97	06/12/97	12.5	UG/G		0.41	2
B0L424	14877-003DUP	Nitrate	NO3-N	QCBLK142828-1	06/12/97	06/12/97	12.5	UG/G		0.41	2
B0L424	14877-003MS	Nitrate	NO3-N	QCBLK142828-1	06/12/97	06/12/97	107	%REC			5
B0L425	14877-004	Nitrate	NO3-N	QCBLK142828-1	06/12/97	06/12/97	2.88	UG/G		0.20	1
B0L426	14877-005	Nitrate	NO3-N	QCBLK142828-1	06/12/97	06/12/97	5.42	UG/G		0.21	1
B0L427	14877-006	Nitrate	NO3-N	QCBLK142828-1	06/12/97	06/12/97	0.97	UG/G		0.21	1
NA	QCBLK142828-1	Nitrate	NO3-N	QCBLK142828-1	06/12/97	06/12/97	0.20	UG/G	U	0.20	1
NA	QCLCS142828-1	Nitrate	NO3-N	QCBLK142828-1	06/12/97	06/12/97	96	%REC			1

Quanterra
Environmental Services

Bechtel Hanford Incorporated
3350 George Washington Way
Richland, WA 99352

Project: 550.227

Category: Nitrite
Method: EPA 300.0
Matrix: SOLID

Sample Date : 05/29/97
Receipt Date : 06/02/97
Report Date : 06/13/97

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil
B0L424	14877-003	Nitrite	NO2-N	QCBLK142828-1	06/12/97	06/12/97	1.03	UG/G	U	1.03	5
B0L424	14877-003DUP	Nitrite	NO2-N	QCBLK142828-1	06/12/97	06/12/97	1.02	UG/G	U	1.03	5
B0L424	14877-003MS	Nitrite	NO2-N	QCBLK142828-1	06/12/97	06/12/97	113	%REC			5
B0L425	14877-004	Nitrite	NO2-N	QCBLK142828-1	06/12/97	06/12/97	0.20	UG/G	U	0.20	1
B0L426	14877-005	Nitrite	NO2-N	QCBLK142828-1	06/12/97	06/12/97	0.21	UG/G	U	0.21	1
B0L427	14877-006	Nitrite	NO2-N	QCBLK142828-1	06/12/97	06/12/97	0.21	UG/G	U	0.21	1
NA	QCBLK142828-1	Nitrite	NO2-N	QCBLK142828-1	06/12/97	06/12/97	0.20	UG/G	U	0.20	1
NA	QCLCS142828-1	Nitrite	NO2-N	QCBLK142828-1	06/12/97	06/12/97	98	%REC			1

Quanterra Environmental Services

Bechtel Hanford Incorporated
3350 George Washington Way
Richland, WA 99352

Project: 550.227

Category: SULFATE
Method: EPA 300.0
Matrix: SOLID

Sample Date : 05/29/97
Receipt Date : 06/02/97
Report Date : 06/13/97

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
BOL424	14877-003	Sulfate	14808-79-8	QCBLK142828-1	06/12/97	06/12/97	8.49	UG/G		5.12	1
BOL424	14877-003DUP	Sulfate	14808-79-8	QCBLK142828-1	06/12/97	06/12/97	8.11	UG/G		5.12	1
BOL424	14877-003MS	Sulfate	14808-79-8	QCBLK142828-1	06/12/97	06/12/97	101	%REC			5
BOL425	14877-004	Sulfate	14808-79-8	QCBLK142828-1	06/12/97	06/12/97	5.02	UG/G	U	5.02	1
BOL426	14877-005	Sulfate	14808-79-8	QCBLK142828-1	06/12/97	06/12/97	5.26	UG/G	U	5.26	1
BOL427	14877-006	Sulfate	14808-79-8	QCBLK142828-1	06/12/97	06/12/97	5.32	UG/G	U	5.32	1
NA	QCBLK142828-1	Sulfate	14808-79-8	QCBLK142828-1	06/12/97	06/12/97	5.00	UG/G	U	5.00	1
NA	QCLCS142828-1	Sulfate	14808-79-8	QCBLK142828-1	06/12/97	06/12/97	95	%REC			1

4. ERC Laboratory Data - Quanterra/Knoxville

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Quanterra
Environmental Services

ANALYTICAL REPORT

JUN 1997
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B97-132

Lot #: H7F060185

Joan Kessner

Bechtel Hanford, Inc.

QUANTERRA INCORPORATED

Jamie A. McKinney
Project Manager

June 23, 1997

Quanterra
Environmental Services

SAMPLE SUMMARY

H7F060185

WO #	SAMPLE#	CLIENT SAMPLE ID	DATE	TIME
CA1P8	001	BOL425	05/29/97	09:4
CA1PA	002	BOL421	05/29/97	11:5

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as 'ND' were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

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ANALYTICAL METHODS SUMMARY

H7F060185

PARAMETER	ANALYTICAL METHOD
Dibenzodioxins and Dibenzofurans, HRGC/HRMS	SW846 8290
Percent Moisture	MCAWW 160.3 MOD

References:

MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

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Project Narrative

Two (2) samples and two (2) designated QC samples were received on 06-Jun-97 for the analysis of total tetra through octa (Cl_4-Cl_8) dioxin and furan homologs. An estimation of all 2,3,7,8-substituted isomers was also requested The samples and the blank were spiked with an internal standard mixture containing 1.0 ng each of ^{13}C-TCDD, ^{13}C-TCDF, ^{13}C-PeCDD, ^{13}C-PeCDF, ^{13}C-HxCDD, ^{13}C-HxCDF, ^{13}C-HpCDD, ^{13}C-HpCDF and 2.0 ng of ^{13}C-OCDD. The sample and the blank were analyzed using the EPA reference method described in RCRA SW-846, Method 8290. Extracts were analyzed by GC/MS operating in the selected ion monitoring mode for enhanced sensitivity. The results reported herein are applicable to the samples submitted for analysis only. It is recommended that if this report is reproduced, it is reproduced in its entirety.

The sample results are reported on a dry weight basis.

Sample Preparation - Solid A 5.0 (wet weight) gram aliquot of each sample and 5.0 grams of quartz sand (for the blank) were weighed into separate Soxhlet thimbles. The sample and the blank were spiked with the internal standard mixture, followed by a Soxhlet extraction with toluene for sixteen hours. The resulting extracts were filtered into a KD flask and the volume reduced to approximately 1 ml.

Sample Cleanup - The sample and blank extracts were washed with 20% KOH and distilled water followed by three concentrated H_2SO_4 washes. Further cleanup consisted of a two sets of a dual column system utilizing acid-modified silica gel followed by neutral alumina. The samples extracts underwent an additional cleanup step that consisted of a carbon column. Final extracts were concentrated to near dryness and raised to 20 µl with 2.0 ng ^{13}C-1,2,3,4-TCDD and 2.0 ng ^{13}C-1,2,3,7,8,9-HxCDD which were used as recovery standards.

Total Dioxin and Furan Analysis - The samples and the blank were analyzed for total dioxin and furan homologs from Cl_4-Cl_8. The standard analyzed each shift consisted of:

Dioxins	Dibenzofurans
^{13}C-2,3,7,8-TCDD	^{13}C-2,3,7,8-TCDF
^{13}C-1,2,3,4-TCDD	^{13}C-1,2,3,7,8-PeCDF
^{13}C-1,2,3,7,8-PeCDD	^{13}C-1,2,3,4,7,8-HxCDF
^{13}C-1,2,3,6,7,8-HxCDD	^{13}C-1,2,3,4,6,7,8-HpCDF
^{13}C-1,2,3,7,8,9-HxCDD	2,3,7,8-TCDF
^{13}C-1,2,3,4,6,7,8-HpCDD	1,2,3,7,8-PeCDF
^{13}C-OCDD	2,3,4,7,8-PeCDF
2,3,7,8-TCDD	1,2,3,4,7,8-HxCDF

Project Narrative

Total Dioxin and Furan Analysis (cont.)

Dioxins	Dibenzofurans
1,2,3,7,8-PeCDD	1,2,3,6,7,8-HxCDF
1,2,3,4,7,8-HxCDD	2,3,4,6,7,8-HxCDF
1,2,3,6,7,8-HxCDD	1,2,3,7,8,9-HxCDF
1,2,3,7,8,9-HxCDD	1,2,3,4,6,7,8-HpCDF
1,2,3,4,6,7,8-HpCDD	1,2,3,4,7,8,9-HpCDF
OCDD	OCDF

Response factors were calculated for each compound in the standard relative to its ^{13}C labeled homolog. Native OCDF is calculated against ^{13}C-OCDD. A five-point calibration plot was analyzed. The mean response factors obtained from this five-point calibration were used for all subsequent calculations. The daily calibration standards, analyzed on the same day as the samples, met the method criteria for all native analytes.

The extracts were analyzed using HRGC/HRMS scanning in the selected ion monitoring mode for enhanced sensitivity. The column used for the analysis was a 60 m DB-5 type fused silica capillary column.

TCDF CONFIRMATION - All positive 2,3,7,8-TCDF results were confirmed. The column used for this analysis was a 30 m DB-225 fused silica capillary column. Before acquisition of the sample data, a seven isomer performance mixture containing the six most closely eluting TCDF isomers was run.

In addition, a multipoint calibration plot was analyzed. The mean response factors obtained from this multipoint calibration were used for all subsequent calculations. The shift standard, analyzed on the same day as the samples, produced a response factor within 20% of the multipoint calibration curve for 2,3,7,8-TCDF.

Totals - The results for the totals analysis are reported in pg/g with the total amount of each homologous group calculated. For any homologous series of dioxins or furans that contain more than one 2,3,7,8-substituted isomer, the total result for that series is the sum of the individual 2,3,7,8-substituted isomers (calculated using their specific Response Factors) and all other non-2,3,7,8-substituted isomers (calculated using the average Response Factor of the individual 2,3,7,8-substituted isomers in that homologous series).

Project Narrative

Detection Limits - When an analyte is not detected, a sample specific detection limit is calculated for that analyte. This is done by first determining the GC/MS peak height of the noise or interferent in the expected region of the analyte signal. This value is multiplied by the number 2.5 which serves as a safety factor. The 2.5 safety factor is disregarded if the noise present in the analyte region is a result of chemical interferences. The resulting signal response value is then used to estimate the minimum detectable analyte amount. The result is the estimated sample detection limit.

Qualifier Definitions:

B - Analyte found in associated laboratory method blank.
Q - Estimated maximum possible concentration. This is used if one of the qualitative identification criteria is not met, i.e., chlorine isotopic ratios are outside the theroetical range.
S - Possible ion suppression indicated by PFK mass intensity.
J - Estimate only. Below instrument calibration range.
ND - Not detected at the level reported.

QA\QC - Project specific QA/QC was followed. Recoveries for the internal standards for each sample are presented with the sample analysis data.

Quanterra Environmental Services

BECHTEL HANFORD, INC.

Client Sample ID: BOL425

Dioxins

Lot-Sample #...: H7F060185-001 Work Order #...: CA1P8102 Matrix.....: SOLID
Date Sampled...: 05/29/97 Date Received..: 06/06/97
Prep Date.....: 06/06/97 Analysis Date..: 06/15/97
Prep Batch #...: 7160187
Dilution Factor: 1
% Moisture.....: 5.3

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
2,3,7,8-TCDD	ND	1.0	pg/g	SW846 8290
Total TCDD	ND	1.7	pg/g	SW846 8290
1,2,3,7,8-PeCDD	ND	2.0	pg/g	SW846 8290
Total PeCDD	ND	2.0	pg/g	SW846 8290
1,2,3,4,7,8-HxCDD	ND	1.5	pg/g	SW846 8290
1,2,3,6,7,8-HxCDD	ND	1.4	pg/g	SW846 8290
1,2,3,7,8,9-HxCDD	ND	1.3	pg/g	SW846 8290
Total HxCDD	ND	1.6	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDD	ND	2.6	pg/g	SW846 8290
Total HpCDD	ND	2.6	pg/g	SW846 8290
OCDD	2.4 J		pg/g	SW846 8290
2,3,7,8-TCDF	ND	1.7	pg/g	SW846 8290
Total TCDF	12		pg/g	SW846 8290
1,2,3,7,8-PeCDF	ND	1.6	pg/g	SW846 8290
2,3,4,7,8-PeCDF	ND	1.5	pg/g	SW846 8290
Total PeCDF	4.3 J		pg/g	SW846 8290
1,2,3,4,7,8-HxCDF	ND	0.97	pg/g	SW846 8290
1,2,3,6,7,8-HxCDF	ND	0.54	pg/g	SW846 8290
2,3,4,6,7,8-HxCDF	ND	2.1	pg/g	SW846 8290
1,2,3,7,8,9-HxCDF	ND	0.65	pg/g	SW846 8290
Total HxCDF	ND	2.2	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDF	ND	0.65	pg/g	SW846 8290
1,2,3,4,7,8,9-HpCDF	ND	0.79	pg/g	SW846 8290
Total HpCDF	ND	0.71	pg/g	SW846 8290
OCDF	ND	1.4	pg/g	SW846 8290

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	85	(40 - 135)
13C-1,2,3,7,8-PeCDD	85	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	81	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	84	(40 - 135)
13C-OCDD	86	(40 - 135)
13C-2,3,7,8-TCDF	57	(40 - 135)
13C-1,2,3,7,8-PeCDF	88	(40 - 135)
13C-1,2,3,4,7,8-HxCDF	79	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	75	(40 - 135)

NOTE(S):

J Estimated result. Result is less than the reporting limit.

Quanterra
Environmental Services

BECHTEL HANFORD, INC.

Client Sample ID: BOL421

Dioxins

Lot-Sample #...: H7F060185-002 Work Order #...: CA1PA102 Matrix.....: SOLID
Date Sampled...: 05/29/97 Date Received..: 06/06/97
Prep Date.....: 06/06/97 Analysis Date..: 06/15/97
Prep Batch #...: 7160187
Dilution Factor: 1
% Moisture.....: 4.8

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
2,3,7,8-TCDD	9.2		pg/g	SW846 8290
Total TCDD	70		pg/g	SW846 8290
1,2,3,7,8-PeCDD	4.1 J		pg/g	SW846 8290
Total PeCDD	18 J,Q		pg/g	SW846 8290
1,2,3,4,7,8-HxCDD	ND	2.3	pg/g	SW846 8290
1,2,3,6,7,8-HxCDD	3.0 J		pg/g	SW846 8290
1,2,3,7,8,9-HxCDD	ND	2.0	pg/g	SW846 8290
Total HxCDD	13 J,Q		pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDD	4.0 J		pg/g	SW846 8290
Total HpCDD	8.5 J		pg/g	SW846 8290
OCDD	15 J		pg/g	SW846 8290
Total TCDF	8600 E,Q		pg/g	SW846 8290
1,2,3,7,8-PeCDF	200 Q,C		pg/g	SW846 8290
2,3,4,7,8-PeCDF	8.5 J		pg/g	SW846 8290
Total PeCDF	3300 Q		pg/g	SW846 8290
1,2,3,4,7,8-HxCDF	5.3 J,Q		pg/g	SW846 8290
1,2,3,6,7,8-HxCDF	4.0 J		pg/g	SW846 8290
2,3,4,6,7,8-HxCDF	4.5 J		pg/g	SW846 8290
1,2,3,7,8,9-HxCDF	ND	2.2	pg/g	SW846 8290
Total HxCDF	300 Q		pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDF	130		pg/g	SW846 8290
1,2,3,4,7,8,9-HpCDF	3.1 J,Q		pg/g	SW846 8290
Total HpCDF	240 Q		pg/g	SW846 8290
OCDF	110		pg/g	SW846 8290

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	70	(40 - 135)
13C-1,2,3,7,8-PeCDD	59	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	64	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	94	(40 - 135)
13C-OCDD	98	(40 - 135)
13C-2,3,7,8-TCDF	50	(40 - 135)
13C-1,2,3,7,8-PeCDF	63	(40 - 135)
13C-1,2,3,4,7,8-HxCDF	59	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	75	(40 - 135)

NOTE(S):

J Estimated result. Result is less than the reporting limit.

Q Estimated maximum possible concentration (EMPC).

E Estimated result. Result concentration exceeds the calibration range.

C Co-eluting isomer.

Quanterra Environmental Services

BECHTEL HANFORD, INC.

Client Sample ID: BOL421

Dioxins

Lot-Sample #...: H7F060185-002 Work Order #...: CA1PA103 Matrix.....: SOLID
Date Sampled...: 05/29/97 Date Received..: 06/06/97
Prep Date.....: 06/06/97 Analysis Date..: 06/13/97
Prep Batch #...: 7160187
Dilution Factor: 1
% Moisture.....: 4.8

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
2,3,7,8-TCDF	14 Q		pg/g	SW846 8290

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDF	53	(40 - 135)

NOTE(S):

Q Estimated maximum possible concentration (EMPC).

Quanterra
Environmental Services

BECHTEL HANFORD, INC.

Client Sample ID: BOL425

General Chemistry

Lot-Sample #...: H7F060185-001 Work Order #...: CA1P8 Matrix.....: SOLID
Date Sampled...: 05/29/97 Date Received..: 06/06/97
% Moisture.....: 5.3

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	5.3	0.10	%	MCAWW 160.3 MOD	06/09-06/11/97	7162102

Dilution Factor: 1

Quanterra
Environmental Services

BECHTEL HANFORD, INC.

Client Sample ID: BOL421

General Chemistry

Lot-Sample #...: H7F060185-002 Work Order #...: CA1PA Matrix.....: SOLID
Date Sampled...: 05/29/97 Date Received..: 06/06/97
% Moisture.....: 4.8

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	4.8	0.10	%	MCAWW 160.3 MOD	06/09-06/11/97	7162102

Dilution Factor: 1

Quanterra
Environmental Services

METHOD BLANK REPORT

Dioxins

Client Lot #...: H7F060185 Work Order #...: CA2AQ101 Matrix.....: SOLID
MB Lot-Sample #: H7F090000-187

Prep Date.....: 06/06/97
Analysis Date..: 06/15/97 Prep Batch #...: 7160187
Dilution Factor: 1

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
2,3,7,8-TCDD	ND	1.8	pg/g	SW846 8290
Total TCDD	ND	2.7	pg/g	SW846 8290
1,2,3,7,8-PeCDD	ND	3.2	pg/g	SW846 8290
Total PeCDD	ND	3.2	pg/g	SW846 8290
1,2,3,4,7,8-HxCDD	ND	4.9	pg/g	SW846 8290
1,2,3,6,7,8-HxCDD	ND	4.6	pg/g	SW846 8290
1,2,3,7,8,9-HxCDD	ND	4.4	pg/g	SW846 8290
Total HxCDD	ND	4.6	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDD	ND	1.5	pg/g	SW846 8290
Total HpCDD	ND	1.5	pg/g	SW846 8290
OCDD	ND	2.4	pg/g	SW846 8290
2,3,7,8-TCDF	ND	1.4	pg/g	SW846 8290
Total TCDF	ND	3.6	pg/g	SW846 8290
1,2,3,7,8-PeCDF	ND	1.8	pg/g	SW846 8290
2,3,4,7,8-PeCDF	ND	1.7	pg/g	SW846 8290
Total PeCDF	ND	1.8	pg/g	SW846 8290
1,2,3,4,7,8-HxCDF	ND	0.82	pg/g	SW846 8290
1,2,3,6,7,8-HxCDF	ND	0.73	pg/g	SW846 8290
2,3,4,6,7,8-HxCDF	ND	2.4	pg/g	SW846 8290
1,2,3,7,8,9-HxCDF	ND	0.76	pg/g	SW846 8290
Total HxCDF	ND	2.5	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDF	ND	1.3	pg/g	SW846 8290
1,2,3,4,7,8,9-HpCDF	ND	1.5	pg/g	SW846 8290
Total HpCDF	ND	1.4	pg/g	SW846 8290
OCDF	ND	1.3	pg/g	SW846 8290

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	73	(40 - 135)
13C-1,2,3,7,8-PeCDD	67	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	67	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	81	(40 - 135)
13C-OCDD	89	(40 - 135)
13C-2,3,7,8-TCDF	46	(40 - 135)
13C-1,2,3,7,8-PeCDF	70	(40 - 135)
13C-1,2,3,4,7,8-HxCDF	63	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	69	(40 - 135)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quanterra
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LABORATORY CONTROL SAMPLE DATA REPORT

Dioxins

Client Lot #...: H7F060185 Work Order #...: CA2AQ102 Matrix.....: SOLID
LCS Lot-Sample#: H7F090000-187
Prep Date.....: 06/06/97 Analysis Date..: 06/15/97
Prep Batch #...: 7160187
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
2,3,7,8-TCDD	40	35	pg/g	88	SW846 8290
1,2,3,7,8-PeCDD	200	200	pg/g	99	SW846 8290
1,2,3,4,7,8-HxCDD	200	190	pg/g	97	SW846 8290
1,2,3,6,7,8-HxCDD	200	190	pg/g	97	SW846 8290
1,2,3,7,8,9-HxCDD	200	200	pg/g	100	SW846 8290
1,2,3,4,6,7,8-HpCDD	200	170	pg/g	87	SW846 8290
OCDD	400	320	pg/g	81	SW846 8290
2,3,7,8-TCDF	40	38	pg/g	94	SW846 8290
1,2,3,7,8-PeCDF	200	180	pg/g	89	SW846 8290
2,3,4,7,8-PeCDF	200	150	pg/g	76	SW846 8290
1,2,3,4,7,8-HxCDF	200	180	pg/g	92	SW846 8290
1,2,3,6,7,8-HxCDF	200	170	pg/g	85	SW846 8290
2,3,4,6,7,8-HxCDF	200	160	pg/g	81	SW846 8290
1,2,3,7,8,9-HxCDF	200	190	pg/g	97	SW846 8290
1,2,3,4,6,7,8-HpCDF	200	200	pg/g	99	SW846 8290
1,2,3,4,7,8,9-HpCDF	200	200	pg/g	99	SW846 8290
OCDF	400	320	pg/g	81	SW846 8290

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	69	(40 - 135)
13C-1,2,3,7,8-PeCDD	58	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	58	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	72	(40 - 135)
13C-OCDD	92	(40 - 135)
13C-2,3,7,8-TCDF	48	(40 - 135)
13C-1,2,3,7,8-PeCDF	62	(40 - 135)
13C-1,2,3,4,7,8-HxCDF	58	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	65	(40 - 135)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

Quanterra
Environmental Services

LABORATORY CONTROL SAMPLE EVALUATION REPORT

Dioxins

Client Lot #...: H7F060185 Work Order #...: CA2AQ102 Matrix.....: SOLID
LCS Lot-Sample#: H7F090000-187
Prep Date.....: 06/06/97 Analysis Date..: 06/15/97
Prep Batch #...: 7160187
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
2,3,7,8-TCDD	**88**	**(60 - 140)**	**SW846 8290**
1,2,3,7,8-PeCDD	**99**	**(60 - 140)**	**SW846 8290**
1,2,3,4,7,8-HxCDD	**97**	**(60 - 140)**	**SW846 8290**
1,2,3,6,7,8-HxCDD	**97**	**(60 - 140)**	**SW846 8290**
1,2,3,7,8,9-HxCDD	**100**	**(60 - 140)**	**SW846 8290**
1,2,3,4,6,7,8-HpCDD	**87**	**(60 - 140)**	**SW846 8290**
OCDD	**81**	**(60 - 140)**	**SW846 8290**
2,3,7,8-TCDF	**94**	**(60 - 140)**	**SW846 8290**
1,2,3,7,8-PeCDF	**89**	**(60 - 140)**	**SW846 8290**
2,3,4,7,8-PeCDF	**76**	**(60 - 140)**	**SW846 8290**
1,2,3,4,7,8-HxCDF	**92**	**(60 - 140)**	**SW846 8290**
1,2,3,6,7,8-HxCDF	**85**	**(60 - 140)**	**SW846 8290**
2,3,4,6,7,8-HxCDF	**81**	**(60 - 140)**	**SW846 8290**
1,2,3,7,8,9-HxCDF	**97**	**(60 - 140)**	**SW846 8290**
1,2,3,4,6,7,8-HpCDF	**99**	**(60 - 140)**	**SW846 8290**
1,2,3,4,7,8,9-HpCDF	**99**	**(60 - 140)**	**SW846 8290**
OCDF	**81**	**(60 - 140)**	**SW846 8290**

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	69	(40 - 135)
13C-1,2,3,7,8-PeCDD	58	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	58	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	72	(40 - 135)
13C-OCDD	92	(40 - 135)
13C-2,3,7,8-TCDF	48	(40 - 135)
13C-1,2,3,7,8-PeCDF	62	(40 - 135)
13C-1,2,3,4,7,8-HxCDF	58	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	65	(40 - 135)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

Quanterra
Environmental Services

MATRIX SPIKE SAMPLE DATA REPORT

Dioxins

Client Lot #...: H7F060185
MS Lot-Sample #: H7F060185-001
Date Sampled...: 05/29/97
Prep Date.....: 06/06/97
Prep Batch #...: 7160187
Dilution Factor: 1

Work Order #...: CA1P8103-MS
CA1P8104-MSD
Date Received..: 06/06/97
Analysis Date..: 06/15/97
% Moisture.....: 5.3

Matrix.....: SOLID

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCENT RECOVERY	RPD	METHOD
2,3,7,8-TCDD	ND	40	34	pg/g	85		SW846 8290
	ND	40	35	pg/g	87	1.3	SW846 8290
1,2,3,7,8-PeCDD	ND	200	200	pg/g	101		SW846 8290
	ND	200	200	pg/g	98	2.3	SW846 8290
1,2,3,4,7,8-HxCDD	ND	200	200	pg/g	100		SW846 8290
	ND	200	200	pg/g	100	0.38	SW846 8290
1,2,3,6,7,8-HxCDD	ND	200	210	pg/g	106		SW846 8290
	ND	200	200	pg/g	100	5.7	SW846 8290
1,2,3,7,8,9-HxCDD	ND	200	200	pg/g	100		SW846 8290
	ND	200	200	pg/g	101	1.1	SW846 8290
1,2,3,4,6,7,8-HpCDD	ND	200	180	pg/g	90		SW846 8290
	ND	200	180	pg/g	89	1.2	SW846 8290
OCDD	2.4	400	330	pg/g	82		SW846 8290
	2.4	400	330	pg/g	82	0.56	SW846 8290
2,3,7,8-TCDF	ND	40	42	pg/g	104		SW846 8290
	ND	40	41	pg/g	103	0.93	SW846 8290
1,2,3,7,8-PeCDF	ND	200	190	pg/g	92		SW846 8290
	ND	200	180	pg/g	92	0.84	SW846 8290
2,3,4,7,8-PeCDF	ND	200	170	pg/g	83		SW846 8290
	ND	200	170	pg/g	84	0.91	SW846 8290
1,2,3,4,7,8-HxCDF	ND	200	190	pg/g	94		SW846 8290
	ND	200	190	pg/g	96	2.0	SW846 8290
1,2,3,6,7,8-HxCDF	ND	200	180	pg/g	88		SW846 8290
	ND	200	180	pg/g	88	0.46	SW846 8290
2,3,4,6,7,8-HxCDF	ND	200	170	pg/g	86		SW846 8290
	ND	200	180	pg/g	91	5.9	SW846 8290
1,2,3,7,8,9-HxCDF	ND	200	190	pg/g	97		SW846 8290
	ND	200	200	pg/g	98	0.46	SW846 8290
1,2,3,4,6,7,8-HpCDF	ND	200	210	pg/g	104		SW846 8290
	ND	200	200	pg/g	101	2.2	SW846 8290
1,2,3,4,7,8,9-HpCDF	ND	200	210	pg/g	105		SW846 8290
	ND	200	210	pg/g	105	0.27	SW846 8290
OCDF	ND	400	320	pg/g	81		SW846 8290
	ND	400	320	pg/g	79	2.5	SW846 8290

(Continued on next page)

Quanterra
Environmental Services

MATRIX SPIKE SAMPLE DATA REPORT

Dioxins

Client Lot #...: H7F060185 **Work Order #...:** CA1P8103-MS **Matrix.....:** SOLID
MS Lot-Sample #: H7F060185-001 CA1P8104-MSD

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	81	(40 - 135)
	73	(40 - 135)
13C-1,2,3,7,8-PeCDD	83	(40 - 135)
	62	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	76	(40 - 135)
	79	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	84	(40 - 135)
	89	(40 - 135)
13C-OCDD	107	(40 - 135)
	102	(40 - 135)
13C-2,3,7,8-TCDF	56	(40 - 135)
	55	(40 - 135)
13C-1,2,3,7,8-PeCDF	80	(40 - 135)
	63	(40 - 135)
13C-1,2,3,4,7,8-HxCDF	75	(40 - 135)
	77	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	72	(40 - 135)
	74	(40 - 135)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

Quanterra
Environmental Services

MATRIX SPIKE SAMPLE EVALUATION REPORT

Dioxins

Client Lot #...: H7F060185 Work Order #...: CA1P8103-MS Matrix.....: SOLID
MS Lot-Sample #: H7F060185-001 CA1P8104-MSD
Date Sampled...: 05/29/97 Date Received..: 06/06/97
Prep Date.....: 06/06/97 Analysis Date..: 06/15/97
Prep Batch #...: 7160187
Dilution Factor: 1 % Moisture.....: 5.3

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
2,3,7,8-TCDD	85	(60 - 140)			SW846 8290
	87	(60 - 140)	1.3	(0-50)	SW846 8290
1,2,3,7,8-PeCDD	101	(60 - 140)			SW846 8290
	98	(60 - 140)	2.3	(0-50)	SW846 8290
1,2,3,4,7,8-HxCDD	100	(60 - 140)			SW846 8290
	100	(60 - 140)	0.38	(0-50)	SW846 8290
1,2,3,6,7,8-HxCDD	106	(60 - 140)			SW846 8290
	100	(60 - 140)	5.7	(0-50)	SW846 8290
1,2,3,7,8,9-HxCDD	100	(60 - 140)			SW846 8290
	101	(60 - 140)	1.1	(0-50)	SW846 8290
1,2,3,4,6,7,8-HpCDD	90	(60 - 140)			SW846 8290
	89	(60 - 140)	1.2	(0-50)	SW846 8290
OCDD	82	(60 - 140)			SW846 8290
	82	(60 - 140)	0.56	(0-50)	SW846 8290
2,3,7,8-TCDF	104	(60 - 140)			SW846 8290
	103	(60 - 140)	0.93	(0-50)	SW846 8290
1,2,3,7,8-PeCDF	92	(60 - 140)			SW846 8290
	92	(60 - 140)	0.84	(0-50)	SW846 8290
2,3,4,7,8-PeCDF	83	(60 - 140)			SW846 8290
	84	(60 - 140)	0.91	(0-50)	SW846 8290
1,2,3,4,7,8-HxCDF	94	(60 - 140)			SW846 8290
	96	(60 - 140)	2.0	(0-50)	SW846 8290
1,2,3,6,7,8-HxCDF	88	(60 - 140)			SW846 8290
	88	(60 - 140)	0.46	(0-50)	SW846 8290
2,3,4,6,7,8-HxCDF	86	(60 - 140)			SW846 8290
	91	(60 - 140)	5.9	(0-50)	SW846 8290
1,2,3,7,8,9-HxCDF	97	(60 - 140)			SW846 8290
	98	(60 - 140)	0.46	(0-50)	SW846 8290
1,2,3,4,6,7,8-HpCDF	104	(60 - 140)			SW846 8290
	101	(60 - 140)	2.2	(0-50)	SW846 8290
1,2,3,4,7,8,9-HpCDF	105	(60 - 140)			SW846 8290
	105	(60 - 140)	0.27	(0-50)	SW846 8290
OCDF	81	(60 - 140)			SW846 8290
	79	(60 - 140)	2.5	(0-50)	SW846 8290

(Continued on next page)

Quanterra
Environmental Services

MATRIX SPIKE SAMPLE EVALUATION REPORT

Dioxins

Client Lot #...: H7F060185 **Work Order #...:** CA1P8103-MS **Matrix.....:** SOLID
MS Lot-Sample #: H7F060185-001 CA1P8104-MSD

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	81	(40 - 135)
	73	(40 - 135)
13C-1,2,3,7,8-PeCDD	83	(40 - 135)
	62	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	76	(40 - 135)
	79	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	84	(40 - 135)
	89	(40 - 135)
13C-OCDD	107	(40 - 135)
	102	(40 - 135)
13C-2,3,7,8-TCDF	56	(40 - 135)
	55	(40 - 135)
13C-1,2,3,7,8-PeCDF	80	(40 - 135)
	63	(40 - 135)
13C-1,2,3,4,7,8-HxCDF	75	(40 - 135)
	77	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	72	(40 - 135)
	74	(40 - 135)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

QUOTE #19904 H7F060185

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B97-132-05	Page 1 of 1

Collector: JAL	Company Contact: Chuck Hedel — Telephone No.: 372-9637	Project Coordinator: Lerch, JA	Data Turnaround: 7 Days
Project Designation: North Slope	Sampling Location: 600 Area	SAF No.: B97-132	
Ice Chest No.: SML-349	Field Logbook No.	Method of Shipment: hand deliver	
Shipped To: Quanterra	Offsite Property No.: NA	Bill of Lading/Air Bill No.: NA	

POSSIBLE SAMPLE HAZARDS/REMARKS

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	cool 4C				
Type of Container	P	aG	aG	aG	aG	aG				
No. of Container(s)	1	1	1	1	1	1				
Volume	20ml	60ml	60ml	125ml	125ml	500ml				
	Activity Scan	Dioxins - ~~8280~~ 8290	VOA - 8240A (TCL)	Herbicides - 8150A	Semi-VOA - 8270A (TCL)	See Note ①				

Special Handling and/or Storage: Cool 4C

SAMPLE ANALYSIS

70601504

Sample No.	Matrix *	Sample Date	Sample Time										
80L425	Soil	05/29/97	0940	X	X				X				
					100				100				
					Shipped To Knoxville TN								

received @ 4°C ~~no custody seals~~ JAM 06/06/97

custody seals on samples JAM 06/06/97

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
[signature] for Doug Bowers	06/02/97 1445	[signature]	06/02/97 1445
[signature]	06/02/97 1535	D Jacques / Duane Jacques	1535 6/2/97
D Jacques / Duane Jacques	1610 6-2-97	[signature]	1610 6-2-97
[signature]	1500 6-5-97	[signature]	1000

SPECIAL INSTRUCTIONS

① analyses requested: herbicides-8150A, TCLP herbicides-1311/8150A, anions-300.0, ammonia-350.1, semiVOA-8270A

- close SDG on receipt
- sample selected on 06/02/97 from group archived at 4701 on 05/29/97

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

47F060185

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B97-132-01	Page 1 of 1

Collector: Frank Gustafson	Company Contact: Chuck Hedel — Telephone No.: 372-9637	Project Coordinator: Lerch, JA	Data Turnaround: 7 Days
Project Designation: North Slope	Sampling Location: 600 Area	SAF No.: B97-132	
Ice Chest No.: SML-349	Field Logbook No.:	Method of Shipment: hand deliver	
Shipped To: Quanterra	Offsite Property No.: NA	Bill of Lading/Air Bill No.: NA	

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage: Cool 4C

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C					
Type of Container	P	aG	aG	aG	aG					
No. of Container(s)	1	1	1	1	1					
Volume	20ml	60ml	60ml	125ml	125ml					
	Activity Scan	Dioxins - ~~8280~~ 8290	VOA - 8240A (TCL)	Herbicides - 8150A	Semi-VOA - 8270A (TCL)					

SAMPLE ANALYSIS: 70601501 SDG W01697

Sample No.	Matrix *	Sample Date	Sample Time										
60L421	Soil	5/29/97	1150	X	X	X	X	X					
					100	100	100	100					
					Shipped To Knoxville Tn.								

received @ 4C ~~[illegible]~~ jam 06/06/97

custody seals on samples jam 06/06/97

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
[signature]	5/30/97 11:45	D. Jacques / Duane Jacques ERC	11:45 5/30/97
D. Jacques / Duane Jacques	5-30-97 1350	Doug Bowers	5-30-97 1350
[signature] for Doug Bowers	06/02/97 1535	D. Jacques / Duane Jacques	1535 06/2/97
D. Jacques / Duane Jacques	1610 6-2-97	[signature]	1610 6-2-97

SPECIAL INSTRUCTIONS

received by Jamie McK[illegible] QES/KNY 06/06/97 1010

. close SDG on receipt
. sample removed from archival at 4701 on 6/2/97

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

Relinquished by [illegible] 6-5-97 1500

5. Ecology Laboratory Data Summary

Waste Site 600-104 Engineering Study Ecology Laboratory Data Summary

sample ID		**H97015**	**H97016**	**H97017**	**H97018**	**H97019**
location		B8080	B8080	B8086	B8086	EPA split
depth interval		surface dig	9-9.5 ft	2-3 ft	1-2 ft	
soil type		gravel/sand	red stain	gravel/sand	sand	
IA sample ID		B0L349	n/a	n/a	n/a	
IA result (2,4-D)		>15 mg/kg	n/a	n/a	n/a	
herbicides-8150A	***mg/kg***					
2,4-D	94-75-7	11000 D^{100K}	5.3 D^{50}	12000 D^{100K}	2800 D^{10K}	130 D^{10K}
2,4,5-T	93-76-5	1.9 D^{100}	0.0021 U	2 D^{100}	0.58 D^{100}	0.027 D^{10}
TCLP herb-1311/8150A	***mg/L***	nr	nr	nr	nr	nr
volatile organics-8240A	***mg/kg***		nr	nr	nr	nr
methylene chloride	75-09-2	0.013				
semivolatile organics-8270A	***mg/kg***					
2,4-dichlorophenol	120-83-2	0.56	0.35 U	26 D^{20}	1.3 JD^{10}	0.092 J
2,4,6-trichlorophenol	88-06-2	0.36	0.35 U	4.5 JD^{20}	3.4 U	0.35 U
dioxins-8290	***ug/kg***	nr	nr	nr	nr	nr
anions-300.0	***mg/kg***	nr	nr	nr	nr	nr
chlorinated pesticides/PCBs-8081	***mg/kg***					
aldrin		0.0066	0.0017 U	0.0094	0.0029	0.0017 U
beta-BHC		0.0017 U	0.0017 U	0.016	0.0017 U	0.0017 U
TEPH-8015 modified	***mg/kg***					
total extractable petrolum hydrocarbons		5.2 U	5.2 U	8.8	15	66
metals-6010A	***mg/kg***					
arsenic	7440-38-2	1.6	5.2	1.9	3.7	2.6
barium	7440-39-3	58.7	57.4	72.1	71.6	65.2
chromium	7440-47-3	4.3	8	5.3	9.4	5.6
lead	7439-92-1	4	4.4	2.7	5.1	3.8
selenium	7782-49-2	1.7	1.8	1.7	1.1	1.3
nitrate/nitrite-353.3	***mg/kg***					
nitrate-nitrite (as N)		10	2.5	14	6.5	23

nr Analysis was not requested.
D Quantitated following sample dilution. Superscript ## is the dilution factor.
U Not detected. The associated value is the quantitation limit for the sample.
J Estimated result - less than the quantitation limit for the sample.

- all samples were analyzed for the following analyses with no detects; aromatic volatiles (8020), phosphorous pesticides (8141)

6. Ecology Laboratory Data - Paragon Analytics

PARAGON ANALYTICS, INC.

AN EMPLOYEE OWNED SMALL BUSINESS

225 Commerce Drive Fort Collins, Colorado 80524 (800) 443-1511
Phone (970) 490-1511
Fax (970) 490-1522

Message

Here are Semivoa and Metals results for 100-IU-3. No other results came up to me today.

To	Jerry Yokel	Company	Wash. Dept. of Ecology
Fax No.	(509) 736-3030	Date	6/23/97
From	Lance Steere	Total Pages	21

If you do not receive all the pages, please call us back as soon as possible.

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

H97015

Lab Name: PARAGON_ANALYTICS_INC.___ Contract: _____

Lab Code: NA____ Case No.: _____ SAS No.: _____ SDG No.: 970601

Matrix (soil/water): SOIL_ Lab Sample ID: S9706015-1

Level (low/med): LOW__ Date Received: 06/03/97

% Solids: _95.4

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

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic__	1.6			P
7440-39-3	Barium___	58.7		N	P
7440-43-9	Cadmium__	1.0	U		P
7440-47-3	Chromium_	4.3			P
7439-92-1	Lead____	4.0			P
7439-97-6	Mercury__	0.03	U		AV
7782-49-2	Selenium_	1.7			P
7440-22-4	Silver___	1.0	U		P

Color Before: DRK_GRAY_ Clarity Before: N/A___ Texture: COARSE

Color After: YELLOW___ Clarity After: CLEAR_ Artifacts: _____

Comments:

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

H97016

Lab Name: PARAGON_ANALYTICS_INC.___ Contract: _____

Lab Code: NA____ Case No.: _____ SAS No.: _____ SDG No.: 970601

Matrix (soil/water): SOIL_ Lab Sample ID: S9706015-2

Level (low/med): LOW__ Date Received: 06/03/97

% Solids: _95.3

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

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic__	5.2	_		P_
7440-39-3	Barium___	57.4	_	N___	P_
7440-43-9	Cadmium__	1.0	U		P_
7440-47-3	Chromium_	8.0	_		P_
7439-92-1	Lead____	4.4	_		P_
7439-97-6	Mercury__	0.03	U		AV
7782-49-2	Selenium_	1.8	_		P_
7440-22-4	Silver___	1.0	U		P_

Color Before: BROWN____ Clarity Before: N/A___ Texture: MEDIUM

Color After: YELLOW___ Clarity After: CLEAR_ Artifacts: _____

Comments:

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

H97017

Lab Name: PARAGON_ANALYTICS_INC.___ Contract: _____

Lab Code: NA____ Case No.: _____ SAS No.: _____ SDG No.: 970601

Matrix (soil/water): SOIL_ Lab Sample ID: S9706015-3

Level (low/med): LOW__ Date Received: 06/03/97

% Solids: _95.5

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

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic__	1.9			P
7440-39-3	Barium___	72.1		N	P
7440-43-9	Cadmium__	1.0	U		P
7440-47-3	Chromium_	5.3			P
7439-92-1	Lead____	2.7			P
7439-97-6	Mercury__	0.03	U		AV
7782-49-2	Selenium_	1.7			P
7440-22-4	Silver___	1.0	U		P

Color Before: GRAY_____ Clarity Before: N/A___ Texture: COARSE

Color After: YELLOW___ Clarity After: CLEAR_ Artifacts: _____

Comments:

FORM I - IN ILM03.0

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

H97018

ab Name: PARAGON_ANALYTICS_INC.___ Contract: _____

ab Code: NA____ Case No.: _____ SAS No.: _____ SDG No.: 970601

atrix (soil/water): SOIL_ Lab Sample ID: S9706015-4

evel (low/med): LOW__ Date Received: 06/03/97

Solids: _97.9

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

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	3.7			P
7440-39-3	Barium	71.6		N	P
7440-43-9	Cadmium	1.0	U		P
7440-47-3	Chromium	9.4			P
7439-92-1	Lead	5.1			P
7439-97-6	Mercury	0.03	U		AV
7782-49-2	Selenium	1.1			P
7440-22-4	Silver	1.0	U		P

Color Before: BROWN____ Clarity Before: N/A___ Texture: FINE__

Color After: YELLOW___ Clarity After: CLEAR_ Artifacts: _____

Comments:

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

H97019

Lab Name: PARAGON_ANALYTICS_INC.___ Contract: _____

Lab Code: NA____ Case No.: _____ SAS No.: _____ SDG No.: 970601

Matrix (soil/water): SOIL_ Lab Sample ID: S9706015-5

Level (low/med): LOW__ Date Received: 06/03/97

% Solids: _96.1

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

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic__	2.6			P
7440-39-3	Barium___	65.2		N	P
7440-43-9	Cadmium__	1.0	U		P
7440-47-3	Chromium_	5.6			P
7439-92-1	Lead____	3.8			P
7439-97-6	Mercury__	0.03	U		AV
7782-49-2	Selenium_	1.3			P
7440-22-4	Silver___	1.0	U		P

Color Before: DRK_BROWN Clarity Before: N/A___ Texture: COARSE

Color After: YELLOW___ Clarity After: CLEAR_ Artifacts: _____

Comments:

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name:	Paragon Analytics, Inc.	Sample ID	
Client Name:	Washington State Dept. of Ecology	H97015	
Client Project ID.	Not Submitted		
Matrix: (soil/water)	Soil		
Sample Weight(g):	30	Lab Sample ID:	9706015-1
Level (Low/Med):	Low	Lab File ID:	N0613S09.D
% Moisture:	4.56	Date Collected:	05-29-97
Extraction:	Soxhlet	Date Extracted:	06-10-97
GPC Cleanup (Y/N):	N	Date Analyzed:	06-13-97
Final Volume(mL):	1	Dilution Factor:	1

CAS No.	Analyte	Conc. (µg/kg)	Q
110-86-1	Pyridine	350	U
62-75-9	n-Nitrosodimethylamine	350	U
62-53-3	Aniline	870	U
108-95-2	Phenol	350	U
111-44-4	Bis(2-chloroethyl)ether	350	U
95-57-8	2-Chlorophenol	350	U
541-73-1	1,3-Dichlorobenzene	350	U
106-46-7	1,4-Dichlorobenzene	350	U
95-50-1	1,2-Dichlorobenzene	350	U
100-51-6	Benzyl Alcohol	350	U
108-60-1	Bis(2-chloroisopropyl)ether	350	U
95-48-7	2-Methylphenol	350	U
621-64-7	n-Nitroso-di-n-propylamine	350	U
106-44-5	4-Methylphenol	350	U
67-72-1	Hexachloroethane	350	U
98-95-3	Nitrobenzene	350	U
78-59-1	Isophorone	350	U
88-75-5	2-Nitrophenol	350	U
105-67-9	2,4-Dimethylphenol	350	U
111-91-1	Bis(2-chloroethoxy)methane	350	U
120-83-2	2,4-Dichlorophenol	560	
65-85-0	Benzoic Acid	1700	U
120-82-1	1,2,4-Trichlorobenzene	350	U
91-20-3	Naphthalene	350	U
106-47-8	4-Chloroaniline	870	U
87-68-3	Hexachlorobutadiene	350	U
59-50-7	4-Chloro-3-methylphenol	350	U
91-57-6	2-Methylnaphthalene	350	U
77-47-4	Hexachlorocyclopentadiene	350	U
88-06-2	2,4,6-Trichlorophenol	360	
95-95-4	2,4,5-Trichlorophenol	350	U
91-58-7	2-Chloronaphthalene	350	U
88-74-4	2-Nitroaniline	1700	U
131-11-3	Dimethylphthalate	350	U
606-20-2	2,6-Dinitrotoluene	350	U
208-96-8	Acenaphthylene	350	U
99-09-2	3-Nitroaniline	1700	U
83-32-9	Acenaphthene	350	U
51-28-5	2,4-Dinitrophenol	1700	U
100-02-7	4-Nitrophenol	1700	U
132-64-9	Dibenzofuran	350	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name:	Paragon Analytics, Inc.	Sample ID	
Client Name:	Washington State Dept. of Ecology	H97015	
Client Project ID:	Not Submitted		
Matrix: (soil/water)	Soil		
Sample Weight(g):	30	Lab Sample ID:	9706015-1
Level (Low/Med):	Low	Lab File ID:	N0613S09.D
% Moisture:	4.56	Date Collected:	05-29-97
Extraction:	Soxhlet	Date Extracted:	06-10-97
GPC Cleanup (Y/N):	N	Date Analyzed:	06-13-97
Final Volume(mL):	1	Dilution Factor:	1

CAS No.	Analyte	Conc. (µg/kg)	Q
121-14-2	2,4-Dinitrotoluene	350	U
84-66-2	Diethylphthalate	350	U
86-73-7	Fluorene	350	U
7005-72-3	4-Chlorophenyl phenyl ether	350	U
100-01-6	4-Nitroaniline	1700	U
103-33-3	Azobenzene	350	U
534-52-1	4,6-Dinitro-2-methylphenol	1700	U
86-30-6	n-Nitrosodiphenylamine(1)	350	U
101-55-3	4-Bromophenyl phenyl ether	350	U
118-74-1	Hexachlorobenzene	350	U
87-86-5	Pentachlorophenol	1700	U
85-01-8	Phenanthrene	350	U
120-12-7	Anthracene	350	U
86-74-8	Carbazole	350	U
84-74-2	Di-n-butylphthalate	350	U
206-44-0	Fluoranthene	350	U
92-87-5	Benzidine	1700	U
129-00-0	Pyrene	350	U
85-68-7	Butylbenzylphthalate	350	U
56-55-3	Benzo(a)anthracene	350	U
91-94-1	3,3'-Dichlorobenzidine	1700	U
218-01-9	Chrysene	350	U
117-81-7	Bis(2-ethylhexyl)phthalate	350	U
117-84-0	Di-n-octylphthalate	350	U
205-99-2	Benzo(b&k)fluoranthene	350	U
50-32-8	Benzo(a)pyrene	350	U
193-39-5	Indeno(1,2,3-c,d)pyrene	350	U
53-70-3	Dibenzo(a,h)anthracene	350	U
191-24-2	Benzo(g,h,i)perylene	350	U

(1) - Cannot be separated from Diphenylamine

SURROGATE RECOVERIES

Analyte	% Recovery	Rec QC Limits
2-Fluorophenol	75	25 - 100
2-Chlorophenol-d4	79	20 - 130
Phenol-d5	82	24 - 104
1,2-Dichlorobenzene-d4	80	20 - 130
Nitrobenzene-d5	80	31 - 106
2-Fluorobiphenyl	89	30 - 105
2,4,6-Tribromophenol	79	19 - 113
p-Terphenyl-d14	107	18 - 112

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name:	Paragon Analytics, Inc.	Sample ID	
Client Name:	Washington State Dept. of Ecology	H97015	
Client Project ID:	Not Submitted		
Matrix: (soil/water)	Soil		
Sample Weight(g):	30	Lab Sample ID:	9706015-1
Level (Low/Med):	Low	Lab File ID:	N0613S09.D
% Moisture:	4.56	Date Collected:	05-29-97
Extraction:	Soxhlet	Date Extracted:	06-10-97
GPC Cleanup (Y/N):	N	Date Analyzed:	06-13-97
Final Volume(mL):	1	Dilution Factor:	1

# of TIC's found: 0

	RT	CAS No.	Compound	Conc. (µg/kg)	Q
1	13.75		Unknown	5000	J
2	13.92		Unknown	2600	J
3	14.75	54852-69-6	2-Propanol, 1-(3,4-dichlorophenoxy)	33000	J
4	15.01	54852-69-6	Acetic acid, (2,4-dichlorophenoxy)-	74000	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name:	Paragon Analytics, Inc.	Sample ID	
Client Name:	Washington State Dept. of Ecology	H97017	
Client Project ID:	Not Submitted		
Matrix: (soil/water)	Soil		
Sample Weight(g):	30	Lab Sample ID:	9706015-3DL20
Level (Low/Med):	Low	Lab File ID:	N0613S11.D
% Moisture:	4.48	Date Collected:	05-29-97
Extraction:	Soxhlet	Date Extracted:	06-10-97
GPC Cleanup (Y/N):	N	Date Analyzed:	06-13-97
Final Volume(mL):	1	Dilution Factor:	20

CAS No.	Analyte	Conc. (µg/kg)	Q
110-86-1	Pyridine	7000	U
62-75-9	n-Nitrosodimethylamine	7000	U
62-53-3	Aniline	17000	U
108-95-2	Phenol	7000	U
111-44-4	Bis(2-chloroethyl)ether	7000	U
95-57-8	2-Chlorophenol	7000	U
541-73-1	1,3-Dichlorobenzene	7000	U
106-46-7	1,4-Dichlorobenzene	7000	U
95-50-1	1,2-Dichlorobenzene	7000	U
100-51-6	Benzyl Alcohol	7000	U
108-60-1	Bis(2-chloroisopropyl)ether	7000	U
95-48-7	2-Methylphenol	7000	U
621-64-7	n-Nitroso-di-n-propylamine	7000	U
106-44-5	4-Methylphenol	7000	U
67-72-1	Hexachloroethane	7000	U
98-95-3	Nitrobenzene	7000	U
78-59-1	Isophorone	7000	U
88-75-5	2-Nitrophenol	7000	U
105-67-9	2,4-Dimethylphenol	7000	U
111-91-1	Bis(2-chloroethoxy)methane	7000	U
120-83-2	2,4-Dichlorophenol	26000	
65-85-0	Benzoic Acid	35000	U
120-82-1	1,2,4-Trichlorobenzene	7000	U
91-20-3	Naphthalene	7000	U
106-47-8	4-Chloroaniline	17000	U
87-68-3	Hexachlorobutadiene	7000	U
59-50-7	4-Chloro-3-methylphenol	7000	U
91-57-6	2-Methylnaphthalene	7000	U
77-47-4	Hexachlorocyclopentadiene	7000	U
88-06-2	2,4,6-Trichlorophenol	4500	J
95-95-4	2,4,5-Trichlorophenol	7000	U
91-58-7	2-Chloronaphthalene	7000	U
88-74-4	2-Nitroaniline	35000	U
131-11-3	Dimethylphthalate	7000	U
606-20-2	2,6-Dinitrotoluene	7000	U
208-96-8	Acenaphthylene	7000	U
99-09-2	3-Nitroaniline	35000	U
83-32-9	Acenaphthene	7000	U
51-28-5	2,4-Dinitrophenol	35000	U
100-02-7	4-Nitrophenol	35000	U
132-64-9	Dibenzofuran	7000	U

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name:	Paragon Analytics, Inc.	Sample ID	
Client Name:	Washington State Dept. of Ecology	H97017	
Client Project ID:	Not Submitted		
Matrix: (soil/water)	Soil		
Sample Weight(g):	30	Lab Sample ID:	9706015-3DL20
Level (Low/Med):	Low	Lab File ID:	N0613S11.D
% Moisture:	4.48	Date Collected:	05-29-97
Extraction:	Soxhlet	Date Extracted:	06-10-97
GPC Cleanup (Y/N):	N	Date Analyzed:	06-13-97
Final Volume(mL):	1	Dilution Factor:	20

CAS No.	Analyte	Conc. (µg/kg)	Q
121-14-2	2,4-Dinitrotoluene	7000	U
84-66-2	Diethylphthalate	7000	U
86-73-7	Fluorene	7000	U
7005-72-3	4-Chlorophenyl phenyl ether	7000	U
100-01-6	4-Nitroaniline	35000	U
103-33-3	Azobenzene	7000	U
534-52-1	4,6-Dinitro-2-methylphenol	35000	U
86-30-6	n-Nitrosodiphenylamine(1)	7000	U
101-55-3	4-Bromophenyl phenyl ether	7000	U
118-74-1	Hexachlorobenzene	7000	U
87-86-5	Pentachlorophenol	35000	U
85-01-8	Phenanthrene	7000	U
120-12-7	Anthracene	7000	U
86-74-8	Carbazole	7000	U
84-74-2	Di-n-butylphthalate	7000	U
206-44-0	Fluoranthene	7000	U
92-87-5	Benzidine	35000	U
129-00-0	Pyrene	7000	U
85-68-7	Butylbenzylphthalate	7000	U
56-55-3	Benzo[a]anthracene	7000	U
91-94-1	3,3'-Dichlorobenzidine	35000	U
218-01-9	Chrysene	7000	U
117-81-7	Bis(2-ethylhexyl)phthalate	7000	U
117-84-0	Di-n-octylphthalate	7000	U
205-99-2	Benzo[b&k]fluoranthene	7000	U
50-32-8	Benzo[a]pyrene	7000	U
193-39-5	Indeno(1,2,3-c,d)pyrene	7000	U
53-70-3	Dibenzo[a,h]anthracene	7000	U
191-24-2	Benzo[g,h,i]perylene	7000	U

(1) - Cannot be separated from Diphenylamine

SURROGATE RECOVERIES

Analyte	% Recovery	Rec QC Limits
2-Fluorophenol	D	25 - 100
2-Chlorophenol-d4	D	20 - 130
Phenol-d5	D	24 - 104
1,2-Dichlorobenzene-d4	D	20 - 130
Nitrobenzene-d5	D	31 - 106
2-Fluorobiphenyl	D	30 - 105
2,4,6-Tribromophenol	D	19 - 113
p-Terphenyl-d14	D	18 - 112

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name:	Paragon Analytics, Inc.	Sample ID	
Client Name:	Washington State Dept. of Ecology		
Client Project ID:	Not Submitted		H97017
Matrix: (soil/water)	Soil		
Sample Weight(g):	30	Lab Sample ID:	9706015-3DL20
Level (Low/Med):	Low	Lab File ID:	N0613S11.D
% Moisture:	4.48	Date Collected:	05-29-97
Extraction:	Soxhlet	Date Extracted:	06-10-97
GPC Cleanup (Y/N):	N	Date Analyzed:	06-13-97
Final Volume(mL):	1	Dilution Factor:	20

# of TIC's found: 0

	RT	CAS No.	Compound	Conc. (µg/kg)	Q
1	13.72		Unknown	3000	J
2	13.88		Unknown	3000	J
3	14.46	94-75-7	Acetic acid, (2,4-dichlorophenoxy)-	81000	J
4	14.51	94-75-7	Acetic acid, (2,4-dichlorophenoxy)-	17000	J
5	14.82	94-75-7	Acetic acid, (2,4-dichlorophenoxy)-	160000	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name:	Paragon Analytics, Inc.	Sample ID	
Client Name:	Washington State Dept. of Ecology	H97018	
Client Project ID:	Not Submitted		
Matrix: (soil/water)	Soil		
Sample Weight(g):	30	Lab Sample ID:	9706015-4DL10
Level (Low/Med):	Low	Lab File ID:	N0613S12.D
% Moisture:	2.09	Date Collected:	05-29-97
Extraction:	Soxhlet	Date Extracted:	06-10-97
GPC Cleanup (Y/N):	N	Date Analyzed:	06-13-97
Final Volume(mL):	1	Dilution Factor:	10

CAS No.	Analyte	Conc. (µg/kg)	Q
110-86-1	Pyridine	3400	U
62-75-9	n-Nitrosodimethylamine	3400	U
62-53-3	Aniline	8500	U
108-95-2	Phenol	3400	U
111-44-4	Bis(2-chloroethyl)ether	3400	U
95-57-8	2-Chlorophenol	3400	U
541-73-1	1,3-Dichlorobenzene	3400	U
106-46-7	1,4-Dichlorobenzene	3400	U
95-50-1	1,2-Dichlorobenzene	3400	U
100-51-6	Benzyl Alcohol	3400	U
108-60-1	Bis(2-chloroisopropyl)ether	3400	U
95-48-7	2-Methylphenol	3400	U
621-64-7	n-Nitroso-di-n-propylamine	3400	U
106-44-5	4-Methylphenol	3400	U
67-72-1	Hexachloroethane	3400	U
98-95-3	Nitrobenzene	3400	U
78-59-1	Isophorone	3400	U
88-75-5	2-Nitrophenol	3400	U
105-67-9	2,4-Dimethylphenol	3400	U
111-91-1	Bis(2-chloroethoxy)methane	3400	U
120-83-2	2,4-Dichlorophenol	1300	J
65-85-0	Benzoic Acid	17000	U
120-82-1	1,2,4-Trichlorobenzene	3400	U
91-20-3	Naphthalene	3400	U
106-47-8	4-Chloroaniline	8500	U
87-68-3	Hexachlorobutadiene	3400	U
59-50-7	4-Chloro-3-methylphenol	3400	U
91-57-6	2-Methylnaphthalene	3400	U
77-47-4	Hexachlorocyclopentadiene	3400	U
88-06-2	2,4,6-Trichlorophenol	3400	U
95-95-4	2,4,5-Trichlorophenol	3400	U
91-58-7	2-Chloronaphthalene	3400	U
88-74-4	2-Nitroaniline	17000	U
131-11-3	Dimethylphthalate	3400	U
606-20-2	2,6-Dinitrotoluene	3400	U
208-96-8	Acenaphthylene	3400	U
99-09-2	3-Nitroaniline	17000	U
83-32-9	Acenaphthene	3400	U
51-28-5	2,4-Dinitrophenol	17000	U
100-02-7	4-Nitrophenol	17000	U
132-64-9	Dibenzofuran	3400	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name:	Paragon Analytics, Inc.	Sample ID	
Client Name:	Washington State Dept. of Ecology	H97018	
Client Project ID:	Not Submitted		
Matrix: (soil/water)	Soil		
Sample Weight(g):	30	Lab Sample ID:	9706015-4DL10
Level (Low/Med):	Low	Lab File ID:	N0613S12.D
% Moisture:	2.09	Date Collected:	05-29-97
Extraction:	Soxhlet	Date Extracted:	06-10-97
GPC Cleanup (Y/N):	N	Date Analyzed:	06-13-97
Final Volume(mL):	1	Dilution Factor:	10

CAS No.	Analyte	Conc. (µg/kg)	Q
121-14-2	2,4-Dinitrotoluene	3400	U
84-66-2	Diethylphthalate	3400	U
86-73-7	Fluorene	3400	U
7005-72-3	4-Chlorophenyl phenyl ether	3400	U
100-01-6	4-Nitroaniline	17000	U
103-33-3	Azobenzene	3400	U
534-52-1	4,6-Dinitro-2-methylphenol	17000	U
86-30-6	n-Nitrosodiphenylamine(1)	3400	U
101-55-3	4-Bromophenyl phenyl ether	3400	U
118-74-1	Hexachlorobenzene	3400	U
87-86-5	Pentachlorophenol	17000	U
85-01-8	Phenanthrene	3400	U
120-12-7	Anthracene	3400	U
86-74-8	Carbazole	3400	U
84-74-2	Di-n-butylphthalate	3400	U
206-44-0	Fluoranthene	3400	U
92-87-5	Benzidine	17000	U
129-00-0	Pyrene	3400	U
85-68-7	Butylbenzylphthalate	3400	U
56-55-3	Benzo(a)anthracene	3400	U
91-94-1	3,3'-Dichlorobenzidine	17000	U
218-01-9	Chrysene	3400	U
117-81-7	Bis(2-ethylhexyl)phthalate	3400	U
117-84-0	Di-n-octylphthalate	3400	U
205-99-2	Benzo(b&k)fluoranthene	3400	U
50-32-8	Benzo(a)pyrene	3400	U
193-39-5	Indeno(1,2,3-c,d)pyrene	3400	U
53-70-3	Dibenzo(a,h)anthracene	3400	U
191-24-2	Benzo(g,h,i)perylene	3400	U

(1) - Cannot be separated from Diphenylamine

SURROGATE RECOVERIES

Analyte	% Recovery	Rec QC Limits
2-Fluorophenol	D	25 - 100
2-Chlorophenol-d4	D	20 - 130
Phenol-d5	D	24 - 104
1,2-Dichlorobenzene-d4	D	20 - 130
Nitrobenzene-d5	D	31 - 106
2-Fluorobiphenyl	D	30 - 105
2,4,6-Tribromophenol	D	19 - 113
p-Terphenyl-d14	D	18 - 112

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name:	Paragon Analytics, Inc.	Sample ID	
Client Name:	Washington State Dept. of Ecology	H97018	
Client Project ID.	Not Submitted		
Matrix: (soil/water)	Soil		
Sample Weight(g):	30	Lab Sample ID:	9706015-4DL10
Level (Low/Med):	Low	Lab File ID:	N0613S12.D
% Moisture:	2.09	Date Collected:	05-29-97
Extraction:	Soxhlet	Date Extracted:	06-10-97
GPC Cleanup (Y/N):	N	Date Analyzed:	06-13-97
Final Volume(mL):	1	Dilution Factor:	10

# of TIC's found: 0

	RT	CAS No.	Compound	Conc. (µg/kg)	Q
1	14.44	54852-69-6	2-Propanol, 1-(3,4-dichlorophenoxy)	29000	J
2	14.77	94-75-7	Acetic acid, (2,4-dichlorophenoxy)-	41000	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name:	Paragon Analytics, Inc.	Sample ID	
Client Name:	Washington State Dept. of Ecology	H97016	
Client Project ID:	Not Submitted		
Matrix: (soil/water)	Soil		
Sample Weight(g):	30	Lab Sample ID:	9706015-2
Level (Low/Med):	Low	Lab File ID:	N0613S16.D
% Moisture:	4.67	Date Collected:	05-29-97
Extraction:	Soxhlet	Date Extracted:	06-10-97
GPC Cleanup (Y/N):	N	Date Analyzed:	06-13-97
Final Volume(mL):	1	Dilution Factor:	1

CAS No.	Analyte	Conc. (µg/kg)	Q
110-86-1	Pyridine	350	U
62-75-9	n-Nitrosodimethylamine	350	U
62-53-3	Aniline	870	U
108-95-2	Phenol	350	U
111-44-4	Bis(2-chloroethyl)ether	350	U
95-57-8	2-Chlorophenol	350	U
541-73-1	1,3-Dichlorobenzene	350	U
106-46-7	1,4-Dichlorobenzene	350	U
95-50-1	1,2-Dichlorobenzene	350	U
100-51-6	Benzyl Alcohol	350	U
108-60-1	Bis(2-chloroisopropyl)ether	350	U
95-48-7	2-Methylphenol	350	U
621-64-7	n-Nitroso-di-n-propylamine	350	U
106-44-5	4-Methylphenol	350	U
67-72-1	Hexachloroethane	350	U
98-95-3	Nitrobenzene	350	U
78-59-1	Isophorone	350	U
88-75-5	2-Nitrophenol	350	U
105-67-9	2,4-Dimethylphenol	350	U
111-91-1	Bis(2-chloroethoxy)methane	350	U
120-83-2	2,4-Dichlorophenol	350	U
65-85-0	Benzoic Acid	1700	U
120-82-1	1,2,4-Trichlorobenzene	350	U
91-20-3	Naphthalene	350	U
106-47-8	4-Chloroaniline	870	U
87-68-3	Hexachlorobutadiene	350	U
59-50-7	4-Chloro-3-methylphenol	350	U
91-57-6	2-Methylnaphthalene	350	U
77-47-4	Hexachlorocyclopentadiene	350	U
88-06-2	2,4,6-Trichlorophenol	350	U
95-95-4	2,4,5-Trichlorophenol	350	U
91-58-7	2-Chloronaphthalene	350	U
88-74-4	2-Nitroaniline	1700	U
131-11-3	Dimethylphthalate	350	U
606-20-2	2,6-Dinitrotoluene	350	U
208-96-8	Acenaphthylene	350	U
99-09-2	3-Nitroaniline	1700	U
83-32-9	Acenaphthene	350	U
51-28-5	2,4-Dinitrophenol	1700	U
100-02-7	4-Nitrophenol	1700	U
132-64-9	Dibenzofuran	350	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name:	Paragon Analytics, Inc.	Sample ID	
Client Name:	Washington State Dept. of Ecology	H97016	
Client Project ID:	Not Submitted		
Matrix: (soil/water)	Soil		
Sample Weight(g):	30	Lab Sample ID:	9706015-2
Level (Low/Med):	Low	Lab File ID:	N0613S16.D
% Moisture:	4.67	Date Collected:	05-29-97
Extraction:	Soxhlet	Date Extracted:	06-10-97
GPC Cleanup (Y/N):	N	Date Analyzed:	06-13-97
Final Volume(mL):	1	Dilution Factor:	1

CAS No.	Analyte	Conc. (µg/kg)	Q
121-14-2	2,4-Dinitrotoluene	350	U
84-66-2	Diethylphthalate	350	U
86-73-7	Fluorene	350	U
7005-72-3	4-Chlorophenyl phenyl ether	350	U
100-01-6	4-Nitroaniline	1700	U
103-33-3	Azobenzene	350	U
534-52-1	4,6-Dinitro-2-methylphenol	1700	U
86-30-6	n-Nitrosodiphenylamine(1)	350	U
101-55-3	4-Bromophenyl phenyl ether	350	U
118-74-1	Hexachlorobenzene	350	U
87-86-5	Pentachlorophenol	1700	U
85-01-8	Phenanthrene	350	U
120-12-7	Anthracene	350	U
86-74-8	Carbazole	350	U
84-74-2	Di-n-butylphthalate	350	U
206-44-0	Fluoranthene	350	U
92-87-5	Benzidine	1700	U
129-00-0	Pyrene	350	U
85-68-7	Butylbenzylphthalate	350	U
56-55-3	Benzo(a)anthracene	350	U
91-94-1	3,3'-Dichlorobenzidine	1700	U
218-01-9	Chrysene	350	U
117-81-7	Bis(2-ethylhexyl)phthalate	350	U
117-84-0	Di-n-octylphthalate	350	U
205-99-2	Benzo(b&k)fluoranthene	350	U
50-32-8	Benzo(a)pyrene	350	U
193-39-5	Indeno(1,2,3-c,d)pyrene	350	U
53-70-3	Dibenzo(a,h)anthracene	350	U
191-24-2	Benzo(g,h,i)perylene	350	U

(1) - Cannot be separated from Diphenylamine

SURROGATE RECOVERIES

Analyte	% Recovery	Rec QC Limits
2-Fluorophenol	66	25 - 100
2-Chlorophenol-d4	67	20 - 130
Phenol-d5	70	24 - 104
1,2-Dichlorobenzene-d4	66	20 - 130
Nitrobenzene-d5	70	31 - 106
2-Fluorobiphenyl	79	30 - 105
2,4,6-Tribromophenol	69	19 - 113
p-Terphenyl-d14	63	18 - 112

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name:	Paragon Analytics, Inc.	Sample ID	
Client Name:	Washington State Dept. of Ecology	H97016	
Client Project ID:	Not Submitted		
Matrix: (soil/water)	Soil		
Sample Weight(g):	30	Lab Sample ID:	9706015-2
Level (Low/Med):	Low	Lab File ID:	N0613S16.D
% Moisture:	4.67	Date Collected:	05-29-97
Extraction:	Soxhlet	Date Extracted:	06-10-97
GPC Cleanup (Y/N):	N	Date Analyzed:	06-13-97
Final Volume(mL):	1	Dilution Factor:	1

# of TIC's found: 0

	RT	CAS No.	Compound	Conc. (µg/kg)	Q
1			None Detected		
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name:	Paragon Analytics, Inc.	Sample ID	
Client Name:	Washington State Dept. of Ecology	H97019	
Client Project ID:	Not Submitted		
Matrix: (soil/water)	Soil		
Sample Weight(g):	30	Lab Sample ID:	9706015-05
Level (Low/Med):	Low	Lab File ID:	N0616S02.D
% Moisture:	3.89	Date Collected:	05-29-97
Extraction:	Soxhlet	Date Extracted:	06-10-97
GPC Cleanup (Y/N):	N	Date Analyzed:	06-16-97
Final Volume(mL):	1	Dilution Factor:	1

CAS No.	Analyte	Conc. (µg/kg)	Q
110-86-1	Pyridine	350	U
62-75-9	n-Nitrosodimethylamine	350	U
62-53-3	Aniline	870	U
108-95-2	Phenol	350	U
111-44-4	Bis(2-chloroethyl)ether	350	U
95-57-8	2-Chlorophenol	350	U
541-73-1	1,3-Dichlorobenzene	350	U
106-46-7	1,4-Dichlorobenzene	350	U
95-50-1	1,2-Dichlorobenzene	350	U
100-51-6	Benzyl Alcohol	350	U
108-60-1	Bis(2-chloroisopropyl)ether	350	U
95-48-7	2-Methylphenol	350	U
621-64-7	n-Nitroso-di-n-propylamine	350	U
106-44-5	4-Methylphenol	350	U
67-72-1	Hexachloroethane	350	U
98-95-3	Nitrobenzene	350	U
78-59-1	Isophorone	350	U
88-75-5	2-Nitrophenol	350	U
105-67-9	2,4-Dimethylphenol	350	U
111-91-1	Bis(2-chloroethoxy)methane	350	U
120-83-2	2,4-Dichlorophenol	92	J
65-85-0	Benzoic Acid	1700	U
120-82-1	1,2,4-Trichlorobenzene	350	U
91-20-3	Naphthalene	350	U
106-47-8	4-Chloroaniline	870	U
87-68-3	Hexachlorobutadiene	350	U
59-50-7	4-Chloro-3-methylphenol	350	U
91-57-6	2-Methylnaphthalene	350	U
77-47-4	Hexachlorocyclopentadiene	350	U
88-06-2	2,4,6-Trichlorophenol	350	U
95-95-4	2,4,5-Trichlorophenol	350	U
91-58-7	2-Chloronaphthalene	350	U
88-74-4	2-Nitroaniline	1700	U
131-11-3	Dimethylphthalate	350	U
606-20-2	2,6-Dinitrotoluene	350	U
208-96-8	Acenaphthylene	350	U
99-09-2	3-Nitroaniline	1700	U
83-32-9	Acenaphthene	350	U
51-28-5	2,4-Dinitrophenol	1700	U
100-02-7	4-Nitrophenol	1700	U
132-64-9	Dibenzofuran	350	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name:	Paragon Analytics, Inc.	Sample ID	
Client Name:	Washington State Dept. of Ecology	H97019	
Client Project ID:	Not Submitted		
Matrix: (soil/water)	Soil		
Sample Weight(g).	30	Lab Sample ID:	9706015-05
Level (Low/Med):	Low	Lab File ID:	N0616S02.D
% Moisture:	3.89	Date Collected:	05-29-97
Extraction:	Soxhlet	Date Extracted:	06-10-97
GPC Cleanup (Y/N):	N	Date Analyzed:	06-16-97
Final Volume(mL).	1	Dilution Factor:	1

CAS No.	Analyte	Conc. (µg/kg)	Q
121-14-2	2,4-Dinitrotoluene	350	U
84-66-2	Diethylphthalate	350	U
86-73-7	Fluorene	350	U
7005-72-3	4-Chlorophenyl phenyl ether	350	U
100-01-6	4-Nitroaniline	1700	U
103-33-3	Azobenzene	350	U
534-52-1	4,6-Dinitro-2-methylphenol	1700	U
86-30-6	n-Nitrosodiphenylamine(1)	350	U
101-55-3	4-Bromophenyl phenyl ether	350	U
118-74-1	Hexachlorobenzene	350	U
87-86-5	Pentachlorophenol	1700	U
85-01-8	Phenanthrene	350	U
120-12-7	Anthracene	350	U
86-74-8	Carbazole	350	U
84-74-2	Di-n-butylphthalate	350	U
206-44-0	Fluoranthene	350	U
92-87-5	Benzidine	1700	U
129-00-0	Pyrene	350	U
85-68-7	Butylbenzylphthalate	350	U
56-55-3	Benzo[a]anthracene	350	U
91-94-1	3,3'-Dichlorobenzidine	1700	U
218-01-9	Chrysene	350	U
117-81-7	Bis(2-ethylhexyl)phthalate	350	U
117-84-0	Di-n-octylphthalate	350	U
205-99-2	Benzo[b&k]fluoranthene	350	U
50-32-8	Benzo[a]pyrene	350	U
193-39-5	Indeno(1,2,3-c,d)pyrene	350	U
53-70-3	Dibenzo[a,h]anthracene	350	U
191-24-2	Benzo[g,h,i]perylene	350	U

(1) - Cannot be separated from Diphenylamine

SURROGATE RECOVERIES

Analyte	% Recovery	Rec QC Limits
2-Fluorophenol	60	25 - 121
2-Chlorophenol-d4	64	20 - 130
Phenol-d5	64	24 - 113
1,2-Dichlorobenzene-d4	62	20 - 130
Nitrobenzene-d5	63	23 - 120
2-Fluorobiphenyl	75	30 - 115
2,4,6-Tribromophenol	95	19 - 122
p-Terphenyl-d14	64	18 - 137

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name:	Paragon Analytics, Inc.	Sample ID	
Client Name:	Washington State Dept. of Ecology		
Client Project ID:	Not Submitted		H97019
Matrix: (soil/water)	Soil		
Sample Weight(g):	30	Lab Sample ID:	9706015-05
Level (Low/Med):	Low	Lab File ID:	N0616S02.D
% Moisture:	3.89	Date Collected:	05-29-97
Extraction:	Soxhlet	Date Extracted:	06-10-97
GPC Cleanup (Y/N):	N	Date Analyzed:	06-16-97
Final Volume(mL):	1	Dilution Factor:	1

# of TIC's found: 0

	RT	CAS No.	Compound	Conc. (µg/kg)	Q
1	14.37	94-75-7	Acetic acid, (2,4-dichlorophenoxy)-	350	J
2	14.47		Saturated Hydrocarbon	1000	J
3	14.82	94-75-7	Acetic acid, (2,4-dichlorophenoxy)-	22000	J
4	15.05		Saturated Hydrocarbon	380	J
5	15.88	None	2,4'-Dichloro-5-hydroxydiphenyl eth	250	J
6	16.03	None	4,4'-Dichloro-3-hydroxydiphenyl eth	1400	J
7					
8					
9					
10					
11					
12					
13					
14					
15					
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17					
18					
19					
20					
21					
22					
23					
24					
25					

PARAGON ANALYTICS, INC.

AN EMPLOYEE OWNED SMALL BUSINESS

225 Commerce Drive Fort Collins, Colorado 80524 (800) 443-1511

Message

Phone (970) 490-1511
Fax (970) 490-1522

Here are 8081 and TPHD results for 100-IU-3.

To	Jerry Yokel	Company	Wash. Dept. of Ecology
Fax No.	(509) 736-3030	Date	6/24/97
From	Lance Steere	Total Pages	11

If you do not receive all the pages, please call us back as soon as possible.

Total Extractable Petroleum Hydrocarbons

Modified Method 8015

Sample ID

H97015

Lab Name: Paragon Analytics, Inc.
Client Name: Washington State Dept. of Ecology
Client Project ID: Not Submitted

Lab Sample ID: 9706015-1

Sample Matrix: Soil
Cleanup: N/A
% Moisture: 4.56 %
Results based on dry weight

Date Collected: 5/29/97
Date Extracted: 6/10/97
Date Analyzed: 6/14/97

Sample Weight: 20 g
Final Volume: 5 mL
Dilution Factor: 1

Analyte	Conc (mg/kg)	Reporting Limit (mg/kg)
TEPH[1]	ND	5.2

SURROGATE RECOVERY

Analyte	% Recovery	% Rec Limits
Hexacosane	102	54 - 146

ND = Not Detected at or above client requested reporting limit.
TEPH[1] = Any combination of diesel and other hydrocarbons within the range of C8 - C36 quantitated as diesel.

Total Extractable Petroleum Hydrocarbons

Modified Method 8015

Sample ID

H97016

Lab Name: Paragon Analytics, Inc.
Client Name: Washington State Dept. of Ecology
Client Project ID: Not Submitted

Lab Sample ID: 9706015-2

Sample Matrix: Soil
Cleanup: N/A
% Moisture: 4.67 %
Results based on dry weight

Date Collected: 5/29/97
Date Extracted: 6/10/97
Date Analyzed: 6/14/97

Sample Weight: 20 g
Final Volume: 5 mL
Dilution Factor: 1

Analyte	Conc (mg/kg)	Reporting Limit (mg/kg)
TEPH[1]	ND	5.2

SURROGATE RECOVERY

Analyte	% Recovery	% Rec Limits
Hexacosane	101	54 - 146

ND = Not Detected at or above client requested reporting limit.
TEPH[1] = Any combination of diesel and other hydrocarbons within the range of C8 - C36 quantitated as diesel.

Total Extractable Petroleum Hydrocarbons

Modified Method 8015

Sample ID

H97017

Lab Name: Paragon Analytics, Inc.
Client Name: Washington State Dept. of Ecology
Client Project ID: Not Submitted

Lab Sample ID: 9706015-3

Sample Matrix: Soil
Cleanup: N/A
% Moisture: 4.48 %
Results based on dry weight

Date Collected: 5/29/97
Date Extracted: 6/10/97
Date Analyzed: 6/14/97

Sample Weight: 20 g
Final Volume: 5 mL
Dilution Factor: 1

Analyte	Conc (mg/kg)	Reporting Limit (mg/kg)
TEPH[1]	**8.8 #**	5.2

SURROGATE RECOVERY

Analyte	% Recovery	% Rec Limits
Hexacosane	101	54 - 146

ND = Not Detected at or above client requested reporting limit.
TEPH[1] = Any combination of diesel and other hydrocarbons within the range of C8 - C36 quantitated as diesel.
# - The chromatogram indicates hydrocarbons in the range of C16 - C36

Total Extractable Petroleum Hydrocarbons

Modified Method 8015

Sample ID

H97018

Lab Name: Paragon Analytics, Inc.
Client Name: Washington State Dept. of Ecology
Client Project ID: Not Submitted

Lab Sample ID: 9706015-4

Sample Matrix: Soil
Cleanup: N/A
% Moisture: 2.09 %
Results based on dry weight

Date Collected: 5/29/97
Date Extracted: 6/10/97
Date Analyzed: 6/14/97

Sample Weight: 20 g
Final Volume: 5 mL
Dilution Factor: 1

Analyte	Conc (mg/kg)	Reporting Limit (mg/kg)
TEPH[1]	15 #	5.1

SURROGATE RECOVERY

Analyte	% Recovery	% Rec Limits
Hexacosane	96	54 - 146

ND = Not Detected at or above client requested reporting limit.
TEPH[1] = Any combination of diesel and other hydrocarbons within the range of C8 - C36 quantitated as diesel.
# - The chromatogram indicates hydrocarbons in the range of C13 - C36

Total Extractable Petroleum Hydrocarbons

Modified Method 8015

Lab Name: Paragon Analytics, Inc.
Client Name: Washington State Dept. of Ecology
Client Project ID: Not Submitted

Lab Sample ID: 9706015-5

Sample Matrix: Soil
Cleanup: N/A
% Moisture: 3.89 %
Results based on dry weight

Sample ID

H97019

Date Collected: 5/29/97
Date Extracted: 6/10/97
Date Analyzed: 6/14/97

Sample Weight: 20 g
Final Volume: 5 mL
Dilution Factor: 1

Analyte	Conc (mg/kg)	Reporting Limit (mg/kg)
TEPH[1]	**66 #**	**5.2**

SURROGATE RECOVERY

Analyte	% Recovery	% Rec Limits
Hexacosane	101	54 - 146

ND = Not Detected at or above client requested reporting limit.
TEPH[1] = Any combination of diesel and other hydrocarbons within the range of C8 - C36 quantitated as diesel.
# - The chromatogram indicates hydrocarbons in the range of C8 - C36

ORGANOCHLORINE PESTICIDES

Method 8081

Sample ID

H97015

Lab Name: Paragon Analytics, Inc.
Client Name: Washington State Department of Ecology
Client Project ID: Not Submitted

Lab Sample ID: 9706015-1

Date Collected: 5/29/97
Date Extracted: 6/10/97
Date Analyzed: 6/17/97

Sample Matrix: Soil
Cleanup: N/A
% Moisture: 4.56 %
Results based on dry weight

Sample Weight: 30 g
Final Volume: 10 mL
Dilution Factor: 1

Analyte	Conc (ug/kg)	Reporting Limit (ug/kg)
alpha - BHC	ND	1.7
gamma - BHC (Lindane)	ND	1.7
Heptachlor	ND	1.7
Aldrin	6.6	1.7
beta - BHC	ND	1.7
delta - BHC	ND	1.7
Heptachlor Epoxide	ND	1.7
Endosulfan I	ND	1.7
Gamma Chlordane	ND	1.7
Alpha Chlordane	ND	1.7
4,4'-DDE	ND	3.5
Dieldrin	ND	3.5
Endrin	ND	3.5
4,4'-DDD	ND	3.5
Endosulfan II	ND	3.5
4,4'-DDT	ND	3.5
Endrin Aldehyde	ND	3.5
Methoxychlor	ND	17
Endosulfan Sulfate	ND	3.5
Endrin Ketone	ND	3.5
Toxaphene	ND	170
Aroclor 1016	ND	35
Aroclor 1221	ND	70
Aroclor 1232	ND	35
Aroclor 1242	ND	35
Aroclor 1248	ND	35
Aroclor 1254	ND	35
Aroclor 1260	ND	35

SURROGATE RECOVERY

Analyte	% Recovery	% Rec Limits
2,4,5,6-Tetrachloro-m-xylene	101	43 - 124
Decachlorobiphenyl	102	29 - 165

ND = Not Detected at or above client requested reporting limit.

ORGANOCHLORINE PESTICIDES

Method 8081

Sample ID

H97016

Lab Name: Paragon Analytics, Inc.
Client Name: Washington State Department of Ecology
Client Project ID: Not Submitted

Lab Sample ID: 9706015-2

Sample Matrix: Soil
Cleanup: N/A
% Moisture: 4.67 %
Results based on dry weight

Date Collected: 5/29/97
Date Extracted: 6/10/97
Date Analyzed: 6/17/97

Sample Weight: 30 g
Final Volume: 10 mL
Dilution Factor: 1

Analyte	Conc (ug/kg)	Reporting Limit (ug/kg)
alpha - BHC	ND	1.7
gamma - BHC (Lindane)	ND	1.7
Heptachlor	ND	1.7
Aldrin	ND	1.7
beta - BHC	ND	1.7
delta - BHC	ND	1.7
Heptachlor Epoxide	ND	1.7
Endosulfan I	ND	1.7
Gamma Chlordane	ND	1.7
Alpha Chlordane	ND	1.7
4,4'-DDE	ND	3.5
Dieldrin	ND	3.5
Endrin	ND	3.5
4,4'-DDD	ND	3.5
Endosulfan II	ND	3.5
4,4'-DDT	ND	3.5
Endrin Aldehyde	ND	3.5
Methoxychlor	ND	17
Endosulfan Sulfate	ND	3.5
Endrin Ketone	ND	3.5
Toxaphene	ND	170
Aroclor 1016	ND	35
Aroclor 1221	ND	70
Aroclor 1232	ND	35
Aroclor 1242	ND	35
Aroclor 1248	ND	35
Aroclor 1254	ND	35
Aroclor 1260	ND	35

SURROGATE RECOVERY

Analyte	% Recovery	% Rec Limits
2,4,5,6-Tetrachloro-m-xylene	101	43 - 124
Decachlorobiphenyl	101	29 - 165

ND = Not Detected at or above client requested reporting limit.

ORGANOCHLORINE PESTICIDES

Method 8081

Sample ID

H97017

Lab Name: Paragon Analytics, Inc.
Client Name: Washington State Department of Ecology
Client Project ID: Not Submitted

Lab Sample ID: 9706015-3

Date Collected: 5/29/97
Date Extracted: 6/10/97
Date Analyzed: 6/17/97

Sample Matrix: Soil
Cleanup: N/A
% Moisture: 4.48 %
Results based on dry weight

Sample Weight: 30 g
Final Volume: 10 mL
Dilution Factor: 1

Analyte	Conc (ug/kg)	Reporting Limit (ug/kg)
alpha - BHC	ND	1.7
gamma - BHC (Lindane)	ND	1.7
Heptachlor	ND	1.7
Aldrin	9.4	1.7
beta - BHC	16	1.7
delta - BHC	ND	1.7
Heptachlor Epoxide	ND	1.7
Endosulfan I	ND	1.7
Gamma Chlordane	ND	1.7
Alpha Chlordane	ND	1.7
4,4'-DDE	ND	3.5
Dieldrin	ND	3.5
Endrin	ND	3.5
4,4'-DDD	ND	3.5
Endosulfan II	ND	3.5
4,4'-DDT	ND	3.5
Endrin Aldehyde	ND	3.5
Methoxychlor	ND	17
Endosulfan Sulfate	ND	3.5
Endrin Ketone	ND	3.5
Toxaphene	ND	170
Aroclor 1016	ND	35
Aroclor 1221	ND	70
Aroclor 1232	ND	35
Aroclor 1242	ND	35
Aroclor 1248	ND	35
Aroclor 1254	ND	35
Aroclor 1260	ND	35

SURROGATE RECOVERY

Analyte	% Recovery	% Rec Limits
2,4,5,6-Tetrachloro-m-xylene	85	43 - 124
Decachlorobiphenyl	105	29 - 165

ND = Not Detected at or above client requested reporting limit.

ORGANOCHLORINE PESTICIDES

Method 8081

Sample ID

H97019

Lab Name: Paragon Analytics, Inc.
Client Name: Washington State Department of Ecology
Client Project ID: Not Submitted

Lab Sample ID: 9706015-5

Sample Matrix: Soil
Cleanup: N/A
% Moisture: 3.89 %
Results based on dry weight

Date Collected: 5/29/97
Date Extracted: 6/10/97
Date Analyzed: 6/17/97

Sample Weight: 30 g
Final Volume: 10 mL
Dilution Factor: 1

Analyte	Conc (ug/kg)	Reporting Limit (ug/kg)
alpha - BHC	ND	1.7
gamma - BHC (Lindane)	ND	1.7
Heptachlor	ND	1.7
Aldrin	ND	1.7
beta - BHC	ND	1.7
delta - BHC	ND	1.7
Heptachlor Epoxide	ND	1.7
Endosulfan I	ND	1.7
Gamma Chlordane	ND	1.7
Alpha Chlordane	ND	1.7
4,4'- DDE	ND	3.5
Dieldrin	ND	3.5
Endrin	ND	3.5
4,4'- DDD	ND	3.5
Endosulfan II	ND	3.5
4,4'- DDT	ND	3.5
Endrin Aldehyde	ND	3.5
Methoxychlor	ND	17
Endosulfan Sulfate	ND	3.5
Endrin Ketone	ND	3.5
Toxaphene	ND	170
Aroclor 1016	ND	35
Aroclor 1221	ND	69
Aroclor 1232	ND	35
Aroclor 1242	ND	35
Aroclor 1248	ND	35
Aroclor 1254	ND	35
Aroclor 1260	ND	35

SURROGATE RECOVERY

Analyte	% Recovery	% Rec Limits
2,4,5,6-Tetrachloro-m-xylene	87	43 - 124
Decachlorobiphenyl	105	29 - 165

ND = Not Detected at or above client requested reporting limit.

PARAGON ANALYTICS, INC.

AN EMPLOYEE OWNED SMALL BUSINESS

225 Commerce Drive Fort Collins, Colorado 80524 (800) 443-1511

Message

Phone (970) 490-1511
Fax (970) 490-1522

Here are combined Nitrate/nitrite results for 100-IU-3.

To	Jerry Yokel	Company	Wash. Dept. of Ecology
Fax No.	(509) 736-3030	Date	6/24/97
From	Lance Steere	Total Pages	2

If you do not receive all the pages, please call us back as soon as possible.

NITRATE + NITRITE

Method 353.3

Lab Name: Paragon Analytics, Inc.
Client Name: Washington State Dept. of Ecology
Client Project ID: Not Submitted
Client Project No: Not Submitted
Lab Workorder Number: 9706015

Date Collected: 05/29/97
Date Analyzed: 06/19-20/97
Sample Matrix: Soil

Results are reported on dry wt basis

Client ID	Lab Sample ID	Nitrate + Nitrite as N Conc (mg/kg)	Detection Limit (mg/kg)
	Method Blank	ND	0.5
H97015	9706015-1	10	1
H97016	9706015-2	2.5	0.5
H97017	9706015-3	14	1
H97018	9706015-4	6.5	0.5
H97019	9706015-5	23	3

ND = Not Detected

PARAGON
ANALYTICS, INC.
AN EMPLOYEE OWNED SMALL BUSINESS

225 Commerce Drive Fort Collins, Colorado 80524 (800) 443-1511
Phone (970) 490-1511
Fax (970) 490-1522

Message

Here are 8141 results for 100-IU-3.

Hardcopies will follow this week.

To	Jerry Yokel	Company	Wash. Dept. of Ecology
Fax No.	(509) 736-3030	Date	6/24/97
From	Lance Steere	Total Pages	6

If you do not receive all the pages, please call us back as soon as possible.

ORGANOPHOSPHORUS PESTICIDES

Method 8141

Lab Name: Paragon Analytics, Inc.
Client Name: Washington State Dept. of Ecology
Client Project ID: Not Submitted

Lab Sample ID: 9706015-01

Sample Matrix: Soil
Cleanup: N/A
% Moisture: 4.56 %
Results based on dry weight

Sample ID: H97015

Date Collected: 5/29/97
Date Extracted: 6/11/97
Date Analyzed: 6/21/97

Sample Weight: 30 g
Final Volume: 1 mL
Dilution Factor: 1

Analyte	Conc (ug/kg)	Reporting Limit (ug/kg)
Chlorfenvinphos	ND	3.6
Chlorpyrifos	ND	3.6
Coumaphos	ND	18
Demeton O + S	ND	5.2
Diazinon	ND	1.8
Dichlorvos	ND	3.6
Dimethoate	ND	5.2
Disulfoton	ND	3.6
EPN	ND	3.6
Ethion	ND	3.6
Ethoprop	ND	3.6
Ethyl Parathion	ND	3.6
Fensulfothion	ND	5.2
Fenthion	ND	3.6
Malathion	ND	3.6
Merphos A + B	ND	7.1
Methyl Azinphos	ND	7.1
Methyl Chlorpyrifos	ND	3.6
Methyl Parathion	ND	3.6
Mevinphos	ND	5.2
Monocrotophos	ND	105
Naled	ND	52
Oxodiazinon	ND	18
Phorate	ND	3.6
Ronnel	ND	3.6
Sulfotepp	ND	3.6
Sulprofos	ND	3.6
TEPP	ND	73
Tetrachlorvinphos	ND	1.8
Tokuthion	ND	3.6
Trichloronate	ND	1.8

SURROGATE RECOVERY

Analyte	% Recovery	% Rec Limits
Triphenylphosphate	29	5 - 203

ND = Not Detected at or above client requested reporting limit.

ORGANOPHOSPHORUS PESTICIDES

Method 8141

Lab Name: Paragon Analytics, Inc.
Client Name: Washington State Dept. of Ecology
Client Project ID: Not Submitted

Lab Sample ID: 9706015-02

Sample Matrix: Soil
Cleanup: N/A
% Moisture: 4.67 %
Results based on dry weight

Sample ID

H97016

Date Collected: 5/29/97
Date Extracted: 6/11/97
Date Analyzed: 6/21/97

Sample Weight: 30 g
Final Volume: 1 mL
Dilution Factor: 1

Analyte	Conc (ug/kg)	Reporting Limit (ug/kg)
Chlorfenvinphos	ND	3.6
Chlorpyrifos	ND	3.6
Coumaphos	ND	18
Demeton O + S	ND	5.2
Diazinon	ND	1.8
Dichlorvos	ND	3.6
Dimethoate	ND	5.2
Disulfoton	ND	3.6
EPN	ND	3.6
Ethion	ND	3.6
Ethoprop	ND	3.6
Ethyl Parathion	ND	3.6
Fensulfothion	ND	5.2
Fenthion	ND	3.6
Malathion	ND	3.6
Merphos A + B	ND	7.1
Methyl Azinphos	ND	7.1
Methyl Chlorpyrifos	ND	3.6
Methyl Parathion	ND	3.6
Mevinphos	ND	5.2
Monocrotophos	ND	105
Naled	ND	52
Oxodiazinon	ND	18
Phorate	ND	3.6
Ronnel	ND	3.6
Sulfotepp	ND	3.6
Sulprofos	ND	3.6
TEPP	ND	73
Tetrachlorvinphos	ND	1.8
Tokuthion	ND	3.6
Trichloronate	ND	1.8

SURROGATE RECOVERY

Analyte	% Recovery	% Rec Limits
Triphenylphosphate	76	5 - 203

ND = Not Detected at or above client requested reporting limit.

ORGANOPHOSPHORUS PESTICIDES

Method 8141

Lab Name: Paragon Analytics, Inc.
Client Name: Washington State Dept. of Ecology
Client Project ID: Not Submitted

Lab Sample ID: 9706015-03

Sample Matrix: Soil
Cleanup: N/A
% Moisture: 4.48 %
Results based on dry weight

Sample ID: H97017

Date Collected: 5/29/97
Date Extracted: 6/11/97
Date Analyzed: 6/22/97

Sample Weight: 30 g
Final Volume: 1 mL
Dilution Factor: 1

Analyte	Conc (ug/kg)	Reporting Limit (ug/kg)
Chlorfenvinphos	ND	3.6
Chlorpyrifos	ND	3.6
Coumaphos	ND	18
Demeton O + S	ND	5.2
Diazinon	ND	1.8
Dichlorvos	ND	3.6
Dimethoate	ND	5.2
Disulfoton	ND	3.6
EPN	ND	3.6
Ethion	ND	3.6
Ethoprop	ND	3.6
Ethyl Parathion	ND	3.6
Fensulfothion	ND	5.2
Fenthion	ND	3.6
Malathion	ND	3.6
Merphos A + B	ND	7.1
Methyl Azinphos	ND	7.1
Methyl Chlorpyrifos	ND	3.6
Methyl Parathion	ND	3.6
Mevinphos	ND	5.2
Monocrotophos	ND	105
Naled	ND	52
Oxodiazinon	ND	18
Phorate	ND	3.6
Ronnel	ND	3.6
Sulfotepp	ND	3.6
Sulprofos	ND	3.6
TEPP	ND	73
Tetrachlorvinphos	ND	1.8
Tokuthion	ND	3.6
Trichloronate	ND	1.8

SURROGATE RECOVERY

Analyte	% Recovery	% Rec Limits
Triphenylphosphate	34	5 - 203

ND = Not Detected at or above client requested reporting limit.

ORGANOPHOSPHORUS PESTICIDES

Method 8141

Lab Name: Paragon Analytics, Inc.
Client Name: Washington State Dept. of Ecology
Client Project ID: Not Submitted

Lab Sample ID: 9706015-04

Sample Matrix: Soil
Cleanup: N/A
% Moisture: 2.09 %
Results based on dry weight

Sample ID: H97018

Date Collected: 5/29/97
Date Extracted: 6/11/97
Date Analyzed: 6/22/97

Sample Weight: 30 g
Final Volume: 1 mL
Dilution Factor: 1

Analyte	Conc (ug/kg)	Reporting Limit (ug/kg)
Chlorfenvinphos	ND	3.5
Chlorpyrifos	ND	3.5
Coumaphos	ND	17
Demeton O + S	ND	5.1
Diazinon	ND	1.7
Dichlorvos	ND	3.5
Dimethoate	ND	5.1
Disulfoton	ND	3.5
EPN	ND	3.5
Ethion	ND	3.5
Ethoprop	ND	3.5
Ethyl Parathion	ND	3.5
Fensulfothion	ND	5.1
Fenthion	ND	3.5
Malathion	ND	3.5
Merphos A + B	ND	6.9
Methyl Azinphos	ND	6.9
Methyl Chlorpyrifos	ND	3.5
Methyl Parathion	ND	3.5
Mevinphos	ND	5.1
Monocrotophos	ND	102
Naled	ND	51
Oxodiazinon	ND	17
Phorate	ND	3.5
Ronnel	ND	3.5
Sulfotepp	ND	3.5
Sulprofos	ND	3.5
TEPP	ND	71
Tetrachlorvinphos	ND	1.7
Tokuthion	ND	3.5
Trichloronate	ND	1.7

SURROGATE RECOVERY

Analyte	% Recovery	% Rec Limits
Triphenylphosphate	33	5 - 203

ND = Not Detected at or above client requested reporting limit.

ORGANOPHOSPHORUS PESTICIDES

Method 8141

Lab Name: Paragon Analytics, Inc.
Client Name: Washington State Dept. of Ecology
Client Project ID: Not Submitted

Lab Sample ID: 9706015-05

Sample Matrix: Soil
Cleanup: N/A
% Moisture: 3.89 %
Results based on dry weight

Sample ID: H97019

Date Collected: 5/29/97
Date Extracted: 6/11/97
Date Analyzed: 6/22/97

Sample Weight: 30 g
Final Volume: 1 mL
Dilution Factor: 1

Analyte	Conc (ug/kg)	Reporting Limit (ug/kg)
Chlorfenvinphos	ND	3.5
Chlorpyrifos	ND	3.5
Coumaphos	ND	18
Demeton O + S	ND	5.2
Diazinon	ND	1.8
Dichlorvos	ND	3.5
Dimethoate	ND	5.2
Disulfoton	ND	3.5
EPN	ND	3.5
Ethion	ND	3.5
Ethoprop	ND	3.5
Ethyl Parathion	ND	3.5
Fensulfothion	ND	5.2
Fenthion	ND	3.5
Malathion	ND	3.5
Merphos A + B	ND	7.1
Methyl Azinphos	ND	7.1
Methyl Chlorpyrifos	ND	3.5
Methyl Parathion	ND	3.5
Mevinphos	ND	5.2
Monocrotophos	ND	104
Naled	ND	52
Oxodiazinon	ND	18
Phorate	ND	3.5
Ronnel	ND	3.5
Sulfotepp	ND	3.5
Sulprofos	ND	3.5
TEPP	ND	73
Tetrachlorvinphos	ND	1.8
Tokuthion	ND	3.5
Trichloronate	ND	1.8

SURROGATE RECOVERY

Analyte	% Recovery	% Rec Limits
Triphenylphosphate	63	5 - 203

ND = Not Detected at or above client requested reporting limit.

PARAGON
ANALYTICS, INC.
AN EMPLOYEE OWNED SMALL BUSINESS

225 Commerce Drive Fort Collins, Colorado 80524 (800) 443-1511
Phone (970) 490-1511
Fax (970) 490-1522

Message

Here are Herbicide & Btex results for 100-IU-3.

8081 and TPHD will immediately follow.

Note especially the 2,4-D contamination in the blank; it's likely to be carryover from the very large sample hits.

To	Jerry Yokel	Company	Wash. Dept. of Ecology
Fax No.	(509) 736-3030	Date	6/24/97
From	Lance Steere	Total Pages	12

If you do not receive all the pages, please call us back as soon as possible.

CHLORINATED HERBICIDES

Method 8151

Sample ID

Reagent Blank

Lab Name: Paragon Analytics, Inc.
Client Name: Washington State Department of Ecology
Client Project ID: Not Submitted

Lab Sample ID: SRB1 6/13/97

Sample Matrix: Sodium Sulfate
Cleanup: N/A
Final Volume: 0 %
Results based on wet weight

Date Collected: N/A
Date Extracted: 6/13/97
Date Analyzed: 6/17/97

Sample Weight: 30 g
Final Volume: 10 mL
Dilution Factor: 1

Analyte	Conc (ug/kg)	Reporting Limit (ug/kg)
Dalapon	ND	50
Dicamba	ND	2.0
MCPP	ND	2,000
MCPA	ND	2,000
Dichloroprop	ND	20
2,4-D	180	20
Silvex	ND	2.0
2,4.5-T	ND	2.0
2,4-DB	ND	20
Dinoseb	ND	10

SURROGATE RECOVERY

Analyte	% Recovery	% Rec Limits
2,4-Dichlorophenylacetic acid	82	47 - 154

ND = Not Detected at or above client requested reporting limit.

CHLORINATED HERBICIDES

Method 8151

Sample ID

H97015

Lab Name: Paragon Analytics, Inc.
Client Name: Washington State Department of Ecology
Client Project ID: Not Submitted

Lab Sample ID: 9706015-1

Date Collected: 5/29/97
Date Extracted: 6/13/97
Date Analyzed: 6/18/97

Sample Matrix: Soil
Cleanup: N/A
Final Volume: 4.56 %
Results based on dry weight

Sample Weight: 30 g
Final Volume: 10 mL
Dilution Factor: 100

Analyte	Conc (ug/kg)	Reporting Limit (ug/kg)
Dalapon	ND	5,200
Dicamba	ND	210
MCPP	ND	210,000
MCPA	ND	210,000
Dichloroprop	ND	2,100
2,4-D	11,000,000B *	2,100,000
Silvex	ND	210
2,4,5-T	1,900	210
2,4-DB	ND	2,100
Dinoseb	ND	1,000

SURROGATE RECOVERY

Analyte	% Recovery	% Rec Limits
2,4-Dichlorophenylacetic acid	I	47 - 154

I = Surrogate recovery not reported due to sample dilution.
ND = Not Detected at or above client requested reporting limit.
* Reported from a 1:100000 dilution. Reporting limit adjusted accordingly.

CHLORINATED HERBICIDES

Method 8151

Sample ID

H97016

Lab Name: Paragon Analytics, Inc.
Client Name: Washington State Department of Ecology
Client Project ID: Not Submitted

Lab Sample ID: 9706015-2

Sample Matrix: Soil
Cleanup: N/A
Final Volume: 4.67 %
Results based on dry weight

Date Collected: 5/29/97
Date Extracted: 6/13/97
Date Analyzed: 6/18/97

Sample Weight: 30 g
Final Volume: 10 mL
Dilution Factor: 1

Analyte	Conc (ug/kg)	Reporting Limit (ug/kg)
Dalapon	ND	52
Dicamba	ND	2.1
MCPP	ND	2,100
MCPA	ND	2,100
Dichloroprop	ND	21
2,4-D	5,300B *	1,000
Silvex	ND	2.1
2,4,5-T	ND	2.1
2,4-DB	ND	21
Dinoseb	ND	11

SURROGATE RECOVERY

Analyte	% Recovery	% Rec Limits
2,4-Dichlorophenylacetic acid	78	47 - 154

ND = Not Detected at or above client requested reporting limit.
* Reported from a 1:50 dilution. Reporting limit adjusted accordingly.

CHLORINATED HERBICIDES

Method 8151

Sample ID

H97017

Lab Name: Paragon Analytics, Inc.
Client Name: Washington State Department of Ecology
Client Project ID: Not Submitted

Lab Sample ID: 9706015-3

Date Collected: 5/29/97
Date Extracted: 6/13/97
Date Analyzed: 6/18/97

Sample Matrix: Soil
Cleanup: N/A
Final Volume: 4.48 %
Results based on dry weight

Sample Weight: 30 g
Final Volume: 10 mL
Dilution Factor: 100

Analyte	Conc (ug/kg)	Reporting Limit (ug/kg)
Dalapon	ND	5,200
Dicamba	ND	210
MCPP	ND	210,000
MCPA	ND	210,000
Dichloroprop	ND	2,100
2,4-D	12,000,000B *	2,100,000
Silvex	ND	210
2,4,5-T	2,000	210
2,4-DB	ND	2,100
Dinoseb	ND	1,000

SURROGATE RECOVERY

Analyte	% Recovery	% Rec Limits
2,4-Dichlorophenylacetic acid	I	47 - 154

I = Surrogate recovery not reported due to sample dilution.
ND = Not Detected at or above client requested reporting limit.
* Reported from a 1:100000 dilution. Reporting limit adjusted accordingly.

CHLORINATED HERBICIDES

Method 8151

Sample ID

H97018

Lab Name: Paragon Analytics, Inc.
Client Name: Washington State Department of Ecology
Client Project ID: Not Submitted

Lab Sample ID: 9706015-4

Date Collected: 5/29/97
Date Extracted: 6/13/97
Date Analyzed: 6/18/97

Sample Matrix: Soil
Cleanup: N/A
Final Volume: 2.09 %
Results based on dry weight

Sample Weight: 15 g
Final Volume: 10 mL
Dilution Factor: 100

Analyte	Conc (ug/kg)	Reporting Limit (ug/kg)
Dalapon	ND	10,000
Dicamba	ND	410
MCPP	ND	410,000
MCPA	ND	410,000
Dichloroprop	ND	4,100
2,4-D	2,800,000B *	410,000
Silvex	ND	410
2,4,5-T	580	410
2,4-DB	ND	4,100
Dinoseb	ND	2,000

SURROGATE RECOVERY

Analyte	% Recovery	% Rec Limits
2,4-Dichlorophenylacetic acid	I	47 - 154

I = Surrogate recovery not reported due to sample dilution.
ND = Not Detected at or above client requested reporting limit.
* Reported from a 1:10000 dilution. Reporting limit adjusted accordingly.

CHLORINATED HERBICIDES

Method 8151

Sample ID

H97019

Lab Name: Paragon Analytics, Inc.
Client Name: Washington State Department of Ecology
Client Project ID: Not Submitted

Date Collected: 5/29/97
Date Extracted: 6/13/97
Date Analyzed: 6/18/97

Lab Sample ID: 9706015-5

Sample Matrix: Soil
Cleanup: N/A
Final Volume: 3.89 %
Results based on dry weight

Sample Weight: 30 g
Final Volume: 10 mL
Dilution Factor: 10

Analyte	Conc (ug/kg)	Reporting Limit (ug/kg)
Dalapon	ND	520
Dicamba	ND	21
MCPP	ND	21,000
MCPA	ND	21,000
Dichloroprop	ND	210
2,4-D	130,000B *	21,000
Silvex	ND	21
2,4,5-T	27	21
2,4-DB	ND	210
Dinoseb	ND	100

SURROGATE RECOVERY

Analyte	% Recovery	% Rec Limits
2,4-Dichlorophenylacetic acid	83	47 - 154

ND = Not Detected at or above client requested reporting limit.
* Reported from a 1:100000 dilution. Reporting limit adjusted accordingly.

AROMATIC VOLATILE ORGANICS

Method 8020

Sample ID

H97015

Lab Name: Paragon Analytics, Inc.
Client Name: Washington State Dept. of Ecology
Client Project ID: Not Submitted

Date Collected: 5/29/97
Date Extracted: 6/10/97
Date Analyzed: 6/10/97

Lab Sample ID: 9706015-1

Sample Matrix: Soil
% Moisture: 4.56 %
Results based on dry weight

Sample Weight: 5 g
Purge Volume: 5 mL
Dilution Factor: 1

Analyte	Conc (ug/Kg)	Reporting Limit (ug/Kg)
Benzene	ND	0.52
Toluene	ND	0.52
Ethylbenzene	ND	0.52
M,P-Xylene	ND	1.0
O-Xylene	ND	0.52
Total Xylenes	ND	1.0

SURROGATE RECOVERY

Analyte	% Recovery	% Rec Limits
2,3,4-Trifluorotoluene	100	85 - 115

ND = Not Detected at or above client requested reporting limit.

AROMATIC VOLATILE ORGANICS

Method 8020

Sample ID

H97016

Lab Name: Paragon Analytics, Inc.
Client Name: Washington State Dept. of Ecology
Client Project ID: Not Submitted

Date Collected: 5/29/97
Date Extracted: 6/10/97
Date Analyzed: 6/10/97

Lab Sample ID: 9706015-2

Sample Matrix: Soil
% Moisture: 4.67 %
Results based on dry weight

Sample Weight: 5 g
Purge Volume: 5 mL
Dilution Factor: 1

Analyte	Conc (ug/Kg)	Reporting Limit (ug/Kg)
Benzene	ND	0.52
Toluene	ND	0.52
Ethylbenzene	ND	0.52
M,P-Xylene	ND	1.0
O-Xylene	ND	0.52
Total Xylenes	ND	1.0

SURROGATE RECOVERY

Analyte	% Recovery	% Rec Limits
2,3,4-Trifluorotoluene	102	85 - 115

ND = Not Detected at or above client requested reporting limit.

AROMATIC VOLATILE ORGANICS

Method 8020

Sample ID

H97017

Lab Name: Paragon Analytics, Inc.
Client Name: Washington State Dept. of Ecology
Client Project ID: Not Submitted

Date Collected: 5/29/97
Date Extracted: 6/10/97
Date Analyzed: 6/10/97

Lab Sample ID: 9706015-3

Sample Matrix: Soil
% Moisture: 4.48 %
Results based on dry weight

Sample Weight: 5 g
Purge Volume: 5 mL
Dilution Factor: 1

Analyte	Conc (ug/Kg)	Reporting Limit (ug/Kg)
Benzene	ND	0.52
Toluene	ND	0.52
Ethylbenzene	ND	0.52
M,P-Xylene	ND	1.0
O-Xylene	ND	0.52
Total Xylenes	ND	1.0

SURROGATE RECOVERY

Analyte	% Recovery	% Rec Limits
2,3,4-Trifluorotoluene	100	85 - 115

ND = Not Detected at or above client requested reporting limit.

AROMATIC VOLATILE ORGANICS

Method 8020

Sample ID

H97018

Lab Name. Paragon Analytics, Inc.
Client Name: Washington State Dept. of Ecology
Client Project ID: Not Submitted

Date Collected: 5/29/97
Date Extracted: 6/10/97
Date Analyzed: 6/10/97

Lab Sample ID: 9706015-4

Sample Matrix: Soil
% Moisture: 2.09 %
Results based on dry weight

Sample Weight: 5 g
Purge Volume: 5 mL
Dilution Factor: 1

Analyte	Conc (ug/Kg)	Reporting Limit (ug/Kg)
Benzene	ND	0.51
Toluene	ND	0.51
Ethylbenzene	ND	0.51
M,P-Xylene	ND	1.0
O-Xylene	ND	0.51
Total Xylenes	ND	1.0

SURROGATE RECOVERY

Analyte	% Recovery	% Rec Limits
2,3,4-Trifluorotoluene	101	85 - 115

ND = Not Detected at or above client requested reporting limit.

AROMATIC VOLATILE ORGANICS

Method 8020

Sample ID

H97019

Lab Name: Paragon Analytics, Inc.
Client Name: Washington State Dept. of Ecology
Client Project ID: Not Submitted

Date Collected: 5/29/97
Date Extracted: 6/10/97
Date Analyzed: 6/10/97

Lab Sample ID: 9706015-5

Sample Matrix: Soil
% Moisture: 3.89 %
Results based on dry weight

Sample Weight: 5 g
Purge Volume: 5 mL
Dilution Factor: 1

Analyte	Conc (ug/Kg)	Reporting Limit (ug/Kg)
Benzene	ND	0.52
Toluene	ND	0.52
Ethylbenzene	ND	0.52
M,P-Xylene	ND	1.0
O-Xylene	ND	0.52
Total Xylenes	ND	1.0

SURROGATE RECOVERY

Analyte	% Recovery	% Rec Limits
2,3,4-Trifluorotoluene	100	85 - 115

ND = Not Detected at or above client requested reporting limit.

7. EPA Laboratory Data - Manchester

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION 10

FACSIMILE TRANSMITTAL FORM

TO: Glenn Goldberg

FAX NO. (509) 376-4360

FROM: Keven McDermott Ph: (206) 553-6698

Office of Environmental Assessment
1200 - 6th Avenue
Seattle, Washington 98101

▸ FAX (206) 553-0119

DATE: 6-20-97

TOTAL PAGES (including cover sheet): 15

MESSAGE:

Glenn —

ATTACHED ARE SAMPLE RESULTS AND BUREAU OF RECLAMATION MEMOS.

Ken

Manchester Environmental Laboratory
Final Report

Project Code:	TEC-683C	**Collected:**	5/29/97
Project Name:	WAHLUKE SPRAY	**Matrix:**	Solid
Project Officer:	KEVIN MCDERMOTT	**Sample Number:**	97224450
Account Code:	9798B10PFKX	**Type:**	Reg sample
Station Description:	#1 Auger Hole (1)		

			Result	Units	Qlfr
GC					
Parameter	Herbicides				
Method					
Prep Method:					
Analytes	118796	Phenol, 2,4,6-tribromo			NAR
	93765	2,4,5-T	240	ug/kg	
	94757	2,4-D	200000	ug/kg	
	93721	Silvex	20	ug/kg	U

200 ppm 2,4-D
0.24 2,4,5-T

Sent to -
Kevin McDermott
cc: Jed Yanuch

Manchester Environmental Laboratory
Final Report

Project Code:	TEC-683C	**Collected:**	5/29/97
Project Name:	WAHLUKE SPRAY	**Matrix:**	Solid
Project Officer:	KEVIN MCDERMOTT	**Sample Number:**	97224451
Account Code:	9798B10PFKX	**Type:**	Reg sample
Station Description:	#2 Auger Hole (2A)		

			Result	Units	Qlfr
GC					
Parameter	Herbicides				
Method					
Prep Method					
Analytes	118796	Phenol, 2,4,6-tribromo			NAR
	93765	2,4,5-T	880	ug/kg	
	94757	2,4-D	1300000	ug/kg	
	93721	Silvex	13	ug/kg	U

1300 ppm 2,4-D
0.38 ppm 2,4,5-T

Manchester Environmental Laboratory
Final Report

Project Code:	TEC-683C	**Collected:**	5/29/97
Project Name:	WAHLUKE SPRAY	**Matrix:**	Solid
Project Officer:	KEVIN MCDERMOTT	**Sample Number:**	97224452
Account Code:	9798B10PFKX	**Type:**	Reg sample
Station Description:	#3 Auger Hole (3A)		

			Result	Units	Qlfr
GC					
Parameter :	Herbicides				
Method :					
Prep Method :					
Analytes	118796	Phenol, 2,4,6-tribromo			NAR
	93765	2,4,5-T	620	ug/kg	
	94757	2,4-D	1000000	ug/kg	
	93721	Silvex	14	ug/kg	U

1000 ppm 2,4-D
0.62 ppm 2,4,5-T

Manchester Environmental Laboratory
Final Report

Project Code:	TEC-683C	**Collected:**	5/29/97
Project Name:	WAHLUKE SPRAY	**Matrix:**	Solid
Project Officer:	KEVIN MCDERMOTT	**Sample Number:**	97224453
Account Code:	9798B10PFKX	**Type:**	Reg sample
Station Description:	#4 Auger Hole (4A)		

			Result	Units	Qlfr
GC					
Parameter	: Herbicides				
Method	:				
Prep Method	:				
Analytes	93765	2,4,5-T	13	ug/kg	
	94757	2,4-D	200	ug/kg	
	93721	Silvex	11	ug/kg	U
	118796	Phenol, 2,4,6-tribromo	99	%	

0.2 ppm 2,4-D
0.013 2,4,5-T

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Project Code:	TEC-683C	**Collected:**	5/29/97
Project Name:	WAHLUKE SPRAY	**Matrix:**	Solid
Project Officer:	KEVIN MCDERMOTT	**Sample Number:**	97224453
Account Code:	9798B10PFKX	**Type:**	Matrix Spike
Station Description:	#4 Auger Hole (4A)		

			Result	Units	Qlfr
GC					
Parameter	: Herbicides				
Method					
Prep Method					
Analytes	93765	2,4,5-T	103	%	
	94757	2,4-D	96	%	
	118796	Phenol, 2,4,6-tribromo	96	%	
	93721	Silvex	95	%	

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Project Code:	TEC-683C	**Collected:**	5/29/97
Project Name:	WAHLUKE SPRAY	**Matrix:**	Solid
Project Officer:	KEVIN MCDERMOTT	**Sample Number:**	97224453
Account Code:	9798B10PFKX	**Type:**	Matrix Spike Dupl
Station Description:	#4 Auger Hole (4A)		

			Result	Units	Qlfr
GC					
Parameter	: Herbicides				
Method					
Prep Method					
Analytes	93765	2,4,5-T	100	%	
	94757	2,4-D	103	%	
	118796	Phenol, 2,4,6-tribromo	96	%	
	93721	Silvex	91	%	

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Project Code:	TEC-683C	**Collected:**	5/29/97
Project Name:	WAHLUKE SPRAY	**Matrix:**	Solid
Project Officer:	KEVIN MCDERMOTT	**Sample Number:**	97224454
Account Code:	9798B10PFKX	**Type:**	Reg sample
Station Description:	#5 Auger Hole (5A)		

GC

Parameter : Herbicides
Method
Prep Method

Analytes			Result	Units	Qlfr
	93765	2,4,5-T	33	ug/kg	
	94757	2,4-D	6200	ug/kg	
	93721	Silvex	13	ug/kg	U
	118796	Phenol, 2,4,6-tribromo	114	%	

6.2 ppm 2,4-D
0.035 ppm 2,4,5-T

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Project Code:	TEC-683C	**Collected:**	5/29/97
Project Name:	WAHLUKE SPRAY	**Matrix:**	Solid
Project Officer:	KEVIN MCDERMOTT	**Sample Number:**	OB57154H1
Account Code:	9798B10PFKX	**Type:**	Blank
Station Description:			

			Result	Units	Qlfr
GC					
Parameter	: Herbicides				
Method	:				
Prep Method	:				
Analytes	: 93765	2,4,5-T			ND
	94757	2,4-D			ND
	93721	Silvex			ND
	118796	Phenol, 2,4,6-tribromo	89	%	

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Project Code:	TEC-683C	**Collected:**	5/29/97
Project Name:	WAHLUKE SPRAY	**Matrix:**	Solid
Project Officer:	KEVIN MCDERMOTT	**Sample Number:**	OB57154H2
Account Code:	9798B10PFKX	**Type:**	Blank
Station Description:			

			Result	Units	Qlfr
GC					
Parameter	Herbicides				
Method					
Prep Method					
Analytes	94757	2,4-D			ND
	94826	2,4-DB			ND
	93721	Silvex			ND
	118796	Phenol, 2,4,6-tribromo	95	%	

END OF REPORT