START 9213505.1812

B018VI-TMA-097

0045804

TMA

1/4/2

SEP 1992
RECEIVED
OSM DMO

WESTINGHOUSE HANFORD COMPANY

Results of Analyses For:

ORGANICS
Case No. 05-015
(TMA/ARLI Work Order # A2-05-015)

METALS
Case No. N2-05-020
(TMA/Skinner & Sherman W.O. # S2-05-059 & S2-05-077)

September 10, 1992

TMA Master Work Order N2-05-020

RECORD COPY

NOV 1996
RECEIVED
EDMC

7/11/96 KDB

9713505_1813

MEMO

SUBJECT: WO# N2-05-020 & A2-05-015

The following samples were sent to Weston via FEDX on Friday 5/8/92:

B018V1
B018V6
B018V7
B018V8

All analysis for these four samples (Organics & Anions) will be done at Weston.

Per K. Pool on 5/11/92, all samples for metals will be run by CLP Protocol.

9213505.1814

OFFICE OF SAMPLE MANAGEMENT

RECORD OF DISPOSITION

ROD-92-103
Record of Disposition No.

DATE: 5-6-92	LABORATORY: TMA
PROJECT TITLE/NO.: 116-C-5 RETENTION BASIS FOR 100-BC-1/92-167	NCR NO.:

SAMPLE IDENTIFICATION NUMBERS:

B018V0 B018V3 B018V6 B018V9
B018V1 B018V4 B018V7
B018V2 B018V5 B018V8

DESCRIPTION OF EVENT:

MD 5/22/92

1. COC/SAR DID NOT DISTINGUISH WHICH SAMPLES ARE TO BE ANALYSED BY RCRA METHODS, AND WHICH SAMPLES ARE TO BE ANALYSED BY CERCLA METHODS.

2. COC/SAR DID NOT DOCUMENT THE NEED FOR NITRATE TO BE ANALYSED BY A SEPERATE METHOD. NITRATE WAS GROUPED WITH ALL ANIONS OF INTEREST.

DISPOSITION OF SAMPLES:

PER MIKE STANCKOVICH:

1. -SAMPLES B018V1, B018V6, B018V7 & B018V8 ARE TO BE ANALYSED BY RCRA METHODS.

   -SAMPLES B018V0, B018V2, B018V3, B018V4, B018V5 & B018V9 ARE TO BE ANALYSED BY CERCLA METHODS

2. -NITRATE IS TO BE ANALYSED BY METHOD 353.2 AND THE OTHER ANIONS BY METHOD 300.0.

APPROVAL SIGNATURES:

KARL POOL/ Karl D. Pool — 5-6-92
OSM Project Coordinator (Print/Sign Name) — Date

MIKE STANKOVICH MS — 5/23/92
Technical Representative (Print/Sign Name) — Date

N/A
Quality Assurance (Print/Sign Name) — Date

OFFICE OF SAMPLE MANAGEMENT

RECORD OF DISPOSITION

ROD-92-00131
Record of Disposition No.

DATE: 6-30-92

LABORATORY: TMA

PROJECT TITLE/NO.: 116C-5 BASIN/ 92-167

NCR NO.:

SAMPLE IDENTIFICATION NUMBERS:

B018V4 B018V5
B018V4MS B018V9
B018V4MSD

DESCRIPTION OF EVENT:

THE SAMPLES FOR PESTICIDES WERE ANALYZED TWO DAYS PAST THE EXTRACT HOLD TIME.

DISPOSITION OF SAMPLES:

PER MIKE STANKOVICH (6-25-92) THE DATA IS TO BE REPORTED.

APPROVAL SIGNATURES:

KARL POOL/ Karl D. Pool — 6-30-92
OSM Project Coordinator (Print/Sign Name) — Date

MIKE STANKOVICH/ M Stankovich — 7-14-92
Technical Representative (Print/Sign Name) — Date

Quality Assurance (Print/Sign Name) — Date

9713505.1816

Westinghouse Hanford Company

NONCONFORMANCE REPORT

1. Page 1 of 1

2. Preprinted No. 051931

QA Log No.

3. P. O., W. O., or Job Control No.	4. System/End Use	5. Item/Material	6. Dwg./Spec./Other No.	7. Rev.
N/A	RI/FS	SAMPLES	SEE DESCRIPTION	N/A

8. Program/Project/Other	9. Safety Class	10. ASME Code Items
100-BC-1 / 92-167	N/A	☐ Yes ☒ No (If yes, notify authorized inspector)

11. Supplier Name/Address: ENVIRONMENTAL FIELD SAMPLING SERVICES

12. Notification of Potential Occurence Required: ☐ Yes ☒ No

13. Code: Lot/Heat/Serial	14. Lot Size	15. Sample	16. Qty. Acc.	17. Inspection Criteria
N/A	4	4	Ø	☐ Dwg. ☐ Spec. ☐ Insp. Plan ☒ Other WHC-CM-7-7, EII 5.1 REV 0, SEC 6.1

18. Item	19. Description of Nonconformance (list serial no. where applicable)	22. Disposition, Justification, and Instructions
1	AS STATED IN WHC-CM-7-7, EII 5.1, REV 0, SEC 6.1, THERE WILL BE ONLY ONE UNIQUE HEIS NUMBER PER SAMPLE TO ASSURE NO MULTIPLE USE OF A SAMPLE NUMBER(S). CONTRARY TO THE ABOVE, HEIS SAMPLE NUMBERS B018V1, B018V[illegible], B018V7, AND B018V8, WERE ASSIGNED TO TWO DISTINCT SAMPLES. EACH SAMPLE MUST BE ASSIGNED A UNIQUE HEIS NUMBER.	SDLA WILL ISSUE A NEW HEIS NUMBER TO ANY SAMPLE WHICH HAS BEEN GIVEN A PREVIOUSLY USED HEIS IDENTIFIER. THESE SAMPLE NUMBER CHANGES WILL BE ENTERED INTO THE SDLA DATABASE. A MEMO WILL BE TRANSMITTED TO HEIS AND THE ANALYTICAL LABORATORY DATA PACKAGE, OUTLINING CORRECTIONS. SAMPLE NUMBERS WILL BE USED "AS IS" AND REFERENCED IN THE SDLA DATABASE TO MAINTAIN TRACEABILITY.

CANCEL BWC 1/25/94

20. Originator's Signature	Date	23. Design Document Change Required?
R Clayton Smith	1/12/94	☐ Yes, Doc. No. _____ ☐ No
21. Cognizant QA Manager's Signature	Date	24. Corrective Action Required?
		☐ Yes, No. _____ ☐ No

Disp. App.	25. Cognizant Engineer	Date	26. Technical Rep.	Date	Signature/Org.	Date
	J. W. Roberts G. S. Gorrigan SR 1-13-94					
	QA Engineer	Date	Signature/Org.	Date	Signature/Org.	Date
	G. S. Gorrigan J. W. Roberts SR 1-13-94					

Close 27. ☐ Accept _____ Reject _____ Follow on NCR _____ QA/C Personnel _____ Date

A-7310-104 (10/91)

1/10/94

DUPLICATE HEIS NUMBERS

for Project 100-BC-1

HEIS Samp Number	Client Sample Number	Master DP File Number	DP Sequence Number	Laboratory	Y N	VOA	Y N	SEMI VOA	Y N	PEST/PCB	Y N	WETCHEM	Y N	METALS	COMMENTS	Y N	RADCHEM	Date OSM Rcvd DP
B018V1		B018V1	097	TMA/NORCAL	N		N		N		Y	9/14/92	Y	9/14/92	05/04/92	Y	8/05/92	9/14/92
B018V1A		9205L270	422	WESTON	Y	6/26/92	Y	6/26/92	Y	6/26/92	Y	6/26/92	N		05/11/92	N		6/26/92
B018V6		B018V1	097	TMA/NORCAL	N		N		N		Y	9/14/92	Y	9/14/92	05/04/92	Y	8/05/92	9/14/92
B018V6A		9205L270	422	WESTON	Y	6/26/92	Y	6/26/92	Y	6/26/92	Y	6/26/92	N		05/11/92	N		6/26/92
B018V7		B018V1	097	TMA/NORCAL	N		N		N		Y	9/14/92	Y	9/14/92	05/04/92	Y	8/05/92	9/14/92
B018V7A		9205L270	422	WESTON	Y	6/26/92	Y	6/26/92	Y	6/26/92	Y	6/26/92	N		05/11/92	N		6/26/92
B018V8		B018V1	097	TMA/NORCAL	N		N		N		Y	9/14/92	Y	9/14/92	05/04/92	Y	8/05/92	9/14/92
B018V8A		9205L270	422	WESTON	Y	6/26/92	Y	6/26/92	Y	6/26/92	Y	6/26/92	N		05/11/92	N		6/26/92

B7

PULL ROD'S/NCR for all and see if there is explanation for B7's [illegible]

9713505.1818

Westinghouse Hanford Company

CHAIN OF CUSTODY 002413

Custody Form Initiator K. B Hulse

Company Contact Mike Stankovich / Karl Pool (OSM) Telephone 376-2493 / 373-3507

Project Designation/Sampling Locations SAF # 92-167 Collection Date 4-28-92

116-C-5 Retention Basin

Ice Chest No. Field Logbook No. WHC-N-205-21 pg 6

Bill of Lading/Airbill No. Offsite Property No.

Method of Shipment Emery Air Express

Shipped to TMA / NORCAL

Possible Sample Hazards/Remarks

Sample Identification

B018V0	(1)	120ml	aG	B018V9	(1)	1000ml	G
B018V1	(1)	120ml	aG	B018V9	(1)	250ml	G
B018V1	(1)	500ml	aG				
B018V1	(1)	500ml	G				
B018V1	(1)	1000ml	G				
B018V1	(1)	250ml	G				
~~KBH 5-1-92 B018V2~~	~~(1)~~	~~120ml~~	~~aG~~				
B018V9	(1)	120ml	aG				
B018V9	(1)	950ml	aG				
B018V9	(1)	500ml	G				

KB Hulse 4-29-92

☐ Field Transfer of Custody

CHAIN OF POSSESSION (Sign and Print Names)

Relinquished by:	Received by:	Date/Time:
K.B. Hulse KB Hulse	Kermit Blum	* 5-4-92 0800
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments: * Received @ TMA / NORCAL 5-2-92, opened 5-4-92. KB

A-6000-407 (12/90)

9713505.1819

2° C 000061

COC ~~2413~~ 2413 ~~2413~~ KBH 4-29-92

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

Collector K. B. Hulse Date Sampled 4-28-92 Time 1412 hours

Company Contact Mike Stankovich / Karl Pool (OSM) Telephone (509) 376-2493/373-3507

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
B018V0	(1) 120ml aG	soil	VOA
B018V1	(1) 120ml aG	soil	VOA
B018V1	(1) 500ml aG	soil	Semi-VOA/PCBs/Pests Anions SO_4, F, NO_3
B018V1	(1) 500ml G	soil	ICP/AA Metals Cyanide Hg
B018V1	(1) 1000ml G	soil	Gross Alpha, Gross Beta, Gamma Spec. U 235, 238
			Pu 239/240 Am 241 C-14 SR-90
B018V1	(1) 250ml G	soil	Hexavalent Chromium
~~B018V2~~ KBH 5-1-92	~~(1) 120ml aG~~	~~soil~~	~~VOA~~
B018V9	(1) 120ml aG	soil	VOA
B018V9	(1) 950ml aG	soil	Semi-VOA/PCBs/Pests Anions SO_4, F, NO_3
B018V9	(1) 500ml G	soil	ICP/AA Metals Hg CN
B018V9	(1) ~~1000ml~~ 250 G	soil	Gross Alpha, Gross Beta, Gamma Spec. U 235, 23
			Pu 239/240 Am 241 C-14 SR-90
B018V9	(1) ~~250ml~~ 1000 G	soil	Hexavalent Chromium

KB Hulse 4-29-92

KB Hulse 4-29-92

Field Information**

Special Handling and/or Storage Stored at 4°C packed on Wet ICE

Possible Sample Hazards

PART II: LABORATORY SECTION

Received by Kermit Blum Title Sample Control Supervisor Date 5-4-92

Analysis Required

*Indicate whether sample is soil, sludge, water, etc

9213505.1820

000062 N2-05-021

Westinghouse Hanford Company

CHAIN OF CUSTODY **002466**

Custody Form Initiator KB Hulse

Company Contact Mike Stankovich / Karl Pool

Telephone 326-2493 / 323-3507

Project Designation/Sampling Locations SAF # 92-167

Collection Date 4-28-92

116-C-5 Retention Basins

Ice Chest No.

Field Logbook No. WHC-N-205 #21 pg 6

Bill of Lading/Airbill No.

Offsite Property No.

Method of Shipment Emery Air Express

Shipped to TMA/NORCAL

Possible Sample Hazards/Remarks

Sample Identification

B018V2 (1) 120ml aG

KB Hulse 4-28-92

KB Hulse 4-28-92

☐ Field Transfer of Custody	CHAIN OF POSSESSION	(Sign and Print Names)
Relinquished by: KB Hulse KB Hulse	Received by: Kermit Blum	Date/Time: * 5-4-92 0800
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments: * Received @ TMA/NORCAL 5-2-92, opened 5-4-92. KB

A-6000-407 (12/90)

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

Collector K B Halse Date Sampled 4-28-92 Time 1426 hours

Company Contact Mike Stankovich / Karl Pool (OSM) Telephone (509) 376-2493 / 373-3502

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
B018V2	(1) 120ml aG	soil	VOA

K B Halse 4-28-92

Field Information**

Special Handling and/or Storage

Possible Sample Hazards

PART II: LABORATORY SECTION

Received by Kermit Blum Title Sample Control Supervisor Date 5-4-92

Analysis Required

*Indicate whether sample is soil, sludge, water, etc

9713505.1822

000064

Westinghouse Hanford Company	CHAIN OF CUSTODY	002411

Custody Form Initiator: KB Hulse

Company Contact: Mike Stankovich / Karl Pool (OSM) Telephone: 376-2493 / 373-3507

Project Designation/Sampling Locations: SAF # 92-167 Collection Date: 4-28-92

116-C-5 Retention Basins

Ice Chest No.: Field Logbook No.: WHC-N-205-21 pg 6

Bill of Lading/Airbill No.: Offsite Property No.:

Method of Shipment: Emery Air Express

Shipped to: TMA / NORCAL

Possible Sample Hazards/Remarks: Rad see attached Total ~~Activity~~ Activity KBH 4-29-92

Sample Identification

B018V3	(1)	120ml	aG
B018V4	(1)	120ml	aG
B018V4	(1)	950ml	aG
B018V4	(1)	500ml	G
B018V4	(1)	1000ml	G
B018V4	(1)	250ml	G
B018V5	(1)	120ml	aG
B018V5	(1)	950ml	aG
B018V5	(1)	500ml	G
B018V5	(1)	1000ml	G
B018V5	(1)	250ml	G

KB 4-29-92

☐ Field Transfer of Custody

CHAIN OF POSSESSION (Sign and Print Names)

Relinquished by:	Received by:	Date/Time:
KB Hulse KB Hulse	Kermit Blum	* 5-4-92 0800
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments: * Received @ TMA / NORCAL 5-2-92, opened 5-4-92. KB

A-6000-407 (12/90)

COC 2411

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

Collector K. B. Hulse Date Sampled 4-28-92 Time 1246 hours

Company Contact Mike Stankovich / Karl Pool (OSM) Telephone (509) 376-2493/373-3507

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
B018V3	(1) 120ml aG	soil	VOA
B018V4	(1) 120ml aG	soil	VOA
B018V4	(1) 950ml aG	soil	Semi-VOA PCBs/Pests Anions SO_4, F, NO_3
B018V4	(1) 500ml G	soil	ICP/AA Metals Hg CN
B018V4	(1) 1000ml G	soil	~~Radionuclides~~ KBH 4-29-92 Gross Alpha, Gross Beta, Gamma Spec
			U 235/238 Pu 239/240 Am 241 C-14 Sr-90
B018V4	(1) 250ml G	soil	Hexavalent Chromium
B018V5	(1) 120ml aG	soil	VOA
B018V5	(1) 950ml aG	soil	Semi-VOA PCBs/Pests Anions SO_4, F, NO_3
B018V5	(1) 500ml G	soil	ICP/AA Metals Hg CN
B018V5	(1) 1000ml G	soil	Gross Alpha, Gross Beta, Gamma Spec C-14
			U 235/238 Pu 239/240 Am 241 Sr-90
B018V5	(1) 250ml G	soil	Hexavalent Chromium

KB Hulse 4-29-92

KB Hulse 4-29-92

Field Information**

Special Handling and/or Storage Stored at 4°C Shipped on Wet ICE

Possible Sample Hazards Rad. see Total Activity

PART II: LABORATORY SECTION

Received by Kermit Blum Title Sample Control Supervisor Date 5-4-92

Analysis Required

*Indicate whether sample is soil, sludge, water, etc

9713505.1824

Westinghouse Hanford Company

CHAIN OF CUSTODY 002412

Custody Form Initiator KB Hulse

Company Contact Mike Stankovich / Karl Pool (OSM) Telephone 376-2493 / 373-3507

Project Designation/Sampling Locations SAF #92-167 Collection Date 4-28-92

116-C-5 Retention Basins

Ice Chest No. Field Logbook No. WHC-N-205-21 pg 6

Bill of Lading/Airbill No. Offsite Property No.

Method of Shipment Emery Air Express

Shipped to TMA / NORCAL

Possible Sample Hazards/Remarks Radioactive see Total Activity Report

Sample Identification

KBH 4-29-92 (1)	B018V6	(1)	120 ml	aG	B018V8	(1)	120 ml	aG
	B018V6	(1)	500 ml	aG	B018V8	(1)	500 ml	aG
	B018V6	(1)	500 ml	G	B018V8	(1)	500 ml	G
	B018V6	(1)	250 ml	G	B018V8	(1)	250 ml	G
	B018V6	(1)	1000 ml	G	B018V8	(1)	1000 ml	G
	B018V7	(1)	120 ml	aG				
	B018V7	(1)	500 ml	aG				
	B018V7	(1)	500 ml	G				
	B018V7	(1)	250 ml	G				
	B018V7	(1)	1000 ml	G				

KBH 4-29-92

☐ Field Transfer of Custody

CHAIN OF POSSESSION (Sign and Print Names)

Relinquished by:	Received by:	Date/Time:
KB Hulse KB Hulse	Kermit Blum	* 5-4-92 0800
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments: * Received 5-2-92, opened @ TMA/Norcal 5-4-92. KB

A-6000-407 (12/90)

9713505.1825

000067

COC 2412

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

Collector KB Hulse Date Sampled 4-28-92 Time 1220 hours

Company Contact Mike Stankovich / Karl Pool COSM Telephone (509) 376-2493 / 373-3507

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
B018V6	(1) 120ml aG	soil	VOA
B018V6	(1) 500ml aG	soil	Semi-VOA PCBs/Pests Anions SO_4, F, NO_3
B018V6	(1) 500ml G	soil	ICP/AA Metals Hg Cyanide
B018V6	(1) 250ml G	soil	Hexavalent Chromium
B018V6	(1) 1000ml G	soil	Gross Alpha, Gross Beta, Gamma Spec.
			U 235/238 Pu 239/240 Am 241 C-14 SR-90
B018V7	(1) 120ml aG	soil	VOA
B018V7	(1) 500ml aG	soil	Semi-VOA PCBs/Pests Anions SO_4, F, NO_3
B018V7	(1) 500ml G	soil	ICP/AA Metals Hg Cyanide
B018V7	(1) ~~500~~ 250 ml G	soil	Hexavalent Chromium
B018V7	(1) 1000ml G	soil	Gross Alpha, Gross Beta, Gamma Spec
			U 235/238 Pu 239/240 Am 241 C-14 Sr-9
B018V8	(1) 120ml aG	soil	VOA
B018V8	(1) 500ml aG	soil	Semi-VOA PCBs/Pests Anions SO_4, F, NO_3
B018V8	(1) 500ml G	soil	ICP/AA Metals Hg Cyanide
B018V8	(1) 250ml G	soil	Hexavalent Chromium
B018V8	(1) 1000ml G	soil	Gross Alpha, Gross Beta, Gamma Spec.
			U 235/238 Pu 239/240 Am 241 C-14 Sr-9

Field Information**

Special Handling and/or Storage Stored at 4°C shipped on Wet ICE

Possible Sample Hazards Radioactive See Total Activity Report

PART II: LABORATORY SECTION

Received by Kermit Blum Title Sample Control Supervisor Date 5-4-92

Analysis Required

*Indicate whether sample is soil, sludge, water, etc.

9213505 1826

000010

SAMPLE LOG-IN SHEET

LAB NAME TRA/ARLI

PAGE : 1 OF 1

RECEIVED BY (PRINT NAME): CAROLE HARRIS

LOG-IN-DATE : 5/5/92

RECEIVED BY (SIGNATURE) Carole Harris

CASE NUMBER:
SAMPLE DELIVERY GROUP NO :
SAS NUMBER:

REMARKS:

1. Custody Seal(s) — Present/Absent* Intact/Broken
2. Custody Seal Nos: _____
3. Chain of Custody Records — Present/Absent*
4. Traffic Reports or Packing List — Present/Absent*
5. Airbill — Airbill/Sticker Present/Absent*
6. Airbill No.: 2393492415
7. Sample Tags — Present/Absent*
8. Sample Tags Numbers — Listed/Not Listed on Chain of Custody
9. Sample Condition: — Intact/Broken*/Leaking
10. Does information on custody records, traffic reports, and sample tags agree — Yes/No*
11. Date Recieved at Lab: 5/5/92
12. Temp of ice chest 4.1 °C
13. Time Recieved: 9:00 AM

SAMPLE TRANSFER

Fraction: _____
Area #: _____
By: _____
On: _____

EPA SAMPLE #	CORRESPONDING SAMPLE TAG #	CORRESPONDING ASSIGNED LAB #	REMARKS: CONDITION OF SAMPLE SHIPMENT, ETC
	B018V0	AZ-05-015-01	
	B018V1	AZ-05-015-02	
	B018V2	AZ-05-015-03	
	B018V3	AZ-05-015-04	
	B018V4	AZ-05-015-05	
	B018V5	AZ-05-015-06	
	B018V6	AZ-05-015-07	
	B018V7	AZ-05-015-08	
	B018V8	AZ-05-015-09	
	B018V9	AZ-05-015-10	

* Contact SMO and attach record of resolution

Reviewed By: _____ Logbook No.: _____

Date: _____ Logbook Page No.: _____

FORM DC-1

GENERAL CHEMISTRY RESULTS

CASE NO. 05-015

Soil Sample #:

B018V4
B018V5
B018V9

CASE NARRATIVE

No problems were encountered during sample analysis.
All QC results were acceptable.

Ernesto Vázquez

Ernesto Vazquez

TMA Inc. REPORT Work Order # A2-05-015

Received: 05/04/92

Results by Sample

SAMPLE ID B018V4 FRACTION 05B TEST CODE WCCLPS NAME Anions in Solids - WH232

Date & Time Collected 04/28/92 Category

ANIONS AND WET CHEMISTRY - SOLIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Fluoride	300.0	3	mg/Kg	1.0
Nitrate Nitrogen	300.0	6	mg/Kg	2.0
Sulfate	300.0	37	mg/Kg	10

FORM I

TMA Inc. REPORT Work Order # A2-05-015

Received: 05/04/92

Results by Sample

SAMPLE ID B018V5 FRACTION 06B TEST CODE WCCLPS NAME Anions in Solids - WN232

Date & Time Collected 04/28/92 Category

ANIONS AND WET CHEMISTRY - SOLIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Fluoride	300.0	3	mg/Kg	1.0
Nitrate Nitrogen	300.0	6	mg/Kg	2.0
Sulfate	300.0	36	mg/Kg	10

FORM I

TMA Inc. REPORT Work Order # A2-05-015

Received: 05/04/92

Results by Sample

SAMPLE ID B018V9 FRACTION 10B TEST CODE WCCLPS NAME Anions in Solids - WM232

Date & Time Collected 04/28/92 Category

ANIONS AND WET CHEMISTRY - SOLIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Fluoride	300	2.0	mg/Kg	1.0
Nitrate	300	4.9	mg/Kg	2.0
Sulfate	300	29	mg/Kg	1

FORM I

CASE NARRATIVE

LABORATORY : TMA/ARLI

CASE : 05-015

CONTRACT ID : WESTINGHOUSE HANFORD COMPANY

SDG RECEIPT DATE : May 4, 1992

1.0 DESCRIPTION OF CASE :

Six soil samples were analyzed for TCL Organics-Volatiles, Semivolatiles, and Pesticide/PCBs according to the USEPA Contract Laboratory Program (CLP) Statement of Work for Organic Analysis, Revision OLM01.8.

Due to software limitations, the re-analyses of the Pesticide/PCB sample extracts are reported under case R5-015.. Case R5-015 is appended to this package.

2.0 SAMPLE LIST :

WESTINGHOUSE ID	LAB ID	ANALYSIS REQUESTED	MATRIX
B018V0	A2-05-015-01A	V	SOIL
B018V2	A2-05-015-03A	V	SOIL
B018V3	A2-05-015-04A	V	SOIL
B018V4	A2-05-015-05A	V	SOIL
B018V4	A2-05-015-05B	SV & P	SOIL
B018V4 RE	A2-05-015-05B	SV & P	SOIL
B018V4 MS	A2-05-015-05C	SV & P	SOIL
B018V4 MSRE	A2-05-015-05C	SV & P	SOIL
B018V4 MSD	A2-05-015-05D	SV & P	SOIL
B018V4 MSDRE	A2-05-015-05D	SV & P	SOIL
B018V5	A2-05-015-06A	V	SOIL
B018V5	A2-05-015-06B	SV & P	SOIL
B018V5 RE	A2-05-015-06B	SV & P	SOIL
B018V9	A2-05-015-10A	V	SOIL
B018V9	A2-05-015-10B	SV & P	SOIL
B018V9 RE	A2-05-015-10B	P	SOIL
B018V9 MS	A2-05-015-10C	V	SOIL
B018V9 MSD	A2-05-015-10D	V	SOIL

3.0 COMMENTS :

3.1 SHIPPING AND DOCUMENTATION :

All samples were received unbroken and properly documented.

3.2 ANALYSIS

3.2.1 VOLATILE ANALYSIS COMMENTS :

LOW LEVEL SOIL :

The samples were analyzed by heated purge within the CLP SOW holding times. All of the QC results were within the limits specified by the EPA CLP SOW.

TUNES :

All of the BFB tunes are injected directly into the GC/MS instrument.

3.2.2 SEMIVOLATILE ANALYSIS COMMENTS :

LOW LEVEL SOIL :

The samples were originally extracted and analyzed within the CLP SOW holding times. Sample B018V5 had surrogate recoveries above the QC limit for 2-Fluorobiphenyl and Terphenyl-d14. Sample B018V4 had surrogate recoveries below the QC limits for 2-Fluorobiphenyl and 2,4,6-Tribromophenol. Sample B018V4 also experienced a retention time shift out of its window for the sixth internal standard, Perylene-d12.

Sample B018V4MS had spike recoveries below the QC limits for 1,4-Dichlorobenzene, 1,2,4-Trichlorobenzene, Acenaphthene, Pentachlorophenol and Pyrene. Sample B018V4MSD had spike recoveries above the QC limits for Phenol and 2,4-Dinitrotoluene and below the QC limits for Pyrene. Due to the spike recovery differences in the MS and MSD samples, the %RPDs for 5 of the 11 spike compounds were above the advisory limit.

Samples B018V4, B018V4MS, B018V4MSD and B018V5 were re-extracted out of the CLP SOW holding times. The samples were analyzed and met all of the QC limits with the exception of the %RPD for 4-Chloro-3-methylphenol was slightly above the QC limits. The re-extracted sample analyses have been included in this package and are reported with the suffix "RE".

All of the other QC results were within the limits specified by the EPA CLP SOW.

3.2.3 PESTICIDE/PCB ANALYSIS COMMENTS :

CASE COMMENTS :

Due to the limitations and the difficulties in reporting of the sample results, two Pesticide/PCB cases were created and reported in this package. Case 05-015 contains all of the results for the original analyses from the 6/19/92 sequence. Case R5-015 contains all of the results from the re-analyzed samples from the 6/22/92 sequence.

SEQUENCE NOTES (CASE 05-015) :

The sequence was started on 6/19/92 and was analyzed by single injection into a dual column system.

The DB-608 column failed to meet the linearity requirements for the ICAL by the %RPD exceeding 20.0% for more than 2 compounds. Yet, the DB-1701 column met the linearity requirements for the ICAL. Since extract holding times were in jeopardy of being exceeded, the sequence was allowed to continue. The calibration verification standards analyzed after the ICAL met the QC requirements.

The inability to meet the linearity requirements for the ICAL would not affect the instrument's ability to detect any TCL analytes

Due to a malfunction at the data systems' storage box (interface box), the data files for two injections were lost. The injections of PIBLK04 at 04:38 and PEM03 at 05:23 were the last injections to close the sequence. After maintenance was performed, PIBLK05 and PEM04 were injected within the 12 hour required time period and properly closed the sequence.

The chromatograms are presented in a manner consistent with the capabilities of the Nelson 2600 Data System which normalizes the largest peak to scale.

SAMPLE NOTES (CASE 05-015) :

LOW LEVEL SOIL :

The samples were extracted within the CLP SOW holding times. The samples were analyzed out of their holding times with approval from Westinghouse Hanford Company (see ROD-92-00131). The samples were originally analyzed out of hold time under the 6/19/92 sequence. There were no target analytes detected in the samples.

The TCX and DCB recoveries were within the advisory limits for all of the samples and associated QC. Yet, samples B018V4, B018V4MS, B018V4MSD and B018V5 had percent differences (%D) for TCX that exceeded the 25% limit. The percent difference is measured as the difference in recovery between the two GC columns. It appears that the percent difference was exceeded due to a interference peak that co-eluted with TCX on the DB-1701 column while showing separation on the DB-608 column.

All of the other QC results were within the limits specified by the EPA CLP SOW.

SEQUENCE NOTES (CASE R5-015) :

Due to the 6/19/92 sequence that failed to meet the linearity requirements for the ICAL, the samples were re-analyzed under the 6/22/92 sequence.

The sequence started on 6/22/92 and was analyzed by a single injection into a dual column system. The instrument blanks and calibration verification standards all met the requirements established by the EPA CLP SOW.

The chromatograms are presented in a manner consistent with the capabilities of the Nelson 2600 Data System which normalizes the largest peak to scale.

SAMPLE NOTES (R5-015) :

LOW LEVEL SOIL :

The sample extracts were re-analyzed out of the holding times under the 6/22/92 sequence. All of the QC results were within the limits specified by the EPA CLP SOW.

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000005A

We certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data in this hardcopy data package and in the computer-readable data submitted on diskette is authorized by the Laboratory Manager or his designee, as verified by the following signatures.

Nicole Roth
CLP Program Manager

Wida Ang
Organics Supervisor

9713505.1836

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

000006
EPA SAMPLE NO.

B018V0

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05015 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A205015-01A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 20511R15

Level: (low/med) LOW Date Received: 05/04/92

% Moisture: not dec. 14 Date Analyzed: 05/11/92

GC Column: PACK ID: 2.00 (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	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	36	B
67-64-1	Acetone	12	U
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene	12	U
75-34-3	1,1-Dichloroethane	12	U
540-59-0	1,2-Dichloroethene (total)	12	U
67-66-3	Chloroform	12	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	12	U
124-48-1	Dibromochloromethane	12	U
79-00-5	1,1,2-Trichloroethane	12	U
71-43-2	Benzene	12	U
10061-02-6	trans-1,3-Dichloropropene	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	12	U
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Xylene (total)	12	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B018V0

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05015 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A205015-01A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 20511R15

Level: (low/med) LOW Date Received: 05/04/92

% Moisture: not dec. 14 Date Analyzed: 05/11/92

GC Column: PACK ID: 2.00 (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

9713505.1838

000008

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B018V2

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05015 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A205015-03A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 20511R14

Level: (low/med) LOW Date Received: 05/04/92

% Moisture: not dec. 9 Date Analyzed: 05/11/92

GC Column: PACK ID: 2.00 (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	47	B
67-64-1	Acetone	22	B
75-15-0	Carbon Disulfide	11	U
75-35-4	1,1-Dichloroethene	11	U
75-34-3	1,1-Dichloroethane	11	U
540-59-0	1,2-Dichloroethene (total)	11	U
67-66-3	Chloroform	11	U
107-06-2	1,2-Dichloroethane	11	U
78-93-3	2-Butanone	11	U
71-55-6	1,1,1-Trichloroethane	11	U
56-23-5	Carbon Tetrachloride	11	U
75-27-4	Bromodichloromethane	11	U
78-87-5	1,2-Dichloropropane	11	U
10061-01-5	cis-1,3-Dichloropropene	11	U
79-01-6	Trichloroethene	11	U
124-48-1	Dibromochloromethane	11	U
79-00-5	1,1,2-Trichloroethane	11	U
71-43-2	Benzene	11	U
10061-02-6	trans-1,3-Dichloropropene	11	U
75-25-2	Bromoform	11	U
108-10-1	4-Methyl-2-Pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	11	U
79-34-5	1,1,2,2-Tetrachloroethane	11	U
108-88-3	Toluene	3	J
108-90-7	Chlorobenzene	11	U
100-41-4	Ethylbenzene	11	U
100-42-5	Styrene	11	U
1330-20-7	Xylene (total)	11	U

9713505.1839

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

000009
EPA SAMPLE NO.

B018V2

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05015 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A205015-03A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 20511R14

Level: (low/med) LOW Date Received: 05/04/92

% Moisture: not dec. 9 Date Analyzed: 05/11/92

GC Column: PACK ID: 2.00 (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

9713505.1840

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

000010
EPA SAMPLE NO.

B018V3

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05015 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A205015-04A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 20512R05

Level: (low/med) LOW Date Received: 05/04/92

% Moisture: not dec. 10 Date Analyzed: 05/12/92

GC Column: PACK ID: 2.00 (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	15	B
67-64-1	Acetone	48	B
75-15-0	Carbon Disulfide	11	U
75-35-4	1,1-Dichloroethene	11	U
75-34-3	1,1-Dichloroethane	11	U
540-59-0	1,2-Dichloroethene (total)	11	U
67-66-3	Chloroform	11	U
107-06-2	1,2-Dichloroethane	11	U
78-93-3	2-Butanone	11	U
71-55-6	1,1,1-Trichloroethane	11	U
56-23-5	Carbon Tetrachloride	11	U
75-27-4	Bromodichloromethane	11	U
78-87-5	1,2-Dichloropropane	11	U
10061-01-5	cis-1,3-Dichloropropene	11	U
79-01-6	Trichloroethene	11	U
124-48-1	Dibromochloromethane	11	U
79-00-5	1,1,2-Trichloroethane	11	U
71-43-2	Benzene	11	U
10061-02-6	trans-1,3-Dichloropropene	11	U
75-25-2	Bromoform	11	U
108-10-1	4-Methyl-2-Pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	11	U
79-34-5	1,1,2,2-Tetrachloroethane	11	U
108-88-3	Toluene	8	J
108-90-7	Chlorobenzene	11	U
100-41-4	Ethylbenzene	11	U
100-42-5	Styrene	11	U
1330-20-7	Xylene (total)	11	U

9713505.1841

000011
EPA SAMPLE NO.

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

B018V3

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05015 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A205015-04A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 20512R05

Level: (low/med) LOW Date Received: 05/04/92

% Moisture: not dec. 10 Date Analyzed: 05/12/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

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

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Unknown hydrocarbon	8.17	8	J

9713505.1842

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

000012
EPA SAMPLE NO.

B018V4

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05015 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A205015-05A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 20511R16

Level: (low/med) LOW Date Received: 05/04/92

% Moisture: not dec. 12 Date Analyzed: 05/11/92

GC Column: PACK ID: 2.00 (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	20	B
67-64-1	Acetone	29	B
75-15-0	Carbon Disulfide	11	U
75-35-4	1,1-Dichloroethene	11	U
75-34-3	1,1-Dichloroethane	11	U
540-59-0	1,2-Dichloroethene (total)	11	U
67-66-3	Chloroform	11	U
107-06-2	1,2-Dichloroethane	11	U
78-93-3	2-Butanone	5	J
71-55-6	1,1,1-Trichloroethane	11	U
56-23-5	Carbon Tetrachloride	11	U
75-27-4	Bromodichloromethane	11	U
78-87-5	1,2-Dichloropropane	11	U
10061-01-5	cis-1,3-Dichloropropene	11	U
79-01-6	Trichloroethene	11	U
124-48-1	Dibromochloromethane	11	U
79-00-5	1,1,2-Trichloroethane	11	U
71-43-2	Benzene	11	U
10061-02-6	trans-1,3-Dichloropropene	11	U
75-25-2	Bromoform	11	U
108-10-1	4-Methyl-2-Pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	11	U
79-34-5	1,1,2,2-Tetrachloroethane	11	U
108-88-3	Toluene	6	J
108-90-7	Chlorobenzene	11	U
100-41-4	Ethylbenzene	11	U
100-42-5	Styrene	11	U
1330-20-7	Xylene (total)	11	U

EPA SAMPLE NO.

B018V4

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05015 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A205015-05A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 20511R16

Level: (low/med) LOW Date Received: 05/04/92

% Moisture: not dec. 12 Date Analyzed: 05/11/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

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

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Unknown hydrocarbon	8.59	8	J
2.	UNknown hydrocarbon	14.72	12	J

9713505.1844

000014

EPA SAMPLE NO.

B018V5

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05015 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A205015-06A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 20511R17

Level: (low/med) LOW Date Received: 05/04/92

% Moisture: not dec. 13 Date Analyzed: 05/11/92

GC Column: PACK ID: 2.00 (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	18	B
67-64-1	Acetone	29	B
75-15-0	Carbon Disulfide	11	U
75-35-4	1,1-Dichloroethene	11	U
75-34-3	1,1-Dichloroethane	11	U
540-59-0	1,2-Dichloroethene (total)	11	U
67-66-3	Chloroform	11	U
107-06-2	1,2-Dichloroethane	11	U
78-93-3	2-Butanone	11	U
71-55-6	1,1,1-Trichloroethane	11	U
56-23-5	Carbon Tetrachloride	11	U
75-27-4	Bromodichloromethane	11	U
78-87-5	1,2-Dichloropropane	11	U
10061-01-5	cis-1,3-Dichloropropene	11	U
79-01-6	Trichloroethene	11	U
124-48-1	Dibromochloromethane	11	U
79-00-5	1,1,2-Trichloroethane	11	U
71-43-2	Benzene	11	U
10061-02-6	trans-1,3-Dichloropropene	11	U
75-25-2	Bromoform	11	U
108-10-1	4-Methyl-2-Pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	11	U
79-34-5	1,1,2,2-Tetrachloroethane	11	U
108-88-3	Toluene	1	J
108-90-7	Chlorobenzene	11	U
100-41-4	Ethylbenzene	11	U
100-42-5	Styrene	11	U
1330-20-7	Xylene (total)	11	U

9713505.1845

000015

EPA SAMPLE NO.

B018V5

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05015 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A205015-06A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 20511R17

Level: (low/med) LOW Date Received: 05/04/92

% Moisture: not dec. 13 Date Analyzed: 05/11/92

GC Column: PACK ID: 2.00 (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

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B018V9

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05015 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A205015-10A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 20511R19

Level: (low/med) LOW Date Received: 05/04/92

% Moisture: not dec. 0 Date Analyzed: 05/11/92

GC Column: PACK ID: 2.00 (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	18	B
67-64-1	Acetone	16	B
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	1	J
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B018V9

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05015 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A205015-10A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 20511R19

Level: (low/med) LOW Date Received: 05/04/92

% Moisture: not dec. 0 Date Analyzed: 05/11/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

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

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Unknown hydrocarbon	3.75	7	J

9713505.1848

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

000018

EPA SAMPLE NO.

B018V4

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05015 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A205015-05B

Sample wt/vol: 30.5 (g/mL) G Lab File ID: 20612N08

Level: (low/med) LOW Date Received: 05/04/92

% Moisture: 12 decanted: (Y/N) N Date Extracted: 05/11/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/12/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	370	U
111-44-4	bis(2-Chloroethyl)Ether	370	U
95-57-8	2-Chlorophenol	370	U
541-73-1	1,3-Dichlorobenzene	370	U
106-46-7	1,4-Dichlorobenzene	370	U
95-50-1	1,2-Dichlorobenzene	370	U
95-48-7	2-Methylphenol	370	U
108-60-1	2,2'-oxybis(1-Chloropropane)	370	U
106-44-5	4-Methylphenol	370	U
621-64-7	N-Nitroso-Di-n-Propylamine	370	U
67-72-1	Hexachloroethane	370	U
98-95-3	Nitrobenzene	370	U
78-59-1	Isophorone	370	U
88-75-5	2-Nitrophenol	370	U
105-67-9	2,4-Dimethylphenol	370	U
111-91-1	bis(2-Chloroethoxy)Methane	370	U
120-83-2	2,4-Dichlorophenol	370	U
120-82-1	1,2,4-Trichlorobenzene	370	U
91-20-3	Naphthalene	370	U
106-47-8	4-Chloroaniline	370	U
87-68-3	Hexachlorobutadiene	370	U
59-50-7	4-Chloro-3-Methylphenol	370	U
91-57-6	2-Methylnaphthalene	370	U
77-47-4	Hexachlorocyclopentadiene	370	U
88-06-2	2,4,6-Trichlorophenol	370	U
95-95-4	2,4,5-Trichlorophenol	890	U
91-58-7	2-Chloronaphthalene	370	U
88-74-4	2-Nitroaniline	890	U
131-11-3	Dimethylphthalate	370	U
208-96-8	Acenaphthylene	370	U
99-09-2	3-Nitroaniline	890	U
83-32-9	Acenaphthene	370	U
51-28-5	2,4-Dinitrophenol	890	U

9713505.1849

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

000019
EPA SAMPLE NO.

B018V4

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05015 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A205015-05B

Sample wt/vol: 30.5 (g/mL) G Lab File ID: 20612N08

Level: (low/med) LOW Date Received: 05/04/92

% Moisture: 12 decanted: (Y/N) N Date Extracted: 05/11/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/12/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-02-7	4-Nitrophenol	890	U
132-64-9	Dibenzofuran	370	U
121-14-2	2,4-Dinitrotoluene	370	U
606-20-2	2,6-Dinitrotoluene	370	U
84-66-2	Diethylphthalate	370	U
7005-72-3	4-Chlorophenyl-phenylether	370	U
86-73-7	Fluorene	370	U
100-01-6	4-Nitroaniline	890	U
534-52-1	4,6-Dinitro-2-methylphenol	890	U
86-30-6	N-Nitrosodiphenylamine (1)	370	U
101-55-3	4-Bromophenyl-phenylether	370	U
118-74-1	Hexachlorobenzene	370	U
87-86-5	Pentachlorophenol	890	U
85-01-8	Phenanthrene	370	U
120-12-7	Anthracene	370	U
86-74-8	Carbazole	370	U
84-74-2	Di-n-Butylphthalate	26	BJ
206-44-0	Fluoranthene	370	U
129-00-0	Pyrene	370	U
85-68-7	Butylbenzylphthalate	370	U
91-94-1	3,3'-Dichlorobenzidine	370	U
56-55-3	Benzo(a)Anthracene	370	U
117-81-7	bis(2-Ethylhexyl)Phthalate	65	BJ
218-01-9	Chrysene	370	U
117-84-0	Di-n-Octyl Phthalate	370	U
205-99-2	Benzo(b)Fluoranthene	370	U
207-08-9	Benzo(k)Fluoranthene	370	U
50-32-8	Benzo(a)Pyrene	370	U
193-39-5	Indeno(1,2,3-cd)Pyrene	370	U
53-70-3	Dibenz(a,h)Anthracene	370	U
191-24-2	Benzo(g,h,i)Perylene	370	U

(1) - Cannot be separated from Diphenylamine

9713505.1850

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

000020
EPA SAMPLE NO.

B018V4

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05015 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A205015-05B

Sample wt/vol: 30.5 (g/mL) G Lab File ID: 20612N08

Level: (low/med) LOW Date Received: 05/04/92

% Moisture: 12 decanted: (Y/N) N Date Extracted: 05/11/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/12/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.1

Number TICs found: 19

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Unknown ketone	6.38	150	J
2.	Unknown hydrocarbon	6.80	1900	BJ
3.	Unknown amine	7.45	34000	J
4.	Unknown alkane	7.58	150	J
5.	Unknown aldehyde	7.72	150	BJ
6.	Unknown hydrocarbon	8.80	750	BJ
7.	Unknown ketone	9.32	410	BJ
8.	Unknown carboxylic acid	9.93	1800	J
9.	Unknown hydrocarbon	10.15	300	J
10.	Unknown ketone	10.33	1500	J
11.	Unknown alcohol	10.58	260	J
12.	Subst. phenyl ketone	11.83	260	BJ
13.	Unknown carboxylic acid este	12.23	480	J
14.	Unknown carboxylic acid	16.72	110	J
15.	Subst. diphenyl ketone	23.82	150	BJ
16.	Unknown carboxylic acid este	25.58	19000	BJ
17.	Unknown alkane	28.67	150	J
18.	Unknown alkane	30.07	75	J
19.	Unknown hydrocarbon	30.43	110	J

9713505.1851

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

000021
EPA SAMPLE NO.

B018V4RE

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05015 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A205015-05B

Sample wt/vol: 30.2 (g/mL) G Lab File ID: 20708N03

Level: (low/med) LOW Date Received: 05/04/92

% Moisture: 12 decanted: (Y/N) N Date Extracted: 06/29/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 07/08/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	370	U
111-44-4	bis(2-Chloroethyl)Ether	370	U
95-57-8	2-Chlorophenol	370	U
541-73-1	1,3-Dichlorobenzene	370	U
106-46-7	1,4-Dichlorobenzene	370	U
95-50-1	1,2-Dichlorobenzene	370	U
95-48-7	2-Methylphenol	370	U
108-60-1	2,2'-oxybis(1-Chloropropane)	370	U
106-44-5	4-Methylphenol	370	U
621-64-7	N-Nitroso-Di-n-Propylamine	370	U
67-72-1	Hexachloroethane	370	U
98-95-3	Nitrobenzene	370	U
78-59-1	Isophorone	370	U
88-75-5	2-Nitrophenol	370	U
105-67-9	2,4-Dimethylphenol	370	U
111-91-1	bis(2-Chloroethoxy)Methane	370	U
120-83-2	2,4-Dichlorophenol	370	U
120-82-1	1,2,4-Trichlorobenzene	370	U
91-20-3	Naphthalene	370	U
106-47-8	4-Chloroaniline	370	U
87-68-3	Hexachlorobutadiene	370	U
59-50-7	4-Chloro-3-Methylphenol	370	U
91-57-6	2-Methylnaphthalene	370	U
77-47-4	Hexachlorocyclopentadiene	370	U
88-06-2	2,4,6-Trichlorophenol	370	U
95-95-4	2,4,5-Trichlorophenol	900	U
91-58-7	2-Chloronaphthalene	370	U
88-74-4	2-Nitroaniline	900	U
131-11-3	Dimethylphthalate	370	U
208-96-8	Acenaphthylene	370	U
99-09-2	3-Nitroaniline	900	U
83-32-9	Acenaphthene	370	U
51-28-5	2,4-Dinitrophenol	900	U

9713505.1852

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

000022
EPA SAMPLE NO.

B018V4RE

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05015 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A205015-05B

Sample wt/vol: 30.2 (g/mL) G Lab File ID: 20708N03

Level: (low/med) LOW Date Received: 05/04/92

% Moisture: 12 decanted: (Y/N) N Date Extracted: 06/29/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 07/08/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-02-7	4-Nitrophenol	900	U
132-64-9	Dibenzofuran	370	U
121-14-2	2,4-Dinitrotoluene	370	U
606-20-2	2,6-Dinitrotoluene	370	U
84-66-2	Diethylphthalate	68	J
7005-72-3	4-Chlorophenyl-phenylether	370	U
86-73-7	Fluorene	370	U
100-01-6	4-Nitroaniline	900	U
534-52-1	4,6-Dinitro-2-methylphenol	900	U
86-30-6	N-Nitrosodiphenylamine (1)	370	U
101-55-3	4-Bromophenyl-phenylether	370	U
118-74-1	Hexachlorobenzene	370	U
87-86-5	Pentachlorophenol	900	U
85-01-8	Phenanthrene	370	U
120-12-7	Anthracene	370	U
86-74-8	Carbazole	370	U
84-74-2	Di-n-Butylphthalate	2700	B
206-44-0	Fluoranthene	46	J
129-00-0	Pyrene	52	J
85-68-7	Butylbenzylphthalate	370	U
91-94-1	3,3'-Dichlorobenzidine	370	U
56-55-3	Benzo(a)Anthracene	370	U
117-81-7	bis(2-Ethylhexyl)Phthalate	370	U
218-01-9	Chrysene	370	U
117-84-0	Di-n-Octyl Phthalate	370	U
205-99-2	Benzo(b)Fluoranthene	370	U
207-08-9	Benzo(k)Fluoranthene	42	J
50-32-8	Benzo(a)Pyrene	370	U
193-39-5	Indeno(1,2,3-cd)Pyrene	370	U
53-70-3	Dibenz(a,h)Anthracene	370	U
191-24-2	Benzo(g,h,i)Perylene	370	U

(1) - Cannot be separated from Diphenylamine

9713505.1853

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

000023
EPA SAMPLE NO.

B018V4RE

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05015 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A205015-05B

Sample wt/vol: 30.2 (g/mL) G Lab File ID: 20708N03

Level: (low/med) LOW Date Received: 05/04/92

% Moisture: 12 decanted: (Y/N) N Date Extracted: 06/29/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 07/08/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.1

Number TICs found: 19

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Subst. furan	4.30	230	BJ
2.	Unknown alcohol	4.87	600	BJ
3.	Unknown hydrocarbon	5.03	750	BJ
4.	Unknown alkene	5.12	110	BJ
5.	Unknown ketone	5.78	190	BJ
6.	Unknown hydrocarbon	5.97	110	BJ
7.	Unknown hydrocarbon	6.03	75	BJ
8.	Unknown hydrocarbon	6.37	2300	BJ
9.	Unknown hydrocarbon	6.45	3200	BJ
10.	Unknown amine	7.10	82000	BJ
11.	Unknown hydrocarbon	7.25	380	BJ
12.	Unknown hydrocarbon	8.32	2100	BJ
13.	Unknown hydrocarbon	8.60	680	BJ
14.	Unknown ketone	8.82	380	BJ
15.	Unknown hydrocarbon	9.65	640	J
16.	Unknown alcohol	10.07	530	BJ
17.	Unknown ketone	10.90	490	J
18.	Unknown phthalate	21.55	380	BJ
19.	Unknown hydrocarbon	25.90	190	J

9713505.1854

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

000024
EPA SAMPLE NO.

B018V5

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05015 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A205015-06B

Sample wt/vol: 30.4 (g/mL) G Lab File ID: 20611N11

Level: (low/med) LOW Date Received: 05/04/92

% Moisture: 13 decanted: (Y/N) N Date Extracted: 05/11/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/11/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.2

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	370	U
111-44-4	bis(2-Chloroethyl)Ether	370	U
95-57-8	2-Chlorophenol	370	U
541-73-1	1,3-Dichlorobenzene	370	U
106-46-7	1,4-Dichlorobenzene	370	U
95-50-1	1,2-Dichlorobenzene	370	U
95-48-7	2-Methylphenol	370	U
108-60-1	2,2'-oxybis(1-Chloropropane)	370	U
106-44-5	4-Methylphenol	370	U
621-64-7	N-Nitroso-Di-n-Propylamine	370	U
67-72-1	Hexachloroethane	370	U
98-95-3	Nitrobenzene	370	U
78-59-1	Isophorone	370	U
88-75-5	2-Nitrophenol	370	U
105-67-9	2,4-Dimethylphenol	370	U
111-91-1	bis(2-Chloroethoxy)Methane	370	U
120-83-2	2,4-Dichlorophenol	370	U
120-82-1	1,2,4-Trichlorobenzene	370	U
91-20-3	Naphthalene	370	U
106-47-8	4-Chloroaniline	370	U
87-68-3	Hexachlorobutadiene	370	U
59-50-7	4-Chloro-3-Methylphenol	370	U
91-57-6	2-Methylnaphthalene	370	U
77-47-4	Hexachlorocyclopentadiene	370	U
88-06-2	2,4,6-Trichlorophenol	370	U
95-95-4	2,4,5-Trichlorophenol	910	U
91-58-7	2-Chloronaphthalene	370	U
88-74-4	2-Nitroaniline	910	U
131-11-3	Dimethylphthalate	370	U
208-96-8	Acenaphthylene	370	U
99-09-2	3-Nitroaniline	910	U
83-32-9	Acenaphthene	370	U
51-28-5	2,4-Dinitrophenol	910	U

9713505.1855

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

000025

EPA SAMPLE NO.

B018V5

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05015 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A205015-06B

Sample wt/vol: 30.4 (g/mL) G Lab File ID: 20611N11

Level: (low/med) LOW Date Received: 05/04/92

% Moisture: 13 decanted: (Y/N) N Date Extracted: 05/11/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/11/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.2

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-02-7	4-Nitrophenol	910	U
132-64-9	Dibenzofuran	370	U
121-14-2	2,4-Dinitrotoluene	370	U
606-20-2	2,6-Dinitrotoluene	370	U
84-66-2	Diethylphthalate	120	J
7005-72-3	4-Chlorophenyl-phenylether	370	U
86-73-7	Fluorene	370	U
100-01-6	4-Nitroaniline	910	U
534-52-1	4,6-Dinitro-2-methylphenol	910	U
86-30-6	N-Nitrosodiphenylamine (1)	370	U
101-55-3	4-Bromophenyl-phenylether	370	U
118-74-1	Hexachlorobenzene	370	U
87-86-5	Pentachlorophenol	910	U
85-01-8	Phenanthrene	370	U
120-12-7	Anthracene	370	U
86-74-8	Carbazole	370	U
84-74-2	Di-n-Butylphthalate	40	BJ
206-44-0	Fluoranthene	370	U
129-00-0	Pyrene	370	U
85-68-7	Butylbenzylphthalate	45	J
91-94-1	3,3'-Dichlorobenzidine	370	U
56-55-3	Benzo(a)Anthracene	370	U
117-81-7	bis(2-Ethylhexyl)Phthalate	92	BJ
218-01-9	Chrysene	370	U
117-84-0	Di-n-Octyl Phthalate	370	U
205-99-2	Benzo(b)Fluoranthene	370	U
207-08-9	Benzo(k)Fluoranthene	370	U
50-32-8	Benzo(a)Pyrene	370	U
193-39-5	Indeno(1,2,3-cd)Pyrene	370	U
53-70-3	Dibenz(a,h)Anthracene	370	U
191-24-2	Benzo(g,h,i)Perylene	370	U

(1) - Cannot be separated from Diphenylamine

9713505.1856

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

000026
EPA SAMPLE NO.

B018V5

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05015 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A205015-06B

Sample wt/vol: 30.4 (g/mL) G Lab File ID: 20611N11

Level: (low/med) LOW Date Received: 05/04/92

% Moisture: 13 decanted: (Y/N) N Date Extracted: 05/11/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/11/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.2

Number TICs found: 19

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Unknown hydrocarbon	4.22	870	BJ
2.	Subst. furan	4.50	640	BJ
3.	Subst. alkene	5.33	260	BJ
4.	Unknown ketone	6.20	230	J
5.	Unknown hydrocarbon	6.62	2800	BJ
6.	Unknown amine	7.25	47000	J
7.	Unknown alkane	7.38	450	J
8.	Unknown alcohol	7.52	420	J
9.	Unknown hydrocarbon	8.58	1100	BJ
10.	Unknown ketone	9.10	380	BJ
11.	Unknown hydrocarbon	9.93	260	BJ
12.	Unknown alcohol	10.35	340	BJ
13.	Subst. phenyl ketone	11.60	230	BJ
14.	Unknown alkane	16.45	150	J
15.	Subst. diphenyl ketone	23.52	150	BJ
16.	Unknown carboxylic acid este	25.20	16000	BJ
17.	Unknown alkane	26.07	150	J
18.	Unknown alkane	28.18	150	BJ
19.	Unknown hydrocarbon	29.92	190	BJ

9713505.1857

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

000027
EPA SAMPLE NO.

B018V5RE

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05015 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A205015-06B

Sample wt/vol: 30.7 (g/mL) G Lab File ID: 20708N06

Level: (low/med) LOW Date Received: 05/04/92

% Moisture: 13 decanted: (Y/N) N Date Extracted: 06/29/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 07/08/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.2

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	370	U
111-44-4	bis(2-Chloroethyl)Ether	370	U
95-57-8	2-Chlorophenol	370	U
541-73-1	1,3-Dichlorobenzene	370	U
106-46-7	1,4-Dichlorobenzene	370	U
95-50-1	1,2-Dichlorobenzene	370	U
95-48-7	2-Methylphenol	370	U
108-60-1	2,2'-oxybis(1-Chloropropane)	370	U
106-44-5	4-Methylphenol	370	U
621-64-7	N-Nitroso-Di-n-Propylamine	370	U
67-72-1	Hexachloroethane	370	U
98-95-3	Nitrobenzene	370	U
78-59-1	Isophorone	370	U
88-75-5	2-Nitrophenol	370	U
105-67-9	2,4-Dimethylphenol	370	U
111-91-1	bis(2-Chloroethoxy)Methane	370	U
120-83-2	2,4-Dichlorophenol	370	U
120-82-1	1,2,4-Trichlorobenzene	370	U
91-20-3	Naphthalene	370	U
106-47-8	4-Chloroaniline	370	U
87-68-3	Hexachlorobutadiene	370	U
59-50-7	4-Chloro-3-Methylphenol	370	U
91-57-6	2-Methylnaphthalene	370	U
77-47-4	Hexachlorocyclopentadiene	370	U
88-06-2	2,4,6-Trichlorophenol	370	U
95-95-4	2,4,5-Trichlorophenol	900	U
91-58-7	2-Chloronaphthalene	370	U
88-74-4	2-Nitroaniline	900	U
131-11-3	Dimethylphthalate	370	U
208-96-8	Acenaphthylene	370	U
99-09-2	3-Nitroaniline	900	U
83-32-9	Acenaphthene	370	U
51-28-5	2,4-Dinitrophenol	900	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B018V5RE

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05015 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A205015-06B

Sample wt/vol: 30.7 (g/mL) G Lab File ID: 20708N06

Level: (low/med) LOW Date Received: 05/04/92

% Moisture: 13 decanted: (Y/N) N Date Extracted: 06/29/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 07/08/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.2

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-02-7	4-Nitrophenol	900	U
132-64-9	Dibenzofuran	370	U
121-14-2	2,4-Dinitrotoluene	370	U
606-20-2	2,6-Dinitrotoluene	370	U
84-66-2	Diethylphthalate	370	U
7005-72-3	4-Chlorophenyl-phenylether	370	U
86-73-7	Fluorene	370	U
100-01-6	4-Nitroaniline	900	U
534-52-1	4,6-Dinitro-2-methylphenol	900	U
86-30-6	N-Nitrosodiphenylamine (1)	370	U
101-55-3	4-Bromophenyl-phenylether	370	U
118-74-1	Hexachlorobenzene	370	U
87-86-5	Pentachlorophenol	900	U
85-01-8	Phenanthrene	370	U
120-12-7	Anthracene	370	U
86-74-8	Carbazole	370	U
84-74-2	Di-n-Butylphthalate	2300	B
206-44-0	Fluoranthene	370	U
129-00-0	Pyrene	370	U
85-68-7	Butylbenzylphthalate	370	U
91-94-1	3,3'-Dichlorobenzidine	370	U
56-55-3	Benzo(a)Anthracene	370	U
117-81-7	bis(2-Ethylhexyl)Phthalate	370	U
218-01-9	Chrysene	370	U
117-84-0	Di-n-Octyl Phthalate	370	U
205-99-2	Benzo(b)Fluoranthene	370	U
207-08-9	Benzo(k)Fluoranthene	370	U
50-32-8	Benzo(a)Pyrene	370	U
193-39-5	Indeno(1,2,3-cd)Pyrene	370	U
53-70-3	Dibenz(a,h)Anthracene	370	U
191-24-2	Benzo(g,h,i)Perylene	370	U

(1) - Cannot be separated from Diphenylamine

9713505.1859

000029

EPA SAMPLE NO.

B018V5RE

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05015 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A205015-06B

Sample wt/vol: 30.7 (g/mL) G Lab File ID: 20708N06

Level: (low/med) LOW Date Received: 05/04/92

% Moisture: 13 decanted: (Y/N) N Date Extracted: 06/29/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 07/08/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.2

Number TICs found: 19

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Subst. furan	4.33	340	BJ
2.	Unknown hydrocarbon	4.42	150	J
3.	Unknown alcohol	4.87	520	BJ
4.	Unknown hydrocarbon	5.78	300	J
5.	Unknown hydrocarbon	5.98	190	BJ
6.	Unknown hydrocarbon	6.38	2200	BJ
7.	Unknown hydrocarbon	6.45	4200	BJ
8.	Unknown amine	7.13	87000	BJ
9.	Unknown alcohol	7.28	370	J
10.	Unknown hydrocarbon	7.75	190	BJ
11.	Unknown hydrocarbon	8.35	2200	BJ
12.	Unknown hydrocarbon	8.60	490	BJ
13.	Unknown ketone	8.83	260	BJ
14.	Unknown hydrocarbon	9.68	520	J
15.	Unknown alcohol	10.07	450	BJ
16.	Unknown hydrocarbon	10.95	220	J
17.	Unknown carboxylic acid	16.05	150	J
18.	Unknown phthalate	21.57	370	BJ
19.	Unknown phthalate	22.18	340	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

000030

EPA SAMPLE NO.

B018V9

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05015 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A205015-10B

Sample wt/vol: 30.3 (g/mL) G Lab File ID: 20611N12

Level: (low/med) LOW Date Received: 05/04/92

% Moisture: 0 decanted: (Y/N) N Date Extracted: 05/11/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/11/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.6

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	120	J
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	130	J
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	330	U
88-06-2	2,4,6-Trichlorophenol	330	U
95-95-4	2,4,5-Trichlorophenol	790	U
91-58-7	2-Chloronaphthalene	330	U
88-74-4	2-Nitroaniline	790	U
131-11-3	Dimethylphthalate	330	U
208-96-8	Acenaphthylene	330	U
99-09-2	3-Nitroaniline	790	U
83-32-9	Acenaphthene	57	J
51-28-5	2,4-Dinitrophenol	790	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B018V9

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05015 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A205015-10B

Sample wt/vol: 30.3 (g/mL) G Lab File ID: 20611N12

Level: (low/med) LOW Date Received: 05/04/92

% Moisture: 0 decanted: (Y/N) N Date Extracted: 05/11/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/11/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.6

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-02-7	4-Nitrophenol	790	U
132-64-9	Dibenzofuran	330	U
121-14-2	2,4-Dinitrotoluene	330	U
606-20-2	2,6-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	790	U
534-52-1	4,6-Dinitro-2-methylphenol	790	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	48	J
85-01-8	Phenanthrene	330	U
120-12-7	Anthracene	330	U
86-74-8	Carbazole	330	U
84-74-2	Di-n-Butylphthalate	23	BJ
206-44-0	Fluoranthene	330	U
129-00-0	Pyrene	81	J
85-68-7	Butylbenzylphthalate	330	U
91-94-1	3,3'-Dichlorobenzidine	330	U
56-55-3	Benzo(a)Anthracene	330	U
117-81-7	bis(2-Ethylhexyl)Phthalate	63	BJ
218-01-9	Chrysene	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

9713505.1862

1F

000032

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

B018V9

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05015 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A205015-10B

Sample wt/vol: 30.3 (g/mL) G Lab File ID: 20611N12

Level: (low/med) LOW Date Received: 05/04/92

% Moisture: 0 decanted: (Y/N) N Date Extracted: 05/11/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/11/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.6

Number TICs found: 15

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Unknown hydrocarbon	6.00	99	J
2.	Unknown hydrocarbon	6.62	2000	BJ
3.	Unknown amine	7.25	36000	J
4.	Unknown aldehyde	7.52	230	BJ
5.	Unknown hydrocarbon	8.58	760	BJ
6.	Unknown ketone	8.87	160	BJ
7.	Unknown ketone	9.00	99	BJ
8.	Unknown ketone	9.10	360	BJ
9.	Unknown hydrocarbon	9.93	400	BJ
10.	Unknown alcohol	10.35	300	BJ
11.	Subst. phenyl ketone	11.60	200	BJ
12.	Unknown hydrocarbon	16.45	99	J
13.	Subst. diphenyl ketone	23.53	160	BJ
14.	Unknown hydrocarbon	23.80	99	J
15.	Unknown hydrocarbon	26.07	66	J

9713505.1863

000033

EPA SAMPLE NO.

B018V4

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05015 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A205015-05BB

Sample wt/vol: 30.7 (g/mL) G Lab File ID: _____

% Moisture: 12 decanted: (Y/N) N Date Received: 05/04/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 05/07/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 06/20/92

Injection Volume: 2.50 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 9.1 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	1.9	U
319-85-7	beta-BHC	1.9	U
319-86-8	delta-BHC	1.9	U
58-89-9	gamma-BHC (Lindane)	1.9	U
76-44-8	Heptachlor	1.9	U
309-00-2	Aldrin	1.9	U
1024-57-3	Heptachlor epoxide	1.9	U
959-98-8	Endosulfan I	1.9	U
60-57-1	Dieldrin	3.7	U
72-55-9	4,4'-DDE	3.7	U
72-20-8	Endrin	3.7	U
33213-65-9	Endosulfan II	3.7	U
72-54-8	4,4'-DDD	3.7	U
1031-07-8	Endosulfan sulfate	3.7	U
50-29-3	4,4'-DDT	3.7	U
72-43-5	Methoxychlor	19	U
53494-70-5	Endrin ketone	3.7	U
7421-36-3	Endrin aldehyde	3.7	U
5103-71-9	alpha-Chlordane	1.9	U
5103-74-2	gamma-Chlordane	1.9	U
8001-35-2	Toxaphene	190	U
12674-11-2	Aroclor-1016	37	U
11104-28-2	Aroclor-1221	74	U
11141-16-5	Aroclor-1232	37	U
53469-21-9	Aroclor-1242	37	U
12672-29-6	Aroclor-1248	37	U
11097-69-1	Aroclor-1254	37	U
11096-82-5	Aroclor-1260	37	U

9713505.1864

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

000034
EPA SAMPLE NO.

B018V4RE

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: R5015 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A205015-05BR

Sample wt/vol: 30.7 (g/mL) G Lab File ID: _____

% Moisture: 12 decanted: (Y/N) N Date Received: 05/04/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 05/07/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 06/26/92

Injection Volume: 2.50 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 9.1 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	1.9	U
319-85-7	beta-BHC	1.9	U
319-86-8	delta-BHC	1.9	U
58-89-9	gamma-BHC (Lindane)	1.9	U
76-44-8	Heptachlor	1.9	U
309-00-2	Aldrin	1.9	U
1024-57-3	Heptachlor epoxide	1.9	U
959-98-8	Endosulfan I	1.9	U
60-57-1	Dieldrin	3.7	U
72-55-9	4,4'-DDE	3.7	U
72-20-8	Endrin	3.7	U
33213-65-9	Endosulfan II	3.7	U
72-54-8	4,4'-DDD	3.7	U
1031-07-8	Endosulfan sulfate	3.7	U
50-29-3	4,4'-DDT	3.7	U
72-43-5	Methoxychlor	19	U
53494-70-5	Endrin ketone	3.7	U
7421-36-3	Endrin aldehyde	3.7	U
5103-71-9	alpha-Chlordane	1.9	U
5103-74-2	gamma-Chlordane	1.9	U
8001-35-2	Toxaphene	190	U
12674-11-2	Aroclor-1016	37	U
11104-28-2	Aroclor-1221	74	U
11141-16-5	Aroclor-1232	37	U
53469-21-9	Aroclor-1242	37	U
12672-29-6	Aroclor-1248	37	U
11097-69-1	Aroclor-1254	37	U
11096-82-5	Aroclor-1260	37	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B018V5

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05015 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A205015-06BB

Sample wt/vol: 30.4 (g/mL) G Lab File ID: _____

% Moisture: 13 decanted: (Y/N) N Date Received: 05/04/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 05/07/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 06/20/92

Injection Volume: 2.50 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 9.2 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	1.9	U
319-85-7	beta-BHC	1.9	U
319-86-8	delta-BHC	1.9	U
58-89-9	gamma-BHC (Lindane)	1.9	U
76-44-8	Heptachlor	1.9	U
309-00-2	Aldrin	1.9	U
1024-57-3	Heptachlor epoxide	1.9	U
959-98-8	Endosulfan I	1.9	U
60-57-1	Dieldrin	3.7	U
72-55-9	4,4'-DDE	3.7	U
72-20-8	Endrin	3.7	U
33213-65-9	Endosulfan II	3.7	U
72-54-8	4,4'-DDD	3.7	U
1031-07-8	Endosulfan sulfate	3.7	U
50-29-3	4,4'-DDT	3.7	U
72-43-5	Methoxychlor	19	U
53494-70-5	Endrin ketone	3.7	U
7421-36-3	Endrin aldehyde	3.7	U
5103-71-9	alpha-Chlordane	1.9	U
5103-74-2	gamma-Chlordane	1.9	U
8001-35-2	Toxaphene	190	U
12674-11-2	Aroclor-1016	37	U
11104-28-2	Aroclor-1221	76	U
11141-16-5	Aroclor-1232	37	U
53469-21-9	Aroclor-1242	37	U
12672-29-6	Aroclor-1248	37	U
11097-69-1	Aroclor-1254	37	U
11096-82-5	Aroclor-1260	37	U

9713505.1866

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

000036
EPA SAMPLE NO.

B018V5RE

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: R5015 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A205015-06BR

Sample wt/vol: 30.4 (g/mL) G Lab File ID: _____

% Moisture: 13 decanted: (Y/N) N Date Received: 05/04/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 05/07/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 06/26/92

Injection Volume: 2.50 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 9.2 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	1.9	U
319-85-7	beta-BHC	1.9	U
319-86-8	delta-BHC	1.9	U
58-89-9	gamma-BHC (Lindane)	1.9	U
76-44-8	Heptachlor	1.9	U
309-00-2	Aldrin	1.9	U
1024-57-3	Heptachlor epoxide	1.9	U
959-98-8	Endosulfan I	1.9	U
60-57-1	Dieldrin	3.7	U
72-55-9	4,4'-DDE	3.7	U
72-20-8	Endrin	3.7	U
33213-65-9	Endosulfan II	3.7	U
72-54-8	4,4'-DDD	3.7	U
1031-07-8	Endosulfan sulfate	3.7	U
50-29-3	4,4'-DDT	3.7	U
72-43-5	Methoxychlor	19	U
53494-70-5	Endrin ketone	3.7	U
7421-36-3	Endrin aldehyde	3.7	U
5103-71-9	alpha-Chlordane	1.9	U
5103-74-2	gamma-Chlordane	1.9	U
8001-35-2	Toxaphene	190	U
12674-11-2	Aroclor-1016	37	U
11104-28-2	Aroclor-1221	76	U
11141-16-5	Aroclor-1232	37	U
53469-21-9	Aroclor-1242	37	U
12672-29-6	Aroclor-1248	37	U
11097-69-1	Aroclor-1254	37	U
11096-82-5	Aroclor-1260	37	U

9713505.1867

000037

EPA SAMPLE NO.

B018V9

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05015 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A205015-10BB

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

% Moisture: 0 decanted: (Y/N) N Date Received: 05/04/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 05/07/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 06/20/92

Injection Volume: 2.50 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 7.6 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	1.7	U
319-85-7	beta-BHC	1.7	U
319-86-8	delta-BHC	1.7	U
58-89-9	gamma-BHC (Lindane)	1.7	U
76-44-8	Heptachlor	1.7	U
309-00-2	Aldrin	1.7	U
1024-57-3	Heptachlor epoxide	1.7	U
959-98-8	Endosulfan I	1.7	U
60-57-1	Dieldrin	3.3	U
72-55-9	4,4'-DDE	3.3	U
72-20-8	Endrin	3.3	U
33213-65-9	Endosulfan II	3.3	U
72-54-8	4,4'-DDD	3.3	U
1031-07-8	Endosulfan sulfate	3.3	U
50-29-3	4,4'-DDT	3.3	U
72-43-5	Methoxychlor	17	U
53494-70-5	Endrin ketone	3.3	U
7421-36-3	Endrin aldehyde	3.3	U
5103-71-9	alpha-Chlordane	1.7	U
5103-74-2	gamma-Chlordane	1.7	U
8001-35-2	Toxaphene	170	U
12674-11-2	Aroclor-1016	33	U
11104-28-2	Aroclor-1221	67	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	33	U

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1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

000038

EPA SAMPLE NO.

B018V9RE

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: R5015 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A205015-10BR

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

% Moisture: 0 decanted: (Y/N) N Date Received: 05/04/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 05/07/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 06/26/92

Injection Volume: 2.50 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 7.6 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	1.7	U
319-85-7	beta-BHC	1.7	U
319-86-8	delta-BHC	1.7	U
58-89-9	gamma-BHC (Lindane)	1.7	U
76-44-8	Heptachlor	1.7	U
309-00-2	Aldrin	1.7	U
1024-57-3	Heptachlor epoxide	1.7	U
959-98-8	Endosulfan I	1.7	U
60-57-1	Dieldrin	3.3	U
72-55-9	4,4'-DDE	3.3	U
72-20-8	Endrin	3.3	U
33213-65-9	Endosulfan II	3.3	U
72-54-8	4,4'-DDD	3.3	U
1031-07-8	Endosulfan sulfate	3.3	U
50-29-3	4,4'-DDT	3.3	U
72-43-5	Methoxychlor	17	U
53494-70-5	Endrin ketone	3.3	U
7421-36-3	Endrin aldehyde	3.3	U
5103-71-9	alpha-Chlordane	1.7	U
5103-74-2	gamma-Chlordane	1.7	U
8001-35-2	Toxaphene	170	U
12674-11-2	Aroclor-1016	33	U
11104-28-2	Aroclor-1221	67	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	33	U

9713505.1869

~~100~~ 001 9/18/92

 Skinner&Sherman REPORT Work Order # S2-05-077

Received: 05/05/92 06/12/92 16:25:53

REPORT TMA/NORCAL
TO 2030 Wright Avenue
Richmond, CA 94804

ATTEN Dan Steurmer

CLIENT HANFORD NOR SAMPLES 8
COMPANY TMA/NORCAL
FACILITY Richmond, CA

PREPARED BY TMA / Skinner & Sherman Labs.
300 Second Avenue
P.O. Box 521
Waltham, MA 02254

ATTEN Client Services
PHONE (617) 890-7200

CERTIFIED BY

CONTACT DP

WORK ID N2-05-020
TAKEN By Client
TRANS Fedex # 2126897312
TYPE 7 Soils (CRHEX & NO3NO2)
P.O. # N2-05-020
INVOICE under separate cover

SAMPLE IDENTIFICATION	
01	B018V1
01	B018V1D
01	B018V1S
01	B018V1D
02	B018V4
03	B018V5
04	B018V6
04	B018V6S
05	B018V7
06	B018V8
07	B018V9
08	LCSS

TEST CODES and NAMES used on this workorder

CRHEXS	Hexavalent Chromium/Soil
NO3NO2	Nitrate Plus Nitrite

TMA
Thermo Analytical Inc.
Skinner & Sherman Laboratories Inc.

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300 Second Avenue, P.O. Box 521, Waltham, Massachusetts 02254-0521 (617) 890-7200
1-800-4 LAB TEST FAX (617) 890-3883

Page 2 Skinner&Sherman REPORT Work Order # S2-05-077

Received: 05/05/92 Results by Sample

SAMPLE ID B018V1 SAMPLE # 01 FRACTIONS: A,B
Date & Time Collected 04/28/92 Category SOIL

CRHEXS <0.49 mg/kg NO3NO2 37.0 mg N/kg

SAMPLE ID B018V1D SAMPLE # 01 FRACTIONS: C
Date & Time Collected 04/28/92 Category SOIL

NO3NO2 19.5 mg N/kg

SAMPLE ID B018V1S SAMPLE # 01 FRACTIONS: D
Date & Time Collected 04/28/92 Category SOIL

NO3NO2 38.6 mg N/kg

SAMPLE ID B018V1D SAMPLE # 01 FRACTIONS: E
Date & Time Collected 04/28/92 Category SOIL

CRHEXS <0.49 mg/kg

SAMPLE ID B018V4 SAMPLE # 02 FRACTIONS: A,B
Date & Time Collected 04/28/92 Category SOIL

CRHEXS 0.96 mg/kg NO3NO2 8.62 mg N/kg

SAMPLE ID B018V5 SAMPLE # 03 FRACTIONS: A,B
Date & Time Collected 04/28/92 Category SOIL

CRHEXS <0.52 mg/kg NO3NO2 26.0 mg N/kg

SAMPLE ID B018V6 SAMPLE # 04 FRACTIONS: A,B
Date & Time Collected 04/28/92 Category SOIL

CRHEXS 0.78 mg/kg NO3NO2 11.4 mg N/kg

TMA
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Page 3 Skinner&Sherman REPORT Work Order # S2-05-077
Received: 05/05/92 Results by Sample

SAMPLE ID B018V6S SAMPLE # 04 FRACTIONS: C
Date & Time Collected 04/28/92 Category SOIL

CRHEXS 3.00
mg/kg

SAMPLE ID B018V7 SAMPLE # 05 FRACTIONS: A,B
Date & Time Collected 04/28/92 Category SOIL

CRHEXS 5.03 NO3NO2 16.7
mg/kg mg N/kg

SAMPLE ID B018V8 SAMPLE # 06 FRACTIONS: A,B
Date & Time Collected 04/28/92 Category SOIL

CRHEXS 1.84 NO3NO2 16.1
mg/kg mg N/kg

SAMPLE ID B018V9 SAMPLE # 07 FRACTIONS: A,B
Date & Time Collected 04/28/92 Category SOIL

CRHEXS <0.47 NO3NO2 <2.41
mg/kg mg N/L

SAMPLE ID LCSS SAMPLE # 08 FRACTIONS: A,B
Date & Time Collected not specified Category SOIL

CRHEXS 2.16 NO3NO2 1.73
mg/L mg N/L

TMA
Thermo Analytical Inc.
Skinner & Sherman Laboratories Inc.

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1-800-4 LAB TEST FAX (617) 890-3883

TMA/NORCAL

QUALITY CONTROL

NO3NO2

MATRIX SPIKE

Sample ID	Sample Result	Spike Added	Spike Result	% Recovery
S205077-01	37.0 mg/kg	19.3 mg/kg	38.6 mg/kg	8.3

DUPLICATE

Sample ID	Sample Result	Duplicate Result	Relative % Difference
S205077-01	37.0 mg/kg	19.5 mg/kg	62.0

QUALITY CONTROL SAMPLES

Sample ID	True Value	Found Value	% Recovery
LCS	2.00 mg/L	1.73 mg/L	86.5
Prep Blank	--	<0.25 mg/L	--

NOTE: After filtration the samples contained turbidity which appears to have affected the results.

HEXAVALENT CHROMIUM

MATRIX SPIKE

Sample ID	Sample Result	Spike Added	Spike Result	% Recovery
S205077-01	0.78 mg/kg	0.60 mg/kg	3.00 mg/kg	370

DUPLICATE

Sample ID	Sample Result	Duplicate Result	Relative % Difference
S205077-01	<0.49 mg/kg	<0.49 mg/kg	not calculable

QUALITY CONTROL SAMPLES

Sample ID	True Value	Found Value	% Recovery

TMA
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Skinner & Sherman Laboratories Inc.

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1-800-4 LAB TEST FAX (617) 890-3883

TMA/NORCAL

LCS	2.00 ug/L	2.16 ug/L	108.0
Prep Blank	--	<10 ug/L	--

TMA
Thermo Analytical Inc.
Skinner & Sherman Laboratories Inc.

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300 Second Avenue, P.O. Box 521, Waltham, Massachusetts 02254-0521 (617) 890-2200
1-800-4 LAB TEST FAX (617) 890-3883

Received: 05/05/92

Test Methodology

TEST CODE **CRHEXS** NAME **Hexavalent Chromium/Soil**

The soil was digested in accordance with EPA Method 3020 and subsequently analyzed by for hexavalent chromium by EPA Method 7197.

TEST CODE **NO3NO2** NAME **Nitrate Plus Nitrite**

Methods for Chemical Analysis of Water and Wastes
EPA - 600/4-79-020 March 1979 Method 353.2 (modified)

TMA
Thermo Analytical Inc.

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Skinner & Sherman Laboratories Inc. 300 Second Avenue, P.O. Box 521, Waltham, Massachusetts 02254-0521 (617) [illegible]
1-800-4 LAB TEST FAX (617) 890-3883

9213505.1875

TMA/Skinner & Serman Labs **SAMPLE LOG-IN**

WORKORDER 52-05.077 CLIENT Hanford. Nor No. SAMPLES:

PROTCL CLP TURNARND 33 days 7

COOLER TEMP: 4 oC, or NA (Soil) (Water) (Specify Other)

CUSTODIAN Benney, A. SDG/BATCH N/A

CUSTODY SEAL: PRESENT/ABSENT/INTACT/NOT CLIENT CASE N2-05.020

SHIPER & # Fedex PO/CONTRACT# ↓

TAGS: PRESENT/ABSENT/NA/SEE COC CONTACT Dolores Sanchez

CHAIN OF CUSTODY: PRESENT/ABSENT/NA, # N/A COMMENTS: NONE

SAMPLE CONTAINERS: INTACT/BROKEN COMMENTS

CLIENT COMMENT? YES/NO

SAMPLE LABELS AGREE WITH CHAIN OF CUSTODY INFO? YES/NO (COMMENT)

CLIENT PAPERWORK AGREES WITH SAMPLES & COC? YES/NO (COMMENT)

SHIPMENT DATES 5.5.92

LIST ANY DATE WITH PAPERWORK/SHIPMENT PROBLEMS & SPECIFY THE PROBLEM:

See Correspondence in case file

	CLIENT ID	MATRIX	RECEIVED	QC	TEST(S)	HOLD TIME UP
1	B018V1	soil	5.5.92	D,S	NO3NO2, Diext ; CRHEXS ~~NO3,NO2~~ A.B. 5.11.92	
2	V4					
3	V5					
4	V6					
5	V7					
6	V8					
7	V9					
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						

Comp 5.11.92 VB

SUBCONTRACT: YES/NO, TO: DATE:

REVIEWED Rev. 1.4 PAGE

TMA
Thermo Analytical Inc.

300 Second Avenue
Post Office Box 521
Waltham, MA 02254-0521
(617) 890-7200
FAX (617) 890-3883

9713505.1876

RECORD COPY

SEP 1992
RECEIVED
OSM DMO

June 11, 1992

TMA/NORCAL
2030 Wright Avenue
Richmond, CA 94804
Attention: Dan Stuermer

Quality Control Narrative

Scope

Seven (7) soil samples were submitted to TMA/Skinner & Sherman Laboratories, Inc. on May 5, 1992 from Westinghouse/Hanford Company. The sample was analyzed for the USEPA CLP metals and cyanide. The analysis was performed under Skinner and Sherman work order S205059.

Methodology

The samples were prepared, analyzed and reported in accordance with the USEPA Contract Laboratory Program Statement of Work 7/88 (CLP SOW788).

Discussion

All quality control requirements were met for the samples with the following exceptions:

The manganese and antimony digestion spike recovery exceeded the control limit requirements.

The chromium laboratory duplicates exceeded the control limit requirements.

Please feel free to call if there are any questions concerning this package.

Respectfully submitted,

TMA/SKINNER & SHERMAN LABORATORIES, INC.

David N. Peterson
Assistant Laboratory Manager

i 7/11/96 KDD

9713505.1877

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: B018V1

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0108

Lab Code: SKINER Case No.: N2-05-C20SAS No.: SDG No.: B018V1

Matrix (soil/water): SOIL Lab Sample ID: 05059-01S

Level (low/med): LOW Date Received: 05/05/92

% Solids: 89.3

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	11000.00			P
7440-36-0	Antimony	2.40	U	N	P
7440-38-2	Arsenic	5.20			F
7440-39-3	Barium	91.40			P
7440-41-7	Beryllium	0.33	B		P
7440-43-9	Cadmium	0.22	U		P
7440-70-2	Calcium	6960.00			P
7440-47-3	Chromium	18.90			P
7440-48-4	Cobalt	13.70			P
7440-50-8	Copper	22.50			P
7439-89-6	Iron	28300.00			P
7439-92-1	Lead	7.90			F
7439-95-4	Magnesium	6020.00			P
7439-96-5	Manganese	426.00		N	P
7439-97-6	Mercury	0.46			CV
7440-02-0	Nickel	13.40			P
7440-09-7	Potassium	1690.00			P
7782-49-2	Selenium	4.30	U	W	F
7440-22-4	Silver	0.66	U		P
7440-23-5	Sodium	317.00	B		P
7440-28-0	Thallium	0.22	U		F
7440-62-2	Vanadium	63.30			P
7440-66-6	Zinc	60.00			P
	Cyanide	0.52	U		CA

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: BROWN Clarity After: Artifacts: YES

Comments:
STONES

002

9713505.1878

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: 8018V4

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0108

Lab Code: SKINER Case No.: N2-05-020SAS No.: SDG No.: 8013V1

Matrix (soil/water): SOIL Lab Sample ID: 05059-02S

Level (low/med): LOW Date Received: 05/05/92

% Solids: 87.5

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	10700.00			P
7440-36-0	Antimony	2.50	U	N	P
7440-38-2	Arsenic	3.70			F
7440-39-3	Barium	96.00			P
7440-41-7	Beryllium	0.34	B		P
7440-43-9	Cadmium	0.23	U		P
7440-70-2	Calcium	6640.00			P
7440-47-3	Chromium	226.00		*	P
7440-48-4	Cobalt	14.90			P
7440-50-8	Copper	28.10			P
7439-89-6	Iron	40600.00			P
7439-92-1	Lead	180.00			F
7439-95-4	Magnesium	6360.00			P
7439-96-5	Manganese	444.00		N	P
7439-97-6	Mercury	2.90			CV
7440-02-0	Nickel	18.90			P
7440-09-7	Potassium	1720.00			P
7782-49-2	Selenium	0.90	U	W	F
7440-22-4	Silver	0.68	U		P
7440-23-5	Sodium	335.00	B		P
7440-28-0	Thallium	0.22	U		F
7440-62-2	Vanadium	61.30			P
7440-66-6	Zinc	125.00			P
	Cyanide	0.53	U		CA

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: BROWN Clarity After: Artifacts: YES

Comments:
STONES

003

9713505.1879

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: B018V5

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0108

Lab Code: SKINER Case No.: N2-05-020SAS No.: SDG No.: B018V1

Matrix (soil/water): SOIL Lab Sample ID: 05059-03S

Level (low/med): LOW Date Received: 05/05/92

% Solids: 86.6

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	10500.00			P
7440-36-0	Antimony	2.40	U	N	P
7440-38-2	Arsenic	4.70			F
7440-39-3	Barium	88.00			P
7440-41-7	Beryllium	0.34	B		P
7440-43-9	Cadmium	0.22	U		P
7440-70-2	Calcium	6190.00			P
7440-47-3	Chromium	270.00			P
7440-48-4	Cobalt	14.10			P
7440-50-8	Copper	27.90			P
7439-89-6	Iron	39200.00			P
7439-92-1	Lead	133.00			F
7439-95-4	Magnesium	5790.00			P
7439-96-5	Manganese	438.00		N	P
7439-97-6	Mercury	4.30			CV
7440-02-0	Nickel	18.20			P
7440-09-7	Potassium	1600.00			P
7782-49-2	Selenium	0.87	U	W	F
7440-22-4	Silver	0.67	U		P
7440-23-5	Sodium	328.00	B		P
7440-28-0	Thallium	0.22	U		F
7440-62-2	Vanadium	56.30			P
7440-66-6	Zinc	138.00			P
	Cyanide	0.53	U		CA

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: BROWN Clarity After: Artifacts: YES

Comments:
STONES

004

FORM I - IN Rev.6/89

9713505.1880

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: B018V6

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0108

Lab Code: SKINER Case No.: N2-05-020SAS No.: SDG No.: B018V1

Matrix (soil/water): SOIL Lab Sample ID: 05059-04S

Level (low/med): LOW Date Received: 05/05/92

% Solids: 90.8

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	8760.00			P
7440-36-0	Antimony	2.30	U	N	P
7440-38-2	Arsenic	3.10			F
7440-39-3	Barium	83.70			P
7440-41-7	Beryllium	0.47	B		P
7440-43-9	Cadmium	0.21	U		P
7440-70-2	Calcium	4470.00			P
7440-47-3	Chromium	336.00		*	P
7440-48-4	Cobalt	11.80			P
7440-50-8	Copper	22.10			P
7439-89-6	Iron	42100.00			P
7439-92-1	Lead	564.00		+	F
7439-95-4	Magnesium	4570.00			P
7439-96-5	Manganese	379.00		N	P
7439-97-6	Mercury	2.60			CV
7440-02-0	Nickel	15.80			P
7440-09-7	Potassium	1450.00			P
7782-49-2	Selenium	0.81	U	W	F
7440-22-4	Silver	0.62	U		P
7440-23-5	Sodium	249.00	B		P
7440-28-0	Thallium	0.20	U		F
7440-62-2	Vanadium	47.10			P
7440-66-6	Zinc	131.00			P
	Cyanide	0.51	U		CA

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: BROWN Clarity After: Artifacts: YES

Comments:
STONES

005

FORM I - IN Rev.6/89

9713505.1881

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER:

8018V7

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0108

Lab Code: SKINER Case No.: N2-05-020SAS No.: SDG No.: 8018V1

Matrix (soil/water): SOIL Lab Sample ID: 05059-05S

Level (low/med): LOW Date Received: 05/05/92

% Solids: 91.1

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	9850.00			P
7440-36-0	Antimony	2.30	U	N	P
7440-38-2	Arsenic	4.80			F
7440-39-3	Barium	94.80			P
7440-41-7	Beryllium	0.23	B		P
7440-43-9	Cadmium	0.21	U		P
7440-70-2	Calcium	5630.00			P
7440-47-3	Chromium	609.00			P
7440-48-4	Cobalt	13.20			P
7440-50-8	Copper	46.30			P
7439-89-6	Iron	44600.00			P
7439-92-1	Lead	353.00		S	F
7439-95-4	Magnesium	5300.00			P
7439-96-5	Manganese	445.00		N	P
7439-97-6	Mercury	3.40			CV
7440-02-0	Nickel	24.30			P
7440-09-7	Potassium	1390.00			P
7782-49-2	Selenium	0.82	U	MW	F
7440-22-4	Silver	0.62	U		P
7440-23-5	Sodium	286.00	B		P
7440-28-0	Thallium	0.22	B		F
7440-62-2	Vanadium	56.90			P
7440-66-6	Zinc	309.00			P
	Cyanide	0.55	U		CA

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: BROWN Clarity After: Artifacts: YES

Comments:
STONES

006

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WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: B018V8

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0108

Lab Code: SKINER Case No.: N2-05-020SAS No.: SDG No.: B018V1

Matrix (soil/water): SOIL Lab Sample ID: 05059-06S

Level (low/med): LOW Date Received: 05/05/92

% Solids: 90.7

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	10100.00			P
7440-36-0	Antimony	2.40	U	N	P
7440-38-2	Arsenic	4.00			F
7440-39-3	Barium	97.00			P
7440-41-7	Beryllium	0.33	B		P
7440-43-9	Cadmium	0.22	U		P
7440-70-2	Calcium	5630.00			P
7440-47-3	Chromium	335.00		*	P
7440-48-4	Cobalt	13.50			P
7440-50-8	Copper	30.90			P
7439-89-6	Iron	42800.00			P
7439-92-1	Lead	108.00			F
7439-95-4	Magnesium	5660.00			P
7439-96-5	Manganese	520.00		N	P
7439-97-6	Mercury	2.00			CV
7440-02-0	Nickel	19.30			P
7440-09-7	Potassium	1550.00			P
7782-49-2	Selenium	0.82	U	W	F
7440-22-4	Silver	0.66	U		P
7440-23-5	Sodium	289.00	B		P
7440-28-0	Thallium	0.21	U		F
7440-62-2	Vanadium	59.70			P
7440-66-6	Zinc	161.00			P
	Cyanide	0.55	U		CA

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: BROWN Clarity After: Artifacts: YES

Comments:
STONES

9713505.1883

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: B018V9

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0108

Lab Code: SKINER Case No.: N2-05-020SAS No.: SDG No.: B018V1

Matrix (soil/water): SOIL Lab Sample ID: 05059-07S

Level (low/med): LOW Date Received: 05/05/92

% Solids: 100.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	179.00			P
7440-36-0	Antimony	2.20	U	N	P
7440-38-2	Arsenic	0.39	U		F
7440-39-3	Barium	2.00	B		P
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.20	U		P
7440-70-2	Calcium	50.60	B		P
7440-47-3	Chromium	0.99	U		P
7440-48-4	Cobalt	0.40	U		P
7440-50-8	Copper	0.79	U		P
7439-89-6	Iron	281.00			P
7439-92-1	Lead	0.39	B		F
7439-95-4	Magnesium	46.00	B		P
7439-96-5	Manganese	4.30		N	P
7439-97-6	Mercury	0.10			CV
7440-02-0	Nickel	0.99	U		P
7440-09-7	Potassium	38.40	U		P
7782-49-2	Selenium	0.78	U		F
7440-22-4	Silver	0.59	U		P
7440-23-5	Sodium	16.70	B		P
7440-28-0	Thallium	0.20	U		F
7440-62-2	Vanadium	0.43	B		P
7440-66-6	Zinc	1.60	U		P
	Cyanide	0.49	U		CA

Color Before: BROWN Clarity Before: Texture: COARSE

Color After: BROWN Clarity After: Artifacts:

Comments:

008

FORM I - IN Rev.6/89

9713505.1884

TMA/Skinner & Serman Labs **SAMPLE LOG-IN**

WORKORDER 52-05-059 CLIENT HANFORD-NOR No. SAMPLES:

PROTCL CLP TURNARND 33 days 7

COOLER TEMP: 4 oC, or NA (Soil) (Water) (Specify Other)

CUSTODIAN Benney, A. SDG/BATCH N/A

CUSTODY SEAL: ~~PRESENT~~/ABSENT/~~INTACT~~/NOT CLIENT CASE N2-05-020

SHIPER & # Fedex PO/CONTRACT# ↓

TAGS: PRESENT/ABSENT/~~NA~~/SEE COC CONTACT Dolores Sanchez

CHAIN OF CUSTODY: ~~PRESENT~~/ABSENT/NA, # N/A COMMENTS: NONE

SAMPLE CONTAINERS ~~INTACT~~/BROKEN COMMENTS

CLIENT COMMENT? ~~YES~~/NO Samples contain radioactive Material Get SCREENED!

SAMPLE LABELS AGREE WITH CHAIN OF CUSTODY INFO? YES/NO (COMMENT)

CLIENT PAPERWORK AGREES WITH SAMPLES & COC? YES /NO (COMMENT)

SHIPMENT DATES 5.5.92

LIST ANY DATE WITH PAPERWORK/SHIPMENT PROBLEMS & SPECIFY THE PROBLEM:

N/A

→ ? as to CLP or SW846 see correspondence

	CLIENT ID	MATRIX	RECEIVED	QC	TEST(S)	HOLD TIME UP
1	B018V1	soil	5.5.92	D,S	TM/CN	CN due 5.11.92
2	V4	↓	↓		↓	
3	V5					
4	V6					HG due 5.22.92
5	V7					
6	V8					
7	V9					
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						

5.11.92

SUBCONTRACT: YES/NO, TO: DATE:

REVIEWED Rev. 1.4 PAGE

9213505.1885

000001

NB 9/8/9

TMA
Thermo Analytical Inc.

TMA/Norcal
2030 Wright Avenue
P. O. Box 4040
Richmond, CA 94804-0040
(510) 235-2633 Fax No. (510) 235-0438

AUG 1992
RECEIVED
OSM DMO

August 4, 1992

SENT BY FEDERAL EXPRESS

Ref. TMA/Norcal N2-05-026-7042

Mr. John Bourgeault
Westinghouse Hanford Company
2355 Stevens Drive
Richland, WA 99352

Dear Mr. Bourgeault:

Enclosed on the Summary Data Section, are the gross alpha, gross beta, ^{14}C, ^{90}Sr, isotopic uranium, isotopic plutonium, ^{241}Am, and gamma scan results for the soil sample from SAF #92-167 Location, we received 4 May 1992. The QA/QC results are also given in the Summary Data Section.

Please call if you have any questions concerning this data.

Sincerely,

D. P. Kharkar

Dinkar P. Kharkar, Ph.D.
Manager, Nuclear Programs

Enclosures: Section 1 through 12
Appendices

TMA NORCAL

REPORTING GROUP 7042

DATA SHEET

N205026-01

B018V1

SDG 7042
Contact Dinkar Kharkar

Client Westinghouse Hanford
Contract MBH-SVV-069262

Lab sample id N205026-01
Dept sample id 7042-001
Received 05/04/92

Client sample id B018V1
Matrix SOIL
Collected 04/28/92
Chain of custody id WHC-N-205-21

PARAMETER	CAS NO	RESULT pCi/G	2σ ERR (COUNT)	MDA pCi/G	RDL pCi/G	QUALI-FIERS	TEST
Gross Alpha	Alpha	-13	20	35	10	U	80A
Gross Beta	Beta	83	11	12	15		80B
Uranium 233/234		0.67	0.081	0.033	0.30	B	U
Uranium 235	15117-96-1	0.031	0.021	0.012	0.30	J	U
Uranium 238	7440-61-1	0.70	0.082	0.010	0.30		U
Plutonium 238	13981-16-3	0.041	0.025	0.021	0.050	J	PU
Plutonium 239/240		0.86	0.12	0.025	0.050	B	PU
Americium 241	14596-10-2	0.85	0.096	0.030	0.050		AM
Strontium 90	10098-97-2	7.8	3.4	1.2	2.0		Y
Carbon 14	14762-75-5	6.8	5.8	9.3	50	UX	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	13	2.9				GAM
Chromium 51	14392-02-0			14		U	GAM
Cobalt 60	10198-40-0	10	0.67		0.050		GAM
Zinc 65	17982-39-3			3.0		U	GAM
Cesium 134	17967-70-9			0.67		U	GAM
Cesium 137	10045-97-3	5.1	0.80		0.050		GAM
Radium 226	13982-67-7	0.84	0.79		0.10		GAM
Thorium 228	14274-82-9			0.76		U	GAM
Thorium 232	7440-29-1			2.5		U	GAM
Europium 152	14683-23-9	81	2.3				GAM
Europium 154	15585-101	20	11				GAM
Europium 155	14391-16-3	1.9	1.0				GAM

Lab id TMAN
Protocol WHC-HEIS
Version Ver 1.0
Form DVD-DS
Version 2.14
Report date 08/04/92

9713505.1887

TMA NORCAL

REPORTING GROUP 7042

N205026-03

DATA SHEET

B018V4

SDG 7042
Contact Dinkar Kharkar

Client Westinghouse Hanford
Contract MBH-SVV-069262

Lab sample id N205026-03
Dept sample id 7042-003
Received 05/04/92

Client sample id B018V4
Matrix SOIL
Collected 04/28/92
Chain of custody id WHC-N-205-21

PARAMETER	CAS NO	RESULT pCi/G	2σ ERR (COUNT)	MDA pCi/G	RDL pCi/G	QUALI-FIERS	TEST
Gross Alpha	Alpha	22	14	8.4	10		80A
Gross Beta	Beta	2400	33	6.7	15		80B
Uranium 233/234		1.4	0.14	0.025	0.30	B	U
Uranium 235	15117-96-1	0.070	0.032	0.015	0.30	J	U
Uranium 238	7440-61-1	1.3	0.14	0.021	0.30		U
Plutonium 238	13981-16-3	1.2	0.10	0.022	0.050		PU
Plutonium 239/240		36	1.7	0.018	0.050	B	PU
Americium 241	14596-10-2	13	0.98	0.050	0.050		AM
Strontium 90	10098-97-2	180	18	1.2	2.0		Y
Carbon 14	14762-75-5	26	6.6	9.9	50	BJX	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2			8.3		U	GAM
Chromium 51	14392-02-0			55		U	GAM
Cobalt 60	10198-40-0	180	2.1		0.050		GAM
Zinc 65	17982-39-3			7.5		U	GAM
Cesium 134	17967-70-9			2.1		U	GAM
Cesium 137	10045-97-3	790	3.2		0.050		GAM
Radium 226	13982-67-7			3.2	0.10	U	GAM
Thorium 228	14274-82-9			2.8		U	GAM
Thorium 232	7440-29-1			7.3		U	GAM
Europium 152	14683-23-9	1400	8.0				GAM
Europium 154	15585-101	250	5.1				GAM
Europium 155	14391-16-3	18	3.4				GAM

Lab id TMAN
Protocol WHC-HEIS
Version Ver 1.0
Form DVD-DS
Version 2.14
Report date 08/04/92

TMA NORCAL

REPORTING GROUP 7042

DATA SHEET

N205026-04

B018V5

SDG 7042
Contact Dinkar Kharkar

Client Westinghouse Hanford
Contract MBH-SVV-069262

Lab sample id N205026-04
Dept sample id 7042-004
Received 05/04/92

Client sample id B018V5
Matrix SOIL
Collected 04/28/92
Chain of custody id WHC-N-205-21

PARAMETER	CAS NO	RESULT pCi/G	2σ ERR (COUNT)	MDA pCi/G	RDL pCi/G	QUALI-FIERS	TEST
Gross Alpha	Alpha	14	32	34	10	U	80A
Gross Beta	Beta	1900	40	12	15		80B
Uranium 233/234		0.89	0.087	0.030	0.30	B	U
Uranium 235	15117-96-1	0.042	0.021	0.020	0.30	J	U
Uranium 238	7440-61-1	0.84	0.083	0.014	0.30		U
Plutonium 238	13981-16-3	0.93	0.095	0.039	0.050		PU
Plutonium 239/240		22	1.2	0.018	0.050	B	PU
Americium 241	14596-10-2	7.5	0.59	0.055	0.050		AM
Strontium 90	10098-97-2	94	11	0.85	2.0		Y
Carbon 14	14762-75-5	16	6.4	10	50	BJX	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2			9.9		U	GAM
Chromium 51	14392-02-0			56		U	GAM
Cobalt 60	10198-40-0	160	2.3		0.050		GAM
Zinc 65	17982-39-3			9.6		U	GAM
Cesium 134	17967-70-9			2.5		U	GAM
Cesium 137	10045-97-3	720	4.4		0.050		GAM
Radium 226	13982-67-7			3.7	0.10	U	GAM
Thorium 228	14274-82-9			3.0		U	GAM
Thorium 232	7440-29-1			8.7		U	GAM
Europium 152	14683-23-9	1300	10				GAM
Europium 154	15585-101	240	6.1				GAM
Europium 155	14391-16-3	11	4.0				GAM

Lab id TMAN
Protocol WHC-HEIS
Version Ver 1.0
Form DVD-DS
Version 2.14
Report date 08/04/92

TMA NORCAL

REPORTING GROUP 7042

DATA SHEET

N205026-05

B018V6

SDG 7042
Contact Dinkar Kharkar

Client Westinghouse Hanford
Contract MBH-SVV-069262

Lab sample id N205026-05
Dept sample id 7042-005
Received 05/04/92

Client sample id B018V6
Matrix SOIL
Collected 04/28/92
Chain of custody id WHC-N-205-21

PARAMETER	CAS NO	RESULT pCi/G	2σ ERR (COUNT)	MDA pCi/G	RDL pCi/G	QUALI-FIERS	TEST
Gross Alpha	Alpha	52	26	18	10		80A
Gross Beta	Beta	1300	29	8.7	15		80B
Uranium 233/234		0.69	0.080	0.041	0.30	B	U
Uranium 235	15117-96-1	0.023	0.018	0.018	0.30	J	U
Uranium 238	7440-61-1	0.72	0.080	0.020	0.30		U
Plutonium 238	13981-16-3	0.85	0.13	0.018	0.050		PU
Plutonium 239/240		22	1.8	0.018	0.050	B	PU
Americium 241	14596-10-2	7.7	0.66	0.054	0.050		AM
Strontium 90	10098-97-2	110	13	0.44	2.0		Y
Carbon 14	14762-75-5	49	6.9	9.5	50	BJX	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2			8.8		U	GAM
Chromium 51	14392-02-0			49		U	GAM
Cobalt 60	10198-40-0	130	2.3		0.050		GAM
Zinc 65	17982-39-3			8.0		U	GAM
Cesium 134	17967-70-9			2.2		U	GAM
Cesium 137	10045-97-3	200	3.0		0.050		GAM
Radium 226	13982-67-7			2.9	0.10	U	GAM
Thorium 228	14274-82-9			2.5		U	GAM
Thorium 232	7440-29-1			8.3		U	GAM
Europium 152	14683-23-9	820	6.9				GAM
Europium 154	15585-101	150	4.9				GAM
Europium 155	14391-16-3	11	3.7				GAM

Lab id TMAN
Protocol WHC-HEIS
Version Ver 1.0
Form DVD-DS
Version 2.14
Report date 08/04/92

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TMA NORCAL

REPORTING GROUP 7042

DATA SHEET

N205026-06

B018V7

SDG 7042
Contact Dinkar Kharkar

Client Westinghouse Hanford
Contract MBH-SVV-069262

Lab sample id N205026-06
Dept sample id 7042-006
Received 05/04/92

Client sample id B018V7
Matrix SOIL
Collected 04/28/92
Chain of custody id WHC-N-205-21

PARAMETER	CAS NO	RESULT pCi/G	2σ ERR (COUNT)	MDA pCi/G	RDL pCi/G	QUALI-FIERS	TEST
Gross Alpha	Alpha	110	49	42	10		80A
Gross Beta	Beta	2700	65	22	15		80B
Uranium 233/234		1.2	0.13	0.045	0.30	B	U
Uranium 235	15117-96-1	0.081	0.036	0.028	0.30	J	U
Uranium 238	7440-61-1	1.1	0.12	0.023	0.30		U
Plutonium 238	13981-16-3	1.8	0.11	0.025	0.050		PU
Plutonium 239/240		52	2.1	0.009	0.050	B	PU
Americium 241	14596-10-2	29	8.5	0.17	0.050		AM
Strontium 90	10098-97-2	770	65	0.55	2.0		Y
Carbon 14	14762-75-5	640	15	9.5	50	BX	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2			10		U	GAM
Chromium 51	14392-02-0			60		U	GAM
Cobalt 60	10198-40-0	310	3.1		0.050		GAM
Zinc 65	17982-39-3			9.7		U	GAM
Cesium 134	17967-70-9			2.8		U	GAM
Cesium 137	10045-97-3	800	4.7		0.050		GAM
Radium 226	13982-67-7			4.0	0.10	U	GAM
Thorium 228	14274-82-9			3.2		U	GAM
Thorium 232	7440-29-1			10		U	GAM
Europium 152	14683-23-9	1100	9.0				GAM
Europium 154	15585-101	380	6.9				GAM
Europium 155	14391-16-3	31	4.1				GAM

Lab id TMAN
Protocol WHC-MEIS
Version Ver 1.0
Form DVD-DS
Version 2.14
Report date 08/04/92

TMA NORCAL

REPORTING GROUP 7042

DATA SHEET

N205026-07

B018V8

SDG 7042
Contact Dinkar Kharkar

Client Westinghouse Hanford
Contract MBH-SVV-069262

Lab sample id N205026-07
Dept sample id 7042-007
Received 05/04/92

Client sample id B018V8
Matrix SOIL
Collected 04/28/92
Chain of custody id WHC-N-205-21

PARAMETER	CAS NO	RESULT pCi/G	2σ ERR (COUNT)	MDA pCi/G	RDL pCi/G	QUALI-FIERS	TEST
Gross Alpha	Alpha	75	19	7.6	10		80A
Gross Beta	Beta	3700	40	6.0	15		80B
Uranium 233/234		1.1	0.10	0.017	0.30	B	U
Uranium 235	15117-96-1	0.033	0.018	0.010	0.30	J	U
Uranium 238	7440-61-1	0.88	0.087	0.015	0.30		U
Plutonium 238	13981-16-3	9.4	0.64	0.010	0.050		PU
Plutonium 239/240		190	13	0.011	0.050	B	PU
Americium 241	14596-10-2	34	5.3	0.078	0.050		AM
Strontium 90	10098-97-2	540	35	0.80	2.0		Y
Carbon 14	14762-75-5	130	8.2	9.3	50	BX	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2			12		U	GAM
Chromium 51	14392-02-0			73		U	GAM
Cobalt 60	10198-40-0	300	3.6		0.050		GAM
Zinc 65	17982-39-3			11		U	GAM
Cesium 134	17967-70-9			3.2		U	GAM
Cesium 137	10045-97-3	450	4.5		0.050		GAM
Radium 226	13982-67-7			4.6	0.10	U	GAM
Thorium 228	14274-82-9			3.7		U	GAM
Thorium 232	7440-29-1			11		U	GAM
Europium 152	14683-23-9	1400	11				GAM
Europium 154	15585-101	410	8.4				GAM
Europium 155	14391-16-3	41	6.1				GAM

Lab id TMAN
Protocol WHC-HEIS
Version Ver 1.0
Form DVD-DS
Version 2.14
Report date 08/04/92

TMA NORCAL

REPORTING GROUP 7042

DATA SHEET

N205026-02

B018V9

SDG 7042
Contact Dinkar Kharkar

Client Westinghouse Hanford
Contract MBH-SVV-069262

Lab sample id N205026-02
Dept sample id 7042-002
Received 05/04/92

Client sample id B018V9
Matrix SOIL
Collected 04/28/92
Chain of custody id WHC-N-205-21

PARAMETER	CAS NO	RESULT pCi/G	2σ ERR (COUNT)	MDA pCi/G	RDL pCi/G	QUALI-FIERS	TEST
Gross Alpha	Alpha	1.4	1.3	1.6	10	U	80A
Gross Beta	Beta	9.5	1.9	2.3	15	J	80B
Uranium 233/234		0.22	0.049	0.020	0.30	BJ	U
Uranium 235	15117-96-1	0.016	0.016	0.012	0.30	J	U
Uranium 238	7440-61-1	0.22	0.049	0.020	0.30	J	U
Plutonium 238	13981-16-3	0.004	0.007	0.017	0.050	U	PU
Plutonium 239/240		0.048	0.030	0.017	0.050	BJ	PU
Americium 241	14596-10-2	-0.014	0.019	0.044	0.050	U	AM
Strontium 90	10098-97-2	-0.62	1.9	1.4	2.0	U	Y
Carbon 14	14762-75-5	0.14	5.9	9.7	50	UX	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	5.6	1.3				GAM
Chromium 51	14392-02-0			1.9		U	GAM
Cobalt 60	10198-40-0			0.10	0.050	U	GAM
Zinc 65	17982-39-3			0.18		U	GAM
Cesium 134	17967-70-9			0.085		U	GAM
Cesium 137	10045-97-3			0.079	0.050	U	GAM
Radium 226	13982-67-7	0.15	0.15		0.10		GAM
Thorium 228	14274-82-9	0.20	0.10				GAM
Thorium 232	7440-29-1	0.57	0.29				GAM

Lab id TMAN
Protocol WHC-HEIS
Version Ver 1.0
Form DVD-DS
Version 2.14
Report date 08/04/92

SDG 7042	Client Westinghouse Hanford
Contact Dinkar P. Kharkar	Contract MBH-SVV-069262

CASE NARRATIVE

1.0 GENERAL

Soil samples from location SAF #92-167 (TMA/Norcal Group 7042) are reported herein. TMA/Norcal Group 7042 is comprised of the seven samples listed on the Chain-of-Custody documents and are identified as Samples 1 through 7.

1.1 CHAINS-OF-CUSTODY

This report includes data from the samples delivered under Chain-of-Custody documents Field Logbook No. WHC-N-205-21P26.

1.2 SAMPLE VOLUME

A 1000 mL bottle of each sample was received for the analyses.

1.3 MISSING SAMPLES

All samples were accounted for and there was no damaged samples.

1.4 HOLDING TIMES

All collections were made on 4/28/92 and all sample processing was initiated within 180 days of collection.

2.0 QUALITY CONTROL

The internal quality control consisted of one sample each of a laboratory control, a blank, and a replicate. All original analyses were performed with QC samples 7042-8 through 14.

The QC samples were prepared and labelled by the quality control officer. Copies of The QC notebook pages are included in the data package.

2.1 LABORATORY CONTROL SAMPLES

The recoveries of the laboratory control samples for all nuclides were within 3 σ control level.

2.2 BLANKS

MDA's for all the analyses meet the RDL requirements, except for ^{60}Co, ^{137}Cs, and ^{226}Ra.

SDG 7042	Client Westinghouse Hanford
Contact Dinkar P. Kharkar	Contract MBH-SVV-069262

CASE NARRATIVE

2.3 REPLICATES

Results were satisfactory for all replicate analyses. The MDA for gross alpha and ^{226}Ra did not meet RDL requirements.

3.0 ANALYTICAL NOTES

3.1 Gross Alpha Analyses: Some samples had residue weights that exceeded the aliquot for gross alpha and gross beta analyses. This was due to the dissolution method employed. The soils required three cycles of $HF-HNO_3-HCl$ acid boil down and filtration and a sodium hydroxide metathesis to complete dissolve the sample. A large amount of salts were, therefore, added to the sample volume which contributed to high deposition loads on the planchets.

The gross alpha analyses of a few samples were underlined in the data sheets because MDA's exceed RDL, due to high residue in the planchets.

3.2 Gross Beta Analyses: The MDA's meet RDL in each case, except for one sample (TMA/Norcal 7042-6) where MDA exceeds RDL.

3.3 Carbon-14 Analyses: The MDA's meet RDL in each case.

3.4 Strontium-90 Analyses: The average yield for ten analyses was (72 ± 36)%. The lowest yield was 39% and the highest was 91%. Positive ^{90}Sr concentration was found in all samples except TMA/Norcal sample 7042-2.

3.5 Uranium-233,234,235, and 238 Analyses: The average yield for ten analyses was (67 ± 23)%. The lowest yield was 54% and the highest was 94%. Positive ^{238}U was found in all samples.

3.6 Plutonium-238,239/240 Analyses: The average yield for ten analyses was (67 ± 66)%. The lowest yield was 27% and the highest was 108%. Positive ^{239}Pu was found in all the samples.

3.7 Americium-241 Analyses: The average yield for twelve analyses was (46 ± 30)%. The lowest yield was 25% and the highest was 69%. The MDA's of five of the twelve samples were higher than RDL. All samples had positive ^{241}Am concentrations, except for TMA/Norcal sample 7042-2.

3.8 Gamma Scan Analyses: The MDA's are higher than RDL. The MDA's are calculated on the basis of counting a 750 gm sample. Only a 100-220 gm sample was available for gamma scan analyses.

SATURDAY DELIVERY
AIR OVERNIGHT

9713505.1895

000068

Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)
WESTINGHOUSE HANFORD		W92-0-0340-17

PART I – TO BE COMPLETED BY ORIGINATOR

Department	Section	Unit
PROCESSING & ANALYTICAL LAB	ANALYTICAL CHEMISTRY	SAMPLING & MOBILE LAB

The following items are to be shipped from [X] Contractor [ ] Vendor

Routing EMERY AIR EXPRESS [X] Contractor [ ] Vendor

Shipped to	Off-site Custodian
TMA/NORCAL 2030 Wright Av Richmond CA 94804	Delores Sanchez
	Full Title

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost
1	POLYCOOLER. SAMPLES PACKED IN PLASTIC BAGS AND STORED ON WET ICE. WEIGHT 52# SAMPLE #B018V0 B018V1 ~~B018V2~~ 7-1-92 B018V9 COOLER # SML-60	

[ ] Classified [X] Unclassified [ ] Shipped Under DOE Contract [ ] Shipped Under Contractor's Use Permit Contract

Necessity for the Off-Site Use of this Property

SAMPLES REQUIRE ANALYSIS THAT ARE NOT PRESENTLY AVAILABLE AT THIS SSTE.

BILL OF LADING # 250 186 7844

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

RM Clearance for Public Release	RM Survey No	Date
JR Morales samples Prefricked	1124 8-13	5-1-92

Location of Property (Area & Bldg.)	Contact	Phone
200 WEST AREA/222-S	K. B. Hulse	373-1907

Date Ready for Shipment	Cost Code to be Charged	Approximate Date This Property will be Returned
05/02/92	PB43C/ORG CODE: 12410	N/A

Originated By	Date	Authorized By	Date
K. B. Hulse	05/01/92	502041 R. A. Meznarich RA Meznarich	05/01/92
Signature and Name of Property Control	Custodian Date	Property Management Approval	Date
			5/1/92

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
Date 5-1-92 1330				

DISTRIBUTION

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

54-3000-479 (09/89)

FORM OF PAYMENT

Check [a] GBL [ ] FCCOD [ ]

Bill to Shipper [X] Bill to Consignee [ ] Third Party Billing [ ]

EMERY WORLDWIDE — A CF Company

SERVICES

UNITED STATES / CANADA: Same Day [ ] AM [ ] PM [ ] Second Day [ ] Saturday Delivery [X]

INTERNATIONAL: Express [ ] Business Documents [ ] Preferred [ ] Customs Clearance [ ] Standard [ ] Delivery [ ]

E Shipper's Account Number: 850281585

Date: 05-01-92 | Origin: P9C | Shipment Number: 250986784 4

From:
WESTINGHOUSE SHIPPING DEPT (509) 376-6665
US DEPARTMENT O F ENERGY C/O
WESTINGHOUSE HANFORD
BLDG 1163
2355 STEVENS DRIVE
RICHLAND WA
Canada [ ]

To:
DELORES SANCHEZ
TGA/NORCAL
2030 WRIGHT AVENUE
RICHMOND CA
Hold for Pick Up [ ] Canada [ ]

Tariff Dest. | Gateway

Check to Shipper $

EMERY WORLDWIDE will accept Consignee's check with all risks being assumed by Shipper, including but not limited to non-payment, fraud and misrepresentation.

Customer's Reference Numbers: W12410 PB43C W92-0-0340#17

Zip: 99352

E Consignee's Account Number

Zip: 94804

Description	Pcs.	L	W	H	Total Pieces	Total Weight (In Lbs.)
1 POLYCOOLER SML-60 SAMPLES B018V0,B018V1, B018V9 W92-0-0340#17	1		16		1	52

FOR INFORMATION OR RATES CALL 1-800 44 EMERY (1-800-443-6379)

Declared Value $

Remarks: SATURDAY DELIVERY

Shipper's Signature X

Zip Ship [ ]
For shipments within the 50 United States Shipper has the option to check this box and, by checking, agrees that the Zip Ship conditions, described in the area to the right, apply.

Mark if Emery Packaging is used
Urgent Letter 9X12 [X] Urgent Pack 12X15 [X]

250986784 4

International Shipments: Free Domicile [ ] Commodity Code

Third Party Account Number mandatory for Third Party Billing. E Third Party Account Number

International Customs Value | International Insurance

Base Charge

Total Transportation Charges | Other Charges/Advance at Origin [ ] OC/AO- $

1-OAK SA

Terms and Conditions on Back

FORM NO. 60001-46

9713505.1896

90033

SATURDAY DELIVERY 9213505 1897

000070

OFFSITE RADIOACTIVE SHIPMENT RECORD

– EXTERIOR INSPECTION PERMITTED –

15605

SHIPPING INST.

SHIP TO:

Company: TMA/NORCAL

Address: 2030 Wright Ave.

City, State, Zip: Richmond, CA 94804

Attention: Delores ~~Sanchez~~ Sanchez 234-5092

Contractor: ☐ PNL ☐ KEH ☒ WHC

Site Carrier: K. B. Hulse

PR No. 81627 | Veh. No. 58B-4555

Ship: ☒ Prepaid ☐ Collect Via:

☒ Motor ~~Rail~~ ☒ Air Psgr.

☐ Excl. Use ☒ Air Cargo

☐ DOE Veh. ☐ Mail

☐ UPS Sur. ☒ FED X

SHIPMENT DESCRIPTION AND CERTIFICATION

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

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

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

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

For Normal Form Identify:

Physical Form: ☒ Solid ☐ Liquid ☐ Gas

Chemical Form: ☐ Metal ☐ Oxide ☒ Elemental ☐ Nitrate

Other

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

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

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

Grams Fissile

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

ACCOUNTABILITY/SECURITY CONTROL: ☐ Classified ☒ Unclassified

Consignee authorized to receive this qty ☒

Sig. Security Svc. Req. ☐ NA ☒

~~Pu, EU > 1 g~~ ☐ N/A ~~NU, DU > 1 Kg~~ ☐

Security Escorts Req. ☐ Not. Req. ☒

External Cask Temperature N/A ☒ (Max. 122° F LTL, 180° F Ex. Use) °F

Packaging conforms to appropriate packaging procedure ☐ N/A ☒ Yes

Complies with D. O. T. packaging marking and labeling requirements ☐ N/A ☒ Yes

Container acceptability documented (incl. 7A cert.) ☒ N/A ☐ Yes

Container examined: No evidence of deterioration or damage ☒ Yes

QA Inspection Current ☐ Yes ☒ N/A Seals required ☒ No ☐ Yes

Shipping Doc. 49CFR 173.421 Authorization No. N/A

No. Pkgs.	Model Package	COC/Spec. No.	Serial No.	Seal No.	Isotopes	Curies/Pkg	T.I.	Gr. Wt.
1	Polycooler	N/A	~~N/A~~ SML-154	SEAL TAPE APPLIED	Co60, Cs137, Eu152	.149 mci	NA	65 lb
1	POLYCOOLER	N/A	~~N/A~~ SML-128	"	↓	.203 mci	NA	61 lb
	(EMERGENCY RESPONSE GUIDE IN VEHICLE)							
	(Shipper may describe package in detail on one of unused lines above)				TOTAL	.352 mci	NA	126 lbs

This is to certify that the above named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation, according to the applicable federal, state, local and international regulations for the transportation of hazardous materials.

Certifier's Signature: Karl B. Hulse | Date: 5-1-92 | Organization: 12410 | Complete Cost Code (inc. end function): PB43C

AREA MONITOR

Surface Dose Rate of Package: ☒ ≤0.5 or ___ mrem/hr (N + βγ)

Dose Rate at 1 Meter from Surface of Package: ☐ ≤0.5 or ___ mrem/hr (N + βγ)

Smears of Outer Container: ☒ ≤22 dpm βγ/cm² ☐ ≤2.2 dpm α/cm²

TRUCK LOAD OR EXCLUSIVE USE: Surface: ☐ ≤ 200 mrem/hr (N + βγ) @ 6 feet: ☐ ≤ 10 mrem/hr (N + βγ) @ Cab or Sleeper ☐ ≤2.0 mrem/hr (N + βγ)

Additional Data and Instructions (inc. Readings on Internal Packaging): On outer packing of samples <Det smear ~~sample bottle's were found preprepped~~

Signature - Radiation Monitoring: J K Morales | Bldg. 222-S | Survey No. S114839 | Date 5-1-92

APPROVAL

AUTHORIZATION FOR SHIPMENT

AIR TRANSPORT CERTIFICATION ▸ Cargo Only: ☐ Danger Labels Applied

Passenger: ☒ 1. Ltd. Qty. ☒ 3. Research or Medical Diagnosis ☐ 2. ≤3 T.I ☐ 4. Human Medical Research

Pkg. Dimensions: 27"L x 16"H x 18"D

Traffic has inspected and verified preshipment compliance to DOT regulations.

Authorized Signature ▸ M. A. Sams | Printed Name ▸ M. A. SAMS | Date ▸ 5-1-92

TRAFFIC

APPROVED FOR OFFSITE SHIPMENT

B. L. No. RMW-7737 | Date Shipped 5/1/92 | E. T. A. 5/6/92 | Routing FED X | ☐ N/A | Placards ☐ Yes ☒ No

Surveyed By | Date 5-1-92 | Approved for Shipment Westinghouse Hanford Company | Date 5/1/92 | Route Plan ☐ Yes ☒ No

Emergency Contact # (509) 373-3800 ERG-96 #61 Attached

54-6000-088 (10/88)

PAGE 1 of 2

3101509202

1251M 3101509202

0981-0127-6 5-1-92

G.O. BONESS 509 376-7627

U.S. DEPT. OF ENERGY c/o
WESTINGHOUSE HANFORD

1100 AREA 1163 BLDG

RICHLAND WA 9 9 3 5 2

(EMERGENCY CONTACT PHONE NUMBER 509-373-3800)

DELORES SANCHEZ

TMA/NORCAL

2030 WRIGHT AVENUE

RICHMOND CA 94804

RMM-7737 12410 PB43C

RADIOACTIVE MATERIAL, EXCEPTED PACKAGE - LIMITED QUANTITY OF MATERIAL
DOT EMERGENCY RESPONSE GUIDE # 61 ATTACHED

X

X

X

1 65
1 61

2 126

X

X

REVISION DATE 2/91

059

RCVD 5/2/92

9713505.1898

000071

9713505.1899

VALIDATION SUMMARY

9713505.1900

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

000006
EPA SAMPLE NO.

B018V0

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05015 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A205015-01A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 20511R15

Level: (low/med) LOW Date Received: 05/04/92

% Moisture: not dec. 14 Date Analyzed: 05/11/92

GC Column: PACK ID: 2.00 (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	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	36	~~B~~ U
67-64-1	Acetone	12	U
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene	12	U
75-34-3	1,1-Dichloroethane	12	U
540-59-0	1,2-Dichloroethene (total)	12	U
67-66-3	Chloroform	12	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	12	U
124-48-1	Dibromochloromethane	12	U
79-00-5	1,1,2-Trichloroethane	12	U
71-43-2	Benzene	12	U
10061-02-6	trans-1,3-Dichloropropene	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	12	U
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Xylene (total)	12	U

9-30-92 SC

9713505.1901

000007

EPA SAMPLE NO.

B018V0

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

ab Name: TMA/ARLI Contract: WHC

ab Code: TMALA Case No.: 05015 SAS No.: NA SDG No.: NA

atrix: (soil/water) SOIL Lab Sample ID: A205015-01A

ample wt/vol: 5.0 (g/mL) G Lab File ID: 20511R15

evel: (low/med) LOW Date Received: 05/04/92

Moisture: not dec. 14 Date Analyzed: 05/11/92

C Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

oil 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

FORM I VOA-TIC 9-30-92SC 3/90

9713505.1902

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

000008

EPA SAMPLE NO.

B018V2

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05015 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A205015-03A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 20511R14

Level: (low/med) LOW Date Received: 05/04/92

% Moisture: not dec. 9 Date Analyzed: 05/11/92

GC Column: PACK ID: 2.00 (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	47	~~B~~ U
67-64-1	Acetone	22	~~B~~ U
75-15-0	Carbon Disulfide	11	U
75-35-4	1,1-Dichloroethene	11	U
75-34-3	1,1-Dichloroethane	11	U
540-59-0	1,2-Dichloroethene (total)	11	U
67-66-3	Chloroform	11	U
107-06-2	1,2-Dichloroethane	11	U
78-93-3	2-Butanone	11	U
71-55-6	1,1,1-Trichloroethane	11	U
56-23-5	Carbon Tetrachloride	11	U
75-27-4	Bromodichloromethane	11	U
78-87-5	1,2-Dichloropropane	11	U
10061-01-5	cis-1,3-Dichloropropene	11	U
79-01-6	Trichloroethene	11	U
124-48-1	Dibromochloromethane	11	U
79-00-5	1,1,2-Trichloroethane	11	U
71-43-2	Benzene	11	U
10061-02-6	trans-1,3-Dichloropropene	11	U
75-25-2	Bromoform	11	U
108-10-1	4-Methyl-2-Pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	11	U
79-34-5	1,1,2,2-Tetrachloroethane	11	U
108-88-3	Toluene	32	J
108-90-7	Chlorobenzene	11	U
100-41-4	Ethylbenzene	11	U
100-42-5	Styrene	11	U
1330-20-7	Xylene (total)	11	U

FORM I VOA

9-30-92 SE

3790

9713505.1903

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

000009
EPA SAMPLE NO.

B018V2

ab Name: TMA/ARLI Contract: WHC

ab Code: TMALA Case No.: 05015 SAS No.: NA SDG No.: NA

atrix: (soil/water) SOIL Lab Sample ID: A205015-03A

ample wt/vol: 5.0 (g/mL) G Lab File ID: 20511R14

evel: (low/med) LOW Date Received: 05/04/92

Moisture: not dec. 9 Date Analyzed: 05/11/92

C Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

oil 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

9-30-92 SC

9713505.1904

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

000010
EPA SAMPLE NO.

B018V3

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05015 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A205015-04A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 20512R05

Level: (low/med) LOW Date Received: 05/04/92

% Moisture: not dec. 10 Date Analyzed: 05/12/92

GC Column: PACK ID: 2.00 (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	15	~~B~~ u
67-64-1	Acetone	48	~~B~~ u
75-15-0	Carbon Disulfide	11	U
75-35-4	1,1-Dichloroethene	11	U
75-34-3	1,1-Dichloroethane	11	U
540-59-0	1,2-Dichloroethene (total)	11	U
67-66-3	Chloroform	11	U
107-06-2	1,2-Dichloroethane	11	U
78-93-3	2-Butanone	11	U
71-55-6	1,1,1-Trichloroethane	11	U
56-23-5	Carbon Tetrachloride	11	U
75-27-4	Bromodichloromethane	11	U
78-87-5	1,2-Dichloropropane	11	U
10061-01-5	cis-1,3-Dichloropropene	11	U
79-01-6	Trichloroethene	11	U
124-48-1	Dibromochloromethane	11	U
79-00-5	1,1,2-Trichloroethane	11	U
71-43-2	Benzene	11	U
10061-02-6	trans-1,3-Dichloropropene	11	U
75-25-2	Bromoform	11	U
108-10-1	4-Methyl-2-Pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	11	U
79-34-5	1,1,2,2-Tetrachloroethane	11	U
108-88-3	Toluene	81	J
108-90-7	Chlorobenzene	11	U
100-41-4	Ethylbenzene	11	U
100-42-5	Styrene	11	U
1330-20-7	Xylene (total)	11	U

9-30-92 SC

9713505.1905

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

000011
EPA SAMPLE NO.

B018V3

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05015 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A205015-04A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 20512R05

Level: (low/med) LOW Date Received: 05/04/92

% Moisture: not dec. 10 Date Analyzed: 05/12/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

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

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Unknown hydrocarbon	8.17	8	J

 9-30-92 SC

9713505.1906

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

000012

EPA SAMPLE NO.

B018V4

ab Name: TMA/ARLI Contract: WHC

ab Code: TMALA Case No.: 05015 SAS No.: NA SDG No.: NA

atrix: (soil/water) SOIL Lab Sample ID: A205015-05A

ample wt/vol: 5.0 (g/mL) G Lab File ID: 20511R16

evel: (low/med) LOW Date Received: 05/04/92

Moisture: not dec. 12 Date Analyzed: 05/11/92

C Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

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

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

CAS NO.	COMPOUND		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	20	~~B~~ U
67-64-1	Acetone	29	~~B~~ U
75-15-0	Carbon Disulfide	11	U
75-35-4	1,1-Dichloroethene	11	U
75-34-3	1,1-Dichloroethane	11	U
540-59-0	1,2-Dichloroethene (total)	11	U
67-66-3	Chloroform	11	U
107-06-2	1,2-Dichloroethane	11	U
78-93-3	2-Butanone	5	J
71-55-6	1,1,1-Trichloroethane	11	U
56-23-5	Carbon Tetrachloride	11	U
75-27-4	Bromodichloromethane	11	U
78-87-5	1,2-Dichloropropane	11	U
10061-01-5	cis-1,3-Dichloropropene	11	U
79-01-6	Trichloroethene	11	U
124-48-1	Dibromochloromethane	11	U
79-00-5	1,1,2-Trichloroethane	11	U
71-43-2	Benzene	11	U
10061-02-6	trans-1,3-Dichloropropene	11	U
75-25-2	Bromoform	11	U
108-10-1	4-Methyl-2-Pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	11	U
79-34-5	1,1,2,2-Tetrachloroethane	11	U
108-88-3	Toluene	6	J
108-90-7	Chlorobenzene	11	U
100-41-4	Ethylbenzene	11	U
100-42-5	Styrene	11	U
1330-20-7	Xylene (total)	11	U

FORM I VOA 9-30-92 SC 3/90

9713505.1907

000013

EPA SAMPLE NO.

B018V4

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05015 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A205015-05A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 20511R16

Level: (low/med) LOW Date Received: 05/04/92

% Moisture: not dec. 12 Date Analyzed: 05/11/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

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

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Unknown hydrocarbon	8.59	8	J
2.	UNknown hydrocarbon	14.72	12	J

FORM I VOA-TIC 9-30-92 SC 3/90

9713505.1908

000014

EPA SAMPLE NO.

B018V5

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

b Name: TMA/ARLI Contract: WHC

.b Code: TMALA Case No.: 05015 SAS No.: NA SDG No.: NA

trix: (soil/water) SOIL Lab Sample ID: A205015-06A

mple wt/vol: 5.0 (g/mL) G Lab File ID: 20511R17

evel: (low/med) LOW Date Received: 05/04/92

Moisture: not dec. 13 Date Analyzed: 05/11/92

: Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

oil 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	18	~~B~~ u
67-64-1	Acetone	29	~~B~~ u
75-15-0	Carbon Disulfide	11	U
75-35-4	1,1-Dichloroethene	11	U
75-34-3	1,1-Dichloroethane	11	U
540-59-0	1,2-Dichloroethene (total)	11	U
67-66-3	Chloroform	11	U
107-06-2	1,2-Dichloroethane	11	U
78-93-3	2-Butanone	11	U
71-55-6	1,1,1-Trichloroethane	11	U
56-23-5	Carbon Tetrachloride	11	U
75-27-4	Bromodichloromethane	11	U
78-87-5	1,2-Dichloropropane	11	U
10061-01-5	cis-1,3-Dichloropropene	11	U
79-01-6	Trichloroethene	11	U
124-48-1	Dibromochloromethane	11	U
79-00-5	1,1,2-Trichloroethane	11	U
71-43-2	Benzene	11	U
10061-02-6	trans-1,3-Dichloropropene	11	U
75-25-2	Bromoform	11	U
108-10-1	4-Methyl-2-Pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	11	U
79-34-5	1,1,2,2-Tetrachloroethane	11	U
108-88-3	Toluene	1	J
108-90-7	Chlorobenzene	11	U
100-41-4	Ethylbenzene	11	U
100-42-5	Styrene	11	U
1330-20-7	Xylene (total)	11	U

FORM I VOA 3/90

9-30-92 SC

9713505.1909

000015

EPA SAMPLE NO.

B018V5

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05015 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A205015-06A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 20511R17

Level: (low/med) LOW Date Received: 05/04/92

% Moisture: not dec. 13 Date Analyzed: 05/11/92

GC Column: PACK ID: 2.00 (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

9-30-92SC

9713505.1910

000016

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B018V9

ab Name: TMA/ARLI Contract: WHC

ab Code: TMALA Case No.: 05015 SAS No.: NA SDG No.: NA

atrix: (soil/water) SOIL Lab Sample ID: A205015-10A

ample wt/vol: 5.0 (g/mL) G Lab File ID: 20511R19

evel: (low/med) LOW Date Received: 05/04/92

Moisture: not dec. 0 Date Analyzed: 05/11/92

C Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

oil 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	18	~~B~~ U
67-64-1	Acetone	16	~~B~~ U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	1	J
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

FORM I VOA 3/90

9-30-92 SC

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B018V9

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05015 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A205015-10A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 20511R19

Level: (low/med) LOW Date Received: 05/04/92

% Moisture: not dec. 0 Date Analyzed: 05/11/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

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

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Unknown hydrocarbon	3.75	7	J

9-30-92 SC

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B018V4

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05015 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A205015-05B

Sample wt/vol: 30.5 (g/mL) G Lab File ID: 20612N08

Level: (low/med) LOW Date Received: 05/04/92

% Moisture: 12 decanted: (Y/N) N Date Extracted: 05/11/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/12/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	370	U
111-44-4	bis(2-Chloroethyl)Ether	370	U
95-57-8	2-Chlorophenol	370	U
541-73-1	1,3-Dichlorobenzene	370	U
106-46-7	1,4-Dichlorobenzene	370	U
95-50-1	1,2-Dichlorobenzene	370	U
95-48-7	2-Methylphenol	370	U
108-60-1	2,2'-oxybis(1-Chloropropane)	370	U
106-44-5	4-Methylphenol	370	U
621-64-7	N-Nitroso-Di-n-Propylamine	370	U
67-72-1	Hexachloroethane	370	U
98-95-3	Nitrobenzene	370	U
78-59-1	Isophorone	370	U
88-75-5	2-Nitrophenol	370	U
105-67-9	2,4-Dimethylphenol	370	U
111-91-1	bis(2-Chloroethoxy)Methane	370	U
120-83-2	2,4-Dichlorophenol	370	U
120-82-1	1,2,4-Trichlorobenzene	370	U
91-20-3	Naphthalene	370	U
106-47-8	4-Chloroaniline	370	U
87-68-3	Hexachlorobutadiene	370	U
59-50-7	4-Chloro-3-Methylphenol	370	U
91-57-6	2-Methylnaphthalene	370	U
77-47-4	Hexachlorocyclopentadiene	370	U
88-06-2	2,4,6-Trichlorophenol	370	U
95-95-4	2,4,5-Trichlorophenol	890	U
91-58-7	2-Chloronaphthalene	370	U
88-74-4	2-Nitroaniline	890	U
131-11-3	Dimethylphthalate	370	U
208-96-8	Acenaphthylene	370	U
99-09-2	3-Nitroaniline	890	U
83-32-9	Acenaphthene	370	U
51-28-5	2,4-Dinitrophenol	890	U

Do Not USE this data 9-23 MM

9713505.1913

000270

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B018V4

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05015 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A205015-05B

Sample wt/vol: 30.5 (g/mL) G Lab File ID: 20612N08

Level: (low/med) LOW Date Received: 05/04/92

% Moisture: 12 decanted: (Y/N) N Date Extracted: 05/11/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/12/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-02-7	4-Nitrophenol	890	U
132-64-9	Dibenzofuran	370	U
121-14-2	2,4-Dinitrotoluene	370	U
606-20-2	2,6-Dinitrotoluene	370	U
84-66-2	Diethylphthalate	370	U
7005-72-3	4-Chlorophenyl-phenylether	370	U
86-73-7	Fluorene	370	U
100-01-6	4-Nitroaniline	890	U
534-52-1	4,6-Dinitro-2-methylphenol	890	U
86-30-6	N-Nitrosodiphenylamine (1)	370	U
101-55-3	4-Bromophenyl-phenylether	370	U
118-74-1	Hexachlorobenzene	370	U
87-86-5	Pentachlorophenol	890	U
85-01-8	Phenanthrene	370	U
120-12-7	Anthracene	370	U
86-74-8	Carbazole	370	U
84-74-2	Di-n-Butylphthalate	26	BJ
206-44-0	Fluoranthene	370	U
129-00-0	Pyrene	370	U
85-68-7	Butylbenzylphthalate	370	U
91-94-1	3,3'-Dichlorobenzidine	370	U
56-55-3	Benzo(a)Anthracene	370	U
117-81-7	bis(2-Ethylhexyl)Phthalate	65	BJ
218-01-9	Chrysene	370	U
117-84-0	Di-n-Octyl Phthalate	370	U
205-99-2	Benzo(b)Fluoranthene	370	U
207-08-9	Benzo(k)Fluoranthene	370	U
50-32-8	Benzo(a)Pyrene	370	U
193-39-5	Indeno(1,2,3-cd)Pyrene	370	U
53-70-3	Dibenz(a,h)Anthracene	370	U
191-24-2	Benzo(g,h,i)Perylene	370	U

Do Not Use this data 9-2-11

(1) --Cannot be separated from Diphenylamine

9713505.1914

000271

1F

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

B018V4

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05015 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A205015-05B

Sample wt/vol: 30.5 (g/mL) G Lab File ID: 20612N08

Level: (low/med) LOW Date Received: 05/04/92

% Moisture: 12 decanted: (Y/N) N Date Extracted: 05/11/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/12/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.1

Number TICs found: 19

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Unknown ketone	6.38	150	J
2.	Unknown hydrocarbon	6.80	1900	BJ
3.	Unknown amine	7.45	34000	J
4.	Unknown alkane	7.58	150	J
5.	Unknown aldehyde	7.72	150	BJ
6.	Unknown hydrocarbon	8.80	750	BJ
7.	Unknown ketone	9.32	410	BJ
8.	Unknown carboxylic acid	9.93	1800	J
9.	Unknown hydrocarbon	10.15	300	J
10.	Unknown ketone	10.33	1500	J
11.	Unknown alcohol	10.58	260	J
12.	Subst. phenyl ketone	11.83	260	BJ
13.	Unknown carboxylic acid este	12.23	480	J
14.	Unknown carboxylic acid	16.72	110	J
15.	Subst. diphenyl ketone	23.82	150	BJ
16.	Unknown carboxylic acid este	25.58	19000	BJ
17.	Unknown alkane	28.67	150	J
18.	Unknown alkane	30.07	75	J
19.	Unknown hydrocarbon	30.43	110	J

Do NOT USE this data
9-23-92 MM

9713505.1915

000309

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B018V4RE

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05015 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A205015-05B

Sample wt/vol: 30.2 (g/mL) G Lab File ID: 20708N03

Level: (low/med) LOW Date Received: 05/04/92

% Moisture: 12 decanted: (Y/N) N Date Extracted: 06/29/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 07/08/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q.
108-95-2	Phenol	370	U J
111-44-4	bis(2-Chloroethyl)Ether	370	U
95-57-8	2-Chlorophenol	370	U
541-73-1	1,3-Dichlorobenzene	370	U
106-46-7	1,4-Dichlorobenzene	370	U
95-50-1	1,2-Dichlorobenzene	370	U
95-48-7	2-Methylphenol	370	U
108-60-1	2,2'-oxybis(1-Chloropropane)	370	U
106-44-5	4-Methylphenol	370	U
621-64-7	N-Nitroso-Di-n-Propylamine	370	U
67-72-1	Hexachloroethane	370	U
98-95-3	Nitrobenzene	370	U
78-59-1	Isophorone	370	U
88-75-5	2-Nitrophenol	370	U
105-67-9	2,4-Dimethylphenol	370	U
111-91-1	bis(2-Chloroethoxy)Methane	370	U
120-83-2	2,4-Dichlorophenol	370	U
120-82-1	1,2,4-Trichlorobenzene	370	U
91-20-3	Naphthalene	370	U
106-47-8	4-Chloroaniline	370	U
87-68-3	Hexachlorobutadiene	370	U
59-50-7	4-Chloro-3-Methylphenol	370	U
91-57-6	2-Methylnaphthalene	370	U
77-47-4	Hexachlorocyclopentadiene	370	U
88-06-2	2,4,6-Trichlorophenol	370	U
95-95-4	2,4,5-Trichlorophenol	900	U
91-58-7	2-Chloronaphthalene	370	U
88-74-4	2-Nitroaniline	900	U
131-11-3	Dimethylphthalate	370	U
208-96-8	Acenaphthylene	370	U
99-09-2	3-Nitroaniline	900	U
83-32-9	Acenaphthene	370	U
51-28-5	2,4-Dinitrophenol	900	U

9-23 NM

9713505.1916

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

000310
EPA SAMPLE NO.

B018V4RE

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05015 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A205015-05B

Sample wt/vol: 30.2 (g/mL) G Lab File ID: 20708N03

Level: (low/med) LOW Date Received: 05/04/92

% Moisture: 12 decanted: (Y/N) N Date Extracted: 06/29/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 07/08/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-02-7	4-Nitrophenol	900	U
132-64-9	Dibenzofuran	370	U
121-14-2	2,4-Dinitrotoluene	370	U
606-20-2	2,6-Dinitrotoluene	370	U
84-66-2	Diethylphthalate	68	J
7005-72-3	4-Chlorophenyl-phenylether	370	U
86-73-7	Fluorene	370	U
100-01-6	4-Nitroaniline	900	U
534-52-1	4,6-Dinitro-2-methylphenol	900	U
86-30-6	N-Nitrosodiphenylamine (1)	370	U
101-55-3	4-Bromophenyl-phenylether	370	U
118-74-1	Hexachlorobenzene	370	U
87-86-5	Pentachlorophenol	900	U
85-01-8	Phenanthrene	370	U
120-12-7	Anthracene	370	U
86-74-8	Carbazole	370	U
84-74-2	Di-n-Butylphthalate	2700	B
206-44-0	Fluoranthene	46	J
129-00-0	Pyrene	52	J
85-68-7	Butylbenzylphthalate	370	U
91-94-1	3,3'-Dichlorobenzidine	370	U
56-55-3	Benzo(a)Anthracene	370	U
117-81-7	bis(2-Ethylhexyl)Phthalate	370	U
218-01-9	Chrysene	370	U
117-84-0	Di-n-Octyl Phthalate	370	U
205-99-2	Benzo(b)Fluoranthene	370	U
207-08-9	Benzo(k)Fluoranthene	42	J
50-32-8	Benzo(a)Pyrene	370	U
193-39-5	Indeno(1,2,3-cd)Pyrene	370	U
53-70-3	Dibenz(a,h)Anthracene	370	U
191-24-2	Benzo(g,h,i)Perylene	370	U

Q 23

(1) - Cannot be separated from Diphenylamine

9713505.1917

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

000311
EPA SAMPLE NO.

B018V4RE

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05015 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A205015-05B

Sample wt/vol: 30.2 (g/mL) G Lab File ID: 20708N03

Level: (low/med) LOW Date Received: 05/04/92

% Moisture: 12 decanted: (Y/N) N Date Extracted: 06/29/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 07/08/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.1

Number TICs found: 19

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Subst. furan	4.30	230	~~BJ~~ U
2.	Unknown alcohol	4.87	600	~~BJ~~
3.	Unknown hydrocarbon	5.03	750	~~BJ~~
4.	Unknown alkene	5.12	110	~~BJ~~
5.	Unknown ketone	5.78	190	~~BJ~~
6.	Unknown hydrocarbon	5.97	110	~~BJ~~
7.	Unknown hydrocarbon	6.03	75	~~BJ~~
8.	Unknown hydrocarbon	6.37	2300	~~BJ~~
9.	Unknown hydrocarbon	6.45	3200	~~BJ~~
10.	Unknown amine	7.10	82000	~~BJ~~
11.	Unknown hydrocarbon	7.25	380	~~BJ~~
12.	Unknown hydrocarbon	8.32	2100	~~BJ~~
13.	Unknown hydrocarbon	8.60	680	~~BJ~~
14.	Unknown ketone	8.82	380	~~BJ~~
15.	Unknown hydrocarbon	9.65	640	J
16.	Unknown alcohol	10.07	530	~~BJ~~ U
17.	Unknown ketone	10.90	490	J
18.	Unknown phthalate	21.55	380	~~BJ~~ U
19.	Unknown hydrocarbon	25.90	190	J

9-23-92
KM

9713505.1918

1B

000354

EPA SAMPLE NO.

SEMIVOLATI ORGANICS ANALYSIS DATA SHEET

B018V5

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05015 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A205015-06B

Sample wt/vol: 30.4 (g/mL) G Lab File ID: 20611N11

Level: (low/med) LOW Date Received: 05/04/92

% Moisture: 13 decanted: (Y/N) N Date Extracted: 05/11/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/11/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.2

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	370	U
111-44-4	bis(2-Chloroethyl)Ether	370	U
95-57-8	2-Chlorophenol	370	U
541-73-1	1,3-Dichlorobenzene	370	U
106-46-7	1,4-Dichlorobenzene	370	U
95-50-1	1,2-Dichlorobenzene	370	U
95-48-7	2-Methylphenol	370	U
108-60-1	2,2'-oxybis(1-Chloropropane)	370	U
106-44-5	4-Methylphenol	370	U
621-64-7	N-Nitroso-Di-n-Propylamine	370	U
67-72-1	Hexachloroethane	370	U
98-95-3	Nitrobenzene	370	U
78-59-1	Isophorone	370	U
88-75-5	2-Nitrophenol	370	U
105-67-9	2,4-Dimethylphenol	370	U
111-91-1	bis(2-Chloroethoxy)Methane	370	U
120-83-2	2,4-Dichlorophenol	370	U
120-82-1	1,2,4-Trichlorobenzene	370	U
91-20-3	Naphthalene	370	U
106-47-8	4-Chloroaniline	370	U
87-68-3	Hexachlorobutadiene	370	U
59-50-7	4-Chloro-3-Methylphenol	370	U
91-57-6	2-Methylnaphthalene	370	U
77-47-4	Hexachlorocyclopentadiene	370	U
88-06-2	2,4,6-Trichlorophenol	370	U
95-95-4	2,4,5-Trichlorophenol	910	U
91-58-7	2-Chloronaphthalene	370	U
88-74-4	2-Nitroaniline	910	U
131-11-3	Dimethylphthalate	370	U
208-96-8	Acenaphthylene	370	U
99-09-2	3-Nitroaniline	910	U
83-32-9	Acenaphthene	370	U
51-28-5	2,4-Dinitrophenol	910	U

Do Not Use this data 9-23 MY

9713505.1919

1C

EPA SAMPLE NO. 000355

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B018V5

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05015 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A205015-06B

Sample wt/vol: 30.4 (g/mL) G Lab File ID: 20611N11

Level: (low/med) LOW Date Received: 05/04/92

% Moisture: 13 decanted: (Y/N) N Date Extracted: 05/11/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/11/92

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.2

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-02-7	4-Nitrophenol	910	U
132-64-9	Dibenzofuran	370	U
121-14-2	2,4-Dinitrotoluene	370	U
606-20-2	2,6-Dinitrotoluene	370	U
84-66-2	Diethylphthalate	120	J
7005-72-3	4-Chlorophenyl-phenylether	370	U
86-73-7	Fluorene	370	U
100-01-6	4-Nitroaniline	910	U
534-52-1	4,6-Dinitro-2-methylphenol	910	U
86-30-6	N-Nitrosodiphenylamine (1)	370	U
101-55-3	4-Bromophenyl-phenylether	370	U
118-74-1	Hexachlorobenzene	370	U
87-86-5	Pentachlorophenol	910	U
85-01-8	Phenanthrene	370	U
120-12-7	Anthracene	370	U
86-74-8	Carbazole	370	U
84-74-2	Di-n-Butylphthalate	40	BJ
206-44-0	Fluoranthene	370	U
129-00-0	Pyrene	370	U
85-68-7	Butylbenzylphthalate	45	J
91-94-1	3,3'-Dichlorobenzidine	370	U
56-55-3	Benzo(a)Anthracene	370	U
117-81-7	bis(2-Ethylhexyl)Phthalate	92	BJ
218-01-9	Chrysene	370	U
117-84-0	Di-n-Octyl Phthalate	370	U
205-99-2	Benzo(b)Fluoranthene	370	U
207-08-9	Benzo(k)Fluoranthene	370	U
50-32-8	Benzo(a)Pyrene	370	U
193-39-5	Indeno(1,2,3-cd)Pyrene	370	U
53-70-3	Dibenz(a,h)Anthracene	370	U
191-24-2	Benzo(g,h,i)Perylene	370	U

Do Not Use this data 4-23 MY

(1) - Cannot be separated from Diphenylamine

9713505.1920

000356

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B018V5

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05015 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A205015-06B

Sample wt/vol: 30.4 (g/mL) G Lab File ID: 20611N11

Level: (low/med) LOW Date Received: 05/04/92

% Moisture: 13 decanted: (Y/N) N Date Extracted: 05/11/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/11/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.2

Number TICs found: 19

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Unknown hydrocarbon	4.22	870	BJ
2.	Subst. furan	4.50	640	BJ
3.	Subst. alkene	5.33	260	BJ
4.	Unknown ketone	6.20	230	J
5.	Unknown hydrocarbon	6.62	2800	BJ
6.	Unknown amine	7.25	47000	J
7.	Unknown alkane	7.38	450	J
8.	Unknown alcohol	7.52	420	J
9.	Unknown hydrocarbon	8.58	1100	BJ
10.	Unknown ketone	9.10	380	BJ
11.	Unknown hydrocarbon	9.93	260	BJ
12.	Unknown alcohol	10.35	340	BJ
13.	Subst. phenyl ketone	11.60	230	BJ
14.	Unknown alkane	16.45	150	J
15.	Subst. diphenyl ketone	23.52	150	BJ
16.	Unknown carboxylic acid este	25.20	16000	BJ
17.	Unknown alkane	26.07	150	J
18.	Unknown alkane	28.18	150	BJ
19.	Unknown hydrocarbon	29.92	190	BJ

Do Not use this data 9-23-92

9713505.1921

000397

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B018V5RE

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05015 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A205015-06B

Sample wt/vol: 30.7 (g/mL) G Lab File ID: 20708N06

Level: (low/med) LOW Date Received: 05/04/92

% Moisture: 13 decanted: (Y/N) N Date Extracted: 06/29/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 07/08/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.2

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

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	370	U
111-44-4	bis(2-Chloroethyl)Ether	370	U
95-57-8	2-Chlorophenol	370	U
541-73-1	1,3-Dichlorobenzene	370	U
106-46-7	1,4-Dichlorobenzene	370	U
95-50-1	1,2-Dichlorobenzene	370	U
95-48-7	2-Methylphenol	370	U
108-60-1	2,2'-oxybis(1-Chloropropane)	370	U
106-44-5	4-Methylphenol	370	U
621-64-7	N-Nitroso-Di-n-Propylamine	370	U
67-72-1	Hexachloroethane	370	U
98-95-3	Nitrobenzene	370	U
78-59-1	Isophorone	370	U
88-75-5	2-Nitrophenol	370	U
105-67-9	2,4-Dimethylphenol	370	U
111-91-1	bis(2-Chloroethoxy)Methane	370	U
120-83-2	2,4-Dichlorophenol	370	U
120-82-1	1,2,4-Trichlorobenzene	370	U
91-20-3	Naphthalene	370	U
106-47-8	4-Chloroaniline	370	U
87-68-3	Hexachlorobutadiene	370	U
59-50-7	4-Chloro-3-Methylphenol	370	U
91-57-6	2-Methylnaphthalene	370	U
77-47-4	Hexachlorocyclopentadiene	370	U
88-06-2	2,4,6-Trichlorophenol	370	U
95-95-4	2,4,5-Trichlorophenol	900	U
91-58-7	2-Chloronaphthalene	370	U
88-74-4	2-Nitroaniline	900	U
131-11-3	Dimethylphthalate	370	U
208-96-8	Acenaphthylene	370	U
99-09-2	3-Nitroaniline	900	U
83-32-9	Acenaphthene	370	U
51-28-5	2,4-Dinitrophenol	900	U

9-23 MM

9713505.1922

000398

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B018V5RE

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05015 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A205015-06B

Sample wt/vol: 30.7 (g/mL) G Lab File ID: 20708N06

Level: (low/med) LOW Date Received: 05/04/92

% Moisture: 13 decanted: (Y/N) N Date Extracted: 06/29/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 07/08/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.2

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-02-7	4-Nitrophenol	900	U
132-64-9	Dibenzofuran	370	U
121-14-2	2,4-Dinitrotoluene	370	U
606-20-2	2,6-Dinitrotoluene	370	U
84-66-2	Diethylphthalate	370	U
7005-72-3	4-Chlorophenyl-phenylether	370	U
86-73-7	Fluorene	370	U
100-01-6	4-Nitroaniline	900	U
534-52-1	4,6-Dinitro-2-methylphenol	900	U
86-30-6	N-Nitrosodiphenylamine (1)	370	U
101-55-3	4-Bromophenyl-phenylether	370	U
118-74-1	Hexachlorobenzene	370	U
87-86-5	Pentachlorophenol	900	U
85-01-8	Phenanthrene	370	U
120-12-7	Anthracene	370	U
86-74-8	Carbazole	370	U
84-74-2	Di-n-Butylphthalate	2300	B
206-44-0	Fluoranthene	370	U
129-00-0	Pyrene	370	U
85-68-7	Butylbenzylphthalate	370	U
91-94-1	3,3'-Dichlorobenzidine	370	U
56-55-3	Benzo(a)Anthracene	370	U
117-81-7	bis(2-Ethylhexyl)Phthalate	370	U
218-01-9	Chrysene	370	U
117-84-0	Di-n-Octyl Phthalate	370	U
205-99-2	Benzo(b)Fluoranthene	370	U
207-08-9	Benzo(k)Fluoranthene	370	U
50-32-8	Benzo(a)Pyrene	370	U
193-39-5	Indeno(1,2,3-cd)Pyrene	370	U
53-70-3	Dibenz(a,h)Anthracene	370	U
191-24-2	Benzo(g,h,i)Perylene	370	U

(1) - Cannot be separated from Diphenylamine

9-23

9713505.1923

000399

EPA SAMPLE NO.

B018V5RE

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05015 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A205015-06B

Sample wt/vol: 30.7 (g/mL) G Lab File ID: 20708N06

Level: (low/med) LOW Date Received: 05/04/92

% Moisture: 13 decanted: (Y/N) N Date Extracted: 06/29/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 07/08/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.2

Number TICs found: 19

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Subst. furan	4.33	340	~~BJ~~ U
2.	Unknown hydrocarbon	4.42	150	J
3.	Unknown alcohol	4.87	520	~~BJ~~ U
4.	Unknown hydrocarbon	5.78	300	J
5.	Unknown hydrocarbon	5.98	190	~~BJ~~ U
6.	Unknown hydrocarbon	6.38	2200	~~BJ~~ U
7.	Unknown hydrocarbon	6.45	4200	~~BJ~~ U
8.	Unknown amine	7.13	87000	~~BJ~~ U
9.	Unknown alcohol	7.28	370	J
10.	Unknown hydrocarbon	7.75	190	~~BJ~~ U
11.	Unknown hydrocarbon	8.35	2200	~~BJ~~ U
12.	Unknown hydrocarbon	8.60	490	~~BJ~~ U
13.	Unknown ketone	8.83	260	~~BJ~~ U
14.	Unknown hydrocarbon	9.68	520	J
15.	Unknown alcohol	10.07	450	~~BJ~~ U
16.	Unknown hydrocarbon	10.95	220	J
17.	Unknown carboxylic acid	16.05	150	J
18.	Unknown phthalate	21.57	370	~~BJ~~ U
19.	Unknown phthalate	22.18	340	J

Q-

9713505.1924

000434

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B018V9

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05015 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A205015-10B

Sample wt/vol: 30.3 (g/mL) G Lab File ID: 20611N12

Level: (low/med) LOW Date Received: 05/04/92

% Moisture: 0 decanted: (Y/N) N Date Extracted: 05/11/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/11/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.6

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	120	J
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	130	J
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	330	U
88-06-2	2,4,6-Trichlorophenol	330	U
95-95-4	2,4,5-Trichlorophenol	790	U
91-58-7	2-Chloronaphthalene	330	U
88-74-4	2-Nitroaniline	790	U
131-11-3	Dimethylphthalate	330	U
208-96-8	Acenaphthylene	330	U
99-09-2	3-Nitroaniline	790	U
83-32-9	Acenaphthene	57	J
51-28-5	2,4-Dinitrophenol	790	U

9-30-92 SC

9713505.1925

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

000435
EPA SAMPLE NO.

B018V9

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05015 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A205015-10B

Sample wt/vol: 30.3 (g/mL) G Lab File ID: 20611N12

Level: (low/med) LOW Date Received: 05/04/92

% Moisture: 0 decanted: (Y/N) N Date Extracted: 05/11/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/11/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.6

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-02-7	4-Nitrophenol	790	U
132-64-9	Dibenzofuran	330	U
121-14-2	2,4-Dinitrotoluene	330	U
606-20-2	2,6-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	790	U
534-52-1	4,6-Dinitro-2-methylphenol	790	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	48	J
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 ~~23~~	~~B~~ UJ
206-44-0	Fluoranthene	330	UJ
129-00-0	Pyrene	81	J
85-68-7	Butylbenzylphthalate	330	UJ
91-94-1	3,3'-Dichlorobenzidine	330	U
56-55-3	Benzo(a)Anthracene	330	U
117-81-7	bis(2-Ethylhexyl)Phthalate	330 ~~63~~	~~B~~ UJ
218-01-9	Chrysene	330	UJ
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

9713505.1926

000436

EPA SAMPLE NO.

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

B018V9

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05015 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A205015-10B

Sample wt/vol: 30.3 (g/mL) G Lab File ID: 20611N12

Level: (low/med) LOW Date Received: 05/04/92

% Moisture: 0 decanted: (Y/N) N Date Extracted: 05/11/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/11/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.6

Number TICs found: 15

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Unknown hydrocarbon	6.00	99	J
2.	Unknown hydrocarbon	6.62	2000	~~BJ~~ U
3.	Unknown amine	7.25	36000	J
4.	Unknown aldehyde	7.52	230	~~BJ~~ U
5.	Unknown hydrocarbon	8.58	760	~~BJ~~
6.	Unknown ketone	8.87	160	~~BJ~~
7.	Unknown ketone	9.00	99	~~BJ~~
8.	Unknown ketone	9.10	360	~~BJ~~
9.	Unknown hydrocarbon	9.93	400	~~BJ~~
10.	Unknown alcohol	10.35	300	~~BJ~~
11.	Subst. phenyl ketone	11.60	200	~~BJ~~
12.	Unknown hydrocarbon	16.45	99	J
13.	Subst. diphenyl ketone	23.53	160	~~BJ~~ U
14.	Unknown hydrocarbon	23.80	99	J
15.	Unknown hydrocarbon	26.07	66	J

9-30-92 SC

9713505 1927

000734

EPA SAMPLE NO.

B018V4

PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05015 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A205015-05BB

Sample wt/vol: 30.7 (g/mL) G Lab File ID: _____

% Moisture: 12 decanted: (Y/N) N Date Received: 05/04/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 05/07/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 06/20/92

Injection Volume: 2.50 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 9.1 Sulfur Cleanup: (Y/N) N

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

CAS NO.	COMPOUND		Q
319-84-6	alpha-BHC	1.9	U
319-85-7	beta-BHC	1.9	U
319-86-8	delta-BHC	1.9	U
58-89-9	gamma-BHC (Lindane)	1.9	U
76-44-8	Heptachlor	1.9	U
309-00-2	Aldrin	1.9	U
1024-57-3	Heptachlor epoxide	1.9	U
959-98-8	Endosulfan I	1.9	U
60-57-1	Dieldrin	3.7	U
72-55-9	4,4'-DDE	3.7	U
72-20-8	Endrin	3.7	U
33213-65-9	Endosulfan II	3.7	U
72-54-8	4,4'-DDD	3.7	U
1031-07-8	Endosulfan sulfate	3.7	U
50-29-3	4,4'-DDT	3.7	U
72-43-5	Methoxychlor	19	U
53494-70-5	Endrin ketone	3.7	U
7421-36-3	Endrin aldehyde	3.7	U
5103-71-9	alpha-Chlordane	1.9	U
5103-74-2	gamma-Chlordane	1.9	U
8001-35-2	Toxaphene	190	U
12674-11-2	Aroclor-1016	37	U
11104-28-2	Aroclor-1221	74	U
11141-16-5	Aroclor-1232	37	U
53469-21-9	Aroclor-1242	37	U
12672-29-6	Aroclor-1248	37	U
11097-69-1	Aroclor-1254	37	U
11096-82-5	Aroclor-1260	37	U

Do Not Use this -1 to 9-24-

000741

9713505.1928

EPA SAMPLE NO.

PESTICIDE ORGANICS ANALYSIS DATA SHEET

B018V5

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05015 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A205015-06BB

Sample wt/vol: 30.4 (g/mL) G Lab File ID: _____

% Moisture: 13 decanted: (Y/N) N Date Received: 05/04/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 05/07/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 06/20/92

Injection Volume: 2.50 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 9.2 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q.
319-84-6	alpha-BHC	1.9	U
319-85-7	beta-BHC	1.9	U
319-86-8	delta-BHC	1.9	U
58-89-9	gamma-BHC (Lindane)	1.9	U
76-44-8	Heptachlor	1.9	U
309-00-2	Aldrin	1.9	U
1024-57-3	Heptachlor epoxide	1.9	U
959-98-8	Endosulfan I	1.9	U
60-57-1	Dieldrin	3.7	U
72-55-9	4,4'-DDE	3.7	U
72-20-8	Endrin	3.7	U
33213-65-9	Endosulfan II	3.7	U
72-54-8	4,4'-DDD	3.7	U
1031-07-8	Endosulfan sulfate	3.7	U
50-29-3	4,4'-DDT	3.7	U
72-43-5	Methoxychlor	19	U
53494-70-5	Endrin ketone	3.7	U
7421-36-3	Endrin aldehyde	3.7	U
5103-71-9	alpha-Chlordane	1.9	U
5103-74-2	gamma-Chlordane	1.9	U
8001-35-2	Toxaphene	190	U
12674-11-2	Aroclor-1016	37	U
11104-28-2	Aroclor-1221	76	U
11141-16-5	Aroclor-1232	37	U
53469-21-9	Aroclor-1242	37	U
12672-29-6	Aroclor-1248	37	U
11097-69-1	Aroclor-1254	37	U
11096-82-5	Aroclor-1260	37	U

Do Not use this data 9-24 MJ

9713505.1029

EPA SAMPLE NO.

PESTICIDE ORGANICS ANALYSIS DATA SHEET

B018V9

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05015 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A205015-10BB

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

% Moisture: 0 decanted: (Y/N) N Date Received: 05/04/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 05/07/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 06/20/92

Injection Volume: 2.50 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 7.6 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q.
319-84-6	alpha-BHC	1.7	U
319-85-7	beta-BHC	1.7	U
319-86-8	delta-BHC	1.7	U
58-89-9	gamma-BHC (Lindane)	1.7	U
76-44-8	Heptachlor	1.7	U
309-00-2	Aldrin	1.7	U
1024-57-3	Heptachlor epoxide	1.7	U
959-98-8	Endosulfan I	1.7	U
60-57-1	Dieldrin	3.3	U
72-55-9	4,4'-DDE	3.3	U
72-20-8	Endrin	3.3	U
33213-65-9	Endosulfan II	3.3	U
72-54-8	4,4'-DDD	3.3	U
1031-07-8	Endosulfan sulfate	3.3	U
50-29-3	4,4'-DDT	3.3	U
72-43-5	Methoxychlor	17	U
53494-70-5	Endrin ketone	3.3	U
7421-36-3	Endrin aldehyde	3.3	U
5103-71-9	alpha-Chlordane	1.7	U
5103-74-2	gamma-Chlordane	1.7	U
8001-35-2	Toxaphene	170	U
12674-11-2	Aroclor-1016	33	U
11104-28-2	Aroclor-1221	67	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	33	U

Do Not USE this data 9-24 MY

9713505.1930

1D

000897

EPA SAMPLE NO.

PESTICIDE ORGANICS ANALYSIS DATA SHEET

B018V4RE

ab Name: TMA/ARLI Contract: WHC

ab Code: TMALA Case No.: R5015 SAS No.: NA SDG No.: NA

atrix: (soil/water) SOIL Lab Sample ID: A205015-05BR

ample wt/vol: 30.7 (g/mL) G Lab File ID:

Moisture: 12 decanted: (Y/N) N Date Received: 05/04/92

xtraction: (SepF/Cont/Sonc) SONC Date Extracted: 05/07/92

oncentrated Extract Volume: 5000 (uL) Date Analyzed: 06/26/92

njection Volume: 2.50 (uL) Dilution Factor: 1.00

PC Cleanup: (Y/N) Y pH: 9.1 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	1.9	U
319-85-7	beta-BHC	1.9	U
319-86-8	delta-BHC	1.9	U
58-89-9	gamma-BHC (Lindane)	1.9	U
76-44-8	Heptachlor	1.9	U
309-00-2	Aldrin	1.9	U
1024-57-3	Heptachlor epoxide	1.9	U
959-98-8	Endosulfan I	1.9	U
60-57-1	Dieldrin	3.7	U
72-55-9	4,4'-DDE	3.7	U
72-20-8	Endrin	3.7	U
33213-65-9	Endosulfan II	3.7	U
72-54-8	4,4'-DDD	3.7	U
1031-07-8	Endosulfan sulfate	3.7	U
50-29-3	4,4'-DDT	3.7	U
72-43-5	Methoxychlor	19	U
53494-70-5	Endrin ketone	3.7	U
7421-36-3	Endrin aldehyde	3.7	U
5103-71-9	alpha-Chlordane	1.9	U
5103-74-2	gamma-Chlordane	1.9	U
8001-35-2	Toxaphene	190	U
12674-11-2	Aroclor-1016	37	U
11104-28-2	Aroclor-1221	74	U
11141-16-5	Aroclor-1232	37	U
53469-21-9	Aroclor-1242	37	U
12672-29-6	Aroclor-1248	37	U
11097-69-1	Aroclor-1254	37	U
11096-82-5	Aroclor-1260	37	U

9-23-6

FORM I PEST

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1D

000903

EPA SAMPLE NO.

B018V5RE

PESTICIDE ORGANICS ANALYSIS DATA SHEET

:b Name: TMA/ARLI Contract: WHC

ıb Code: TMALA Case No.: R5015 SAS No.: NA SDG No.: NA

ıtrix: (soil/water) SOIL Lab Sample ID: A205015-06BR

mple wt/vol: 30.4 (g/mL) G Lab File ID: _____

Moisture: 13 decanted: (Y/N) N Date Received: 05/04/92

:traction: (SepF/Cont/Sonc) SONC Date Extracted: 05/07/92

ɔncentrated Extract Volume: 5000 (uL) Date Analyzed: 06/26/92

ıjection Volume: 2.50 (uL) Dilution Factor: 1.00

ᵊC Cleanup: (Y/N) Y pH: 9.2 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q:
319-84-6	alpha-BHC	1.9	U
319-85-7	beta-BHC	1.9	U
319-86-8	delta-BHC	1.9	U
58-89-9	gamma-BHC (Lindane)	1.9	U
76-44-8	Heptachlor	1.9	U
309-00-2	Aldrin	1.9	U
1024-57-3	Heptachlor epoxide	1.9	U
959-98-8	Endosulfan I	1.9	U
60-57-1	Dieldrin	3.7	U
72-55-9	4,4'-DDE	3.7	U
72-20-8	Endrin	3.7	U
33213-65-9	Endosulfan II	3.7	U
72-54-8	4,4'-DDD	3.7	U
1031-07-8	Endosulfan sulfate	3.7	U
50-29-3	4,4'-DDT	3.7	U
72-43-5	Methoxychlor	19	U
53494-70-5	Endrin ketone	3.7	U
7421-36-3	Endrin aldehyde	3.7	U
5103-71-9	alpha-Chlordane	1.9	U
5103-74-2	gamma-Chlordane	1.9	U
8001-35-2	Toxaphene	190	U
12674-11-2	Aroclor-1016	37	U
11104-28-2	Aroclor-1221	76	U
11141-16-5	Aroclor-1232	37	U
53469-21-9	Aroclor-1242	37	U
12672-29-6	Aroclor-1248	37	U
11097-69-1	Aroclor-1254	37	U
11096-82-5	Aroclor-1260	37	U

9-23-9

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B018V9RE

b Name: TMA/ARLI Contract: WHC

b Code: TMALA Case No.: R5015 SAS No.: NA SDG No.: NA

trix: (soil/water) SOIL Lab Sample ID: A205015-10BR

mple wt/vol: 30.0 (g/mL) G Lab File ID:

Moisture: 0 decanted: (Y/N) N Date Received: 05/04/92

traction: (SepF/Cont/Sonc) SONC Date Extracted: 05/07/92

ncentrated Extract Volume: 5000 (uL) Date Analyzed: 06/26/92

jection Volume: 2.50 (uL) Dilution Factor: 1.00

C Cleanup: (Y/N) Y pH: 7.6 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	1.7	U
319-85-7	beta-BHC	1.7	U
319-86-8	delta-BHC	1.7	U
58-89-9	gamma-BHC (Lindane)	1.7	U
76-44-8	Heptachlor	1.7	U
309-00-2	Aldrin	1.7	U
1024-57-3	Heptachlor epoxide	1.7	U
959-98-8	Endosulfan I	1.7	U
60-57-1	Dieldrin	3.3	U
72-55-9	4,4'-DDE	3.3	U
72-20-8	Endrin	3.3	U
33213-65-9	Endosulfan II	3.3	U
72-54-8	4,4'-DDD	3.3	U
1031-07-8	Endosulfan sulfate	3.3	U
50-29-3	4,4'-DDT	3.3	U
72-43-5	Methoxychlor	17	U
53494-70-5	Endrin ketone	3.3	U
7421-36-3	Endrin aldehyde	3.3	U
5103-71-9	alpha-Chlordane	1.7	U
5103-74-2	gamma-Chlordane	1.7	U
8001-35-2	Toxaphene	170	U
12674-11-2	Aroclor-1016	33	U
11104-28-2	Aroclor-1221	67	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	33	U

9-23-9

9713505.1933

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: B018V1

.ab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0108

.ab Code: SKINER Case No.: N2-05-020SAS No.: SDG No.: B018V1

latrix (soil/water): SOIL Lab Sample ID: 05059-01S

.evel (low/med): LOW Date Received: 05/05/92

. Solids: 89.8

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	11000.00			P
7440-36-0	Antimony	2.40	U	N(UJ)	P
7440-38-2	Arsenic	5.20			F
7440-39-3	Barium	91.40			P
7440-41-7	Beryllium	0.33	B		P
7440-43-9	Cadmium	0.22	U	(U)	P
7440-70-2	Calcium	6960.00			P
7440-47-3	Chromium	18.90		N(J)	P
7440-48-4	Cobalt	13.70			P
7440-50-8	Copper	22.50			P
7439-89-6	Iron	28300.00			P
7439-92-1	Lead	7.90			F
7439-95-4	Magnesium	6020.00			P
7439-96-5	Manganese	426.00		N(J)	P
7439-97-6	Mercury	0.46			CV
7440-02-0	Nickel	13.40			P
7440-09-7	Potassium	1690.00			P
7782-49-2	Selenium	4.30	U	N(UJ)	F
7440-22-4	Silver	0.66	U		P
7440-23-5	Sodium	317.00	B		P
7440-28-0	Thallium	0.22	U		F
7440-62-2	Vanadium	63.30			P
7440-66-6	Zinc	60.00			P
	Cyanide	0.52	U		CA

9-30-92 SC

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: BROWN Clarity After: — Artifacts: YES

Comments:
STONES

002

FORM I -- IN Rev.6/89

9713505.1934

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: B018V4

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0108

Lab Code: SKINER Case No.: N2-05-020SAS No.: SDG No.: B018V1

Matrix (soil/water): SOIL Lab Sample ID: 05059-02S

Level (low/med): LOW Date Received: 05/05/92

% Solids: 87.5

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	10700.00			P
7440-36-0	Antimony	2.50	U	~~N~~(UJ)	P
7440-38-2	Arsenic	3.70		(U)	F
7440-39-3	Barium	96.00			P
7440-41-7	Beryllium	0.34	B		P
7440-43-9	Cadmium	0.23	U	U	P
7440-70-2	Calcium	6640.00			P
7440-47-3	Chromium	226.00		~~*~~(J)	P
7440-48-4	Cobalt	14.90			P
7440-50-8	Copper	28.10			P
7439-89-6	Iron	40600.00			P
7439-92-1	Lead	180.00			F
7439-95-4	Magnesium	6360.00			P
7439-96-5	Manganese	444.00		~~N~~J	P
7439-97-6	Mercury	2.90			CV
7440-02-0	Nickel	18.90			P
7440-09-7	Potassium	1720.00			P
7782-49-2	Selenium	0.90	U	~~N~~(UJ)	F
7440-22-4	Silver	0.68	U		P
7440-23-5	Sodium	335.00	B		P
7440-28-0	Thallium	0.22	U		F
7440-62-2	Vanadium	61.30			P
7440-66-6	Zinc	125.00			P
	Cyanide	0.53	U		CA

9-30-92 S

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: BROWN Clarity After: — Artifacts: YES

Comments:
STONES

003

FORM I - IN Rev.6/89

9713505.1935

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: B018V5

ab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0108

ab Code: SKINER Case No.: N2-05-020SAS No.: SDG No.: B018V1

atrix (soil/water): SOIL Lab Sample ID: 05059-03S

evel (low/med): LOW Date Received: 05/05/92

Solids: 86.6

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	10500.00			P
7440-36-0	Antimony	2.40	U	~~N~~(UJ)	P
7440-38-2	Arsenic	4.70		(U)	F
7440-39-3	Barium	88.00			P
7440-41-7	Beryllium	0.34	B		P
7440-43-9	Cadmium	0.22	U	(U)	P
7440-70-2	Calcium	6190.00			P
7440-47-3	Chromium	270.00		A(J)	P
7440-48-4	Cobalt	14.10			P
7440-50-8	Copper	27.90			P
7439-89-6	Iron	39200.00			P
7439-92-1	Lead	133.00			F
7439-95-4	Magnesium	5790.00			P
7439-96-5	Manganese	438.00		~~N~~(J)	P
7439-97-6	Mercury	4.30			CV
7440-02-0	Nickel	18.20			P
7440-09-7	Potassium	1600.00			P
7782-49-2	Selenium	0.87	U	~~N~~(UJ)	F
7440-22-4	Silver	0.67	U		P
7440-23-5	Sodium	328.00	B		P
7440-28-0	Thallium	0.22	U		F
7440-62-2	Vanadium	56.30			P
7440-66-6	Zinc	138.00			P
	Cyanide	0.53	U		CA

9-30-92 SC

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: BROWN Clarity After: — Artifacts: YES

Comments:
STONES

004

FORM I - IN Rev.6/89

9713505.1936

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: B018V6

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0108

Lab Code: SKINER Case No.: N2-05-020SAS No.: SDG No.: B018V1

Matrix (soil/water): SOIL Lab Sample ID: 05059-04S

Level (low/med): LOW Date Received: 05/05/92

% Solids: 90.8

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	8760.00			P
7440-36-0	Antimony	2.30	U	~~N~~(UJ)	P
7440-38-2	Arsenic	3.10		(U)	F
7440-39-3	Barium	83.70			P
7440-41-7	Beryllium	0.47	B		P
7440-43-9	Cadmium	0.21	U	(U)	P
7440-70-2	Calcium	4470.00			P
7440-47-3	Chromium	336.00		~~N~~(J)	P
7440-48-4	Cobalt	11.30			P
7440-50-8	Copper	22.10			P
7439-89-6	Iron	42100.00			P
7439-92-1	Lead	564.00		+(J)	F + MSA corr r .995
7439-95-4	Magnesium	4570.00			P
7439-96-5	Manganese	379.00		~~N~~(J)	P
7439-97-6	Mercury	2.60			CV
7440-02-0	Nickel	15.80			P
7440-09-7	Potassium	1450.00			P
7782-49-2	Selenium	0.81	U	~~N~~(UJ)	F
7440-22-4	Silver	0.62	U		P
7440-23-5	Sodium	249.00	B		P
7440-28-0	Thallium	0.20	U		F
7440-62-2	Vanadium	47.10			P
7440-66-6	Zinc	131.00			P
_____	Cyanide	0.51	U		CA

9-30-92SC

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: BROWN Clarity After: — Artifacts: YES

Comments:
STONES

005

FORM I - IN Rev.6/89

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WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: B018V7

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0108

Lab Code: SKINER Case No.: N2-05-020SAS No.: SDG No.: B018V1

Matrix (soil/water): SOIL Lab Sample ID: 05059-05S

Level (low/med): LOW Date Received: 05/05/92

% Solids: 91.1

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	9850.00			P
7440-36-0	Antimony	2.30	U	M(UJ)	P
7440-38-2	Arsenic	4.80		(U)	F
7440-39-3	Barium	94.80			P
7440-41-7	Beryllium	0.23	B		P
7440-43-9	Cadmium	0.21	U	(U)	P
7440-70-2	Calcium	5630.00			P
7440-47-3	Chromium	609.00		A(J)	P
7440-48-4	Cobalt	13.20			P
7440-50-8	Copper	46.80			P
7439-89-6	Iron	44600.00			P
7439-92-1	Lead	353.00		S	F
7439-95-4	Magnesium	5300.00			P
7439-96-5	Manganese	445.00		N J	P
7439-97-6	Mercury	3.40			CV
7440-02-0	Nickel	24.30			P
7440-09-7	Potassium	1390.00			P
7782-49-2	Selenium	0.82	U	MW(UJ)	F
7440-22-4	Silver	0.62	U		P
7440-23-5	Sodium	286.00	B		P
7440-28-0	Thallium	0.22	B		F
7440-62-2	Vanadium	56.90			P
7440-66-6	Zinc	309.00			P
	Cyanide	0.55	U		CA

9-30-92S

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: BROWN Clarity After: — Artifacts: YES

Comments:
STONES

006

FORM I--IN Rev.6/89

9713505.1938

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: B018V8

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0108

Lab Code: SKINER Case No.: N2-05-020SAS No.: SDG No.: B018V1

Matrix (soil/water): SOIL Lab Sample ID: 05059-06S

Level (low/med): LOW Date Received: 05/05/92

% Solids: 90.7

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	10100.00			P
7440-36-0	Antimony	2.40	U	~~N~~(UJ)	P
7440-38-2	Arsenic	4.00		(U)	F
7440-39-3	Barium	97.00			P
7440-41-7	Beryllium	0.33	B		P
7440-43-9	Cadmium	0.22	U	(U)	P
7440-70-2	Calcium	5630.00			P
7440-47-3	Chromium	335.00		~~*~~(J)	P
7440-48-4	Cobalt	13.50			P
7440-50-8	Copper	30.90			P
7439-89-6	Iron	42800.00			P
7439-92-1	Lead	108.00			F
7439-95-4	Magnesium	5660.00			P
7439-96-5	Manganese	520.00		~~N~~(J)	P
7439-97-6	Mercury	2.00			CV
7440-02-0	Nickel	19.30			P
7440-09-7	Potassium	1550.00			P
7782-49-2	Selenium	0.82	U	~~N~~(UJ)	F
7440-22-4	Silver	0.66	U		P
7440-23-5	Sodium	289.00	B		P
7440-28-0	Thallium	0.21	U		F
7440-62-2	Vanadium	59.70			P
7440-66-6	Zinc	161.00			P
	Cyanide	0.55	U		CA

9-30-92 SC

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: BROWN Clarity After: — Artifacts: YES

Comments:
STONES

007

FORM I--IN Rev.6/89

9713505.1939

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: B018V9

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0108

Lab Code: SKINER Case No.: N2-05-020SAS No.: SDG No.: B018V1

Matrix (soil/water): SOIL Lab Sample ID: 05059-07S

Level (low/med): LOW Date Received: 05/05/92

% Solids: 100.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	179.00			P
7440-36-0	Antimony	2.20	U	N(UJ)	P
7440-38-2	Arsenic	0.39	U	(U)	F
7440-39-3	Barium	2.00	B		P
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.20	U	(U)	P
7440-70-2	Calcium	50.60	B		P
7440-47-3	Chromium	0.99	U	(UJ)	P
7440-48-4	Cobalt	0.40	U		P
7440-50-8	Copper	0.79	U	(U)	P
7439-89-6	Iron	281.00			P
7439-92-1	Lead	0.39	B	(U)	F
7439-95-4	Magnesium	46.00	B		P
7439-96-5	Manganese	4.30		N(J)	P
7439-97-6	Mercury	0.10			CV
7440-02-0	Nickel	0.99	U		P
7440-09-7	Potassium	38.40	U		P
7782-49-2	Selenium	0.78	U		F
7440-22-4	Silver	0.59	U		P
7440-23-5	Sodium	16.70	B	(U)	P
7440-28-0	Thallium	0.20	U		F
7440-62-2	Vanadium	0.43	B	(U)	P
7440-66-6	Zinc	1.60	U		P
	Cyanide	0.49	U		CA

9-30-92SC

Color Before: BROWN Clarity Before: Texture: COARSE

Color After: BROWN Clarity After: — Artifacts:

Comments:

008

FORM I - IN Rev.6/89

9713505.1940

TRA Inc. REPORT Work Order # A2-05-815

:ceived: 05/04/92 Results by Sample

AMPLE ID B018V4 FRACTION 05B TEST CODE VCCLPS NAME Anions in Solids - V8232

Date & Time Collected 04/28/92 Category

ANIONS AND WET CHEMISTRY - SOLIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Fluoride	300.0	3	mg/Kg	1.0
Nitrate Nitrogen	300.0	6	mg/Kg	2.0
Sulfate	300.0	37	mg/Kg	10

FORM I

SW 9/24/92

9713505.1941

TMA Inc. REPORT Work Order # A2-05-015

eceived: 05/04/92 Results by-Sample

AMPLE ID B018V5 FRACTION 06B TEST CODE WCCLPS NAME Anions in Solids - WB232

Date & Time Collected 06/28/92 Category

ANIONS AND WET CHEMISTRY - SOLIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Fluoride	300.0	3	mg/Kg	1.0
Nitrate Nitrogen	300.0	6	mg/Kg	2.0
Sulfate	300.0	36	mg/Kg	10

FORM I

9/24/92

9713505.1942

000016

TRA Inc. REPORT Work Order # A2-05-015

Received: 05/04/92

Results by Sample

SAMPLE ID B018V9 FRACTION 10B TEST CODE WCCLPS NAME Anions in Solids - VW232

Date & Time Collected 04/28/92 Category

ANIONS AND WET CHEMISTRY - SOLIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Fluoride	300	2.0	mg/Kg	1.0
Nitrate	300	4.9	mg/Kg	2.0
Sulfate	300	29	mg/Kg	1

FORM I

SW 9/24/92

9713505.1943

002

 Skinner&Sherman REPORT Work Order # S2-05-077

Received: 05/05/92 Results by Sample

SAMPLE ID B018V1 SAMPLE # 01 FRACTIONS: A,B
Date & Time Collected 04/28/92 Category SOIL

CRHEXS <0.49 mg/kg NO3NO2 37.0 mg-N/kg (J) (J)

SAMPLE ID B018V1D SAMPLE # 01 FRACTIONS: C
Date & Time Collected 04/28/92 Category SOIL

NO3NO2 19.5 mg-N/kg

SAMPLE ID B018V1S SAMPLE # 01 FRACTIONS: D
Date & Time Collected 04/28/92 Category SOIL

NO3NO2 38.6 mg-N/kg

SAMPLE ID B018V1D SAMPLE # 01 FRACTIONS: E
Date & Time Collected 04/28/92 Category SOIL

CRHEXS <0.49 mg/kg

SAMPLE ID B018V4 SAMPLE # 02 FRACTIONS: A,B
Date & Time Collected 04/28/92 Category SOIL

CRHEXS 0.96 mg/kg NO3NO2 8.62 mg-N/kg

SAMPLE ID B018V5 SAMPLE # 03 FRACTIONS: A,B
Date & Time Collected 04/28/92 Category SOIL

CRHEXS <0.52 mg/kg NO3NO2 26.0 mg-N/kg

SAMPLE ID B018V6 SAMPLE # 04 FRACTIONS: A,B
Date & Time Collected 04/28/92 Category SOIL

CRHEXS 0.78 mg/kg NO3NO2 11.4 mg-N/kg

5-30-
SC

TMA
Thermo Analytical Inc.
Skinner & Sherman Laboratories Inc.
300 Second Avenue, P.O. Box 521, Waltham, Massachusetts 02254-0521 (617) 890-7200
1-800-4 LAB TEST FAX (617) 890-3883

Page 3 Skinner&Sherman REPORT Work Order # S2-05-077

Received: 05/05/92 Results by Sample

SAMPLE ID B018V6S SAMPLE # 04 FRACTIONS: C
Date & Time Collected 04/28/92 Category SOIL

CRHEXS 3.00 mg/kg

SAMPLE ID B018V7 SAMPLE # 05 FRACTIONS: A,B
Date & Time Collected 04/28/92 Category SOIL

CRHEXS 5.03 mg/kg NO3NO2 16.7 mg-N/kg

SAMPLE ID B018V8 SAMPLE # 06 FRACTIONS: A,B
Date & Time Collected 04/28/92 Category SOIL

CRHEXS 1.84 mg/kg NO3NO2 16.1 mg-N/kg

SAMPLE ID B018V9 SAMPLE # 07 FRACTIONS: A,B
Date & Time Collected 04/28/92 Category SOIL

CRHEXS <0.47 mg/kg NO3NO2 <2.41 mg-N/L

SAMPLE ID LCSS SAMPLE # 08 FRACTIONS: A,B
Date & Time Collected not specified Category SOIL

CRHEXS 2.16 mg/L NO3NO2 1.73 mg-N/L

9-30-92SC

TMA
Thermo Analytical Inc.
Skinner & Sherman Laboratories Inc. 300 Second Avenue, P.O. Box 521, Waltham, Massachusetts 02254-0521 (617) 890-7200
1-800-4 LAB TEST FAX (617) 890-3883

N205026-01

TMA NORCAL

REPORTING GROUP 7042

DATA SHEET

B018V1

SDG	7042	Client	Westinghouse Hanford
Contact	Dinkar Kharkar	Contract	MBH-SVV-069262
Lab sample id	N205026-01	Client sample id	B018V1
Dept sample id	7042-001	Matrix	SOIL
Received	05/04/92	Collected	04/28/92
		Chain of custody id	WHC-N-205-21

PARAMETER	CAS NO	RESULT pCi/G	2σ ERR (COUNT)	MDA pCi/G	RDL pCi/G	QUALIFIERS		TEST
Gross Alpha	Alpha	-13	20	35	10	U	R	80A
Gross Beta	Beta	83	11	12	15		R	80B
Uranium 233/234		0.67	0.081	0.033	0.30	B	R	U
Uranium 235	15117-96-1	0.031	0.021	0.012	0.30	J	R	U
Uranium 238	7440-61-1	0.70	0.082	0.010	0.30		R	U
Plutonium 238	13981-16-3	0.041	0.025	0.021	0.050	J	R	PU
Plutonium 239/240		0.86	0.12	0.025	0.050	B	R	PU
Americium 241	14596-10-2	0.85	0.096	0.030	0.050		R	AM
Strontium 90	10098-97-2	7.8	3.4	1.2	2.0		J	Y
Carbon 14	14762-75-5	6.8	5.8	9.3	50	UX		C
GAMMA SCAN ANALYTES								
Potassium 40	13966-00-2	13	2.9					GAM
Chromium 51	14392-02-0			14		U		GAM
Cobalt 60	10198-40-0	10	0.67		0.050			GAM
Zinc 65	17982-39-3			3.0		U		GAM
Cesium 134	17967-70-9			0.67		U		GAM
Cesium 137	10045-97-3	5.1	0.80		0.050			GAM
Radium 226	13982-67-7	0.84	0.79		0.10			GAM
Thorium 228	14274-82-9			0.76		U		GAM
Thorium 232	7440-29-1			2.5		U		GAM
Europium 152	14683-23-9	81	2.3					GAM
Europium 154	15585-101	20	11					GAM
Europium 155	14391-16-3	1.9	1.0				J	GAM

RB
9/29

Lab id	TMAN
Protocol	WHC-HEIS
Version	Ver 1.0
Form	DVD-DS
Version	2.14
Report date	08/04/92

9713505.1946

TMA NORCAL

REPORTING GROUP 7042

DATA SHEET

N205026-03

B018V4

SDG 7042
Contact Dinkar Kharkar

Client Westinghouse Hanford
Contract MBH-SVV-069262

Lab sample id N205026-03
Dept sample id 7042-003
Received 05/04/92

Client sample id B018V4
Matrix SOIL
Collected 04/28/92
Chain of custody id WHC-N-205-21

PARAMETER	CAS NO	RESULT pCi/G	2σ ERR (COUNT)	MDA pCi/G	RDL pCi/G	QUALI-FIERS	TEST
Gross Alpha	Alpha	22	14	8.4	10	R	80A
Gross Beta	Beta	2400	33	6.7	15		80B
Uranium 233/234		1.4	0.14	0.025	0.30	B R	U
Uranium 235	15117-96-1	0.070	0.032	0.015	0.30	J R	U
Uranium 238	7440-61-1	1.3	0.14	0.021	0.30	R	U
Plutonium 238	13981-16-3	1.2	0.10	0.022	0.050	R	PU
Plutonium 239/240		36	1.7	0.018	0.050	B R	PU
Americium 241	14596-10-2	13	0.98	0.050	0.050	R	AM
Strontium 90	10098-97-2	180	18	1.2	2.0		Y
Carbon 14	14762-75-5	26	6.6	9.9	50	BJX	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2			8.3		U	GAM
Chromium 51	14392-02-0			55		U	GAM
Cobalt 60	10198-40-0	180	2.1		0.050		GAM
Zinc 65	17982-39-3			7.5		U	GAM
Cesium 134	17967-70-9			2.1		U	GAM
Cesium 137	10045-97-3	790	3.2		0.050		GAM
Radium 226	13982-67-7			3.2	0.10	U	GAM
Thorium 228	14274-82-9			2.8		U	GAM
Thorium 232	7440-29-1			7.3		U	GAM
Europium 152	14683-23-9	1400	8.0				GAM
Europium 154	15585-101	250	5.1				GAM
Europium 155	14391-16-3	18	3.4				GAM

RB
7/29

Lab id TMAN
Protocol WHC-HEIS
Version Ver 1.0
Form DVD-DS
Version 2.14
Report date 08/04/92

N205026-04

TMA NORCAL

REPORTING GROUP 7042

DATA SHEET

B018V5

SDG 7042
Contact Dinkar Kharkar

Client Westinghouse Hanford
Contract MBH-SVV-069262

Lab sample id N205026-04
Dept sample id 7042-004
Received 05/04/92

Client sample id B018V5
Matrix SOIL
Collected 04/28/92
Chain of custody id WHC-N-205-21

PARAMETER	CAS NO	RESULT pCi/G	2σ ERR (COUNT)	MDA pCi/G	RDL pCi/G	QUALIFIERS	TEST
Gross Alpha	Alpha	14	32	34	10	U R	80A
Gross Beta	Beta	1900	40	12	15		80B
Uranium 233/234		0.89	0.087	0.030	0.30	B R	U
Uranium 235	15117-96-1	0.042	0.021	0.020	0.30	J R	U
Uranium 238	7440-61-1	0.84	0.083	0.014	0.30	R	U
Plutonium 238	13981-16-3	0.93	0.095	0.039	0.050	R	PU
Plutonium 239/240		22	1.2	0.018	0.050	B R	PU
Americium 241	14596-10-2	7.5	0.59	0.055	0.050	R	AM
Strontium 90	10098-97-2	94	11	0.85	2.0		Y
Carbon 14	14762-75-5	16	6.4	10	50	BJX	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2			9.9		U	GAM
Chromium 51	14392-02-0			56		U	GAM
Cobalt 60	10198-40-0	160	2.3		0.050		GAM
Zinc 65	17982-39-3			9.6		U	GAM
Cesium 134	17967-70-9			2.5		U	GAM
Cesium 137	10045-97-3	720	4.4		0.050		GAM
Radium 226	13982-67-7			3.7	0.10	U	GAM
Thorium 228	14274-82-9			3.0		U	GAM
Thorium 232	7440-29-1			8.7		U	GAM
Europium 152	14683-23-9	1300	10				GAM
Europium 154	15585-101	240	6.1				GAM
Europium 155	14391-16-3	11	4.0				GAM

RA 9/29

Lab id TMAN
Protocol WHC-HEIS
Version Ver 1.0
Form DVD-DS
Version 2.14
Report date 08/04/92

TMA NORCAL

REPORTING GROUP 7042

DATA SHEET

N205026-05

B018V6

SDG 7042
Contact Dinkar Kharkar

Client Westinghouse Hanford
Contract MBH-SVV-069262

Lab sample id N205026-05
Dept sample id 7042-005
Received 05/04/92

Client sample id B018V6
Matrix SOIL
Collected 04/28/92
Chain of custody id WHC-N-205-21

PARAMETER	CAS NO	RESULT pCi/G	2σ ERR (COUNT)	MDA pCi/G	RDL pCi/G	QUALIFIERS	TEST
Gross Alpha	Alpha	52	26	18	10	R	80A
Gross Beta	Beta	1300	29	8.7	15	J	80B
Uranium 233/234		0.69	0.080	0.041	0.30	B R	U
Uranium 235	15117-96-1	0.023	0.018	0.018	0.30	J R	U
Uranium 238	7440-61-1	0.72	0.080	0.020	0.30	R	U
Plutonium 238	13981-16-3	0.85	0.13	0.018	0.050	R	PU
Plutonium 239/240		22	1.8	0.018	0.050	B R	PU
Americium 241	14596-10-2	7.7	0.66	0.054	0.050	R	AM
Strontium 90	10098-97-2	110	13	0.44	2.0		Y
Carbon 14	14762-75-5	49	6.9	9.5	50	BJX	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2			8.8		U	GAM
Chromium 51	14392-02-0			49		U	GAM
Cobalt 60	10198-40-0	130	2.3		0.050		GAM
Zinc 65	17982-39-3			8.0		U	GAM
Cesium 134	17967-70-9			2.2		U	GAM
Cesium 137	10045-97-3	200	3.0		0.050		GAM
Radium 226	13982-67-7			2.9	0.10	U	GAM
Thorium 228	14274-82-9			2.5		U	GAM
Thorium 232	7440-29-1			8.3		U	GAM
Europium 152	14683-23-9	820	6.9				GAM
Europium 154	15585-101	150	4.9				GAM
Europium 155	14391-16-3	11	3.7				GAM

AB 9/29

Lab id TMAN
Protocol WHC-HEIS
Version Ver 1.0
Form DVD-DS
Version 2.14
Report date 08/04/92

TMA NORCAL

REPORTING GROUP 7042

DATA SHEET

N205026-06

B018V7

SDG 7042
Contact Dinker Kherkar
Client Westinghouse Hanford
Contract MBH-SVV-069262

Lab sample id N205026-06
Dept sample id 7042-006
Received 05/04/92
Client sample id B018V7
Matrix SOIL
Collected 04/28/92
Chain of custody id WHC-N-205-21

PARAMETER	CAS NO	RESULT pCi/G	2σ ERR (COUNT)	MDA pCi/G	RDL pCi/G	QUALIFIERS	TEST
Gross Alpha	Alpha	110	49	42	10	R	80A
Gross Beta	Beta	2700	65	22	15		80B
Uranium 233/234		1.2	0.13	0.045	0.30	B R	U
Uranium 235	15117-96-1	0.081	0.036	0.028	0.30	J R	U
Uranium 238	7440-61-1	1.1	0.12	0.023	0.30	R	U
Plutonium 238	13981-16-3	1.8	0.11	0.025	0.050	R	PU
Plutonium 239/240		52	2.1	0.009	0.050	B R	PU
Americium 241	14596-10-2	29	8.5	0.17	0.050	R	AM
Strontium 90	10098-97-2	770	65	0.55	2.0		Y
Carbon 14	14762-75-5	640	15	9.5	50	BX	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2			10		U	GAM
Chromium 51	14392-02-0			60		U	GAM
Cobalt 60	10198-40-0	310	3.1		0.050		GAM
Zinc 65	17982-39-3			9.7		U	GAM
Cesium 134	17967-70-9			2.8		U	GAM
Cesium 137	10045-97-3	800	4.7		0.050		GAM
Radium 226	13982-67-7			4.0	0.10	U	GAM
Thorium 228	14274-82-9			3.2		U	GAM
Thorium 232	7440-29-1			10		U	GAM
Europium 152	14683-23-9	1100	9.0				GAM
Europium 154	15585-101	380	6.9				GAM
Europium 155	14391-16-3	31	4.1				GAM

RB 9/29

Lab id TMAN
Protocol WHC-HEIS
Version Ver 1.0
Form DVD-DS
Version 2.14
Report date 08/04/92

N205026-07

TMA NORCAL

REPORTING GROUP 7042

DATA SHEET

B018V8

SDG 7042
Contact Dinkar Kharkar

Client Westinghouse Hanford
Contract MBH-SVV-069262

Lab sample id N205026-07
Dept sample id 7042-007
Received 05/04/92

Client sample id B018V8
Matrix SOIL
Collected 04/28/92
Chain of custody id WHC-N-205-21

PARAMETER	CAS NO	RESULT pCi/G	2σ ERR (COUNT)	MDA pCi/G	RDL pCi/G	QUALI-FIERS	TEST
Gross Alpha	Alpha	75	19	7.6	10	R	80A
Gross Beta	Beta	3700	40	6.0	15		80B
Uranium 233/234		1.1	0.10	0.017	0.30	B R	U
Uranium 235	15117-96-1	0.033	0.018	0.010	0.30	J R	U
Uranium 238	7440-61-1	0.88	0.087	0.015	0.30	R	U
Plutonium 238	13981-16-3	9.4	0.64	0.010	0.050	R	PU
Plutonium 239/240		190	13	0.011	0.050	B R	PU
Americium 241	14596-10-2	34	5.3	0.078	0.050		AM
Strontium 90	10098-97-2	540	35	0.80	2.0		Y
Carbon 14	14762-75-5	130	8.2	9.3	50	BX	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2			12		U	GAM
Chromium 51	14392-02-0			73		U	GAM
Cobalt 60	10198-40-0	300	3.6		0.050		GAM
Zinc 65	17982-39-3			11		U	GAM
Cesium 134	17967-70-9			3.2		U	GAM
Cesium 137	10045-97-3	450	4.5		0.050		GAM
Radium 226	13982-67-7			4.6	0.10	U	GAM
Thorium 228	14274-82-9			3.7		U	GAM
Thorium 232	7440-29-1			11		U	GAM
Europium 152	14683-23-9	1400	11				GAM
Europium 154	15585-101	410	8.4				GAM
Europium 155	14391-16-3	41	6.1				GAM

RD 9/29

Lab id TMAN
Protocol WHC-HEIS
Version Ver 1.0
Form DVD-DS
Version 2.14
Report date 08/04/92

N205026-02

TMA NORCAL
REPORTING GROUP 7042
DATA SHEET

B018V9

SDG 7042
Contact Dinkar Kharkar
Client Westinghouse Hanford
Contract MBH-SVV-069262

Lab sample id N205026-02
Dept sample id 7042-002
Received 05/04/92
Client sample id B018V9
Matrix SOIL
Collected 04/28/92
Chain of custody id WHC-N-205-21

PARAMETER	CAS NO	RESULT pCi/G	2σ ERR (COUNT)	MDA pCi/G	RDL pCi/G	QUALIFIERS	TEST
Gross Alpha	Alpha	1.4	1.3	1.6	10	U	80A
Gross Beta	Beta	9.5	1.9	2.3	15	J	80B
Uranium 233/234		0.22	0.049	0.020	0.30	BJ R	U
Uranium 235	15117-96-1	0.016	0.016	0.012	0.30	J	U
Uranium 238	7440-61-1	0.22	0.049	0.020	0.30	J R	U
Plutonium 238	13981-16-3	0.004	0.007	0.017	0.050	U R	PU
Plutonium 239/240		0.048	0.030	0.017	0.050	BJ R	PU
Americium 241	14596-10-2	-0.014	0.019	0.044	0.050	U R	AM
Strontium 90	10098-97-2	-0.62	1.9	1.4	2.0	U	Y
Carbon 14	14762-75-5	0.14	5.9	9.7	50	UX	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	5.6	1.3				GAM
Chromium 51	14392-02-0			1.9		U	GAM
Cobalt 60	10198-40-0			0.10	0.050	U	GAM
Zinc 65	17982-39-3			0.18		U	GAM
Cesium 134	17967-70-9			0.085		U	GAM
Cesium 137	10045-97-3			0.079	0.050	U	GAM
Radium 226	13982-67-7	0.15	0.15		0.10		GAM
Thorium 228	14274-82-9	0.20	0.10				GAM
Thorium 232	7440-29-1	0.57	0.29				GAM

2B 9/29

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