TMA

WESTINGHOUSE HANFORD COMPANY

NOV 1992
RECEIVED
OSM DMO

Results of Analyses For:

ORGANICS & GENERAL CHEMISTRY
Case No. 08-050
(TMA/ARLI Work Order # A2-08-050)

METALS
Case No. N2-08-161
(TMA/Skinner & Sherman W.O. # S2-08-298 & S2-08-299)

November 9, 1992

TMA Master Work Order N2-08-161

i 4/30/96 M. H.

OFFICE OF SAMPLE MANAGEMENT

RECORD OF DISPOSITION

92-00213
Record of Disposition No.

DATE: 12/10/92	LABORATORY: TMA
PROJECT TITLE/NO.: 100-FR-3 / SAF #92-379	NCR NO.: N/A

SAMPLE IDENTIFICATION NUMBERS:

B075M8

DESCRIPTION OF EVENT:

The sample aliquot for Semi-VOA and PCB/Pesticides was broken in transit to the laboratory.

DISPOSITION OF SAMPLES:

The Semi-VOA and PCB/ Pesticide analysis for sample B075M8 is to be canceled.

APPROVAL SIGNATURES:

Karl N. Pool / Karl N. Pool — 12/10/92
OSM Project Coordinator (Print/Sign Name) — Date

J. W. Roberts / J.W. Roberts — 12/14/92
Technical Representative (Print/Sign Name) — Date

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

TMA/NORCAL CofC 002872 000002

Westinghouse Hanford Company	CHAIN OF CUSTODY	ARLI

Custody Form Initiator: W.V. SETZER

Company Contact: WV SETZER — Telephone: 376-2413

Project Designation/Sampling Locations: 100-FR-3 — Collection Date: 8-20-92

Ice Chest No.: — Field Logbook No.: EFL-1041

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

Method of Shipment: OVERNIGHT AIR SERVICE

Shipped to: TMA/NORCAL

Possible Sample Hazards/Remarks: None detected with field instruments. Maintain at 4C.

Sample Identification

1) B075G7
~~1,250ml aG:CLP;ICP/AA Metals,Hg,Cn~~
1,120ml aG:CLP;VOA
~~1,950ml aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,NO3)~~ 8-20-92
1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

2) B075G8
~~1,250ml aG:CLP;ICP/AA Metals,Hg,Cn~~
1,120ml aG:CLP;VOA
1,950ml aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,~~NO3~~)
~~1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241~~

3) B075G9
~~1,250ml aG:CLP;ICP/AA Metals,Hg,Cn~~
1,120ml aG:CLP;VOA
1,950ml aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,~~NO3~~)
~~1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241~~

[] Field Transfer of Custody — Chain of Possession — (Sign and Print Names)

Relinquished by:	Received by:	Date/Time:
W.V. Setzer	J.E. Darling J.E. Darling	8-20-92 1700
J.E. Darling	Kermit Blum	8-24-92 0800 *
Kermit Blum 8-24-92	Trudy L Galer (Trudy L Galer)	8-25-92 10:30
Relinquished by:	Received by:	Date/Time:

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:

* Received @ TMA/NORCAL 8-22-92; opened 8-24-92 - KB

A-6000-407 (12/90) (EF) WEF061
Chain of Custody

TMA/NORCAL CofC 002872

Westinghouse Hanford Company	SAMPLE ANALYSIS REQUEST

Collector J.E.Darling Date August 20, 1992

Company Contact WV SEIZER Telephone (509)376-2413

Sample Number	*	Date Collected	Time Collected	Number and Type of Sample Containers/Analysis Required	
B075G8		8-20-92	N/A	✓ ~~1-250ml aG CLP;ICP/AA Metals,Hg,Cn~~ ✓ 1-120ml aG CLP;VOA ✓ 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/~~353.2~~;Anions(F,SO4,~~NO3~~) ✓ ~~1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14~~ ~~U-235/238,Pu-239/240,Am-241~~	S M A
B075G9		8-20-92	N/A	✓ ~~1-250ml aG CLP;ICP/AA Metals,Hg,Cn~~ ✓ 1-120ml aG CLP;VOA ✓ 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/~~353.2~~;Anions(F,SO4,~~NO3~~) ✓ ~~1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14~~ ~~U-235/238,Pu-239/240,Am-241~~	S A A
			JER 8-20-92	1-250ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241	
			JER 8-20-92	1-120ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241	
			JER 8-20-92		

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

Field Information FROM 100-FR-3 Drilling

Special Handling and/or Storage Maintain at 4C

Possible Sample Hazards NA

A-6000-406 (06/91) WEF060

TMA/NORCAL CofC 002871 **000004**

Westinghouse Hanford Company	CHAIN OF CUSTODY	ARLI

Custody Form Initiator: W.V. SETZER

Company Contact: WV SETZER — Telephone: 376-2413

Project Designation/Sampling Locations: 100-FR-3 — Collection Date: 8-20-92

Ice Chest No.: — Field Logbook No.: EFL-1040

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

Method of Shipment: OVERNIGHT AIR SERVICE

Shipped to: TMA/NORCAL

Possible Sample Hazards/Remarks: None detected with field instruments. Maintain at 4C.

Sample Identification

1) B075M7
~~1,250ml aG:CLP;ICP/AA Metals,Hg,Cn~~
1,120ml aG:CLP;VOA
1,950ml aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,~~NO3~~)
~~1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241~~

*2) B075M8
~~1,250ml aG:CLP;ICP/AA Metals,Hg,Cn~~
1,120ml aG:CLP;VOA
1,950ml aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,~~NO3~~)
~~1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241~~

3) B075M9
~~1,250ml aG:CLP;ICP/AA Metals,Hg,Cn~~
1,120ml aG:CLP;VOA
1,950ml aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,~~NO3~~)
~~1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241~~

[] Field Transfer of Custody — Chain of Possession — (Sign and Print Names)

Relinquished by:	Received by:	Date/Time:
W.V. Setzer	J.E. Darling J.E. Darling	8-20-92 1700
Relinquished by: J.E. Darling	Received by: Kermit Blum	Date/Time: 8-24-92 0800 *
Relinquished by: 8-24-92 Kermit Blum	Received by: Trudy Golub *	Date/Time: 8-25-92 10:30
Relinquished by:	Received by:	Date/Time:

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:

* Received @ TMA/NORCAL 8-22-92; opened 8-24-92. KB

* Sample B075M8 — Broken on 8-25-92 at TMA ARLI T.G. Placed into Plastic bag T.G.

A-6000-407 (12/90) (EF) WEF061
Chain of Custody

TMA/NORCAL CofC 002871

Westinghouse Hanford Company	SAMPLE ANALYSIS REQUEST

Collector J.E.Darling Date 08-20-92

Company Contact WV SEIZER Telephone (509)376-2413

Sample Number	*	Date Collected	Time Collected	Number and Type of Sample Containers/Analysis Required	
B075M7		8-20-92	N/A	~~1-250ml aG CLP;ICP/AA Metals,Hg,Cn~~ 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/~~353.2~~;Anions(F,SO4,~~NO3~~) ~~1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14~~ ~~U-235/238,Pu-239/240,Am-241~~	S A A
B075M8		8-20-92	N/A	~~1-250ml aG CLP;ICP/AA Metals,Hg,Cn~~ 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/~~353.2~~;Anions(F,SO4,~~NO3~~) ~~1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14~~ ~~U-235/238,Pu-239/240,Am-241~~	S A A
B075M9		8-20-92	N/A	~~1-250ml aG CLP;ICP/AA Metals,Hg,Cn~~ 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/~~353.2~~;Anions(F,SO4,~~NO3~~) ~~1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14~~ ~~U-235/238,Pu-239/240,Am-241~~	S A A
			HLD 8-20-92	1-120ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241	

*Type of Sample

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

Field Information FROM 100-FR-3 Drilling

Special Handling and/or Storage Maintain at 4C

Possible Sample Hazards NA

A-6000-406 (06/91) WEF060

CofC 002866 000006

Westinghouse Hanford Company	CHAIN OF CUSTODY	ARL1

Custody Form Initiator: D L Leist

Company Contact: WV SETZER — Telephone: 376-2413

Project Designation/Sampling Locations: 100-FR-3 — Collection Date: 8-21-92

Ice Chest No.: 1666 — Field Logbook No.: EFL-1041

Bill of Lading/Airbill No.: 250 987 0077 — Offsite Property No.:

Method of Shipment: OVERNIGHT AIR SERVICE

Shipped to: ~~WESTON~~ TMA/NORCAL

Possible Sample Hazards/Remarks: None detected with field instruments. Maintain at 4C.

Sample Identification

1) BC75H0
~~1,250ml aG:CLP;ICP/AA Metals,Hg,Cn~~
1,120ml aG:CLP;VOA
1,950ml aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,~~NO3~~)
~~1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241~~

2)
1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
1,120ml aG:CLP;VOA
1,950ml aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,NO3)
1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

3)
1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
1,120ml aG:CLP;VOA
1,950ml aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,NO3)
1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

[] Field Transfer of Custody — Chain of Possession — (Sign and Print Names)

Relinquished by:	Received by:	Date/Time:
Dian R. Leist	J.E. Darling J.E. Darling	8-21-92 / 1023
J.E. Darling J.E. Darling	Kermit Blum	8-25-92 1145
Kermit Blum 8-25-92	Trudy Golub	8 26 92 9:55

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:

A-6000-407 (12/90) (EF) WEF061
Chain of Custody

Westinghouse Hanford Company	CHAIN OF CUSTODY	OC 3867

Custody Form Initiator J.E.Darling

Company Contact W.V. Setzer — Telephone (509) 376-2613

Project Designation/Sampling Locations 100 FR 3 — Collection Date 08-20-92

Ice Chest No. — Field Logbook No. EFL-1041

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

Method of Shipment Air Express

Shipped to TMA/NORCAL Labs

Possible Sample Hazards/Remarks NONE

Sample Identification

B075N0 1-120ml aG CLP:VOA

☐ Field Transfer of Custody	CHAIN OF POSSESSION	(Sign and Print Names)
Relinquished by: J.E. Darling J.E. Darling	Received by: Kermit Blum	Date/Time: 8-25-92 1145
Relinquished by: Kermit Blum 8-25-92	Received by: Judy L Golub	Date/Time: 8-26-92 9:55
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:

A-6000-407 (12/90)

Westinghouse Hanford Company	SAMPLE ANALYSIS REQUEST

Collector J.E.Darling Date 08-21-92

Company Contact WV SETZER Telephone (509)376-2413

Sample Number	*	Date Collected	Time Collected	Number and Type of Sample Containers/Analysis Required
B075H0		08-21-92	N/A	~~1-250ml aG CLP;ICP/AA Metals,Hg,Cn~~ 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/~~353.2~~;Anions(F,SO4,~~NO3~~) ~~1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14~~ ~~U-235/238,Pu-239/240,Am-241~~
B075N0		08-20-92	N/A	~~1-250ml aG CLP;ICP/AA Metals,Hg,Cn~~ JCD 1-120ml aG CLP;VOA ~~1-950ml aG CLP;Semi-VOA,PCB/PEST~~ JCD ~~300.0/353.2;Anions(F,SO4,NO3)~~ JCD ~~1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14~~ JCD ~~U-235/238,Pu-239/240,Am-241~~ JCD
				1-250ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
				1-120ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241

*Type of Sample

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

Field Information FROM 100-FR-3 Drilling

Special Handling and/or Storage Maintain at 4C

Possible Sample Hazards NA

TMA/ARLI
Thermo Analytical Inc.

RADIATION DOSE RATE SURVEY FORM

Date 8/26/92 COMPANY TMA/NORCAL(WHC) OTHER ORD # 2521032651

Surveyor's Name MARK S. McCray

Model No. HP-210 / ESP-1 Model No. AC-3-7 / ESP-1

Serial Nos. 710289 / 02619 Serial Nos. 407726 / 02628

Calibration Date 3/25/92 Calibration Date 8/01/92

Instrument Calibration Factor 0.280 Instrument Calibration Factor 0.188

Sample	Location	HP-210 CPM	HP-210 Factor	HP-210 DPM	AC-3-7 CPM	AC-3-7 Factor	AC-3-7 DPM	Spillage or Breakage?	Activity, pCi/mL or pCi/g
Background		24.0			0				
Consistency		7,410	0.2861		4,990	0.1834			
Smear: BURGUNDY		47.0			0				
Reported (WHC)		2 samples		each		< 50 pCi/gram			

Comments:

All OK ✓ Approved [signature]

Not OK Date 8/26/92

TMA/ARLI
Thermo Analytical Inc.

RADIATION DOSE RATE SURVEY FORM

Date 8/25/92 COMPANY Vitreal (WHC) OTHER ORD # 2521032673

Surveyor's Name Bill Callaway

Model No. HP-210 / ESP-1 Model No. AC-3-7 / ESP-1

Serial Nos. 710289 / 02619 Serial Nos. 407726 / 02628

Calibration Date 3/25/92 Calibration Date 8/11/92

Instrument Calibration Factor 0.280 Instrument Calibration Factor 0.188

Sample	Location	HP-210 CPM	HP-210 Factor	HP-210 DPM	AC-3-7 CPM	AC-3-7 Factor	AC-3-7 DPM	Spillage or Breakage?	Activity, uCi/gal, or uCi/g
Background		32.0			1.0				
Consistency		9560	0.2919		5060	0.860			
Smear: Large Red		40.0			0.0				
Small blue		32.0			1.0				
Reported	WHC	8 Sa	each	< 50	pCi/g.				

Comments:

All OK ✓ Approved [illegible]

Not OK Date 8/25/92

000011

SAMPLE LOG-IN SHEET

LAB NAME : TMA/ARLI PAGE : OF

RECEIVED BY (PRINT NAME): CAROLE HARRIS LOG-IN-DATE : 8-26-92

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.: 2521032651
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: 8-25-92
12. Temp of ice chest 4.0 °C
13. Time Recieved: 10:30 AM.

SAMPLE TRANSFER

Fraction:
Area #:
By:
On:

EPA SAMPLE #	CORRESPONDING SAMPLE TAG #	CORRESPONDING ASSIGNED LAB #	REMARKS: CONDITION OF SAMPLE SHIPMENT, ETC
	B07568	A2-08-050-01	
	B07569	A2-08-050-02	
	B07M7	A2-08-050-03	
	B07M8	A2-08-050-04	
	B07M9	A2-08-050-05	

* Contact SMO and attach record of resolution

Reviewed By: Logbook No.:

Date: Logbook Page No.:

FORM DC-1

FEDERAL EXPRESS

QUESTIONS? CALL 800-238-5355 TOLL FREE.

AIRBILL
PACKAGE TRACKING NUMBER 2521032651

2521032651

RECIPIENT'S COPY

Date 8 25 92

From (Your Name) Please Print: SAMPLE CONTROL
Your Phone Number (Very Important): 610-235-2633
Company: TMA / NORCAL
Department/Floor No.
Street Address: 2000 WRIGHT AVE
City: RICHMOND State: CA ZIP Required: 94804

To (Recipient's Name) Please Print: SAMPLE CONTROL
Recipient's Phone Number (Very Important)
Company: TMA / ARC
Department/Floor
Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes): 160 TAYLOR STREET
City: MONROVIA State: CA. ZIP Required: 91016

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice.): 2320 6406

IF HOLD FOR PICK-UP, Print FEDEX Address Here
Street Address
City State ZIP Required

PAYMENT 1 [x] Bill Sender 2 [ ] Bill Recipient's FedEx Acct. No. 3 [ ] Bill 3rd Party FedEx Acct. No. 4 [ ] Bill Credit Card 5 [ ] Cash/Check

SERVICES (Check only one box)

Priority Overnight	Standard Overnight
11 [x] YOUR PACKAGING	51 [ ] YOUR PACKAGING
16 [ ] FEDEX LETTER *	56 [ ] FEDEX LETTER *
12 [ ] FEDEX PAK *	52 [ ] FEDEX PAK *
13 [ ] FEDEX BOX	53 [ ] FEDEX BOX
14 [ ] FEDEX TUBE	54 [ ] FEDEX TUBE

Economy Two-Day	Government Overnight
30 [ ] ECONOMY	46 [ ] GOV'T LETTER
	81 [ ] GOV'T PACKAGE

Freight Service
70 [ ] OVERNIGHT FREIGHT ** 80 [ ] TWO-DAY FREIGHT **

DELIVERY AND SPECIAL HANDLING (Check services required)

1 [ ] HOLD FOR PICK-UP
2 [x] DELIVER WEEKDAY
3 DELIVER SATURDAY [ ]
4 [ ] DANGEROUS GOODS
5 [ ]
6 [ ] DRY ICE Lbs.
7 [ ] OTHER SPECIAL SERVICE
8 [ ]
9 [ ] SATURDAY PICK-UP
10 [ ]
11 [ ]
12 [ ] HOLIDAY DELIVERY

PACKAGES | WEIGHT | YOUR DECLARED VALUE

Total 1 Total 13 Total

DIM SHIPMENT (Chargeable Weight) [ ] _____ lbs.

L x W x H = _____

Received At
1 [x] Regular Stop 3 [ ] Drop Box
2 [ ] On-Call Stop 4 [ ] BSC 5 [ ] Station

Emp. No. Date
[ ] Cash Received
[ ] Return Shipment
[ ] Third Party [ ] Chg. To Del. [ ] Chg. To Hold
Street Address
City State Zip
Received By: X
Date/Time Received FedEx Employee Number
Release Signature
FedEx Emp. No. Date/Time

Federal Express
Base Charges
Declared Value Ch
Other 1
Other 2
Total Charges

REVISION DATE 8/91
PART #137204 FXEM 4
FORMAT #099
099

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SAMPLE LOG-IN SHEET

LAB NAME : TMA/ARLI

PAGE : 1.5

RECEIVED BY (PRINT NAME): Carole Harris

LOG-IN-DATE 8-26-92

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.: 2521032673

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: 8-26-92

12. Temp of ice chest 4.1 °C

13. Time Recieved: 9:55 A.M

SAMPLE TRANSFER

Fraction:

Area #:

By:

On:

EPA SAMPLE #	CORRESPONDING SAMPLE TAG #	CORRESPONDING ASSIGNED LAB #	REMARKS: CONDITION OF SAMPLE SHIPMENT, ETC
	B07540	A2-08-050-06	
	B07540	A2-08-050-07	

* Contact SMO and attach record of resolution

Reviewed By: Logbook No.:

Date: Logbook Page No.:

FORM DC-1

FEDERAL EXPRESS

QUESTION: [redacted] LL 800-238-5355 TOLL FREE.

AIRBILL PACKAGE TRACKING NUMBER 2521032673

2121 2521032673

RECIPIENT'S COPY

1 [redacted] Date 82-92

From (Your Name) Please Print: SAMPLE CONTROL
Your Phone Number (Very Important): 510-235-2633
Company: T M A [illegible]OPCAL
Department/Floor No:
Street Address: 2030 WRIGHT AVE
City: RICHMOND State: CA ZIP Required: 9 4 8 0 [illegible]

2 To (Recipient's Name) Please Print: SAMPLE CONTROL
Recipient's Phone Number (Very Imp
Company: TMA [illegible]
Department/Flo
Exact Street Address (No Carrier Deliver to P.O. Boxes or P.O. Zip Codes.): 160 TAllor Str [illegible]
City: MONROVIA State: CA ZIP Required: 91016

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice.): 2320 6406

3 PAYMENT 1 [x] Bill Sender 2 [ ] Bill Recipient's FedEx Acct No 3 [ ] Bill 3rd Party FedEx Acct No 4 [ ] Bill Credit Card 5 [ ] Cash/Check [redacted]

4 IF HOLD FOR PICK-UP, Print FEDEX Address Here
Street Address
City State ZIP Required

4 SERVICES (Check only one box)

Priority Overnight (Delivery by next business morning)	Standard Overnight (Delivery by next business afternoon)
11 [x] YOUR PACKAGING	51 [ ] YOUR PACKAGING
16 [ ] FEDEX LETTER *	56 [ ] FEDEX LETTER *
12 [ ] FEDEX PAK *	52 [ ] FEDEX PAK *
13 [ ] FEDEX BOX	53 [ ] FEDEX BOX
14 [ ] FEDEX TUBE	54 [ ] FEDEX TUBE
Economy Two-Day (Delivery by 4th and business day)	**Government Overnight** (Reported to authorized users only)
30 [ ] ECONOMY	46 [ ] GOV'T LETTER
	41 [ ] GOV'T PACKAGE

Freight Service (for Extra Large 3 and 4 or Heavy Pieces)
70 [ ] OVERNIGHT FREIGHT ** (Common operation required)
80 [ ] TWO-DAY FREIGHT **
† Delivery commitment may be later in some areas
* Declared value limit $100
** Call for delivery schedule

5 DELIVERY AND SPECIAL HANDLING (Check services required)
1 [ ] HOLD FOR PICK-UP (Fill in Box H)
2 [x] DELIVER WEEKDAY
3 DELIVER SATURDAY (Extra charge) [ ] (Not available to all locations)
4 [ ] DANGEROUS GOODS (Extra charge)
5 [ ]
6 [ ] DRY ICE Lbs
7 [ ] OTHER SPECIAL SERVICE
8 [ ]
9 [ ] SATURDAY PICK-UP (Extra charge)
10 [ ]
11 [ ]
12 [ ] HOLIDAY DELIVERY (If offered) (Extra charge)

6 PACKAGES WEIGHT in Pounds (lbs) YOUR DECLARED VALUE
Total 2 Total 66 Total

DIM SHIPMENT (Chargeable Weight) [ ] _____ lbs.
L x W x H = _____

Received At
1 [x] Regular Stop 3 [ ] Drop Box
2 [ ] On-Call Stop 4 [ ] B S C 5 [ ] Station

Emp. No. Date
[ ] Cash Received
[ ] Return Shipment
[ ] Third Party [ ] Chg. To Del [ ] Chg. To Hold
Street Address
City State Zip
Received By X
Date/Time Received FedEx Employee Number
7 Release Signature
FedEx Emp. No Date Time

Federal Express
Base Charges
Declared Value Ch
Other 1
Other 2
Total Charges

REVISION DATE 6/91
PART #137204 FXEM 4
FORMAT #099
099
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GENERAL CHEMISTRY RESULTS

CASE NO. 08-050

Soil Sample #:

B075G8	B075G9	B075M7
B075M8	B075M9	B075H0

CASE NARRATIVE

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

Ernesto Vazquez

Ernesto Vazquez

TMA Inc. REPORT Work Order # A2-08-050

Received: 08/24/92 10/19/92 17:02:31

REPORT TO Westinghouse Hanford Company
2355 Stevens Dr.
Richland,WA.99352
MO-346/200 West/T6-08
ATTEN Jeanette Duncan

PREPARED BY Thermo Analytical, Inc.
160 Taylor Street
Monrovia, CA 91016
ATTEN Ms. Carole Harris
PHONE 818-357-3247

CERTIFIED BY Ernesto Hayes

CONTACT EVV CIH

CLIENT WHC SAMPLES 8
COMPANY Westinghouse Hanford Company
FACILITY

This report is for the sole and exclusive use of the client to whom it is addressed and represents only those samples herein described. Samples not destroyed in testing are retained a maximum of 30 days unless otherwise requested.

WORK ID 100-FR-3
TAKEN By Westinghouse Staff
TRANS Federal Express
TYPE Soil
P.O. # N2-08-148/161-SU-AR
INVOICE under separate cover

SAMPLE IDENTIFICATION

01 B075G8
01 B075G8 MS
01 B075G8 MSD
01 B075G8
02 B075G9
02 B075G9 MS
02 B075G9 MSD
02 B075G9
02 B075G9 MS
03 B075M7
03 B075M7 MS
03 B075M7 MSD
03 B075M7
04 B075M8
05 B075M9
05 B075M9 Duplicate
06 B075N0
07 B075N0
07 B075N0 MS
07 B075N0 MSD
08 Wet Chemistry Blank

TEST CODES and NAMES used on this workorder

BNCLPS	CLP Semivol. Sol. - WH016
CANCEL	Analysis Cancelled
IC AN	Anions Extraction Solids
PECLPS	CLP Pest\PCBs Soil - WH015
VOCLPS	CLP Vol. Org.Soils - WH014
WCCLPS	Anions in Solids - WH232
WCQCD	Quality Control Summary
WCQCS	Quality Control Summary
WF S	Fluoride in Solids
WMOIST	Moisture
WPH S	pH of Solids - WH217
WSO4 S	Sulfate (in Solids)

 TRA Inc. REPORT Work Order # A2-08-050

Received: 08/24/92

Results by Sample

SAMPLE ID B075G8 FRACTION 01E TEST CODE VCCLPS NAME Anions in Solids - VW232

Date & Time Collected 08/20/92 Category

ANIONS AND WET CHEMISTRY - SOLIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Fluoride	300.0	4	mg/Kg	1.
Sulfate	300.0	34	mg/Kg	10.

FORM I

Received: 08/24/92

Results by Sample

SAMPLE ID 807569 FRACTION 02E TEST CODE VCCLPS NAME Anions in Solids - VR232

Date & Time Collected 08/20/92 Category

ANIONS AND WET CHEMISTRY - SOLIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Fluoride	300.0	3	mg/Kg	1.
Sulfate	300.0	35	mg/Kg	10.

FORM I

Received: 08/24/92
Results by Sample

SAMPLE ID B075M7 FRACTION 03E TEST CODE VCCLPS NAME Anions in Solids - VM232
Date & Time Collected 08/20/92 Category

ANIONS AND WET CHEMISTRY - SOLIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Fluoride	300.0	3	mg/Kg	1.
Sulfate	300.0	39	mg/Kg	10.

FORM I

Received: 08/24/92

Results by Sample

SAMPLE ID B075M8 FRACTION 04B TEST CODE WCCLPS NAME Anions in Solids - VM232

Date & Time Collected 08/20/92 Category

ANIONS AND WET CHEMISTRY - SOLIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Fluoride	300.0	3	mg/Kg	1.
Sulfate	300.0	43	mg/Kg	10.

FORM I

TMA Inc. REPORT Work Order # A2-08-050

Received: 08/24/92

Results by Sample

SAMPLE ID 8075M9 FRACTION 05C TEST CODE WCCLPS NAME Anions in Solids - WA232

Date & Time Collected 08/20/92 Category

ANIONS AND WET CHEMISTRY - SOLIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Fluoride	300.0	<1	mg/Kg	1.
Sulfate	300.0	38	mg/Kg	10.

FORM I

SAMPLE ID B075H0 FRACTION 06C TEST CODE WCCLPS NAME Anions in Solids - WN232
Date & Time Collected 08/21/92 Category

ANIONS AND WET CHEMISTRY - SOLIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Fluoride	300.0	<1	mg/Kg	1.
Sulfate	300.0	33	mg/Kg	10.

FORM I

CASE NARRATIVE

LABORATORY : TMA/ARLI

CASE : 08-050

CONTRACT ID : WESTINGHOUSE HANFORD COMPANY

SDG RECEIPT DATE : August 24, 1992

1.0 DESCRIPTION OF CASE :

Seven 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.

2.0 SAMPLE LIST :

WESTINGHOUSE ID	LAB ID	ANALYSIS REQUESTED	MATRIX
B075G8	A2-08-050-01A	V	SOIL
B075G8	A2-08-050-01D	SV & P	SOIL
B075G9	A2-08-050-02A	V	SOIL
B075G9	A2-08-050-02B	SV & P	SOIL
B075G9 MS	A2-08-050-02C	SV	SOIL
B075G9 MSD	A2-08-050-02D	SV	SOIL
B075M7	A2-08-050-03A	V	SOIL
B075M7	A2-08-050-03B	SV & P	SOIL
B075M7 MS	A2-08-050-03C	P	SOIL
B075M7 MSD	A2-08-050-03D	P	SOIL
B075M8	A2-08-050-04A	V	SOIL
B075M9	A2-08-050-05A	V	SOIL
B075M9	A2-08-050-05B	SV & P	SOIL
B075H0	A2-08-050-06A	V	SOIL
B075H0	A2-08-050-06B	SV & P	SOIL
B075N0	A2-08-050-07A	V	SOIL
B075N0 MS	A2-08-050-07B	V	SOIL
B075N0 MSD	A2-08-050-07C	V	SOIL

3.0 COMMENTS :

3.1 SHIPPING AND DOCUMENTATION :

The samples were received unbroken and properly documented with the exception of sample B075M8 (for Semivolatiles and Pesticide/PCB) which was received broken at TMA/ARLI. These analyses were cancelled per Larry Zuck at Westinghouse Hanford Company.

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 other 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 extracted and analyzed within the CLP SOW holding times.

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

3.2.3 PESTICIDE/PCB ANALYSIS COMMENTS :

SEQUENCE NOTES :

The sequence was started on 9/3/92 and was analyzed in accordance with the EPA CLP SOW. The sequence was analyzed by single injection into a dual column system. After the sample injection at 19:15 on 9/9/92, the auto sampler malfunctioned. After maintenance was performed, the sequence was continued with the next injection of PIBLK06 at 8:07 on 9/10/92. Since the injection of PIBLK06 was outside of the 12 hour window, the samples injected between PIELK05 and PIBLK06 were re-injected in another sequence. PIBLK06 failed to meet the TCX retention time window by 0.005 minutes. However, the next injection met the QC limit and the sequence was continued. The sequence met all of the QC requirements specified in the CLP SOW.

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

SAMPLE NOTES :

LOW LEVEL SOIL :

The samples were extracted and analyzed within the CLP SOW holding times. Sample B075G9 on the DB-608 column and sample B075M9 on the DB-608 and DB-1701 columns had TCX surrogate recoveries slightly below the advisory QC limits. In accordance with protocol, no further action was required.

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

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

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B075G8

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208050-01A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 20827R08

Level: (low/med) LOW Date Received: 08/24/92

% Moisture: not dec. 2 Date Analyzed: 08/27/92

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	10	U
67-64-1	Acetone	11	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	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

EPA SAMPLE NO.

B075G8

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208050-01A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 20827R08

Level: (low/med) LOW Date Received: 08/24/92

% Moisture: not dec. 2 Date Analyzed: 08/27/92

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.

B075G9

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208050-02A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 20827R09

Level: (low/med) LOW Date Received: 08/24/92

% Moisture: not dec. 5 Date Analyzed: 08/27/92

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	11	U
67-64-1	Acetone	13	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	2	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

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B075G9

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208050-02A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 20827R09

Level: (low/med) LOW Date Received: 08/24/92

% Moisture: not dec. 5 Date Analyzed: 08/27/92

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.

B075H0

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208050-06A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 20827R13

Level: (low/med) LOW Date Received: 08/25/92

% Moisture: not dec. 15 Date Analyzed: 08/27/92

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	12	U
67-64-1	Acetone	13	B
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	6	J
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

000010
EPA SAMPLE NO.

B075H0

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208050-06A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 20827R13

Level: (low/med) LOW Date Received: 08/25/92

% Moisture: not dec. 15 Date Analyzed: 08/27/92

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.

B075M7

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208050-03A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 20827R10

Level: (low/med) LOW Date Received: 08/24/92

% Moisture: not dec. 1 Date Analyzed: 08/27/92

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	10	U
67-64-1	Acetone	11	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	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

EPA SAMPLE NO.

B075M7

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208050-03A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 20827R10

Level: (low/med) LOW Date Received: 08/24/92

% Moisture: not dec. 1 Date Analyzed: 08/27/92

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.

B075M8

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208050-04A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 20827R11

Level: (low/med) LOW Date Received: 08/24/92

% Moisture: not dec. 1 Date Analyzed: 08/27/92

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	2	J
67-64-1	Acetone	10	BJ
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	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

EPA SAMPLE NO.

B075M8

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208050-04A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 20827R11

Level: (low/med) LOW Date Received: 08/24/92

% Moisture: not dec. 1 Date Analyzed: 08/27/92

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.

B075M9

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208050-05A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 20827R12

Level: (low/med) LOW Date Received: 08/24/92

% Moisture: not dec. 12 Date Analyzed: 08/27/92

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	11	U
67-64-1	Acetone	12	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	11	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

000016
EPA SAMPLE NO.

B075M9

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208050-05A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 20827R12

Level: (low/med) LOW Date Received: 08/24/92

% Moisture: not dec. 12 Date Analyzed: 08/27/92

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	29.50	26	J

EPA SAMPLE NO.

B075N0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208050-07A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 20827R14

Level: (low/med) LOW Date Received: 08/25/91

% Moisture: not dec. 0 Date Analyzed: 08/27/92

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	10	U
67-64-1	Acetone	13	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	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

000018
EPA SAMPLE NO.

B075N0

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208050-07A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 20827R14

Level: (low/med) LOW Date Received: 08/25/91

% Moisture: not dec. 0 Date Analyzed: 08/27/92

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. 64-17-5	ETHANOL	3.50	8	J

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B075G8

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208050-01D

Sample wt/vol: 30.6 (g/mL) G Lab File ID: 20902S03

Level: (low/med) LOW Date Received: 08/24/92

% Moisture: 2 decanted: (Y/N) N Date Extracted: 08/26/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 09/02/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.4

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	330	U
111-44-4	bis(2-Chloroethyl)Ether	330	U
95-57-8	2-Chlorophenol	330	U
541-73-1	1,3-Dichlorobenzene	330	U
106-46-7	1,4-Dichlorobenzene	330	U
95-50-1	1,2-Dichlorobenzene	330	U
95-48-7	2-Methylphenol	330	U
108-60-1	2,2'-oxybis(1-Chloropropane)	330	U
106-44-5	4-Methylphenol	330	U
621-64-7	N-Nitroso-Di-n-Propylamine	330	U
67-72-1	Hexachloroethane	330	U
98-95-3	Nitrobenzene	330	U
78-59-1	Isophorone	330	U
88-75-5	2-Nitrophenol	330	U
105-67-9	2,4-Dimethylphenol	330	U
111-91-1	bis(2-Chloroethoxy)Methane	330	U
120-83-2	2,4-Dichlorophenol	330	U
120-82-1	1,2,4-Trichlorobenzene	330	U
91-20-3	Naphthalene	330	U
106-47-8	4-Chloroaniline	330	U
87-68-3	Hexachlorobutadiene	330	U
59-50-7	4-Chloro-3-Methylphenol	330	U
91-57-6	2-Methylnaphthalene	330	U
77-47-4	Hexachlorocyclopentadiene	330	U
88-06-2	2,4,6-Trichlorophenol	330	U
95-95-4	2,4,5-Trichlorophenol	800	U
91-58-7	2-Chloronaphthalene	330	U
88-74-4	2-Nitroaniline	800	U
131-11-3	Dimethylphthalate	330	U
208-96-8	Acenaphthylene	330	U
99-09-2	3-Nitroaniline	800	U
83-32-9	Acenaphthene	330	U
51-28-5	2,4-Dinitrophenol	800	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07568

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208050-01D

Sample wt/vol: 30.6 (g/mL) G Lab File ID: 20902S03

Level: (low/med) LOW Date Received: 08/24/92

% Moisture: 2 decanted: (Y/N) N Date Extracted: 08/26/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 09/02/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.4

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-02-7	4-Nitrophenol	800	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	36	J
7005-72-3	4-Chlorophenyl-phenylether	330	U
86-73-7	Fluorene	330	U
100-01-6	4-Nitroaniline	800	U
534-52-1	4,6-Dinitro-2-methylphenol	800	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	800	U
85-01-8	Phenanthrene	330	U
120-12-7	Anthracene	330	U
86-74-8	Carbazole	330	U
84-74-2	Di-n-Butylphthalate	190	BJ
206-44-0	Fluoranthene	330	U
129-00-0	Pyrene	330	U
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	73	J
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

EPA SAMPLE NO.

B075G8

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208050-01D

Sample wt/vol: 30.6 (g/mL) G Lab File ID: 20902S03

Level: (low/med) LOW Date Received: 08/24/92

% Moisture: 2 decanted: (Y/N) N Date Extracted: 08/26/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 09/02/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.4

Number TICs found: 19

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	5.20	2500	BJ
2.	UNKNOWN HYDROCARBON	5.65	61000	BJ
3.	UNKNOWN HYDROCARBON	6.63	170	BJ
4.	UNKNOWN HYDROCARBON	6.73	700	BJ
5.	UNKNOWN KETONE	7.05	100	BJ
6.	UNKNOWN COMPOUND	7.15	500	BJ
7.	UNKNOWN HYDROCARBON	7.23	130	J
8.	UNKNOWN ALCOHOL	8.40	970	BJ
9.	TETRAMETHYL PHENOL ISOMER	18.58	67	J
10.	NONYLPHENOL ISOMER	18.68	170	J
11.	TETRAMETHYL PHENOL ISOMER	18.77	100	J
12.	NONYLPHENOL ISOMER	19.03	100	J
13.	TETRAMETHYL PHENOL ISOMER	19.15	130	J
14.	NONYLPHENOL ISOMER	19.23	67	J
15.	HEXANEDIOIC ACID ISOMER	24.77	200	BJ
16.	UNKNOWN HYDROCARBON	28.55	67	J
17.	UNKNOWN COMPOUND	29.23	230	J
18.	UNKNOWN HYDROCARBON	30.57	67	J
19.	UNKNOWN HYDROCARBON	32.02	1900	J

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07569

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208050-008

Sample wt/vol: 30.9 (g/mL) G Lab File ID: 20902S04

Level: (low/med) LOW Date Received: 08/24/92

% Moisture: 5 decanted: (Y/N) N Date Extracted: 08/26/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 09/02/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.5

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	340	U
111-44-4	bis(2-Chloroethyl)Ether	340	U
95-57-8	2-Chlorophenol	340	U
541-73-1	1,3-Dichlorobenzene	340	U
106-46-7	1,4-Dichlorobenzene	340	U
95-50-1	1,2-Dichlorobenzene	340	U
95-48-7	2-Methylphenol	340	U
108-60-1	2,2'-oxybis(1-Chloropropane)	340	U
106-44-5	4-Methylphenol	340	U
621-64-7	N-Nitroso-Di-n-Propylamine	340	U
67-72-1	Hexachloroethane	340	U
98-95-3	Nitrobenzene	340	U
78-59-1	Isophorone	340	U
88-75-5	2-Nitrophenol	340	U
105-67-9	2,4-Dimethylphenol	340	U
111-91-1	bis(2-Chloroethoxy)Methane	340	U
120-83-2	2,4-Dichlorophenol	340	U
120-82-1	1,2,4-Trichlorobenzene	340	U
91-20-3	Naphthalene	340	U
106-47-8	4-Chloroaniline	340	U
87-68-3	Hexachlorobutadiene	340	U
59-50-7	4-Chloro-3-Methylphenol	340	U
91-57-6	2-Methylnaphthalene	340	U
77-47-4	Hexachlorocyclopentadiene	340	U
88-06-2	2,4,6-Trichlorophenol	340	U
95-95-4	2,4,5-Trichlorophenol	820	U
91-58-7	2-Chloronaphthalene	340	U
88-74-4	2-Nitroaniline	820	U
131-11-3	Dimethylphthalate	340	U
208-96-8	Acenaphthylene	340	U
99-09-2	3-Nitroaniline	820	U
83-32-9	Acenaphthene	340	U
51-28-5	2,4-Dinitrophenol	820	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BC7509

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208050-02B

Sample wt/vol: 30.9 (g/mL) G Lab File ID: 20902S04

Level: (low/med) LOW Date Received: 08/24/92

% Moisture: 5 decanted: (Y/N) N Date Extracted: 08/26/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 09/02/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.5

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-02-7	4-Nitrophenol	820	U
132-64-9	Dibenzofuran	340	U
121-14-2	2,4-Dinitrotoluene	340	U
606-20-2	2,6-Dinitrotoluene	340	U
84-66-2	Diethylphthalate	340	
7005-72-3	4-Chlorophenyl-phenylether	340	U
86-73-7	Fluorene	340	U
100-01-6	4-Nitroaniline	820	U
534-52-1	4,6-Dinitro-2-methylphenol	820	U
86-30-6	N-Nitrosodiphenylamine (1)	340	U
101-55-3	4-Bromophenyl-phenylether	340	U
118-74-1	Hexachlorobenzene	340	U
87-86-5	Pentachlorophenol	820	U
85-01-8	Phenanthrene	340	U
120-12-7	Anthracene	340	U
86-74-8	Carbazole	340	U
84-74-2	Di-n-Butylphthalate	430	B
206-44-0	Fluoranthene	340	U
129-00-0	Pyrene	340	U
85-68-7	Butylbenzylphthalate	340	U
91-94-1	3,3'-Dichlorobenzidine	340	U
56-55-3	Benzo(a)Anthracene	340	U
117-81-7	bis(2-Ethylhexyl)Phthalate	340	U
218-01-9	Chrysene	340	U
117-84-0	Di-n-Octyl Phthalate	340	U
205-99-2	Benzo(b)Fluoranthene	340	U
207-08-9	Benzo(k)Fluoranthene	340	U
50-32-8	Benzo(a)Pyrene	340	U
193-39-5	Indeno(1,2,3-cd)Pyrene	340	U
53-70-3	Dibenz(a,h)Anthracene	340	U
191-24-2	Benzo(g,h,i)Perylene	340	U

(1) - Cannot be separated from Diphenylamine

EPA SAMPLE NO.

B075G9

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208050-02B

Sample wt/vol: 30.9 (g/mL) G Lab File ID: 20902S04

Level: (low/med) LOW Date Received: 08/24/92

% Moisture: 5 decanted: (Y/N) N Date Extracted: 08/26/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 09/02/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.5

Number TICs found: 8

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	5.23	2100	BJ
2.	UNKNOWN HYDROCARBON	5.67	69000	BJ
3.	UNKNOWN HYDROCARBON	6.63	200	BJ
4.	UNKNOWN HYDROCARBON	6.73	920	BJ
5.	UNKNOWN KETONE	7.05	100	BJ
6.	UNKNOWN COMPOUND	7.15	440	BJ
7.	UNKNOWN HYDROCARBON	7.25	140	J
8.	HEXANEDIOIC ACID ISOMER	24.77	240	BJ

EPA SAMPLE NO.

B075H0

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208050-06B

Sample wt/vol: 30.4 (g/mL) G Lab File ID: 20902S09

Level: (low/med) LOW Date Received: 08/25/92

% Moisture: 15 decanted: (Y/N) N Date Extracted: 08/26/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 09/02/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.9

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	380	U
111-44-4	bis(2-Chloroethyl)Ether	380	U
95-57-8	2-Chlorophenol	380	U
541-73-1	1,3-Dichlorobenzene	380	U
106-46-7	1,4-Dichlorobenzene	380	U
95-50-1	1,2-Dichlorobenzene	380	U
95-48-7	2-Methylphenol	380	U
108-60-1	2,2'-oxybis(1-Chloropropane)	380	U
106-44-5	4-Methylphenol	380	U
621-64-7	N-Nitroso-Di-n-Propylamine	380	U
67-72-1	Hexachloroethane	380	U
98-95-3	Nitrobenzene	380	U
78-59-1	Isophorone	380	U
88-75-5	2-Nitrophenol	380	U
105-67-9	2,4-Dimethylphenol	380	U
111-91-1	bis(2-Chloroethoxy)Methane	380	U
120-83-2	2,4-Dichlorophenol	380	U
120-82-1	1,2,4-Trichlorobenzene	380	U
91-20-3	Naphthalene	380	U
106-47-8	4-Chloroaniline	380	U
87-68-3	Hexachlorobutadiene	380	U
59-50-7	4-Chloro-3-Methylphenol	380	U
91-57-6	2-Methylnaphthalene	380	U
77-47-4	Hexachlorocyclopentadiene	380	U
88-06-2	2,4,6-Trichlorophenol	380	U
95-95-4	2,4,5-Trichlorophenol	930	U
91-58-7	2-Chloronaphthalene	380	U
88-74-4	2-Nitroaniline	930	U
131-11-3	Dimethylphthalate	380	U
208-96-8	Acenaphthylene	380	U
99-09-2	3-Nitroaniline	930	U
83-32-9	Acenaphthene	380	U
51-28-5	2,4-Dinitrophenol	930	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E(75F0

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: N/A

Matrix: (soil/water) SOIL Lab Sample ID: A208050-003

Sample wt/vol: 30.4 (g/mL) G Lab File ID: 20902S09

Level: (low/med) LOW Date Received: 08/25/92

% Moisture: 15 decanted: (Y/N) N Date Extracted: 08/26/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 09/02/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.9

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-02-7	4-Nitrophenol	930	U
132-64-9	Dibenzofuran	380	U
121-14-2	2,4-Dinitrotoluene	380	U
606-20-2	2,6-Dinitrotoluene	380	U
84-66-2	Diethylphthalate	380	U
7005-72-3	4-Chlorophenyl-phenylether	380	U
86-73-7	Fluorene	380	U
100-01-6	4-Nitroaniline	930	U
534-52-1	4,6-Dinitro-2-methylphenol	930	U
86-30-6	N-Nitrosodiphenylamine (1)	380	U
101-55-3	4-Bromophenyl-phenylether	380	U
118-74-1	Hexachlorobenzene	380	U
87-86-5	Pentachlorophenol	930	U
85-01-8	Phenanthrene	380	U
120-12-7	Anthracene	380	U
86-74-8	Carbazole	380	U
84-74-2	Di-n-Butylphthalate	230	BJ
206-44-0	Fluoranthene	380	U
129-00-0	Pyrene	380	U
85-68-7	Butylbenzylphthalate	380	U
91-94-1	3,3'-Dichlorobenzidine	380	U
56-55-3	Benzo(a)Anthracene	380	U
117-81-7	bis(2-Ethylhexyl)Phthalate	380	U
218-01-9	Chrysene	380	U
117-84-0	Di-n-Octyl Phthalate	380	U
205-99-2	Benzo(b)Fluoranthene	380	U
207-08-9	Benzo(k)Fluoranthene	380	U
50-32-8	Benzo(a)Pyrene	380	U
193-39-5	Indeno(1,2,3-cd)Pyrene	380	U
53-70-3	Dibenz(a,h)Anthracene	380	U
191-24-2	Benzo(g,h,i)Perylene	380	U

(1) - Cannot be separated from Diphenylamine

EPA SAMPLE NO.

B075HC

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208050-06B

Sample wt/vol: 30.4 (g/mL) G Lab File ID: 20902S09

Level: (low/med) LOW Date Received: 08/25/92

% Moisture: 15 decanted: (Y/N) N Date Extracted: 08/26/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 09/02/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.9

Number TICs found: 13

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	5.18	2300	BJ
2.	UNKNOWN HYDROCARBON	5.63	63000	BJ
3.	UNKNOWN HYDROCARBON	5.72	310	BJ
4.	UNKNOWN COMPOUND	6.05	77	J
5.	UNKNOWN HYDROCARBON	6.63	150	BJ
6.	UNKNOWN HYDROCARBON	6.73	230	BJ
7.	UNKNOWN KETONE	7.03	120	BJ
8.	UNKNOWN COMPOUND	7.15	120	BJ
9.	UNKNOWN HYDROCARBON	7.23	150	J
10.	UNKNOWN ALCOHOL	8.40	310	BJ
11.	UNKNOWN HYDROCARBON	8.65	120	J
12.	UNKNOWN KETONE	8.72	120	J
13.	HEXANEDIOIC ACID ISOMER	24.77	310	BJ

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B075M7

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208050-03E

Sample wt/vol: 30.3 (g/mL) G Lab File ID: 20902S07

Level: (low/med) LOW Date Received: 08/24/92

% Moisture: 1 decanted: (Y/N) N Date Extracted: 08/26/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 09/02/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.6

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	330	U
95-50-1	1,2-Dichlorobenzene	330	U
95-48-7	2-Methylphenol	330	U
108-60-1	2,2'-oxybis(1-Chloropropane)	330	U
106-44-5	4-Methylphenol	330	U
621-64-7	N-Nitroso-Di-n-Propylamine	330	U
67-72-1	Hexachloroethane	330	U
98-95-3	Nitrobenzene	330	U
78-59-1	Isophorone	330	U
88-75-5	2-Nitrophenol	330	U
105-67-9	2,4-Dimethylphenol	330	U
111-91-1	bis(2-Chloroethoxy)Methane	330	U
120-83-2	2,4-Dichlorophenol	330	U
120-82-1	1,2,4-Trichlorobenzene	330	U
91-20-3	Naphthalene	330	U
106-47-8	4-Chloroaniline	330	U
87-68-3	Hexachlorobutadiene	330	U
59-50-7	4-Chloro-3-Methylphenol	330	U
91-57-6	2-Methylnaphthalene	330	U
77-47-4	Hexachlorocyclopentadiene	330	U
88-06-2	2,4,6-Trichlorophenol	330	U
95-95-4	2,4,5-Trichlorophenol	800	U
91-58-7	2-Chloronaphthalene	330	U
88-74-4	2-Nitroaniline	800	U
131-11-3	Dimethylphthalate	330	U
208-96-8	Acenaphthylene	330	U
99-09-2	3-Nitroaniline	800	U
83-32-9	Acenaphthene	330	U
51-28-5	2,4-Dinitrophenol	800	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B075[illegible]

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208250-03B

Sample wt/vol: 30.3 (g/mL) G Lab File ID: 20902507

Level: (low/med) LOW Date Received: 08/24/92

% Moisture: 1 decanted: (Y/N) N Date Extracted: 08/26/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 09/02/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.6

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-02-7	4-Nitrophenol	800	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	800	U
534-52-1	4,6-Dinitro-2-methylphenol	800	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	800	U
85-01-8	Phenanthrene	330	U
120-12-7	Anthracene	330	U
86-74-8	Carbazole	330	U
84-74-2	Di-n-Butylphthalate	720	B
206-44-0	Fluoranthene	330	U
129-00-0	Pyrene	330	U
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	330	U
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

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B075N7

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208050-03B

Sample wt/vol: 30.3 (g/mL) G Lab File ID: 20902S07

Level: (low/med) LOW Date Received: 08/24/92

% Moisture: 1 decanted: (Y/N) N Date Extracted: 08/26/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 09/02/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.6

Number TICs found: 15

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	5.23	2000	BJ
2.	UNKNOWN HYDROCARBON	5.65	62000	BJ
3.	UNKNOWN HYDROCARBON	5.72	200	BJ
4.	UNKNOWN HYDROCARBON	6.20	100	J
5.	UNKNOWN HYDROCARBON	6.63	170	BJ
6.	UNKNOWN HYDROCARBON	6.73	600	BJ
7.	UNKNOWN COMPOUND	6.82	67	J
8.	UNKNOWN KETONE	7.03	100	BJ
9.	UNKNOWN COMPOUND	7.15	300	BJ
10.	UNKNOWN HYDROCARBON	7.23	200	J
11.	UNKNOWN ALCOHOL	8.40	800	BJ
12.	UNKNOWN CARBOXYLIC ACID ESTE	20.22	770	BJ
13.	HEXANEDIOIC ACID ISOMER	24.75	170	BJ
14.	UNKNOWN HYDROCARBON	27.87	67	J
15.	UNKNOWN HYDROCARBON	31.20	170	J

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B075N9

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A2080S0-053

Sample wt/vol: 30.9 (g/mL) G Lab File ID: 20902S08

Level: (low/med) LOW Date Received: 08/24/92

% Moisture: 12 decanted: (Y/N) N Date Extracted: 08/26/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 09/02/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	360	U
111-44-4	bis(2-Chloroethyl)Ether	360	U
95-57-8	2-Chlorophenol	360	U
541-73-1	1,3-Dichlorobenzene	360	U
106-46-7	1,4-Dichlorobenzene	360	U
95-50-1	1,2-Dichlorobenzene	360	U
95-48-7	2-Methylphenol	360	U
108-60-1	2,2'-oxybis(1-Chloropropane)	360	U
106-44-5	4-Methylphenol	360	U
621-64-7	N-Nitroso-Di-n-Propylamine	360	U
67-72-1	Hexachloroethane	360	U
98-95-3	Nitrobenzene	360	U
78-59-1	Isophorone	360	U
88-75-5	2-Nitrophenol	360	U
105-67-9	2,4-Dimethylphenol	360	U
111-91-1	bis(2-Chloroethoxy)Methane	360	U
120-83-2	2,4-Dichlorophenol	360	U
120-82-1	1,2,4-Trichlorobenzene	360	U
91-20-3	Naphthalene	360	U
106-47-8	4-Chloroaniline	360	U
87-68-3	Hexachlorobutadiene	360	U
59-50-7	4-Chloro-3-Methylphenol	360	U
91-57-6	2-Methylnaphthalene	360	U
77-47-4	Hexachlorocyclopentadiene	360	U
88-06-2	2,4,6-Trichlorophenol	360	U
95-95-4	2,4,5-Trichlorophenol	880	U
91-58-7	2-Chloronaphthalene	360	U
88-74-4	2-Nitroaniline	880	U
131-11-3	Dimethylphthalate	360	U
208-96-8	Acenaphthylene	360	U
99-09-2	3-Nitroaniline	880	U
83-32-9	Acenaphthene	360	U
51-28-5	2,4-Dinitrophenol	880	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B075H9

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208050-05B

Sample wt/vol: 30.9 (g/mL) G Lab File ID: 20902S08

Level: (low/med) LOW Date Received: 08/24/92

% Moisture: 12 decanted: (Y/N) N Date Extracted: 08/26/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 09/02/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-02-7	4-Nitrophenol	880	U
132-64-9	Dibenzofuran	360	U
121-14-2	2,4-Dinitrotoluene	360	U
606-20-2	2,6-Dinitrotoluene	360	U
84-66-2	Diethylphthalate	360	U
7005-72-3	4-Chlorophenyl-phenylether	360	U
86-73-7	Fluorene	360	U
100-01-6	4-Nitroaniline	880	U
534-52-1	4,6-Dinitro-2-methylphenol	880	U
86-30-6	N-Nitrosodiphenylamine (1)	360	U
101-55-3	4-Bromophenyl-phenylether	360	U
118-74-1	Hexachlorobenzene	360	U
87-86-5	Pentachlorophenol	880	U
85-01-8	Phenanthrene	360	U
120-12-7	Anthracene	360	U
86-74-8	Carbazole	360	U
84-74-2	Di-n-Butylphthalate	1200	B
206-44-0	Fluoranthene	360	U
129-00-0	Pyrene	360	U
85-68-7	Butylbenzylphthalate	360	U
91-94-1	3,3'-Dichlorobenzidine	360	U
56-55-3	Benzo(a)Anthracene	360	U
117-81-7	bis(2-Ethylhexyl)Phthalate	360	U
218-01-9	Chrysene	360	U
117-84-0	Di-n-Octyl Phthalate	360	U
205-99-2	Benzo(b)Fluoranthene	360	U
207-08-9	Benzo(k)Fluoranthene	360	U
50-32-8	Benzo(a)Pyrene	360	U
193-39-5	Indeno(1,2,3-cd)Pyrene	360	U
53-70-3	Dibenz(a,h)Anthracene	360	U
191-24-2	Benzo(g,h,i)Perylene	360	U

(1) - Cannot be separated from Diphenylamine

000

EPA SAMPLE NO.

B075M9

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208050-05B

Sample wt/vol: 30.9 (g/mL) G Lab File ID: 20902S08

Level: (low/med) LOW Date Received: 08/24/92

% Moisture: 12 decanted: (Y/N) N Date Extracted: 08/26/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 09/02/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.0

Number TICs found: 10

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	5.20	1900	BJ
2.	UNKNOWN HYDROCARBON	5.65	70000	BJ
3.	UNKNOWN HYDROCARBON	5.70	150	BJ
4.	UNKNOWN HYDROCARBON	6.63	180	BJ
5.	UNKNOWN HYDROCARBON	6.73	740	BJ
6.	UNKNOWN KETONE	7.03	110	BJ
7.	UNKNOWN COMPOUND	7.15	520	BJ
8.	UNKNOWN HYDROCARBON	7.23	150	J
9.	UNKNOWN ALCOHOL	8.40	880	BJ
10.	HEXANEDIOIC ACID ISOMER	24.75	290	BJ

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07568

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208050-01DR

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

% Moisture: 2 decanted: (Y/N) N Date Received: 08/24/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 08/26/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 09/10/92

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 9.4 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

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07500

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208050-02B

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

% Moisture: 5 decanted: (Y/N) N Date Received: 08/24/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 08/26/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 09/10/92

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 9.5 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	1.8	U
319-85-7	beta-BHC	1.8	U
319-86-8	delta-BHC	1.8	U
58-89-9	gamma-BHC (Lindane)	1.8	U
76-44-8	Heptachlor	1.8	U
309-00-2	Aldrin	1.8	U
1024-57-3	Heptachlor epoxide	1.8	U
959-98-8	Endosulfan I	1.8	U
60-57-1	Dieldrin	3.4	U
72-55-9	4,4'-DDE	3.4	U
72-20-8	Endrin	3.4	U
33213-65-9	Endosulfan II	3.4	U
72-54-8	4,4'-DDD	3.4	U
1031-07-8	Endosulfan sulfate	3.4	U
50-29-3	4,4'-DDT	3.4	U
72-43-5	Methoxychlor	18	U
53494-70-5	Endrin ketone	3.4	U
7421-36-3	Endrin aldehyde	3.4	U
5103-71-9	alpha-Chlordane	1.8	U
5103-74-2	gamma-Chlordane	1.8	U
8001-35-2	Toxaphene	180	U
12674-11-2	Aroclor-1016	34	U
11104-28-2	Aroclor-1221	69	U
11141-16-5	Aroclor-1232	34	U
53469-21-9	Aroclor-1242	34	U
12672-29-6	Aroclor-1248	34	U
11097-69-1	Aroclor-1254	34	U
11096-82-5	Aroclor-1260	34	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

D07580

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208050-06B

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

% Moisture: 15 decanted: (Y/N) N Date Received: 08/25/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 08/26/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 09/10/92

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 8.9 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	2.0	U
319-85-7	beta-BHC	2.0	U
319-86-8	delta-BHC	2.0	U
58-89-9	gamma-BHC (Lindane)	2.0	U
76-44-8	Heptachlor	2.0	U
309-00-2	Aldrin	2.0	U
1024-57-3	Heptachlor epoxide	2.0	U
959-98-8	Endosulfan I	2.0	U
60-57-1	Dieldrin	3.8	U
72-55-9	4,4'-DDE	3.8	U
72-20-8	Endrin	3.8	U
33213-65-9	Endosulfan II	3.8	U
72-54-8	4,4'-DDD	3.8	U
1031-07-8	Endosulfan sulfate	3.8	U
50-29-3	4,4'-DDT	3.8	U
72-43-5	Methoxychlor	20	U
53494-70-5	Endrin ketone	3.8	U
7421-36-3	Endrin aldehyde	3.8	U
5103-71-9	alpha-Chlordane	2.0	U
5103-74-2	gamma-Chlordane	2.0	U
8001-35-2	Toxaphene	200	U
12674-11-2	Aroclor-1016	38	U
11104-28-2	Aroclor-1221	77	U
11141-16-5	Aroclor-1232	38	U
53469-21-9	Aroclor-1242	38	U
12672-29-6	Aroclor-1248	38	U
11097-69-1	Aroclor-1254	38	U
11096-82-5	Aroclor-1260	38	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B075107

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208050-03B

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

% Moisture: 1 decanted: (Y/N) N Date Received: 08/24/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 08/26/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 09/10/92

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 9.6 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	66	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

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07595

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208050-05B

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

% Moisture: 12 decanted: (Y/N) N Date Received: 08/24/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 08/26/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 09/10/92

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 9.0 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	75	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

 Skinner&Sherman REPORT Work Order # S2-08-282

Received: 08/25/92 10/13/92 13:44:04

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

ATTEN Dan Steurmer

CLIENT HANFORD NOR SAMPLES 6
COMPANY TMA/NORCAL
FACILITY Richmond, CA

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

ATTEN Client Services
PHONE (617) 890-7200

CERTIFIED BY

CONTACT DP

WORK ID N2-08-148
TAKEN BY CLIENT
TRANS FED EX# 2521032500
TYPE SOILS
P.O. # N2-08-148
INVOICE under separate cover

SAMPLE IDENTIFICATION	
01	B075G8
02	B075G9
03	B075M7
04	B075M8
05	B075M9
05	B075M9 DUPL
05	B075M9 SPIKE
06	LCSS

TEST CODES and NAMES used on this workorder

NO3NO2 Nitrate Plus Nitrite

TMA Thermo Analytical Inc.
Skinner & Sherman Laboratories, Inc.
This report is rendered upon all of the following conditions: Skinner & Sherman Laboratories, Inc. retains ownership of this report until associated submitted invoice is satisfied. [illegible] shall be available in conjunction with this report only if prior notification of this potential requirement was made and accepted, before the analysis. Client [illegible] Skinner & Sherman costs and consulting fees if our services are required by subpoena or otherwise in legal proceedings. Total liability is limited to the invoice amount. The results listed refer only to tested samples and applicable parameters. Product endorsement is neither inferred nor implied. Skinner & Sherman Laboratories, Inc. will exercise due diligence but will not be responsible for lost or destroyed samples or evidence unless client makes appropriate insurance coverage arrangements. Samples are held for [illegible] Samples will be stored at client's expense, if authorized in writing.
[illegible] Second Avenue, P.O. Box 521, Waltham, Massachusetts 02254-0521 (617) 890-7200
[illegible] LAB TEST [illegible] (617) 890-3889

Received: 08/25/92

Results by Sample

SAMPLE ID B075G8 SAMPLE # 01 FRACTIONS: A
Date & Time Collected 08/20/92 Category SOIL

NO3NO2 <2.42
mg N/kg

SAMPLE ID B075G9 SAMPLE # 02 FRACTIONS: A
Date & Time Collected 08/20/92 Category SOIL

NO3NO2 <2.45
mg N/kg

SAMPLE ID B075M7 SAMPLE # 03 FRACTIONS: A
Date & Time Collected 08/20/92 Category SOIL

NO3NO2 <2.48
mg N/kg

SAMPLE ID B075M8 SAMPLE # 04 FRACTIONS: A
Date & Time Collected 08/20/92 Category SOIL

NO3NO2 <2.42
mg N/kg

SAMPLE ID B075M9 SAMPLE # 05 FRACTIONS: A
Date & Time Collected 08/20/92 Category SOIL

NO3NO2 <2.41
mg N/kg

SAMPLE ID B075M9 DUPL SAMPLE # 05 FRACTIONS: B
Date & Time Collected 08/20/92 Category SOIL

NO3NO2 <2.43
mg N/kg

SAMPLE ID B075M9 SPIKE SAMPLE # 05 FRACTIONS: C
Date & Time Collected 08/20/92 Category SOIL

NO3NO2 21.1
mg N/kg

TMA Thermo Analytical Inc.
Skinner & Sherman Laboratories Inc.
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200 Second Avenue, P.O. Box 521, Waltham, Massachusetts 02254-0521 (617) 890-7200
1-800-4 LAB TEST FAX (617) 890-3883

Received: 08/25/92 Results by Sample

SAMPLE ID LCSS SAMPLE # 06 FRACTIONS: A

Date & Time Collected not specified Category SOIL

NO3NO2 1.97
mg N/L

TMA
Thermo Analytical Inc.
Skinner & Sherman Laboratories Inc.

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

Received: 08/25/92 Test Methodology

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.
This report is rendered upon all of the following conditions: Skinner & Sherman Laboratories, Inc. retains ownership of this report until associated submitted invoice is satisfied. Expert witness services shall be available in conjunction with this report only if prior notification of this potential requirement was made and accepted, before the analysis. Client will be responsible for Skinner & Sherman costs and consulting fees if our services are required by subpoena or otherwise in legal proceedings. Total liability is limited to the invoice amount. The results listed refer only to tested samples and applicable parameters. Product endorsement is neither inferred nor implied. Skinner & Sherman Laboratories, Inc. will exercise due diligence but will not be responsible for lost or destroyed samples or evidence unless client makes appropriate insurance coverage arrangements. Samples are held for [illegible] days following issuance of report. Samples will be stored at client's expense, if authorized in writing.
Skinner & Sherman Laboratories Inc. [illegible] Second Avenue, P.O. Box 521, Waltham, Massachusetts 02254-0521 (617) 890-7200
[illegible] (617) 890-[illegible]

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

WORKORDER S208282 CLIENT HANFORD NOR No. SAMPLES:

PROTCL CLP **TURNARND** 33 Day 5 (Soil) (Water) (Specify Other)

COOLER TEMP: 4 oC, or NA

CUSTODIAN B. Pardex SDG/BATCH N/A

CUSTODY SEAL: PRESENT/ABSENT/INTACT/NOT CLIENT CASE N208148

SHIPER & # Fed Ex 2521032500 PO/CONTRACT# ↓

TAGS: PRESENT/ABSENT/NA/SEE COC CONTACT D. 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 8-25-92

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

N/A

	CLIENT ID	MATRIX	RECEIVED	PH*	TEST(S) & QC	HOLD TIME UP
1	B075G8	Soil	8-25-92	N/A	NO3 NO2	
2	B075G9	↓	↓	↓	↓	
3	B075M7					
4	B075M8					
5	B075M9	↓	↓	↓	D.S ↓	
6			↓	↓ 8/25/92 BP		
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						

Samples are from site known to have Rad-Contamination: YES ✓ NO

Samples have detectable amounts of Radioactive Material: YES NO ✓

SUBCONTRACT: YES/NO TO: DATE:

REVIEWED

Complete 8/25/92 BP

* EPA/CLP required Rev 1.6 PAGE:

Received: 08/26/92 10/13/92 13:44:42

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

ATTEN Dan Steurmer

CLIENT HANFORD NOR SAMPLES 2
COMPANY TMA/NORCAL
FACILITY Richmond, CA

PREPARED TMA / Skinner & Sherman Labs.
BY 300 Second Avenue
P.O. Box 521
Waltham, MA 02254
ATTEN Client Services
PHONE (617) 890-7200

CERTIFIED BY

CONTACT DP

WORK ID N2-08-161
TAKEN BY CLIENT
TRANS FED EX 2521032640
TYPE 1 SOIL
P.O. # N2-08-161
INVOICE under separate cover

SAMPLE IDENTIFICATION

01 B075H0
01 B075H0 DUPL
01 B075H0 SPIKE
02 LCSS

TEST CODES and NAMES used on this workorder

NO3NO2 Nitrate Plus Nitrite

TMA Thermo Analytical Inc.

This report is rendered upon all of the following conditions: Skinner & Sherman Laboratories, Inc. retains ownership of this report until associated submitted invoice is satisfied. Expert witness services shall be available in conjunction with this report only if prior notification of this potential requirement was made and accepted, before the analysis. Client will be responsible for Skinner & Sherman costs and consulting fees if our services are required by subpoena or otherwise in legal proceedings. Total liability is limited to the invoice amount. The results listed refer only to tested samples and applicable parameters. Product endorsement is neither inferred nor implied. Skinner & Sherman Laboratories, Inc. will exercise due diligence but will not be responsible for lost or destroyed samples or evidence unless client makes appropriate insurance coverage arrangements. Samples are held for thirty days following issuance of report. Samples will be stored at client's expense, if authorized in writing.

Skinner & Sherman Laboratories Inc. 300 Second Avenue, P.O. Box 521, Waltham, Massachusetts 02254-0521 (617) 890-7200
LAB TEST FAX (617) 890-3883

Received: 08/26/92

Results by Sample

SAMPLE ID B075H0 SAMPLE # 01 FRACTIONS: A

Date & Time Collected 08/21/92 Category SOIL

NO3NO2 <2.47

mg N/kg

SAMPLE ID B075H0 DUPL SAMPLE # 01 FRACTIONS: B

Date & Time Collected 08/21/92 Category SOIL

NO3NO2 <2.43

mg N/kg

SAMPLE ID B075H0 SPIKE SAMPLE # 01 FRACTIONS: C

Date & Time Collected 08/21/92 Category SOIL

NO3NO2 22.4

mg N/kg

SAMPLE ID LCSS SAMPLE # 02 FRACTIONS: A

Date & Time Collected not specified Category SOIL

NO3NO2 1.97

mg N/L

TMA Thermo Analytical Inc.

This report is rendered upon all of the following conditions: Skinner & Sherman Laboratories, Inc. retains ownership of this report until associated submitted invoice is satisfied. Client witness services shall be available in conjunction with this report only if prior notification of this potential requirement was made and accepted, before the analysis. Client will be responsible for Skinner & Sherman costs and consulting fees if our services are required by subpoena or otherwise in legal proceedings. Total liability is limited to the invoice amount. The results listed refer only to tested samples and applicable parameters. Product endorsement is neither inferred nor implied. Skinner & Sherman Laboratories, Inc. will exercise due diligence but will not be responsible for lost or destroyed samples or evidence unless client makes appropriate insurance coverage arrangements. Samples are held for thirty days following issuance of report. Samples will be stored at client's expense, if authorized in writing.

Skinner & Sherman Laboratories Inc. 10 Second Avenue, P.O. Box 521, Waltham, Massachusetts 02254-0521 (617) 890-7200
800-412-8 TEST FAX (617) 890-3883

Received: 08/26/92 Test Methodology

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.
This report is rendered upon all of the following conditions: Skinner & Sherman Laboratories, Inc. retains ownership of this report until associated submitted invoice is satisfied. Expert witness services shall be available in conjunction with this report only if prior notification of this potential requirement was made and accepted, before the analysis. Client will be responsible for Skinner & Sherman costs and consulting fees if our services are required by subpoena or otherwise in legal proceedings. Total liability is limited to the invoice amount. The results listed refer only to tested samples and applicable parameters. Product endorsement is neither inferred nor implied. Skinner & Sherman Laboratories, Inc. will exercise due diligence but will not be responsible for lost or destroyed samples or evidence unless client makes appropriate insurance coverage arrangements. Samples are held for thirty days following issuance of report. Samples will be stored at client's expense, if authorized in writing.
Skinner & Sherman Laboratories Inc. [illegible] Second Avenue, P.O. Box [illegible] Waltham, Massachusetts 02254-[illegible] (617) 890-7200
[illegible] LAB TEST [illegible]

59

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

WORKORDER 5208299 CLIENT Hanford NOR No. SAMPLES:

PROTCL CLP **TURNARND** 33 Days 1 (Soil) (Water) (Specify Other)

COOLER TEMP: 4 oC, or NA

CUSTODIAN B. Pounds SDG/BATCH N/A

CUSTODY SEAL: PRESENT/ABSENT/INTACT/NOT CLIENT CASE N208161

SHIPER & # Fed Ex 2521032640 PO/CONTRACT# N

TAGS: PRESENT/ABSENT/NA/SEE COC CONTACT D. 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 8-26-92

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

N/A

	CLIENT ID	MATRIX	RECEIVED	PH*	TEST(S) & QC	HOLD TIME UP
1	B075H0	Soil	8-26-92	N/A	D.S NO_3 NO_2	due 9.14.92
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						

Samples are from site known to have Rad-Contamination: YES ✓ NO

Samples have detectable amounts of Radioactive Material: YES NO ✓

SUBCONTRACT: YES/NO TO: DATE:

REVIEWED

Complete 8/26/92 BP

* EPA/CLP required Rev 1.6 PAGE:

51

TMA/NORCAL CofC 002872

Westinghouse Hanford Company	CHAIN OF CUSTODY	S&S

Custody Form Initiator W.V. SETZER

Company Contact WV SETZER

Telephone 376-2413

Project Designation/Sampling Locations 100-FR-3

Collection Date 8-20-92

Ice Chest No.

Field Logbook No. EFL-1041

Bill of Lading/Airbill No.

Offsite Property No.

Method of Shipment OVERNIGHT AIR SERVICE

Shipped to TMA/NORCAL

Possible Sample Hazards/Remarks None detected with field instruments. Maintain at 4C.

Sample Identification

1) B075G7 ~~1,250ml aG:CLP;ICP/AA Metals,Hg,Cn~~
~~1,120ml aG:CLP;VOA~~
~~1,950ml aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,NO3)~~ JED 8-20-92
~~1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241~~

OMIT THIS ONE

2) B075G8 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
~~1,120ml aG:CLP;VOA~~
~~1,950ml aG:CLP;Semi-VOA,PCB/PEST~~,Anions (~~F,SO4~~,NO3)
~~1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241~~

3) B075G9 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
~~1,120ml aG:CLP;VOA~~
~~1,950ml aG:CLP;Semi-VOA,PCB/PEST~~,Anions (~~F,SO4~~,NO3)
~~1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241~~

[] Field Transfer of Custody

Chain of Possession (Sign and Print Names)

Relinquished by:	Received by:	Date/Time:
W.V. Setzer	J.E. Darling J.E. Darling	8-20-92 1700
J.E. Darling	Kermit Blum	8-24-92 0800 *
Kermit Blum 8-24-92	[signature]	8/25/92 9:30

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:

* Received @ TMA/NORCAL 8-22-92; opened 8-24-92 - KB

A-6000-407 (12/90) (EF) WEF061
Chain of Custody

50

TMA/NORCAL CofC 002872

Westinghouse Hanford Company	SAMPLE ANALYSIS REQUEST

Collector J.E.Darling Date August 20, 1992

Company Contact WV SETZER Telephone (509)376 2413

Sample Number	*	Date Collected	Time Collected	Number and Type of Containers/Analysis Required	
B075G8		8-20-92	N/A	✓ 1-250ml aG CLP;ICP/AA Metals,Hg,Cn ✓ ~~1-120ml aG CLP;VOA~~ ✓ ~~1-950ml aG CLP;Semi-VOA,PCB/PEST~~ ~~300.0~~/353.2;Anions(~~F,SO4~~,NO3) ✓ ~~1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14~~ ~~U-235/238,Pu-239/240,Am-241~~	SMA
B075G9		8-20-92	N/A	✓ 1-250ml aG CLP;ICP/AA Metals,Hg,Cn ✓ ~~1-120ml aG CLP;VOA~~ ✓ ~~1-950ml aG CLP;Semi-VOA,PCB/PEST~~ ~~300.0~~/353.2;Anions(~~F,SO4~~,NO3) ✓ ~~1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14~~ ~~U-235/238,Pu-239/240,Am-241~~	SMA
			JEN 8-20-92	1-250ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241	
			JEN 8-20-92	1-120ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241	
			JEN 8-20-92		

*Type of Sample

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

Field Information FROM 100-FR-3 Drilling

Special Handling and/or Storage Maintain at 4C

Possible Sample Hazards NA

A-6000-406 (06/91) WEF060

5

TMA/NORCAL CofC 002871

Westinghouse Hanford Company	CHAIN OF CUSTODY	S&S

Custody Form Initiator W.V. SETZER

Company Contact WV SETZER

Telephone 376-2413

Project Designation/Sampling Locations 100-FR-3

Collection Date 8-20-92

Ice Chest No.

Field Logbook No. EFL-1040

Bill of Lading/Airbill No.

Offsite Property No.

Method of Shipment OVERNIGHT AIR SERVICE

Shipped to TMA/NORCAL

Possible Sample Hazards/Remarks None detected with field instruments. Maintain at 4C.

Sample Identification

1) B075M7 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
~~1,120ml aG:CLP;VOA~~
~~1,950ml aG:CLP;Semi-VOA,PCB/PEST~~,Anions (~~F,SO4~~,NO3)
~~1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241~~

*2) B075M8 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
~~1,120ml aG:CLP;VOA~~
~~1,950ml aG:CLP;Semi-VOA,PCB/PEST~~,Anions (~~F,SO4~~,NO3)
~~1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241~~

3) B075M9 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
~~1,120ml aG:CLP;VOA~~
~~1,950ml aG:CLP;Semi-VOA,PCB/PEST~~,Anions (~~F,SO4~~,NO3)
~~1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241~~

[] Field Transfer of Custody — Chain of Possession — (Sign and Print Names)

Relinquished by:	Received by:	Date/Time:
W.V. Setzer	J.E. Darling J.E. Darling	8-20-92 1700
Relinquished by: J.E. Darling	Received by: Kermit Blum	Date/Time: 8-24-92 0800 *
Relinquished by: 8-24-92 Kermit Blum	Received by:	Date/Time: 8/25/92 9:30
Relinquished by:	Received by:	Date/Time:

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:

* Received @ TMA/NORCAL 8-22-92 ; opened 8-24-92 . KB

A-6000-407 (12/90) (EF) WEF061
Chain of Custody

54

TMA/NORCAL CofC 002871

Westinghouse Hanford Company	SAMPLE ANALYSIS REQUEST

Collector J.E.Darling Date 08-20-92

Company Contact WV SETZER Telephone (509)376 2413

Sample Number	*	Date Collected	Time Collected	Number and Type of Sample Containers/Analysis Required	
B075M7		8-20-92	N/A	✓ 1-250ml aG CLP;ICP/AA Metals,Hg,Cn ✓ ~~1-120ml aG CLP;VOA~~ ✓ ~~1-950ml aG CLP;Semi-VOA,PCB/PEST~~ ~~300.0~~/353.2;Anions(~~F,SO4~~,NO3) ✓ ~~1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14~~ ~~U-235/238,Pu-239/240,Am-241~~	SAA
B075M8		8-20-92	N/A	✓ 1-250ml aG CLP;ICP/AA Metals,Hg,Cn ✓ ~~1-120ml aG CLP;VOA~~ ✓ ~~1-950ml aG CLP;Semi-VOA,PCB/PEST~~ ~~300.0~~/353.2;Anions(~~F,SO4~~,NO3) ~~1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14~~ ~~U-235/238,Pu-239/240,Am-241~~	SAA *
B075M9		8-20-92	N/A	✓ 1-250ml aG CLP;ICP/AA Metals,Hg,Cn ✓ ~~1-120ml aG CLP;VOA~~ ✓ ~~1-950ml aG CLP;Semi-VOA,PCB/PEST~~ ~~300.0~~/353.2;Anions(~~F,SO4~~,NO3) ✓ ~~1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14~~ ~~U-235/238,Pu-239/240,Am-241~~	SAA
			AEN 8-20-92	1-120ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G ~~Gross~~ alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,~~Pu-239~~/240,Am-241	

*Type of Sample

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

Field Information FROM 100-FR-3 Drilling

Special Handling and/or Storage Maintain at 4C

Possible Sample Hazards NA

A-6000-406 (06/91) WEF060

5

CofC 002866

Westinghouse Hanford Company	CHAIN OF CUSTODY	S&S

Custody Form Initiator: D L Leist

Company Contact: WV SETZER — Telephone: 376-2413

Project Designation/Sampling Locations: 100-FR-3 — Collection Date: 8-21-92

Ice Chest No.: 1666 — Field Logbook No.: EFL-1041

Bill of Lading/Airbill No.: 250 987 0077 — Offsite Property No.:

Method of Shipment: OVERNIGHT AIR SERVICE

Shipped to: ~~WESTON~~ TMA/NORCAL

Possible Sample Hazards/Remarks: None detected with field instruments. Maintain at 4C.

Sample Identification

1) BOTSHO 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
~~1,120ml aG:CLP;VOA~~
~~1,950ml aG:CLP;Semi-VOA,PCB/PEST~~,Anions ~~(F,SO4~~,NO3)
~~1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241~~

2) 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
1,120ml aG:CLP;VOA
1,950ml aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,NO3)
1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

3) 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
1,120ml aG:CLP;VOA
1,950ml aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,NO3)
1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

[] Field Transfer of Custody — Chain of Possession — (Sign and Print Names)

Relinquished by:	Received by:	Date/Time:
Diane L. Leist	J.E. Darling J.E. Darling	8-21-92 / 1023
J.E. Darling J.E. Darling	Kermit Blum	8-25-92 1145
Kermit Blum 8-25-92	[illegible]	8/26/92 9:30

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:

A-6000-407 (12/90) (EF) WEF061
Chain of Custody

C of C 002866 & 002867

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

Collector J.E.Darling

Date 08-21-92

Company Contact WV SETZER

Telephone (509)376-2413

Sample Number	*	Date Collected	Time Collected	Number and Type of Sample Containers/Analysis Required
B075H0		08-21-92	N/A	1-250ml aG CLP;ICP/AA Metals,Hg,Cn ~~1-120ml aG CLP;VOA~~ ~~1-950ml aG CLP;Semi-VOA,PCB/PEST~~ ~~300.0/~~353.2;Anions(~~F,SO4~~,NO3) ~~1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14~~ ~~U-235/238,Pu-239/240,Am-241~~
~~B075N0~~		~~08-20-92~~	~~N/A~~	~~1-250ml aG CLP;ICP/AA Metals,Hg,Cn~~ JED ~~1-120ml aG CLP;VOA~~ ~~1-950ml aG CLP;Semi-VOA,PCB/PEST~~ JED ~~300.0/353.2;Anions(F,SO4,NO3)~~ JED ~~1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14~~ JED ~~U-235/238,Pu-239/240,Am-241~~ JED
				1-250ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
				1-120ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241

*Type of Sample

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

Field Information FROM 100-FR-3 Drilling

Special Handling and/or Storage Maintain at 4C

Possible Sample Hazards NA

RECORD COPY

WESTINGHOUSE HANFORD COMPANY

NOV 1992
RECEIVED
OSM DMO

Results of Analyses For:

ORGANICS & GENERAL CHEMISTRY
Case No. 08-050
(TMA/ARLI Work Order # A2-08-050)

METALS
Case No. N2-08-148
(TMA/Skinner & Sherman W.O. # S2-08-281 & S2-08-282)

November 9, 1992

TMA Master Work Order N2-08-148

i 4/30/96 M.H.

TMA
Thermo Analytical Inc.

Skinner & Sherman Labs., Inc.
300 Second Avenue
Post Office Box 521
Waltham, MA 02254-0521
(617) 890-7200
FAX (617) 890-3883

NOV 1992
RECEIVED
Data
Log In

October 28, 1992

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

Quality Control Narrative

Scope
Five (5) soil samples were submitted to TMA/Skinner & Sherman Laboratories, Inc. on August 25, 1992 from TMA/Norcal. The samples were analyzed for the USEPA CLP Target Analyte List metals and cyanide. The analysis were performed under TMA/Skinner and Sherman work order S208281.

Methodology
The samples were prepared, analyzed and reported in accordance with the USEPA Contract Laboratory Program Statement of Work ILM02.

Discussion
All quality control requirements were met for the samples with no exceptions.

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

ii 4/30/96 M.H.

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER:

B07S6S

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0109

Lab Code: SKINER Case No.: N2-08-148SAS No.: SDG No.: B07S6S

Matrix (soil/water): SOIL Lab Sample ID: 08281-015

Level (low/med): LOW Date Received: 08/25/92

% Solids: 95.8

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4730			P
7440-36-0	Antimony	3.5	U		P
7440-38-2	Arsenic	1.4	B		F
7440-39-3	Barium	45.6			P
7440-41-7	Beryllium	0.05	U		P
7440-43-9	Cadmium	0.21	U		P
7440-70-2	Calcium	4950			P
7440-47-3	Chromium	10.3			P
7440-48-4	Cobalt	7.7	B		P
7440-50-8	Copper	13.6			P
7439-89-6	Iron	14300			P
7439-92-1	Lead	2.4			F
7439-95-4	Magnesium	3510			P
7439-96-5	Manganese	216			P
7439-97-6	Mercury	0.05	U		CV
7440-02-0	Nickel	2.0	B		P
7440-09-7	Potassium	771	B		P
7782-49-2	Selenium	0.61	B	W	F
7440-22-4	Silver	0.80	B		P
7440-23-5	Sodium	351	B		P
7440-28-0	Thallium	0.75	U		F
7440-62-2	Vanadium	41.2			P
7440-66-6	Zinc	32.0			P
	Cyanide	0.52	U		CA

Color Before: GREY Clarity Before: Texture: MEDIUM

Color After: GREY Clarity After: Artifacts: YES

Comments:
STONES

C1 002

WESTINGHOUSE/HANFORD
1

SAMPLE NUMBER:

B07569

INORGANIC ANALYSIS DATA SHEET

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0105

Lab Code: SKINER Case No.: N2-08-1[illegible] SAS No.: SDG No.: B07569

Matrix (soil/water): SOIL Lab Sample ID: 08281-02[illegible]

Level (low/med): LOW Date Received: 08/25/[illegible]

% Solids: 96.8

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4530			P
7440-36-0	Antimony	3.3	U		P
7440-38-2	Arsenic	1.6	B		F
7440-39-3	Barium	39.3			P
7440-41-7	Beryllium	0.08	U		P
7440-43-9	Cadmium	0.19	U		P
7440-70-2	Calcium	4180			P
7440-47-3	Chromium	8.8			P
7440-48-4	Cobalt	7.0	B		P
7440-50-8	Copper	20.7			P
7439-89-6	Iron	13800			P
7439-92-1	Lead	3.0			F
7439-95-4	Magnesium	3710			P
7439-96-5	Manganese	215			P
7439-97-6	Mercury	0.05	U		CV
7440-02-0	Nickel	8.9			P
7440-09-7	Potassium	622	B		P
7782-49-2	Selenium	0.63	B		F
7440-22-4	Silver	0.97	B		P
7440-23-5	Sodium	218	B		P
7440-28-0	Thallium	0.77	U		F
7440-62-2	Vanadium	32.5			P
7440-66-6	Zinc	35.5			P
	Cyanide	0.52	U		CA

Color Before: GREY Clarity Before: Texture: MEDIUM

Color After: GREY Clarity After: Artifacts: YES

Comments:
STONES

003

WESTINGHOUSE/HANFORD

1

SAMPLE NUMBER:

INORGANIC ANALYSIS DATA SHEET

6075M7

Lab Name: SKINNER & SHERMAN LABS. Contract: 62-D0-0108

Lab Code: SKINER Case No.: N2-08-1489AS No.. SDG No.: 607563

Matrix (soil/water): SOIL Lab Sample ID: 08281-035

Level (low/med): LOW Date Received: 08/25/91

% Solids: 97.7

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4590			P
7440-36-0	Antimony	3.2	U		P
7440-38-2	Arsenic	1.3	B		F
7440-39-3	Barium	45.2			P
7440-41-7	Beryllium	0.08	U		F
7440-43-9	Cadmium	0.19	U		P
7440-70-2	Calcium	4873			P
7440-47-3	Chromium	10.0			P
7440-48-4	Cobalt	7.1	B		P
7440-50-8	Copper	13.4			P
7439-89-6	Iron	13400			P
7439-92-1	Lead	1.5			F
7439-95-4	Magnesium	3420			P
7439-96-5	Manganese	222			P
7439-97-6	Mercury	0.05	U		CV
7440-02-0	Nickel	7.6	B		P
7440-09-7	Potassium	739	B		P
7782-49-2	Selenium	0.61	B	W	F
7440-22-4	Silver	0.69	B		P
7440-23-5	Sodium	311	B		P
7440-28-0	Thallium	0.77	U		F
7440-62-2	Vanadium	37.9			P
7440-66-6	Zinc	30.3			P
	Cyanide	0.51	U		CA

Color Before: GREY Clarity Before: Texture: MEDIUM

Color After: GREY Clarity After: Artifacts: YES

Comments:
STONES

004

WESTINGHOUSE/HANFORD
1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER:

8075MX

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

Lab Code: SKINER Case No.: N2-08-1428SAS No.: SDG No.: 807556

Matrix (soil/water): SOIL Lab Sample ID: 08281-049

Level (low/med): LOW Date Received: 08/25/92

% Solids: 96.1

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4120			P
7440-36-0	Antimony	3.1	U		P
7440-38-2	Arsenic	1.3	B		F
7440-39-3	Barium	11.2			P
7440-41-7	Beryllium	0.07	U		P
7440-43-9	Cadmium	0.13	U		F
7440-70-2	Calcium	4040			P
7440-47-3	Chromium	7.0			P
7440-48-4	Cobalt	6.2	B		P
7440-50-8	Copper	12.9			P
7439-89-6	Iron	12700			P
7439-92-1	Lead	2.7		W	F
7439-95-4	Magnesium	3140			P
7439-96-5	Manganese	200			P
7439-97-6	Mercury	0.05	U		CV
7440-02-0	Nickel	5.2	B		P
7440-09-7	Potassium	595	B		P
7782-49-2	Selenium	0.59	U		F
7440-22-4	Silver	0.55	B		P
7440-23-5	Sodium	283	B		P
7440-28-0	Thallium	0.78	U		F
7440-62-2	Vanadium	33.1			P
7440-66-6	Zinc	28.2			P
	Cyanide	0.51	U		CA

Color Before: GREY Clarity Before: Texture: MEDIUM

Color After: GREY Clarity After: Artifacts: YES

Comments:
STONES

005

WESTINGHOUSE/HANFORD
1

SAMPLE NUMBER:

INORGANIC ANALYSIS DATA SHEET

B075M9

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0109

Lab Code: SKINER Case No.: N2-08-148SAS No.: SDG No.: B07508

Matrix (soil/water): SOIL Lab Sample ID: 08281-059

Level (low/med): LOW Date Received: 08/25/92

% Solids: 88.4

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	3680			P
7440-36-0	Antimony	3.5	U		P
7440-38-2	Arsenic	1.3	B		F
7440-39-3	Barium	42.0			P
7440-41-7	Beryllium	0.03	U		P
7440-43-9	Cadmium	0.21	U		P
7440-70-2	Calcium	3060			P
7440-47-3	Chromium	5.8			P
7440-48-4	Cobalt	6.0	B		P
7440-50-8	Copper	13.4			P
7439-89-6	Iron	11600			P
7439-92-1	Lead	2.4			F
7439-95-4	Magnesium	2870			P
7439-96-5	Manganese	170			P
7439-97-6	Mercury	0.06	U		CV
7440-02-0	Nickel	6.3	B		P
7440-09-7	Potassium	533	B		P
7782-49-2	Selenium	0.60	B	W	F
7440-22-4	Silver	0.52	U		P
7440-23-5	Sodium	191	B		P
7440-28-0	Thallium	0.77	U		F
7440-62-2	Vanadium	27.3			P
7440-66-6	Zinc	27.2			P
	Cyanide	0.53	U		CA

Color Before: GREY Clarity Before: Texture: COARSE

Color After: GREY Clarity After: Artifacts: YES

Comments:
STONES

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

WORKORDER S208281 CLIENT HANFORD NOR No. SAMPLES:

PROTCL CLP **TURNARND** 33 Days 5 (Soil) (Water) (Specify Other)

COOLER TEMP: 4 oC, or NA

CUSTODIAN B. Pronex SDG/BATCH N/A

CUSTODY SEAL: PRESENT/ABSENT/INTACT/NOT CLIENT CASE N208148

SHIPER & # FedEx 2521032500 PO/CONTRACT# ↓

TAGS: PRESENT/ABSENT/NA/SEE COC CONTACT D. 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 8-25-92

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

N/A

	CLIENT ID	MATRIX	RECEIVED	PH*	TEST(S) & QC	HOLD TIME UP
1	B075G8	Soil	8-25-92	N/A	TM/CN	CN Due
2	B075G9	↓	↓	↓	↓	9/1/92
3	B075M7	↓	↓	↓	↓	
4	B075M8	↓	↓	↓	↓	Hg Due
5	B075M9	↓	↓	↓	D.S ↓	9/9/92
6						
7						
8						
9						
10						
11						
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14						
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17						
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22						
23						
24						
25						
26						
27						

Samples are from site known to have Rad-Contamination: YES ✓ NO

Samples have detectable amounts of Radioactive Material: YES NO ✓

SUBCONTRACT: YES/NO TO: DATE:

REVIEWED

Comp Ck 8/25/92

181

* EPA/CLP required Rev 1.6 PAGE:

TMA/NORCAL CofC 002872

Westinghouse Hanford Company

CHAIN OF CUSTODY

S&S

Custody Form Initiator W.V. SETZER

Company Contact WV SETZER

Telephone 376-2413

Project Designation/Sampling Locations 100-FR-3

Collection Date 8-20-92

Ice Chest No.

Field Logbook No. EFL-1041

Bill of Lading/Airbill No.

Offsite Property No.

Method of Shipment OVERNIGHT AIR SERVICE

Shipped to TMA/NORCAL

Possible Sample Hazards/Remarks None detected with field instruments. Maintain al 4C.

Sample Identification

1) B075G7 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
~~1,120ml aG:CLP;VOA~~
~~1,950ml aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,NO3)~~ 8-20-92
1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,~~Am-241~~

2) B075G8 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
~~1,120ml aG:CLP;VOA~~
~~1,950ml aG:CLP;Semi-VOA,PCB/PEST~~,Anions (~~F,SO4~~,NO3)
~~1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241~~

3) B075G9 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
~~1,120ml aG:CLP;VOA~~
~~1,950ml aG:CLP;Semi-VOA,PCB/PEST~~,Anions (~~F,SO4~~,NO3)
~~1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241~~

[] Field Transfer of Custody	Chain of Possession	(Sign and Print Names)
Relinquished by: W.V. Setzer	Received by: J.E. Darling J.E. DARLING	Date/Time: 8-20-92 1700
Relinquished by: J.E. Darling	Received by: Kermit Blum	Date/Time: 8-24-92 0800 *
Relinquished by: Kermit Blum 8-24-92	Received by: [illegible]	Date/Time: 8/25/92 9:30
Relinquished by:	Received by:	Date/Time:

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:

* Received @ TMA/NORCAL 8-22-92 ; opened 8-24-92 - KB

A-6000-407 (12/90) (EF) WEF061
Chain of Custody

TMA/NORCAL CofC 002872

Westinghouse Hanford Company	SAMPLE ANALYSIS REQUEST

Collector J.E.Darling Date August 20, 1992

Company Contact WV SETZER Telephone (509)376-2413

Sample Number	*	Date Collected	Time Collected	Number and Type of Sample Containers/Analysis Required	
B075G8		8-20-92	N/A	1-250ml aG CLP;ICP/AA Metals,Hg,Cn ~~1-120ml aG CLP;VOA~~ ~~1-950ml aG CLP;Semi-VOA,PCB/PEST~~ ~~300.0~~/353.2;Anions(~~F,SO4~~,NO3) ~~1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14~~ ~~U-235/238,Pu-239/240,Am-241~~	S A A
B075G9		8-20-92	N/A	1-250ml aG CLP;ICP/AA Metals,Hg,Cn ~~1-120ml aG CLP;VOA~~ ~~1-950ml aG CLP;Semi-VOA,PCB/PEST~~ ~~300.0~~/353.2;Anions(~~F,SO4~~,NO3) ~~1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14~~ ~~U-235/238,Pu-239/240,Am-241~~	S A A
			JED 8-20-92	1-250ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241	
			JED 8-20-92	1-120ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241	
			JED 8-20-92		

*Type of Sample

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

Field Information FROM 100-FR-3 Drilling

Special Handling and/or Storage Maintain at 4C

Possible Sample Hazards NA

183

A-6000-406 (06/91) WEF060

TMA/NORCAL Col.C. 00287

Westinghouse Hanford Company

CHAIN OF CUSTODY

S&S

Custody Form Initiator: W.V. SETZER

Company Contact: WV SETZER

Telephone: 376-2413

Project Designation/Sampling Locations: 100-FR-3

Collection Date: 8.20.92

Ice Chest No.:

Field Logbook No.: EFL-1040

Bill of Lading/Airbill No.:

Offsite Property No.:

Method of Shipment: OVERNIGHT AIR SERVICE

Shipped to: TMA/NORCAL

Possible Sample Hazards/Remarks: None detected with field instruments. Maintain at 4C.

Sample Identification

1) B075M7 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
~~1,120ml aG:CLP;VOA~~
~~1,950ml aG:CLP;Semi-VOA,PCB/PEST~~,Anions (~~F,SO4~~,NO3)
~~1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241~~

*2) B075M8 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
~~1,120ml aG:CLP;VOA~~
~~1,950ml aG:CLP;Semi-VOA,PCB/PEST~~,Anions (~~F,SO4~~,NO3)
~~1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241~~ DSB 8.20

3) B075M9 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
~~1,120ml aG:CLP;VOA~~
~~1,950ml aG:CLP;Semi-VOA,PCB/PEST~~,Anions (~~F,SO4~~,NO3)
~~1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241~~

[] Field Transfer of Custody — Chain of Possession — (Sign and Print Names)

Relinquished by:	Received by:	Date/Time:
W.V. Setzer	J.E. Darling J.E. DARLING	8-20-92 1700
Relinquished by:	Received by:	Date/Time: *
J.E. Darling	Kermit Blum	8-24-92 0800
Relinquished by: 8-24-92 Kermit Blum	Received by:	Date/Time: 8/25/92 9:30
Relinquished by:	Received by:	Date/Time:

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:

* Received @ TMA/NORCAL 8-22-92 ; opened 8-24-92 . KB

A-6000-407 (12/90) (EF) WEF061
Chain of Custody

TMA/NORCAL CoFC 002870

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

Collector J.E.Darling Date 08-20-92

Company Contact WV SETZER Telephone (509)376-2413

Sample Number	*	Date Collected	Time Collected	Number and Type of Sample Containers/Analysis Required	
B075M7		8-20-92	N/A	1-250ml aG CLP;ICP/AA Metals,Hg,Cn ~~1-120ml aG CLP;VOA~~ ~~1-950ml aG CLP;Semi-VOA,PCB/PEST~~ ~~300.0~~/353.2;Anions(~~F,SO4~~,NO3) ~~1-1000ml C Gross alpha/beta,Gamma Spec,Sr-90,C-14~~ ~~U-235/238,Pu-239/240,Am-241~~	S A A
B075M8		8-20-92	N/A	1-250ml aG CLP;ICP/AA Metals,Hg,Cn ~~1-120ml aG CLP;VOA~~ ~~1-950ml aG CLP;Semi-VOA,PCB/PEST~~ ~~300.0~~/353.2;Anions(~~F,SO4~~,NO3) ~~1-1000ml C Gross alpha/beta,Gamma Spec,Sr-90,C-14~~ ~~U-235/238,Pu-239/240,Am-241~~	S A A *
B075M9		8-20-92	N/A	1-250ml aG CLP;ICP/AA Metals,Hg,Cn ~~1-120ml aG CLP;VOA~~ ~~1-950ml aG CLP;Semi-VOA,PCB/PEST~~ ~~300.0~~/353.2;Anions(~~F,SO4~~,NO3) ~~1-1000ml C Gross alpha/beta,Gamma Spec,Sr-90,C-14~~ ~~U-235/238,Pu-239/240,Am-241~~	S A A
			JED 8-20-92	1-120ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml C Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241	

*Type of Sample

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

Field Information FROM 100-FR-3 Drilling

Special Handling and/or Storage Maintain at 4C

Possible Sample Hazards NA

185

A-6000 406 (06/91) WEF060

TMA
Thermo Analytical Inc.

Skinner & Sherman Laboratories Inc.
300 Second Avenue
Post Office Box 521
Waltham, MA 02254-0521
(617) 890-7200

RECORD COPY

NOV 1992
RECEIVED
OSM DMO

November 7, 1992

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

Quality Control Narrative

Scope
One (1) soil sample was submitted to TMA/Skinner & Sherman Laboratories, Inc. on August 26, 1992 from TMA/Norcal. The samples were analyzed for the USEPA CLP Target Analyte List metals and cyanide. The analysis were performed under TMA/Skinner and Sherman work order S208298.

Methodology
The samples were prepared, analyzed and reported in accordance with the USEPA Contract Laboratory Program Statement of Work ILM02.

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

The antimony digestion spike recovery exceeded the control limit requirements.

The ICP serial dilution for zinc 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 4/30/96 M.H.

SAMPLE NUMBER:

B075H0

INORGANIC ANALYSIS DATA SHEET

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

b Code: SKINER Case No.: N2-08-161SAS No.: SDG No.: B075H0

trix (soil/water): SOIL Lab Sample ID: 08298-01S

vel (low/med): LOW Date Received: 08/26/92

Solids: 80.6

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4190			P
7440-36-0	Antimony	3.9	U	N	P
7440-38-2	Arsenic	2.1	B	S	F
7440-39-3	Barium	40.7	B		P
7440-41-7	Beryllium	0.09	U		P
7440-43-9	Cadmium	0.23	U		P
7440-70-2	Calcium	4470			P
7440-47-3	Chromium	7.3			P
7440-48-4	Cobalt	6.0	B		P
7440-50-8	Copper	18.1			P
7439-89-6	Iron	11200			P
7439-92-1	Lead	2.7			F
7439-95-4	Magnesium	3230			P
7439-96-5	Manganese	172			P
7439-97-6	Mercury	0.06	U		CV
7440-02-0	Nickel	6.5	B		P
7440-09-7	Potassium	538	B		P
7782-49-2	Selenium	0.86	B	W	F
7440-22-4	Silver	0.92	B		P
7440-23-5	Sodium	168	B		P
7440-28-0	Thallium	0.39	U		F
7440-62-2	Vanadium	28.7			P
7440-66-6	Zinc	27.7		E	P
	Cyanide	0.61	U		CA

lor Before: GREY Clarity Before: COARSE Texture:

lor After: GREY Clarity After: COARSE Artifacts: YES

mments:
STONES

SAMPLE LOG-IN

TMA/SKI (TMA) HANFORD NOR No. SAMPLES:

WORKORD

PROTOCL

COOLER: TEMP: TURNAROUND 33 Days

ID

1 (Soil) (Water) (Specify Other)

SDG/BATCH N/A

CUSTODI

CUSTODY SEAL: PRESENT/ABSENT/INTACT/NOT

CLIENT CASE N208161

SHIPER * FED EX 952103264 0

PO/CONTRACT# U

TAGS: PRESENT/ABSENT/NA/SEE COC

CONTACT D. SANCHEZ

CHAIN OF CUSTODY: PRESENT/ABSENT/NA, # U/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 8-26-92

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

N/A

	CLIENT ID	MATRIX	RECEIVED	PH*	TEST(S) & QC	HOLD TIME UP
1	B07 5H0	Soil	8-26-92	N/A ~~Note~~ 8/26/92	DS TM/CN	
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						

Samples are from site known to have Rad-Contamination: YES ✓ NO

Samples have detectable amounts of Radioactive Material: YES NO ✓

SUBCONTRACT: YES/NO TO: DATE:

REVIEWED

Complete 8/26/92 BP

* EPA/CLP required Rev 1.6 PAGE:

CofC 002866

Westinghouse Hanford Company	CHAIN OF CUSTODY	S&S

Custody Form Initiator: D L Leist

Company Contact: WV SETZER — Telephone: 376-2413

Project Designation/Sampling Locations: 100-FR-3 — Collection Date: 8-21-92

Ice Chest No.: 1666 — Field Logbook No.: EFL-1041

Bill of Lading/Airbill No.: 250 987 0077 — Offsite Property No.:

Method of Shipment: OVERNIGHT AIR SERVICE

Shipped to: ~~WESTON~~ TMA/NORCAL lab

Possible Sample Hazards/Remarks: None detected with field instruments. Maintain at 4C.

Sample Identification

1) B07SH0 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
~~1,120ml aG:CLP;VOA~~
~~1,950ml aG:CLP;Semi-VOA,PCB/PEST~~,Anions ~~(F,SO4~~,NO3)
~~1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241~~

2) 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
1,120ml aG:CLP;VOA
1,950ml aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,NO3)
1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

3) 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
1,120ml aG:CLP;VOA
1,950ml aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,NO3)
1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

[] Field Transfer of Custody — Chain of Possession — (Sign and Print Names)

Relinquished by:	Received by:	Date/Time:
Diana R. Leist	J.E. Darling J.E. Darling	8-21-92/1023
J.E. Darling J.E. Darling	Kermit Blum	8-25-92 1145
Kermit Blum 8-25-92	[illegible]	8/26/92 9:30

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:

-148

A-6000-407 (12/90) (EF) WEF061
Chain of Custody

C of C 002866 & 002867

Westinghouse Hanford Company	SAMPLE ANALYSIS REQUEST

Collector J.E.Darling Date 08-21-92

Company Contact WV SETZER Telephone (509)376-2413

Sample Number	*	Date Collected	Time Collected	Number and Type of Containers/Analysis Required
B075H0		08-21-92	N/A	1-250ml aG CLP;ICP/AA Metals,Hg,Cn ~~1-120ml aG CLP;VOA~~ ~~1-950ml aG CLP;Semi-VOA,PCB/PEST~~ ~~300.0/~~353.2;Anions(~~F,SO4~~,NO3) ~~1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14~~ ~~U-235/238,Pu-239/240,Am-241~~
~~B075N0~~		~~08-20-92~~	~~N/A~~	~~1-250ml aG CLP;ICP/AA Metals,Hg,Cn~~ JKD ~~1-120ml aG CLP;VOA~~ ~~1-950ml aG CLP;Semi-VOA,PCB/PEST~~ JKD ~~300.0/353.2;Anions(F,SO4,NO3)~~ JKD ~~1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14~~ JKD ~~U-235/238,Pu-239/240,Am-241~~ JKD
				1-250ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
				1-120ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241

*Type of Sample

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

Field Information FROM 100-FR-3 Drilling

Special Handling and/or Storage Maintain at 4C

Possible Sample Hazards NA

-143

A-6000-406 (06/91) WEF060

SDG 7078 Contact Dinkar P. Kharkar	Client Westinghouse Hanford Contract MBH-SVV-069262

CASE NARRATIVE

1.0 GENERAL

Soil sample results from 100-FR-3 location (TMA/Norcal Group 7078) are reported herein. TMA/Norcal Group 7078 is comprised of the twelve samples listed on the Chain-of-Custody documents and is identified as Samples 1 through 12.

1.1 CHAINS-OF-CUSTODY

This report includes data from samples delivered under Chain-of-Custody documents Field Logbook No. EFL-1041.

1.2 SAMPLE VOLUME

1000 mL bottles of samples were received for the analyses.

1.3 MISSING SAMPLES

All samples were accounted for in an undamaged condition.

1.4 HOLDING TIMES

Samples were collected on 8/20/92 and 9/1/92 and 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 7078-13 through 15.

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 LCS recoveries for all nuclides were good except for ^{14}C which was 62% and did not pass the 3σ total limits. The Laboratory Control Sample used for the ^{14C} analysis came from a standardized aqueous solution. This was necessitated by the unavailability of the ^{14C} paper tabs. Therefore, the LCS was not the same matrix as the samples. In the past we have had difficulty with this difference. The basis for this difference may be in the combustion characteristics or pre-evaporation before oxidation.

001B
2/4/93

SDG 7078 Contact Dinkar P. Kharkar	Client Westinghouse Hanford Contract MBH-SVV-069262

CASE NARRATIVE

2.1 LABORATORY CONTROL SAMPLES (cont'd)

The ^{14}C LCS were processed and included anyway as a general test of method viability. We are continuing to pursue other sources OF SOLID MATRIX ^{14}C and hope that the problem is only temporary. The MDA of ^{59}Fe (0.052 pCi/g) was slightly higher than the RDL (0.050 pCi/g) The MDA's for all other nuclides were good and met the RDL requirements.

2.2 BLANKS

MDA's for all the analyses meet the RDL requirements. The ^{14}C error was underlined because the counting error was bigger than both the MDA and the result implying that the MDA may not be a good estimate of the "real" minimum detectable activity.

2.3 REPLICATES

Results were satisfactory for all replicate analyses. The ^{14}C result of the replicate was underlined because the negative result plus the associated error were still less than zero. ^{241}Am MDA of the original sample was higher than the RDL due to low chemical yield.

3.0 ANALYTICAL NOTES

3.1 Gross Alpha Analyses: The average MDA for gross alpha was (7.0 ± 3.0) pCi/g. Positive gross alpha concentrations above RDL was found only in sample 7078-7. Sample 7078-12 had a residue weight of 152 mg instead of the nominal residue weight of 15-150 mg.

3.2 Gross Beta Analyses: The average MDA for gross beta was (5.7 ± 0.9) pCi/g. Positive gross beta concentrations above RDL was found in all the samples except in samples 7078-1, 4, 10, and 12. Again, sample 7078-12 had a residue weight of 152 mg instead of the nominal residue weight of 15-150 mg.

3.3 Carbon-14 Analyses: The average MDA was (4.0 ± 0.78) pCi/g. All sample results were less than MDA. No positive ^{14}C was found in any of the samples.

001C
2/4/93

SDG 7078 Contact Dinkar P. Kharkar	Client Westinghouse Hanford Contract MBH-SVV-069262

CASE NARRATIVE

3.4 Strontium-90 Analyses: The average yield for fifteen analyses was (72 ± 16%). The lowest yield was 61% and the highest was 83%. The average MDA was (0.74 ± 0.26) pCi/g. Positive ^{90}Sr concentration was not found in any of the samples. All sample results were below MDA.

3.5 Uranium-233, 234, 234, and 238 Analyses: The average yield for fifteen analyses was (65 ± 11%). The lowest yield was 51% and the highest was 74%. The average MDA was (0.15 ± 0.030) pCi/g. Concentrations of ^{234}U and ^{238}U above the RDL were found in all of the samples except in the samples 7078-5 & 10. Sample 7078-5 had ^{238}U concentration less than RDL. Sample 7078-10 had a ^{234}U concentration less than RDL.

3.6 Plutonium-238, 239/240 Analyses: The average yield for fifteen analyses was (59 ± 17%). The lowest yield was 50% and the highest was 79%. The average MDA was (0.036 ± 0.016) pCi/g. Positive plutonium concentrations above the RDL were not found in any of the samples. All sample results were below MDA.

3.7 Americium-241 Analyses: The average yield for fifteen analyses was (55 ± 34%). The lowest yield was 17% and the highest was 80%. The average MDA was (0.036 ± 0.022) pCi/g. Positive americium concentrations above the RDL were not found in any of the samples. All sample results were below the RDL. Sample 7078-1 had an MDA less than RDL due to low chemical yield.

3.8 Gamma Scan Analyses: Gamma scan analysis did not find positive concentration of gamma nuclides in any sample. The underlined MDA's of the samples were for ^{59}Fe and were higher than the RDL due to the short half-life of ^{59}Fe

OOID
2/4/93

N208150-01

TMA NORCAL
REPORTING GROUP 7078

DATA SHEET

B075G8

SDG	7078	Client	Westinghouse Hanford
Contact	Dinkar Kharkar	Contract	MBH-SVV-069262
Lab sample id	N208150-01	Client sample id	B075G8
Dept sample id	7078-001	Matrix	SOIL
Received	08/24/92	Collected	08/20/92
% moisture		Chain of custody id	EFL-1041

PARAMETER	CAS NO	RESULT pCi/G	2σ ERR (COUNT)	MDA pCi/G	RDL pCi/G	QUALI-FIERS	TEST
Gross Alpha	Alpha	6.1	6.5	8.6	10	U	80A
Gross Beta	Beta	14	4.7	6.5	15	J	80B
Uranium 233/234		0.34	0.17	0.13	0.30		U
Uranium 235	15117-96-1	0	0.040	0.15	0.30	U	U
Uranium 238	7440-61-1	0.39	0.17	0.13	0.30		U
Plutonium 238	13981-16-3	0.004	0.014	0.027	0.050	U	PU
Plutonium 239/240		0	0.004	0.014	0.050	U	PU
Americium 241	14596-10-2	0.013	0.039	0.061	0.050	U	AM
Strontium 90	10098-97-2	0.086	0.25	0.85	1.0	U	Y
Carbon 14	14762-75-5	0.65	4.2	3.7	50	U	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	9.7	1.7				GAM
Iron 59		U		0.48	0.050	U	GAM
Chromium 51	14392-02-0	U		1.8		U	GAM
Cobalt 60	10198-40-0	U		0.13	0.050	U	GAM
Zinc 65	17982-39-3	U		0.24		U	GAM
Ruthenium 106	13967-48-1	U		0.85		U	GAM
Cesium 134	17967-70-9	U		0.093		U	GAM
Cesium 137	10045-97-3	U		0.079	0.050	U	GAM
Europium 152	14683-23-9	U		0.18	0.10	U	GAM
Europium 154	15585-10-1	U		0.11	0.10	U	GAM
Radium 226	13982-67-7	0.37	0.16				GAM
Thorium 228	14274-82-9	0.37	0.13				GAM
Thorium 232	7440-29-1	U		0.54		U	GAM

Lab id	TMAN
Protocol	WHC-HEIS
Version	Ver 1.0
Form	DVD-DS
Version	2.20
Report date	01/05/93

N208150-02

TMA NORCAL
REPORTING GROUP 7078

DATA SHEET

B075G9

SDG 7078
Contact Dinkar Kharkar

Client Westinghouse Hanford
Contract MBH-SVV-069262

Lab sample id N208150-02
Dept sample id 7078-002
Received 08/24/92
% moisture

Client sample id B075G9
Matrix SOIL
Collected 08/20/92
Chain of custody id EFL-1041

PARAMETER	CAS NO	RESULT pCi/G	2σ ERR (COUNT)	MDA pCi/G	RDL pCi/G	QUALI-FIERS	TEST
Gross Alpha	Alpha	6.9	6.8	8.6	10	U	80A
Gross Beta	Beta	21	4.4	5.2	15		80B
Uranium 233/234		0.55	0.19	0.11	0.30		U
Uranium 235	15117-96-1	0.072	0.072	0.14	0.30	U	U
Uranium 238	7440-61-1	0.49	0.19	0.11	0.30		U
Plutonium 238	13981-16-3	0.011	0.022	0.043	0.050	U	PU
Plutonium 239/240		0.005	0.021	0.045	0.050	U	PU
Americium 241	14596-10-2	0.006	0.012	0.023	0.050	U	AM
Strontium 90	10098-97-2	0.050	0.23	0.71	1.0	U	Y
Carbon 14	14762-75-5	-2.1	3.8	3.4	50	U	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	13	0.98				GAM
Iron 59		U		0.24	0.050	U	GAM
Chromium 51	14392-02-0	U		0.74		U	GAM
Cobalt 60	10198-40-0	U		0.044	0.050	U	GAM
Zinc 65	17982-39-3	U		0.14		U	GAM
Ruthenium 106	13967-48-1	U		0.36		U	GAM
Cesium 134	17967-70-9	U		0.052		U	GAM
Cesium 137	10045-97-3	U		0.041	0.050	U	GAM
Europium 152	14683-23-9	U		0.082	0.10	U	GAM
Europium 154	15585-10-1	U		0.054	0.10	U	GAM
Radium 226	13982-67-7	0.49	0.088				GAM
Thorium 228	14274-82-9	0.55	0.052				GAM
Thorium 232	7440-29-1	0.54	0.16				GAM

Lab id TMAN
Protocol WHC-HEIS
Version Ver 1.0
Form DVD-DS
Version 2.20
Report date 01/05/93

N208150-05

TMA NORCAL
REPORTING GROUP 7078

DATA SHEET

B075H0

SDG 7078
Contact Dinkar Kharkar

Client Westinghouse Hanford
Contract MBH-SVV-069262

Lab sample id N208150-05
Dept sample id 7078-005
Received 08/25/92
% moisture

Client sample id B075H0
Matrix SOIL
Collected 08/21/92
Chain of custody id EFL-1041

PARAMETER	CAS NO	RESULT pCi/G	2σ ERR (COUNT)	MDA pCi/G	RDL pCi/G	QUALI-FIERS	TEST
Gross Alpha	Alpha	2.8	5.6	8.0	10	U	80A
Gross Beta	Beta	18	4.7	6.2	15		80B
Uranium 233/234		0.38	0.19	0.14	0.30		U
Uranium 235	15117-96-1	0.044	0.045	0.17	0.30	U	U
Uranium 238	7440-61-1	0.27	0.15	0.14	0.30	J	U
Plutonium 238	13981-16-3	0.009	0.024	0.044	0.050	U	PU
Plutonium 239/240		0	0.006	0.023	0.050	U	PU
Americium 241	14596-10-2	0.003	0.019	0.043	0.050	U	AM
Strontium 90	10098-97-2	-0.19	0.27	0.73	1.0	U	Y
Carbon 14	14762-75-5	-1.3	4.8	4.2	50	U	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	13	0.82				GAM
Iron 59		U		0.21	0.050	U	GAM
Chromium 51	14392-02-0	U		0.74		U	GAM
Cobalt 60	10198-40-0	U		0.034	0.050	U	GAM
Zinc 65	17982-39-3	U		0.10		U	GAM
Ruthenium 106	13967-48-1	U		0.28		U	GAM
Cesium 134	17967-70-9	U		0.041		U	GAM
Cesium 137	10045-97-3	U		0.029	0.050	U	GAM
Europium 152	14683-23-9	U		0.065	0.10	U	GAM
Europium 154	15585-10-1	U		0.044	0.10	U	GAM
Radium 226	13982-67-7	0.40	0.063				GAM
Thorium 228	14274-82-9	0.46	0.038				GAM
Thorium 232	7440-29-1	0.52	0.15				GAM

Lab id TMAN
Protocol WHC-HEIS
Version Ver 1.0
Form DVD-DS
Version 2.20
Report date 01/05/93

N208150-08

TMA NORCAL
REPORTING GROUP 7078

DATA SHEET

B075H3

SDG 7078
Contact Dinkar Kharkar

Client Westinghouse Hanford
Contract MBH-SVV-069262

Lab sample id N208150-08
Dept sample id 7078-008
Received 08/31/92
% moisture

Client sample id B075H3
Matrix SOIL
Collected 08/26/92
Chain of custody id EFL-1041

PARAMETER	CAS NO	RESULT pCi/G	2σ ERR (COUNT)	MDA pCi/G	RDL pCi/G	QUALI-FIERS	TEST
Gross Alpha	Alpha	4.6	5.9	8.2	10	U	80A
Gross Beta	Beta	19	4.6	5.8	15		80B
Uranium 233/234		0.66	0.25	0.16	0.30		U
Uranium 235	15117-96-1	0.14	0.12	0.16	0.30	U	U
Uranium 238	7440-61-1	0.90	0.26	0.13	0.30		U
Plutonium 238	13981-16-3	-0.004	0.008	0.021	0.050	U	PU
Plutonium 239/240		-0.004	0.004	0.018	0.050	U	PU
Americium 241	14596-10-2	0	0.022	0.039	0.050	U	AM
Strontium 90	10098-97-2	-0.59	1.5	0.88	1.0	U	Y
Carbon 14	14762-75-5	-2.0	4.7	4.2	50	U	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	14	0.84				GAM
Iron 59		U		0.21	0.050	U	GAM
Chromium 51	14392-02-0	U		0.65		U	GAM
Cobalt 60	10198-40-0	U		0.042	0.050	U	GAM
Zinc 65	17982-39-3	U		0.10		U	GAM
Ruthenium 106	13967-48-1	U		0.31		U	GAM
Cesium 134	17967-70-9	U		0.039		U	GAM
Cesium 137	10045-97-3	U		0.032	0.050	U	GAM
Europium 152	14683-23-9	U		0.073	0.10	U	GAM
Europium 154	15585-10-1	U		0.048	0.10	U	GAM
Radium 226	13982-67-7	0.53	0.080				GAM
Thorium 228	14274-82-9	0.55	0.041				GAM
Thorium 232	7440-29-1	0.68	0.15				GAM

Lab id TMAN
Protocol WHC-HEIS
Version Ver 1.0
Form DVD-DS
Version 2.20
Report date 01/05/93

N208150-09

TMA NORCAL
REPORTING GROUP 7078

DATA SHEET

B075H4

SDG 7078
Contact Dinkar Kharkar

Client Westinghouse Hanford
Contract MBH-SVV-069262

Lab sample id N208150-09
Dept sample id 7078-009
Received 08/31/92
% moisture

Client sample id B075H4
Matrix SOIL
Collected 08/26/92
Chain of custody id EFL-1041

PARAMETER	CAS NO	RESULT pCi/G	2σ ERR (COUNT)	MDA pCi/G	RDL pCi/G	QUALI-FIERS	TEST
Gross Alpha	Alpha	3.3	4.0	5.2	10	U	80A
Gross Beta	Beta	17	4.5	5.8	15		80B
Uranium 233/234		0.40	0.18	0.18	0.30		U
Uranium 235	15117-96-1	0.054	0.072	0.14	0.30	U	U
Uranium 238	7440-61-1	0.37	0.15	0.11	0.30		U
Plutonium 238	13981-16-3	-0.005	0.020	0.047	0.050	U	PU
Plutonium 239/240		-0.003	0.010	0.024	0.050	U	PU
Americium 241	14596-10-2	-0.003	0.021	0.037	0.050	U	AM
Strontium 90	10098-97-2	0.059	0.20	0.73	1.0	U	Y
Carbon 14	14762-75-5	0.43	5.0	4.4	50	U	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	13	0.83				GAM
Iron 59		U		0.21	0.050	U	GAM
Chromium 51	14392-02-0	U		0.70		U	GAM
Cobalt 60	10198-40-0	U		0.036	0.050	U	GAM
Zinc 65	17982-39-3	U		0.10		U	GAM
Ruthenium 106	13967-48-1	U		0.29		U	GAM
Cesium 134	17967-70-9	U		0.053		U	GAM
Cesium 137	10045-97-3	U		0.034	0.050	U	GAM
Europium 152	14683-23-9	U		0.079	0.10	U	GAM
Europium 154	15585-10-1	U		0.047	0.10	U	GAM
Radium 226	13982-67-7	0.40	0.067				GAM
Thorium 228	14274-82-9	0.53	0.044				GAM
Thorium 232	7440-29-1	0.55	0.16				GAM

Lab id TMAN
Protocol WHC-HEIS
Version Ver 1.0
Form DVD-DS
Version 2.20
Report date 01/05/93

N208150-11

TMA NORCAL
REPORTING GROUP 7078

DATA SHEET

B075H5

SDG 7078
Contact Dinkar Kharkar

Client Westinghouse Hanford
Contract MBH-SVV-069262

Lab sample id N208150-11
Dept sample id 7078-011
Received 08/31/92
% moisture

Client sample id B075H5
Matrix SOIL
Collected 08/26/92
Chain of custody id EFL-1040 1041

PARAMETER	CAS NO	RESULT pCi/G	2σ ERR (COUNT)	MDA pCi/G	RDL pCi/G	QUALI-FIERS	TEST
Gross Alpha	Alpha	5.9	5.0	5.9	10	J	80A
Gross Beta	Beta	15	4.4	5.8	15		80B
Uranium 233/234		0.42	0.17	0.12	0.30		U
Uranium 235	15117-96-1	0.019	0.039	0.15	0.30	U	U
Uranium 238	7440-61-1	0.65	0.21	0.12	0.30		U
Plutonium 238	13981-16-3	0.006	0.021	0.040	0.050	U	PU
Plutonium 239/240		-0.006	0.012	0.028	0.050	U	PU
Americium 241	14596-10-2	0	0.018	0.034	0.050	U	AM
Strontium 90	10098-97-2	0	0.93	0.66	1.0	U	Y
Carbon 14	14762-75-5	-0.71	4.7	4.2	50	U	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	16	1.1				GAM
Iron 59		U		0.26	0.050	U	GAM
Chromium 51	14392-02-0	U		0.98		U	GAM
Cobalt 60	10198-40-0	U		0.055	0.050	U	GAM
Zinc 65	17982-39-3	U		0.13		U	GAM
Ruthenium 106	13967-48-1	U		0.42		U	GAM
Cesium 134	17967-70-9	U		0.071		U	GAM
Cesium 137	10045-97-3	U		0.046	0.050	U	GAM
Europium 152	14683-23-9	U		0.10	0.10	U	GAM
Europium 154	15585-10-1	U		0.066	0.10	U	GAM
Radium 226	13982-67-7	0.55	0.11				GAM
Thorium 228	14274-82-9	1.4	0.067				GAM
Thorium 232	7440-29-1	1.5	0.26				GAM

Lab id TMAN
Protocol WHC-HEIS
Version Ver 1.0
Form DVD-DS
Version 2.20
Report date 01/05/93

N208150-12

TMA NORCAL
REPORTING GROUP 7078

DATA SHEET

B075J4

SDG 7078
Contact Dinkar Kharkar
Client Westinghouse Hanford
Contract MBH-SVV-069262

Lab sample id N208150-12
Dept sample id 7078-012
Received 09/03/92
% moisture
Client sample id B075J4
Matrix SOIL
Collected 09/01/92
Chain of custody id EFL-1041

PARAMETER	CAS NO	RESULT pCi/G	2σ ERR (COUNT)	MDA pCi/G	RDL pCi/G	QUALI-FIERS	TEST
Gross Alpha	Alpha	4.3	6.7	9.4	10	U	80A
Gross Beta	Beta	13	4.2	5.6	15	J	80B
Uranium 233/234		0.41	0.15	0.12	0.30		U
Uranium 235	15117-96-1	0	0.029	0.11	0.30	U	U
Uranium 238	7440-61-1	0.34	0.13	0.093	0.30		U
Plutonium 238	13981-16-3	0.006	0.019	0.034	0.050	U	PU
Plutonium 239/240		0.008	0.008	0.015	0.050	U	PU
Americium 241	14596-10-2	-0.013	0.022	0.047	0.050	U	AM
Strontium 90	10098-97-2	0	1.2	0.82	1.0	U	Y
Carbon 14	14762-75-5	-2.6	3.9	3.5	50	U	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	12	0.89				GAM
Iron 59		U		0.19	0.050	U	GAM
Chromium 51	14392-02-0	U		0.75		U	GAM
Cobalt 60	10198-40-0	U		0.045	0.050	U	GAM
Zinc 65	17982-39-3	U		0.096		U	GAM
Ruthenium 106	13967-48-1	U		0.36		U	GAM
Cesium 134	17967-70-9	U		0.046		U	GAM
Cesium 137	10045-97-3	U		0.039	0.050	U	GAM
Europium 152	14683-23-9	U		0.088	0.10	U	GAM
Europium 154	15585-10-1	U		0.058	0.10	U	GAM
Radium 226	13982-67-7	0.47	0.086				GAM
Thorium 228	14274-82-9	0.85	0.089				GAM
Thorium 232	7440-29-1	0.55	0.17				GAM

Lab id TMAN
Protocol WHC-HEIS
Version Ver 1.0
Form DVD-DS
Version 2.20
Report date 01/05/93

N208150-03

TMA NORCAL
REPORTING GROUP 7078

DATA SHEET

B075M7

SDG 7078
Contact Dinkar Kharkar

Client Westinghouse Hanford
Contract MBH-SVV-069262

Lab sample id N208150-03
Dept sample id 7078-003
Received 08/24/92
% moisture

Client sample id B075M7
Matrix SOIL
Collected 08/20/92
Chain of custody id EFL-1040

PARAMETER	CAS NO	RESULT pCi/G	2σ ERR (COUNT)	MDA pCi/G	RDL pCi/G	QUALI-FIERS	TEST
Gross Alpha	Alpha	3.3	5.2	7.2	10	U	80A
Gross Beta	Beta	16	4.3	5.5	15		80B
Uranium 233/234		0.45	0.16	0.12	0.30		U
Uranium 235	15117-96-1	0.057	0.076	0.14	0.30	U	U
Uranium 238	7440-61-1	0.44	0.16	0.12	0.30		U
Plutonium 238	13981-16-3	0.010	0.019	0.035	0.050	U	PU
Plutonium 239/240		-0.002	0.004	0.015	0.050	U	PU
Americium 241	14596-10-2	0.006	0.023	0.038	0.050	U	AM
Strontium 90	10098-97-2	0.057	0.25	0.89	1.0	U	Y
Carbon 14	14762-75-5	-1.9	4.7	4.2	50	U	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	11	0.71				GAM
Iron 59		U		0.20	0.050	U	GAM
Chromium 51	14392-02-0	U		0.79		U	GAM
Cobalt 60	10198-40-0	U		0.029	0.050	U	GAM
Zinc 65	17982-39-3	U		0.095		U	GAM
Ruthenium 106	13967-48-1	U		0.29		U	GAM
Cesium 134	17967-70-9	U		0.038		U	GAM
Cesium 137	10045-97-3	U		0.030	0.050	U	GAM
Europium 152	14683-23-9	U		0.073	0.10	U	GAM
Europium 154	15585-10-1	U		0.048	0.10	U	GAM
Radium 226	13982-67-7	0.44	0.075				GAM
Thorium 228	14274-82-9	0.65	0.072				GAM
Thorium 232	7440-29-1	0.55	0.13				GAM

Lab id TMAN
Protocol WHC-HEIS
Version Ver 1.0
Form DVD-DS
Version 2.20
Report date 01/05/93

N208150-04

TMA NORCAL
REPORTING GROUP 7078

DATA SHEET

B075M9

SDG 7078
Contact Dinkar Kharkar

Client Westinghouse Hanford
Contract MBH-SVV-069262

Lab sample id N208150-04
Dept sample id 7078-004
Received 08/24/92
% moisture

Client sample id B075M9
Matrix SOIL
Collected 08/20/92
Chain of custody id EFL-1040

PARAMETER	CAS NO	RESULT pCi/G	2σ ERR (COUNT)	MDA pCi/G	RDL pCi/G	QUALI-FIERS	TEST
Gross Alpha	Alpha	5.0	5.0	6.1	10	U	80A
Gross Beta	Beta	13	4.4	6.1	15	J	80B
Uranium 233/234		0.40	0.18	0.13	0.30		U
Uranium 235	15117-96-1	0.042	0.042	0.16	0.30	U	U
Uranium 238	7440-61-1	0.43	0.18	0.13	0.30		U
Plutonium 238	13981-16-3	0.007	0.017	0.032	0.050	U	PU
Plutonium 239/240		-0.007	0.007	0.022	0.050	U	PU
Americium 241	14596-10-2	0.005	0.020	0.037	0.050	U	AM
Strontium 90	10098-97-2	0.098	0.25	0.87	1.0	U	Y
Carbon 14	14762-75-5	2.2	4.6	4.0	50	U	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	11	0.79				GAM
Iron 59		U		0.19	0.050	U	GAM
Chromium 51	14392-02-0	U		0.72		U	GAM
Cobalt 60	10198-40-0	U		0.034	0.050	U	GAM
Zinc 65	17982-39-3	U		0.080		U	GAM
Ruthenium 106	13967-48-1	U		0.24		U	GAM
Cesium 134	17967-70-9	U		0.040		U	GAM
Cesium 137	10045-97-3	U		0.032	0.050	U	GAM
Europium 152	14683-23-9	U		0.071	0.10	U	GAM
Europium 154	15585-10-1	U		0.046	0.10	U	GAM
Radium 226	13982-67-7	0.38	0.060				GAM
Thorium 228	14274-82-9	0.48	0.039				GAM
Thorium 232	7440-29-1	0.64	0.14				GAM

Lab id TMAN
Protocol WHC-HEIS
Version Ver 1.0
Form DVD-DS
Version 2.20
Report date 01/05/93

N208150-06

TMA NORCAL
REPORTING GROUP 7078

DATA SHEET

B075N1

SDG 7078
Contact Dinkar Kharkar

Client Westinghouse Hanford
Contract MBH-SVV-069262

Lab sample id N208150-06
Dept sample id 7078-006
Received 08/31/92
% moisture

Client sample id B075N1
Matrix SOIL
Collected 08/26/92
Chain of custody id EFL-1040

PARAMETER	CAS NO	RESULT pCi/G	2σ ERR (COUNT)	MDA pCi/G	RDL pCi/G	QUALI-FIERS	TEST
Gross Alpha	Alpha	8.5	6.9	8.4	10	J	80A
Gross Beta	Beta	20	4.3	5.0	15		80B
Uranium 233/234		0.72	0.24	0.12	0.30		U
Uranium 235	15117-96-1	0	0.039	0.15	0.30	U	U
Uranium 238	7440-61-1	0.55	0.20	0.12	0.30		U
Plutonium 238	13981-16-3	0.031	0.026	0.035	0.050	U	PU
Plutonium 239/240		0	0.005	0.020	0.050	U	PU
Americium 241	14596-10-2	-0.004	0.013	0.028	0.050	U	AM
Strontium 90	10098-97-2	-0.24	0.88	0.73	1.0	U	Y
Carbon 14	14762-75-5	-0.51	4.1	3.6	50	U	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	13	0.76				GAM
Iron 59		U		0.21	0.050	U	GAM
Chromium 51	14392-02-0	U		0.69		U	GAM
Cobalt 60	10198-40-0	U		0.033	0.050	U	GAM
Zinc 65	17982-39-3	U		0.095		U	GAM
Ruthenium 106	13967-48-1	U		0.27		U	GAM
Cesium 134	17967-70-9	U		0.038		U	GAM
Cesium 137	10045-97-3	U		0.033	0.050	U	GAM
Europium 152	14683-23-9	U		0.075	0.10	U	GAM
Europium 154	15585-10-1	U		0.049	0.10	U	GAM
Radium 226	13982-67-7	0.35	0.075				GAM
Thorium 228	14274-82-9	0.72	0.074				GAM
Thorium 232	7440-29-1	0.60	0.17				GAM

Lab id TMAN
Protocol WHC-HEIS
Version Ver 1.0
Form DVD-DS
Version 2.20
Report date 01/05/93

N208150-10

TMA NORCAL
REPORTING GROUP 7078

DATA SHEET

B075N2

SDG 7078
Contact Dinkar Kharkar

Client Westinghouse Hanford
Contract MBH-SVV-069262

Lab sample id N208150-10
Dept sample id 7078-010
Received 08/31/92
% moisture

Client sample id B075N2
Matrix SOIL
Collected 08/26/92
Chain of custody id EFL-1040 1041

PARAMETER	CAS NO	RESULT pCi/G	2σ ERR (COUNT)	MDA pCi/G	RDL pCi/G	QUALI-FIERS	TEST
Gross Alpha	Alpha	5.3	5.7	7.3	10	U	80A
Gross Beta	Beta	14	4.7	5.2	15	J	80B
Uranium 233/234		0.26	0.16	0.15	0.30	J	U
Uranium 235	15117-96-1	0.055	0.074	0.14	0.30	U	U
Uranium 238	7440-61-1	0.53	0.19	0.12	0.30		U
Plutonium 238	13981-16-3	0.012	0.017	0.028	0.050	U	PU
Plutonium 239/240		0.003	0.003	0.013	0.050	U	PU
Americium 241	14596-10-2	0.014	0.027	0.049	0.050	U	AM
Strontium 90	10098-97-2	-0.12	1.3	0.81	1.0	U	Y
Carbon 14	14762-75-5	-0.57	4.2	3.7	50	U	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	12	0.87				GAM
Iron 59		U		0.20	0.050	U	GAM
Chromium 51	14392-02-0	U		0.66		U	GAM
Cobalt 60	10198-40-0	U		0.040	0.050	U	GAM
Zinc 65	17982-39-3	U		0.11		U	GAM
Ruthenium 106	13967-48-1	U		0.28		U	GAM
Cesium 134	17967-70-9	U		0.044		U	GAM
Cesium 137	10045-97-3	U		0.033	0.050	U	GAM
Europium 152	14683-23-9	U		0.080	0.10	U	GAM
Europium 154	15585-10-1	U		0.053	0.10	U	GAM
Radium 226	13982-67-7	0.35	0.073				GAM
Thorium 228	14274-82-9	0.49	0.044				GAM
Thorium 232	7440-29-1	0.52	0.15				GAM

Lab id TMAN
Protocol WHC-HEIS
Version Ver 1.0
Form DVD-DS
Version 2.20
Report date 01/05/93

N208150-07

TMA NORCAL
REPORTING GROUP 7078

DATA SHEET

B075N3

SDG 7078
Contact Dinkar Kharkar

Client Westinghouse Hanford
Contract MBH-SVV-069262

Lab sample id N208150-07
Dept sample id 7078-007
Received 08/31/92
% moisture

Client sample id B075N3
Matrix SOIL
Collected 08/26/92
Chain of custody id EFL-1040

PARAMETER	CAS NO	RESULT pCi/G	2σ ERR (COUNT)	MDA pCi/G	RDL pCi/G	QUALI-FIERS	TEST
Gross Alpha	Alpha	13	6.8	6.5	10		80A
Gross Beta	Beta	18	4.5	5.7	15		80B
Uranium 233/234		0.48	0.18	0.11	0.30		U
Uranium 235	15117-96-1	0	0.036	0.14	0.30	U	U
Uranium 238	7440-61-1	0.47	0.18	0.11	0.30		U
Plutonium 238	13981-16-3	0.007	0.025	0.042	0.050	U	PU
Plutonium 239/240		-0.002	0.005	0.019	0.050	U	PU
Americium 241	14596-10-2	0.015	0.019	0.032	0.050	U	AM
Strontium 90	10098-97-2	-0.13	1.3	0.49	1.0	U	Y
Carbon 14	14762-75-5	-1.7	4.7	4.2	50	U	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	16	1.3				GAM
Iron 59		U		0.34	0.050	U	GAM
Chromium 51	14392-02-0	U		1.3		U	GAM
Cobalt 60	10198-40-0	U		0.068	0.050	U	GAM
Zinc 65	17982-39-3	U		0.17		U	GAM
Ruthenium 106	13967-48-1	U		0.48		U	GAM
Cesium 134	17967-70-9	0.074	0.063				GAM
Cesium 137	10045-97-3	U		0.061	0.050	U	GAM
Europium 152	14683-23-9	U		0.12	0.10	U	GAM
Europium 154	15585-10-1	U		0.082	0.10	U	GAM
Radium 226	13982-67-7	0.58	0.12				GAM
Thorium 228	14274-82-9	0.98	0.13				GAM
Thorium 232	7440-29-1	0.79	0.21				GAM

Lab id TMAN
Protocol WHC-HEIS
Version Ver 1.0
Form DVD-DS
Version 2.20
Report date 01/05/93

TMA/NORCAL CofC 002872

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator: W.V. SETZER

Company Contact: WV SETZER

Telephone: 376-2413

Project Designation/Sampling Locations: 100-FR-3

Collection Date: 8-20-92

Ice Chest No.:

Field Logbook No.: EFL-1041

Bill of Lading/Airbill No.:

Offsite Property No.:

Method of Shipment: OVERNIGHT AIR SERVICE

Shipped to: TMA/NORCAL

Possible Sample Hazards/Remarks: None detected with field instruments. Maintain at 4C.

Sample Identification

1) B075G7
~~1,250ml aG:CLP;ICP/AA Metals,Hg,Cn~~
~~1,120ml aG:CLP;VOA~~
~~1,950ml aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,NO3)~~ JEB 8-20-92
~~1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241~~

2) B075G8
1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
1,120ml aG:CLP;VOA
1,950ml aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,NO3)
1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

3) B075G9
1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
1,120ml aG:CLP;VOA
1,950ml aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,NO3)
1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

[] Field Transfer of Custody — Chain of Possession — (Sign and Print Names)

Relinquished by:	Received by:	Date/Time:
W.V. Setzer	J.E. Darling J.E. DARLING	8-20-92 1700
J.E. Darling	Kermit Blum	8-24-92 0800 *

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:

* Received @ TMA/NORCAL 8-22-92; opened 8-24-92 - KB

056

A-6000-407 (12/90) (EF) WEF061
Chain of Custody

TMA/NORCAL CofC 002872

Westinghouse Hanford Company	SAMPLE ANALYSIS REQUEST

Collector J.E.Darling Date August 20, 1992

Company Contact WV SEIZER Telephone (509)376 2413

Sample Number	*	Date Collected	Time Collected	Number and Type of Containers/Analysis Required
B075G8		8-20-92	N/A	1-250ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
B075G9		8-20-92	N/A	1-250ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
			JED 8-20-92	1-250ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
			JED 8-20-92	1-120ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
			JED 8-20-92	

*Type of Sample

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

Field Information FROM 100-FR-3 Drilling

Special Handling and/or Storage Maintain at 4C

Possible Sample Hazards NA

056
057

A-6000-406 (06/91) WEF060

TMA/NORCAL CofC 002871

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator W.V. SETZER

Company Contact WV SETZER

Telephone 376-2413

Project Designation/Sampling Locations 100-FR-3

Collection Date 8-20-92

Ice Chest No.

Field Logbook No. EFL-1040

Bill of Lading/Airbill No.

Offsite Property No.

Method of Shipment OVERNIGHT AIR SERVICE

Shipped to TMA/NORCAL

Possible Sample Hazards/Remarks None detected with field instruments. Maintain at 4C.

Sample Identification

1) B075M7
1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
1,120ml aG:CLP;VOA
1,950ml aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,NO3)
1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

*2) B075M8
1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
1,120ml aG:CLP;VOA
1,950ml aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,NO3)
~~1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241~~ DBS

3) B075M9
1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
1,120ml aG:CLP;VOA
1,950ml aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,NO3)
1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

[] Field Transfer of Custody — Chain of Possession — (Sign and Print Names)

Relinquished by:	Received by:	Date/Time:
W.V. Setzer	J.E. Darling J.E. DARLING	8-20-92 1700
Relinquished by:	Received by:	Date/Time: *
J.E. Darling	Kermit Blum	8-24-92 0800
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 8-22-92; opened 8-24-92. KB

158

A-6000-407 (12/90) (EF) WEF061
Chain of Custody

TMA/NORCAL CofC 002871

Westinghouse Hanford Company	SAMPLE ANALYSIS REQUEST

Collector J.E.Darling Date 08-20-92

Company Contact WV SEIZER Telephone (509)376 2413

Sample Number	*	Date Collected	Time Collected	Number and Type of Sample Containers/Analysis Required
B075M7		8-20-92	N/A	1-250ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
B075M8		8-20-92	N/A	1-250ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
B075M9		8-20-92	N/A	1-250ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C 14 U-235/238,Pu 239/240,Am 241
			JED 8-20-92	1-120ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C 14 U-235/238,Pu-239/240,Am-241

*Type of Sample

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

Field Information FROM 100 FR-3 Drilling

Special Handling and/or Storage Maintain at 4C

Possible Sample Hazards NA

059

A-6000-406 (06/91) WEF060

CofC 002866

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator D L Leist

Company Contact WV SETZER

Telephone 376-2413

Project Designation/Sampling Locations 100-FR-3

Collection Date 8-21-92

Ice Chest No. 166

Field Logbook No. EFL-1041

Bill of Lading/Airbill No. 250 987 0077

Offsite Property No.

Method of Shipment OVERNIGHT AIR SERVICE

Shipped to ~~WESTON~~ TMA/NORCAL JED

Possible Sample Hazards/Remarks None detected with field instruments. Maintain at 4C.

Sample Identification

1) BC 15H0 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
1,120ml aG:CLP;VOA
1,950ml aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,NO3)
1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

2) 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
1,120ml aG:CLP;VOA
1,950ml aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,NO3)
1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

3) 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
1,120ml aG:CLP;VOA
1,950ml aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,NO3)
1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

[] Field Transfer of Custody

Chain of Possession (Sign and Print Names)

Relinquished by:	Received by:	Date/Time:
Diane L. Leist	J.E. Darling J.E. Darling	8-21-92 / 1623
J.E. Darling J.E. Darling	Kermit Blum	8-25-92 1145

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:

C60

A-6000-407 (12/90) (EF) WEF061
Chain of Custody

Westinghouse Hanford Company	CHAIN OF CUSTODY 002867

Custody Form Initiator J.E.Darling

Company Contact W.V. Setzer Telephone (509) 376-2413

Project Designation/Sampling Locations 100 FR 3 Collection Date 08-20-92

Ice Chest No. Field Logbook No. EFL-1041

Bill of Lading/Airbill No. Offsite Property No.

Method of Shipment Air Express

Shipped to TMA/NORCAL Labs

Possible Sample Hazards/Remarks NONE

Sample Identification

B075N0 1-120ml aG CLP:VOA

☐ Field Transfer of Custody **CHAIN OF POSSESSION** (Sign and Print Names)

Relinquished by:	Received by:	Date/Time:
J.E. Darling J.E.Darling	Kermit Blum	8-25-92 1145
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

061

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:

A-6000-407 (12/90)

C of C 002866 & 002867

Westinghouse Hanford Company	SAMPLE ANALYSIS REQUEST

Collector J.E.Darling Date 08-21-92

Company Contact WV SEIZER Telephone (509)376 2413

Sample Number	*	Date Collected	Time Collected	Number and Type of Sample Containers/Analysis Required
B075H0		08-21-92	N/A	1-250ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
B075N0		08-20-92	N/A	~~1-250ml aG CLP;ICP/AA Metals,Hg,Cn~~ JED 1-120ml aG CLP;VOA ~~1-950ml aG CLP;Semi-VOA,PCB/PEST~~ JED ~~300.0/353.2;Anions(F,SO4,NO3)~~ JED ~~1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14~~ JED ~~U-235/238,Pu-239/240,Am-241~~ JED
				1-250ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
				1-120ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241

*Type of Sample

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

Field Information FROM 100-FR-3 Drilling

Special Handling and/or Storage Maintain at 4C

Possible Sample Hazards NA

C62

A-6000-406 (06/91) WEF060

Westinghouse Hanford Company

CHAIN OF CUSTODY

Custody Form Initiator: W.W. SETZER

Company Contact: WV SETZER

Telephone: 376-2413

Project Designation/Sampling Locations: 100-FR-3

Collection Date: 8-26-92

Ice Chest No.:

Field Logbook No.: EFL-1040

Bill of Lading/Airbill No.:

Offsite Property No.:

Method of Shipment: OVERNIGHT AIR SERVICE

Shipped to: TMA/NORCAL

Possible Sample Hazards/Remarks: None detected with field instruments. Maintain at 4C.

Sample Identification

1)	B075N1	1,250ml	aG:CLP;ICP/AA Metals,Hg,Cr
		1,120ml	aG:CLP;VOA
		1,950ml	aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,NO3)
		1,1000ml	G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241
2)	~~B075N2~~ B075N3 (DH 8.26.92)	1,250ml	aG:CLP;ICP/AA Metals,Hg,Cr
		1,120ml	aG:CLP;VOA
		1,950ml	aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,NO3)
		1,1000ml	G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241
3)		~~1,250ml~~	~~aG:CLP;ICP/AA Metals,Hg,Cr~~
		~~1,120ml~~	~~aG:CLP;VOA~~ JED 8-26-92
		~~1,950ml~~	~~aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,NO3)~~
		~~1,1000ml~~	~~G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241~~

[] Field Transfer of Custody

Chain of Possession (Sign and Print Names)

Relinquished by:	Received by:	Date/Time:
W.W. Setzer	J.E. Darling JE. Darling	8-26-92 1450
Relinquished by: J.E. Darling	Received by: Kermit Blum	Date/Time: 8-31-92 0800 *
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 8-29-92; opened 8-31-92 · KB

063

A-6000-407 (12/90) (EF) WEF061
Chain of Custody

Westinghouse Hanford Company

CHAIN OF CUSTODY

Custody Form Initiator: W.V. SETZER

Company Contact: WV SETZER

Telephone: 376-2413

Project Designation/Sampling Locations: 100-FR-3

Collection Date: 8-26-92

Ice Chest No.:

Field Logbook No.: EFL-1041

Bill of Lading/Airbill No.:

Offsite Property No.:

Method of Shipment: OVERNIGHT AIR SERVICE

Shipped to: TMA/NORCAL

Possible Sample Hazards/Remarks: None detected with field instruments. Maintain at 4C.

Sample Identification

1) B075N3	1,250ml	aG:CLP;ICP/AA Metals,Hg,Cn
	1,120ml	aG:CLP;VOA
	1,950ml	aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,NO3)
	1,1000ml	G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241
2) B075H4	1,250ml	aG:CLP;ICP/AA Metals,Hg,Cn
	1,120ml	aG:CLP;VOA
	1,950ml	aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,NO3)
	1,1000ml	G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241
3)	1,250ml	aG:CLP;ICP/AA Metals,Hg,Cn
	1,120ml	aG:CLP;VOA
	1,950ml	aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,NO3)
	1,1000ml	G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

[] Field Transfer of Custody — Chain of Possession — (Sign and Print Names)

Relinquished by:	Received by:	Date/Time:
W.V. Setzer	J.E. Darling J.E. Darling	8-26-92 1595
J.E. Darling	Kermit Blum	8-31-92 0800 *

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments: * Received @ TMA/NORCAL 8-29-92 ; opened 8-31-92 KB

064

A-6000-407 (12/90) (EF) WEF061
Chain of Custody

C of C 002878

Westinghouse Hanford Company	SAMPLE ANALYSIS REQUEST

Collector J.E.Darling Date 08-27-92

Company Contact WV SEIZER Telephone (509)376 2413

Sample Number	*	Date Collected	Time Collected	Number and Type of Containers/Analysis Required
B075N1	S	08-26-92	N/A	1-250ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
B075N3	S	08-26-92	N/A	1-250ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
B075H3	S	08-26-92	N/A	1-250ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
B075H4	S	08-26-92	N/A	1-120ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241

*Type of Sample

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

Field Information FROM 100-FR-3 Drilling

Special Handling and/or Storage Maintain at 4C

Possible Sample Hazards NA

065

A-6000-406 (06/91) WEF060

C of C 002877

Westinghouse Hanford Company

CHAIN OF CUSTODY

Custody Form Initiator: W.V. SETZER

Company Contact: WV SETZER

Telephone: 376-2413

Project Designation/Sampling Locations: 100-FR-3

Collection Date: 8-27-92

Ice Chest No.:

Field Logbook No.: EFL-1040, EFL-1041

Bill of Lading/Airbill No.:

Offsite Property No.:

Method of Shipment: OVERNIGHT AIR SERVICE

Shipped to: TMA/NORCAL

Possible Sample Hazards/Remarks: None detected with field instruments. Maintain at 4C.

Sample Identification

1) B075N2	1,250ml	aG:CLP;ICP/AA Metals,Hg,Cr
	1,120ml	aG:CLP;VOA
	1,950ml	aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,NO3)
	1,1000ml	G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am 241
2) B075H5	1,250ml	aG:CLP;ICP/AA Metals,Hg,Cr
	1,120ml	aG:CLP;VOA
	1,950ml	aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,NO3)
	1,1000ml	G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am 241
3)	1,250ml	aG:CLP;ICP/AA Metals,Hg,Cr
	1,120ml	aG:CLP;VOA
	1,950ml	aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,NO3)
	1,1000ml	G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

[] Field Transfer of Custody

Chain of Possession (Sign and Print Names)

Relinquished by:	Received by:	Date/Time:
W.V. Setzer	J.E. Darling J.E. Darling	8-28-92 1513
J.E. Darling	Kermit Blum	8-31-92 0800 *

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments: * Received @ TMA/NORCAL 8-29-92 ; opened 8-31-92 - KB

C66

A-6000-407 (12/90) (EF) WEF061
Chain of Custody

CofC 002877

Westinghouse Hanford Company	SAMPLE ANALYSIS REQUEST

Collector J.E.Darling Date August 27, 1992

Company Contact WV SEIZER Telephone (509)376 2413

Sample Number	*	Date Collected	Time Collected	Number and Type of Containers/Analysis Required
B075N2	S	08-27-92	N/A	1-250ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
B075H5	S	08-27-92	N/A	1-250ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
				1-250ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
				1-120ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241

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

Field Information FROM 100-FR-3 Drilling

Special Handling and/or Storage Maintain at 4C

Possible Sample Hazards NA

067

A-6000-406 (06/91) WEF060

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator: DL LEIST

Company Contact: WV SETZER — Telephone: 376-2413

Project Designation/Sampling Locations: 100-FR-3 — Collection Date: 9·1·92

Ice Chest No. — Field Logbook No.: EFL-1041

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

Method of Shipment: OVERNIGHT AIR SERVICE

Shipped to: TMA/NORCAL

Possible Sample Hazards/Remarks: None detected with field instruments. Maintain at 4C.

Sample Identification

1) B075J4	1,250ml	aG:CLP;ICP/AA Metals,Hg,Cn
	1,120ml	aG:CLP;VOA
	1,950ml	aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,NO3)
	1,1000ml	G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241
2)	1,250ml	aG:CLP;ICP/AA Metals,Hg,Cn
	1,120ml	aG:CLP;VOA
	1,950ml	aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,NO3)
	1,1000ml	G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241
3)	1,250ml	aG:CLP;ICP/AA Metals,Hg,Cn
	1,120ml	aG:CLP;VOA
	1,950ml	aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,NO3)
	1,1000ml	G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

[] Field Transfer of Custody — Chain of Possession — (Sign and Print Names)

Relinquished by:	Received by:	Date/Time:
DL Leist	J.E. Darling J.E. Darling	9-1-92 1430
Relinquished by: J.E. Darling	Received by: RZ Steffler R.Z. Steffler	Date/Time: 9-2-92 0735
Relinquished by: RZ Steffler R.Z. Steffler	Received by: Kermit Blum	Date/Time: 9-3-92 1145
Relinquished by:	Received by:	Date/Time:

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:

068

A-6000-407 (12/90) (EF) WEF061
Chain of Custody

Westinghouse Hanford Company	SAMPLE ANALYSIS REQUEST

Collector D.L. Leist Date 09/01/92

Company Contact WV SEIZER Telephone (509)376 2413

Sample Number	*	Date Collected	Time Collected	Number and Type of Containers/Analysis Required
B075J4	S	09-01-92	N/A	1-250ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
				1-250ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
				1-250ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
				1-120ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241

gsd 9-1-92

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

Field Information FROM 100-FR-3 Drilling

Special Handling and/or Storage Maintain at 4C

Possible Sample Hazards NA

069

A-6000-406 (06/91) WEF060

TMA

RECORD COPY

WESTINGHOUSE HANFORD COMPANY

Results of Analyses For:

ORGANICS & GENERAL CHEMISTRY
Case No. 08-066
(TMA/ARLI Work Order # A2-08-066)

METALS
Case No. N2-08-192
(TMA/Skinner & Sherman W.O. # S2-09-032 & S2-09-033)

NOV 1992
RECEIVED
OSM DMO

November 10, 1992

TMA Master Work Order N2-08-192

4/30/96 M.H.

C of C 002878 000002

Westinghouse Hanford Company	CHAIN OF CUSTODY	ARL 1

Custody Form Initiator: W.V. SETZER

Company Contact: WV SETZER

Telephone: 376-2413

Project Designation/Sampling Locations: 100-FR-3

Collection Date: 8-26-92

Ice Chest No.:

Field Logbook No.: EFL-1040

Bill of Lading/Airbill No.:

Offsite Property No.:

Method of Shipment: OVERNIGHT AIR SERVICE

Shipped to: TMA/NORCAL

Possible Sample Hazards/Remarks: None detected with field instruments. Maintain at 4C.

Sample Identification

1) B075N1
~~1,250ml aG:CLP;ICP/AA Metals,Hg,Cn~~
1,120ml aG:CLP;VOA
1,950ml aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,~~NO3~~)
~~1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241~~

2) ~~B075N2~~ B075N3 DH 8.26.92
~~1,250ml aG:CLP;ICP/AA Metals,Hg,Cn~~
1,120ml aG:CLP;VOA
1,950ml aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,~~NO3~~)
~~1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241~~

3)
~~1,250ml aG:CLP;ICP/AA Metals,Hg,Cn~~
~~1,120ml aG:CLP;VOA~~ JED 8-26-92
~~1,950ml aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,NO3)~~
~~1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241~~

[] Field Transfer of Custody — Chain of Possession — (Sign and Print Names)

Relinquished by:	Received by:	Date/Time:
W.V. Setzer	J.E. Darling J.E. Darling	8-26-92 1450
J.E. Darling	Kermit Blum	8-31-92 0800 *
Kermit Blum 8-31-92	Trudy Dobel TRUDY BAUZ	9-1-92 9:30

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments: * Received @ TMA/NORCAL 8-29-92; opened 8-31-92 KB

A-6000-407 (12/90) (EF) WEF061
Chain of Custody

C of C 002878

Westinghouse Hanford Company	CHAIN OF CUSTODY	ARL 1

Custody Form Initiator: W.V. SETZER

Company Contact: WV SETZER — Telephone: 376-2413

Project Designation/Sampling Locations: 100-FR-3 — Collection Date: 8-26-92

Ice Chest No.: — Field Logbook No.: EFL-1041

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

Method of Shipment: OVERNIGHT AIR SERVICE

Shipped to: TMA/NORCAL

Possible Sample Hazards/Remarks: None detected with field instruments. Maintain at 4C.

Sample Identification

1) B075H3
~~1,250ml aG:CLP;ICP/AA Metals,Hg,Cn~~
1,120ml aG:CLP;VOA
1,950ml aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,~~NO3~~)
~~1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241~~

2) B075H4
~~1,250ml aG:CLP;ICP/AA Metals,Hg,Cn~~
1,120ml aG:CLP;VOA
1,950ml aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,~~NO3~~)
~~1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241~~

3)
1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
1,120ml aG:CLP;VOA
1,950ml aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,NO3)
1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

[] Field Transfer of Custody	Chain of Possession	(Sign and Print Names)
Relinquished by: W.V. Setzer	Received by: J.E. Darling J.E. Darling	Date/Time: 8-26-92 1500
Relinquished by: J.E. Darling	Received by: Kermit Blum	Date/Time: 8-31-92 0800 *
Relinquished by: Kermit Blum 8-31-92	Received by: Judy [illegible] Trevor Gong	Date/Time: 9-1-92 9:30
Relinquished by:	Received by:	Date/Time:

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments: * Received @ TMA/NORCAL 8-29-92 ; opened 8-31-92 • KB

A-6000-407 (12/90) (EF) WEF061
Chain of Custody

Westinghouse Hanford Company	SAMPLE ANALYSIS REQUEST

Collector J.E.Darling Date 08-27-92

Company Contact WV SEIZER Telephone (509)376 2413

Sample Number	*	Date Collected	Time Collected	Number and Type of Sample Containers/Analysis Required
B075N1	S	08-26-92	N/A	~~1-250ml aG CLP;ICP/AA Metals,Hg,Cn~~ 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/~~353.2~~;Anions(F,SO4,~~NO3~~) ~~1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am~~-241
B075N3	S	08-26-92	N/A	~~1-250ml aG CLP;ICP/AA Metals,Hg,Cn~~ 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/~~353.2~~;Anions(F,SO4,~~NO3~~) ~~1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241~~
B075H3	S	08-26-92	N/A	~~1-250ml aG CLP;ICP/AA Metals,Hg,Cn~~ 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/~~353.2~~;Anions(F,SO4,~~NO3~~) ~~1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241~~
B075H4	S	08-26-92	N/A	~~1-120ml aG CLP;ICP/AA Metals,Hg,Cn~~ 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/~~353.2~~;Anions(F,SO4,~~NO3~~) ~~1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241~~

*Type of Sample

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

Field Information FROM 100-FR-3 Drilling

Special Handling and/or Storage Maintain at 4C

Possible Sample Hazards NA

C of C 002877

Westinghouse Hanford Company	CHAIN OF CUSTODY	ARL 1

Custody Form Initiator: W.V. SETZER

Company Contact: WV SETZER

Telephone: 376-2413

Project Designation/Sampling Locations: 100-FR-3

Collection Date: 8-27-92

Ice Chest No.:

Field Logbook No.: EFL-1040, EFL-1041

Bill of Lading/Airbill No.:

Offsite Property No.:

Method of Shipment: OVERNIGHT AIR SERVICE

Shipped to: TMA/NORCAL

Possible Sample Hazards/Remarks: None detected with field instruments. Maintain at 4C.

Sample Identification

1) B075N2
~~1,250ml aG:CLP;ICP/AA Metals,Hg,Cn~~
1,120ml aG:CLP;VOA
1,950ml aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,~~NO3~~)
~~1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241~~

2) B075N5
~~1,250ml aG:CLP;ICP/AA Metals,Hg,~~Cn
1,120ml aG:CLP;VOA
1,950ml aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,~~NO3~~)
~~1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241~~

3)
1,250ml aG:CLP;ICP/AA Metals,~~Hg,~~Cn
1,120ml aG:CLP;VOA
1,950ml aG:~~CLP;~~Semi-VOA,PCB/PEST,Anions (F,SO4,NO3)
~~1,1000ml~~ G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

[] Field Transfer of Custody — Chain of Possession (Sign and Print Names)

Relinquished by:	Received by:	Date/Time:
W.V. Setzer	J.E. Darling J.E. Darling	8-28-92 1510
J.E. Darling	Kermit Blum	8-31-92 0800 *
Kermit Blum 8-31-92	Rusty Gaub	9-1-92 9:30

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments: * Received @ TMA/NORCAL 8-29-92; opened 8-31-92 - KB

A-6000-407 (12/90) (EF) WEF061
Chain of Custody

Westinghouse Hanford Company	SAMPLE ANALYSIS REQUEST

Collector J.E.Darling Date August 27, 1992

Company Contact WV SEIZER Telephone (509)376 2413

Sample Number	*	Date Collected	Time Collected	Number and Type of Sample Containers/Analysis Required
B075N2	S	08-27-92	N/A	~~1-250ml aG CLP;ICP/AA Metals,Hg,Cn~~ 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/~~353.2~~;Anions(F,SO4,~~NO3~~) ~~1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14~~ ~~U-235/238,Pu-239/240,Am-241~~
B075H5	S	08-27-92	N/A	~~1-250ml aG CLP;ICP/AA Metals,Hg,Cn~~ 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/~~353.2~~;Anions(F,SO4,~~NO3~~) ~~1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14~~ ~~U-235/238,Pu-239/240,Am-241~~
				1-250ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
				1-120ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241

*Type of Sample A = Air; Dl = Drum Liquids; DS = Drum Solids; L = Liquid; O = Oil; S = Soil; SE = Sediment; SL = Sludge; SO = Solid; T = Tissue; W = Water; WI = Wipe; X = Other

Field Information FROM 100-FR-3 Drilling

Special Handling and/or Storage Maintain at 4C

Possible Sample Hazards NA

000007

SAMPLE LOG-IN SHEET

LAB NAME : TMA/ARL1 PAGE : OF

RECEIVED BY (PRINT NAME): CAROLE HARRIS LOG-IN-DATE : 9-1-92

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.: 2521032474
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: 9-1-92
12. Temp of ice chest 4.0 °C
13. Time Recieved: 9:30 AM

SAMPLE TRANSFER

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

EPA SAMPLE #	CORRESPONDING SAMPLE TAG #	CORRESPONDING ASSIGNED LAB #	REMARKS: CONDITION OF SAMPLE SHIPMENT, ETC
	B075N1	A2-08-066-01	
	B075N3	A2-08-066-02	
	B075H3	A2-08-066-03	
	B075H4	A2-08-066-04	
	B075N2	A2-08-066-05	
	B075H5	A2-08-066-06	

* Contact SMO and attach record of resolution

Reviewed By: _____ Logbook No.: _____

Date: _____ Logbook Page No.: _____

FORM DC-1

DOC2/LOGIN.TBL

TMA/ARLI
Thermo Analytical Inc.

RADIATION DOSE RATE SURVEY FORM

Date 9/01/92 COMPANY NORCAL (WHC) OTHER ORD # 2521032474

Surveyor's Name MARK S. McCray

Model No. HP-210 / ESP-1 Model No. AC-3-7 / ESP-1

Serial Nos. 710289 / 02619 Serial Nos. 407726 / 02628

Calibration Date 3/25/92 Calibration Date 8/01/92

Instrument Calibration Factor 0.280 Instrument Calibration Factor 0.188

Sample	Location	HP-210 CPM	HP-210 Factor	HP-210 DPM	AC-3-7 CPM	AC-3-7 Factor	AC-3-7 DPM	Spillage or Breakage?	Activity, nCi/mL or nCi/g
Background		36.0			1.0				
Consistency		7,230	0.2791		5,140	0.1889			
Smears: Doodle		38.0			0				
Pokey		59.0			6.0				
Reported (WHC)		34	samples each		<	50	pCi/gram		

Comments:

All OK ✓ Approved

Not OK Date 9/01/92

Form: ARLI RA-01
Rev: 06

01/15/92

FEDERAL EXPRESS

QUESTIONS? CALL 800-238-5355 TOLL FREE.

AIRBILL
PACKAGE TRACKING NUMBER 2521032474

2521032474

RECIPIENT'S COPY

1 Date 8-3-92

From (Your Name) Please Print: SAMPLE CONTROL
Your Phone Number (Very Important): 619-239-2033
Company: TMA/NORCAL
Department/Floor No.
Street Address: 2[illegible] WRIGHT AVE
City: RICHMOND State: CA ZIP Required: 94804

2 To (Recipient's Name) Please Print: SAMPLE CONTROL
Recipient's Phone Number (Very Important)
Company: TMA/ARC
Department/Floor No.
Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes): 160 TALLER STREET
City: MONROVIA State: CA ZIP Required: 91016

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice.): 2320 6406

H IF HOLD FOR PICK-UP, Print FEDEX Address Here
Street Address
City State ZIP Required

3 PAYMENT 1 [x] Bill Sender 2 [ ] Bill Recipient's FedEx Acct. No. 3 [ ] Bill 3rd Party FedEx Acct. No. 4 [ ] Bill Credit Card 5 [ ] Cash/Check

4 SERVICES (Check only one box)

Priority Overnight (Delivery by next business morning)	Standard Overnight (Delivery by next business afternoon)
11 [x] YOUR PACKAGING	51 [ ] YOUR PACKAGING
16 [ ] FEDEX LETTER *	56 [ ] FEDEX LETTER *
12 [ ] FEDEX PAK *	52 [ ] FEDEX PAK *
13 [ ] FEDEX BOX	53 [ ] FEDEX BOX
14 [ ] FEDEX TUBE	54 [ ] FEDEX TUBE
Economy Two-Day (Delivery by second business day)	**Government Overnight** (Restricted to authorized users only)
30 [ ] ECONOMY	46 [ ] GOV'T LETTER
	41 [ ] GOV'T PACKAGE

Freight Service
70 [ ] OVERNIGHT FREIGHT ** (Confirmed reservation required)
80 [ ] TWO-DAY FREIGHT **
† Delivery commitment may be later in some areas
*Declared value limit $100
**Call for delivery schedule

5 DELIVERY AND SPECIAL HANDLING (Check services required)
1 [ ] HOLD FOR PICK-UP (Fill in Box H)
2 [x] DELIVER WEEKDAY
3 DELIVER SATURDAY (Extra charge) (Not available to all locations) [ ]
4 [ ] DANGEROUS GOODS (Extra charge)
5 [ ]
6 [ ] DRY ICE Lbs
7 [ ] OTHER SPECIAL SERVICE
8 [ ]
9 [ ] SATURDAY PICK-UP (Extra charge)
10 [ ]
11 [ ]
12 [ ] HOLIDAY DELIVERY (Extra charge)

6 PACKAGES | WEIGHT in Pounds Only | YOUR DECLARED VALUE
Total 2 Total 172 Total

DIM SHIPMENT (Chargeable Weight)
[ ] _____ lbs
L x W x H = _____
Received At
1 [x] Regular Stop 3 [ ] Drop Box 4 [ ] B.S.C.
2 [ ] On Call Stop 5 [ ] Station

Emp. No. Date
[ ] Cash Received
[ ] Return Shipment
[ ] Third Party [ ] Chg. To Del. [ ] Chg. To Hold
Street Address
City State Zip
Received By
X
Date/Time Received FedEx Employee Number

7 Release Signature
FedEx Emp. No. Date/Time

Federal Express
Base Charges
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Other
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REVISION DATE 6/91
PART #137204 FXEM
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099
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GENERAL CHEMISTRY RESULTS

CASE NO. 08-066

Soil Sample #:

B075N1	B075N3	B075H3
B075H4	B075N2	B075H5

CASE NARRATIVE

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

Ernesto Vazquez

Ernesto Vazquez

TMA Inc. REPORT Work Order # A2-08-066

Received: 08/31/92 10/22/92 11:37:07

REPORT TO: Westinghouse Hanford Company
2355 Stevens Dr.
Richland,WA.99352
MO-346/200 West/T6-08

ATTEN: Jeanette Duncan

PREPARED BY: Thermo Analytical, Inc.
160 Taylor Street
Monrovia, CA 91016

ATTEN: Ms. Carole Harris

PHONE: 818-357-3247

CERTIFIED BY: Ernesto Vargas

CONTACT: EVV CIH

CLIENT: WHC SAMPLES: 7

COMPANY: Westinghouse Hanford Company

FACILITY:

This report is for the sole and exclusive use of the client to whom it is addressed and represents only those samples herein described. Samples not destroyed in testing are retained a maximum of 30 days unless otherwise requested.

WORK ID: 100-FR-3

TAKEN: By Westinghouse Staff

TRANS: By Federal Express

TYPE: Soil

P.O. #: N2-08-192-SU-AR

INVOICE: under separate cover

SAMPLE IDENTIFICATION

01 B075N1
01 B075N1 MS
01 B075N1 MSD
01 B075N1
02 B075N3
02 B075N3 MS
02 B075N3 MSD
02 B075N3
03 B075H3
03 B075H3 MS
03 B075H3 MSD
03 B075H3
04 B075H4
04 B075H4 MS
05 B075N2
05 B075N2 Duplicate
06 B075H5
07 Wet Chemistry Blank

TEST CODES and NAMES used on this workorder

BNCLPS	CLP Semivol. Soil. - WH016
IC AN	Anions Extraction Solids
PECLPS	CLP Pest\PCBs Soil - WH015
VOCLPS	CLP Vol. Org.Soils - WH014
WCCLPS	Anions in Solids - WH232
WCQCD	Quality Control Summary
WCQCS	Quality Control Summary
WF S	Fluoride in Solids
WMOIST	Moisture
WPH S	pH of Solids - WH217
WSO4 S	Sulfate (in Solids)

TMA Inc. REPORT Work Order # A2-08-066

Received: 08/31/92

Results by Sample

SAMPLE ID B075W1 FRACTION 01E TEST CODE WCCLPS NAME Anions in Solids - WW232

Date & Time Collected 08/26/92 Category

ANIONS AND WET CHEMISTRY - SOLIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Fluoride	300.0	4	mg/Kg	1.
Sulfate	300.0	29	mg/Kg	10.

FORM I

TMA Inc. REPORT Work Order # A2-08-066

Received: 08/31/92

Results by Sample

SAMPLE ID B075N3 FRACTION 02E TEST CODE WCCLPS NAME Anions in Solids - WH232

Date & Time Collected 08/26/92 Category

ANIONS AND WET CHEMISTRY - SOLIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Fluoride	300.0	3	mg/Kg	1.
Sulfate	300.0	29	mg/Kg	10.

FORM I

TMA Inc. REPORT Work Order # A2-08-066

Received: 08/31/92

Results by Sample

SAMPLE ID B075N3 FRACTION 03E TEST CODE WCCLPS NAME Anions in Solids - WN232

Date & Time Collected 08/26/92 Category

ANIONS AND WET CHEMISTRY - SOLIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Fluoride	300.0	3	mg/Kg	1.
Sulfate	300.0	28	mg/Kg	10.

FORM I

TMA Inc. REPORT Work Order # A2-08-066

Received: 08/31/92

Results by Sample

SAMPLE ID B075M4 FRACTION 04C TEST CODE WCCLPS NAME Anions in Solids - WH232

Date & Time Collected 08/26/92 Category

ANIONS AND WET CHEMISTRY - SOLIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Fluoride	300.0	3	mg/Kg	1.
Sulfate	300.0	25	mg/Kg	10.

FORM I

TMA Inc. REPORT Work Order # A2-08-066

Received: 08/31/92 Results by Sample

SAMPLE ID B075N2 FRACTION 05C TEST CODE WCCLPS NAME Anions in Solids - WW222

Date & Time Collected 08/27/92 Category

ANIONS AND WET CHEMISTRY - SOLIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Fluoride	300.0	<1	mg/Kg	1.
Sulfate	300.0	170	mg/Kg	10.

FORM I

TMA Inc. REPORT Work Order # A2-08-066

Received: 08/31/92

Results by Sample

SAMPLE ID B075M5 FRACTION 06C TEST CODE WCCLPS NAME Anions in Solids - WN232

Date & Time Collected 08/27/92 Category

ANIONS AND WET CHEMISTRY - SOLIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Fluoride	300.0	5	mg/Kg	1.
Sulfate	300.0	39	mg/Kg	10.

FORM I

CASE NARRATIVE

LABORATORY : TMA/ARLI

CASE : 08-066

CONTRACT ID : WESTINGHOUSE HANFORD COMPANY

SDG RECEIPT DATE : August 31, 1992

1.0 DESCRIPTION OF CASE :

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

2.0 SAMPLE LIST :

WESTINGHOUSE ID	LAB ID	ANALYSIS REQUESTED	MATRIX
B075N1	A2-08-066-01A	V	SOIL
B075N1 MS	A2-08-066-01B	V	SOIL
B075N1 MSD	A2-08-066-01C	V	SOIL
B075N1	A2-08-066-01D	SV & P	SOIL
B075N3	A2-08-066-02A	V	SOIL
B075N3	A2-08-066-02B	SV & P	SOIL
B075N3 MS	A2-08-066-02C	SV	SOIL
B075N3 MSD	A2-08-066-02D	SV	SOIL
B075H3	A2-08-066-03A	V	SOIL
B075H3	A2-08-066-03B	SV & P	SOIL
B075H3 MS	A2-08-066-03C	P	SOIL
B075H3 MSD	A2-08-066-03D	P	SOIL
B075H4	A2-08-066-04A	V	SOIL
B075H4	A2-08-066-04B	SV & P	SOIL
B075N2	A2-08-066-05A	V	SOIL
B075N2	A2-08-066-05B	SV & P	SOIL
B075H5	A2-08-066-06A	V	SOIL
B075H5	A2-08-066-06B	SV & P	SOIL

3.0 COMMENTS :

3.1 SHIPPING AND DOCUMENTATION :

The 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 extracted and analyzed within the CLP SOW holding times. All of the QC results were within the limits specified by the EPA CLP SOW.

3.2.3 PESTICIDE/PCB ANALYSIS COMMENTS :

SEQUENCE NOTES :

The sequence was started on 9/24/92 and was analyzed in accordance with the EPA CLP SOW. The sequence was analyzed by single injection into a dual column system. The sequence met all of the QC limits specified in the CLP SOW.

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

SAMPLE NOTES :

LOW LEVEL SOIL :

The samples were extracted and analyzed within the CLP SOW holding times. Sample B075H3 had a surrogate recovery for TCX slightly below the advisory QC limit on the DB-608 column. In accordance with protocol, no further action was required.

On the DB-1701 column, sample B075H3MS had a spike recovery for gamma-BHC that exceeded the advisory QC limit. It appears that an interference peak co-eluted with the gamma-BHC on the DB-1701 column. Therefore, the percent difference (%D) between the two GC columns exceeds the 25% advisory limit. The Dieldrin spike recoveries on both columns were within the QC limits; however, the percent difference exceeded 25%. Therefore, gamma-BHC and Dieldrin have been "P" qualified.

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

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

000005

EPA SAMPLE NO.

B075H3

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08066 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208066-03A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 20909R07

Level: (low/med) LOW Date Received: 08/31/92

% Moisture: not dec. 3 Date Analyzed: 09/09/92

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	10	U
67-64-1	Acetone	13	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	2	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.
B075H3

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08066 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208066-03A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 20909R07

Level: (low/med) LOW Date Received: 08/31/92

% Moisture: not dec. 3 Date Analyzed: 09/09/92

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.

B07514

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08066 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A203066-04A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 20909R08

Level: (low/med) LOW Date Received: 08/31/92

% Moisture: not dec. 2 Date Analyzed: 09/09/92

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	10	U
67-64-1	Acetone	9	BJ
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	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

000008

EPA SAMPLE NO.

B075H4

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08066 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208066-04A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 20909R08

Level: (low/med) LOW Date Received: 08/31/92

% Moisture: not dec. 2 Date Analyzed: 09/09/92

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.

B075H5

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08066 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208066-06A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 20910R06

Level: (low/med) LOW Date Received: 08/31/92

% Moisture: not dec. 21 Date Analyzed: 09/10/92

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	13	U
74-83-9	Bromomethane	13	U
75-01-4	Vinyl Chloride	13	U
75-00-3	Chloroethane	13	U
75-09-2	Methylene Chloride	13	U
67-64-1	Acetone	21	B
75-15-0	Carbon Disulfide	13	U
75-35-4	1,1-Dichloroethene	13	U
75-34-3	1,1-Dichloroethane	13	U
540-59-0	1,2-Dichloroethene (total)	13	U
67-66-3	Chloroform	13	U
107-06-2	1,2-Dichloroethane	13	U
78-93-3	2-Butanone	13	U
71-55-6	1,1,1-Trichloroethane	13	U
56-23-5	Carbon Tetrachloride	13	U
75-27-4	Bromodichloromethane	13	U
78-87-5	1,2-Dichloropropane	13	U
10061-01-5	cis-1,3-Dichloropropene	13	U
79-01-6	Trichloroethene	13	U
124-48-1	Dibromochloromethane	13	U
79-00-5	1,1,2-Trichloroethane	13	U
71-43-2	Benzene	13	U
10061-02-6	trans-1,3-Dichloropropene	13	U
75-25-2	Bromoform	13	U
108-10-1	4-Methyl-2-Pentanone	13	U
591-78-6	2-Hexanone	13	U
127-18-4	Tetrachloroethene	13	U
79-34-5	1,1,2,2-Tetrachloroethane	13	U
108-88-3	Toluene	13	U
108-90-7	Chlorobenzene	13	U
100-41-4	Ethylbenzene	13	U
100-42-5	Styrene	13	U
1330-20-7	Xylene (total)	13	U

000010
EPA SAMPLE NO.

B075H5

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08066 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208066-06A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 20910R06

Level: (low/med) LOW Date Received: 08/31/92

% Moisture: not dec. 21 Date Analyzed: 09/10/92

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	8.13	9	J

EPA SAMPLE NO.

B075N1

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08066 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208066-01A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 20909R03

Level: (low/med) LOW Date Received: 08/31/92

% Moisture: not dec. 7 Date Analyzed: 09/09/92

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	11	U
67-64-1	Acetone	21	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

EPA SAMPLE NO.

B075N1

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08066 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208066-01A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 20909R03

Level: (low/med) LOW Date Received: 08/31/92

% Moisture: not dec. 7 Date Analyzed: 09/09/92

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 ALKANE	29.53	8	J

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B075N2

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08066 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208066-05A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 20909R09

Level: (low/med) LOW Date Received: 08/31/92

% Moisture: not dec. 24 Date Analyzed: 09/09/92

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	13	U
74-83-9	Bromomethane	13	U
75-01-4	Vinyl Chloride	13	U
75-00-3	Chloroethane	13	U
75-09-2	Methylene Chloride	4	J
67-64-1	Acetone	29	B
75-15-0	Carbon Disulfide	13	U
75-35-4	1,1-Dichloroethene	13	U
75-34-3	1,1-Dichloroethane	13	U
540-59-0	1,2-Dichloroethene (total)	13	U
67-66-3	Chloroform	13	U
107-06-2	1,2-Dichloroethane	13	U
78-93-3	2-Butanone	13	U
71-55-6	1,1,1-Trichloroethane	13	U
56-23-5	Carbon Tetrachloride	13	U
75-27-4	Bromodichloromethane	13	U
78-87-5	1,2-Dichloropropane	13	U
10061-01-5	cis-1,3-Dichloropropene	13	U
79-01-6	Trichloroethene	13	U
124-48-1	Dibromochloromethane	13	U
79-00-5	1,1,2-Trichloroethane	13	U
71-43-2	Benzene	13	U
10061-02-6	trans-1,3-Dichloropropene	13	U
75-25-2	Bromoform	13	U
108-10-1	4-Methyl-2-Pentanone	13	U
591-78-6	2-Hexanone	13	U
127-18-4	Tetrachloroethene	13	U
79-34-5	1,1,2,2-Tetrachloroethane	13	U
108-88-3	Toluene	9	J
108-90-7	Chlorobenzene	13	U
100-41-4	Ethylbenzene	13	U
100-42-5	Styrene	13	U
1330-20-7	Xylene (total)	13	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
B075N2

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08066 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208066-05A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 20909R09

Level: (low/med) LOW Date Received: 08/31/92

% Moisture: not dec. 24 Date Analyzed: 09/09/92

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	29.58	8	J

000015
EPA SAMPLE NO.

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

B075N3

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08066 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208066-02A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 20909R06

Level: (low/med) LOW Date Received: 08/31/92

% Moisture: not dec. 2 Date Analyzed: 09/09/92

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	10	U
67-64-1	Acetone	21	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	2	J
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	13	
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.
B075N3

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08066 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208066-02A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 20909R06

Level: (low/med) LOW Date Received: 08/31/92

% Moisture: not dec. 2 Date Analyzed: 09/09/92

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 ALCOHOL	29.50	17	J

000017

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B075H3

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08066 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208066-03B

Sample wt/vol: 30.3 (g/mL) G Lab File ID: 20908S07

Level: (low/med) LOW Date Received: 08/31/92

% Moisture: 3 decanted: (Y/N) N Date Extracted: 09/03/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 09/08/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.3

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	340	U
111-44-4	bis(2-Chloroethyl)Ether	340	U
95-57-8	2-Chlorophenol	340	U
541-73-1	1,3-Dichlorobenzene	340	U
106-46-7	1,4-Dichlorobenzene	340	U
95-50-1	1,2-Dichlorobenzene	340	U
95-48-7	2-Methylphenol	340	U
108-60-1	2,2'-oxybis(1-Chloropropane)	340	U
106-44-5	4-Methylphenol	340	U
621-64-7	N-Nitroso-Di-n-Propylamine	340	U
67-72-1	Hexachloroethane	340	U
98-95-3	Nitrobenzene	340	U
78-59-1	Isophorone	340	U
88-75-5	2-Nitrophenol	340	U
105-67-9	2,4-Dimethylphenol	340	U
111-91-1	bis(2-Chloroethoxy)Methane	340	U
120-83-2	2,4-Dichlorophenol	340	U
120-82-1	1,2,4-Trichlorobenzene	340	U
91-20-3	Naphthalene	340	U
106-47-8	4-Chloroaniline	340	U
87-68-3	Hexachlorobutadiene	340	U
59-50-7	4-Chloro-3-Methylphenol	340	U
91-57-6	2-Methylnaphthalene	340	U
77-47-4	Hexachlorocyclopentadiene	340	U
88-06-2	2,4,6-Trichlorophenol	340	U
95-95-4	2,4,5-Trichlorophenol	820	U
91-58-7	2-Chloronaphthalene	340	U
88-74-4	2-Nitroaniline	820	U
131-11-3	Dimethylphthalate	340	U
208-96-8	Acenaphthylene	340	U
99-09-2	3-Nitroaniline	820	U
83-32-9	Acenaphthene	340	U
51-28-5	2,4-Dinitrophenol	820	U

EPA SAMPLE NO.

B075H3

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08066 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208066-03B

Sample wt/vol: 30.3 (g/mL) G Lab File ID: 20908S07

Level: (low/med) LOW Date Received: 08/31/92

% Moisture: 3 decanted: (Y/N) N Date Extracted: 09/03/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 09/08/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.3

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-02-7	4-Nitrophenol	820	U
132-64-9	Dibenzofuran	340	U
121-14-2	2,4-Dinitrotoluene	340	U
606-20-2	2,6-Dinitrotoluene	340	U
84-66-2	Diethylphthalate	340	U
7005-72-3	4-Chlorophenyl-phenylether	340	U
86-73-7	Fluorene	340	U
100-01-6	4-Nitroaniline	820	U
534-52-1	4,6-Dinitro-2-methylphenol	820	U
86-30-6	N-Nitrosodiphenylamine (1)	340	U
101-55-3	4-Bromophenyl-phenylether	340	U
118-74-1	Hexachlorobenzene	340	U
87-86-5	Pentachlorophenol	820	U
85-01-8	Phenanthrene	340	U
120-12-7	Anthracene	340	U
86-74-8	Carbazole	340	U
84-74-2	Di-n-Butylphthalate	340	U
206-44-0	Fluoranthene	340	U
129-00-0	Pyrene	340	U
85-68-7	Butylbenzylphthalate	340	U
91-94-1	3,3'-Dichlorobenzidine	340	U
56-55-3	Benzo(a)Anthracene	340	U
117-81-7	bis(2-Ethylhexyl)Phthalate	340	U
218-01-9	Chrysene	340	U
117-84-0	Di-n-Octyl Phthalate	340	U
205-99-2	Benzo(b)Fluoranthene	340	U
207-08-9	Benzo(k)Fluoranthene	340	U
50-32-8	Benzo(a)Pyrene	340	U
193-39-5	Indeno(1,2,3-cd)Pyrene	340	U
53-70-3	Dibenz(a,h)Anthracene	340	U
191-24-2	Benzo(g,h,i)Perylene	340	U

(1) - Cannot be separated from Diphenylamine

EPA SAMPLE NO.

B075H3

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08066 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208066-03B

Sample wt/vol: 30.3 (g/mL) G Lab File ID: 20908S07

Level: (low/med) LOW Date Received: 08/31/92

% Moisture: 3 decanted: (Y/N) N Date Extracted: 09/03/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 09/08/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.3

Number TICs found: 12

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	5.23	2700	BJ
2.	UNKNOWN HYDROCARBON	5.65	64000	BJ
3.	UNKNOWN HYDROCARBON	5.73	610	J
4.	UNKNOWN HYDROCARBON	6.63	240	BJ
5.	UNKNOWN HYDROCARBON	6.73	680	BJ
6.	HALOGENATED HYDROCARBON	6.82	100	J
7.	UNKNOWN KETONE	7.05	240	BJ
8.	UNKNOWN HYDROCARBON	7.15	580	BJ
9.	UNKNOWN ALCOHOL	8.40	990	BJ
10.	UNKNOWN HYDROCARBON	18.33	140	BJ
11.	HEXANEDIOIC ACID ISOMER	24.83	24000	BJ
12.	UNKNOWN HYDROCARBON	32.45	2700	J

000020
EPA SAMPLE NO.

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B075H4

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08066 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208066-04B

Sample wt/vol: 30.9 (g/mL) G Lab File ID: 20908S08

Level: (low/med) LOW Date Received: 08/31/92

% Moisture: 2 decanted: (Y/N) N Date Extracted: 09/03/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 09/08/92

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	330	U
111-44-4	bis(2-Chloroethyl)Ether	330	U
95-57-8	2-Chlorophenol	330	U
541-73-1	1,3-Dichlorobenzene	330	U
106-46-7	1,4-Dichlorobenzene	330	U
95-50-1	1,2-Dichlorobenzene	330	U
95-48-7	2-Methylphenol	330	U
108-60-1	2,2'-oxybis(1-Chloropropane)	330	U
106-44-5	4-Methylphenol	330	U
621-64-7	N-Nitroso-Di-n-Propylamine	330	U
67-72-1	Hexachloroethane	330	U
98-95-3	Nitrobenzene	330	U
78-59-1	Isophorone	330	U
88-75-5	2-Nitrophenol	330	U
105-67-9	2,4-Dimethylphenol	330	U
111-91-1	bis(2-Chloroethoxy)Methane	330	U
120-83-2	2,4-Dichlorophenol	330	U
120-82-1	1,2,4-Trichlorobenzene	330	U
91-20-3	Naphthalene	330	U
106-47-8	4-Chloroaniline	330	U
87-68-3	Hexachlorobutadiene	330	U
59-50-7	4-Chloro-3-Methylphenol	330	U
91-57-6	2-Methylnaphthalene	330	U
77-47-4	Hexachlorocyclopentadiene	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	330	U
51-28-5	2,4-Dinitrophenol	790	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B075H4

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08066 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208066-04B

Sample wt/vol: 30.9 (g/mL) G Lab File ID: 20908S08

Level: (low/med) LOW Date Received: 08/31/92

% Moisture: 2 decanted: (Y/N) N Date Extracted: 09/03/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 09/08/92

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	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	790	U
85-01-8	Phenanthrene	330	U
120-12-7	Anthracene	330	U
86-74-8	Carbazole	330	U
84-74-2	Di-n-Butylphthalate	37	J
206-44-0	Fluoranthene	330	U
129-00-0	Pyrene	330	U
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	330	U
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

EPA SAMPLE NO.

B075H4

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08066 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208066-04B

Sample wt/vol: 30.9 (g/mL) G Lab File ID: 20908S08

Level: (low/med) LOW Date Received: 08/31/92

% Moisture: 2 decanted: (Y/N) N Date Extracted: 09/03/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 09/08/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

Number TICs found: 13

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	5.17	2300	BJ
2.	UNKNOWN HYDROCARBON	5.62	55000	BJ
3.	UNKNOWN HYDROCARBON	5.72	630	BJ
4.	UNKNOWN HYDROCARBON	6.63	170	BJ
5.	UNKNOWN HYDROCARBON	6.73	530	BJ
6.	HALOGENATED HYDROCARBON	6.80	66	J
7.	UNKNOWN KETONE	7.03	200	BJ
8.	UNKNOWN HYDROCARBON	7.15	460	BJ
9.	UNKNOWN KETONE	7.23	130	J
10.	UNKNOWN ALCOHOL	8.40	660	BJ
11.	UNKNOWN HYDROCARBON	18.35	200	BJ
12.	HEXANEDIOIC ACID ISOMER	24.77	230	BJ
13.	UNKNOWN HYDROCARBON	32.43	2500	BJ

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B075H5

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08066 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208066-06B

Sample wt/vol: 30.7 (g/mL) G Lab File ID: 20908S10

Level: (low/med) LOW Date Received: 08/31/92

% Moisture: 21 decanted: (Y/N) N Date Extracted: 09/03/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 09/08/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	410	U
111-44-4	bis(2-Chloroethyl)Ether	410	U
95-57-8	2-Chlorophenol	410	U
541-73-1	1,3-Dichlorobenzene	410	U
106-46-7	1,4-Dichlorobenzene	410	U
95-50-1	1,2-Dichlorobenzene	410	U
95-48-7	2-Methylphenol	410	U
108-60-1	2,2'-oxybis(1-Chloropropane)	410	U
106-44-5	4-Methylphenol	410	U
621-64-7	N-Nitroso-Di-n-Propylamine	410	U
67-72-1	Hexachloroethane	410	U
98-95-3	Nitrobenzene	410	U
78-59-1	Isophorone	410	U
88-75-5	2-Nitrophenol	410	U
105-67-9	2,4-Dimethylphenol	410	U
111-91-1	bis(2-Chloroethoxy)Methane	410	U
120-83-2	2,4-Dichlorophenol	410	U
120-82-1	1,2,4-Trichlorobenzene	410	U
91-20-3	Naphthalene	410	U
106-47-8	4-Chloroaniline	410	U
87-68-3	Hexachlorobutadiene	410	U
59-50-7	4-Chloro-3-Methylphenol	410	U
91-57-6	2-Methylnaphthalene	410	U
77-47-4	Hexachlorocyclopentadiene	410	U
88-06-2	2,4,6-Trichlorophenol	410	U
95-95-4	2,4,5-Trichlorophenol	990	U
91-58-7	2-Chloronaphthalene	410	U
88-74-4	2-Nitroaniline	990	U
131-11-3	Dimethylphthalate	410	U
208-96-8	Acenaphthylene	410	U
99-09-2	3-Nitroaniline	990	U
83-32-9	Acenaphthene	410	U
51-28-5	2,4-Dinitrophenol	990	U

EPA SAMPLE NO.

B075H5

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08066 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208066-06B

Sample wt/vol: 30.7 (g/mL) G Lab File ID: 20908S10

Level: (low/med) LOW Date Received: 08/31/92

% Moisture: 21 decanted: (Y/N) N Date Extracted: 09/03/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 09/08/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-02-7	4-Nitrophenol	990	U
132-64-9	Dibenzofuran	410	U
121-14-2	2,4-Dinitrotoluene	410	U
606-20-2	2,6-Dinitrotoluene	410	U
84-66-2	Diethylphthalate	410	U
7005-72-3	4-Chlorophenyl-phenylether	410	U
86-73-7	Fluorene	410	U
100-01-6	4-Nitroaniline	990	U
534-52-1	4,6-Dinitro-2-methylphenol	990	U
86-30-6	N-Nitrosodiphenylamine (1)	410	U
101-55-3	4-Bromophenyl-phenylether	410	U
118-74-1	Hexachlorobenzene	410	U
87-86-5	Pentachlorophenol	990	U
85-01-8	Phenanthrene	410	U
120-12-7	Anthracene	410	U
86-74-8	Carbazole	410	U
84-74-2	Di-n-Butylphthalate	48	J
206-44-0	Fluoranthene	410	U
129-00-0	Pyrene	410	U
85-68-7	Butylbenzylphthalate	410	U
91-94-1	3,3'-Dichlorobenzidine	410	U
56-55-3	Benzo(a)Anthracene	410	U
117-81-7	bis(2-Ethylhexyl)Phthalate	410	U
218-01-9	Chrysene	410	U
117-84-0	Di-n-Octyl Phthalate	410	U
205-99-2	Benzo(b)Fluoranthene	410	U
207-08-9	Benzo(k)Fluoranthene	410	U
50-32-8	Benzo(a)Pyrene	410	U
193-39-5	Indeno(1,2,3-cd)Pyrene	410	U
53-70-3	Dibenz(a,h)Anthracene	410	U
191-24-2	Benzo(g,h,i)Perylene	410	U

(1) - Cannot be separated from Diphenylamine

EPA SAMPLE NO.

B075H5

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08066 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208066-06B

Sample wt/vol: 30.7 (g/mL) G Lab File ID: 20908S10

Level: (low/med) LOW Date Received: 08/31/92

% Moisture: 21 decanted: (Y/N) N Date Extracted: 09/03/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 09/08/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.7

Number TICs found: 14

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	5.07	830	J
2.	UNKNOWN HYDROCARBON	5.17	540	J
3.	UNKNOWN HYDROCARBON	5.32	2100	J
4.	UNKNOWN HYDROCARBON	5.70	79000	BJ
5.	UNKNOWN HYDROCARBON	5.75	740	J
6.	UNKNOWN HYDROCARBON	6.63	290	J
7.	HALOGENATED HYDROCARBON	6.83	170	J
8.	UNKNOWN KETONE	6.90	250	J
9.	UNKNOWN KETONE	7.05	290	BJ
10.	UNKNOWN HYDROCARBON	7.25	540	J
11.	UNKNOWN HYDROCARBON	18.35	620	BJ
12.	HEXANEDIOIC ACID ISOMER	22.23	170	J
13.	HEXANEDIOIC ACID ISOMER	24.78	1400	BJ
14.	UNKNOWN HYDROCARBON	32.27	2100	J

EPA SAMPLE NO.

B075N1

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08066 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208066-01D

Sample wt/vol: 30.5 (g/mL) G Lab File ID: 20908S03

Level: (low/med) LOW Date Received: 08/31/92

% Moisture: 7 decanted: (Y/N) N Date Extracted: 09/03/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 09/08/92

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	350	U
111-44-4	bis(2-Chloroethyl)Ether	350	U
95-57-8	2-Chlorophenol	350	U
541-73-1	1,3-Dichlorobenzene	350	U
106-46-7	1,4-Dichlorobenzene	350	U
95-50-1	1,2-Dichlorobenzene	350	U
95-48-7	2-Methylphenol	350	U
108-60-1	2,2'-oxybis(1-Chloropropane)	350	U
106-44-5	4-Methylphenol	350	U
621-64-7	N-Nitroso-Di-n-Propylamine	350	U
67-72-1	Hexachloroethane	350	U
98-95-3	Nitrobenzene	350	U
78-59-1	Isophorone	350	U
88-75-5	2-Nitrophenol	350	U
105-67-9	2,4-Dimethylphenol	350	U
111-91-1	bis(2-Chloroethoxy)Methane	350	U
120-83-2	2,4-Dichlorophenol	350	U
120-82-1	1,2,4-Trichlorobenzene	350	U
91-20-3	Naphthalene	350	U
106-47-8	4-Chloroaniline	350	U
87-68-3	Hexachlorobutadiene	350	U
59-50-7	4-Chloro-3-Methylphenol	350	U
91-57-6	2-Methylnaphthalene	350	U
77-47-4	Hexachlorocyclopentadiene	350	U
88-06-2	2,4,6-Trichlorophenol	350	U
95-95-4	2,4,5-Trichlorophenol	850	U
91-58-7	2-Chloronaphthalene	350	U
88-74-4	2-Nitroaniline	850	U
131-11-3	Dimethylphthalate	350	U
208-96-8	Acenaphthylene	350	U
99-09-2	3-Nitroaniline	850	U
83-32-9	Acenaphthene	350	U
51-28-5	2,4-Dinitrophenol	850	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B075N1

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08066 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208066-01D

Sample wt/vol: 30.5 (g/mL) G Lab File ID: 20908S03

Level: (low/med) LOW Date Received: 08/31/92

% Moisture: 7 decanted: (Y/N) N Date Extracted: 09/03/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 09/08/92

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	850	U
132-64-9	Dibenzofuran	350	U
121-14-2	2,4-Dinitrotoluene	350	U
606-20-2	2,6-Dinitrotoluene	350	U
84-66-2	Diethylphthalate	40	J
7005-72-3	4-Chlorophenyl-phenylether	350	U
86-73-7	Fluorene	350	U
100-01-6	4-Nitroaniline	850	U
534-52-1	4,6-Dinitro-2-methylphenol	850	U
86-30-6	N-Nitrosodiphenylamine (1)	350	U
101-55-3	4-Bromophenyl-phenylether	350	U
118-74-1	Hexachlorobenzene	350	U
87-86-5	Pentachlorophenol	850	U
85-01-8	Phenanthrene	350	U
120-12-7	Anthracene	350	U
86-74-8	Carbazole	350	U
84-74-2	Di-n-Butylphthalate	350	U
206-44-0	Fluoranthene	350	U
129-00-0	Pyrene	350	U
85-68-7	Butylbenzylphthalate	350	U
91-94-1	3,3'-Dichlorobenzidine	350	U
56-55-3	Benzo(a)Anthracene	350	U
117-81-7	bis(2-Ethylhexyl)Phthalate	350	U
218-01-9	Chrysene	350	U
117-84-0	Di-n-Octyl Phthalate	350	U
205-99-2	Benzo(b)Fluoranthene	350	U
207-08-9	Benzo(k)Fluoranthene	350	U
50-32-8	Benzo(a)Pyrene	350	U
193-39-5	Indeno(1,2,3-cd)Pyrene	350	U
53-70-3	Dibenz(a,h)Anthracene	350	U
191-24-2	Benzo(g,h,i)Perylene	350	U

(1) - Cannot be separated from Diphenylamine

EPA SAMPLE NO.

B075N1

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08066 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208066-01D

Sample wt/vol: 30.5 (g/mL) G Lab File ID: 20908S03

Level: (low/med) LOW Date Received: 08/31/92

% Moisture: 7 decanted: (Y/N) N Date Extracted: 09/03/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 09/08/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

Number TICs found: 17

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	5.18	2200	BJ
2.	UNKNOWN HYDROCARBON	5.63	65000	BJ
3.	UNKNOWN HYDROCARBON	5.70	560	BJ
4.	UNKNOWN HYDROCARBON	6.17	71	J
5.	UNKNOWN HYDROCARBON	6.27	180	BJ
6.	UNKNOWN HYDROCARBON	6.60	210	BJ
7.	UNKNOWN HYDROCARBON	6.72	850	BJ
8.	UNKNOWN KETONE	7.02	250	BJ
9.	UNKNOWN HYDROCARBON	7.15	670	BJ
10.	UNKNOWN ALCOHOL	8.38	1400	BJ
11.	UNKNOWN HYDROCARBON	9.18	71	BJ
12.	UNKNOWN HYDROCARBON	18.32	250	BJ
13.	UNKNOWN CARBOXYLIC ACID ESTE	20.20	110	J
14.	UNKNOWN CARBOXYLIC ACID ESTE	21.13	71	J
15.	HEXANEDIOIC ACID ISOMER	24.80	20000	BJ
16.	UNKNOWN HYDROCARBON	26.83	110	J
17.	UNKNOWN HYDROCARBON	26.98	140	J

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B075N2

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08066 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208066-05B

Sample wt/vol: 30.7 (g/mL) G Lab File ID: 20908S09

Level: (low/med) LOW Date Received: 08/31/92

% Moisture: 24 decanted: (Y/N) N Date Extracted: 09/03/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 09/08/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.2

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	420	U
111-44-4	bis(2-Chloroethyl)Ether	420	U
95-57-8	2-Chlorophenol	420	U
541-73-1	1,3-Dichlorobenzene	420	U
106-46-7	1,4-Dichlorobenzene	420	U
95-50-1	1,2-Dichlorobenzene	420	U
95-48-7	2-Methylphenol	420	U
108-60-1	2,2'-oxybis(1-Chloropropane)	420	U
106-44-5	4-Methylphenol	420	U
621-64-7	N-Nitroso-Di-n-Propylamine	420	U
67-72-1	Hexachloroethane	420	U
98-95-3	Nitrobenzene	420	U
78-59-1	Isophorone	420	U
88-75-5	2-Nitrophenol	420	U
105-67-9	2,4-Dimethylphenol	420	U
111-91-1	bis(2-Chloroethoxy)Methane	420	U
120-83-2	2,4-Dichlorophenol	420	U
120-82-1	1,2,4-Trichlorobenzene	420	U
91-20-3	Naphthalene	420	U
106-47-8	4-Chloroaniline	420	U
87-68-3	Hexachlorobutadiene	420	U
59-50-7	4-Chloro-3-Methylphenol	420	U
91-57-6	2-Methylnaphthalene	420	U
77-47-4	Hexachlorocyclopentadiene	420	U
88-06-2	2,4,6-Trichlorophenol	420	U
95-95-4	2,4,5-Trichlorophenol	1000	U
91-58-7	2-Chloronaphthalene	420	U
88-74-4	2-Nitroaniline	1000	U
131-11-3	Dimethylphthalate	420	U
208-96-8	Acenaphthylene	420	U
99-09-2	3-Nitroaniline	1000	U
83-32-9	Acenaphthene	420	U
51-28-5	2,4-Dinitrophenol	1000	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B075N2

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08066 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208066-05B

Sample wt/vol: 30.7 (g/mL) G Lab File ID: 20908S09

Level: (low/med) LOW Date Received: 08/31/92

% Moisture: 24 decanted: (Y/N) N Date Extracted: 09/03/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 09/08/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.2

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-02-7	4-Nitrophenol	1000	U
132-64-9	Dibenzofuran	420	U
121-14-2	2,4-Dinitrotoluene	420	U
606-20-2	2,6-Dinitrotoluene	420	U
84-66-2	Diethylphthalate	690	
7005-72-3	4-Chlorophenyl-phenylether	420	U
86-73-7	Fluorene	420	U
100-01-6	4-Nitroaniline	1000	U
534-52-1	4,6-Dinitro-2-methylphenol	1000	U
86-30-6	N-Nitrosodiphenylamine (1)	420	U
101-55-3	4-Bromophenyl-phenylether	420	U
118-74-1	Hexachlorobenzene	420	U
87-86-5	Pentachlorophenol	1000	U
85-01-8	Phenanthrene	420	U
120-12-7	Anthracene	420	U
86-74-8	Carbazole	420	U
84-74-2	Di-n-Butylphthalate	420	U
206-44-0	Fluoranthene	420	U
129-00-0	Pyrene	420	U
85-68-7	Butylbenzylphthalate	420	U
91-94-1	3,3'-Dichlorobenzidine	420	U
56-55-3	Benzo(a)Anthracene	420	U
117-81-7	bis(2-Ethylhexyl)Phthalate	420	U
218-01-9	Chrysene	420	U
117-84-0	Di-n-Octyl Phthalate	420	U
205-99-2	Benzo(b)Fluoranthene	420	U
207-08-9	Benzo(k)Fluoranthene	420	U
50-32-8	Benzo(a)Pyrene	420	U
193-39-5	Indeno(1,2,3-cd)Pyrene	420	U
53-70-3	Dibenz(a,h)Anthracene	420	U
191-24-2	Benzo(g,h,i)Perylene	420	U

(1) - Cannot be separated from Diphenylamine

EPA SAMPLE NO.

B075N2

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08066 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208066-05B

Sample wt/vol: 30.7 (g/mL) G Lab File ID: 20908S09

Level: (low/med) LOW Date Received: 08/31/92

% Moisture: 24 decanted: (Y/N) N Date Extracted: 09/03/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 09/08/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.2

Number TICs found: 15

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN ACID	5.08	210	J
2.	UNKNOWN HYDROCARBON	5.23	2000	BJ
3.	UNKNOWN HYDROCARBON	5.67	73000	BJ
4.	UNKNOWN HYDROCARBON	5.73	730	J
5.	UNKNOWN HYDROCARBON	6.63	260	BJ
6.	UNKNOWN HYDROCARBON	6.77	640	BJ
7.	HALOGENATED HYDROCARBON	6.82	170	J
8.	UNKNOWN KETONE	7.05	260	BJ
9.	UNKNOWN KETONE	7.25	560	J
10.	UNKNOWN ALCOHOL	8.42	1300	BJ
11.	UNKNOWN HYDROCARBON	18.35	340	BJ
12.	UNKNOWN CARBOXYLIC ACID ESTE	20.22	86	J
13.	HEXANEDIOIC ACID ISOMER	24.85	25000	BJ
14.	UNKNOWN HYDROCARBON	27.90	86	J
15.	UNKNOWN HYDROCARBON	32.03	2200	J

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B075N3

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08066 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208066-02B

Sample wt/vol: 30.1 (g/mL) G Lab File ID: 20908S04

Level: (low/med) LOW Date Received: 08/31/92

% Moisture: 2 decanted: (Y/N) N Date Extracted: 09/03/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 09/08/92

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	340	U
111-44-4	bis(2-Chloroethyl)Ether	340	U
95-57-8	2-Chlorophenol	340	U
541-73-1	1,3-Dichlorobenzene	340	U
106-46-7	1,4-Dichlorobenzene	340	U
95-50-1	1,2-Dichlorobenzene	340	U
95-48-7	2-Methylphenol	340	U
108-60-1	2,2'-oxybis(1-Chloropropane)	340	U
106-44-5	4-Methylphenol	340	U
621-64-7	N-Nitroso-Di-n-Propylamine	340	U
67-72-1	Hexachloroethane	340	U
98-95-3	Nitrobenzene	340	U
78-59-1	Isophorone	340	U
88-75-5	2-Nitrophenol	340	U
105-67-9	2,4-Dimethylphenol	340	U
111-91-1	bis(2-Chloroethoxy)Methane	340	U
120-83-2	2,4-Dichlorophenol	340	U
120-82-1	1,2,4-Trichlorobenzene	340	U
91-20-3	Naphthalene	340	U
106-47-8	4-Chloroaniline	340	U
87-68-3	Hexachlorobutadiene	340	U
59-50-7	4-Chloro-3-Methylphenol	340	U
91-57-6	2-Methylnaphthalene	340	U
77-47-4	Hexachlorocyclopentadiene	340	U
88-06-2	2,4,6-Trichlorophenol	340	U
95-95-4	2,4,5-Trichlorophenol	810	U
91-58-7	2-Chloronaphthalene	340	U
88-74-4	2-Nitroaniline	810	U
131-11-3	Dimethylphthalate	340	U
208-96-8	Acenaphthylene	340	U
99-09-2	3-Nitroaniline	810	U
83-32-9	Acenaphthene	340	U
51-28-5	2,4-Dinitrophenol	810	U

EPA SAMPLE NO.

B075N3

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08066 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208066-02B

Sample wt/vol: 30.1 (g/mL) G Lab File ID: 20908S04

Level: (low/med) LOW Date Received: 08/31/92

% Moisture: 2 decanted: (Y/N) N Date Extracted: 09/03/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 09/08/92

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	810	U
132-64-9	Dibenzofuran	340	U
121-14-2	2,4-Dinitrotoluene	340	U
606-20-2	2,6-Dinitrotoluene	340	U
84-66-2	Diethylphthalate	340	U
7005-72-3	4-Chlorophenyl-phenylether	340	U
86-73-7	Fluorene	340	U
100-01-6	4-Nitroaniline	810	U
534-52-1	4,6-Dinitro-2-methylphenol	810	U
86-30-6	N-Nitrosodiphenylamine (1)	340	U
101-55-3	4-Bromophenyl-phenylether	340	U
118-74-1	Hexachlorobenzene	340	U
87-86-5	Pentachlorophenol	810	U
85-01-8	Phenanthrene	340	U
120-12-7	Anthracene	340	U
86-74-8	Carbazole	340	U
84-74-2	Di-n-Butylphthalate	340	U
206-44-0	Fluoranthene	340	U
129-00-0	Pyrene	340	U
85-68-7	Butylbenzylphthalate	340	U
91-94-1	3,3'-Dichlorobenzidine	340	U
56-55-3	Benzo(a)Anthracene	340	U
117-81-7	bis(2-Ethylhexyl)Phthalate	340	U
218-01-9	Chrysene	340	U
117-84-0	Di-n-Octyl Phthalate	340	U
205-99-2	Benzo(b)Fluoranthene	340	U
207-08-9	Benzo(k)Fluoranthene	340	U
50-32-8	Benzo(a)Pyrene	340	U
193-39-5	Indeno(1,2,3-cd)Pyrene	340	U
53-70-3	Dibenz(a,h)Anthracene	340	U
191-24-2	Benzo(g,h,i)Perylene	340	U

(1) - Cannot be separated from Diphenylamine

EPA SAMPLE NO.

B075N3

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08066 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208066-02B

Sample wt/vol: 30.1 (g/mL) G Lab File ID: 20908S04

Level: (low/med) LOW Date Received: 08/31/92

% Moisture: 2 decanted: (Y/N) N Date Extracted: 09/03/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 09/08/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

Number TICs found: 16

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	5.20	2500	BJ
2.	UNKNOWN HYDROCARBON	5.65	64000	BJ
3.	UNKNOWN HYDROCARBON	5.72	580	BJ
4.	UNKNOWN HYDROCARBON	6.28	170	BJ
5.	UNKNOWN HYDROCARBON	6.62	240	BJ
6.	UNKNOWN HYDROCARBON	6.73	850	BJ
7.	UNKNOWN KETONE	7.03	240	BJ
8.	UNKNOWN HYDROCARBON	7.17	680	BJ
9.	UNKNOWN ALCOHOL	8.40	1300	BJ
10.	UNKNOWN HYDROCARBON	9.20	68	BJ
11.	UNKNOWN HYDROCARBON	18.35	300	BJ
12.	UNKNOWN CARBOXYLIC ACID ESTE	20.22	580	J
13.	UNKNOWN CARBOXYLIC ACID ESTE	21.17	100	J
14.	HEXANEDIOIC ACID ISOMER	22.23	170	J
15.	HEXANEDIOIC ACID ISOMER	24.80	5800	BJ
16.	UNKNOWN HYDROCARBON	32.73	2400	J

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B075H3

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08066 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208066-03B

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

% Moisture: 3 decanted: (Y/N) N Date Received: 08/31/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 09/03/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 09/25/92

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 9.3 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	3.4	U
72-55-9	4,4'-DDE	3.4	U
72-20-8	Endrin	3.4	U
33213-65-9	Endosulfan II	3.4	U
72-54-8	4,4'-DDD	3.4	U
1031-07-8	Endosulfan sulfate	3.4	U
50-29-3	4,4'-DDT	3.4	U
72-43-5	Methoxychlor	17	U
53494-70-5	Endrin ketone	3.4	U
7421-36-3	Endrin aldehyde	3.4	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	34	U
11104-28-2	Aroclor-1221	69	U
11141-16-5	Aroclor-1232	34	U
53469-21-9	Aroclor-1242	34	U
12672-29-6	Aroclor-1248	34	U
11097-69-1	Aroclor-1254	34	U
11096-82-5	Aroclor-1260	34	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B075H4

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08066 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208066-04B

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

% Moisture: 2 decanted: (Y/N) N Date Received: 08/31/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 09/03/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 09/25/92

Injection Volume: 1.00 (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	1.7	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

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B075H5

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08066 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208066-06B

Sample wt/vol: 30.6 (g/mL) G Lab File ID:

% Moisture: 21 decanted: (Y/N) N Date Received: 08/31/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 09/03/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 09/25/92

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 8.7 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	2.1	U
319-85-7	beta-BHC	2.1	U
319-86-8	delta-BHC	2.1	U
58-89-9	gamma-BHC (Lindane)	2.1	U
76-44-8	Heptachlor	2.1	U
309-00-2	Aldrin	2.1	U
1024-57-3	Heptachlor epoxide	2.1	U
959-98-8	Endosulfan I	2.1	U
60-57-1	Dieldrin	4.1	U
72-55-9	4,4'-DDE	4.1	U
72-20-8	Endrin	4.1	U
33213-65-9	Endosulfan II	4.1	U
72-54-8	4,4'-DDD	4.1	U
1031-07-8	Endosulfan sulfate	4.1	U
50-29-3	4,4'-DDT	4.1	U
72-43-5	Methoxychlor	21	U
53494-70-5	Endrin ketone	4.1	U
7421-36-3	Endrin aldehyde	4.1	U
5103-71-9	alpha-Chlordane	2.1	U
5103-74-2	gamma-Chlordane	2.1	U
8001-35-2	Toxaphene	210	U
12674-11-2	Aroclor-1016	41	U
11104-28-2	Aroclor-1221	83	U
11141-16-5	Aroclor-1232	41	U
53469-21-9	Aroclor-1242	41	U
12672-29-6	Aroclor-1248	41	U
11097-69-1	Aroclor-1254	41	U
11096-82-5	Aroclor-1260	41	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B075N1

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08066 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208066-01D

Sample wt/vol: 30.9 (g/mL) G Lab File ID: _____

% Moisture: 7 decanted: (Y/N) N Date Received: 08/31/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 09/03/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 09/25/92

Injection Volume: 1.00 (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	1.8	U
319-85-7	beta-BHC	1.8	U
319-86-8	delta-BHC	1.8	U
58-89-9	gamma-BHC (Lindane)	1.8	U
76-44-8	Heptachlor	1.8	U
309-00-2	Aldrin	1.8	U
1024-57-3	Heptachlor epoxide	1.8	U
959-98-8	Endosulfan I	1.8	U
60-57-1	Dieldrin	3.4	U
72-55-9	4,4'-DDE	3.4	U
72-20-8	Endrin	3.4	U
33213-65-9	Endosulfan II	3.4	U
72-54-8	4,4'-DDD	3.4	U
1031-07-8	Endosulfan sulfate	3.4	U
50-29-3	4,4'-DDT	3.4	U
72-43-5	Methoxychlor	18	U
53494-70-5	Endrin ketone	3.4	U
7421-36-3	Endrin aldehyde	3.4	U
5103-71-9	alpha-Chlordane	1.8	U
5103-74-2	gamma-Chlordane	1.8	U
8001-35-2	Toxaphene	180	U
12674-11-2	Aroclor-1016	34	U
11104-28-2	Aroclor-1221	70	U
11141-16-5	Aroclor-1232	34	U
53469-21-9	Aroclor-1242	34	U
12672-29-6	Aroclor-1248	34	U
11097-69-1	Aroclor-1254	34	U
11096-82-5	Aroclor-1260	34	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B075N2

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08066 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208066-05B

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

% Moisture: 24 decanted: (Y/N) N Date Received: 08/31/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 09/03/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 09/25/92

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 8.2 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	2.2	U
319-85-7	beta-BHC	2.2	U
319-86-8	delta-BHC	2.2	U
58-89-9	gamma-BHC (Lindane)	2.2	U
76-44-8	Heptachlor	2.2	U
309-00-2	Aldrin	2.2	U
1024-57-3	Heptachlor epoxide	2.2	U
959-98-8	Endosulfan I	2.2	U
60-57-1	Dieldrin	4.2	U
72-55-9	4,4'-DDE	4.2	U
72-20-8	Endrin	4.2	U
33213-65-9	Endosulfan II	4.2	U
72-54-8	4,4'-DDD	4.2	U
1031-07-8	Endosulfan sulfate	4.2	U
50-29-3	4,4'-DDT	4.2	U
72-43-5	Methoxychlor	22	U
53494-70-5	Endrin ketone	4.2	U
7421-36-3	Endrin aldehyde	4.2	U
5103-71-9	alpha-Chlordane	2.2	U
5103-74-2	gamma-Chlordane	2.2	U
8001-35-2	Toxaphene	220	U
12674-11-2	Aroclor-1016	42	U
11104-28-2	Aroclor-1221	86	U
11141-16-5	Aroclor-1232	42	U
53469-21-9	Aroclor-1242	42	U
12672-29-6	Aroclor-1248	42	U
11097-69-1	Aroclor-1254	42	U
11096-82-5	Aroclor-1260	42	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B075N3

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08066 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208066-02B

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

% Moisture: 2 decanted: (Y/N) N Date Received: 08/31/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 09/03/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 09/25/92

Injection Volume: 1.00 (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	1.7	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

Received: 09/02/92 10/19/92 13:47:32

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

ATTEN Dan Steurmer

CLIENT HANFORD NOR SAMPLES 7
COMPANY TMA/NORCAL
FACILITY Richmond, CA

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

ATTEN Client Services
PHONE (617) 890-7200

CERTIFIED BY

CONTACT DP

WORK ID N2-08-192
TAKEN By Client
TRANS Fedex #5188043125
TYPE 6 Soils NO3NO2
P.O. # N2-08-192
INVOICE under separate cover

SAMPLE IDENTIFICATION	
01	B075N1
01	B075N1D
01	B075N1S
02	B075N2
03	B075N3
04	B075H3
05	B075H4
06	B075H5
07	LCSS

TEST CODES and NAMES used on this workorder

NO3NO2 Nitrate Plus Nitrite

TMA Thermo Analytical Inc.

This report is rendered upon all of the following conditions: Skinner & Sherman Laboratories, Inc. retains ownership of this report until associated submitted invoice is satisfied. Expert witness services shall be available in conjunction with this report only if prior notification of this potential requirement was made and accepted, before the analysis. Client will be responsible for Skinner & Sherman costs and consulting fees if our services are required by subpoena or otherwise in legal proceedings. Total liability is limited to the invoice amount. The results listed refer only to tested samples and applicable parameters. Product endorsement is neither inferred nor implied. Skinner & Sherman Laboratories, Inc. will exercise due diligence but will not be responsible for lost or destroyed samples or evidence unless client makes appropriate insurance coverage arrangements. Samples are held for thirty days following issuance of report. Samples will be stored at client's expense, if authorized in writing.

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

Received: 09/02/92 Results by Sample

SAMPLE ID B075N1 SAMPLE # 01 FRACTIONS: A
Date & Time Collected 08/26/92 Category SOIL

NO3NO2 <2.53
mg N/Kg

SAMPLE ID B075N1D SAMPLE # 01 FRACTIONS: B
Date & Time Collected 08/26/92 Category SOIL

NO3NO2 <2.53
mg N/Kg

SAMPLE ID B075N1S SAMPLE # 01 FRACTIONS: C
Date & Time Collected 08/26/92 Category SOIL

NO3NO2 20.4
mg N/Kg

SAMPLE ID B075N2 SAMPLE # 02 FRACTIONS: A
Date & Time Collected 08/27/92 Category SOIL

NO3NO2 <2.51
mg N/Kg

SAMPLE ID B075N3 SAMPLE # 03 FRACTIONS: A
Date & Time Collected 08/26/92 Category SOIL

NO3NO2 <2.60
mg N/Kg

SAMPLE ID B075N3 SAMPLE # 04 FRACTIONS: A
Date & Time Collected 08/26/92 Category SOIL

NO3NO2 <2.46
mg N/Kg

SAMPLE ID B075N4 SAMPLE # 05 FRACTIONS: A
Date & Time Collected 08/26/92 Category SOIL

NO3NO2 <2.55
mg N/Kg

TMA Thermo Analytical Inc.

This report is rendered upon all of the following conditions: Skinner & Sherman Laboratories, Inc. retains ownership of this report until associated submitted invoice is satisfied. Expert witness services shall be available in conjunction with this report only if prior notification of this potential requirement was made and accepted, before the analysis. Client will be responsible for Skinner & Sherman costs and consulting fees if our services are required by subpoena or otherwise in legal proceedings. Total liability is limited to the invoice amount. The results listed refer only to tested samples and applicable parameters. Product endorsement is neither inferred nor implied. Skinner & Sherman Laboratories, Inc. will exercise due diligence but will not be responsible for lost or destroyed samples or evidence unless client makes appropriate insurance coverage arrangements. Samples are held for thirty days following issuance of report. Samples will be stored at client's expense, if authorized in writing.

Skinner & Sherman Laboratories Inc. 200 Second Avenue, P.O. Box 521, Waltham, Massachusetts 02254-0521 (617) 890-7200
800-4 LAB TEST FAX (617) 890-3883

Received: 09/02/92 Results by Sample

SAMPLE ID B075H5 SAMPLE # 06 FRACTIONS: A

Date & Time Collected 08/27/92 Category SOIL

NO3NO2 <2.54
mg N/Kg

SAMPLE ID LCSS SAMPLE # 07 FRACTIONS: A

Date & Time Collected not specified Category SOIL

NO3NO2 1.97
mg N/L

TMA Thermo Analytical Inc.

This report is rendered upon all of the following conditions: Skinner & Sherman Laboratories, Inc. retains ownership of this report until associated submitted invoice is satisfied. Expert witness services shall be available in conjunction with this report only if prior notification of this potential requirement was made and accepted, before the analysis. Client will be responsible for Skinner & Sherman costs and consulting fees if our services are required by subpoena or otherwise in legal proceedings. Total liability is limited to the invoice amount. The results listed refer only to tested samples and applicable parameters. Product endorsement is neither inferred nor implied. Skinner & Sherman Laboratories, Inc. will exercise due diligence but will not be responsible for lost or destroyed samples or evidence unless client makes appropriate insurance coverage arrangements. Samples are held for thirty days following issuance of report. Samples will be stored at client's expense, if authorized in writing.

Skinner & Sherman Laboratories Inc. [illegible] Wood Avenue, P.O. Box 521, Waltham, Massachusetts 02254-0521 (617) 890-7200
[illegible] FAX (617) 890-3883

Received: 09/02/92 Test Methodology

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.

This report is rendered upon all of the following conditions: Skinner & Sherman Laboratories, Inc. retains ownership of this report until associated submitted invoice is satisfied. Expert witness services shall be available in conjunction with this report only if prior notification of this potential requirement was made and accepted, before the analysis. Client will be responsible for Skinner & Sherman costs and consulting fees if our services are required by subpoena or otherwise in legal proceedings. Total liability is limited to the invoice amount. The results listed refer only to tested samples and applicable parameters. Product endorsement is neither inferred nor implied. Skinner & Sherman Laboratories, Inc. will exercise due diligence but will not be responsible for lost or destroyed samples or evidence unless client makes appropriate insurance coverage arrangements. Samples are held for thirty days following issuance of report. Samples will be stored at client's expense, if authorized in writing.

Skinner & Sherman Laboratories Inc. 100 Second Avenue, P.O. Box 521, Waltham, Massachusetts 02254-0521 (617) 890-7200
800-4 LAB TEST FAX (617) 890-3883

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TMA/Skinner & Sherman Labs SAMPLE LOG-IN

WORKORDER 5209033 CLIENT Hanford-NOR No. SAMPLES:

PROTCL CLP TURNARND 33 day 6

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 N203192

SHIPER & # Fedex # 5188043125 PO/CONTRACT# ↓

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

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

SAMPLE CONTAINERS-INTACT/BROKEN COMMENTS NONE

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 9.2.92

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

N/A

	CLIENT ID	MATRIX	RECEIVED	PH*	TEST(S) & QC	HOLD TIME UP
1	B075N1	soil	9/2/92	N/A	N03N02	DUE
2	N2	↓	↓	↓	↓	9.23.92
3	N3					
4	H3					
5	H4					
6	H5					
7						
8						
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25						
26						
27						

Complete 9/3/92 AB

Samples are from site known to have Rad-Contamination: YES X NO

Samples have detectable amounts of Radioactive Material: YES NO X

SUBCONTRACT: YES/NO, TO: DATE:

REVIEWED

* EPA/CLP required Rev 1.6 PAGE:

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C of C 002878

Westinghouse Hanford Company	CHAIN OF CUSTODY	S&S

Custody Form Initiator: W.W. SETZER

Company Contact: WV SETZER — Telephone: 376-2413

Project Designation/Sampling Locations: 100-FR-3 — Collection Date: 8·26·92

Ice Chest No. — Field Logbook No.: EFL- 1040

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

Method of Shipment: OVERNIGHT AIR SERVICE

Shipped to: TMA/NORCAL

Possible Sample Hazards/Remarks: None detected with field instruments. Maintain at 4C.

Sample Identification

1) B075N1 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
~~1,120ml aG:CLP;VOA~~
~~1,950ml aG:CLP;Semi-VOA,PCB/PEST~~,Anions (~~F,SO4~~,NO3)
~~1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241~~

DH 8.26.92

2) ~~B075N2~~ B075N3 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
~~1,120ml aG:CLP;VOA~~
~~1,950ml aG:CLP;Semi-VOA,PCB/PEST~~,Anions (~~F,SO4~~,NO3)
~~1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241~~

3) ~~1,250ml aG:CLP;ICP/AA Metals,Hg,Cn~~
~~1,120ml aG:CLP;VOA~~ 8-26-92
~~1,950ml aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,NO3)~~
~~1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241~~

[] Field Transfer of Custody — Chain of Possession — (Sign and Print Names)

Relinquished by:	Received by:	Date/Time:
W.W. Setzer	J.E. Darling J.E. Darling	8-26-92 1450
J.E. Darling	Kermit Blum	8-31-92 0800 *
Kermit Blum 8-31-92	[illegible]	9/2/92 10:00

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments: * Received @ TMA/NORCAL 8-29-92 ; opened 8-31-92 · KB

A-6000-407 (12/90) (EF) WEF061
Chain of Custody

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C of C 002878

Westinghouse Hanford Company	CHAIN OF CUSTODY	S&S

Custody Form Initiator: W.V. SETZER

Company Contact: WV SETZER — Telephone: 376-2413

Project Designation/Sampling Locations: 100-FR-3 — Collection Date: 8-26-92

Ice Chest No. — Field Logbook No.: EFL-1041

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

Method of Shipment: OVERNIGHT AIR SERVICE

Shipped to: TMA/NORCAL

Possible Sample Hazards/Remarks: None detected with field instruments. Maintain at 4C.

Sample Identification

1) B075N3 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
~~1,120ml aG:CLP;VOA~~
~~1,950ml aG:CLP;Semi-VOA,PCB/PEST~~,Anions (~~F,SO4~~,NO3)
~~1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241~~

2) B075N4 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
~~1,120ml aG:CLP;VOA~~
~~1,950ml aG:CLP;Semi-VOA,PCB/PEST~~,Anions (~~F,SO4~~,NO3)
~~1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241~~

3) 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
1,120ml aG:CLP;VOA
1,950ml aG:CLP;~~Semi-VOA,PCB/PEST~~,Anions (F,SO4,NO3)
~~1,1000ml~~ G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

[] Field Transfer of Custody — Chain of Possession — (Sign and Print Names)

Relinquished by:	Received by:	Date/Time:
W.V. Setzer	J.E. Darling J.E. Darling	8-26-92 1500
J.E. Darling	Kermit Blum	8-31-92 0800 *
Kermit Blum 8-31-92	[illegible]	9/2/92 10:00

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments: * Received @ TMA/NORCAL 8-29-92 ; opened 8-31-92 • KB

A-6000-407 (12/90) (EF) WEF061
Chain of Custody

35

C of C 002877

Westinghouse Hanford Company	CHAIN OF CUSTODY	S&S

Custody Form Initiator: W.V. SETZER

Company Contact: WV SETZER

Telephone: 376-2413

Project Designation/Sampling Locations: 100-FR-3

Collection Date: 8-27-92

Ice Chest No.:

Field Logbook No.: EFL-1040, EFL-1041

Bill of Lading/Airbill No.:

Offsite Property No.:

Method of Shipment: OVERNIGHT AIR SERVICE

Shipped to: TMA/NORCAL

Possible Sample Hazards/Remarks: None detected with field instruments. Maintain at 4C.

Sample Identification

1) B075N2 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
~~1,120ml aG:CLP;VOA~~
~~1,950ml aG:CLP;Semi-VOA,PCB/PEST~~,Anions (~~F,SO4~~,NO3)
~~1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241~~

2) B075H5 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
~~1,120ml aG:CLP;VOA~~
~~1,950ml aG:CLP;Semi-VOA,PCB/PEST~~,Anions (~~F,SO4~~,NO3)
~~1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241~~

3) 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
1,120ml aG:CLP;VOA
1,950ml aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,NO3)
~~1,1000ml~~ G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

[] Field Transfer of Custody — Chain of Possession — (Sign and Print Names)

Relinquished by:	Received by:	Date/Time:
W.V. Setzer	J.E. Darling J.E. Darling	8-28-92 1510
J.E. Darling	Kermit Blum	8-31-92 0800 *
Kermit Blum 8-31-92	[signature]	9/2/92 10:00

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments: * Received @ TMA/NORCAL 8-29-92 ; opened 8-31-92 - KB

A-6000-407 (12/90) (EF) WEF061
Chain of Custody

36

C of C 002878

Westinghouse Hanford Company	SAMPLE ANALYSIS REQUEST

Collector J.E.Darling Date 08-27-92

Company Contact WV SETZER Telephone (509)376-2413

Sample Number	*	Date Collected	Time Collected	Number and Type of Sample Containers/Analysis Required
B075N1	S	08-26-92	N/A	1-250ml aG CLP;ICP/AA Metals,Hg,Cn ~~1-120ml aG CLP;VOA~~ ~~1-950ml aG CLP;Semi-VOA,PCB/PEST~~ ~~300.0~~/353.2;Anions(~~F,SO4~~,NO3) ~~1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14~~ ~~U-235/238,Pu-239/240,Am-241~~
B075N3	S	08-26-92	N/A	1-250ml aG CLP;ICP/AA Metals,Hg,Cn ~~1-120ml aG CLP;VOA~~ ~~1-950ml aG CLP;Semi-VOA,PCB/PEST~~ ~~300.0~~/353.2;Anions(~~F,SO4~~,NO3) ~~1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14~~ ~~U-235/238,Pu-239/240,Am-241~~
B075H3	S	08-26-92	N/A	1-250ml aG CLP;ICP/AA Metals,Hg,Cn ~~1-120ml aG CLP;VOA~~ ~~1-950ml aG CLP;Semi-VOA,PCB/PEST~~ ~~300.0~~/353.2;Anions(~~F,SO4~~,NO3) ~~1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14~~ ~~U-235/238,Pu-239/240,Am-241~~
B075H4	S	08-26-92	N/A	1-120ml aG CLP;ICP/AA Metals,Hg,Cn ~~1-120ml aG CLP;VOA~~ ~~1-950ml aG CLP;Semi-VOA,PCB/PEST~~ ~~300.0~~/353.2;Anions(~~F,SO4~~,NO3) ~~1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14~~ ~~U-235/238,Pu-239/240,Am-241~~

*Type of Sample

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

Field Information FROM 100-FR-3 Drilling

Special Handling and/or Storage Maintain at 4C

Possible Sample Hazards NA

A-6000-406 (06/91) WEF060

3

CofC 002877

Westinghouse Hanford Company	SAMPLE ANALYSIS REQUEST

Collector J.E.Darling Date August 27, 1992

Company Contact WV SETZER Telephone (509)376-2413

Sample Number	*	Date Collected	Time Collected	Number and Type of Sample Containers/Analysis Required
B075N2	S	08-27-92	N/A	1-250ml aG CLP;ICP/AA Metals,Hg,Cn ~~1-120ml aG CLP;VOA~~ ~~1-950ml aG CLP;Semi-VOA,PCB/PEST~~ ~~300.0~~/353.2;Anions(~~F,SO4~~,NO3) ~~1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14~~ ~~U-235/238,Pu-239/240,Am-241~~
B075H5	S	08-27-92	N/A	1-250ml aG CLP;ICP/AA Metals,Hg,Cn ~~1-120ml aG CLP;VOA~~ ~~1-950ml aG CLP;Semi-VOA,PCB/PEST~~ ~~300.0~~/353.2;Anions(~~F,SO4~~,NO3) ~~1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14~~ ~~U-235/238,Pu-239/240,Am-241~~
			JED	1-250ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
			JED	1-120ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241

*Type of Sample

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

Field Information FROM 100-FR-3 Drilling

Special Handling and/or Storage Maintain at 4C

Possible Sample Hazards NA

A-6000-406 (06/91) WEF060

TMA
Thermo Analytical Inc.

Skinner & Sherman Laboratories Inc.
300 Second Avenue
Post Office Box 521
Waltham, MA 02254-0521

(617) 890-7200

RECORD COPY

NOV 1992
RECEIVED
OSM DMO

November 9, 1992

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

Quality Control Narrative

Scope
Six (6) soil samples were submitted to TMA/Skinner & Sherman Laboratories, Inc. on September 2, 1992 from TMA/Norcal. The samples were analyzed for the USEPA CLP Target Analyte List metals and cyanide. The analysis were performed under TMA/Skinner and Sherman work order S209032.

Methodology
The samples were prepared, analyzed and reported in accordance with the USEPA Contract Laboratory Program Statement of Work ILM02.

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

The antimony digestion spike recovery exceeded the control limit requirements.

The chromium and nickel laboratory duplicates exceeded the control limit requirements.

The ICP serial dilution for sodium 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 4/30/96 M.H.

SAMPLE NUMBER:

B075H3

INORGANIC ANALYSIS DATA SHEET

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

Lab Code: SKINER Case No.: N2-08-192SAS No.: SDG No.: B075H3

Matrix (soil/water): SOIL Lab Sample ID: 09032-04S

Level (low/med): LOW Date Received: 09/02/92

% Solids: 96.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4620			P
7440-36-0	Antimony	3.2	B	N	P
7440-38-2	Arsenic	1.1	B		F
7440-39-3	Barium	77.0			P
7440-41-7	Beryllium	0.19	B		P
7440-43-9	Cadmium	0.30	U		P
7440-70-2	Calcium	4810			P
7440-47-3	Chromium	13.3		*	P
7440-48-4	Cobalt	7.8	B		P
7440-50-8	Copper	12.4			P
7439-89-6	Iron	13900			P
7439-92-1	Lead	2.3			F
7439-95-4	Magnesium	3030			P
7439-96-5	Manganese	223			P
7439-97-6	Mercury	0.05	U		CV
7440-02-0	Nickel	11.7		*	P
7440-09-7	Potassium	847	B		P
7782-49-2	Selenium	0.81	U		F
7440-22-4	Silver	1.3	B		P
7440-23-5	Sodium	520	B	E	P
7440-28-0	Thallium	0.35	U		F
7440-62-2	Vanadium	36.8			P
7440-66-6	Zinc	32.5			P
	Cyanide	0.52	U		CA

Color Before: GREY Clarity Before: Texture: MEDIUM

Color After: GREY Clarity After: Artifacts: YES

Comments:
STONES

SAMPLE NUMBER:

INORGANIC ANALYSIS DATA SHEET

B075H4

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

Lab Code: SKINER Case No.: N2-08-192SAS No.: SDG No.: B075H3

Matrix (soil/water): SOIL Lab Sample ID: 09032-05S

Level (low/med): LOW Date Received: 09/02/92

% Solids: 91.6

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4850			P
7440-36-0	Antimony	3.2	U	N	P
7440-38-2	Arsenic	1.6	B		F
7440-39-3	Barium	42.3	B		P
7440-41-7	Beryllium	0.19	B		P
7440-43-9	Cadmium	0.33	U		P
7440-70-2	Calcium	5480			P
7440-47-3	Chromium	8.5		*	P
7440-48-4	Cobalt	6.6	B		P
7440-50-8	Copper	11.2			P
7439-89-6	Iron	12500			P
7439-92-1	Lead	2.0			F
7439-95-4	Magnesium	3400			P
7439-96-5	Manganese	213			P
7439-97-6	Mercury	0.05	U		CV
7440-02-0	Nickel	8.0	B	*	P
7440-09-7	Potassium	732	B		P
7782-49-2	Selenium	0.83	U	S	F
7440-22-4	Silver	1.4	B		P
7440-23-5	Sodium	298	B	E	P
7440-28-0	Thallium	0.36	U		F
7440-62-2	Vanadium	29.6			P
7440-66-6	Zinc	31.0			P
	Cyanide	0.55	U		CA

Color Before: GREY Clarity Before: Texture: MEDIUM

Color After: GREY Clarity After: Artifacts: YES

Comments:
STONES

SAMPLE NUMBER:

B075H5

INORGANIC ANALYSIS DATA SHEET

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

Lab Code: SKINER Case No.: N2-08-192SAS No.: SDG No.: B075H3

Matrix (soil/water): SOIL Lab Sample ID: 09032-06S

Level (low/med): LOW Date Received: 09/02/92

% Solids: 78.5

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	15200			P
7440-36-0	Antimony	3.8	U	N	P
7440-38-2	Arsenic	5.6			F
7440-39-3	Barium	67.9			P
7440-41-7	Beryllium	1.2	B		P
7440-43-9	Cadmium	0.38	U		P
7440-70-2	Calcium	18200			P
7440-47-3	Chromium	18.3		*	P
7440-48-4	Cobalt	11.2	B		P
7440-50-8	Copper	19.2			P
7439-89-6	Iron	21300			P
7439-92-1	Lead	13.0			F
7439-95-4	Magnesium	7390			P
7439-96-5	Manganese	581			P
7439-97-6	Mercury	0.06	U		CV
7440-02-0	Nickel	18.8		*	P
7440-09-7	Potassium	2060			P
7782-49-2	Selenium	0.95	U		F
7440-22-4	Silver	1.3	B		P
7440-23-5	Sodium	294	B	E	P
7440-28-0	Thallium	0.41	U		F
7440-62-2	Vanadium	23.1			P
7440-66-6	Zinc	54.5			P
	Cyanide	0.61	U		CA

Color Before: GREY Clarity Before: Texture: FINE

Color After: GREY Clarity After: Artifacts: YES

Comments:
STONES

SAMPLE NUMBER:

B075N1

INORGANIC ANALYSIS DATA SHEET

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

Lab Code: SKINER Case No.: N2-08-192SAS No.: SDG No.: B075H3

Matrix (soil/water): SOIL Lab Sample ID: 09032-01S

Level (low/med): LOW Date Received: 09/02/92

% Solids: 93.2

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4360			P
7440-36-0	Antimony	3.3	B	N	P
7440-38-2	Arsenic	0.93	B		F
7440-39-3	Barium	42.6			P
7440-41-7	Beryllium	0.20	B		P
7440-43-9	Cadmium	0.32	U		P
7440-70-2	Calcium	4640			P
7440-47-3	Chromium	13.8		*	P
7440-48-4	Cobalt	7.5	B		P
7440-50-8	Copper	15.9			P
7439-89-6	Iron	13100			P
7439-92-1	Lead	2.0			F
7439-95-4	Magnesium	3480			P
7439-96-5	Manganese	206			P
7439-97-6	Mercury	0.05	B		CV
7440-02-0	Nickel	11.6		*	P
7440-09-7	Potassium	721	B		P
7782-49-2	Selenium	0.84	U	W	F
7440-22-4	Silver	1.0	B		P
7440-23-5	Sodium	385	B	E	P
7440-28-0	Thallium	0.36	U		F
7440-62-2	Vanadium	34.8			P
7440-66-6	Zinc	33.6			P
	Cyanide	0.53	U		CA

Color Before: GREY Clarity Before: Texture: MEDIUM

Color After: GREY Clarity After: Artifacts: YES

Comments:
STONES

SAMPLE NUMBER:

B075N2

INORGANIC ANALYSIS DATA SHEET

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

Lab Code: SKINER Case No.: N2-08-192SAS No.: SDG No.: B075H3

Matrix (soil/water): SOIL Lab Sample ID: 09032-02S

Level (low/med): LOW Date Received: 09/02/92

% Solids: 82.4

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5050			P
7440-36-0	Antimony	3.6	U	N	P
7440-38-2	Arsenic	1.5	B		F
7440-39-3	Barium	32.9	B		P
7440-41-7	Beryllium	0.25	B		P
7440-43-9	Cadmium	0.36	U		P
7440-70-2	Calcium	5140			P
7440-47-3	Chromium	7.3		*	P
7440-48-4	Cobalt	6.2	B		P
7440-50-8	Copper	12.8			P
7439-89-6	Iron	11700			P
7439-92-1	Lead	2.8			F
7439-95-4	Magnesium	3570			P
7439-96-5	Manganese	195			P
7439-97-6	Mercury	0.06	U		CV
7440-02-0	Nickel	8.6	B	*	P
7440-09-7	Potassium	592	B		P
7782-49-2	Selenium	0.87	U		F
7440-22-4	Silver	1.3	B		P
7440-23-5	Sodium	198	B	E	P
7440-28-0	Thallium	0.38	U		F
7440-62-2	Vanadium	24.6			P
7440-66-6	Zinc	29.4			P
	Cyanide	0.59	U		CA

Color Before: BLACK Clarity Before: Texture: MEDIUM

Color After: BLACK Clarity After: Artifacts: YES

Comments:
STONES

SAMPLE NUMBER:

INORGANIC ANALYSIS DATA SHEET

5075N3

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

Lab Code: SKINER Case No.: N2-08-192SAS No.: SDG No.: 5075N3

Matrix (soil/water): SOIL Lab Sample ID: 09032-03S

Level (low/med): LOW Date Received: 09/02/92

% Solids: 96.9

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4510			P
7440-36-0	Antimony	3.0	U	N	P
7440-38-2	Arsenic	1.5	B		F
7440-39-3	Barium	43.8			P
7440-41-7	Beryllium	0.21	B		P
7440-43-9	Cadmium	0.31	U		P
7440-70-2	Calcium	4520			P
7440-47-3	Chromium	6.9		*	P
7440-48-4	Cobalt	7.2	B		P
7440-50-8	Copper	12.2			P
7439-89-6	Iron	12300			P
7439-92-1	Lead	3.2			F
7439-95-4	Magnesium	3360			P
7439-96-5	Manganese	199			P
7439-97-6	Mercury	0.05	U		CV
7440-02-0	Nickel	8.0	B	*	P
7440-09-7	Potassium	677	B		P
7782-49-2	Selenium	0.80	U		F
7440-22-4	Silver	1.3	B		P
7440-23-5	Sodium	607	B	E	P
7440-28-0	Thallium	0.35	U		F
7440-62-2	Vanadium	32.7			P
7440-66-6	Zinc	35.3			P
	Cyanide	0.49	U		CA

Color Before: GREY Clarity Before: Texture: MEDIUM

Color After: GREY Clarity After: Artifacts: YES

Comments:
STONES

/Skinner & Sherman Labs SAMPLE LOG-IN

KORDER 5209032 CLIENT HANFORD-NOR No. SAMPLES:

TCL CLP TURNARND 33 day 6 (Soil) (Water) (Specify Other)

LER TEMP: 4 oC, or NA

TODIAN Benney, A. SDG/BATCH N/A

TODY SEAL: PRESENT/ABSENT/INTACT/NOT CLIENT CASE N208192

PER & # Fedex # 5188043123 PO/CONTRACT# ✓

S: PRESENT/ABSENT/NA/SEE COC CONTACT Roberto Sanchez

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

PLE CONTAINERS-INTACT/BROKEN COMMENTS NONE

ENT COMMENT? YES/NO

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

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

MENT DATES 9/2/92

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

N/A

IENT ID	MATRIX	RECEIVED	PH*	TEST(S) & QC	HOLD TIME UP
5075N1	soil	9-2-92	N/A	TM/CN	CN due 9.9.92
N2					
N3					
H3					Hg due 9.23.92
H4					
H5					

Complete

9/3/92

AB

s are from site known to have Rad-Contamination: YES x NO

s have detectable amounts of Radioactive Material: YES NO x

TRACT: YES/NO TO: DATE:

ED

LP required Rev 1.6 PAGE:

C of C 002878

Westinghouse Hanford Company

CHAIN OF CUSTODY

S&S

Custody Form Initiator: W.W. SETZER

Company Contact: WV SETZER

Telephone: 376-2413

Project Designation/Sampling Locations: 100-FR-3

Collection Date: 8·26·92

Ice Chest No.:

Field Logbook No.: EFL-1040

Bill of Lading/Airbill No.:

Offsite Property No.:

Method of Shipment: OVERNIGHT AIR SERVICE

Shipped to: TMA/NORCAL

Possible Sample Hazards/Remarks: None detected with field instruments. Maintain at 4C.

Sample Identification

1) B075N1 1,250ml aG:CLP;ICP/AA Metals,Hg,Cr
~~1,120ml aG:CLP;VOA~~
~~1,950ml aG:CLP;Semi-VOA,PCB/PEST~~,Anions (~~F,SO4~~,NO3)
~~1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241~~

DH 8.26.92

2) ~~B075N2~~ B075N3 1,250ml aG:CLP;ICP/AA Metals,Hg,Cr
~~1,120ml aG:CLP;VOA~~
~~1,950ml aG:CLP;Semi-VOA,PCB/PEST~~,Anions (~~F,SO4~~,NO3)
~~1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241~~

3) ~~1,250ml aG:CLP;ICP/AA Metals,Hg,Cr~~
~~1,120ml aG:CLP;VOA~~ 8-26-92
~~1,950ml aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,NO3)~~
~~1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241~~

[] Field Transfer of Custody — Chain of Possession — (Sign and Print Names)

Relinquished by:	Received by:	Date/Time:
W.W. Setzer	J.E. Darling J.E. Darling	8-26-92 1450
J.E. Darling	Kermit Blum	8-31-92 0800 *
Kermit Blum 8-31-92	[illegible]	9/2/92 10:00

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments: * Received @ TMA/NORCAL 8-29-92; opened 8-31-92 · KB

A-6000-407 (12/90) (EF) WEF061
Chain of Custody

186

C of C 002878

Westinghouse Hanford Company	CHAIN OF CUSTODY	S&S

Custody Form Initiator W.W. SETZER

Company Contact WV SETZER — Telephone 376-2413

Project Designation/Sampling Locations 100-FR-3 — Collection Date 8-26-92

Ice Chest No. — Field Logbook No. EFL-1041

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

Method of Shipment OVERNIGHT AIR SERVICE

Shipped to TMA/NORCAL

Possible Sample Hazards/Remarks None detected with field instruments. Maintain at 4C.

Sample Identification

1) B075N3 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
~~1,120ml aG:CLP;VOA~~
~~1,950ml aG:CLP;Semi-VOA,PCB/PEST~~,Anions (~~F,SO4~~,NO3)
~~1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241~~

2) B075H4 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
~~1,120ml aG:CLP;VOA~~
~~1,950ml aG:CLP;Semi-VOA,PCB/PEST~~,Anions (~~F,SO4~~,NO3)
~~1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241~~

3) 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
1,120ml aG:CLP;VOA
1,950ml aG:CLP;~~Semi-VOA,PCB/~~PEST,Anions (F,SO4,NO3)
~~1,1000ml~~ G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

[] Field Transfer of Custody	Chain of Possession	(Sign and Print Names)
Relinquished by: W.W. Setzer	Received by: J.E. Darling J.E. Darling	Date/Time: 8-26-92 1500
Relinquished by: J.E. Darling	Received by: Kermit Blum	Date/Time: 8-31-92 0800 *
Relinquished by: Kermit Blum 8-31-92	Received by: [illegible]	Date/Time: 9/2/92 10:00
Relinquished by:	Received by:	Date/Time:

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments: * Received @ TMA/NORCAL 8-29-92 ; opened 8-31-92 • KB

A-6000-407 (12/90) (EF) WEF061
Chain of Custody

C of C 002877

Westinghouse Hanford Company	CHAIN OF CUSTODY	S&S

Custody Form Initiator: W.V. SETZER

Company Contact: WV SETZER — Telephone: 376-2413

Project Designation/Sampling Locations: 100-FR-3 — Collection Date: 8-27-92

Ice Chest No.: — Field Logbook No.: EFL-1040, EFL-1041

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

Method of Shipment: OVERNIGHT AIR SERVICE

Shipped to: TMA/NORCAL

Possible Sample Hazards/Remarks: None detected with field instruments. Maintain at 4C.

Sample Identification

1) B075N2 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
~~1,120ml aG:CLP;VOA~~
~~1,950ml aG:CLP;Semi-VOA,PCB/PEST~~,Anions (~~F,SO4~~,NO3)
~~1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241~~

2) B075H5 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
~~1,120ml aG:CLP;VOA~~
~~1,950ml aG:CLP;Semi-VOA,PCB/PEST~~,Anions (~~F,SO4~~,NO3)
~~1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241~~

3) 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
1,120ml aG:CLP;VOA
1,950ml aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,NO3)
~~1,1000ml~~ G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

[] Field Transfer of Custody	Chain of Possession	(Sign and Print Names)
Relinquished by: W.V. Setzer	Received by: J.E. Darling J.E. Darling	Date/Time: 8-28-92 1510
Relinquished by: J.E. Darling	Received by: Kermit Blum	Date/Time: 8-31-92 0800 *
Relinquished by: Kermit Blum 8-31-92	Received by: [illegible]	Date/Time: 9/2/92 10:00
Relinquished by:	Received by:	Date/Time:

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments: * Received @ TMA/NORCAL 8-29-92; opened 8-31-92 • KB

A-6000-407 (12/90) (EF) WEF061
Chain of Custody

C of C 002878

Westinghouse Hanford Company	SAMPLE ANALYSIS REQUEST

Collector J.E.Darling Date 08-27-92

Company Contact WV SETZER Telephone (509)376-2413

Sample Number	*	Date Collected	Time Collected	Number and Type of Sample Containers/Analysis Required
B075N1	S	08-26-92	N/A	1-250ml aG CLP;ICP/AA Metals,Hg,Cn ~~1-120ml aG CLP;VOA~~ ~~1-950ml aG CLP;Semi-VOA,PCB/PEST~~ ~~300.0~~/353.2;Anions(~~F,SO4~~,NO3) ~~1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14~~ ~~U-235/238,Pu-239/240,Am-241~~
B075N3	S	08-26-92	N/A	1-250ml aG CLP;ICP/AA Metals,Hg,Cn ~~1-120ml aG CLP;VOA~~ ~~1-950ml aG CLP;Semi-VOA,PCB/PEST~~ ~~300.0~~/353.2;Anions(~~F,SO4~~,NO3) ~~1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14~~ ~~U-235/238,Pu-239/240,Am-241~~
B075H3	S	08-26-92	N/A	1-250ml aG CLP;ICP/AA Metals,Hg,Cn ~~1-120ml aG CLP;VOA~~ ~~1-950ml aG CLP;Semi-VOA,PCB/PEST~~ ~~300.0~~/353.2;Anions(~~F,SO4~~,NO3) ~~1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14~~ ~~U-235/238,Pu-239/240,Am-241~~
B075H4	S	08-26-92	N/A	1-120ml aG CLP;ICP/AA Metals,Hg,Cn ~~1-120ml aG CLP;VOA~~ ~~1-950ml aG CLP;Semi-VOA,PCB/PEST~~ ~~300.0~~/353.2;Anions(~~F,SO4~~,NO3) ~~1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14~~ ~~U-235/238,Pu-239/240,Am-241~~

*Type of Sample

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

Field Information FROM 100-FR-3 Drilling

Special Handling and/or Storage Maintain at 4C

Possible Sample Hazards NA

A-6000-406 (06/91) WEF060

CofC 002877

Westinghouse Hanford Company	SAMPLE ANALYSIS REQUEST

Collector J.E.Darling Date August 27, 1992

Company Contact WV SETZER Telephone (509)376-2413

Sample Number	*	Date Collected	Time Collected	Number and Type of Sample Containers/Analysis Required
B075N2	S	08-27-92	N/A	1-250ml aG CLP;ICP/AA Metals,Hg,Cn ~~1-120ml aG CLP;VOA~~ ~~1-950ml aG CLP;Semi-VOA,PCB/PEST~~ ~~300.0~~/353.2;Anions(~~F,SO4~~,NO3) ~~1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14~~ ~~U-235/238,Pu-239/240,Am-241~~
B075H5	S	08-27-92	N/A	1-250ml aG CLP;ICP/AA Metals,Hg,Cn ~~1-120ml aG CLP;VOA~~ ~~1-950ml aG CLP;Semi-VOA,PCB/PEST~~ ~~300.0~~/353.2;Anions(~~F,SO4~~,NO3) ~~1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14~~ ~~U-235/238,Pu-239/240,Am-241~~
				1-250ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
				1-120ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241

*Type of Sample

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

Field Information FROM 100-FR-3 Drilling

Special Handling and/or Storage Maintain at 4C

Possible Sample Hazards NA

A-6000-406 (06/91) WEF060

000001

RECORD COPY

NOV 1992
RECEIVED
OSM DMO

WESTINGHOUSE HANFORD COMPANY

Results of Analyses For:

GENERAL CHEMISTRY
CASE NO. 09-013
(TMA/ARLI Work Order # A2-09-013)

ORGANICS
CASE NO. 09-013
(TMA/ARLI Work Order # A2-09-013)

General Chemistry and Organics results are presented for the following WHC SOIL and WATER samples(s):

B075J4	B075H6	B075J3
B075N4	B075P5	

Norcal Work Order # N2-09-029

Thermo Analytical Inc.
160 Taylor Street
Monrovia, CA 91016
(818) 357-3247

Westinghouse Hanford Company

CHAIN OF CUSTODY

ARL1

Custody Form Initiator: DL LEIST

Company Contact: WV SETZER

Telephone: 376-2413

Project Designation/Sampling Locations: 100-FR-3

Collection Date: 9·1·92

Ice Chest No.:

Field Logbook No.: EFL-1041

Bill of Lading/Airbill No.:

Offsite Property No.:

Method of Shipment: OVERNIGHT AIR SERVICE

Shipped to: TMA/NORCAL

Possible Sample Hazards/Remarks: None detected with field instruments. Maintain at 4C.

Sample Identification

1) B075J4
~~1,250ml aG:CLP;ICP/AA Metals,Hg,Cn~~
1,120ml aG:CLP;VOA
1,950ml aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,~~NO3~~)
~~1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241~~

2)
1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
1,120ml aG:CLP;VOA
1,950ml aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,NO3)
1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

3)
1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
1,120ml aG:CLP;VOA
1,950ml aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,NO3)
1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

[] Field Transfer of Custody	Chain of Possession	(Sign and Print Names)
Relinquished by: DL Leist	Received by: J.E. Darling J.E. Darling	Date/Time: 9-1-92 1430
Relinquished by: J.E. Darling	Received by: RZ Stiffler R.Z. Stiffler	Date/Time: 9-2-92 0735
Relinquished by: RZ Stiffler R.Z. Stiffler	Received by: Kermit Blum	Date/Time: 9-3-92 1145
Relinquished by: 9-3-92	Received by: Trudy Golub Trudy Golub	Date/Time: 9/4/92 09:45

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:

Westinghouse Hanford Company	SAMPLE ANALYSIS REQUEST

Collector D.L. Leist Date 09/01/92

Company Contact WV SETZER Telephone (509)376 2413

Sample Number	*	Date Collected	Time Collected	Number and Type of Sample Containers/Analysis Required
B075J4	S	09-01-92	N/A	~~1-250ml aG CLP;ICP/AA Metals,Hg,Cn~~ 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/~~353.2~~;Anions(F,SO4,~~NO3~~) ~~1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14~~ ~~U-235/238,Pu-239/240,Am-241~~
				1-250ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
				1-250ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
				1-120ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241

JED 9-1-92

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

Field Information FROM 100-FR-3 Drilling

Special Handling and/or Storage Maintain at 4C

Possible Sample Hazards NA

Westinghouse Hanford Company	CHAIN OF CUSTODY	A.R.L.

Custody Form Initiator: W.V. SETZER

Company Contact: WV SETZER — Telephone: 376-2413

Project Designation/Sampling Locations: 100-FR-3 — Collection Date: 9-1-92

Ice Chest No.: — Field Logbook No.: EFL-1041

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

Method of Shipment: OVERNIGHT AIR SERVICE

Shipped to: TMA/NORCAL

Possible Sample Hazards/Remarks: None detected with field instruments. Maintain at 4C.

Sample Identification

1) B075H6 ~~1,1000ml P:CLP,ICP/AA Metals,Hg~~
~~1,1000ml G:CLP,Cn~~
3,40ml aG:CLP;VOA
3,2360ml aG:CLP;Semi-VOA,PCB,PEST
1,500ml P:300.0;Anions(F,SO4,PO4,CL)
9040;pH
9050;Conductivity
~~1,500ml P:353.2,NO3,NO2~~
~~2,4000ml P:Gross alpha/beta,Gamma Spec, Sr-90,U-235/238,Pu-239/240,Am-241,C-14~~
~~1,1000ml P:Tc-99~~
1,500ml G:Sulfide
~~1,250ml Gs:Tritium~~
1,500ml G:Ammonia,Chemical Oxygen Demand
1,1000ml G:Alkalinity, Total Dissolved Solids

2) B075J3 3,40ml aG:CLP;VOA 1 VOA HAS BUBBLES

[] Field Transfer of Custody	Chain of Possession	(Sign and Print Names)
Relinquished by: W.V. Setzer	Received by: J.E. Darling J.E. DARLING	Date/Time: 9-1-92 1430
Relinquished by: J.E. Darling	Received by: R.Z. Steffler R.Z. Steffler	Date/Time: 9-2-92 0735
Relinquished by: R.Z. Steffler R.Z. Steffler	Received by: Kermit Blum	Date/Time: 9-3-92 1145
Relinquished by: 9-3-92 Kermit Blum	Received by: Judy Golub Judy Golub	Date/Time: 9-4-92 0945

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:

A-6000-407 (12/90) (EF) WEF061
Chain of Custody

C of C 002893 000005

Westinghouse Hanford Company	CHAIN OF CUSTODY	ARL 1

Custody Form Initiator: W.V. SETZER

Company Contact: WV SETZER — Telephone: 376-2413

Project Designation/Sampling Locations: 100-FR-3 — Collection Date: 8-31-92

Ice Chest No. — Field Logbook No.: EFL- 1040

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

Method of Shipment: OVERNIGHT AIR SERVICE

Shipped to: TMA/NORCAL

Possible Sample Hazards/Remarks: None detected with field instruments. Maintain at 4C.

Sample Identification

1) B075N4 ~~1,1000ml P:CLP;ICP/AA Metals~~,Hg
~~1,1000ml G:CLP;Cn~~
3,40ml aG:CLP;VOA
3,2360ml aG:CLP;Semi-VOA,PCB,PEST
1,500ml P:300.0;Anions(F,SO4,PO4,CL)
9040;pH
9050;Conductivity
~~1,500ml P:353.2,NO3,NO2~~
~~2,1000ml P:Gross alpha/beta,Gamma Spec, Sr-90,U-235/238,Pu-239/240,Am-241,C-14~~
~~1,1000ml P:Tc-99~~
1,500ml G:Sulfide
~~1,250ml Gc:Tritium~~
1,500ml G:Ammonia,Chemical Oxygen Demand
1,1000ml G:Alkalinity, Total Dissolved Solids

2) B075P5 3, 40 ml aGs: CLP; VOA

[] Field Transfer of Custody — Chain of Possession — (Sign and Print Names)

Relinquished by:	Received by:	Date/Time:
W.V. Setzer	J.E. Darling J.E. Darling	9-1-92 0830
J.E. Darling	RZ Steffler R.Z. Steffler	9-2-92 0735
RZ Steffler R.Z. Steffler	Kermit Blum	9-3-92 1145
9-3-92 Kermit Blum	Trudy Golub Trudy Golub	9-4-92 0845

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:

A-6000-407 (12/90) (EF) WEF061
Chain of Custody

Westinghouse Hanford Company	SAMPLE ANALYSIS REQUEST

Collector J.E. Darling Date 08/31/92

Company Contact WV SETZER Telephone (509)376-2413

Sample Number	*	Date Collected	Time Collected	Number and Type of Sample Containers/Analysis Required
B075N4	L	08-31-92	N/A	~~1,1000ml P:CLP;ICP/AA Metals,Hg~~ ~~1,1000ml G:CLP;Cn~~ 3,40ml aG:CLP;VOA 3,2360ml aG:CLP;Semi-VOA,PCB,PEST 1,500ml P:300.0;Anions(F,SO4,PO4,CL) 9040;ph 9050;Conductivity ~~1,500ml P:353.2 NO3,NO2~~ ~~2,4000ml P:Gross Alpha,Beta,Gamma spec,Sr-90,U235/238,Pu239/240,Am-241,C-14~~ ~~1,1000ml P:Tc-99~~ 1,500ml G:Sulfide ~~1,250ml Gs:Tritium~~ 1,500ml G:Ammonia,Chemical Oxygen Demand 1,1000ml G:Alkalinity,Total Dissolved Solids
~~B075N9~~	~~L~~	~~08-31-92~~	~~N/A~~ 09-1-92	~~1,120ml Gs: TOC~~
~~B075N9~~	~~L~~	~~08-31-92~~	~~N/A~~ 09-1-92	~~1,250ml aGs: TOX~~
~~B075N8~~	~~L~~	~~08-31-92~~	~~N/A~~ 09-1-92	~~1,40ml Gs: HYDRAZINE~~
B075P5	L	8-31-92	NA	3,40ml aGs CLP VOA

*Type of Sample

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

Field Information FROM 100-FR-3 Drilling

Special Handling and/or Storage Maintain at 4C

Possible Sample Hazards NA

000007

FEDERAL EXPRESS

[redacted]

QUESTIONS? CALL 800-238-5355 TOLL FREE.

AIRBILL PACKAGE TRACKING NUMBER 5188043173

2237* 5188043173

[redacted] Date 9 3 92

RECIPIENT'S COPY

From (Your Name) Please Print: SAMPle control

Your Phone Number (Very Important): (510)235-2633

Company: I M A /NCRCAL

Department/Floor No.:

Street Address: *2030 WRIGHT AVE

City: RICHMOND State: CA ZIP Required: 9 4 8 0 4

To (Recipient's Name) Please Print: SAMPle control ( )

Recipient's Phone Number (Very Important):

Company: TMA / ARL

Department/Floor No.:

Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.): 160 TAYLOR street

City: MONROVIA State: CA ZIP Required: 91016

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice.): 23206406

IF HOLD FOR PICK-UP, Print FEDEX Address Here: Street Address / City / State / ZIP Required

PAYMENT: 1 [x] Bill Sender 2 [ ] Bill Recipient's FedEx Acct. No. 3 [ ] Bill 3rd Party FedEx Acct. No. 4 [ ] Bill Credit Card 5 [ ] Cash/Check [redacted]

1 SERVICES (Check only one box)

Priority Overnight (Delivery by next business morning)
- 11 [x] YOUR PACKAGING
- 16 [ ] FEDEX LETTER*
- 12 [ ] FEDEX PAK*
- 13 [ ] FEDEX BOX
- 14 [ ] FEDEX TUBE

Standard Overnight (Delivery by next business afternoon to Saturday delivery)
- 51 [ ] YOUR PACKAGING
- 56 [ ] FEDEX LETTER*
- 52 [ ] FEDEX PAK*
- 53 [ ] FEDEX BOX
- 54 [ ] FEDEX TUBE

Economy Two-Day (Delivery by second business day)
- 30 [ ] ECONOMY

Government Overnight (Reserved for authorized users only)
- 46 [ ] GOV'T LETTER
- 41 [ ] GOV'T PACKAGE

Freight Service (for packages over 150 lbs.)
- OVERNIGHT FREIGHT** (shipment required)
- 80 [ ] TWO-DAY FREIGHT**

*Declared Value Limit $500
**Call for delivery schedule

5 DELIVERY AND SPECIAL HANDLING (Check services required)
- 1 [ ] HOLD FOR PICK-UP (FREE at Ship-H)
- 2 [x] DELIVER WEEKDAY
- 3 DELIVER SATURDAY (Extra charge) (Not available to all locations) [ ]
- 4 [ ] DANGEROUS GOODS (Extra charge)
- 5 [ ]
- 6 [ ] DRY ICE Lbs.
- 7 [ ] OTHER SPECIAL SERVICE
- 8 [ ]
- 9 [ ] SATURDAY PICK-UP (Extra charge)
- 10 [ ]
- [ ]
- 12 [ ] HOLIDAY DELIVERY (Extra charge)

6 PACKAGE | WEIGHT (Round Up Each Pkg.) | YOUR DECLARED VALUE

Total 4 Total 220 Total

DIM SHIPMENT (Chargeable Weight) [ ] lbs.

L x W x H

Received At: 1 [x] Regular Stop 2 [ ] On-Call Stop 3 [ ] Drop Box 4 [ ] B S C 5 [ ] Station

7 Release Signature

Emp. No. | Date

- [ ] Cash Received
- [ ] Return Shipment
- [ ] Third Party [ ] Chg. To Del. [ ] Chg. To Hold

Street Address

City | State | Zip

Received By: X

Date/Time Received | FedEx Employee Number

Federal Express Use:
- Base Charges
- Declared Value Charge
- Other 1
- Other 2
- Total Charges

REVISION DATE 2/92 PART # 150704 FORM # 1216

126

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SAMPLE LOG-IN SHEET

LAB NAME : TMA/ARLI

PAGE : _____ IN _____

RECEIVED BY (PRINT NAME): Carole Harris

LOG-IN-DATE : 9-4-92

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.: 5188043173
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: 9-4-92
12. Temp of ice chest 40 °C
13. Time Recieved: 9:45

SAMPLE TRANSFER

Fraction: _____ _____

Area #: _____ _____

By: _____ _____

On: _____ _____

EPA SAMPLE #	CORRESPONDING SAMPLE TAG #	CORRESPONDING ASSIGNED LAB #	REMARKS CONDITION OF SAMPLE SHIPMENT, ETC
	B075J4	A2-09-013-01	
	B075H6	A2-09-013-02	
	B075J3	A2-09-013-03	
	B075N4	A2-09-013-04	

* Contact SMO and attach record of resolution

Reviewed By: _____ Logbook No.: _____

Date: _____ Logbook Page No.: _____

FORM DX-1

DOC2/LOGIN.TBL

TMA/ARLI
Thermo Analytical Inc.

RADIATION DOSE RATE SURVEY FORM

Date 9/04/92 COMPANY NORCAL (WMC) OTHER ORD # 5188043173

Surveyor's Name MARK S. Mc Gray

Model No. HP-210 / ESP-1 Model No. AC-3-7 / ESP-1

Serial Nos. 710289 / 02619 Serial Nos. 407726 / 02628

Calibration Date 3/25/92 Calibration Date 8/01/92

Instrument Calibration Factor 0.280 Instrument Calibration Factor 0.188

Sample	Location	HP-210 CPM	HP-210 Factor	HP-210 DPM	AC-3-7 CPM	AC-3-7 Factor	AC-3-7 DPM	Spillage or Breakage?	Activity, nCi/mL or nCi/g
Background		26.0			0				
Consistency		7,300	0.2818		5,070	0.1863			
Smears RFP 87		46.0			3.0				
#88		32.0			2.0				
RFP #89		26.0			1.0				
#90		41.0			3.0				
Reported (WMC)		10 Samples		<	= 0		—	—	

Comments:

All OK ✓ Approved DWK

Not OK Date 9/04/92

Form: ARLI RA-01
Rev: 06

01/15/92

GENERAL CHEMISTRY RESULTS

CASE NO. 09-013

Soil and Water Sample #:

B075H6 B075N4 B075J4

CASE NARRATIVE

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

Ernesto Vazquez

Ernesto Vazquez

TNA Inc. REPORT Work Order # A2-09-013

Received: 09/03/92 11/18/92 11:01:55

REPORT Westinghouse Hanford Company
TO 2355 Stevens Dr.
Richland,WA.99352
MO-346/200 West/T6-08
ATTEN Jeanette Duncan

PREPARED Thermo Analytical, Inc.
BY 160 Taylor Street
Monrovia, CA 91016

ATTEN MS. Carole Harris
PHONE 818-357-3247

CERTIFIED BY Ernesto Vázquez

CONTACT EVV CIH

CLIENT WHC SAMPLES 7
COMPANY Westinghouse Hanford Company
FACILITY

This report is for the sole and exclusive use of the client to whom it is addressed and represents only those samples herein described. Samples not destroyed in testing are retained a maximum of 30 days unless otherwise requested.

WORK ID 100-FR-3
TAKEN By Westinghouse Staff
TRANS By Federal Express
TYPE Soil/Liquid
P.O. # NZ-09-027 & 09-029-SU-AR
INV. # 616104

SAMPLE IDENTIFICATION		TEST CODES and NAMES used on this workorder	
01	B075J4	BNCLPS	CLP Semivol. Sol. - WH016
01	B075J4 MS	BNCLPW	CLP Semivol. Water
01	B075J4 MSD	IC AN	Anions Extraction Solids
01	B075J4	PECLPL	CLP Pesticides Liq.-WH019
01	B075J4 MS	PECLPS	CLP Pest\PCBs Soil - WH015
01	B075J4 MSD	VOCLPL	CLP Volatile Org.Liq.
01	B075J4	VOCLPS	CLP Vol. Org.Soils - WH014
01	B075J4 MS	WCCLPL	Anions & Wet Chem. - WH043
01	B075J4 Duplicate	WCCLPS	Anions in Solids - WH232
02	B075H6	WCL L	Chloride - WH120
02	B075H6 MS	WCQCD	Quality Control Summary
02	B075H6 MSD	WCQCS	Quality Control Summary
02	B075H6	WF L	Fluoride in Water
02	B075H6 MS	WF S	Fluoride in Solids
02	B075H6	WMOIST	Moisture
02	B075H6 MS	WNH3 L	Ammonia in Water - WH140
02	B075H6	WPH L	pH of Liquid - WH121
02	B075H6 MS	WPH S	pH of Solids - WH217
02	B075H6	WPO4 L	Phosphate in Liquids
03	B075J3	WSO4 L	Sulfate (in Waters)
03	B075J3 MS	WSO4 S	Sulfate (in Solids)
03	B075J3 MSD	WSULFI	Sulfide - WH114
04	B075N4	W ALK	Alkalinity - WH131
04	B075N4 MS	W COD	COD Water - WH132
04	B075N4 MSD	W COND	Conductivity-Water WH135
04	B075N4	W TDS	Dissolved Solids WH128

TMA Inc. REPORT Work Order [illegible]

Received: 09/03/92 11/18/92 11:01:55

SAMPLE IDENTIFICATION

04 B075N4 Duplicate
04 B075N4
04 B075N4 Duplicate
04 B075N4
04 B075N4 Duplicate
05 B075P5
06 Wet Chemistry Blank Liquid
07 Wet Chemistry Blank Soil

TMA Inc. REPORT Work Order # A2-09-013

Received: 09/03/92 Results by Sample

SAMPLE ID B075J4 FRACTION 01G TEST CODE WCCLPS NAME Anions in Solids - WN232

Date & Time Collected 09/01/92 Category

ANIONS AND WET CHEMISTRY - SOLIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Fluoride	300.0	3	mg/Kg	1.
Sulfate	300.0	27	mg/Kg	10.

FORM I

TMA Inc. REPORT Work Order # A2-09-013

Received: 09/03/92

Results by Sample

SAMPLE ID B075N6 FRACTION 02E TEST CODE WCCLPL NAME Anions & Wet Chem. - WH043

Date & Time Collected 09/01/92 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Chloride	300.0	1.0	mg/L	0.2
Elect. Conductivity	120.1	142	umho/cm	6
Fluoride	300.0	0.2	mg/L	0.1
Phosphate	300.0	<0.4	mg/L	0.4
pH	150.1	8.3	pH	0.1
Sulfate	300.0	10	mg/L	1

FORM I

TMA Inc. REPORT Work Order # A2-09-013

Received: 09/03/92

Results by Sample

SAMPLE ID B075M6 FRACTION 02G TEST CODE WCCLPL NAME Anions & Wet Chem. - WH043

Date & Time Collected 09/01/92 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Sulfide	376.1	<1	mg/L	1

FORM I

TMA Inc. REPORT Work Order # A2-09-013

Received: 09/03/92

Results by Sample

SAMPLE ID B075N6 FRACTION 021 TEST CODE WCCLPL NAME Anions & Wet Chem. - WK043

Date & Time Collected 09/01/92 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Ammonia Nitrogen	350.3	<0.05	mg/L	0.05
COD	410.0	<30	mg/L	30

FORM I

TNA Inc. REPORT Work Order # A2-09-013

Received: 09/03/92 Results by Sample

SAMPLE ID B075N6 FRACTION 02K TEST CODE WCCLPL NAME Anions & Wet Chem. - WH043

Date & Time Collected 09/01/92 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Alkalinity	310.1	62	mg/L	2
Tot. Dissolved Solids	160.1	87	mg/L	5

FORM I

TMA Inc. REPORT Work Order # A2-09-013

Received: 09/03/92

Results by Sample

SAMPLE ID B075N4 FRACTION 04E TEST CODE WCCLPL NAME Anions & Wet Chem. - WH043

Date & Tiee Collected 08/31/92 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Chloride	300.0	1.0	mg/L	0.2
Elect. Conductivity	120.1	145	umho/cm	6
Fluoride	300.0	0.2	mg/L	0.1
Phosphate	300.0	<0.4	mg/L	0.4
pH	150.1	8.1	pH	0.1
Sulfate	300.0	10	mg/L	1

FORM I

TMA Inc. REPORT Work Order [illegible]

Received: 09/03/92 Results by Sample

SAMPLE ID B075N4 FRACTION 04G TEST CODE WCCLPL NAME Anions & Wet Chem. WN043

Date & Time Collected 08/31/92 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Sulfide	376.1	<1	mg/L	1

FORM I

TMA Inc. REPORT Work Order # A2-09-013

Received: 09/03/92 Results by Sample

SAMPLE ID 8075N4 FRACTION 04N TEST CODE WCCLPL NAME Anions & Wet Chem. - WH043

Date & Time Collected 08/31/92 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Ammonia Nitrogen	350.3	<0.05	mg/L	0.05
COD	410.0	<30	mg/L	30

FORM I

TMA Inc. REPORT Work Order # A2-07- 13

Received: 09/03/92

Results by Sample

SAMPLE ID B075N4 FRACTION 04J TEST CODE WCCLPL NAME Anions & Wet Chem. - WN043

Date & Time Collected 08/31/92 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Alkalinity	310.1	64	mg/L	2
Tot. Dissolved Solids	160.1	88	mg/L	5

FORM I

66

Westinghouse Hanford Company	CHAIN OF CUSTODY	S&S

Custody Form Initiator: W.V. SETZER

Company Contact: WV SETZER

Telephone: 376-2413

Project Designation/Sampling Locations: 100-FR-3

Collection Date: 9-1-92

Ice Chest No.:

Field Logbook No.: EFL- 1041

Bill of Lading/Airbill No.:

Offsite Property No.:

Method of Shipment: OVERNIGHT AIR SERVICE

Shipped to: TMA/NORCAL

Possible Sample Hazards/Remarks: None detected with field instruments. Maintain at 4C.

Sample Identification

1) B075H6 1,1000ml P:CLP;ICP/AA Metals,Hg
1,1000ml G:CLP;Cn
~~2,40ml aG:CLP;VOA~~
~~3,2360ml aG:CLP;Semi VOA,PCB,PEST~~
~~1,500ml P:300.0;Anions(F,SO4,PO4,CL)~~
~~9040;pH~~
~~9050;Conductivity~~
1,500ml P:353.2;NO3,NO2
~~2,4000ml P:Gross alpha/beta,Gamma Spec, Sr-90,U-235/238,Pu-239/240,Am-241,C-14~~
~~1,1000ml P:Tc-99~~
~~1,500ml G:Sulfide~~
~~1,250ml Gs:Tritium~~
~~1,500ml G:Ammonia,Chemical Oxygen Demand~~
~~1,1000ml G:Alkalinity, Total Dissolved Solids~~
~~2) B075J3 3,40ml aG:CLP;VOA 1 VOA HAS BUBBLE~~

[] Field Transfer of Custody	Chain of Possession	(Sign and Print Names)
Relinquished by: W.V. Setzer	Received by: J.E. Darling J.E. Darling	Date/Time: 9-1-92 1430
Relinquished by: J.E. Darling	Received by: R.Z. Steffler R.Z. Steffler	Date/Time: 9-2-92 0735
Relinquished by: R.Z. Steffler R.Z. Steffler	Received by: Kermit Blum	Date/Time: 9-3-92 1145
Relinquished by: 9-3-92 Kermit Blum	Received by: [illegible]	Date/Time: 9/4/92 9:30

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:

A-6000-407 (12/90) (EF) WEF061
Chain of Custody

67

C of C 002893

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator W.V. SETZER

Company Contact WV SETZER

Telephone 376-2413

Project Designation/Sampling Locations 100-FR-3

Collection Date 8-31-92

Ice Chest No.

Field Logbook No. EFL- 1040

Bill of Lading/Airbill No.

Offsite Property No.

Method of Shipment OVERNIGHT AIR SERVICE

Shipped to TMA/NORCAL

Possible Sample Hazards/Remarks None detected with field instruments. Maintain at 4C.

Sample Identification

1) B075N4 1,1000ml P:CLP;ICP/AA Metals,Hg
1,1000ml G:CLP;Cn
~~3,40ml aG:CLP;VOA~~
~~3,2360ml aG:CLP;Semi VOA,PCB,PEST~~
~~1,500ml P:300.0,Anions(F,SO4,PO4,CL)~~
~~9040;pH~~
~~9050;Conductivity~~
1,500ml P:353.2;NO3,NO2
~~2,4000ml P:Gross alpha/beta,Gamma Spec, Sr-90,U-235/238,Pu-239/240,Am-241,C-14~~
~~1,1000ml P:Tc-99~~
~~1,500ml G:Sulfide~~
~~1,250ml Gs:Tritium~~
~~1,500ml G:Ammonia,Chemical Oxygen Demand~~
~~1,1000ml G:Alkalinity, Total Dissolved Solids~~

~~2) B075P5 3, 40 ml aGs: CLP; VOA~~

[] Field Transfer of Custody — Chain of Possession — (Sign and Print Names)

Relinquished by:	Received by:	Date/Time:
W.V. Setzer	J.E. Darling J.E. Darling	9-1-92 0830
J.E. Darling	R.Z. Steffler R.Z. Steffler	9-2-92 0735
R.Z. Steffler R.Z. Steffler	Kermit Blum	9-3-92 1145

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:

A-6000-407 (12/90) (EF) WEF061
Chain of Custody

68

C of C 002893

Westinghouse Hanford Company	SAMPLE ANALYSIS REQUEST

Collector J.E. Darling Date 08/31/92

Company Contact WV SETZER Telephone (509)376-2413

Sample Number	*	Date Collected	Time Collected	Number and Type of Sample Containers/Analysis Required
B075N4	L	08-31-92	N/A	1,1000ml P:CLP;ICP/AA Metals,Hg 1,1000ml G:CLP;Cn ~~3,40ml aG:CLP;VOA~~ ~~3,2360mlaG:CLP;Semi-VOA,PCB,PEST~~ ~~1,500ml P:300.0,Anions(F,SO4,PO4,CL)~~ ~~9040,pH~~ ~~9050,Conductivity~~ 1,500ml P:353.2 NO3,NO2 ~~2,4000ml P:Gross Alpha,Beta,Gamma-spec,Sr-90,U235/238,Pu239/240,Am-241,C-14~~ ~~1,1000ml P:Tc-99~~ ~~1,500ml G:Sulfide~~ ~~1,250ml Gs:Tritium~~ ~~1,500ml G:Ammonia,Chemical Oxygen Demand~~ ~~1,1000ml G:Alkalinity,Total Dissolved Solids~~
~~B075N9~~	~~L~~	~~08-31-92~~	~~N/A~~ 09-1-92	~~1,120ml Gs: TOC~~
~~B075N9~~	~~L~~	~~08-31-92~~	~~N/A~~ 09-1-92	~~1,250ml aGs: TOX~~
~~B075N8~~	~~L~~	~~08-31-92~~	~~N/A~~ 09-1-92	~~1,40ml Gs: HYDRAZINE~~
B075P5	L	8-31-92	NA	3,40ml aGs CLP VOA

*Type of Sample

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

Field Information FROM 100-FR-3 Drilling

Special Handling and/or Storage Maintain at 4C

Possible Sample Hazards NA

A-6000-406 (06/91) WEF060

CASE NARRATIVE

LABORATORY : TMA/ARLI

CASE : 09-013

CONTRACT ID : WESTINGHOUSE HANFORD COMPANY

SDG RECEIPT DATE : September 3, 1992

1.0 DESCRIPTION OF CASE :

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

2.0 SAMPLE LIST :

WESTINGHOUSE ID	LAB ID	ANALYSIS REQUESTED	MATRIX	pH
B075J4	A2-09-013-01A	V	SOIL	
B075J4 MS	A2-09-013-01B	V	SOIL	
B075J4 MSD	A2-09-013-01C	V	SOIL	
B075J4	A2-09-013-01D	SV & P	SOIL	
B075J4 MS	A2-09-013-01E	SV & P	SOIL	
B075J4 MSD	A2-09-013-01F	SV & P	SOIL	
B075H6	A2-09-013-02A	V	WATER	7
B075H6	A2-09-013-02B	SV & P	WATER	
B075H6 MS	A2-09-013-02C	SV	WATER	
B075H6 MSD	A2-09-013-02D	SV	WATER	
B075J3	A2-09-013-03A	V	WATER	7
B075J3 MS	A2-09-013-03B	V	WATER	7
B075J3 MSD	A2-09-013-03C	V	WATER	7
B075N4	A2-09-013-04A	V	WATER	7
B075N4	A2-09-013-04B	SV & P	WATER	
B075N4 MS	A2-09-013-04C	P	WATER	
B075N4 MSD	A2-09-013-04D	P	WATER	
B075P5	A2-09-013-05A	V	WATER	7

3.0 COMMENTS :

3.1 SHIPPING AND DOCUMENTATION :

The samples were received unbroken and properly documented.

3.2 ANALYSIS

3.2.1 VOLATILE ANALYSIS COMMENTS :

LOW LEVEL WATER :

The samples were analyzed within the CLP SOW holding times.

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

LOW LEVEL SOIL :

The samples were analyzed 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 WATER :

The samples were extracted and analyzed within the CLP SOW holding times. The spike recovery of 4-Nitrophenol in B075H6MS and B075H6MSD were above the QC limits with a 9% RPD between both MS and MSD. The Pentachlorophenol spike recovery for B075H6MSD was above the QC limit also. In accordance with protocol, no further action was required.

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

LOW LEVEL SOIL :

The samples were extracted and analyzed within the CLP SOW holding times.

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

PESTICIDE/PCB ANALYSIS :

SEQUENCE NOTES :

The sequence was started on 10/5/92 and analyzed in accordance with the EPA CLP SOW. The sequence met all the QC criteria specified in the CLP SOW.

The sequence was analyzed by single injection into a dual column system.

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

SAMPLE NOTES :

LOW LEVEL WATER :

The samples were extracted and analyzed within the CLP SOW holding times.

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

LOW LEVEL SOIL :

The samples were extracted and analyzed within the CLP SOW holding times. The TCX surrogate recovery for sample PBLK0909S on the DB-608 column was slightly below the advisory limit.

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

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

Widayat
Wida Ang
Organics Supervisor

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B[illegible]

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 09013 SAS No.: NA SDG No.: N[illegible]

Matrix: (soil/water) WATER Lab Sample ID: A2[illegible]

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 20903E08

Level: (low/med) LOW Date Received: 09/03/92

% Moisture: not dec. ____ Date Analyzed: 09/08/92

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

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

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

CAS NO.	COMPOUND		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	10	U
67-64-1	Acetone	10	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	1	BJ
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	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

EPA SAMPLE NO.

B075H6

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 09013 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A209013-02A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 20908B08

Level: (low/med) LOW Date Received: 09/03/92

% Moisture: not dec. ____ Date Analyzed: 09/08/92

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

EPA SAMPLE NO.

B075J3

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 09013 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A209013-03A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 20908B09

Level: (low/med) LOW Date Received: 09/03/92

% Moisture: not dec. ____ Date Analyzed: 09/08/92

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	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	3	BJ
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	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

EPA SAMPLE NO.

B075J3

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 09013 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A209013-03A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 20908B09

Level: (low/med) LOW Date Received: 09/03/92

% Moisture: not dec. ____ Date Analyzed: 09/08/92

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

EPA SAMPLE NO.

B075J4

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 09013 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A209013-01A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 20909R11

Level: (low/med) LOW Date Received: 09/03/92

% Moisture: not dec. 0 Date Analyzed: 09/09/92

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	10	U
67-64-1	Acetone	10	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	3	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

EPA SAMPLE NO.

B075J4

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 09013 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A209013-01A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 20909R11

Level: (low/med) LOW Date Received: 09/03/92

% Moisture: not dec. 0 Date Analyzed: 09/09/92

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

EPA SAMPLE NO.

B075N4

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 09013 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A209013-04A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 20908B12

Level: (low/med) LOW Date Received: 09/03/92

% Moisture: not dec. ____ Date Analyzed: 09/08/92

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	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	1	BJ
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	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

EPA SAMPLE NO.

B075N4

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 09013 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A209013-04A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 20908B12

Level: (low/med) LOW Date Received: 09/03/92

% Moisture: not dec. ____ Date Analyzed: 09/08/92

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

EPA SAMPLE NO.

B075P5

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 09013 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A209013-05A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 20908B13

Level: (low/med) LOW Date Received: 09/03/92

% Moisture: not dec. ____ Date Analyzed: 09/08/92

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	3	J
67-64-1	Acetone	10	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	3	BJ
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	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

EPA SAMPLE NO.

B075P5

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 09013 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A209013-05A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 20908B13

Level: (low/med) LOW Date Received: 09/03/92

% Moisture: not dec. ____ Date Analyzed: 09/08/92

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07H6

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 09013 SAS No.: NA SDG No : NA

Matrix: (soil/water) WATER Lab Sample ID: A209013-04B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 20923N04

Level: (low/med) LOW Date Received: 09/03/92

% Moisture: ____ decanted: (Y/N) ___ Date Extracted: 09/08/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 09/23/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	25	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B075H6

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 09013 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A209013-02B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 20923N04

Level: (low/med) LOW Date Received: 09/03/92

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 09/08/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 09/23/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)Anthracene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
218-01-9	Chrysene	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B075H6

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 09013 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A2[illegible]-02B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 20923N04

Level: (low/med) LOW Date Received: 09/03/92

% Moisture: ____ decanted: (Y/N) ___ Date Extracted: 09/08/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 09/23/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	5.65	4	J

000018
EPA SAMPLE NO.

B075J4

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 09013 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A209013-01D

Sample wt/vol: 30.3 (g/mL) G Lab File ID: 20923N02

Level: (low/med) LOW Date Received: 09/03/92

% Moisture: 0 decanted: (Y/N) N Date Extracted: 09/09/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 09/23/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.5

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	330	U
111-44-4	bis(2-Chloroethyl)Ether	330	U
95-57-8	2-Chlorophenol	330	U
541-73-1	1,3-Dichlorobenzene	330	U
106-46-7	1,4-Dichlorobenzene	330	U
95-50-1	1,2-Dichlorobenzene	330	U
95-48-7	2-Methylphenol	330	U
108-60-1	2,2'-oxybis(1-Chloropropane)	330	U
106-44-5	4-Methylphenol	330	U
621-64-7	N-Nitroso-Di-n-Propylamine	330	U
67-72-1	Hexachloroethane	330	U
98-95-3	Nitrobenzene	330	U
78-59-1	Isophorone	330	U
88-75-5	2-Nitrophenol	330	U
105-67-9	2,4-Dimethylphenol	330	U
111-91-1	bis(2-Chloroethoxy)Methane	330	U
120-83-2	2,4-Dichlorophenol	330	U
120-82-1	1,2,4-Trichlorobenzene	330	U
91-20-3	Naphthalene	330	U
106-47-8	4-Chloroaniline	330	U
87-68-3	Hexachlorobutadiene	330	U
59-50-7	4-Chloro-3-Methylphenol	330	U
91-57-6	2-Methylnaphthalene	330	U
77-47-4	Hexachlorocyclopentadiene	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	330	U
51-28-5	2,4-Dinitrophenol	790	U

EPA SAMPLE NO.

B075J4

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 09013 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A209013-01D

Sample wt/vol: 30.3 (g/mL) G Lab File ID: 20923N02

Level: (low/med) LOW Date Received: 09/03/92

% Moisture: 0 decanted: (Y/N) N Date Extracted: 09/09/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 09/23/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.5

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	790	U
85-01-8	Phenanthrene	330	U
120-12-7	Anthracene	330	U
86-74-8	Carbazole	330	U
84-74-2	Di-n-Butylphthalate	39	J
206-44-0	Fluoranthene	330	U
129-00-0	Pyrene	330	U
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	330	U
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

000020
EPA SAMPLE NO.

B075J4

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 09013 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A209013-01D

Sample wt/vol: 30.3 (g/mL) G Lab File ID: 20923N02

Level: (low/med) LOW Date Received: 09/03/92

% Moisture: 0 decanted: (Y/N) N Date Extracted: 09/09/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 09/23/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.5

Number TICs found: 7

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN ALKENE	3.72	200	BJ
2.	UNKNOWN HYDROCARBON	4.35	99	J
3.	UNKNOWN KETONE	4.53	400	J
4.	UNKNOWN HYDROCARBON	4.95	1700	BJ
5.	UNKNOWN HYDROCARBON	5.55	25000	BJ
6.	UNKNOWN HYDROCARBON	6.77	500	BJ
7.	UNKNOWN HYDROCARBON	7.13	300	J

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B075N4

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 09013 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A209013-04B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 20923N07

Level: (low/med) LOW Date Received: 09/03/92

% Moisture: ____ decanted: (Y/N) ___ Date Extracted: 09/08/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 09/23/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	25	U

EPA SAMPLE NO.

B075N4

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 09013 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A209013-04B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 20923N07

Level: (low/med) LOW Date Received: 09/03/92

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 09/08/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 09/23/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)Anthracene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
218-01-9	Chrysene	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

EPA SAMPLE NO.

B075N4

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 09013 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A209013-04B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 20923N07

Level: (low/med) LOW Date Received: 09/03/92

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 09/08/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 09/23/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	5.67	4	J

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B075H6

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 09013 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A209013-02B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

% Moisture: _____ decanted: (Y/N) ___ Date Received: 09/03/92

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 09/08/92

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 10/06/92

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
7421-36-3	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

000025

EPA SAMPLE NO.

B075J4

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 09013 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A209013-01D

Sample wt/vol: 30.6 (g/mL) G Lab File ID: _____

% Moisture: 0 decanted: (Y/N) N Date Received: 09/03/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 09/09/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 10/06/92

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 9.5 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	3.2	U
72-55-9	4,4'-DDE	3.2	U
72-20-8	Endrin	3.2	U
33213-65-9	Endosulfan II	3.2	U
72-54-8	4,4'-DDD	3.2	U
1031-07-8	Endosulfan sulfate	3.2	U
50-29-3	4,4'-DDT	3.2	U
72-43-5	Methoxychlor	17	U
53494-70-5	Endrin ketone	3.2	U
7421-36-3	Endrin aldehyde	3.2	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	32	U
11104-28-2	Aroclor-1221	66	U
11141-16-5	Aroclor-1232	32	U
53469-21-9	Aroclor-1242	32	U
12672-29-6	Aroclor-1248	32	U
11097-69-1	Aroclor-1254	32	U
11096-82-5	Aroclor-1260	32	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B075N4

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 09013 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A209013-04B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

% Moisture: _____ decanted: (Y/N) ___ Date Received: 09/03/92

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 09/08/92

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 10/06/92

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
7421-36-3	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

Received: 09/04/92 10/19/92 13:46:30

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

ATTEN Dan Steurmer

CLIENT HANFORD NOR SAMPLES 2
COMPANY TMA/NORCAL
FACILITY Richmond, CA

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

ATTEN Client Services
PHONE (617) 890-7200

CERTIFIED BY

CONTACT DP

WORK ID N2-09-027
TAKEN By Client
TRANS Fedex
TYPE 1 Soil (NO3NO2)
P.O. # N2-09-027
INVOICE under separate cover

SAMPLE IDENTIFICATION	
01	B075J4
01	B075J4D
01	B075J4S
02	LCSS

TEST CODES and NAMES used on this workorder

NO3NO2 Nitrate Plus Nitrite

TMA Thermo Analytical Inc.
Skinner & Sherman Laboratories Inc.
This report is rendered upon all of the following conditions: Skinner & Sherman Laboratories, Inc. retains ownership of this report until associated submitted invoice is satisfied. Expert witness services shall be available in conjunction with this report only if prior notification of this potential requirement was made and accepted, before the analysis. Client will be responsible for Skinner & Sherman costs and consulting fees if our services are required by subpoena or otherwise in legal proceedings. Total liability is limited to the invoice amount. The results listed refer only to tested samples and applicable parameters. Product endorsement is neither inferred nor implied. Skinner & Sherman Laboratories, Inc. will exercise due diligence but will not be responsible for lost or destroyed samples or evidence unless client makes appropriate insurance coverage arrangements. Samples are held for thirty days following issuance of report. Samples will be stored at client's expense, if authorized in writing.
300 Second Avenue, P.O. Box 521, Waltham, Massachusetts 02254-0521 (617) 890-7200
LAB TEST FAX (617) 890-3883

Received: 09/04/92 Results by Sample

SAMPLE ID B075J4 SAMPLE # 01 FRACTIONS: A
Date & Time Collected 09/01/92 Category SOIL

NO3NO2 <2.46
mg N/Kg

SAMPLE ID B075J4D SAMPLE # 01 FRACTIONS: B
Date & Time Collected 09/01/92 Category SOIL

NO3NO2 <2.48
mg N/Kg

SAMPLE ID B075J4S SAMPLE # 01 FRACTIONS: C
Date & Time Collected 09/01/92 Category SOIL

NO3NO2 20.0
mg N/Kg

SAMPLE ID LCSS SAMPLE # 02 FRACTIONS: A
Date & Time Collected not specified Category SOIL

NO3NO2 1.97
mg N/L

TMA Thermo Analytical Inc.
Skinner & Sherman Laboratories Inc.
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Second Avenue, P.O. Box 521, Waltham, Massachusetts 02254-0521 (617) 890-7200
(LABTEST) FAX (617) 890-3883

Received: 09/04/92 Test Methodology

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.
This report is rendered upon all of the following conditions: Skinner & Sherman Laboratories, Inc. retains ownership of this report until associated submitted invoice is satisfied. Expert witness services shall be available in conjunction with this report only if prior notification of this potential requirement was made and accepted, before the analysis. Client will be responsible for Skinner & Sherman costs and consulting fees if our services are required by subpoena or otherwise in legal proceedings. Total liability is limited to the invoice amount. The results listed refer only to tested samples and applicable parameters. Product endorsement is neither inferred nor implied. Skinner & Sherman Laboratories, Inc. will exercise due diligence but will not be responsible for lost or destroyed samples or evidence unless client makes appropriate insurance coverage arrangements. Samples are held for thirty days following issuance of report. Samples will be stored at client's expense, if authorized in writing.
Skinner & Sherman Laboratories Inc. Second Avenue, P.O. Box 621, Waltham, Massachusetts 02254-0521 (617) 890-7200
LAB TEST FAX (617) 890-3883

TMA/Skinner & Sherman Labs SAMPLE LOG-IN

WORKORDER S209090 CLIENT Hanford NOR No. SAMPLES:

PROTCL CLP TURNARND 33 Day 1 (Soil) (Water) (Specify Other)

COOLER TEMP: 4 oC, or NA

CUSTODIAN B. Prouix

CUSTODY SEAL: PRESENT/ABSENT/INTACT/NOT

SHIPER & # Fed Ex

TAGS: PRESENT/ABSENT/NA/SEE COC

CHAIN OF CUSTODY: PRESENT/ABSENT/NA, # N/A

SDG/BATCH N/A

CLIENT CASE N209027

PO/CONTRACT# ✓

CONTACT D. Sanchez

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 9-4-92

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

	CLIENT ID	MATRIX	RECEIVED	PH*	TEST(S) & QC	HOLD TIME UP
1	B005J4	Soil	9-4-92	N/A	DS NO3 NO2	
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						

mples are from site known to have Rad-Contamination: YES ✓ NO

mples have detectable amounts of Radioactive Material: YES NO ✓

BCONTRACT: YES/NO TO: DATE:

VIEWED Complete 9/8/92

PA/CLP required Rev 1.6 PAGE: 3p

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Westinghouse Hanford Company	CHAIN OF CUSTODY	S&S

Custody Form Initiator DL LEIST

Company Contact WV SETZER

Telephone 376-2413

Project Designation/Sampling Locations 100-FR-3

Collection Date 9·1·92

Ice Chest No.

Field Logbook No. EFL-1041

Bill of Lading/Airbill No.

Offsite Property No.

Method of Shipment OVERNIGHT AIR SERVICE

Shipped to TMA/NORCAL

Possible Sample Hazards/Remarks None detected with field instruments. Maintain at 4C.

Sample Identification

1) B075J4 ~~1,250ml aG:CLP;ICP/AA Metals,Hg,Cn~~
~~1,120ml aG:CLP;VOA~~ per Dolores Sanchez A.B.
~~1,950ml aG:CLP;Semi-VOA,PCB/PEST,~~ Anions (~~F,SO4~~,NO3)
~~1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241~~

2) 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
1,120ml aG:CLP;VOA
1,950ml aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,NO3)
1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

3) 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
1,120ml aG:CLP;VOA
1,950ml aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,NO3)
1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

[] Field Transfer of Custody — Chain of Possession — (Sign and Print Names)

Relinquished by:	Received by:	Date/Time:
DL Leist	J.E. Darling J.E. Darling	9-1-92 1430
J.E. Darling	R.Z. Steffler RZ Steffler	9-2-92 0735
R.Z. Steffler RZ Steffler	Kermit Blum	9-3-92 1145
Kermit Blum 9-3-92	[signature]	9/4/92 9:30

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:

A-6000-407 (12/90) (EF) WEF061
Chain of Custody

21

Westinghouse Hanford Company	SAMPLE ANALYSIS REQUEST

Collector D.L. Leist Date 09/01/92

Company Contact WV SETZER Telephone (509)376-2413

Sample Number	*	Date Collected	Time Collected	Number and Type of Sample Containers/Analysis Required
B075J4	S	09-01-92	N/A	1-250ml aG CLP;ICP/AA Metals,Hg,Cn ~~1-120ml aG CLP;VOA~~ LB 9/4/92 ~~1-950ml aG CLP;Semi-VOA,PCB/PEST~~ ~~300.0~~/353.2;Anions(~~F,SO4~~,NO3) ~~1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14~~ ~~U-235/238,Pu-239/240,Am-241~~
				1-250ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
				1-250ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
				1-120ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
		gzd 9-1-92		

*Type of Sample

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

Field Information FROM 100-FR-3 Drilling

Special Handling and/or Storage Maintain at 4C

Possible Sample Hazards NA

A-6000-406 (06/91) WEF060

S&S

20

SAMPLE STATUS REPORT FOR E 4704. HAZ. WASTE B075J4 TIME: 9/ 2/92 8:17
DISPATCHED: 8/28/92 10: 7 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 9/ 2/92 7:59

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	PBBA2

END OF REPORT

Received: 09/04/92 10/28/92 14:17:08

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

ATTEN Dan Steurmer

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

CLIENT HANFORD NOR SAMPLES 3
COMPANY TMA/NORCAL
FACILITY Richmond, CA

WORK ID N2-09-029
TAKEN By Client
TRANS Fedex
TYPE 2 Waters (NO3NO2)
P.O. # N2-09-029
INVOICE under separate cover

SAMPLE IDENTIFICATION

01 B075H6
01 B075H6D
01 B075H6S
02 B075N4
03 LCSW

TEST CODES and NAMES used on this workorder

NO3NO2 Nitrate Plus Nitrite

TMA
Thermo Analytical Inc.
Skinner & Sherman Laboratories Inc.
This report is rendered upon all of the following conditions: Skinner & Sherman Laboratories, Inc. retains ownership of this report until associated submitted invoice is satisfied. [illegible] will be available in conjunction with this report only if prior notification of this potential requirement was made and accepted, before the analysis. Client [illegible] responsible for Skinner & Sherman costs and consulting fees if our services are required by subpoena or otherwise in legal proceedings. Total liability is limited to the invoice [illegible] samples and applicable parameters. Product endorsement is neither inferred nor implied. Skinner & Sherman Laboratories, Inc. will [illegible] responsible for lost or destroyed samples or evidence unless client makes appropriate insurance coverage arrangements. Samples are held for [illegible] Samples will be stored at client's expense, if authorized in writing.
[illegible] Second Avenue, P.O. Box 521, Waltham, Massachusetts 02254-0521 (617) 890-7200
[illegible] (617) 890-3883

Received: 09/04/92

Results by Sample

SAMPLE ID B075H6 SAMPLE # 01 FRACTIONS: A
Date & Time Collected 09/01/92 Category WATER

NO3NO2 <0.25
mg N/L

SAMPLE ID B075H6D SAMPLE # 01 FRACTIONS: B
Date & Time Collected 09/01/92 Category WATER

NO3NO2 <0.25
mg N/L

SAMPLE ID B075H6S SAMPLE # 01 FRACTIONS: C
Date & Time Collected 09/01/92 Category WATER

NO3NO2 1.33
mg N/L

SAMPLE ID B075N4 SAMPLE # 02 FRACTIONS: A
Date & Time Collected 08/31/92 Category WATER

NO3NO2 <0.25
mg N/L

SAMPLE ID LCSW SAMPLE # 03 FRACTIONS: A
Date & Time Collected not specified Category WATER

NO3NO2 1.79
mg N/L

IMA Thermo Analytical Inc.

This report is rendered upon all of the following conditions: Skinner & Sherman Laboratories, Inc. retains ownership of this report until associated submitted invoice is satisfied. [illegible] shall be available in conjunction with this report only if prior notification of this potential requirement was made and accepted, before the analysis. Client [illegible] responsible for Skinner & Sherman costs and consulting fees if our services are required by subpoena or otherwise in legal proceedings. Total liability is limited to the invoice [illegible]. The results listed refer only to tested samples and applicable parameters. Product endorsement is neither inferred nor implied. Skinner & Sherman Laboratories, Inc. will [illegible] but will not be responsible for lost or destroyed samples or evidence unless client makes appropriate insurance coverage arrangements. Samples are held for [illegible] report. Samples will be stored at client's expense, if authorized in writing.

Skinner & Sherman Laboratories, Inc. [illegible] Second Avenue [illegible] Box 521, Waltham, Massachusetts 02254-0521 (617) 890-7200
[illegible] (617) 890-9843

Received: 09/04/92 Test Methodology

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.

This report is tendered upon all of the following conditions: Skinner & Sherman Laboratories, Inc. retains ownership of this report until associated submitted invoice is satisfied. [illegible] shall be available in conjunction with this report only if prior notification of this potential requirement was made and accepted, before the analysis. Client [illegible] for Skinner & Sherman costs and consulting fees if our services are required by subpoena or otherwise in legal proceedings. Total liability is limited to the invoice [illegible] only to tested samples and applicable parameters. Product endorsement is neither inferred nor implied. Skinner & Sherman Laboratories, Inc. will [illegible] responsible for lost or destroyed samples or evidence unless client makes appropriate insurance coverage arrangements. Samples are held for [illegible] Samples will be [illegible] if authorized in writing.

[illegible] Waltham, Massachusetts 02254-0521 [illegible] (617) 890-3883

18

TMA/Skinner & Sherman Labs SAMPLE LOG-IN
WORKORDER S209098 CLIENT Hanford Nor No. SAMPLES:
PROTCL CLP TURNARND 33 Day (Soil) 2 (Water) (Specify Other)
COOLER TEMP: 4 oC, or NA
CUSTODIAN B. Prunix SDG/BATCH N/A
CUSTODY SEAL: PRESENT/ABSENT/INTACT/NOT CLIENT CASE N209029
SHIPER & # Fed Ex PO/CONTRACT# "
TAGS: PRESENT/ABSENT/NA/SEE COC — CONTACT D. 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 9-8-92
LIST ANY DATE WITH PAPERWORK/SHIPMENT PROBLEMS & SPECIFY THE PROBLEM:

N/A

CLIENT ID	MATRIX	RECEIVED	PH*	TEST(S) & QC	HOLD TIME UP
B075H6	Water	9-4-92	7.10	D.S NO3 NO2	
B075N4	↓	↓	1.96		

...s are from site known to have Rad-Contamination: YES ✓ NO
...s have detectable amounts of Radioactive Material: YES NO ✓

...NTRACT: YES/NO TO: DATE:
...VED complete 9/8/92

...CLP required Rev 1.6 PAGE: B.P.

RECORD COPY

NOV 1992
RECEIVED
OSM DMO

WESTINGHOUSE HANFORD COMPANY

Results of Analyses For:

ORGANICS & GENERAL CHEMISTRY
Case No. 09-013
(TMA/ARLI Work Order # A2-09-013)

METALS
Case No. N2-09-027
(TMA/Skinner & Sherman W.O. # S2-09-089 & S2-09-090)

November 17, 1992

TMA Master Work Order N2-09-027

i 4/30/96 M.H.

TMA
Thermo Analytical Inc.

Skinner & Sherman Laboratories Inc.
300 Second Avenue
Post Office Box 521
Waltham, MA 02254-0521
(617) 890-7200

NOV 1992
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OSM DMO

November 16, 1992

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

Quality Control Narrative

Scope
One (1) soil sample was submitted to TMA/Skinner & Sherman Laboratories, Inc. on September 4, 1992 from TMA/Norcal. The samples were analyzed for the USEPA CLP Target Analyte List metals and cyanide. The analysis were performed under TMA/Skinner and Sherman work order S209089.

Methodology
The samples were prepared, analyzed and reported in accordance with the USEPA Contract Laboratory Program Statement of Work ILM02.

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

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

The nickel and selenium laboratory duplicates exceeded the control limit requirements.

The ICP serial dilution for sodium 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

ii 4/30/96 M.H.

WESTINGHOUSE/HANFORD
1

SAMPLE NUMBER:

INORGANIC ANALYSIS DATA SHEET

B075J4

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

Lab Code: SKINER Case No.: N2-09-027SAS No.: SDG No.: B075J4

Matrix (soil/water): SOIL Lab Sample ID: 09089-01S

Level (low/med): LOW Date Received: 09/04/92

% Solids: 94.2

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5250			P
7440-36-0	Antimony	3.3	U	N	P
7440-38-2	Arsenic	1.2	B	W	F
7440-39-3	Barium	56.6			P
7440-41-7	Beryllium	0.21	B		P
7440-43-9	Cadmium	0.19	U		P
7440-70-2	Calcium	4590			P
7440-47-3	Chromium	7.8			P
7440-48-4	Cobalt	10.3			P
7440-50-8	Copper	17.8			P
7439-89-6	Iron	18100			P
7439-92-1	Lead	2.0			F
7439-95-4	Magnesium	3840			P
7439-96-5	Manganese	245			P
7439-97-6	Mercury	0.50			CV
7440-02-0	Nickel	9.1		*	F
7440-09-7	Potassium	719	B		P
7782-49-2	Selenium	1.4		SN*	F
7440-22-4	Silver	0.70	B		P
7440-23-5	Sodium	469	B	E	P
7440-28-0	Thallium	0.76	U		F
7440-62-2	Vanadium	52.3			P
7440-66-6	Zinc	36.8			P
	Cyanide	0.53	U		CA

Color Before: GREY Clarity Before: Texture: MEDIUM

Color After: GREY Clarity After: Artifacts: YES

Comments:
STONES

002

TMA/Skinner & Sherman Labs SAMPLE LOG-IN

WORKORDER S209089 CLIENT Hanford Nor No. SAMPLES:

PROTCL CLP TURNARND 33 Days 1 (Soil) (Water) (Specify Other)

COOLER TEMP: 4 oC, or NA

CUSTODIAN B. Prunex SDG/BATCH None

CUSTODY SEAL: PRESENT/ABSENT/INTACT/NOT CLIENT CASE N209027

SHIPER & # Fed Ex PO/CONTRACT# ↓

TAGS: PRESENT/ABSENT/NA/SEE COC CONTACT D. 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 9-4-92

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

N/A

CLIENT ID	MATRIX	RECEIVED	PH*	TEST(S) & QC	HOLD TIME UP
B075J4	Soil	9-4-92	N/A	TM/CN D.S	

Samples are from site known to have Rad-Contamination: YES ✓ NO

Samples have detectable amounts of Radioactive Material: YES NO ✓

SUBCONTRACT: YES/NO, TO: DATE:

117

REVIEWED

Complete 9/8/92

CLPA/CLP required Rev 1.6 PAGE: BP

19
M.1

Westinghouse Hanford Company	CHAIN OF CUSTODY	S&S

Custody Form Initiator: DL LEIST

Company Contact: WV SETZER — Telephone: 376-2413

Project Designation/Sampling Locations: 100-FR-3 — Collection Date: 9·1·92

Ice Chest No. — Field Logbook No.: EFL-1041

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

Method of Shipment: OVERNIGHT AIR SERVICE

Shipped to: TMA/NORCAL

Possible Sample Hazards/Remarks: None detected with field instruments. Maintain at 4C.

Sample Identification

1) B075J4 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
~~1,120ml aG:CLP,VOA~~
~~1,950ml aG:CLP;Semi-VOA,PCB/PEST,~~ Anions (~~F,SO4,~~ NO3)
~~1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241~~

2) 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
1,120ml aG:CLP;VOA
1,950ml aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,NO3)
1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

3) 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
1,120ml aG:CLP;VOA
1,950ml aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,NO3)
1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

[] Field Transfer of Custody	Chain of Possession	(Sign and Print Names)
Relinquished by: DL Leist	Received by: J.E. Darling S.E. Darling	Date/Time: 9-1-92 1430
Relinquished by: J.E. Darling	Received by: RZ Stoffler R.Z. Stoffler	Date/Time: 9-2-92 0735
Relinquished by: RZ Stoffler R.Z. Stoffler	Received by: Kermit Blum	Date/Time: 9-3-92 1145
Relinquished by: 9-3-92 Kermit Blum	Received by:	Date/Time:

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:

118
~~119~~
M.H

A-6000-407 (12/90) (EF) WEF061
Chain of Custody

26
M-1

Westinghouse Hanford Company	SAMPLE ANALYSIS REQUEST

Collector D.L. Leist Date 09/01/92

Company Contact WV SETZER Telephone (509)376-2413

Sample Number	*	Date Collected	Time Collected	Number and Type of Sample Containers/Analysis Required
B075J4	S	09-01-92	N/A	1-250ml aG CLP;ICP/AA Metals,Hg,Cn ~~1-120ml aG CLP;VOA~~ ~~1-950ml aG CLP;Semi-VOA,PCB/PEST~~ ~~300.0~~/353.2;Anions(~~F,SO4~~,NO3) ~~1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14~~ ~~U-235/238,Pu-239/240,Am-241~~
				1-250ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
				1-250ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
				1-120ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST 300.0/353.2;Anions(F,SO4,NO3) 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
		gzd 9-1-92		

*Type of Sample

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

Field Information FROM 100-FR-3 Drilling

Special Handling and/or Storage Maintain at 4C

Possible Sample Hazards NA

119

A-6000-406 (06/91) WEF060

21 M.

Westinghouse Hanford Company	CHAIN OF CUSTODY	S & S

Custody Form Initiator: W.V. SETZER

Company Contact: WV SETZER

Telephone: 376-2413

Project Designation/Sampling Locations: 100-FR-3

Collection Date: 9-1-92

Ice Chest No.:

Field Logbook No.: EFL- 1041

Bill of Lading/Airbill No.:

Offsite Property No.:

Method of Shipment: OVERNIGHT AIR SERVICE

Shipped to: TMA/NORCAL

Possible Sample Hazards/Remarks: None detected with field instruments. Maintain at 4C.

Sample Identification

1) B075H6 1,1000ml P:CLP;ICP/AA Metals,Hg
1,1000ml G:CLP;Cn
~~2,40ml aG:CLP;VOA~~
~~3,2360mlaG:CLP;Semi-VOA,PCB,PEST~~
~~1,500ml P:300.0;Anions(F,SO4,PO4,CL)~~
~~9040,pH~~
~~9050,Conductivity~~
1,500ml P:353.2;NO3,NO2
~~2,4000ml P:Gross alpha/beta,Gamma Spec, Sr-90,U-235/238,Pu-239/240,Am-241,C-14~~
~~1,1000ml P:Tc-99~~
~~1,500ml G:Sulfide~~
~~1,250ml Gs:Tritium~~
~~1,500ml G:Ammonia,Chemical Oxygen Demand~~
~~1,1000ml G:Alkalinity, Total Dissolved Solids~~
~~2) B075J3 3,40ml aG:CLP;VOA~~ (VOA HAS BUBBLE)

[] Field Transfer of Custody	Chain of Possession	(Sign and Print Names)
Relinquished by: W.V. Setzer	Received by: J.E. Darling J.E. DARLING	Date/Time: 9-1-92 1430
Relinquished by: J.E. Darling	Received by: R.B. Steffler RZ Steffler	Date/Time: 9-2-92 0735
Relinquished by: R.B. Steffler RZ Steffler	Received by: Kermit Blum	Date/Time: 9-3-92 1145
Relinquished by: Kermit Blum 9-3-92	Received by: [illegible]	Date/Time: 9/4/92 9:30

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:

~~125~~ 12C M.H.

A-6000-407 (12/90) (EF) WEF061
Chain of Custody

22
M.

Wes ghouse
Hanford Company

CHAIN OF CUSTODY

Custody Form Initiator: W.V. SETZER

Company Contact: WV SETZER

Telephone: 376-2413

Project Designation/Sampling Locations: 100-FR-3

Collection Date: 8-31-92

Ice Chest No.:

Field Logbook No.: EFL- 1040

Bill of Lading/Airbill No.:

Offsite Property No.:

Method of Shipment: OVERNIGHT AIR SERVICE

Shipped to: TMA/NORCAL

Possible Sample Hazards/Remarks: None detected with field instruments. Maintain at 4C.

Sample Identification

1) B075N4 1,1000ml P:CLP;ICP/AA Metals,Hg
1,1000ml G:CLP;Cn
~~3,40ml aG:CLP;VOA~~
~~3,2360ml aG:CLP;Semi-VOA,PCB,PEST~~
~~1,500ml P:300.0,Anions(F,SO4,PO4,CL)~~
~~9040;pH~~
~~9050;Conductivity~~
1,500ml P:353.2;NO3,NO2
~~2,4000ml P:Gross alpha/beta,Gamma-Spec, Sr-90,U-235/238,Pu-239/240,Am-241,C-14~~
~~1,1000ml P:Tc-99~~
~~1,500ml G:Sulfide~~
~~1,250ml Gs:Tritium~~
~~1,500ml G:Ammonia,Chemical Oxygen Demand~~
~~1,1000ml G:Alkalinity, Total Dissolved Solids~~

~~2) B075P5 3, 40 ml aGs: CLP; VOA~~

[] Field Transfer of Custody — Chain of Possession — (Sign and Print Names)

Relinquished by:	Received by:	Date/Time:
W.V. Setzer	J.E. Darling J.E. Darling	9-1-92 0830
J.E. Darling RZ Steffler	R.Z. Steffler	9-2-92 0735
R.Z. Steffler	Kermit Blum	9-3-92 1145

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:

121

~~126~~ M.H.

22 M

C of C 002893

Westinghouse Hanford Company	SAMPLE ANALYSIS REQUEST

Collector J.E. Darling Date 08/31/92

Company Contact WV SETZER Telephone (509)376-2413

Sample Number	*	Date Collected	Time Collected	Number and Type of Sample Containers/Analysis Required
B075N4	L	08-31-92	N/A	1,1000ml P:CLP;ICP/AA Metals,Hg 1,1000ml G:CLP;Cn ~~3,40ml aG:CLP;VOA~~ ~~3,2360mlaG:CLP;Semi VOA,PCB,PEST~~ ~~1,500ml P:300.0,Anions(F,SO4,PO4,CL)~~ ~~9040;ph~~ ~~9050;Conductivity~~ 1,500ml P:353.2 NO3,NO2 ~~2,4000ml P:Gross Alpha,Beta,Gamma spec,Sr 90,U235/238,Pu239/240,Am-241,C-14~~ ~~1,1000ml P:Tc-99~~ ~~1,500ml G:Sulfide~~ ~~1,250ml Gs:Tritium~~ ~~1,500ml G:Ammonia,Chemical Oxygen Demand~~ ~~1,1000ml G:Alkalinity,Total Dissolved Solids~~
~~B075N9~~	~~L~~	~~08-31-92~~	~~N/A~~ 09-1-92	~~1,120ml Gs: TOC~~
~~B075N9~~	~~L~~	~~08-31-92~~	~~N/A~~ 09-1-92	~~1,250ml aGs: TOX~~
~~B075N8~~	~~L~~	~~08-31-92~~	~~N/A~~ 09-1-92	~~1,40ml Gs: HYDRAZINE~~
B075P5	L	8-31-92	NA	3,40ml aGs CLP VOA

*Type of Sample

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

Field Information FROM 100-FR-3 Drilling

Special Handling and/or Storage Maintain at 4C

Possible Sample Hazards NA

~~127~~ 122 M.H.

A-6000-406 (06/91) WEF060

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WESTINGHOUSE HANFORD COMPANY

NOV 1992
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OSM DMO

Results of Analyses For:

ORGANICS & GENERAL CHEMISTRY
Case No. 09-013
(TMA/ARLI Work Order # A2-09-013)

METALS
Case No. N2-09-029
(TMA/Skinner & Sherman W.O. # S2-09-096 & S2-09-098)

November 17, 1992

TMA Master Work Order N2-09-029

i 4/30/96 M.H.

TMA
Thermo Analytical Inc.

Skinner & Sherman Laboratories Inc.
300 Second Avenue
Post Office Box 521
Waltham, MA 02254-0521
(617) 890-7200

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OSM DMO

November 16, 1992

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

Quality Control Narrative

Scope
Two (2) water samples were submitted to TMA/Skinner & Sherman Laboratories, Inc. on September 4, 1992 from TMA/Norcal. The samples were analyzed for the USEPA CLP metals and cyanide as indicated on the chain of custody. The analysis was performed under TMA/Skinner and Sherman work order S209096.

Methodology
The samples were prepared, analyzed and reported in accordance with the USEPA Contract Laboratory Program Statement of Work ILM02.

Discussion
All quality control requirements were met for the samples with no exceptions.

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

Respectfully submitted,

TMA/SKINNER & SHERMAN LABORATORIES, INC.

David N. Peterson
Assistant Laboratory Manager

ii 4/30/96 M.H.

WESTINGHOUSE/HANFORD
1

SAMPLE NUMBER:

INORGANIC ANALYSIS DATA SHEET

8075H6

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

Lab Code: SKINER Case No.: N2-09-0295AS No.: SDG No.: 8075H6

Matrix (soil/water): WATER Lab Sample ID: 09096-015

Level (low/med): LOW Date Received: 09/04/90

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	21.4	U		P
7440-36-0	Antimony	16.9	U		P
7440-38-2	Arsenic	1.9	U		F
7440-39-3	Barium	27.2	B		P
7440-41-7	Beryllium	0.40	U		P
7440-43-9	Cadmium	1.0	U		P
7440-70-2	Calcium	19800			P
7440-47-3	Chromium	4.5	U		P
7440-48-4	Cobalt	2.8	B		P
7440-50-8	Copper	3.6	B		P
7439-89-6	Iron	89.0	B		P
7439-92-1	Lead	2.0	U	W	F
7439-95-4	Magnesium	4550	B		P
7439-96-5	Manganese	4.7	U		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	5.4	U		P
7440-09-7	Potassium	755	B		P
7782-49-2	Selenium	2.9	U		F
7440-22-4	Silver	2.6	B		P
7440-23-5	Sodium	1820	B		P
7440-28-0	Thallium	1.3	U		F
7440-62-2	Vanadium	2.8	U		P
7440-66-6	Zinc	3.9	B		P
	Cyanide	10.0	U		CA

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

002

WESTINGHOUSE/HANFORD
1

SAMPLE NUMBER:

INORGANIC ANALYSIS DATA SHEET

B075N4

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

Lab Code: SKINER Case No.: N2-09-029SAS No.: SDG No.: B075H6

Matrix (soil/water): WATER Lab Sample ID: 09096-029

Level (low/med): LOW Date Received: 09/04/92

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	39.8	B		P
7440-36-0	Antimony	16.9	U		P
7440-38-2	Arsenic	1.9	U		F
7440-39-3	Barium	28.4	B		P
7440-41-7	Beryllium	0.40	U		P
7440-43-9	Cadmium	1.0	U		P
7440-70-2	Calcium	20400			P
7440-47-3	Chromium	4.5	U		P
7440-48-4	Cobalt	2.7	U		P
7440-50-8	Copper	5.1	B		P
7439-89-6	Iron	28.6	B		P
7439-92-1	Lead	2.1	B		F
7439-95-4	Magnesium	4680	B		P
7439-96-5	Manganese	4.7	U		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	5.4	U		P
7440-09-7	Potassium	884	B		P
7782-49-2	Selenium	2.9	U	W	F
7440-22-4	Silver	2.5	U		P
7440-23-5	Sodium	1850	B		P
7440-28-0	Thallium	1.3	U	W	F
7440-62-2	Vanadium	2.8	U		P
7440-66-6	Zinc	95.6			P
	Cyanide	10.0	U		CA

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

003

TMA/Skinner & Sherman Labs SAMPLE LOG-IN
WORKORDER S209096 CLIENT HANFORD NOR No. SAMPLES:
PROTCL CLP TURNARND 35 Days 2
COOLER TEMP: 4 oC, or NA (Soil) (Water) (Specify Other)
CUSTODIAN B. Provix SDG/BATCH N/A
CUSTODY SEAL: PRESENT/ABSENT/INTACT/NOT CLIENT CASE N209029
SHIPER & # Fed Ex PO/CONTRACT# ↓
TAGS: PRESENT/ABSENT/NA/SEE COC CONTACT D. 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 9-4-92
LIST ANY DATE WITH PAPERWORK/SHIPMENT PROBLEMS & SPECIFY THE PROBLEM:

N/A

	CLIENT ID	MATRIX	RECEIVED	PH*	TEST(S) & QC	HOLD TIME UP
1	B075 H6	Water	9-4-92	2.00/10.38	D.S Tm/CN	
2	B075 N4	↓	↓	2.17/10.26	↓	
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						

Samples are from site known to have Rad-Contamination: YES ✓ NO
Samples have detectable amounts of Radioactive Material: YES NO ✓

SUBCONTRACT: YES/NO TO: DATE:

REVIEWED complete 9/8/92 BP

* EPA/CLP required Rev 1.6 PAGE:

SDG 7081	Client Westinghouse Hanford
Contact Dinkar P. Kharkar	Contract MBH-SVV-069262

CASE NARRATIVE

1.0 GENERAL

Water sample results from Location 100-FR-3 (TMA/Norcal Group 7081) are reported herein. TMA/Norcal Group 7081 is comprised of the two samples listed on the Chain-of-Custody documents and is identified as Samples 1 and 2.

1.1 CHAINS-OF-CUSTODY

This report includes data from samples delivered under Chain-of-Custody documents Field Logbook No. EFL-1041.

1.2 SAMPLE VOLUME

Four L and 1 L plastic bottles and 250 mL glass bottles containing the samples were received for the analyses.

1.3 MISSING SAMPLES

All samples were accounted for in an undamaged condition.

1.4 HOLDING TIMES

The collection was made between 8/31/92 and 9/01/92 and the 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 7081-3 through 8.

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

LCS recoveries for all nuclides were good. The MDA for all nuclides meet the RDL requirement except for ^{59}Fe. The ^{59}Fe MDA was 33 pCi/L instead of the RDL of 30 pCi/L.

2.2 BLANKS

MDA's for all the analyses meet the RDL requirements. The 2 σ error of ^{90}Sr was underlined because the counting error was bigger than both the MDA and the result, implying that the MDA may not e a good estimate of the real minimum detectable activity. The MDA for ^{14}C was above RDL due to low counting efficiency.

001B
2/8/93

SDG 7081	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's for ^{59}Fe, ^{99}Tc, and ^{14}C were underlined in the data sheets because the MDA's exceed RDL. The ^{59}Fe MDA was above the quoted RDL due to short half-life of ^{59}Fe. The quoted RDL was at the time of count while MDA was at the time of sample collection. The ^{99}Tc MDA was above RDL due to higher background of the counter.

3.0 ANALYTICAL NOTES

3.1 Gross Alpha Analyses: The average MDA for gross alpha was 2.0 ± 0.55 pCi/L. Positive gross alpha activity was not found in either sample. Both sample results were less than MDA.

3.2 Gross Beta Analyses: The average MDA for gross beta was 2.1 ± 0.51 pCi/L. Positive gross beta concentration above RDL was not found in either sample.

3.3 Tritium Analyses: The average MDA for five analyses was 180 ± 11 pCi/L. Positive ^{3}H concentration above RDL was not found in either sample.

3.4 Carbon-14 Analyses: The average MDA for five analyses was 48 ± 9.3 pCi/L. Both sample results were less than MDA. The MDA for sample 7081-2 was 54 pCi/L instead of RDL of 50 pCi/L due to low counting efficiency.

3.5 Strontium-90 Analyses: The average yield for five analyses was (39 ± 16%). The lowest yield was 27% and the highest was 45%. The average MDA was 1.8 ± 0.61 pCi/L. Positive ^{90}Sr concentration above RDL was not found in either sample.

3.6 Technicium-99 Analyses: The average yield for five analyses was (60 ± 22%). The lowest yield was 43% and the highest was 71%. The average MDA was 4.5 ± 2.6 pCi/L. Positive concentration above RDL was not found in either sample. THE MDA for 7081-1 was above RDL due to higher background of the counter.

3.7 Uranium-233, 234, 234, and 238 Analyses: The average yield for five analyses was (64 ± 20%). The lowest yield was 49% and the highest was 76%. The average MDA was 0.15 ± 0.082 pCi/L. Positive concentration of ^{234}U and ^{238}U were found in both samples.

001C
2/8/93

SDG 7081 Contact Dinkar P. Kharkar	Client Westinghouse Hanford Contract MBH-SVV-069262

CASE NARRATIVE

3.8 Plutonium-238, 239/240 Analyses: The average yield for five analyses was (65 ± 23%). The lowest yield was 51% and the highest was 78%. The average MDA was 0.040 ± 0.013 pCi/L. Positive plutonium concentration was not found in either sample. Both sample results were below MDA.

3.9 Americium-241 Analyses: The average yield for five analyses was (53 ± 23%). The lowest yield was 38% and the highest was 64%. The average MDA was 0.034 ± 0.021 pCi/L. Positive americium concentration was not found in either sample. Both sample results were below MDA.

3.10 Gamma Scan Analyses: Gamma scan analysis did not find positive concentration of gamma nuclides in either sample.

0010
2/8/93

N209034-01

TMA NORCAL
REPORTING GROUP 7081

DATA SHEET

B075H6

SDG 7081
Contact Dinkar Kharkar
Client Westinghouse Hanford
Contract MBH-SVV-069262

Lab sample id N209034-01
Dept sample id 7081-001
Received 09/03/92
% moisture
Client sample id B075H6
Matrix WATER
Collected 09/01/92
Chain of custody id EFL-1041

PARAMETER	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	Alpha	0.044	1.3	2.1	3.0	U	80A
Gross Beta	Beta	-1.8	1.4	2.4	4.0	U	80B
Uranium 233/234		0.23	0.13	0.12	0.20		U
Uranium 235	15117-96-1	0	0.031	0.12	0.20	U	U
Uranium 238	7440-61-1	0.21	0.11	0.099	0.20		U
Plutonium 238	13981-16-3	0.005	0.019	0.037	0.050	U	PU
Plutonium 239/240		0	0.005	0.018	0.050	U	PU
Americium 241	14596-10-2	0.009	0.011	0.017	0.050	U	AM
Strontium 90	10098-97-2	0	2.9	1.8	2.0	U	Y
Technetium 99	14133-76-7	5.6	2.6	6.7	5.0	U	TC
Tritium	10028-17-8	69	150	190	400	U	H
Carbon 14	14762-75-5	21	33	54	50	UX	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	U		250		U	GAM
Iron 59		U		56	30	U	GAM
Chromium 51	14392-02-0	U		320		U	GAM
Cobalt 60	10198-40-0	U		16	25	U	GAM
Zinc 65	17982-39-3	U		37		U	GAM
Ruthenium 106	13967-48-1	U		130		U	GAM
Cesium 134	17967-70-9	U		16		U	GAM
Cesium 137	10045-97-3	U		13	15	U	GAM
Europium 152	14683-23-9	U		26	40	U	GAM
Europium 154	15585-10-1	U		17	40	U	GAM
Radium 226	13982-67-7	U		27		U	GAM
Thorium 228	14274-82-9	U		20		U	GAM
Thorium 232	7440-29-1	U		62		U	GAM

Lab id TMAN
Protocol WHC-HEIS
Version Ver 1.0
Form DVD-DS
Version 2.20
Report date 12/22/92

N209034-02

TMA NORCAL
REPORTING GROUP 7081

DATA SHEET

B075N4

SDG 7081
Contact Dinkar Kharkar
Client Westinghouse Hanford
Contract MBH-SVV-069262

Lab sample id N209034-02
Dept sample id 7081-002
Received 09/03/92
% moisture
Client sample id B075N4
Matrix WATER
Collected 08/31/92
Chain of custody id EFL-1040

PARAMETER	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	Alpha	-0.68	0.97	1.8	3.0	U	80A
Gross Beta	Beta	1.6	1.5	2.3	4.0	U	80B
Uranium 233/234		0.25	0.16	0.19	0.20		U
Uranium 235	15117-96-1	0.064	0.096	0.15	0.20	U	U
Uranium 238	7440-61-1	0.14	0.081	0.10	0.20	J	U
Plutonium 238	13981-16-3	-0.007	0.019	0.038	0.050	U	PU
Plutonium 239/240		0.005	0.005	0.018	0.050	U	PU
Americium 241	14596-10-2	-0.003	0.016	0.032	0.050	U	AM
Strontium 90	10098-97-2	0.91	0.55	1.6	2.0	U	Y
Technetium 99	14133-76-7	2.1	1.6	4.2	5.0	U	TC
Tritium	10028-17-8	-39	130	180	400	U	H
Carbon 14	14762-75-5	35	41	68	50	UX	C
GAMMA SCAN ANALYTES							
Potassium 40	13966-00-2	U		150		U	GAM
Iron 59		U		47	30	U	GAM
Chromium 51	14392-02-0	U		280		U	GAM
Cobalt 60	10198-40-0	U		11	25	U	GAM
Zinc 65	17982-39-3	U		25		U	GAM
Ruthenium 106	13967-48-1	U		99		U	GAM
Cesium 134	17967-70-9	U		11		U	GAM
Cesium 137	10045-97-3	U		11	15	U	GAM
Europium 152	14683-23-9	U		20	40	U	GAM
Europium 154	15585-10-1	U		14	40	U	GAM
Radium 226	13982-67-7	U		24		U	GAM
Thorium 228	14274-82-9	U		20		U	GAM
Thorium 232	7440-29-1	U		41		U	GAM

Lab id TMAN
Protocol WHC-HEIS
Version Ver 1.0
Form DVD-DS
Version 2.20
Report date 12/22/92

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator: W.V. SETZER

Company Contact: WV SETZER

Telephone: 376-2413

Project Designation/Sampling Locations: 100-FR-3

Collection Date: 9-1-92

Ice Chest No.:

Field Logbook No.: EFL- 1041

Bill of Lading/Airbill No.:

Offsite Property No.:

Method of Shipment: OVERNIGHT AIR SERVICE

Shipped to: TMA/NORCAL

Possible Sample Hazards/Remarks: None detected with field instruments. Maintain at 4C.

Sample Identification

1) B075H6 1,1000ml P:CLP;ICP/AA Metals,Hg
1,1000ml G:CLP;Cn
3,40ml aG:CLP;VOA
3,2360ml aG:CLP;Semi-VOA,PCB,PEST
1,500ml P:300.0;Anions(F,SO4,PO4,CL)
9040;pH
9050;Conductivity
1,500ml P:353.2;NO3,NO2
2,4000ml P:Gross alpha/beta,Gamma Spec., Sr-90,U-235/238,Pu-239/240,Am-241,C-14
1,1000ml P:Tc-99
1,500ml G:Sulfide
1,250ml Gs:Tritium
1,500ml G:Ammonia,Chemical Oxygen Demand
1,1000ml G:Alkalinity, Total Dissolved Solids

2) B075J3 3,40ml aG:CLP;VOA 1 VOA HAS BUBBLES

[] Field Transfer of Custody	Chain of Possession	(Sign and Print Names)
Relinquished by: W.V. Setzer	Received by: J.E. Darling J.E. DARLING	Date/Time: 9-1-92 1430
Relinquished by: J.E. Darling	Received by: RZ Steffler R.Z. Steffler	Date/Time: 9-2-92 0735
Relinquished by: RZ Steffler R.Z. Steffler	Received by: Kermit Blum	Date/Time: 9-3-92 1145
Relinquished by:	Received by:	Date/Time:

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:

A-6000-407 (12/90) (EF) WEF061
Chain of Custody

Westinghouse Hanford Company

CHAIN OF CUSTODY

Custody Form Initiator W.V. SETZER

Company Contact WV SETZER

Telephone 376-2413

Project Designation/Sampling Locations 100-FR-3

Collection Date 8-31-92

Ice Chest No.

Field Logbook No. EFL- 1040

Bill of Lading/Airbill No.

Offsite Property No.

Method of Shipment OVERNIGHT AIR SERVICE

Shipped to TMA/NORCAL

Possible Sample Hazards/Remarks None detected with field instruments. Maintain at 4C.

Sample Identification

1) B075N4 1,1000ml P:CLP;ICP/AA Metals,Hg
1,1000ml G:CLP;Cn
3,40ml aG:CLP;VOA
3,2360ml aG:CLP;Semi-VOA,PCB,PEST
1,500ml P:300.0;Anions(F,SO4,PO4,CL)
9040;pH
9050;Conductivity
1,500ml P:353.2;NO3,NO2
2,4000ml P:Gross alpha/beta,Gamma Spec, Sr-90,U-235/238,Pu-239/240,Am-241,C-14
1,1000ml P:Tc-99
1,500ml G:Sulfide
1,250ml Gs:Tritium
1,500ml G:Ammonia,Chemical Oxygen Demand
1,1000ml G:Alkalinity, Total Dissolved Solids

2) B075P5 3, 40 ml aGs: CLP; VOA

[] Field Transfer of Custody — Chain of Possession — (Sign and Print Names)

Relinquished by:	Received by:	Date/Time:
W.V. Setzer	J.E. Darling J.E. Darling	9-1-92 0830
J.E. Darling	RZ Steffler R.Z. Steffler	9-2-92 0735
RZ Steffler R.Z. Steffler	Kermit Blum	9-3-92 1145

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:

A-6000-407 (12/90) (EF) WEF061
Chain of Custody

Westinghouse Hanford Company	SAMPLE ANALYSIS REQUEST

Collector J.E. Darling Date 08/31/92

Company Contact WV SETZER Telephone (509)376-2413

Sample Number	*	Date Collected	Time Collected	Number and Type of Sample Containers/Analysis Required
B075N4	L	08-31-92	N/A	1,1000ml P:CLP;ICP/AA Metals,Hg 1,1000ml G:CLP;Cn 3,40ml aG:CLP;VOA 3,2360ml aG:CLP;Semi-VOA,PCB,PEST 1,500ml P:300.0;Anions(F,SO4,PO4,CL) 9040;ph 9050;Conductivity 1,500ml P:353.2 NO3,NO2 2,4000ml P:Gross Alpha,Beta,Gamma spec,Sr-90,U235/238,Pu239/240,Am-241,C-14 1,1000ml P:Tc-99 1,500ml G:Sulfide 1,250ml Gs:Tritium 1,500ml G:Ammonia,Chemical Oxygen Demand 1,1000ml G:Alkalinity,Total Dissolved Solids
~~B075N9~~	~~L~~	~~08-31-92~~	~~N/A~~ 09-1-92	~~1,120ml Gs: TOC~~
~~B075N9~~	~~L~~	~~08-31-92~~	~~N/A~~ 09-1-92	~~1,250ml aGs: TOX~~
~~B075N8~~	~~L~~	~~08-31-92~~	~~N/A~~ 09-1-92	~~1,40ml Gs: HYDRAZINE~~
B075P5	L	8-31-92	NA	3,40ml aGs CLP VOA

*Type of Sample

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

Field Information FROM 100-FR-3 Drilling

Special Handling and/or Storage Maintain at 4C

Possible Sample Hazards NA

VALIDATION SUMMARY

Received: 08/25/92 10/13/92 13:44:04

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

ATTEN Dan Steurmer

CLIENT HANFORD NOR SAMPLES 6
COMPANY TMA/NORCAL
FACILITY Richmond, CA

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

ATTEN Client Services
PHONE (617) 890-7200

CERTIFIED BY

CONTACT DP

WORK ID N2-08-148
TAKEN BY CLIENT
TRANS FED EX# 2521032500
TYPE SOILS
P.O. # N2-08-148
INVOICE under separate cover

SAMPLE IDENTIFICATION	TEST CODES and NAMES used on this workorder
01 B075G8	NO3NO2 Nitrate Plus Nitrite
02 B075G9	
03 B075M7	
04 B075M8	
05 B075M9	
05 B075M9 DUPL	
05 B075M9 SPIKE	
06 LCSS	

This report is rendered upon all of the following conditions: Skinner & Sherman Laboratories, Inc. retains ownership of this report until associated submitted invoice is satisfied. Expert witness services shall be available in conjunction with this report only if prior notification of this potential requirement was made and accepted, before the analysis. Client will be responsible for Skinner & Sherman costs and consulting fees if our services are required by subpoena or otherwise in legal proceedings. Total liability is limited to the invoice amount. The results listed refer only to tested samples and applicable parameters. Product endorsement is neither inferred nor implied. Skinner & Sherman Laboratories, Inc. will exercise due diligence but will not be responsible for lost or destroyed samples or evidence unless client makes appropriate insurance coverage arrangements. Samples are held for thirty days following issuance of report. Samples will be stored at client's expense, if authorized in writing.

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

Received: 08/25/92 Results by Sample

SAMPLE ID LCSS SAMPLE # 06 FRACTIONS: A

Date & Time Collected not specified Category SOIL

NO3NO2 1.97

mg N/L

TMA
Thermo Analytical Inc.

This report is rendered upon all of the following conditions: Skinner & Sherman Laboratories, Inc. retains ownership of this report until associated submitted invoice is satisfied. Expert witness services shall be available in conjunction with this report only if prior notification of this potential requirement was made and accepted, before the analysis. Client will be responsible for Skinner & Sherman costs and consulting fees if our services are required by subpoena or otherwise in legal proceedings. Total liability is limited to the invoice amount. The results listed refer only to tested samples and applicable parameters. Product endorsement is neither inferred nor implied. Skinner & Sherman Laboratories, Inc. will exercise due diligence but will not be responsible for lost or destroyed samples or evidence unless client makes appropriate insurance coverage arrangements. Samples are held for thirty days following issuance of report. Samples will be stored at client's expense, if authorized in writing.

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

Received: 08/25/92 10/13/92 13:44:04

TMA/NORCAL

QUALITY CONTROL

MATRIX SPIKE

Sample ID	Sample Result	Spike Added	Spike Result	% Recovery
S208282-05	<2.41 mg/kg	19.9 mg/kg	21.1 mg/kg	105.9

DUPLICATE

Sample ID	Sample Result	Duplicate Result	Relative % Difference
S208282-05	<2.41 mg/kg	<2.43 mg/kg	not calculable

QUALITY CONTROL SAMPLES

Sample ID	True Value	Found Value	% Recovery
LCS	2.00 mg/L	1.97 mg/L	98.7
Blank	--	<0.25 mg/L	--

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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

Received: 08/25/92 Test Methodology

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.

This report is rendered upon all of the following conditions: Skinner & Sherman Laboratories, Inc. retains ownership of this report until associated submitted invoice is satisfied. Expert witness services shall be available in conjunction with this report only if prior notification of this potential requirement was made and accepted, before the analysis. Client will be responsible for Skinner & Sherman costs and consulting fees if our services are required by subpoena or otherwise in legal proceedings. Total liability is limited to the invoice amount. The results listed refer only to tested samples and applicable parameters. Product endorsement is neither inferred nor implied. Skinner & Sherman Laboratories, Inc. will exercise due diligence but will not be responsible for lost or destroyed samples or evidence unless client makes appropriate insurance coverage arrangements. Samples are held for thirty days following issuance of report. Samples will be stored at client's expense, if authorized in writing.

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

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

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

Lab Code: SKINER Case No.: N2-08-1619AS No.: SDG No.: B075H0

Initial Calibration Source: EPA-LV

Continuing Calibration Source: SKINER

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum	1958.0	1923.50	98.2	25000.0	23828.00	95.3	24052.00	96.2	P
Antimony	978.0	970.31	99.2	2500.0	2382.00	95.3	2406.90	96.3	P
Arsenic	50.4	50.15	99.5	50.0	48.16	96.3	49.32	98.6	F
Barium	2078.0	1892.40	91.1	2500.0	2397.50	95.9	2423.60	96.9	P
Beryllium	508.0	504.04	99.2	500.0	488.38	97.7	492.42	98.5	P
Cadmium	516.0	500.79	97.1	2500.0	2358.50	94.3	2375.80	95.0	P
Calcium	51382.0	50629.00	98.5	25000.0	23961.00	95.8	24144.00	96.6	P
Chromium	514.0	498.33	97.0	2500.0	2381.50	95.3	2398.70	95.9	P
Cobalt	499.0	486.43	97.5	2500.0	2349.50	94.0	2372.90	94.9	P
Copper	525.0	501.54	95.5	2500.0	2379.30	95.2	2412.10	96.5	P
Iron	1981.0	2015.00	101.7	10000.0	9652.10	96.5	9728.30	97.3	P
Lead	98.4	105.33	107.0	50.0	47.77	95.5	48.79	97.6	F
Magnesium	25587.0	25432.00	99.4	25000.0	23845.00	95.4	23981.00	95.9	P
Manganese	509.0	487.27	95.7	2500.0	2376.70	95.1	2396.70	95.9	P
Mercury	5.0	4.55	91.0	2.0	1.98	99.0	2.06	103.0	CV
Nickel	504.0	489.13	97.0	2500.0	2345.90	93.8	2361.10	94.4	P
Potassium	50563.0	50695.00	100.3	25000.0	23699.00	94.8	23953.00	95.8	P
Selenium	50.3	50.21	99.8	50.0	48.18	96.4	47.95	95.9	F
Silver	517.0	511.45	98.9	500.0	486.24	97.2	493.18	98.6	P
Sodium	52348.0	50730.00	96.9	25000.0	23829.00	95.3	24140.00	96.6	P
Thallium	100.7	102.32	101.6	50.0	48.32	96.6	48.52	97.0	F
Vanadium	517.0	501.42	97.0	2500.0	2397.00	95.9	2417.10	96.7	P
Zinc	3052.0	2968.60	97.3	2500.0	2358.00	94.3	2383.20	95.3	P
Cyanide	94.0	84.31	89.7	200.0	201.10	100.6	200.50	100.2	CA

(1) Control limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

2-7-35

WESTINGHOUSE/HANFORD

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

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

Lab Code: SKINER Case No.: N2-08-1615AS No.: SDG No.: B075H0

Initial Calibration Source: EPA-LV

Continuing Calibration Source: SKINER

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum				25000.0	24133.00	96.5	23959.00	95.8	P
Antimony				2500.0	2400.20	96.0	2396.00	95.8	P
Arsenic				50.0	49.67	99.3	49.48	99.0	F
Barium				2500.0	2427.00	97.1	2421.30	96.9	P
Beryllium				500.0	490.83	98.2	490.00	98.0	P
Cadmium				2500.0	2371.60	94.9	2356.60	94.3	P
Calcium				25000.0	24061.00	96.2	23916.00	95.7	P
Chromium				2500.0	2396.70	95.9	2377.40	95.1	P
Cobalt				2500.0	2377.10	95.1	2361.70	94.5	P
Copper				2500.0	2411.40	96.5	2401.20	96.0	P
Iron				10000.0	9744.10	97.4	9678.90	96.8	P
Lead				50.0	47.51	95.0			F
Magnesium				25000.0	24072.00	96.3	23872.00	95.5	P
Manganese				2500.0	2395.80	95.8	2383.10	95.3	P
Mercury				2.0	2.02	101.0	2.02	101.0	CV
Nickel				2500.0	2357.20	94.3	2351.20	94.0	P
Potassium				25000.0	23966.00	95.9	23832.00	95.3	P
Selenium				50.0	48.47	96.9			F
Silver				500.0	494.91	99.0	490.57	98.1	P
Sodium				25000.0	24181.00	96.7	24062.00	96.2	P
Thallium				50.0	48.52	97.0			F
Vanadium				2500.0	2417.60	96.7	2404.50	96.2	P
Zinc				2500.0	2390.40	95.6	2383.60	95.3	P
Cyanide				200.0	207.71	103.9	205.06	102.5	CA

(1) Control limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

WESTINGHOUSE/HANFORD

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

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

Lab Code: SKINER Case No.: N2-08-161 SAS No.: SDG No.: B075H0

Initial Calibration Source: EPA-LV

Continuing Calibration Source: SKINER

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum				25000.0	23864.00	95.5			P
Antimony				2500.0	2379.50	95.2			P
Arsenic									NR
Barium				2500.0	2414.50	96.6			P
Beryllium				500.0	486.77	97.4			P
Cadmium				2500.0	2337.60	93.5			P
Calcium				25000.0	23679.00	94.7			P
Chromium				2500.0	2355.30	94.2			P
Cobalt				2500.0	2349.50	94.0			P
Copper				2500.0	2383.60	95.3			P
Iron				10000.0	9607.30	96.1			P
Lead									NR
Magnesium				25000.0	23690.00	94.8			P
Manganese				2500.0	2362.80	94.5			P
Mercury				2.0	2.08	104.0	2.11	105.5	CV
Nickel				2500.0	2328.00	93.1			P
Potassium				25000.0	23637.00	94.5			P
Selenium									NR
Silver				500.0	485.80	97.2			P
Sodium				25000.0	23930.00	95.7			P
Thallium									NR
Vanadium				2500.0	2393.10	95.7			P
Zinc				2500.0	2365.00	94.6			P
Cyanide				200.0	210.47	105.2	210.18	105.1	CA

(1) Control limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

WESTINGHOUSE/HANFORD

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

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

Lab Code: SKINER Case No.: N2-08-161SAS No.: SDG No.: B075H0

Initial Calibration Source: EPA-LV

Continuing Calibration Source: SKINER

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum									NR
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead									NR
Magnesium									NR
Manganese									NR
Mercury				2.0	2.04	102.0	1.94	97.0	CV
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

(1) Control limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

WESTINGHOUSE/HANFORD

2B
CRDL STANDARD FOR AA AND ICP

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

Lab Code: SKINER Case No.: N2-08-161 SAS No.: SDG No.: B075H0

AA CRDL Standard Source: SKINER

ICP CRDL Standard Source: SKINER

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
					Initial		Final	
	True	Found	%R	True	Found	%R	Found	%R
Aluminum								
Antimony				120.0	97.29	81.1	97.85	81.5
Arsenic	10.0	10.91	109.1					
Barium								
Beryllium				10.0	9.82	98.2	9.82	98.2
Cadmium				10.0	10.17	101.7	10.00	100.0
Calcium								
Chromium				20.0	19.16	95.8	17.78	88.9
Cobalt				100.0	92.89	92.9	93.83	93.8
Copper				50.0	48.90	97.8	50.36	100.7
Iron								
Lead	3.0	3.82	127.3					
Magnesium								
Manganese				30.0	28.49	95.0	27.08	90.3
Mercury								
Nickel				80.0	74.56	93.2	72.90	91.1
Potassium								
Selenium	5.0	6.97	139.4					
Silver				20.0	22.52	112.6	26.85	134.2
Sodium								
Thallium	10.0	9.27	92.7					
Vanadium				100.0	93.35	93.4	92.80	92.8
Zinc				40.0	39.82	99.6	40.10	100.2

WESTINGHOUSE/HANFORD

3
BLANKS

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

Lab Code: SKINER Case No.: N2-08-161SAS No.: SDG No.: B075H0

Preparation Blank Matrix (soil/water): SOIL

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

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum	21.4	U	33.1	B	23.4	B	25.5	B	4.280	U	P
Antimony	16.9	U	16.9	U	16.9	U	16.9	U	3.380	U	P
Arsenic	2.2	U	2.2	U	2.2	U	2.2	U	0.440	U	F
Barium	2.9	U	3.4	B	5.7	B	6.8	B	0.580	U	P
Beryllium	0.4	U	0.4	U	0.4	U	0.4	U	0.080	U	P
Cadmium	1.0	U	1.2	B	2.3	B	1.2	B	0.200	U	P
Calcium	25.9	U	31.2	B	34.8	B	25.9	U	5.180	U	P
Chromium	4.5	U	4.5	U	4.5	U	4.5	U	0.900	U	P
Cobalt	2.7	U	2.7	U	2.8	B	2.7	U	0.540	U	P
Copper	3.5	U	3.5	U	3.5	U	3.5	U	0.700	U	P
Iron	11.6	U	13.6	B	11.6	U	15.4	B	2.320	U	P
Lead	1.9	U	1.9	U	1.9	U	1.9	U	0.380	U	F
Magnesium	40.8	U	54.5	B	45.4	B	40.8	U	8.160	U	P
Manganese	4.7	U	4.7	U	4.7	U	4.7	U	0.940	U	P
Mercury	0.1	U	0.1	U	0.1	U	0.1	U	0.050	U	CV
Nickel	5.4	U	5.4	U	5.4	U	5.4	U	1.080	U	P
Potassium	241.8	U	241.8	U	241.8	U	241.8	U	48.360	U	P
Selenium	3.6	U	3.6	U	3.6	U	3.6	U	0.720	U	F
Silver	2.5	U	2.5	U	3.0	B	2.5	U	0.500	U	P
Sodium	46.4	U	46.4	U	46.4	U	46.4	U	9.280	U	P
Thallium	1.7	U	1.7	U	1.7	U	1.7	U	0.340	U	F
Vanadium	2.8	U	3.2	B	2.8	U	2.8	U	0.560	U	P
Zinc	3.0	B	2.8	B	2.2	U	2.2	B	1.928	B	P
Cyanide	10.0	U	10.0	U	10.0	U	10.0	U	0.500	U	CA

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WESTINGHOUSE/HANFORD

3
BLANKS

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

Lab Code: SKINER Case No.: N2-08-161SAS No.: SDG No.: B075H0

Preparation Blank Matrix (soil/water): w

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

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum			21.4	U	32.6	B					P
Antimony			16.9	U	16.9	U					P
Arsenic			2.2	U							F
Barium			3.4	B	3.4	B					P
Beryllium			0.4	U	0.4	U					P
Cadmium			1.0	U	1.6	B					P
Calcium			25.9	U	30.6	B					P
Chromium			4.5	U	5.5	B					P
Cobalt			2.8	B	2.7	U					P
Copper			3.5	U	3.5	U					P
Iron			11.6	U	11.6	U					P
Lead											NR
Magnesium			40.8	U	45.4	B					P
Manganese			4.7	U	4.7	U					P
Mercury			0.1	U	0.1	U	0.1	U			CV
Nickel			5.4	U	5.4	U					P
Potassium			241.8	U	241.8	U					P
Selenium											NR
Silver			2.5	U	2.5	U					P
Sodium			46.4	U	46.4	U					P
Thallium											NR
Vanadium			2.8	U	2.8	U					P
Zinc			2.5	B	2.7	B					P
Cyanide			10.0	U	10.0	U	10.0	U			CA

WESTINGHOUSE/HANFORD

3
BLANKS

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

Lab Code: SKINER Case No.: N2-08-161SAS No.: SDG No.: B075H0

Preparation Blank Matrix (soil/water):

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

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic											NR
Barium											NR
Beryllium											NR
Cadmium											NR
Calcium											NR
Chromium											NR
Cobalt											NR
Copper											NR
Iron											NR
Lead											NR
Magnesium											NR
Manganese											NR
Mercury			0.1	U	0.1	U					CV
Nickel											NR
Potassium											NR
Selenium											NR
Silver											NR
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Cyanide											NR

WESTINGHOUSE/HANFORD

4

ICP INTERFERENCE CHECK SAMPLE

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

Lab Code: SKINER Case No.: N2-08-161SAS No.: SDG No.: B075H0

ICP ID Number: P1 ICS Source: ICF-0292

Concentration Units: ug/L

Analyte	True Sol. A	True Sol. AB	Initial Found Sol. A	Initial Found Sol. AB	%R	Final Found Sol. A	Final Found Sol. AB	%R
Aluminum	514927	507757	522620	520540.0	102.5	518100	512520.0	100.9
Antimony	0	0	-15	-12.6		-33	-15.6	
Arsenic								
Barium	0	499	11	456.4	91.5	15	451.9	90.6
Beryllium	0	488	0	474.7	97.3	0	463.1	94.9
Cadmium	0	928	1	853.7	92.0	0	829.5	89.4
Calcium	529351	525385	489610	486020.0	92.5	476070	470760.0	89.6
Chromium	14	464	13	455.0	98.1	13	443.8	95.6
Cobalt	0	475	0	461.2	97.1	-1	451.4	95.0
Copper	0	488	2	484.5	99.3	0	472.8	96.9
Iron	190348	187957	185370	184770.0	98.3	182040	180620.0	96.1
Lead								
Magnesium	543610	533685	525430	521480.0	97.7	516200	509870.0	95.5
Manganese	36	502	28	472.2	94.1	29	460.1	91.7
Mercury								
Nickel	0	897	-1	831.1	92.7	-3	809.2	90.2
Potassium	0	0	117	112.4		137	108.2	
Selenium								
Silver	0	899	4	966.1	107.5	3	945.3	105.2
Sodium	0	0	906	873.2		891	849.8	
Thallium								
Vanadium	0	473	-2	451.2	95.4	-2	441.0	93.2
Zinc	71	1001	90	991.2	99.0	88	974.2	97.3

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WESTINGHOUSE/HANFORD

5A

SPIKE SAMPLE RECOVERY

SAMPLE NUMBER: B075H0S

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0103

Lab Code: SKINER Case No.: N2-08-161 SAS No.: SDG No.: B075H0

Matrix: SOIL Level (low/med): LOW

% Solids for Sample: 80.6

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

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony	75-125	90.1523		3.9192	U	121.64	74.1	N	P
Arsenic	75-125	9.7429		2.0716	B	9.64	79.6		F
Barium	75-125	478.8352		40.7064	B	486.55	90.0		P
Beryllium	75-125	12.0201		0.0928	U	12.16	98.8		P
Cadmium	75-125	11.0592		0.2319	U	12.16	90.9		P
Calcium									NR
Chromium	75-125	53.1017		7.3259		48.65	94.1		P
Cobalt	75-125	117.9949		5.9530	B	121.64	92.1		P
Copper	75-125	76.5874		18.1489		60.82	96.1		P
Iron									NR
Lead	75-125	8.0033		2.6960		4.82	110.1		F
Magnesium									NR
Manganese	75-125	288.0358		172.4473		121.64	95.0		P
Mercury	75-125	0.4898		0.0564	U	0.59	83.0		CV
Nickel	75-125	119.1529		6.4539	B	121.64	92.6		P
Potassium									NR
Selenium	75-125	3.1209		0.8602	B	2.41	93.8		F
Silver	75-125	12.1564		0.9207	B	12.16	92.4		P
Sodium									NR
Thallium	75-125	13.4094		0.3870	U	12.05	111.3		F
Vanadium	75-125	141.5414		28.7377		121.64	92.7		P
Zinc	75-125	137.9507		27.7498		121.64	90.6		P
Cyanide	75-125	26.7756		0.6142	U	30.71	87.2		CA

Comments:

2-24-93

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WESTINGHOUSE/HANFORD

5B

POST DIGEST SPIKE SAMPLE RECOVERY

SAMPLE NUMBER:

B075H0A

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

Code: SKINER Case No.: N2-08-161SAS No.: SDG No.: B075H0

Matrix: SOIL Level (low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony		101.41		16.90	U	120.0	84.5		P
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead									NR
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

Comments:

6
DUPLICATES

SAMPLE NUMBER:

B075H0D

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

Lab Code: SKINER Case No.: N2-08-161 SAS No.: SDG No.: B075H0

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

% Solids for Sample: 80.6 % Solids for Duplicate: 81.9

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

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum		4186.1274		3863.1830		8.0		P
Antimony		3.9192	U	4.1113	U			P
Arsenic		2.0716	B	2.1200	B	2.3		F
Barium		40.7064	B	35.5398	B	13.6		P
Beryllium		0.0928	U	0.0973	U			P
Cadmium		0.2319	U	0.2433	U			P
Calcium	1159.5	4473.9222		4094.5361		8.9		P
Chromium	2.3	7.3250		6.4711		12.4		P
Cobalt		5.9530	B	5.3374	B	10.9		P
Copper	5.8	18.1489		14.1585		24.7		P
Iron		11225.8528		10219.9192		9.4		P
Lead	0.7	2.6960		3.0975		13.9		F
Magnesium	1159.5	3232.9955		2957.7191		8.9		P
Manganese		172.4473		161.3146		6.7		P
Mercury		0.0564	U	0.0564	U			CV
Nickel		6.4539	B	6.9309	B	7.1		P
Potassium		537.7194	B	487.1065	B	9.9		P
Selenium		0.8602	B	0.8673	U	200.0		F
Silver		0.9207	B	0.8101	B	12.8		P
Sodium		168.3310	B	178.3024	B	5.8		P
Thallium		0.3870	U	0.4095	U			F
Vanadium	11.6	28.7377		25.2591		12.9		P
Zinc		27.7498		25.8308		7.2		P
Cyanide		0.6142	U	0.6082	U			CA

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LABORATORY CONTROL SAMPLE

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

Lab Code: SKINER Case No.: N2-08-161SAS No.: SDG No.: B075H0

Solid LCS Source: QAL-0287

Aqueous LCS Source:

Analyte	Aqueous (ug/L) True	Aqueous (ug/L) Found	Aqueous (ug/L) %R	Solid (mg/kg) True	Solid (mg/kg) Found	C	Limits	Limits	%R
Aluminum				325.0	272.2		225.0	424.0	83.8
Antimony				211.0	178.1		127.0	294.0	84.4
Arsenic				917.0	826.5		635.0	1199.0	90.1
Barium				4.8	4.8	B	0.0	40.0	100.0
Beryllium				19.4	18.6		16.5	22.3	95.9
Cadmium				45.4	37.2		35.7	55.1	81.9
Calcium				196200.0	171656.0		166800.0	225600.0	87.5
Chromium				99.6	92.8		79.2	120.0	93.2
Cobalt				144.0	129.0		125.0	162.0	89.6
Copper				6910.0	6379.2		6006.0	7820.0	92.3
Iron				22430.0	18793.2		17770.0	27080.0	83.8
Lead				236.0	235.1		188.0	285.0	99.6
Magnesium				118100.0	113346.0		100400.0	129900.0	96.0
Manganese				208.0	193.1		177.0	239.0	92.8
Mercury				12.7	14.0		8.5	17.0	110.2
Nickel				60.9	49.8		49.2	72.6	81.8
Potassium				50.0	48.4	U	0.0	1000.0	0.0
Selenium				39.2	30.4		19.1	59.4	77.6
Silver				22.2	20.5		15.5	29.0	92.3
Sodium				50.0	36.4	B	0.0	1000.0	72.8
Thallium				39.0	38.4		24.6	53.5	98.5
Vanadium				65.8	65.4		51.7	79.9	99.4
Zinc				187.0	158.3		138.0	236.0	84.7
Cyanide				5.6	5.0		4.3	6.9	89.3

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8

STANDARD ADDITION RESULTS

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

Lab Code: SKINER Case No.: N2-08-161SAS No.: SDG No.: B075H0

Concentration Units: ug/L

EPA Sample No.	An	0 ADD ABS	1 ADD CON	1 ADD ABS	2 ADD CON	2 ADD ABS	3 ADD CON	3 ADD ABS	Final Conc.	r	Q
B075H0	AS	0.027	10.00	0.046	20.00	0.080	30.00	0.105	9.1	0.9948	+
B075H0	AS	0.036	10.00	0.054	20.00	0.072	30.00	0.108	13.8	0.9827	+
B075H0D	AS	0.031	10.00	0.053	20.00	0.087	30.00	0.124	8.6	0.9939	+
B075H0D	AS	0.029	10.00	0.052	20.00	0.091	30.00	0.117	8.8	0.9952	

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SAMPLE NUMBER:

B075H0L

ICP SERIAL DILUTIONS

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

Lab Code: SKINER Case No.: N2-08-1615AS No.: SDG No.: B075H0

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

Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	M
Aluminum	18051.00		18594.50		3.0		P
Antimony	16.90	U	84.50	U			P
Arsenic							NR
Barium	175.53	B	181.20	B	3.2		P
Beryllium	0.40	U	2.00	U			P
Cadmium	1.00	U	5.00	U			P
Calcium	19292.00		20061.00	B	4.0		P
Chromium	31.59		22.50	U	100.0		P
Cobalt	25.67	B	32.65	B	27.2		P
Copper	78.26		70.50	B	9.9		P
Iron	48407.00		50215.00		3.7		P
Lead							NR
Magnesium	13941.00		14595.50	B	4.7		P
Manganese	743.61		768.55		3.4		P
Mercury							NR
Nickel	27.83	B	27.00	U	100.0		P
Potassium	2318.70	B	2913.95	B	25.7		P
Selenium							NR
Silver	3.97	B	12.50	U	100.0		P
Sodium	725.86	B	769.35	B	6.0		P
Thallium							NR
Vanadium	123.92		136.05	B	9.8		P
Zinc	119.66		138.95		16.1	E	P

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INSTRUMENT DETECTION LIMITS (QUARTERLY)

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

Lab Code: SKINER Case No.: N2-08-161SAS No.: SDG No.: B075H0

ICP ID Number: Date: 10/15/92

Flame AA ID Number:

Furnace AA ID Number: F6

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200		NR
Antimony			60		NR
Arsenic	197.20	BS	10	2.2	F
Barium			200		NR
Beryllium			5		NR
Cadmium			5		NR
Calcium			5000		NR
Chromium			10		NR
Cobalt			50		NR
Copper			25		NR
Iron			100		NR
Lead			3		NR
Magnesium			5000		NR
Manganese			15		NR
Mercury			0.2		NR
Nickel			40		NR
Potassium			5000		NR
Selenium	196.00	BS	5	3.6	F
Silver			10		NR
Sodium			5000		NR
Thallium			10		NR
Vanadium			50		NR
Zinc			20		NR

Comments:

F6: THERMO JARRELL-ASH VIDEO 21

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INSTRUMENT DETECTION LIMITS (QUARTERLY)

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

Lab Code: SKINER Case No.: N2-08-161 SAS No.: SDG No.: B075H0

ICP ID Number: Date: 10/15/92

Flame AA ID Number:

Furnace AA ID Number: F8

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200		NR
Antimony			60		NR
Arsenic			10		NR
Barium			200		NR
Beryllium			5		NR
Cadmium			5		NR
Calcium			5000		NR
Chromium			10		NR
Cobalt			50		NR
Copper			25		NR
Iron			100		NR
Lead	283.30	BS	3	1.9	F
Magnesium			5000		NR
Manganese			15		NR
Mercury			0.2		NR
Nickel			40		NR
Potassium			5000		NR
Selenium			5		NR
Silver			10		NR
Sodium			5000		NR
Thallium	276.80	BS	10	1.7	F
Vanadium			50		NR
Zinc			20		NR

Comments:
F8: THERMO JARRELL-ASH VIDEO 21

WESTINGHOUSE/HANFORD

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INSTRUMENT DETECTION LIMITS (QUARTERLY)

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

Lab Code: SKINER Case No.: N2-08-161 SAS No.: SDG No.: B075H0

ICP ID Number: Date: 07/16/92

Flame AA ID Number: M3

Furnace AA ID Number:

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200		NR
Antimony			60		NR
Arsenic			10		NR
Barium			200		NR
Beryllium			5		NR
Cadmium			5		NR
Calcium			5000		NR
Chromium			10		NR
Cobalt			50		NR
Copper			25		NR
Iron			100		NR
Lead			3		NR
Magnesium			5000		NR
Manganese			15		NR
Mercury	253.70		0.2	0.1	CV
Nickel			40		NR
Potassium			5000		NR
Selenium			5		NR
Silver			10		NR
Sodium			5000		NR
Thallium			10		NR
Vanadium			50		NR
Zinc			20		NR

Comments:
M3: LDC ANALYTICAL #050941

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INSTRUMENT DETECTION LIMITS (QUARTERLY)

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

Lab Code: SKINER Case No.: N2-08-161 SAS No.: SDG No.: B075H0

ICP ID Number: P1 Date: 10/15/92

Flame AA ID Number:

Furnace AA ID Number:

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum	308.20		200	21.4	P
Antimony	206.80		60	16.9	P
Arsenic			10		NR
Barium	493.40		200	2.9	P
Beryllium	313.00		5	0.4	P
Cadmium	226.50		5	1.0	P
Calcium	317.90		5000	25.9	P
Chromium	267.70		10	4.5	P
Cobalt	228.60		50	2.7	P
Copper	324.70		25	3.5	P
Iron	259.90		100	11.6	P
Lead			3		NR
Magnesium	279.00		5000	40.8	P
Manganese	257.60		15	4.7	P
Mercury			0.2		NR
Nickel	231.60		40	5.4	P
Potassium	766.40		5000	241.8	P
Selenium			5		NR
Silver	328.00		10	2.5	P
Sodium	588.90		5000	46.4	P
Thallium			10		NR
Vanadium	292.40		50	2.8	P
Zinc	213.80		20	2.2	P

Comments:

P1: THERMO JARRELL-ASH ICAP61 (#10782)

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ICP INTERELEMENT CORRECTION FACTORS (ANNUALLY)

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

Lab Code: SKINER Case No.: N2-08-161 SAS No.: SDG No.: 8075H0

ICP ID Number: P1 Date: 07/01/92

Analyte	Wave-length (nm)	Al	Ca	Fe	Mg	Cr
Aluminum	308.20	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	206.80	0.0000000	0.0000000	0.0002100	0.0000000	0.0119500
Arsenic						
Barium	493.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	313.00	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.50	0.0000000	0.0000000	0.0001500	0.0000000	0.0000000
Calcium	317.90	0.0000000	0.0000000	-0.0003000	0.0000000	0.0000000
Chromium	267.70	0.0000000	0.0000000	-0.0000300	0.0000000	0.0000000
Cobalt	228.60	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Copper	324.70	0.0000000	0.0000000	-0.0001200	0.0000000	-0.0000800
Iron	259.90	0.0001400	0.0000000	0.0000000	0.0000000	0.0000000
Lead						
Magnesium	279.00	0.0000000	0.0000000	-0.0002400	0.0000000	0.0000000
Manganese	257.60	0.0000200	0.0000000	0.0000000	0.0000000	0.0000000
Mercury						
Nickel	231.60	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium						
Silver	328.00	0.0000000	0.0000000	-0.0001000	0.0000000	0.0000000
Sodium	588.90	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium						
Vanadium	292.40	0.0000400	0.0000000	-0.0002000	0.0000000	-0.0051200
Zinc	213.80	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

Comments:

P1: THERMO JARRELL-ASH ICAP61 (#10782)

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ICP INTERELEMENT CORRECTION FACTORS (ANNUALLY)

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

Lab Code: SKINER Case No.: N2-08-161 SAS No.: SDG No.: 5075H0

ICP ID Number: P1 Date: 07/01/92

Analyte	Wave-length (nm)	Cu	Mn	Ni	V	__
Aluminum	308.20	0.0000000	0.0012800	0.0000000	0.0098400	
Antimony	206.80	0.0000000	0.0000000	-0.0023000	-0.0043600	
Arsenic						
Barium	493.40	0.0000000	0.0000000	0.0000000	0.0000000	
Beryllium	313.00	0.0000000	0.0000000	0.0000000	-0.0024900	
Cadmium	226.50	0.0000000	0.0000000	0.0000000	0.0000000	
Calcium	317.90	0.0000000	0.0000000	0.0000000	0.0000000	
Chromium	267.70	0.0000000	0.0000000	0.0000000	0.0015200	
Cobalt	228.60	0.0000000	0.0000000	-0.0000300	0.0000000	
Copper	324.70	0.0000000	0.0000000	0.0000000	0.0000000	
Iron	259.90	-0.0001200	-0.0017500	0.0000000	0.0000000	
Lead						
Magnesium	279.00	0.0000000	-0.0004100	0.0000000	0.0000000	
Manganese	257.60	0.0000000	0.0000000	0.0000000	-0.0001000	
Mercury						
Nickel	231.60	0.0000000	0.0000000	0.0000000	0.0000000	
Potassium	766.40	0.0000000	0.0000000	0.0000000	0.0000000	
Selenium						
Silver	328.00	0.0000000	0.0000000	0.0000000	0.0000000	
Sodium	588.90	0.0000000	0.0000000	0.0000000	0.0000000	
Thallium						
Vanadium	292.40	0.0000000	0.0000000	0.0000000	0.0000000	
Zinc	213.80	0.0017400	0.0000000	0.0045900	0.0000000	

Comments:
P1: THERMO JARRELL-ASH ICAP61 (#10782)

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ICP LINEAR RANGES (QUARTERLY)

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

Lab Code: SKINER Case No.: N2-08-161 SAS No.: SDG No.: B075H0

ICP ID Number: P1 Date: 10/15/92

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	M
Aluminum	5.00	1000000.0	P
Antimony	5.00	25000.0	P
Arsenic			NR
Barium	5.00	100000.0	P
Beryllium	5.00	25000.0	P
Cadmium	5.00	25000.0	P
Calcium	5.00	1200000.0	P
Chromium	5.00	200000.0	P
Cobalt	5.00	100000.0	P
Copper	5.00	250000.0	P
Iron	5.00	1000000.0	P
Lead			NR
Magnesium	5.00	1000000.0	P
Manganese	5.00	200000.0	P
Mercury			NR
Nickel	5.00	250000.0	P
Potassium	5.00	1100000.0	P
Selenium			NR
Silver	5.00	100000.0	P
Sodium	5.00	1000000.0	P
Thallium			NR
Vanadium	5.00	50000.0	P
Zinc	5.00	150000.0	P

Comments:

P1: THERMO JARRELL-ASH ICAP61 (#10782)

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PREPARATION LOG

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

Lab Code: SKINER Case No.: N2-08-161SAS No.: SDG No.: B075H0

Method: CA

EPA Sample No.	Preparation Date	Weight (gram)	Volume (mL)
B075H0	09/01/92	1.01	50
B075H0D	09/01/92	1.02	50
B075H0S	09/01/92	1.01	50
LCSS	09/01/92	1.00	50
PBS	09/01/92	1.00	50

FORM XIII - IN ILM02.1

PREPARATION LOG

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

Lab Code: SKINER Case No.: N2-08-161SAS No.: SDG No.: B075H0

Method: CV

EPA Sample No.	Preparation Date	Weight (gram)	Volume (mL)
B075H0	09/08/92	0.22	100
B075H0D	09/08/92	0.22	100
B075H0S	09/08/92	0.21	100
LCSS	09/08/92	0.20	100
PBS	09/08/92	0.20	100

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PREPARATION LOG

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

Lab Code: SKINER Case No.: N2-08-161SAS No.: SDG No.: B075H0

Method: F

EPA Sample No.	Preparation Date	Weight (gram)	Volume (mL)
B075H0	11/05/92	1.09	200
B075H0D	11/05/92	1.03	200
B075H0S	11/05/92	1.03	200
LCSS	11/05/92	1.00	200
PBS	11/05/92	1.00	200

FORM XIII - IN ILM02.1

WESTINGHOUSE/HANFORD

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PREPARATION LOG

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

Lab Code: SKINER Case No.: N2-08-1619 SAS No.: SDG No.: B075H0

Method: P

EPA Sample No.	Preparation Date	Weight (gram)	Volume (mL)
B075H0	11/05/92	1.07	200
B075H0D	11/05/92	1.02	200
B075H0S	11/05/92	1.02	200
LCSS	11/05/92	1.00	200
PBS	11/05/92	1.00	200

FORM XIII - IN ILM02.1

ANALYSIS RUN LOG

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

Lab Code: SKINER Case No.: N2-08-161SAS No.: SDG No.: B075H0

Instrument ID Number: C1 Method: CA

Start date: 09/02/92 End date: 09/02/92

EPA Sample No.	D/F	Time	% R	Analytes																						
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
S0	1.00	1324																									X
S10	1.00	1325																									X
S40	1.00	1326																									X
S100	1.00	1327																									X
S200	1.00	1327																									X
S400	1.00	1328																									X
S400	1.00	1329																									X
S40	1.00	1330																									X
S40	1.00	1330																									X
ICV	1.00	1331																									X
ICB	1.00	1332																									X
CCV	1.00	1333																									X
CCB	1.00	1333																									X
ZZZZZZ	1.00	1334																									
ZZZZZZ	1.00	1335																									
ZZZZZZ	1.00	1336																									
ZZZZZZ	1.00	1336																									
ZZZZZZ	1.00	1337																									
ZZZZZZ	1.00	1338																									
ZZZZZZ	1.00	1339																									
ZZZZZZ	1.00	1339																									
ZZZZZZ	1.00	1340																									
ZZZZZZ	1.00	1341																									
CCV	1.00	1342																									X
CCB	1.00	1342																									X
ZZZZZZ	1.00	1343																									
ZZZZZZ	1.00	1344																									
ZZZZZZ	1.00	1345																									
ZZZZZZ	1.00	1345																									
ZZZZZZ	1.00	1346																									
ZZZZZZ	1.00	1347																									
ZZZZZZ	1.00	1348																									

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ANALYSIS RUN LOG

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

Lab Code: SKINER Case No.: N2-08-161 SAS No.: SDG No.: B075H0

Instrument ID Number: C1 Method: CA

Start date: 09/02/92 End date: 09/02/92

EPA Sample No.	D/F	Time	% R	Analytes																						
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
ZZZZZZ	1.00	1348																									
ZZZZZZ	1.00	1349																									
CCV	1.00	1350																									X
CCB	1.00	1351																									X
ZZZZZZ	1.00	1351																									
ZZZZZZ	1.00	1352																									
ZZZZZZ	1.00	1353																									
ZZZZZZ	1.00	1354																									
ZZZZZZ	2.00	1354																									
ZZZZZZ	1.00	1355																									
ZZZZZZ	1.00	1356																									
ZZZZZZ	1.00	1357																									
ZZZZZZ	1.00	1357																									
CCV	1.00	1358																									X
CCB	1.00	1359																									X
ZZZZZZ	1.00	1400																									
ZZZZZZ	1.00	1400																									
ZZZZZZ	1.00	1401																									
ZZZZZZ	1.00	1402																									
ZZZZZZ	2.00	1403																									
ZZZZZZ	1.00	1403																									
ZZZZZZ	1.00	1404																									
CCV	1.00	1405																									
CCB	1.00	1406																									X
PBS	1.00	1406																									X
LCSS	1.00	1407																									X
B075H0	1.00	1408																									X
B075H0D	1.00	1409																									X
B075H0S	2.00	1409																									X
B075H0A	1.00	1410																									
CCV	1.00	1411																									X
CCB	1.00	1412																									X

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ANALYSIS RUN LOG

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

Lab Code: SKINER Case No.: N2-08-1615AS No.: SDG No.: 8075H0

Instrument ID Number: M3 Method: CV

Start date: 09/09/92 End date: 09/09/92

EPA Sample No.	D/F	Time	% R	Analytes																							
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
S0	1.00	1149																X									
S0.2	1.00	1154																X									
S1.0	1.00	1158																X									
S2.0	1.00	1202																X									
S5.0	1.00	1207																X									
ICV	2.00	1215																X									
ICB	1.00	1219																X									
CCV	1.00	1224																X									
CCB	1.00	1228																X									
ZZZZZZ	1.00	1232																									
ZZZZZZ	10.00	1237																									
ZZZZZZ	1.00	1241																									
ZZZZZZ	1.00	1245																									
ZZZZZZ	1.00	1250																									
ZZZZZZ	1.00	1254																									
ZZZZZZ	1.00	1258																									
ZZZZZZ	1.00	1303																									
ZZZZZZ	1.00	1307																									
ZZZZZZ	1.00	1311																									
CCV	1.00	1316																X									
CCB	1.00	1320																X									
ZZZZZZ	1.00	1324																									
ZZZZZZ	10.00	1329																									
ZZZZZZ	1.00	1333																									
ZZZZZZ	1.00	1337																									
ZZZZZZ	1.00	1341																									
ZZZZZZ	1.00	1346																									
ZZZZZZ	1.00	1350																									
CCV	1.00	1354																X									
CCB	1.00	1359																X									
ZZZZZZ	1.00	1403																									
ZZZZZZ	1.00	1407																									

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ANALYSIS RUN LOG

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

Lab Code: SKINER Case No.: N2-08-161 SAS No.: SDG No.: B075H0

Instrument ID Number: M3 Method: CV

Start date: 09/09/92 End date: 09/09/92

EPA Sample No.	D/F	Time	% R	Analytes																							
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
ZZZZZZ	1.00	1412																									
ZZZZZZ	1.00	1416																									
ZZZZZZ	1.00	1420																									
ZZZZZZ	1.00	1425																									
ZZZZZZ	1.00	1429																									
ZZZZZZ	1.00	1433																									
CCV	1.00	1438																X									
CCB	1.00	1442																X									
ZZZZZZ	1.00	1446																									
ZZZZZZ	10.00	1451																									
ZZZZZZ	1.00	1455																									
ZZZZZZ	1.00	1459																									
ZZZZZZ	1.00	1503																									
ZZZZZZ	1.00	1508																									
ZZZZZZ	1.00	1512																									
ZZZZZZ	10.00	1516																									
ZZZZZZ	1.00	1521																									
ZZZZZZ	1.00	1525																									
CCV	1.00	1529																X									
CCB	1.00	1534																X									
ZZZZZZ	1.00	1538																									
ZZZZZZ	1.00	1542																									
CCV	1.00	1547																X									
CCB	1.00	1551																X									
ZZZZZZ	1.00	1555																									
ZZZZZZ	10.00	1600																									
ZZZZZZ	1.00	1604																									
ZZZZZZ	1.00	1608																									
ZZZZZZ	1.00	1613																									
ZZZZZZ	1.00	1617																									
ZZZZZZ	1.00	1621																									
ZZZZZZ	1.00	1625																									

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ANALYSIS RUN LOG

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

Lab Code: SKINER Case No.: N2-08-161SAS No.: SDG No.: B075H0

Instrument ID Number: M3 Method: CV

Start date: 09/09/92 End date: 09/09/92

EPA Sample No.	D/F	Time	% R	Analytes																							
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
ZZZZZZ	1.00	1630																									
CCV	1.00	1634																X									
CCB	1.00	1638																X									
ZZZZZZ	1.00	1643																									
ZZZZZZ	10.00	1647																									
ZZZZZZ	1.00	1651																									
ZZZZZZ	1.00	1656																									
ZZZZZZ	1.00	1700																									
PBS	1.00	1704																X									
LCSS	10.00	1709																X									
B075H0	1.00	1713																X									
B075H0D	1.00	1717																X									
B075H0S	1.00	1722																X									
CCV	1.00	1726																X									
CCB	1.00	1730																X									

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FORM XIV - IN

ILM02.1

WESTINGHOUSE/HANFORD

14

ANALYSIS RUN LOG

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

Lab Code: SKINER Case No.: N2-08-161 SAS No.: SDG No.: B075H0

Instrument ID Number: F6 Method: F

Start date: 11/06/92 End date: 11/06/92

EPA Sample No.	D/F	Time	% R	Analytes																							
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
S0	1.00	0921				X																					
S10	1.00	0926				X																					
S50	1.00	0930				X																					
S100	1.00	0935				X																					
ICV	1.00	0941				X																					
ICB	1.00	0946				X																					
CRA	1.00	0951				X																					
CCV	1.00	0956				X																					
CCB	1.00	1000				X																					
PBS	1.00	1005				X																					
PBSA	1.00	1010	93.2			X																					
ZZZZZZ	5.00	1015																									
ZZZZZZ	5.00	1020																									
ZZZZZZ	1.00	1024																									
LCSS	200.00	1029																									
LCSSA	200.00	1034																									
ZZZZZZ	1.00	1039																									
B075H0S	1.00	1058				X																					
ZZZZZZ	1.00	1103																									
CCV	1.00	1108				X																					
CCB	1.00	1113				X																					
B075H0	1.00	1117																									
B075H0A	1.00	1122	72.6																								
B075H0D	1.00	1127																									
B075H0DA	1.00	1132	71.1																								
LCSS	200.00	1137				X																					
LCSSA	200.00	1142	105.4			X																					
ZZZZZZ	1.00	1147																									
ZZZZZZ	1.00	1151																									
CCV	1.00	1156				X																					
CCB	1.00	1201				X																					
B075H00	1.00	1204				X																					

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FORM XIV - IN ILM02.1

WESTINGHOUSE/HANFORD

14

ANALYSIS RUN LOG

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

Lab Code: SKINER Case No.: N2-08-1615AS No.: SDG No.: B075H0

Instrument ID Number: F6 Method: F

Start date: 11/06/92 End date: 11/06/92

EPA Sample No.	D/F	Time	% R	Analytes																						
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
B075H01	1.00	1207				X																					
B075H02	1.00	1209				X																					
B075H03	1.00	1212				X																					
B075H0D0	1.00	1215				X																					
B075H0D1	1.00	1217				X																					
B075H0D2	1.00	1220				X																					
B075H0D3	1.00	1223				X																					
B075H00	1.00	1226				X																					
B075H01	1.00	1228				X																					
B075H02	1.00	1231				X																					
B075H03	1.00	1234				X																					
B075H0D0	1.00	1236				X																					
B075H0D1	1.00	1239				X																					
B075H0D2	1.00	1242				X																					
B075H0D3	1.00	1244				X																					
CCV	1.00	1247				X																					
CCB	1.00	1250				X																					

-035

ANALYSIS RUN LOG

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

Lab Code: SKINER Case No.: N2-08-161SAS No.: SDG No.: B075H0

Instrument ID Number: F6 Method: F

Start date: 11/06/92 End date: 11/06/92

EPA Sample No.	D/F	Time	% R	Analytes																							
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
S0	1.00	0921																			X						
S5	1.00	0926																			X						
S50	1.00	0930																			X						
S100	1.00	0935																			X						
ICV	1.00	0941																			X						
ICB	1.00	0946																			X						
CRA	1.00	0951																			X						
CCV	1.00	0956																			X						
CCB	1.00	1000																			X						
PBS	1.00	1005																			X						
PBSA	1.00	1010	102.2																		X						
LCSS	5.00	1015																			X						
LCSSA	5.00	1020	115.6																		X						
ZZZZZZ	1.00	1024																									
ZZZZZZ	200.00	1029																									
ZZZZZZ	200.00	1034																									
ZZZZZZ	1.00	1039																									
B075H0S	1.00	1058																			X						
ZZZZZZ	1.00	1103																									
CCV	1.00	1108																			X						
CCB	1.00	1113																			X						
B075H0	1.00	1117																			X						
B075H0A	1.00	1122	79.2																		X						
B075H0D	1.00	1127																			X						
B075H0DA	1.00	1132	115.8																		X						
ZZZZZZ	200.00	1137																									
ZZZZZZ	200.00	1142																									
ZZZZZZ	1.00	1147																									
ZZZZZZ	1.00	1151																									
CCV	1.00	1156																			X						
CCB	1.00	1201																			X						

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WESTINGHOUSE/HANFORD

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ANALYSIS RUN LOG

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

Lab Code: SKINER Case No.: N2-08-161 SAS No.: SDG No.: B075H0

Instrument ID Number: F8 Method: F

Start date: 11/06/92 End date: 11/06/92

EPA Sample No.	D/F	Time	% R	Analytes																						
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
S0	1.00	1424													X												
S3	1.00	1429													X												
S50	1.00	1433													X												
S100	1.00	1437													X												
ICV	2.00	1443													X												
ICB	1.00	1447													X												
CRA	1.00	1452													X												
CCV	1.00	1456													X												
CCB	1.00	1500													X												
PBS	1.00	1505													X												
PBSA	1.00	1509	106.2												X												
ZZZZZZ	5.00	1513																									
ZZZZZZ	5.00	1518																									
LCSS	20.00	1522													X												
LCSSA	20.00	1526	74.4												X												
B075H0	1.00	1530													X												
B075H0A	1.00	1535	90.6												X												
B075H0S	1.00	1539													X												
ZZZZZZ	1.00	1543																									
CCV	1.00	1548													X												
CCB	1.00	1552													X												
B075H0D	1.00	1556													X												
B075H0DA	1.00	1601	94.6												X												
CCV	1.00	1605													X												
CCB	1.00	1609													X												

WESTINGHOUSE/HANFORD

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ANALYSIS RUN LOG

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

Lab Code: SKINER Case No.: N2-08-161SAS No.: SDG No.: B075H0

Instrument ID Number: F8 Method: F

Start date: 11/06/92 End date: 11/06/92

EPA Sample No.	D/F	Time	% R	Analytes																							
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
S0	1.00	1424																						X			
S10	1.00	1429																						X			
S50	1.00	1433																						X			
S100	1.00	1437																						X			
ICV	2.00	1443																						X			
ICB	1.00	1447																						X			
CRA	1.00	1452																						X			
CCV	1.00	1456																						X			
CCB	1.00	1500																						X			
PBS	1.00	1505																						X			
PBSA	1.00	1509	92.8																					X			
LCSS	5.00	1513																						X			
LCSSA	5.00	1518	104.1																					X			
ZZZZZZ	20.00	1522																									
ZZZZZZ	20.00	1526																									
B075H0	1.00	1530																						X			
B075H0A	1.00	1535	96.5																					X			
B075H0S	1.00	1539																						X			
ZZZZZZ	1.00	1543																									
CCV	1.00	1548																						X			
CCB	1.00	1552																						X			
B075H0D	1.00	1556																						X			
B075H0DA	1.00	1601	97.5																					X			
CCV	1.00	1605																						X			
CCB	1.00	1609																						X			

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ANALYSIS RUN LOG

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

Lab Code: SKINER Case No.: N2-08-161SAS No.: SDG No.: B075H0

Instrument ID Number: P1 Method: P

Start date: 11/05/92 End date: 11/05/92

EPA Sample No.	D/F	Time	% R	Analytes																							
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
S0	1.00	1805		X	X	_	X	X	X	X	X	X	X	X	_	X	X	_	X	X	_	X	X	_	X	X	_
S	1.00	1807		X	_	_	_	_	_	X	_	_	_	X	_	X	_	_	_	X	_	_	X	_	_	_	_
S	1.00	1810		_	X	_	X	X	X	_	X	X	X	_	_	_	X	_	X	_	_	_	_	_	X	X	_
S	1.00	1812		_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	X	_	_	_	_	_
ICV	1.00	1815		X	_	_	X	X	X	X	X	X	X	X	_	X	X	_	X	X	_	X	X	_	X	X	_
ICV	1.00	1818		_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
ICV	1.00	1820		_	X	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
ICB	1.00	1823		X	X	_	X	X	X	X	X	X	X	X	_	X	X	_	X	X	_	X	X	_	X	X	_
ICSA	1.00	1825		X	X	_	X	X	X	X	X	X	X	X	_	X	X	_	X	X	_	X	X	_	X	X	_
ICSAB	1.00	1828		X	X	_	X	X	X	X	X	X	X	X	_	X	X	_	X	X	_	X	X	_	X	X	_
CRI	1.00	1830		_	X	_	_	X	X	_	X	X	X	_	_	_	X	_	X	_	_	X	_	_	X	X	_
CCV	1.00	1833		X	X	_	X	X	X	X	X	X	X	X	_	X	X	_	X	X	_	X	X	_	X	X	_
CCB	1.00	1836		X	X	_	X	X	X	X	X	X	X	X	_	X	X	_	X	X	_	X	X	_	X	X	_
PBS	1.00	1838		X	X	_	X	X	X	X	X	X	X	X	_	X	X	_	X	X	_	X	X	_	X	X	_
LCSS	1.00	1841		X	X	_	X	X	X	X	X	X	X	X	_	X	X	_	X	X	_	X	X	_	X	X	_
ZZZZZZ	1.00	1843		_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
B075H0	1.00	1846		X	X	_	X	X	X	X	X	X	X	X	_	X	X	_	X	X	_	X	X	_	X	X	_
B075H0D	1.00	1848		X	X	_	X	X	X	X	X	X	X	X	_	X	X	_	X	X	_	X	X	_	X	X	_
B075H0S	1.00	1851		_	X	_	X	X	X	_	X	X	X	_	_	_	X	_	X	_	_	X	_	_	X	X	_
B075H0L	5.00	1853		X	X	_	X	X	X	X	X	X	X	X	_	X	X	_	X	X	_	X	X	_	X	X	_
B075H0A	1.00	1859		_	X	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
ZZZZZZ	1.00	1902		_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
ZZZZZZ	1.00	1904		_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
CCV	1.00	1907		X	X	_	X	X	X	X	X	X	X	X	_	X	X	_	X	X	_	X	X	_	X	X	_
CCB	1.00	1909		X	X	_	X	X	X	X	X	X	X	X	_	X	X	_	X	X	_	X	X	_	X	X	_
ZZZZZZ	1.00	1912		_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
ZZZZZZ	1.00	1915		_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
ZZZZZZ	1.00	1917		_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
ZZZZZZ	1.00	1920		_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
ZZZZZZ	1.00	1922		_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
ZZZZZZ	1.00	1925		_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
ZZZZZZ	1.00	1927		_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_

WESTINGHOUSE/HANFORD

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-00-0108

Lab Code: SKINER Case No.: N2-08-148 SAS No.: SDG No.: B075G

SOW No.: ILM02.1

SAMPLE NUMBER:	Lab Sample ID.
B075G8	08281-018
B075G9	08281-028
B075M7	08281-038
B075M8	08281-048
B075M9	08281-058
B075M9D	08281-05S2
B075M9S	08281-05DS

Were ICP interelement corrections applied? Yes/No YES
Were ICP background corrections applied? Yes/No YES
If yes-were raw data generated before application of background corrections? Yes/No NO

Comments:

I 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 contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Name: David N. Peterson

Date: 10/28/92 Title: Asst. Laboratory Manager

WESTINGHOUSE/HANFORD

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

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

Lab Code: SKINER Case No.: N2-08-148SAS No.: SDG No.: 207661

Initial Calibration Source: EPA-LV

Continuing Calibration Source: SKINER

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum	1958.0	1913.30	97.7	25000.0	24484.00	97.9	24862.00	99.4	P
Antimony	978.0	1008.60	103.1	2500.0	2452.70	98.1	2500.00	100.0	P
Arsenic	50.4	48.17	95.6	50.0	49.31	98.6	48.85	97.7	P
Barium	2078.0	1940.10	93.4	2500.0	2417.30	96.7	2438.70	97.5	P
Beryllium	508.0	493.50	97.1	500.0	502.09	100.4	517.24	103.4	P
Cadmium	516.0	489.90	94.9	2500.0	2441.20	97.6	2528.20	101.1	P
Calcium	51382.0	49028.00	95.4	25000.0	24772.00	99.1	25404.00	101.6	P
Chromium	514.0	488.38	95.0	2500.0	2441.20	97.6	2528.00	101.0	P
Cobalt	499.0	473.36	94.9	2500.0	2408.40	96.3	2468.50	98.7	P
Copper	525.0	500.80	95.4	2500.0	2428.50	97.1	2469.20	98.4	P
Iron	1981.0	1975.10	99.7	10000.0	9945.60	99.5	10226.00	102.3	P
Lead	98.4	100.78	102.4	50.0	50.99	102.0	49.79	99.6	P
Magnesium	25587.0	24909.00	97.4	25000.0	24778.00	99.1	25441.00	101.8	P
Manganese	509.0	476.85	93.7	2500.0	2421.40	96.9	2480.10	99.2	P
Mercury	5.0	4.55	91.0	2.0	1.98	99.0	2.06	103.0	CV
Nickel	504.0	472.43	93.7	2500.0	2403.60	96.1	2469.90	98.8	P
Potassium	50563.0	50368.00	99.6	25000.0	24387.00	97.8	24722.00	98.9	P
Selenium	50.3	53.80	107.0	50.0	52.22	104.4	52.85	105.7	P
Silver	517.0	498.25	96.4	500.0	493.01	98.6	503.82	100.8	P
Sodium	52348.0	50515.00	96.5	25000.0	24620.00	98.5	24957.00	99.8	P
Thallium	100.7	94.18	93.5	50.0	47.35	94.7	45.56	91.1	P
Vanadium	517.0	490.12	94.8	2500.0	2433.60	97.3	2485.70	99.4	P
Zinc	3052.0	2907.30	95.3	2500.0	2421.80	96.9	2476.50	99.1	P
Cyanide	94.0	84.89	90.3	200.0	201.82	100.9	201.74	100.9	CA

(1) Control limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

007

WESTINGHOUSE/HANFORD

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

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

Lab Code: SKINER Case No.: N2-08-14SSAS No.: SDG No.: 207508

Initial Calibration Source: EPA-LV

Continuing Calibration Source: SKINER

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum				25000.0	24669.00	98.7	24461.00	97.8	P
Antimony				2500.0	2474.00	99.0	2438.40	97.5	P
Arsenic				50.0	51.13	102.3	51.70	103.4	P
Barium				2500.0	2422.90	96.9	2402.70	96.1	P
Beryllium				500.0	515.94	103.2	512.53	102.5	P
Cadmium				2500.0	2524.40	101.0	2503.10	100.1	P
Calcium				25000.0	25254.00	101.0	24964.00	99.9	P
Chromium				2500.0	2540.90	101.6	2518.00	100.7	P
Cobalt				2500.0	2439.50	97.6	2414.40	96.6	P
Copper				2500.0	2444.20	97.8	2418.50	96.7	P
Iron				10000.0	10161.00	101.6	10118.00	101.2	P
Lead				50.0	49.30	98.6			P
Magnesium				25000.0	25393.00	101.6	25143.00	100.6	P
Manganese				2500.0	2469.70	98.8	2456.30	98.3	P
Mercury				2.0	2.02	101.0	2.02	101.0	CV
Nickel				2500.0	2460.60	98.4	2442.80	97.7	P
Potassium				25000.0	24375.00	97.5	23975.00	95.9	P
Selenium				50.0	52.84	105.7	53.00	106.0	P
Silver				500.0	499.07	99.8	497.77	99.6	P
Sodium				25000.0	24765.00	99.1	24477.00	97.9	P
Thallium				50.0	45.05	90.1			P
Vanadium				2500.0	2467.60	98.7	2437.30	97.5	P
Zinc				2500.0	2447.80	97.9	2406.10	96.2	P
Cyanide				200.0	202.87	101.4	200.73	100.4	CA

(1) Control limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

2-24-93

008

WESTINGHOUSE/HANFORD

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

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

Lab Code: SKINER Case No.: N2-08-148SAS No.: SDG No.: 30[illegible]

Initial Calibration Source: EPA-LV

Continuing Calibration Source: SKINER

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum									NR
Antimony									NR
Arsenic				50.0	49.31	98.6			F
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead									NR
Magnesium									NR
Manganese									NR
Mercury				2.0	2.08	104.0	2.11	105.5	CV
Nickel									NR
Potassium									NR
Selenium				50.0	52.35	105.7	48.78	97.6	F
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide				200.0	201.73	100.9	201.68	100.3	CA

(1) Control limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

2-24-93

009

WESTINGHOUSE/HANFORD

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

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

Lab Code: SKINER Case No.: N2-08-148SAS No.: SDG No.: 807503

Initial Calibration Source: EPA-LV

Continuing Calibration Source: SKINER

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum									NR
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead									NR
Magnesium									NR
Manganese									NR
Mercury				2.0	2.04	102.0			CV
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide				200.0	200.69	100.3	194.95	97.5	CA

(1) Control limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

2-24-15

010

WESTINGHOUSE/HANFORD

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

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

Lab Code: SKINER Case No.: N2-03-143SAS No.: SDG No.: 307662

Initial Calibration Source: EPA-LV

Continuing Calibration Source: SKINER

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum									NR
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead									NR
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide				200.0	200.63	100.3			CA

(1) Control limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

2-24-93

011

WESTINGHOUSE/HANFORD

2B
CRDL STANDARD FOR AA AND ICP

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

Lab Code: SKINER Case No.: N2-08-143SAS No.: SDG No.: B075G8

AA CRDL Standard Source: SKINER

ICP CRDL Standard Source: SKINER

Concentration Units: ug/L

Analyte	CRDL Standard for AA True	Found	%R	CRDL Standard for ICP True	Initial Found	%R	Final Found	%R
Aluminum								
Antimony				120.0	112.56	93.8	113.20	94.3
Arsenic	10.0	9.89	98.9					
Barium								
Beryllium				10.0	9.41	94.1	9.41	94.1
Cadmium				10.0	11.73	117.3	12.63	126.3
Calcium								
Chromium				20.0	24.23	121.2	19.06	95.3
Cobalt				100.0	94.17	94.2	93.67	93.7
Copper				50.0	49.20	98.4	50.63	101.3
Iron								
Lead	3.0	3.82	127.3					
Magnesium								
Manganese				30.0	26.94	89.8	26.45	88.2
Mercury								
Nickel				80.0	78.08	97.6	77.01	96.3
Potassium								
Selenium	5.0	7.21	144.2					
Silver				20.0	23.29	116.4	24.15	120.8
Sodium								
Thallium	10.0	8.92	89.2					
Vanadium				100.0	96.27	96.3	94.60	94.6
Zinc				40.0	39.31	98.3	39.31	98.3

2 24-3

012

WESTINGHOUSE/HANFORD

3
BLANKS

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

Lab Code: SKINER Case No.: N2-08-148SAS No.: SDG No.: B0750

Preparation Blank Matrix (soil/water): SOIL

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

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum	21.4	U	28.9	B	24.6	B	29.4	B	4.280	U	P
Antimony	16.9	U	16.9	U	16.9	U	16.9	U	3.380	U	P
Arsenic	1.9	U	1.9	U	1.9	U	1.9	U	0.380	U	P
Barium	2.9	U	2.9	U	2.9	U	3.4	B	0.580	U	P
Beryllium	-0.4	B	-0.4	B	-0.4	B	-0.4	B	-0.082	B	P
Cadmium	1.1	B	2.4	B	4.4	B	3.4	B	0.206	B	P
Calcium	25.9	U	36.8	B	25.9	U	30.1	B	7.290	B	P
Chromium	4.5	U	4.5	U	4.5	U	4.5	U	0.900	U	P
Cobalt	2.7	U	2.7	U	2.7	U	2.7	U	0.540	U	P
Copper	3.5	U	3.5	U	3.5	U	3.5	U	0.712	B	P
Iron	11.6	U	11.6	U	11.6	U	11.6	U	2.320	U	P
Lead	1.0	U	1.0	U	1.0	U	1.0	U	0.200	U	P
Magnesium	40.8	U	96.1	B	40.8	U	40.8	U	8.160	U	P
Manganese	4.7	U	4.7	U	4.7	U	4.7	U	0.940	U	P
Mercury	0.1	U	0.1	U	0.1	U	0.1	U	0.050	U	CV
Nickel	5.4	U	5.4	U	5.4	U	5.4	U	1.080	U	P
Potassium	241.8	U	241.8	U	241.8	U	241.8	U	48.360	U	P
Selenium	2.9	U	2.9	U	2.9	U	2.9	U	0.580	U	P
Silver	2.5	U	2.5	U	2.5	U	2.5	U	0.500	U	P
Sodium	46.4	U	54.5	B	84.1	B	111.6	B	20.496	B	P
Thallium	3.8	U	3.8	U	3.8	U	3.8	U	0.760	U	P
Vanadium	2.8	U	2.8	U	2.8	U	2.8	U	0.560	U	P
Zinc	2.2	U	2.7	B	2.7	B	3.3	B	2.272	B	P
Cyanide	10.0	U	10.0	U	10.0	U	10.0	U	0.500	U	CA

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3
BLANKS

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

Lab Code: SKINER Case No.: N2-09-148SAS No.: SDG No.: BC7563

Preparation Blank Matrix (soil/water):

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

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum			32.7	B							P
Antimony			16.9	U							P
Arsenic			1.9	U	1.9	U					P
Barium			2.9	U							P
Beryllium			-0.4	B							P
Cadmium			3.4	B							P
Calcium			33.4	B							P
Chromium			4.5	U							P
Cobalt			2.7	U							P
Copper			3.6	B							P
Iron			11.6	U							P
Lead											NR
Magnesium			40.8	U							P
Manganese			4.7	U							P
Mercury			0.1	U	0.1	U	0.1	U			CV
Nickel			5.4	U							P
Potassium			241.8	U							P
Selenium			2.9	U	2.9	U	2.9	U			P
Silver			2.5	U							P
Sodium			102.5	B							P
Thallium											NR
Vanadium			2.8	U							P
Zinc			2.7	B							P
Cyanide			10.0	U	10.0	U	10.0	U			CA

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3
BLANKS

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

Lab Code: SKINER Case No.: N2-03-1485AS No.: SDG No.: B2755

Preparation Blank Matrix (soil/water):

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

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic											NR
Barium											NR
Beryllium											NR
Cadmium											NR
Calcium											NR
Chromium											NR
Cobalt											NR
Copper											NR
Iron											NR
Lead											NR
Magnesium											NR
Manganese											NR
Mercury			0.1	U							CV
Nickel											NR
Potassium											NR
Selenium											NR
Silver											NR
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Cyanide			10.0	U	10.0	U	10.0	U			CA

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015

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4

ICP INTERFERENCE CHECK SAMPLE

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

Lab Code: SKINER Case No.: N2-08-148SAS No.: SDG No.: S075GS

ICP ID Number: P1 ICS Source: ICF-0292

Concentration Units: ug/L

Analyte	True Sol. A	True Sol. AB	Initial Found Sol. A	Initial Found Sol. AB	%R	Final Found Sol. A	Final Found Sol. AB	%R
Aluminum	514927	507757	535420	531330.0	104.7	533390	530610.0	104.5
Antimony	0	0	3	7.7		6	-1.2	
Arsenic								
Barium	0	499	18	476.0	95.4	16	472.6	94.7
Beryllium	0	488	0	490.9	100.6	0	495.5	101.5
Cadmium	0	928	6	900.8	97.1	5	917.4	98.9
Calcium	529351	525385	506750	499810.0	95.1	504910	500960.0	95.4
Chromium	14	464	18	466.0	100.4	18	486.0	104.7
Cobalt	0	475	-3	474.4	99.9	-2	472.4	99.5
Copper	0	488	7	499.9	102.4	4	495.4	101.5
Iron	190348	187957	191110	189550.0	100.8	192680	192300.0	102.3
Lead								
Magnesium	543610	533685	545880	539520.0	101.1	549360	545840.0	102.3
Manganese	36	502	29	482.5	96.1	29	486.9	97.0
Mercury								
Nickel	0	897	-1	854.3	95.2	1	866.1	96.6
Potassium	0	0	52	-8.0		28	-20.0	
Selenium								
Silver	0	899	5	974.1	108.4	0	978.3	108.8
Sodium	0	0	946	929.4		989	973.1	
Thallium								
Vanadium	0	473	-2	461.3	97.5	4	469.7	99.3
Zinc	71	1001	92	1027.2	102.6	89	1023.0	102.2

2-24-93 SC

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SA

SPIKE SAMPLE RECOVERY

SAMPLE NUMBER:

8075M[illegible]

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

Lab Code: SKINER Case No.: N2-0[illegible] SAS No.: SDG No.: 80750[illegible]

Matrix: SOIL Level (low/med): LOW

% Solids for Sample: 88.4

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

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony	75-125	81.1515		3.8078	U	108.27	76.7		P
Arsenic	75-125	10.7095		1.2917	B	8.87	101.7		P
Barium	75-125	456.0939		42.0441		435.08	95.2		P
Beryllium	75-125	11.1295		0.0830	U	10.38	102.3		P
Cadmium	75-125	10.9981		0.2076	U	10.36	101.0		P
Calcium									NR
Chromium	75-125	49.6411		5.8263		43.51	100.7		P
Cobalt	75-125	110.3855		6.0297	B	108.77	95.9		P
Copper	75-125	65.9959		13.3671		54.39	96.3		P
Iron									NR
Lead	75-125	7.2362		2.3924		4.44	109.1		P
Magnesium									NR
Manganese	75-125	275.0174		170.1773		108.77	96.4		P
Mercury	75-125	0.5120		0.0566	U	0.491	104.5		CV
Nickel	75-125	111.3840		6.2892	B	108.77	96.6		P
Potassium									NR
Selenium	75-125	2.6664		0.6039	B	2.22	92.9		P
Silver	75-125	10.8075		0.5189	U	10.88	99.3		P
Sodium									NR
Thallium	75-125	11.3001		0.7676	U	11.09	101.9		P
Vanadium	75-125	132.4117		27.2905		108.77	96.6		P
Zinc	75-125	129.5727		27.2490		108.77	94.1		P
Cyanide	75-125	26.9739		0.5189	U	27.46	98.2		CA

Comments:

2-24-93

017

WESTINGHOUSE/HANFORD

6
DUPLICATES

SAMPLE NUMBER:

B075M9D

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

Lab Code: SKINER Case No.: N2-08-148SAS No.: SDG No.: B075M8

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

% Solids for Sample: 88.4 % Solids for Duplicate: 89.6

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

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum		3681.9710		3679.0318		0.1		P
Antimony		3.5078	U	3.6071	U			P
Arsenic		1.2917	B	1.0796	B	17.9		P
Barium	41.5	42.0441		38.1927	B	9.6		P
Beryllium		0.0830	U	0.0854	U			P
Cadmium		0.2076	U	0.2134	U			P
Calcium	1037.8	3064.0541		2738.6238		11.2		P
Chromium	2.1	5.8263		7.3742		23.5		P
Cobalt		6.0297	B	5.1311	B	16.1		P
Copper	5.2	13.3671		13.2268		1.1		P
Iron		11612.3542		10677.8793		8.4		P
Lead	0.6	2.3924		2.3120		3.4		P
Magnesium	1037.8	2865.2082		2859.8556		0.2		P
Manganese		170.1773		167.2778		1.7		P
Mercury		0.0566	U	0.0514	U			CV
Nickel		6.2892	B	5.2332	B	0.8		P
Potassium		532.5460	B	575.7705	B	7.8		P
Selenium		0.6039	B	0.6132	U	200.0		P
Silver		0.5189	U	0.5336	U			P
Sodium		190.6638	B	192.2607	B	0.8		P
Thallium		0.7676	U	0.8035	U			
Vanadium	10.4	27.2905		27.1194		0.6		P
Zinc		27.2490		26.0458		4.5		P
Cyanide		0.5189	U	0.5658	U			CA

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7

LABORATORY CONTROL SAMPLE

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-00-0108

Lab Code: SKINER Case No.: N2-08-1483A/B No.: SDG No.: B07508

Solid LCS Source: QAL-0287

Aqueous LCS Source:

Analyte	Aqueous (ug/L) True	Aqueous (ug/L) Found	Aqueous (ug/L) %R	Solid (mg/kg) True	Solid (mg/kg) Found	C	Limits	Limits	%R
Aluminum				325.0	276.2		225.0	424.0	85.0
Antimony				211.0	201.4		127.0	294.0	95.5
Arsenic				917.0	911.0		635.0	1199.0	99.3
Barium				4.3	4.0	B	0.0	40.0	93.3
Beryllium				19.4	19.3		16.5	22.3	99.5
Cadmium				45.4	39.4		35.7	55.1	86.8
Calcium				196200.0	175802.0		166800.0	225600.0	89.6
Chromium				99.6	95.5		79.2	120.0	95.9
Cobalt				144.0	135.4		125.0	162.0	94.0
Copper				6910.0	6450.0		6006.0	7820.0	93.3
Iron				22430.0	20444.0		17770.0	27080.0	91.1
Lead				236.0	224.9		188.0	285.0	95.3
Magnesium				118100.0	117132.0		100400.0	129900.0	99.2
Manganese				208.0	195.0		177.0	239.0	93.8
Mercury				12.7	12.9		8.5	17.0	101.6
Nickel				60.9	53.1		49.2	72.6	87.2
Potassium				50.0	48.4	U	0.0	1000.0	0.0
Selenium				39.8	37.8		19.1	59.4	96.1
Silver				22.2	20.2		15.5	29.0	91.0
Sodium				50.0	44.0	B	0.0	1000.0	88.0
Thallium				39.0	38.1		24.6	53.5	97.7
Vanadium				65.8	66.9		51.7	79.9	101.7
Zinc				187.0	170.8		138.0	236.0	91.3
Cyanide				5.6	4.9		4.3	6.9	87.5

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019

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8

STANDARD ADDITION RESULTS

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0102

Lab Code: SKINER Case No.: N2-08-148SAS No.: SDG No.: B075D3

Concentration Units: ug/L

EPA Sample No.	An	0 ADD ABS	1 ADD CON	1 ADD ABS	2 ADD CON	2 ADD ABS	3 ADD CON	3 ADD ABS	Final Conc.	r	G
B075M9D	SE	0.014	5.00	0.031	10.00	0.057	15.00	0.052	5.2	0.9545	
B075M9D	SE	0.011	5.00	0.027	10.00	0.049	15.00	0.066	2.7	0.9982	

020

FORM VIII - IN ILM02.1

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9

ICP SERIAL DILUTIONS

SAMPLE NUMBER:

B075M9L

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

Lab Code: SKINER Case No.: N2-08-1488A5 SAS No.: SDG No.: B075M

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

Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	M
Aluminum	17739.00		18332.50		3.3		P
Antimony	16.90	U	84.50	U			P
Arsenic							NR
Barium	202.56		219.40	B	8.3		P
Beryllium	0.40	U	2.00	U			P
Cadmium	1.00	U	6.60	B			P
Calcium	14762.00		15460.50	B	4.7		P
Chromium	28.07		42.15	B	50.2		P
Cobalt	29.05	B	25.00	B	13.9		P
Copper	64.40		77.60	B	20.5		P
Iron	55946.00		58095.00		3.8		P
Lead							NR
Magnesium	13804.00		14429.00	B	4.5		P
Manganese	819.88		845.35		3.1		P
Mercury							NR
Nickel	30.30	B	28.50	B	5.9		P
Potassium	2565.70	B	2657.65	B	3.6		P
Selenium							NR
Silver	2.50	U	12.50	U			P
Sodium	918.58	B	1283.75	B	39.8		P
Thallium							NR
Vanadium	131.48		134.70	B	2.4		P
Zinc	131.23		136.75		3.5		P

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021

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10

INSTRUMENT DETECTION LIMITS (QUARTERLY)

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

Lab Code: SKINER Case No.: N2-08-148SAS No.: SDG No.: B07503

ICP ID Number: Date: 10/15/92

Flame AA ID Number:

Furnace AA ID Number: F1

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200		NR
Antimony			60		NR
Arsenic	197.20	BS	10	1.9	F
Barium			200		NR
Beryllium			5		NR
Cadmium			5		NR
Calcium			5000		NR
Chromium			10		NR
Cobalt			50		NR
Copper			25		NR
Iron			100		NR
Lead			3		NR
Magnesium			5000		NR
Manganese			15		NR
Mercury			0.2		NR
Nickel			40		NR
Potassium			5000		NR
Selenium	196.00	BS	5	2.9	F
Silver			10		NR
Sodium			5000		NR
Thallium			10		NR
Vanadium			50		NR
Zinc			20		NR

Comments:

F1: THERMO JARRELL-ASH VIDEO 22E (#2486)

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10

INSTRUMENT DETECTION LIMITS (QUARTERLY)

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

Lab Code: SKINER Case No.: N2-08-1433A9 No.: SDG No.: B07566

ICP ID Number: Date: 10/15/92

Flame AA ID Number:

Furnace AA ID Number: F2

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200		NR
Antimony			60		NR
Arsenic			10		NR
Barium			200		NR
Beryllium			5		NR
Cadmium			5		NR
Calcium			5000		NR
Chromium			10		NR
Cobalt			50		NR
Copper			25		NR
Iron			100		NR
Lead	283.30	BS	3	1.0	F
Magnesium			5000		NR
Manganese			15		NR
Mercury			0.2		NR
Nickel			40		NR
Potassium			5000		NR
Selenium			5		NR
Silver			10		NR
Sodium			5000		NR
Thallium	276.80	BS	10	3.8	F
Vanadium			50		NR
Zinc			20		NR

Comments:

F2: THERMO JARRELL-ASH VIDEO 22E (#2511)

WESTINGHOUSE/HANFORD

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INSTRUMENT DETECTION LIMITS (QUARTERLY)

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

Lab Code: SKINER Case No.: N2-08-148SAS No.: SDG No.: B07508

ICP ID Number: Date: 07/16/92

Flame AA ID Number: M3

Furnace AA ID Number:

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200		NR
Antimony			60		NR
Arsenic			10		NR
Barium			200		NR
Beryllium			5		NR
Cadmium			5		NR
Calcium			5000		NR
Chromium			10		NR
Cobalt			50		NR
Copper			25		NR
Iron			100		NR
Lead			3		NR
Magnesium			5000		NR
Manganese			15		NR
Mercury	253.70		0.2	0.1	CV
Nickel			40		NR
Potassium			5000		NR
Selenium			5		NR
Silver			10		NR
Sodium			5000		NR
Thallium			10		NR
Vanadium			50		NR
Zinc			20		NR

Comments:

M3: LDC ANALYTICAL #050941

WESTINGHOUSE/HANFORD

10

INSTRUMENT DETECTION LIMITS (QUARTERLY)

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

Lab Code: SKINER Case No.: N2-08-148SAS No.: SDG No.: B07563

ICP ID Number: P1 Date. 10/15/92

Flame AA ID Number:

Furnace AA ID Number:

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum	308.20		200	21.4	P
Antimony	206.80		60	16.9	P
Arsenic			10		NR
Barium	493.40		200	2.9	P
Beryllium	313.00		5	0.4	P
Cadmium	226.50		5	1.0	P
Calcium	317.90		5000	25.9	P
Chromium	267.70		10	4.5	P
Cobalt	228.60		50	2.7	P
Copper	324.70		25	3.5	P
Iron	259.90		100	11.6	P
Lead			3		NR
Magnesium	279.00		5000	40.3	P
Manganese	257.60		15	4.7	P
Mercury			0.2		NR
Nickel	231.60		40	5.4	P
Potassium	766.40		5000	241.8	P
Selenium			5		NR
Silver	328.00		10	2.5	P
Sodium	588.90		5000	46.4	P
Thallium			10		NR
Vanadium	292.40		50	2.8	P
Zinc	213.80		20	2.2	P

Comments:

P1: THERMO JARRELL-ASH ICAP61 (#10732)

WESTINGHOUSE/HANFORD

11

ICP INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0103

Lab Code: SKINER Case No.: N2-08-148SAS No.: SDG No.: B07503

ICP ID Number: P1 Date: 07/01/92

Analyte	Wave-length (nm)	Al	Ca	Fe	Mg	Cr
Aluminum	308.20	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	206.80	0.0000000	0.0000000	0.0002100	0.0000000	0.0119500
Arsenic						
Barium	493.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	313.00	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.50	0.0000000	0.0000000	0.0001500	0.0000000	0.0000000
Calcium	317.90	0.0000000	0.0000000	-0.0003000	0.0000000	0.0000000
Chromium	267.70	0.0000000	0.0000000	-0.0000300	0.0000000	0.0000000
Cobalt	228.60	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Copper	324.70	0.0000000	0.0000000	-0.0001200	0.0000000	-0.0000800
Iron	259.90	0.0001400	0.0000000	0.0000000	0.0000000	0.0000000
Lead						
Magnesium	279.00	0.0000000	0.0000000	-0.0002400	0.0000000	0.0000000
Manganese	257.60	0.0000200	0.0000000	0.0000000	0.0000000	0.0000000
Mercury						
Nickel	231.60	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium						
Silver	328.00	0.0000000	0.0000000	-0.0001000	0.0000000	0.0000000
Sodium	588.90	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium						
Vanadium	292.40	0.0000400	0.0000000	-0.0002000	0.0000000	-0.0051200
Zinc	213.80	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

Comments:

P1: THERMO JARRELL-ASH ICAP61 (#10782)

WESTINGHOUSE/HANFORD

11

ICP INTERELEMENT CORRECTION FACTORS (ANNUALLY)

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

Lab Code: SKINER Case No.: N2-08-1485AS No.: SDG No.: 20750W

ICP ID Number: P1 Date: 07/01/92

Analyte	Wave-length (nm)	Cu	Mn	Ni	V	__
Aluminum	308.20	0.0000000	0.0012800	0.0000000	0.0098400	
Antimony	206.80	0.0000000	0.0000000	-0.0023000	0.0043600	
Arsenic						
Barium	493.40	0.0000000	0.0000000	0.0000000	0.0000000	
Beryllium	313.00	0.0000000	0.0000000	0.0000000	-0.0024900	
Cadmium	226.50	0.0000000	0.0000000	0.0000000	0.0000000	
Calcium	317.90	0.0000000	0.0000000	0.0000000	0.0000000	
Chromium	267.70	0.0000000	0.0000000	0.0000000	0.0015200	
Cobalt	228.60	0.0000000	0.0000000	-0.0000300	0.0000000	
Copper	324.70	0.0000000	0.0000000	0.0000000	0.0000000	
Iron	259.90	-0.0001200	-0.0017500	0.0000000	0.0000000	
Lead						
Magnesium	279.00	0.0000000	-0.0004100	0.0000000	0.0000000	
Manganese	257.60	0.0000000	0.0000000	0.0000000	-0.0001000	
Mercury						
Nickel	231.60	0.0000000	0.0000000	0.0000000	0.0000000	
Potassium	766.40	0.0000000	0.0000000	0.0000000	0.0000000	
Selenium						
Silver	328.00	0.0000000	0.0000000	0.0000000	0.0000000	
Sodium	588.90	0.0000000	0.0000000	0.0000000	0.0000000	
Thallium						
Vanadium	292.40	0.0000000	0.0000000	0.0000000	0.0000000	
Zinc	213.80	0.0017400	0.0000000	0.0045900	0.0000000	

Comments:

P1: THERMO JARRELL-ASH ICAP61 (#10782)

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WESTINGHOUSE/HANFORD

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ICP LINEAR RANGES (QUARTERLY)

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

Lab Code: SKINER Case No.: N2-08-148SAS No.: SDG No.: B07563

ICP ID Number: P1 Date: 10/15/92

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	M
Aluminum	5.00	1000000.0	P
Antimony	5.00	25000.0	P
Arsenic			NR
Barium	5.00	100000.0	P
Beryllium	5.00	25000.0	P
Cadmium	5.00	25000.0	P
Calcium	5.00	1200000.0	P
Chromium	5.00	200000.0	P
Cobalt	5.00	100000.0	P
Copper	5.00	250000.0	P
Iron	5.00	1000000.0	P
Lead			NR
Magnesium	5.00	1000000.0	P
Manganese	5.00	200000.0	P
Mercury			NR
Nickel	5.00	250000.0	P
Potassium	5.00	1100000.0	P
Selenium			NR
Silver	5.00	100000.0	P
Sodium	5.00	1000000.0	P
Thallium			NR
Vanadium	5.00	50000.0	P
Zinc	5.00	150000.0	P

Comments:

P1: THERMO JARRELL-ASH ICAP61 (#10782)

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PREPARATION LOG

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

Lab Code: SKINER Case No.: N2-08-1485AS No.: SDG No.: B075G8

Method: CA

EPA Sample No.	Preparation Date	Weight (gram)	Volume (mL)
B075G8	08/31/92	1.01	50
B075G9	08/31/92	1.00	50
B075M7	08/31/92	1.00	50
B075M8	08/31/92	1.03	50
B075M9	08/31/92	1.09	50
B075M90	08/31/92	1.00	50
B075M99	08/31/92	1.03	50
LCSS	08/31/92	1.00	50
PBS	08/31/92	1.00	50

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PREPARATION LOG

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0109

Lab Code: SKINER Case No.: N2-08-148SAS No.. SDG No.: B075G8

Method: CV

EPA Sample No.	Preparation Date	Weight (gram)	Volume (mL)
B075G8	09/08/92	0.21	100
B075G9	09/08/92	0.21	100
B075M7	09/08/92	0.21	100
B075M8	09/08/92	0.22	100
B075M9	09/08/92	0.20	100
B075M9D	09/08/92	0.22	100
B075M9S	09/08/92	0.23	100
LCSS	09/08/92	0.20	100
PBS	09/08/92	0.20	100

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WESTINGHOUSE/HANFORD

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PREPARATION LOG

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

Lab Code: SKINER Case No.: N2-08-143SAS No.: SDG No.: B075G8

Method: F

EPA Sample No.	Preparation Date	Weight (gram)	Volume (mL)
B075G8	10/20/92	1.06	200
B075G9	10/20/92	1.02	200
B075M7	10/20/92	1.01	200
B075M8	10/20/92	1.02	200
B075M9	10/20/92	1.12	200
B075M9D	10/20/92	1.07	200
B075M9S	10/20/92	1.02	200
LCSS	10/20/92	1.00	200
PBS	10/20/92	1.00	200

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PREPARATION LOG

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

Lab Code: SKINER Case No.: N2-08-14SSAS No.: SDG No.: B075G8

Method: P

EPA Sample No.	Preparation Date	Weight (gram)	Volume (mL)
B075G8	10/20/92	1.01	200
B075G9	10/20/92	1.07	200
B075M7	10/20/92	1.08	200
B075M8	10/20/92	1.13	200
B075M9	10/20/92	1.09	200
B075M9D	10/20/92	1.06	200
B075M9S	10/20/92	1.04	200
LCSS	10/20/92	1.00	200
PBS	10/20/92	1.00	200

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ANALYSIS RUN LOG

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

Lab Code: SKINER Case No.: N2-08-148SAS No.: SDG No.: 807568

Instrument ID Number: C1 Method: CA

Start date: 09/01/92 End date: 09/01/92

EPA Sample No.	D/F	Time	% R	Analytes																						
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
S0	1.00	1825																									X
S10	1.00	1826																									X
S40	1.00	1827																									X
S100	1.00	1828																									X
S200	1.00	1828																									X
S400	1.00	1829																									X
S400	1.00	1830																									X
S40	1.00	1831																									X
S40	1.00	1831																									X
ICV	1.00	1832																									X
ICB	1.00	1833																									X
CCV	1.00	1834																									X
CCB	1.00	1834																									X
ZZZZZZ	1.00	1835																									
ZZZZZZ	1.00	1836																									
ZZZZZZ	1.00	1837																									
ZZZZZZ	1.00	1837																									
ZZZZZZ	1.00	1838																									
ZZZZZZ	1.00	1839																									
ZZZZZZ	1.00	1840																									
ZZZZZZ	1.00	1840																									
ZZZZZZ	1.00	1841																									
CCV	1.00	1842																									X
CCB	1.00	1843																									X
ZZZZZZ	1.00	1843																									
ZZZZZZ	1.00	1844																									
ZZZZZZ	1.00	1845																									
ZZZZZZ	1.00	1846																									
ZZZZZZ	1.00	1846																									
ZZZZZZ	2.00	1847																									
ZZZZZZ	1.00	1848																									
ZZZZZZ	1.00	1849																									

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ANALYSIS RUN LOG

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

Lab Code: SKINER Case No.: N2-08-1485 SAS No.: SDG No.: B07560

Instrument ID Number: C1 Method: CA

Start date: 09/01/92 End date: 09/01/92

EPA Sample No.	D/F	Time	% R	Analytes																							
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
ZZZZZZ	1.00	1849																									
ZZZZZZ	1.00	1850																									
CCV	1.00	1851																									X
CCB	1.00	1852																									X
ZZZZZZ	1.00	1852																									
CCV	1.00	1853																									X
CCB	1.00	1854																									X
ZZZZZZ	1.00	1855																									
ZZZZZZ	1.00	1855																									
ZZZZZZ	1.00	1856																									
ZZZZZZ	1.00	1857																									
ZZZZZZ	1.00	1858																									
ZZZZZZ	1.00	1858																									
ZZZZZZ	2.00	1859																									
ZZZZZZ	1.00	1900																									
ZZZZZZ	1.00	1901																									
ZZZZZZ	1.00	1901																									
CCV	1.00	1902																									X
CCB	1.00	1903																									X
ZZZZZZ	1.00	1904																									
ZZZZZZ	1.00	1904																									
ZZZZZZ	1.00	1905																									
ZZZZZZ	1.00	1906																									
CCV	1.00	1907																									X
CCB	1.00	1907																									X
ZZZZZZ	1.00	1908																									
ZZZZZZ	1.00	1909																									
ZZZZZZ	1.00	1910																									
ZZZZZZ	1.00	1910																									
ZZZZZZ	1.00	1911																									
ZZZZZZ	1.00	1912																									
ZZZZZZ	1.00	1913																									

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ANALYSIS RUN LOG

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

Lab Code: SKINER Case No.: N2-08-148SAS No.: SDG No.: B075G2

Instrument ID Number: C1 Method: CA

Start date: 09/01/92 End date: 09/01/92

EPA Sample No.	D/F	Time	% R	Analytes																						
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
ZZZZZZ	2.00	1913																									
ZZZZZZ	1.00	1914																									
ZZZZZZ	1.00	1915																									
CCV	1.00	1916																									X
CCB	1.00	1916																									X
ZZZZZZ	1.00	1917																									
ZZZZZZ	1.00	1918																									
ZZZZZZ	1.00	1919																									
CCV	1.00	1919																									X
CCB	1.00	1920																									X
PBS	1.00	1921																									X
LCSS	1.00	1922																									X
B075G8	1.00	1922																									X
B075G9	1.00	1923																									X
B075M7	1.00	1924																									X
B075M8	1.00	1925																									X
B075M9	1.00	1925																									X
B075M9D	1.00	1926																									X
B075M9S	2.00	1927																									X
B075M9A	1.00	1928																									
CCV	1.00	1928																									X
CCB	1.00	1929																									X

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ANALYSIS RUN LOG

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

Lab Code: SKINER Case No.: N2-08-148SAS No.: SDG No.: B0750

Instrument ID Number: M3 Method: CV

Start date: 09/09/92 End date: 09/09/92

EPA Sample No.	D/F	Time	% R	Analytes																						
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
S0	1.00	1149																X									
S0.2	1.00	1154																X									
S1.0	1.00	1158																X									
S2.0	1.00	1202																X									
S5.0	1.00	1207																X									
ICV	2.00	1215																X									
ICB	1.00	1219																X									
CCV	1.00	1224																X									
CCB	1.00	1228																X									
ZZZZZZ	1.00	1232																									
ZZZZZZ	1.00	1237																									
ZZZZZZ	1.00	1241																									
ZZZZZZ	1.00	1245																									
ZZZZZZ	1.00	1250																									
ZZZZZZ	1.00	1254																									
ZZZZZZ	1.00	1258																									
ZZZZZZ	1.00	1303																									
ZZZZZZ	1.00	1307																									
ZZZZZZ	1.00	1311																									
CCV	1.00	1316																X									
CCB	1.00	1320																X									
ZZZZZZ	1.00	1324																									
ZZZZZZ	1.00	1329																									
ZZZZZZ	1.00	1333																									
ZZZZZZ	1.00	1337																									
ZZZZZZ	1.00	1341																									
ZZZZZZ	1.00	1346																									
ZZZZZZ	1.00	1350																									
CCV	1.00	1354																X									
CCB	1.00	1359																X									
ZZZZZZ	1.00	1403																									
ZZZZZZ	1.00	1407																									

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ANALYSIS RUN LOG

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

Lab Code: SKINER Case No.: N2-08-148SAS No.: SDG No.: B075G

Instrument ID Number: M3 Method: CV

Start date: 09/09/92 End date: 09/09/92

EPA Sample No.	D/F	Time	% R	Analytes																							
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
ZZZZZZ	1.00	1412																									
ZZZZZZ	1.00	1416																									
ZZZZZZ	1.00	1420																									
ZZZZZZ	1.00	1425																									
ZZZZZZ	1.00	1429																									
ZZZZZZ	1.00	1433																									
CCV	1.00	1438																X									
CCB	1.00	1442																X									
ZZZZZZ	1.00	1446																									
ZZZZZZ	1.00	1451																									
ZZZZZZ	1.00	1455																									
ZZZZZZ	1.00	1459																									
ZZZZZZ	1.00	1503																									
ZZZZZZ	1.00	1508																									
ZZZZZZ	1.00	1512																									
ZZZZZZ	1.00	1516																									
ZZZZZZ	1.00	1521																									
ZZZZZZ	1.00	1525																									
CCV	1.00	1529																X									
CCB	1.00	1534																X									
ZZZZZZ	1.00	1538																									
ZZZZZZ	1.00	1542																									
CCV	1.00	1547																X									
CCB	1.00	1551																X									
PBS	1.00	1555																X									
LCSS	10.00	1600																X									
B075G8	1.00	1604																X									
B075G9	1.00	1608																X									
B075M7	1.00	1613																X									
B075M8	1.00	1617																X									
B075M9	1.00	1621																X									
B075M9D	1.00	1625																X									

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ANALYSIS RUN LOG

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

Lab Code: SKINER Case No.: N2-08-148SAS No.: SDG No.: B075G7

Instrument ID Number: M3 Method: CV

Start date: 09/09/92 End date: 09/09/92

EPA Sample No.	D/F	Time	% R	Analytes																							
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
B075M9S	1.00	1630																X									
CCV	1.00	1634																X									
CCB	1.00	1638																X									

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ANALYSIS RUN LOG

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

Lab Code: SKINER Case No.: N2-08-148SAS No.: SDG No.: B075G8

Instrument ID Number: F2 Method: F

Start date: 10/25/92 End date: 10/25/92

EPA Sample No.	D/F	Time	% R	Analytes																							
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
S0	1.00	1931													X												
S3	1.00	1936													X												
S50	1.00	1940													X												
S100	1.00	1944													X												
ICV	2.00	1950													X												
ICB	1.00	1954													X												
CRA	1.00	1958													X												
CCV	1.00	2002													X												
CCB	1.00	2007													X												
PBS	1.00	2011													X												
PBSA	1.00	2015	97.3												X												
ZZZZZZ	5.00	2019																									
ZZZZZZ	5.00	2024																									
LCSS	20.00	2028													X												
LCSSA	20.00	2032	85.5												X												
B075G8	1.00	2037													X												
B075G8A	1.00	2041	107.4												X												
B075G9	1.00	2045													X												
B075G9A	1.00	2049	112.4												X												
CCV	1.00	2054													X												
CCB	1.00	2058													X												
B075M7	1.00	2102													X												
B075M7A	1.00	2106	102.5												X												
B075M8	1.00	2111													X												
B075M8A	1.00	2115	401.9												X												
B075M9	1.00	2119													X												
B075M9A	1.00	2123	105.3												X												
B075M9D	1.00	2128													X												
B075M9DA	1.00	2132	105.1												X												
B075M9S	1.00	2136													X												
ZZZZZZ	1.00	2140																									
CCV	1.00	2145													X												

WESTINGHOUSE/HANFORD

14

ANALYSIS RUN LOG

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

Lab Code: SKINER Case No.: N2-08-148SAS No.: SDG No.: B07F08

Instrument ID Number: F2 Method: F

Start date: 10/25/92 End date: 10/25/92

EPA Sample No.	D/F	Time	% R	Analytes																							
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
CCB	1.00	2149													X												

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WESTINGHOUSE/HANFORD

14

ANALYSIS RUN LOG

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

Lab Code: SKINER Case No.: N2-08-148 SAS No.: SDG No.: B075G8

Instrument ID Number: F1 Method: F

Start date: 10/26/92 End date: 10/26/92

EPA Sample No.	D/F	Time	% R	Analytes																							
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
S0	1.00	0835				X																					
S10	1.00	0840				X																					
S50	1.00	0845				X																					
S100	1.00	0850				X																					
ICV	1.00	0857				X																					
ICB	1.00	0902				X																					
CRA	1.00	0907				X																					
CCV	1.00	0912				X																					
CCB	1.00	0918				X																					
ZZZZZZ	1.00	0923																									
ZZZZZZ	1.00	0928																									
CCV	1.00	0933				X																					
CCB	1.00	0938				X																					
PBS	1.00	0945				X																					
PBSA	1.00	0950	98.8			X																					
ZZZZZZ	5.00	0955																									
ZZZZZZ	5.00	1000																									
ZZZZZZ	1.00	1005																									
LCSS	200.00	1010				X																					
LCSSA	200.00	1016	90.1			X																					
ZZZZZZ	1.00	1021																									
B075G8	1.00	1026				X																					
B075G8A	1.00	1031	91.0			X																					
CCV	1.00	1036				X																					
CCB	1.00	1041				X																					
B075G9	1.00	1046				X																					
B075G9A	1.00	1051	94.9			X																					
B075M7	1.00	1056				X																					
B075M7A	1.00	1101	92.9			X																					
B075M8	1.00	1107				X																					
B075M8A	1.00	1112	91.3			X																					
B075M9	1.00	1117				X																					

WESTINGHOUSE/HANFORD

14

ANALYSIS RUN LOG

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

Lab Code: SKINER Case No.: N2-08-148SAS No.: SDG No.: B075[illegible]

Instrument ID Number: F1 Method: F

Start date: 10/26/92 End date: 10/26/92

EPA Sample No.	D/F	Time	% R	Analytes																							
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
B075M9A	1.00	1122	93.4			X																					
B075M9S	1.00	1127				X																					
ZZZZZZ	1.00	1132																									
CCV	1.00	1137				X																					
CCB	1.00	1142				X																					
B075M9D	1.00	1147				X																					
B075M9DA	1.00	1153	97.2			X																					
ZZZZZZ	1.00	1210																									
ZZZZZZ	1.00	1215																									
CCV	1.00	1220				X																					
CCB	1.00	1225				X																					

WESTINGHOUSE/HANFORD

14

ANALYSIS RUN LOG

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

Lab Code: SKINER Case No.: N2-08-148SAS No.: SDG No.: B075G8

Instrument ID Number: F1 Method: F

Start date: 10/26/92 End date: 10/26/92

EPA Sample No.	D/F	Time	% R	Analytes																							
				AL	SS	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
S0	1.00	0835																			X						
S5	1.00	0840																			X						
S50	1.00	0845																			X						
S100	1.00	0850																			X						
ICV	1.00	0857																			X						
ICB	1.00	0902																			X						
CRA	1.00	0907																			X						
CCV	1.00	0912																			X						
CCB	1.00	0918																			X						
ZZZZZZ	1.00	0923																									
ZZZZZZ	1.00	0928																									
CCV	1.00	0933																			X						
CCB	1.00	0938																			X						
PBS	1.00	0945																									
PBSA	1.00	0950	133.6																								
LCSS	5.00	0955																			X						
LCSSA	5.00	1000	77.7																		X						
ZZZZZZ	1.00	1005																									
ZZZZZZ	200.00	1010																									
ZZZZZZ	200.00	1016																									
ZZZZZZ	1.00	1021																									
B075G8	1.00	1026																			X						
B075G8A	1.00	1031	83.1																		X						
CCV	1.00	1036																			X						
CCB	1.00	1041																			X						
B075G9	1.00	1046																			X						
B075G9A	1.00	1051	85.5																		X						
B075M7	1.00	1056																			X						
B075M7A	1.00	1101	81.8																		X						
B075M8	1.00	1107																			X						
B075M8A	1.00	1112	111.7																		X						
B075M9	1.00	1117																			X						

WESTINGHOUSE/HANFORD

14

ANALYSIS RUN LOG

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

Lab Code: SKINER Case No.: N2-08-148SAS No.: SDG No.: B075G8

Instrument ID Number: F1 Method: F

Start date: 10/26/92 End date: 10/26/92

EPA Sample No.	D/F	Time	% R	Analytes																							
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
B075M9A	1.00	1122	79.4																		X						
B075M9S	1.00	1127																			X						
ZZZZZZ	1.00	1132																									
CCV	1.00	1137																			X						
CCB	1.00	1142																			X						
B075M9D	1.00	1147																									
B075M9DA	1.00	1153	78.7																								
PBS	1.00	1210																			X						
PBSA	1.00	1215	110.5																		X						
CCV	1.00	1220																			X						
CCB	1.00	1225																			X						
B075M9D0	1.00	1228																			X						
B075M9D1	1.00	1231																			X						
B075M9D2	1.00	1234																			X						
B075M9D3	1.00	1236																			X						
B075M9D0	1.00	1240																			X						
B075M9D1	1.00	1243																			X						
B075M9D2	1.00	1246																			X						
B075M9D3	1.00	1248																			X						
CCV	1.00	1251																			X						
CCB	1.00	1254																			X						

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ANALYSIS RUN LOG

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

Lab Code: SKINER Case No.: N2-08-148SAS No.: SDG No.: B075G8

Instrument ID Number: F2 Method: F

Start date: 10/26/92 End date: 10/26/92

EPA Sample No.	D/F	Time	% R	Analytes																							
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
S0	1.00	0930																						X			
S10	1.00	0935																						X			
S50	1.00	0939																						X			
S100	1.00	0943																						X			
ICV	2.00	0948																						X			
ICB	1.00	0953																						X			
CRA	1.00	0957																						X			
CCV	1.00	1001																						X			
CCB	1.00	1005																						X			
PBS	1.00	1010																						X			
PBSA	1.00	1014	96.6																					X			
LCSS	5.00	1018																						X			
LCSSA	5.00	1022	93.3																					X			
B075G8	1.00	1027																						X			
B075G8A	1.00	1031	114.5																					X			
B075G9	1.00	1035																						X			
B075G9A	1.00	1039	103.2																					X			
B075M7	1.00	1044																						X			
B075M7A	1.00	1048	90.0																					X			
CCV	1.00	1052																						X			
CCB	1.00	1057																						X			
B075M8	1.00	1101																						X			
B075M8A	1.00	1105	114.5																					X			
B075M9	1.00	1109																						X			
B075M9A	1.00	1114	98.8																					X			
B075M9D	1.00	1118																						X			
B075M9DA	1.00	1122	99.9																					X			
B075M9S	1.00	1126																						X			
ZZZZZZ	1.00	1131																									
ZZZZZZ	1.00	1140																									
ZZZZZZ	1.00	1144																									
CCV	1.00	1148																						X			

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14

ANALYSIS RUN LOG

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

Lab Code: SKINER Case No.: N2-08-148SAS No.: SDG No.: B0750

Instrument ID Number: F2 Method: F

Start date: 10/26/92 End date: 10/26/92

EPA Sample No.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
CCB	1.00	1152																						X			

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ANALYSIS RUN LOG

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

Lab Code: SKINER Case No.: N2-08-148SAS No.: SDG No.: B075G8

Instrument ID Number: P1 Method: P

Start date: 10/26/92 End date: 10/26/92

EPA Sample No.	D/F	Time	% R	Analytes																							
				ALB	SBS	ABA	BBE	CDA	CCA	CRO	COU	CUE	FEB	PBG	MGN	HGI	NIK	SEG	AGA	NAL	TLV	VZN	ZCN
S0	1.00	1329		X	X		X	X	X	X	X	X	X		X	X		X	X		X	X		X	X	
S	1.00	1332		X						X			X		X				X			X				
S	1.00	1334			X		X	X	X		X	X	X			X		X						X	X	
S	1.00	1336																			X					
ICV	1.00	1343		X			X	X	X	X	X	X	X		X	X		X	X		X	X		X	X	
ICV	1.00	1346																								
ICV	1.00	1349			X																					
ICB	1.00	1351		X	X		X	X	X	X	X	X	X		X	X		X	X		X	X		X	X	
ICSA	1.00	1354		X	X		X	X	X	X	X	X	X		X	X		X	X		X	X		X	X	
ICSAB	1.00	1356		X	X		X	X	X	X	X	X	X		X	X		X	X		X	X		X	X	
CRI	1.00	1359			X			X	X		X	X	X			X		X			X			X	X	
CCV	1.00	1401		X	X		X	X	X	X	X	X	X		X	X		X	X		X	X		X	X	
CCB	1.00	1404		X	X		X	X	X	X	X	X	X		X	X		X	X		X	X		X	X	
PBS	1.00	1407		X	X		X	X	X	X	X	X	X		X	X		X	X		X	X		X	X	
LCSS	1.00	1409		X	X		X	X	X	X	X	X	X		X	X		X	X		X	X		X	X	
ZZZZZZ	1.00	1412																								
B075G8	1.00	1415		X	X		X	X	X	X	X	X	X		X	X		X	X		X	X		X	X	
B075G9	1.00	1417		X	X		X	X	X	X	X	X	X		X	X		X	X		X	X		X	X	
B075M7	1.00	1420		X	X		X	X	X	X	X	X	X		X	X		X	X		X	X		X	X	
B075M8	1.00	1422		X	X		X	X	X	X	X	X	X		X	X		X	X		X	X		X	X	
B075M9	1.00	1425		X	X		X	X	X	X	X	X	X		X	X		X	X		X	X		X	X	
B075M9D	1.00	1427		X	X		X	X	X	X	X	X	X		X	X		X	X		X	X		X	X	
B075M9S	1.00	1430			X		X	X	X		X	X	X			X		X			X			X	X	
CCV	1.00	1433		X	X		X	X	X	X	X	X	X		X	X		X	X		X	X		X	X	
CCB	1.00	1435		X	X		X	X	X	X	X	X	X		X	X		X	X		X	X		X	X	
B075M9L	5.00	1438		X	X		X	X	X	X	X	X	X		X	X		X	X		X	X		X	X	
B075M9A	1.00	1440																								
ZZZZZZ	1.00	1443																								
ZZZZZZ	1.00	1445																								
ZZZZZZ	1.00	1448																								
ZZZZZZ	1.00	1451																								
CCV	1.00	1453		X	X		X	X	X	X	X	X	X		X	X		X	X		X	X		X	X	

Received: 08/26/92 10/13/92 13:44:42

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

ATTEN Dan Steurmer

CLIENT HANFORD NOR SAMPLES 2
COMPANY TMA/NORCAL
FACILITY Richmond, CA

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

ATTEN Client Services
PHONE (617) 890-7200

CERTIFIED BY

CONTACT DP

WORK ID N2-08-161
TAKEN BY CLIENT
TRANS FED EX 2521032640
TYPE 1 SOIL
P.O. # N2-08-161
INVOICE under separate cover

SAMPLE IDENTIFICATION		
01	B075H0	
01	B075H0	DUPL
01	B075H0	SPIKE
02	LCSS	

TEST CODES and NAMES used on this workorder

NO3NO2 Nitrate Plus Nitrite

2-24-93 SC

This report is rendered upon all of the following conditions: Skinner & Sherman Laboratories, Inc. retains ownership of this report until associated submitted invoice is satisfied. Expert witness services shall be available in conjunction with this report only if prior notification of this potential requirement was made and accepted, before the analysis. Client will be responsible for Skinner & Sherman costs and consulting fees if our services are required by subpoena or otherwise in legal proceedings. Total liability is limited to the invoice amount. The results listed refer only to tested samples and applicable parameters. Product endorsement is neither inferred nor implied. Skinner & Sherman Laboratories, Inc. will exercise due diligence but will not be responsible for lost or destroyed samples or evidence unless client makes appropriate insurance coverage arrangements. Samples are held for thirty days following issuance of report. Samples will be stored at client's expense, if authorized in writing.

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

Received: 08/26/92 10/13/92 13:44:42

TMA/NORCAL

QUALITY CONTROL

MATRIX SPIKE

Sample ID	Sample Result	Spike Added	Spike Result	% Recovery
S208299-01	<2.47 mg/kg	20.2 mg/kg	22.4 mg/kg	111.0

DUPLICATE

Sample ID	Sample Result	Duplicate Result	Relative % Difference
S208299-01	<2.47 mg/kg	<2.43 mg/kg	not calculable

QUALITY CONTROL SAMPLES

Sample ID	True Value	Found Value	% Recovery
LCS	2.00 mg/L	1.97 mg/L	98.7
Blank	--	<0.25 mg/L	--

2-24-93 JC

TMA
Thermo Analytical Inc.

This report is rendered upon all of the following conditions: Skinner & Sherman Laboratories, Inc. retains ownership of this report until associated submitted invoice is satisfied. Expert witness services shall be available in conjunction with this report only if prior notification of this potential requirement was made and accepted, before the analysis. Client will be responsible for Skinner & Sherman costs and consulting fees if our services are required by subpoena or otherwise in legal proceedings. Total liability is limited to the invoice amount. The results listed refer only to tested samples and applicable parameters. Product endorsement is neither inferred nor implied. Skinner & Sherman Laboratories, Inc. will exercise due diligence but will not be responsible for lost or destroyed samples or evidence unless client makes appropriate insurance coverage arrangements. Samples are held for thirty days following issuance of report. Samples will be stored at client's expense, if authorized in writing.

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

Received: 08/26/92

Test Methodology

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.

This report is rendered upon all of the following conditions: Skinner & Sherman Laboratories, Inc. retains ownership of this report until associated submitted invoice is satisfied. Expert witness services shall be available in conjunction with this report only if prior notification of this potential requirement was made and accepted, before the analysis. Client will be responsible for Skinner & Sherman costs and consulting fees if our services are required by subpoena or otherwise in legal proceedings. Total liability is limited to the invoice amount. The results listed refer only to tested samples and applicable parameters. Product endorsement is neither inferred nor implied. Skinner & Sherman Laboratories, Inc. will exercise due diligence but will not be responsible for lost or destroyed samples or evidence unless client makes appropriate insurance coverage arrangements. Samples are held for thirty days following issuance of report. Samples will be stored at client's expense, if authorized in writing.

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

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

Working Copies

EPA SAMPLE NO. 000005

B075G8

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208050-01A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 20827R08

Level: (low/med) LOW Date Received: 08/24/92

% Moisture: not dec. 2 Date Analyzed: 08/27/92

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

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

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

CAS NO.	COMPOUND		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	10	U
67-64-1	Acetone	11	~~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	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

000006

EPA SAMPLE NO.

B075G8

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208050-01A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 20827R08

Level: (low/med) LOW Date Received: 08/24/92

% Moisture: not dec. 2 Date Analyzed: 08/27/92

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.

B075G9

ab Name: TMA/ARLI Contract: WHC

ab Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

atrix: (soil/water) SOIL Lab Sample ID: A208050-02A

ample wt/vol: 5.0 (g/mL) G Lab File ID: 20827R09

evel: (low/med) LOW Date Received: 08/24/92

Moisture: not dec. 5 Date Analyzed: 08/27/92

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	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	11	U
67-64-1	Acetone	13	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	2	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

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B075G9

.b Name: TMA/ARLI Contract: WHC

.b Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

.trix: (soil/water) SOIL Lab Sample ID: A208050-02A

.mple wt/vol: 5.0 (g/mL) G Lab File ID: 20827809

.evel: (low/med) LOW Date Received: 08/24/92

Moisture: not dec. 5 Date Analyzed: 08/27/92

: 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

000000

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B075H0

ab Name: TMA/ARLI Contract: WHC

ab Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

atrix: (soil/water) SOIL Lab Sample ID: A208050-06A

ample wt/vol: 5.0 (g/mL) G Lab File ID: 20827R13

evel: (low/med) LOW Date Received: 08/25/92

Moisture: not dec. 15 Date Analyzed: 08/27/92

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	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	12	U
67-64-1	Acetone	13	B
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	6	J
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

000010

EPA SAMPLE NO.

B075H0

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

b Name: TMA/ARLI Contract: WHC

b Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

trix: (soil/water) SOIL Lab Sample ID: A208050-06A

mple wt/vol: 5.0 (g/mL) G Lab File ID: 20827R13

vel: (low/med) LOW Date Received: 08/25/92

Moisture: not dec. 15 Date Analyzed: 08/27/92

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

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

umber 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.

B075M7

ab Name: TMA/ARLI Contract: WHC

ab Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

atrix: (soil/water) SOIL Lab Sample ID: A208050-03A

ample wt/vol: 5.0 (g/mL) G Lab File ID: 20827R10

evel: (low/med) LOW Date Received: 08/24/92

Moisture: not dec. 1 Date Analyzed: 08/27/92

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	10	U
67-64-1	Acetone	11	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	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BO[illegible]5[illegible]7

ab Name: TMA/ARLI Contract: WHC

ab Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

atrix: (soil/water) SOIL Lab Sample ID: A208250[illegible]23A

ample wt/vol: 5.0 (g/mL) G Lab File ID: 20827810

evel: (low/med) LOW Date Received: 08/24/92

Moisture: not dec. 1 Date Analyzed: 08/27/92

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

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B075048

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208050-04A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 20827R11

Level: (low/med) LOW Date Received: 08/24/92

% Moisture: not dec. 1 Date Analyzed: 08/27/92

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	2	J
67-64-1	Acetone	10	BJ
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	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B07500

ıb Name: TMA/ARLI Contract: WHC

ıb Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

ıtrix: (soil/water) SOIL Lab Sample ID: A208050-04A

ımple wt/vol: 5.0 (g/mL) G Lab File ID: 20827RL1

ɜvel: (low/med) LOW Date Received: 08/24/92

Moisture: not dec. 1 Date Analyzed: 08/27/92

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

ɔil 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.

B07[illegible]49

ab Name: TMA/ARLI Contract: WHC

ab Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

atrix: (soil/water) SOIL Lab Sample ID: A208050-05A

ample wt/vol: 5.0 (g/mL) G Lab File ID: 208[illegible]312

evel: (low/med) LOW Date Received: 08/24/92

Moisture: not dec. 12 Date Analyzed: 08/27/92

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	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	11	U
67-64-1	Acetone	12	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	11	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

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BC75M9

ab Name: TMA/ARLI Contract: WHC

ab Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

atrix: (soil/water) SOIL Lab Sample ID: A208250-05A

ample wt/vol: 5.0 (g/mL) G Lab File ID: 20827R12

evel: (low/med) LOW Date Received: 08/24/92

Moisture: not dec. 12 Date Analyzed: 08/27/92

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

oil 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	29.50	26	J

000017

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07SN0

ab Name: TMA/ARLI Contract: WHC

ab Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

atrix: (soil/water) SOIL Lab Sample ID: A208050-07A

ample wt/vol: 5.0 (g/mL) G Lab File ID: 20827R14

evel: (low/med) LOW Date Received: 08/25/91

Moisture: not dec. 0 Date Analyzed: 08/27/92

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	10	U
67-64-1	Acetone	13	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	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

000018
EPA SAMPLE NO.

B075N0

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208050-07A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 20827R14

Level: (low/med) LOW Date Received: 08/25/91

% Moisture: not dec. 0 Date Analyzed: 08/27/92

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. 64-17-5	ETHANOL	3.50	8	J

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B075G3

.b Name: TMA/ARLI Contract: WHC

.b Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

.trix: (soil/water) SOIL Lab Sample ID: A2080[illegible]-01D

.mple wt/vol: 30.6 (g/mL) G Lab File ID: 20902S03

.vel: (low/med) LOW Date Received: 08/24/92

Moisture: 2 decanted: (Y/N) N Date Extracted: 08/26/92

.ncentrated Extract Volume: 500.0 (uL) Date Analyzed: 09/02/92

.jection Volume: 2.0(uL) Dilution Factor: 1.0

.C Cleanup: (Y/N) Y pH: 9.4

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	330	U
111-44-4	bis(2-Chloroethyl)Ether	330	U
95-57-8	2-Chlorophenol	330	U
541-73-1	1,3-Dichlorobenzene	330	U
106-46-7	1,4-Dichlorobenzene	330	U
95-50-1	1,2-Dichlorobenzene	330	U
95-48-7	2-Methylphenol	330	U
108-60-1	2,2'-oxybis(1-Chloropropane)	330	U
106-44-5	4-Methylphenol	330	U
621-64-7	N-Nitroso-Di-n-Propylamine	330	U
67-72-1	Hexachloroethane	330	U
98-95-3	Nitrobenzene	330	U
78-59-1	Isophorone	330	U
88-75-5	2-Nitrophenol	330	U
105-67-9	2,4-Dimethylphenol	330	U
111-91-1	bis(2-Chloroethoxy)Methane	330	U
120-83-2	2,4-Dichlorophenol	330	U
120-82-1	1,2,4-Trichlorobenzene	330	U
91-20-3	Naphthalene	330	U
106-47-8	4-Chloroaniline	330	U
87-68-3	Hexachlorobutadiene	330	U
59-50-7	4-Chloro-3-Methylphenol	330	U
91-57-6	2-Methylnaphthalene	330	U
77-47-4	Hexachlorocyclopentadiene	330	U
88-06-2	2,4,6-Trichlorophenol	330	U
95-95-4	2,4,5-Trichlorophenol	800	U
91-58-7	2-Chloronaphthalene	330	U
88-74-4	2-Nitroaniline	800	U
131-11-3	Dimethylphthalate	330	U
208-96-8	Acenaphthylene	330	U
99-09-2	3-Nitroaniline	800	U
83-32-9	Acenaphthene	330	U
51-28-5	2,4-Dinitrophenol	800	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07[illegible]8

b Name: TMA/ARLI Contract: WHC

b Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: [illegible]

trix: (soil/water) SOIL Lab Sample ID: A20[illegible]-01D

mple wt/vol: 30.6 (g/mL) G Lab File ID: 20902S03

vel: (low/med) LOW Date Received: 08/24/92

Moisture: 2 decanted: (Y/N) N Date Extracted: 08/26/92

ncentrated Extract Volume: 500.0 (uL) Date Analyzed: 09/02/92

jection Volume: 2.0(uL) Dilution Factor: 1.0

C Cleanup: (Y/N) Y pH: 9.4

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-02-7	4-Nitrophenol	800	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	36	J
7005-72-3	4-Chlorophenyl-phenylether	330	U
86-73-7	Fluorene	330	U
100-01-6	4-Nitroaniline	800	U
534-52-1	4,6-Dinitro-2-methylphenol	800	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	800	U
85-01-8	Phenanthrene	330	U
120-12-7	Anthracene	330	U
86-74-8	Carbazole	330	U
84-74-2	Di-n-Butylphthalate	330 190	~~BU~~
206-44-0	Fluoranthene	330	U
129-00-0	Pyrene	330	U
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	73	J
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

000021
EPA SAMPLE NO.

B075G8

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

.b Name: TMA/ARLI Contract: WHC

.b Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

:trix: (soil/water) SOIL Lab Sample ID: A208050-01D

:mple wt/vol: 30.6 (g/mL) G Lab File ID: 20902S03

:vel: (low/med) LOW Date Received: 08/24/92

Moisture: 2 decanted: (Y/N) N Date Extracted: 08/26/92

:ncentrated Extract Volume: 500.0 (uL) Date Analyzed: 09/02/92

:jection Volume: 2.0(uL) Dilution Factor: 1.0

:C Cleanup: (Y/N) Y pH: 9.4

:mber TICs found: 19 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	5.20	2500	BJ
2.	UNKNOWN HYDROCARBON	5.65	61000	BJ
3.	UNKNOWN HYDROCARBON	6.63	170	BJ
4.	UNKNOWN HYDROCARBON	6.73	700	BJ
5.	UNKNOWN KETONE	7.05	100	BJ
6.	UNKNOWN COMPOUND	7.15	500	BJ
7.	UNKNOWN HYDROCARBON	7.23	130	J
8.	UNKNOWN ALCOHOL	8.40	970	BJ
9.	TETRAMETHYL PHENOL ISOMER	18.58	67	J
10.	NONYLPHENOL ISOMER	18.68	170	J
11.	TETRAMETHYL PHENOL ISOMER	18.77	100	J
12.	NONYLPHENOL ISOMER	19.03	100	J
13.	TETRAMETHYL PHENOL ISOMER	19.15	130	J
14.	NONYLPHENOL ISOMER	19.23	67	J
15.	HEXANEDIOIC ACID ISOMER	24.77	200	BJ
16.	UNKNOWN HYDROCARBON	28.55	67	J
17.	UNKNOWN COMPOUND	29.23	230	J
18.	UNKNOWN HYDROCARBON	30.57	67	J
19.	UNKNOWN HYDROCARBON	32.02	1900	J

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07569

) Name: TMA/ARLI Contract: WHC

) Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

:rix: (soil/water) SOIL Lab Sample ID: A208050-02B

ıple wt/vol: 30.9 (g/mL) G Lab File ID: 20902S04

/el: (low/med) LOW Date Received: 08/24/92

foisture: 5 decanted: (Y/N) N Date Extracted: 08/26/92

ıcentrated Extract Volume: 500.0 (uL) Date Analyzed: 09/02/92

)ection Volume: 2.0(uL) Dilution Factor: 1.0

: Cleanup: (Y/N) Y pH: 9.5

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	340	U
111-44-4	bis(2-Chloroethyl)Ether	340	U
95-57-8	2-Chlorophenol	340	U
541-73-1	1,3-Dichlorobenzene	340	U
106-46-7	1,4-Dichlorobenzene	340	U
95-50-1	1,2-Dichlorobenzene	340	U
95-48-7	2-Methylphenol	340	U
108-60-1	2,2'-oxybis(1-Chloropropane)	340	U
106-44-5	4-Methylphenol	340	U
621-64-7	N-Nitroso-Di-n-Propylamine	340	U
67-72-1	Hexachloroethane	340	U
98-95-3	Nitrobenzene	340	U
78-59-1	Isophorone	340	U
88-75-5	2-Nitrophenol	340	U
105-67-9	2,4-Dimethylphenol	340	U
111-91-1	bis(2-Chloroethoxy)Methane	340	U
120-83-2	2,4-Dichlorophenol	340	U
120-82-1	1,2,4-Trichlorobenzene	340	U
91-20-3	Naphthalene	340	U
106-47-8	4-Chloroaniline	340	U
87-68-3	Hexachlorobutadiene	340	U
59-50-7	4-Chloro-3-Methylphenol	340	U
91-57-6	2-Methylnaphthalene	340	U
77-47-4	Hexachlorocyclopentadiene	340	U
88-06-2	2,4,6-Trichlorophenol	340	U
95-95-4	2,4,5-Trichlorophenol	820	U
91-58-7	2-Chloronaphthalene	340	U
88-74-4	2-Nitroaniline	820	U
131-11-3	Dimethylphthalate	340	U
208-96-8	Acenaphthylene	340	U
99-09-2	3-Nitroaniline	820	U
83-32-9	Acenaphthene	340	U
51-28-5	2,4-Dinitrophenol	820	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0F5G0

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208050-02B

Sample wt/vol: 30.9 (g/mL) G Lab File ID: 20902S04

Level: (low/med) LOW Date Received: 08/24/92

% Moisture: 5 decanted: (Y/N) N Date Extracted: 08/26/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 09/02/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.5

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-02-7	4-Nitrophenol	820	U
132-64-9	Dibenzofuran	340	U
121-14-2	2,4-Dinitrotoluene	340	U
606-20-2	2,6-Dinitrotoluene	340	U
84-66-2	Diethylphthalate	340	
7005-72-3	4-Chlorophenyl-phenylether	340	U
86-73-7	Fluorene	340	U
100-01-6	4-Nitroaniline	820	U
534-52-1	4,6-Dinitro-2-methylphenol	820	U
86-30-6	N-Nitrosodiphenylamine (1)	340	U
101-55-3	4-Bromophenyl-phenylether	340	U
118-74-1	Hexachlorobenzene	340	U
87-86-5	Pentachlorophenol	820	U
85-01-8	Phenanthrene	340	U
120-12-7	Anthracene	340	U
86-74-8	Carbazole	340	U
84-74-2	Di-n-Butylphthalate	430	B
206-44-0	Fluoranthene	340	U
129-00-0	Pyrene	340	U
85-68-7	Butylbenzylphthalate	340	U
91-94-1	3,3'-Dichlorobenzidine	340	U
56-55-3	Benzo(a)Anthracene	340	U
117-81-7	bis(2-Ethylhexyl)Phthalate	340	U
218-01-9	Chrysene	340	U
117-84-0	Di-n-Octyl Phthalate	340	U
205-99-2	Benzo(b)Fluoranthene	340	U
207-08-9	Benzo(k)Fluoranthene	340	U
50-32-8	Benzo(a)Pyrene	340	U
193-39-5	Indeno(1,2,3-cd)Pyrene	340	U
53-70-3	Dibenz(a,h)Anthracene	340	U
191-24-2	Benzo(g,h,i)Perylene	340	U

(1) - Cannot be separated from Diphenylamine

000024
EPA SAMPLE NO.

B075G9

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

.b Name: TMA/ARLI Contract: WHC

.b Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

.trix: (soil/water) SOIL Lab Sample ID: A208050-02B

.mple wt/vol: 30.9 (g/mL) G Lab File ID: 20902S04

.vel: (low/med) LOW Date Received: 08/24/92

Moisture: 5 decanted: (Y/N) N Date Extracted: 08/26/92

.oncentrated Extract Volume: 500.0 (uL) Date Analyzed: 09/02/92

.jection Volume: 2.0(uL) Dilution Factor: 1.0

PC Cleanup: (Y/N) Y pH: 9.5

.mber TICs found: 8

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	5.23	2100	BJ
2.	UNKNOWN HYDROCARBON	5.67	69000	BJ
3.	UNKNOWN HYDROCARBON	6.63	200	BJ
4.	UNKNOWN HYDROCARBON	6.73	920	BJ
5.	UNKNOWN KETONE	7.05	100	BJ
6.	UNKNOWN COMPOUND	7.15	440	BJ
7.	UNKNOWN HYDROCARBON	7.25	140	J
8.	HEXANEDIOIC ACID ISOMER	24.77	240	BJ

000025

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B075H0

ıb Name: TMA/ARLI Contract: WHC

ıb Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

ıtrix: (soil/water) SOIL Lab Sample ID: A208050-06B

ımple wt/vol: 30.4 (g/mL) G Lab File ID: 20902S09

ıvel: (low/med) LOW Date Received: 08/25/92

Moisture: 15 decanted: (Y/N) N Date Extracted: 08/26/92

ɔncentrated Extract Volume: 500.0 (uL) Date Analyzed: 09/02/92

ıjection Volume: 2.0(uL) Dilution Factor: 1.0

ᴾC Cleanup: (Y/N) Y pH: 8.9

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	380	U
111-44-4	bis(2-Chloroethyl)Ether	380	U
95-57-8	2-Chlorophenol	380	U
541-73-1	1,3-Dichlorobenzene	380	U
106-46-7	1,4-Dichlorobenzene	380	U
95-50-1	1,2-Dichlorobenzene	380	U
95-48-7	2-Methylphenol	380	U
108-60-1	2,2'-oxybis(1-Chloropropane)	380	U
106-44-5	4-Methylphenol	380	U
621-64-7	N-Nitroso-Di-n-Propylamine	380	U
67-72-1	Hexachloroethane	380	U
98-95-3	Nitrobenzene	380	U
78-59-1	Isophorone	380	U
88-75-5	2-Nitrophenol	380	U
105-67-9	2,4-Dimethylphenol	380	U
111-91-1	bis(2-Chloroethoxy)Methane	380	U
120-83-2	2,4-Dichlorophenol	380	U
120-82-1	1,2,4-Trichlorobenzene	380	U
91-20-3	Naphthalene	380	U
106-47-8	4-Chloroaniline	380	U
87-68-3	Hexachlorobutadiene	380	U
59-50-7	4-Chloro-3-Methylphenol	380	U
91-57-6	2-Methylnaphthalene	380	U
77-47-4	Hexachlorocyclopentadiene	380	U
88-06-2	2,4,6-Trichlorophenol	380	U
95-95-4	2,4,5-Trichlorophenol	930	U
91-58-7	2-Chloronaphthalene	380	U
88-74-4	2-Nitroaniline	930	U
131-11-3	Dimethylphthalate	380	U
208-96-8	Acenaphthylene	380	U
99-09-2	3-Nitroaniline	930	U
83-32-9	Acenaphthene	380	U
51-28-5	2,4-Dinitrophenol	930	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E07510

ab Name: TMA/ARLI Contract: WHC

ab Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

atrix: (soil/water) SOIL Lab Sample ID: A208050-06B

ample wt/vol: 30.4 (g/mL) G Lab File ID: 20902S09

evel: (low/med) LOW Date Received: 08/25/92

Moisture: 15 decanted: (Y/N) N Date Extracted: 08/26/92

oncentrated Extract Volume: 500.0 (uL) Date Analyzed: 09/02/92

njection Volume: 2.0(uL) Dilution Factor: 1.0

PC Cleanup: (Y/N) Y pH: 8.9

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-02-7	4-Nitrophenol	930	U
132-64-9	Dibenzofuran	380	U
121-14-2	2,4-Dinitrotoluene	380	U
606-20-2	2,6-Dinitrotoluene	380	U
84-66-2	Diethylphthalate	380	U
7005-72-3	4-Chlorophenyl-phenylether	380	U
86-73-7	Fluorene	380	U
100-01-6	4-Nitroaniline	930	U
534-52-1	4,6-Dinitro-2-methylphenol	930	U
86-30-6	N-Nitrosodiphenylamine (1)	380	U
101-55-3	4-Bromophenyl-phenylether	380	U
118-74-1	Hexachlorobenzene	380	U
87-86-5	Pentachlorophenol	930	U
85-01-8	Phenanthrene	380	U
120-12-7	Anthracene	380	U
86-74-8	Carbazole	380	U
84-74-2	Di-n-Butylphthalate	~~230~~	BJ
206-44-0	Fluoranthene	380	U
129-00-0	Pyrene	380	U
85-68-7	Butylbenzylphthalate	380	U
91-94-1	3,3'-Dichlorobenzidine	380	U
56-55-3	Benzo(a)Anthracene	380	U
117-81-7	bis(2-Ethylhexyl)Phthalate	380	U
218-01-9	Chrysene	380	U
117-84-0	Di-n-Octyl Phthalate	380	U
205-99-2	Benzo(b)Fluoranthene	380	U
207-08-9	Benzo(k)Fluoranthene	380	U
50-32-8	Benzo(a)Pyrene	380	U
193-39-5	Indeno(1,2,3-cd)Pyrene	380	U
53-70-3	Dibenz(a,h)Anthracene	380	U
191-24-2	Benzo(g,h,i)Perylene	380	U

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
B07[illegible]

b Name: TMA/ARLI Contract: WHC

b Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

trix: (soil/water) SOIL Lab Sample ID: A208050-06B

mple wt/vol: 30.4 (g/mL) G Lab File ID: 20902S09

vel: (low/med) LOW Date Received: 08/25/92

Moisture: 15 decanted: (Y/N) N Date Extracted: 08/26/92

ncentrated Extract Volume: 500.0 (uL) Date Analyzed: 09/02/92

jection Volume: 2.0(uL) Dilution Factor: 1.0

C Cleanup: (Y/N) Y pH: 8.9

mber TICs found: 13

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	5.18	2300	BJ
2.	UNKNOWN HYDROCARBON	5.63	63000	BJ
3.	UNKNOWN HYDROCARBON	5.72	310	BJ
4.	UNKNOWN COMPOUND	6.05	77	J
5.	UNKNOWN HYDROCARBON	6.63	150	BJ
6.	UNKNOWN HYDROCARBON	6.73	230	BJ
7.	UNKNOWN KETONE	7.03	120	BJ
8.	UNKNOWN COMPOUND	7.15	120	BJ
9.	UNKNOWN HYDROCARBON	7.23	150	J
10.	UNKNOWN ALCOHOL	8.40	310	BJ
11.	UNKNOWN HYDROCARBON	8.65	120	J
12.	UNKNOWN KETONE	8.72	120	J
13.	HEXANEDIOIC ACID ISOMER	24.77	310	BJ

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07[illegible]47

ab Name: TMA/ARLI Contract: WHC

ab Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: [illegible]

atrix: (soil/water) SOIL Lab Sample ID: A208[illegible]

ample wt/vol: 30.3 (g/mL) G Lab File ID: 20902S07

evel: (low/med) LOW Date Received: 08/24/92

Moisture: 1 decanted: (Y/N) N Date Extracted: 08/26/92

oncentrated Extract Volume: 500.0 (uL) Date Analyzed: 09/02/92

njection Volume: 2.0(uL) Dilution Factor: 1.0

PC Cleanup: (Y/N) Y pH: 9.6

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	330	U
95-50-1	1,2-Dichlorobenzene	330	U
95-48-7	2-Methylphenol	330	U
108-60-1	2,2'-oxybis(1-Chloropropane)	330	U
106-44-5	4-Methylphenol	330	U
621-64-7	N-Nitroso-Di-n-Propylamine	330	U
67-72-1	Hexachloroethane	330	U
98-95-3	Nitrobenzene	330	U
78-59-1	Isophorone	330	U
88-75-5	2-Nitrophenol	330	U
105-67-9	2,4-Dimethylphenol	330	U
111-91-1	bis(2-Chloroethoxy)Methane	330	U
120-83-2	2,4-Dichlorophenol	330	U
120-82-1	1,2,4-Trichlorobenzene	330	U
91-20-3	Naphthalene	330	U
106-47-8	4-Chloroaniline	330	U
87-68-3	Hexachlorobutadiene	330	U
59-50-7	4-Chloro-3-Methylphenol	330	U
91-57-6	2-Methylnaphthalene	330	U
77-47-4	Hexachlorocyclopentadiene	330	U
88-06-2	2,4,6-Trichlorophenol	330	U
95-95-4	2,4,5-Trichlorophenol	800	U
91-58-7	2-Chloronaphthalene	330	U
88-74-4	2-Nitroaniline	800	U
131-11-3	Dimethylphthalate	330	U
208-96-8	Acenaphthylene	330	U
99-09-2	3-Nitroaniline	800	U
83-32-9	Acenaphthene	330	U
51-28-5	2,4-Dinitrophenol	800	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07500

b Name: TMA/ARLI Contract: WHC

b Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

trix: (soil/water) SOIL Lab Sample ID: A2080[illegible]-03[illegible]

mple wt/vol: 30.3 (g/mL) G Lab File ID: 2090[illegible]07

vel: (low/med) LOW Date Received: 08/24/92

Moisture: 1 decanted: (Y/N) N Date Extracted: 08/26/92

ncentrated Extract Volume: 500.0 (uL) Date Analyzed: 09/02/92

jection Volume: 2.0(uL) Dilution Factor: 1.0

C Cleanup: (Y/N) Y pH: 9.6

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-02-7	4-Nitrophenol	800	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	800	U
534-52-1	4,6-Dinitro-2-methylphenol	800	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	800	U
85-01-8	Phenanthrene	330	U
120-12-7	Anthracene	330	U
86-74-8	Carbazole	330	U
84-74-2	Di-n-Butylphthalate	720	B
206-44-0	Fluoranthene	330	U
129-00-0	Pyrene	330	U
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	330	U
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

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
B075H7

b Name: TMA/ARLI Contract: WHC

b Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

trix: (soil/water) SOIL Lab Sample ID: A208050-03B

mple wt/vol: 30.3 (g/mL) G Lab File ID: 20902S07

vel: (low/med) LOW Date Received: 08/24/92

Moisture: 1 decanted: (Y/N) N Date Extracted: 08/26/92

ncentrated Extract Volume: 500.0 (uL) Date Analyzed: 09/02/92

jection Volume: 2.0(uL) Dilution Factor: 1.0

C Cleanup: (Y/N) Y pH: 9.6

mber TICs found: 15

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	5.23	2000	BJ
2.	UNKNOWN HYDROCARBON	5.65	62000	BJ
3.	UNKNOWN HYDROCARBON	5.72	200	BJ
4.	UNKNOWN HYDROCARBON	6.20	100	J
5.	UNKNOWN HYDROCARBON	6.63	170	BJ
6.	UNKNOWN HYDROCARBON	6.73	600	BJ
7.	UNKNOWN COMPOUND	6.82	67	J
8.	UNKNOWN KETONE	7.03	100	BJ
9.	UNKNOWN COMPOUND	7.15	300	BJ
10.	UNKNOWN HYDROCARBON	7.23	200	J
11.	UNKNOWN ALCOHOL	8.40	800	BJ
12.	UNKNOWN CARBOXYLIC ACID ESTE	20.22	770	BJ
13.	HEXANEDIOIC ACID ISOMER	24.75	170	BJ
14.	UNKNOWN HYDROCARBON	27.87	67	J
15.	UNKNOWN HYDROCARBON	31.20	170	J

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07519

ɔ Name: TMA/ARLI Contract: WHC

ɔ Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

trix: (soil/water) SOIL Lab Sample ID: A2080S0-05B

mple wt/vol: 30.9 (g/mL) G Lab File ID: 20902S08

vel: (low/med) LOW Date Received: 08/24/92

Moisture: 12 decanted: (Y/N) N Date Extracted: 08/26/92

ncentrated Extract Volume: 500.0 (uL) Date Analyzed: 09/02/92

jection Volume: 2.0(uL) Dilution Factor: 1.0

C Cleanup: (Y/N) Y pH: 9.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	360	U
111-44-4	bis(2-Chloroethyl)Ether	360	U
95-57-8	2-Chlorophenol	360	U
541-73-1	1,3-Dichlorobenzene	360	U
106-46-7	1,4-Dichlorobenzene	360	U
95-50-1	1,2-Dichlorobenzene	360	U
95-48-7	2-Methylphenol	360	U
108-60-1	2,2'-oxybis(1-Chloropropane)	360	U
106-44-5	4-Methylphenol	360	U
621-64-7	N-Nitroso-Di-n-Propylamine	360	U
67-72-1	Hexachloroethane	360	U
98-95-3	Nitrobenzene	360	U
78-59-1	Isophorone	360	U
88-75-5	2-Nitrophenol	360	U
105-67-9	2,4-Dimethylphenol	360	U
111-91-1	bis(2-Chloroethoxy)Methane	360	U
120-83-2	2,4-Dichlorophenol	360	U
120-82-1	1,2,4-Trichlorobenzene	360	U
91-20-3	Naphthalene	360	U
106-47-8	4-Chloroaniline	360	U
87-68-3	Hexachlorobutadiene	360	U
59-50-7	4-Chloro-3-Methylphenol	360	U
91-57-6	2-Methylnaphthalene	360	U
77-47-4	Hexachlorocyclopentadiene	360	U
88-06-2	2,4,6-Trichlorophenol	360	U
95-95-4	2,4,5-Trichlorophenol	880	U
91-58-7	2-Chloronaphthalene	360	U
88-74-4	2-Nitroaniline	880	U
131-11-3	Dimethylphthalate	360	U
208-96-8	Acenaphthylene	360	U
99-09-2	3-Nitroaniline	880	U
83-32-9	Acenaphthene	360	U
51-28-5	2,4-Dinitrophenol	880	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B075M9

ab Name: TMA/ARLI Contract: WHC

ab Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

atrix: (soil/water) SOIL Lab Sample ID: A208050-05B

ample wt/vol: 30.9 (g/mL) G Lab File ID: 20902S08

evel: (low/med) LOW Date Received: 08/24/92

Moisture: 12 decanted: (Y/N) N Date Extracted: 08/26/92

oncentrated Extract Volume: 500.0 (uL) Date Analyzed: 09/02/92

njection Volume: 2.0(uL) Dilution Factor: 1.0

PC Cleanup: (Y/N) Y pH: 9.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-02-7	4-Nitrophenol	880	U
132-64-9	Dibenzofuran	360	U
121-14-2	2,4-Dinitrotoluene	360	U
606-20-2	2,6-Dinitrotoluene	360	U
84-66-2	Diethylphthalate	360	U
7005-72-3	4-Chlorophenyl-phenylether	360	U
86-73-7	Fluorene	360	U
100-01-6	4-Nitroaniline	880	U
534-52-1	4,6-Dinitro-2-methylphenol	880	U
86-30-6	N-Nitrosodiphenylamine (1)	360	U
101-55-3	4-Bromophenyl-phenylether	360	U
118-74-1	Hexachlorobenzene	360	U
87-86-5	Pentachlorophenol	880	U
85-01-8	Phenanthrene	360	U
120-12-7	Anthracene	360	U
86-74-8	Carbazole	360	U
84-74-2	Di-n-Butylphthalate	1200	~~B~~ U
206-44-0	Fluoranthene	360	U
129-00-0	Pyrene	360	U
85-68-7	Butylbenzylphthalate	360	U
91-94-1	3,3'-Dichlorobenzidine	360	U
56-55-3	Benzo(a)Anthracene	360	U
117-81-7	bis(2-Ethylhexyl)Phthalate	360	U
218-01-9	Chrysene	360	U
117-84-0	Di-n-Octyl Phthalate	360	U
205-99-2	Benzo(b)Fluoranthene	360	U
207-08-9	Benzo(k)Fluoranthene	360	U
50-32-8	Benzo(a)Pyrene	360	U
193-39-5	Indeno(1,2,3-cd)Pyrene	360	U
53-70-3	Dibenz(a,h)Anthracene	360	U
191-24-2	Benzo(g,h,i)Perylene	360	U

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
B075M9

ab Name: TMA/ARLI Contract: WHC

ab Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

atrix: (soil/water) SOIL Lab Sample ID: A208050-05E

ample wt/vol: 30.9 (g/mL) G Lab File ID: 20902S08

evel: (low/med) LOW Date Received: 08/24/92

Moisture: 12 decanted: (Y/N) N Date Extracted: 08/26/92

oncentrated Extract Volume: 500.0 (uL) Date Analyzed: 09/02/92

njection Volume: 2.0(uL) Dilution Factor: 1.0

PC Cleanup: (Y/N) Y pH: 9.0

umber TICs found: 10

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	5.20	1900	BJ
2.	UNKNOWN HYDROCARBON	5.65	70000	BJ
3.	UNKNOWN HYDROCARBON	5.70	150	BJ
4.	UNKNOWN HYDROCARBON	6.63	180	BJ
5.	UNKNOWN HYDROCARBON	6.73	740	BJ
6.	UNKNOWN KETONE	7.03	110	BJ
7.	UNKNOWN COMPOUND	7.15	520	BJ
8.	UNKNOWN HYDROCARBON	7.23	150	J
9.	UNKNOWN ALCOHOL	8.40	880	BJ
10.	HEXANEDIOIC ACID ISOMER	24.75	290	BJ

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07[illegible]

Name: TMA/ARLI Contract: WHC

Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: [illegible]

Matrix: (soil/water) SOIL Lab Sample ID: A20[illegible]

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

Moisture: 2 decanted: (Y/N) N Date Received: 08/24/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 08/26/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 09/10/92

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 9.4 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

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07509

b Name: TMA/ARLI Contract: WHC

b Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

trix: (soil/water) SOIL Lab Sample ID: A208050-02B

mple wt/vol: 30.5 (g/mL) G Lab File ID:

Moisture: 5 decanted: (Y/N) N Date Received: 08/24/92

traction: (SepF/Cont/Sonc) SONC Date Extracted: 08/26/92

ncentrated Extract Volume: 5000 (uL) Date Analyzed: 09/10/92

jection Volume: 1.00 (uL) Dilution Factor: 1.00

C Cleanup: (Y/N) Y pH: 9.5 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	1.8	U
319-85-7	beta-BHC	1.8	U
319-86-8	delta-BHC	1.8	U
58-89-9	gamma-BHC (Lindane)	1.8	U
76-44-8	Heptachlor	1.8	U
309-00-2	Aldrin	1.8	U
1024-57-3	Heptachlor epoxide	1.8	U
959-98-8	Endosulfan I	1.8	U
60-57-1	Dieldrin	3.4	U
72-55-9	4,4'-DDE	3.4	U
72-20-8	Endrin	3.4	U
33213-65-9	Endosulfan II	3.4	U
72-54-8	4,4'-DDD	3.4	U
1031-07-8	Endosulfan sulfate	3.4	U
50-29-3	4,4'-DDT	3.4	U
72-43-5	Methoxychlor	18	U
53494-70-5	Endrin ketone	3.4	U
7421-36-3	Endrin aldehyde	3.4	U
5103-71-9	alpha-Chlordane	1.8	U
5103-74-2	gamma-Chlordane	1.8	U
8001-35-2	Toxaphene	180	U
12674-11-2	Aroclor-1016	34	U
11104-28-2	Aroclor-1221	69	U
11141-16-5	Aroclor-1232	34	U
53469-21-9	Aroclor-1242	34	U
12672-29-6	Aroclor-1248	34	U
11097-69-1	Aroclor-1254	34	U
11096-82-5	Aroclor-1260	34	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07 5HC

o Name: TMA/ARLI Contract: WHC

o Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

trix: (soil/water) SOIL Lab Sample ID: A208050-06B

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

Moisture: 15 decanted: (Y/N) N Date Received: 08/25/92

traction: (SepF/Cont/Sonc) SONC Date Extracted: 08/26/92

ncentrated Extract Volume: 5000 (uL) Date Analyzed: 09/10/92

jection Volume: 1.00 (uL) Dilution Factor: 1.00

C Cleanup: (Y/N) Y pH: 8.9 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	2.0	U
319-85-7	beta-BHC	2.0	U
319-86-8	delta-BHC	2.0	U
58-89-9	gamma-BHC (Lindane)	2.0	U
76-44-8	Heptachlor	2.0	U
309-00-2	Aldrin	2.0	U
1024-57-3	Heptachlor epoxide	2.0	U
959-98-8	Endosulfan I	2.0	U
60-57-1	Dieldrin	3.8	U
72-55-9	4,4'-DDE	3.8	U
72-20-8	Endrin	3.8	U
33213-65-9	Endosulfan II	3.8	U
72-54-8	4,4'-DDD	3.8	U
1031-07-8	Endosulfan sulfate	3.8	U
50-29-3	4,4'-DDT	3.8	U
72-43-5	Methoxychlor	20	U
53494-70-5	Endrin ketone	3.8	U
7421-36-3	Endrin aldehyde	3.8	U
5103-71-9	alpha-Chlordane	2.0	U
5103-74-2	gamma-Chlordane	2.0	U
8001-35-2	Toxaphene	200	U
12674-11-2	Aroclor-1016	38	U
11104-28-2	Aroclor-1221	77	U
11141-16-5	Aroclor-1232	38	U
53469-21-9	Aroclor-1242	38	U
12672-29-6	Aroclor-1248	38	U
11097-69-1	Aroclor-1254	38	U
11096-82-5	Aroclor-1260	38	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07517

b Name: TMA/ARLI Contract: WHC

b Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

trix: (soil/water) SOIL Lab Sample ID: A208050-038

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

Moisture: 1 decanted: (Y/N) N Date Received: 08/24/92

traction: (SepF/Cont/Sonc) SONC Date Extracted: 08/26/92

ncentrated Extract Volume: 5000 (uL) Date Analyzed: 09/10/92

jection Volume: 1.00 (uL) Dilution Factor: 1.00

C Cleanup: (Y/N) Y pH: 9.6 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	66	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

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07SM5

) Name: TMA/ARLI Contract: WHC

) Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

.rix: (soil/water) SOIL Lab Sample ID: A208050-05B

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

oisture: 12 decanted: (Y/N) N Date Received: 08/24/92

.raction: (SepF/Cont/Sonc) SONC Date Extracted: 08/26/92

centrated Extract Volume: 5000 (uL) Date Analyzed: 09/10/92

ection Volume: 1.00 (uL) Dilution Factor: 1.00

: Cleanup: (Y/N) Y pH: 9.0 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	75	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

2B
SOIL VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

ɔ Name: TMA/ARLI Contract: WHC

ɔ Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

/el:(low/med) LOW

	EPA SAMPLE NO.	SMC1 (TOL) #	SMC2 (BFB) #	SMC3 (DCE) #	OTHER	TOT OUT
01	B075G8	101	103	95	0	0
02	B075G9	97	97	99	0	0
03	B075H0	98	105	97	0	0
04	B075M7	103	105	99	0	0
05	B075M8	98	97	98	0	0
06	B075M9	93	99	92	0	0
07	B075N0	97	100	96	0	0
08	B075N0MS	98	105	95	0	0
09	B075N0MSD	99	108	98	0	0
10	VBLK0827R1	98	101	97	0	0

		QC LIMITS
SMC1 (TOL)	= Toluene-d8	(84-138)
SMC2 (BFB)	= Bromofluorobenzene	(59-113)
SMC3 (DCE)	= 1,2-Dichloroethane-d4	(70-121)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

2D
SOIL SEMIVOLATILE SURROGATE RECOVERY

Name: TMA/ARLI Contract: WHC

Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

el:(low/med) LOW

	EPA SAMPLE NO.	S1 (NBZ)#	S2 (FBP)#	S3 (TPH)#	S4 (PHL)#	S5 (2FP)#	S6 (TBP)#	S7 (2CP)#	S8 (DCB)#	TOT OUT
1	B075G8	74	76	122	69	74	85	71	67	0
2	B075G9	87	85	136	78	87	81	80	84	0
3	B075H0	65	61	114	56	62	65	59	63	0
4	B075M7	84	80	111	76	83	68	78	77	0
5	B075M9	82	79	117	73	78	67	75	79	0
6	B075G9MS	89	87	131	81	84	85	80	79	0
7	B075G9MSD	72	71	119	67	68	88	66	63	0
8	SBLK0826S	50	49	71	44	48	42	46	47	0

		QC LIMITS	
S1 (NBZ)	= Nitrobenzene-d5	(23-120)	
S2 (FBP)	= 2-Fluorobiphenyl	(30-115)	
S3 (TPH)	= Terphenyl-d14	(18-137)	
S4 (PHL)	= Phenol-d5	(24-113)	
S5 (2FP)	= 2-Fluorophenol	(25-121)	
S6 (TBP)	= 2,4,6-Tribromophenol	(19-122)	
S7 (2CP)	= 2-Chlorophenol-d4	(20-130)	(advisory)
S8 (DCB)	= 1,2-Dichlorobenzene-d4	(20-130)	(advisory)

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

5

= 134% (20%)

= 1.34

≈ 134%

P.B.

2F
SOIL PESTICIDE SURROGATE RECOVERY

Name: TMA/ARLI Contract: WHC

Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

Column(1): DB-608 ID: 0.53(mm) GC Column(2): DB-1701 ID: 0.53(mm)

	EPA SAMPLE NO.	TCX 1 %REC #	TCX 2 %REC #	DCB 1 %REC #	DCB 2 %REC #	OTHER (1)	OTHER (2)	TOT OUT
01	PBLK0826S	64	70	75	74			0
02	B075G8	69	66	89	80			0
03	B075G9	64	55*	81	65			1
04	B075H0	71	72	86	84			0
05	B075M7	76	62	95	77			0
06	B075M9	55*	57*	82	76			2
07	B075M7MS	63	68	78	80			0
08	B075M7MSD	73	76	85	87			0

	ADVISORY QC LIMITS
TCX = Tetrachloro-m-xylene	(60-150)
DCB = Decachlorobiphenyl	(60-150)

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

3B

SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

Matrix Spike - EPA Sample No.: B075N0 Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	50.00	0	46.60	93	59-172
Trichloroethene	50.00	0	50.30	101	62-137
Benzene	50.00	0	49.90	100	66-142
Toluene	50.00	0	48.10	96	59-139
Chlorobenzene	50.00	0	51.60	103	60-133

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	50.00	47.10	94	1	22	59-172
Trichloroethene	50.00	51.00	102	1	24	62-137
Benzene	50.00	50.60	101	1	21	66-142
Toluene	50.00	50.70	101	5	21	59-139
Chlorobenzene	50.00	52.20	104	1	21	60-133

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

* Values outside of QC limits

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

COMMENTS: CLP,08050,,B075N0,L,S,A208050-07A,VOA,EPA PACK/2,20827R06,2BFB0827C,20827R07

3D

SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

ab Name: TMA/ARLI Contract: WHC

ab Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

atrix Spike - EPA Sample No.: B075G9 Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
Phenol	2600	0	1645	63	26- 90
2-Chlorophenol	2600	0	1707	66	25-102
1,4-Dichlorobenzene	1730	0	1032	60	28-104
N-Nitroso-di-n-prop.(1)	1730	0	997.4	58	41-126
1,2,4-Trichlorobenzene	1730	0	1112	64	38-107
4-Chloro-3-methylphenol	2600	0	2064	79	26-103
Acenaphthene	1730	0	1177	68	31-137
4-Nitrophenol	2600	0	1780	68	11-114
2,4-Dinitrotoluene	1730	0	1288	74	28- 89
Pentachlorophenol	2600	0	2185	84	17-109
Pyrene	1730	0	1496	86	35-142

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Phenol	2580	1377	53	17	35	26- 90
2-Chlorophenol	2580	1446	56	16	50	25-102
1,4-Dichlorobenzene	1720	857.1	50	18	27	28-104
N-Nitroso-di-n-prop.(1)	1720	860.5	50	15	38	41-126
1,2,4-Trichlorobenzene	1720	929.4	54	17	23	38-107
4-Chloro-3-methylphenol	2580	1814	70	12	33	26-103
Acenaphthene	1720	1036	60	12	19	31-137
4-Nitrophenol	2580	1983	77	12	50	11-114
2,4-Dinitrotoluene	1720	1232	72	3	47	28- 89
Pentachlorophenol	2580	2175	84	0	47	17-109
Pyrene	1720	1394	81	6	36	35-142

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

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

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

COMMENTS: CLP,08050,,B075G9,L,S,A208050-02B,BNA,EPA,
CAP/.25,20902S01,2DFT0902S1,20902S02,20902S05,20902S06,SHERMA

3F

SOIL PESTICIDE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERI

Name: TMA/ARLI Contract: WHC

Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

:ix Spike - EPA Sample No.: B075M7

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
amma-BHC (Lindane)	16.400	0	12.7	77	46-127
aptachlor	16.400	0	12.1	74	35-130
ldrin	16.400	0	11.0	67	34-132
eldrin	32.800	0	24.5	75	31-134
drin	32.800	0	25.5	78	42-139
,4'-DDT	32.800	0	24.7	75	23-134

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
amma-BHC (Lindane)	16.500	15.5	94	-20	50	46-127
aptachlor	16.500	14.2	86	-15	31	35-130
ldrin	16.500	13.4	81	-19	43	34-132
ieldrin	32.900	27.6	84	-11	38	31-134
drin	32.900	29.2	89	-13	45	42-139
,4'-DDT	32.900	28.7	87	-15	50	23-134

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

alues outside of QC limits

: 0 out of 6 outside limits
ce Recovery: 0 out of 12 outside limits

MENTS:

4A
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK0827R1

b Name: TMA/ARLI Contract: WHC

b Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

b File ID: 20827R07 Lab Sample ID: WBLK0827

te Analyzed: 08/27/92 Time Analyzed: 1438

: Column: PACK ID: 2.00(mm) Heated Purge: (Y/N) Y

strument ID: 4500

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	B075G8	A208050-01A	20827R08	1529
02	B075G9	A208050-02A	20827R09	1607
03	B075H0	A208050-06A	20827R13	1842
04	B075M7	A208050-03A	20827R10	1646
05	B075M8	A208050-04A	20827R11	1725
06	B075M9	A208050-05A	20827R12	1803
07	B075N0	A208050-07A	20827R14	1921
08	B075N0MS	A208050-07B	20827R15	1959
09	B075N0MSD	A208050-07C	20827R16	2038

OMMENTS: CLP,,,VBLK0827R1,L,S,WBLK0827,VOA,BLANK
PACK/2,20827R06,2BFB0827C,,

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK08272 1

ab Name: TMA/ARLI Contract: WHC

ab Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

atrix: (soil/water) SOIL Lab Sample ID: WBLK0827

ample wt/vol: 5.0 (g/mL) G Lab File ID: 20827R07

evel: (low/med) LOW Date Received:

Moisture: not dec. Date Analyzed: 08/27/92

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	10	U
67-64-1	Acetone	9	J
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	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK08270R1

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: WBLK0827

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 20827R07

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

% Moisture: not dec. ____ Date Analyzed: 08/27/92

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

4B
SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

SBLK0826S

) Name: TMA/ARLI Contract: WHC

) Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

) File ID: 20902S02 Lab Sample ID: A208050-BLK

strument ID: SHERMA Date Extracted: 08/26/92

trix: (soil/water) SOIL Date Analyzed: 09/02/92

vel:(low/med) LOW Time Analyzed: 1414

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	B075G8	A208050-01D	20902S03	09/02/92
02	B075G9	A208050-02B	20902S04	09/02/92
03	B075H0	A208050-06B	20902S09	09/02/92
04	B075M7	A208050-03B	20902S07	09/02/92
05	B075M9	A208050-05B	20902S08	09/02/92
06	B075G9MS	A208050-02C	20902S05	09/02/92
07	B075G9MSD	A208050-02D	20902S06	09/02/92

MENTS: CLP,08050,,SBLK0826S,L,S,A208050-BLK,BNA,BLANK
CAP/.25,20902S01,2DFT0902S1

000049

EPA SAMPLE NO.

SBLK0826S

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

ab Name: TMA/ARLI Contract: WHC

ab Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

atrix: (soil/water) SOIL Lab Sample ID: A208050-BLK

ample wt/vol: 30.3 (g/mL) G Lab File ID: 20902S02

evel: (low/med) LOW Date Received: _____

Moisture: _____ decanted: (Y/N) N Date Extracted: 08/26/92

oncentrated Extract Volume: 500.0 (uL) Date Analyzed: 09/02/92

ijection Volume: 2.0(uL) Dilution Factor: 1.0

PC Cleanup: (Y/N) Y pH: ____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	330	U
111-44-4	bis(2-Chloroethyl)Ether	330	U
95-57-8	2-Chlorophenol	330	U
541-73-1	1,3-Dichlorobenzene	330	U
106-46-7	1,4-Dichlorobenzene	330	U
95-50-1	1,2-Dichlorobenzene	330	U
95-48-7	2-Methylphenol	330	U
108-60-1	2,2'-oxybis(1-Chloropropane)	330	U
106-44-5	4-Methylphenol	330	U
621-64-7	N-Nitroso-Di-n-Propylamine	330	U
67-72-1	Hexachloroethane	330	U
98-95-3	Nitrobenzene	330	U
78-59-1	Isophorone	330	U
88-75-5	2-Nitrophenol	330	U
105-67-9	2,4-Dimethylphenol	330	U
111-91-1	bis(2-Chloroethoxy)Methane	330	U
120-83-2	2,4-Dichlorophenol	330	U
120-82-1	1,2,4-Trichlorobenzene	330	U
91-20-3	Naphthalene	330	U
106-47-8	4-Chloroaniline	330	U
87-68-3	Hexachlorobutadiene	330	U
59-50-7	4-Chloro-3-Methylphenol	330	U
91-57-6	2-Methylnaphthalene	330	U
77-47-4	Hexachlorocyclopentadiene	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	330	U
51-28-5	2,4-Dinitrophenol	790	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLF03268

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A208050-BLK

Sample wt/vol: 30.3 (g/mL) G Lab File ID: 20902S02

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

% Moisture: _____ decanted: (Y/N) N Date Extracted: 08/26/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 09/02/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

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	790	U
85-01-8	Phenanthrene	330	U
120-12-7	Anthracene	330	U
86-74-8	Carbazole	330	U
84-74-2	Di-n-Butylphthalate	290	J
206-44-0	Fluoranthene	330	U
129-00-0	Pyrene	330	U
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	330	U
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

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
SBLK0826S

ab Name: TMA/ARLI Contract: WHC

ab Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

atrix: (soil/water) SOIL Lab Sample ID: A208050-BLK

ample wt/vol: 30.3 (g/mL) G Lab File ID: 20902S02

evel: (low/med) LOW Date Received: _____

Moisture: _____ decanted: (Y/N) N Date Extracted: 08/26/92

oncentrated Extract Volume: 500.0 (uL) Date Analyzed: 09/02/92

njection Volume: 2.0(uL) Dilution Factor: 1.0

PC Cleanup: (Y/N) Y pH: _____

umber TICs found: 12

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	5.17	1800	J
2.	UNKNOWN HYDROCARBON	5.60	46000	J
3.	UNKNOWN HYDROCARBON	5.72	230	J
4.	UNKNOWN HYDROCARBON	6.63	99	J
5.	UNKNOWN HYDROCARBON	6.72	460	J
6.	UNKNOWN KETONE	7.03	99	J
7.	UNKNOWN COMPOUND	7.10	300	J
8.	UNKNOWN ALCOHOL	8.38	660	J
9.	PROPANOIC ACID ISOMER	17.12	66	J
10.	UNKNOWN HYDROCARBON	18.35	99	J
11.	UNKNOWN CARBOXYLIC ACID ESTE	20.22	360	J
12.	HEXANEDIOIC ACID ISOMER	24.75	230	J

4C

PESTICIDE METHOD BLANK SUMMARY

EPA SAMPLE NO.

PBLK03206

Name: TMA/ARLI Contract: WHC

Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

Sample ID: A208050-BLKR Lab File ID:

Matrix: (soil/water) SOIL Extraction: (SepF/Cont/Sonc) SONC

Sulfur Cleanup: (Y/N) N Date Extracted: 08/26/92

Date Analyzed (1): 09/10/92 Date Analyzed (2): 09/10/92

Time Analyzed (1): 1926 Time Analyzed (2): 1926

Instrument ID (1): H5890C Instrument ID (2): H5890D

GC Column (1): DB-608 ID: 0.53 (mm) GC Column (2): DB-1701 ID: 0.53 (mm)

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

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	B075G8	A208050-01DR	09/10/92	09/10/92
02	B075G9	A208050-02B	09/10/92	09/10/92
03	B075H0	A208050-06B	09/10/92	09/10/92
04	B075M7	A208050-03B	09/10/92	09/10/92
05	B075M9	A208050-05B	09/10/92	09/10/92
06	B075M7MS	A208050-03C	09/10/92	09/10/92
07	B075M7MSD	A208050-03D	09/10/92	09/10/92

COMMENTS:

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLK0[illegible]

Name: TMA/ARLI Contract: WHC

Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

rix: (soil/water) SOIL Lab Sample ID: A208050-BLKR

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

oisture: _____ decanted: (Y/N) ___ Date Received: _____

raction: (SepF/Cont/Sonc) SONC Date Extracted: 08/26/92

centrated Extract Volume: 5000 (uL) Date Analyzed: 09/10/92

ection Volume: 1.00 (uL) Dilution Factor: 1.00

Cleanup: (Y/N) Y pH: ____ 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	3.2	U
72-55-9	4,4'-DDE	3.2	U
72-20-8	Endrin	3.2	U
33213-65-9	Endosulfan II	3.2	U
72-54-8	4,4'-DDD	3.2	U
1031-07-8	Endosulfan sulfate	3.2	U
50-29-3	4,4'-DDT	3.2	U
72-43-5	Methoxychlor	17	U
53494-70-5	Endrin ketone	3.2	U
7421-36-3	Endrin aldehyde	3.2	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	32	U
11104-28-2	Aroclor-1221	65	U
11141-16-5	Aroclor-1232	32	U
53469-21-9	Aroclor-1242	32	U
12672-29-6	Aroclor-1248	32	U
11097-69-1	Aroclor-1254	32	U
11096-82-5	Aroclor-1260	32	U

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

Lab File ID (Standard): 20827R06 Date Analyzed: 08/27/92

Instrument ID: 4500 Time Analyzed: 1342

GC Column: PACK ID: 2.00(mm) Heated Purge: (Y/N) Y

		IS1(BCM) AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(CBZ) AREA #	RT #
	12 HOUR STD	16386	7.67	61125	16.25	58752	20.34
	UPPER LIMIT	32772	8.17	122250	16.75	117504	20.84
	LOWER LIMIT	8193	7.17	30562	15.75	29376	19.84
	EPA SAMPLE NO.						
01	B075G8	11797	8.00	45985	16.29	42081	20.37
02	B075G9	12456	7.70	47326	16.25	44071	20.34
03	B075H0	13789	7.70	51668	16.25	48212	20.34
04	B075M7	12760	7.70	47981	16.25	44496	20.34
05	B075M8	12805	7.70	48328	16.25	44824	20.37
06	B075M9	13425	7.75	50056	16.25	46216	20.34
07	B075N0	14507	7.70	54009	16.25	50339	20.34
08	B075N0MS	12084	7.70	42399	16.25	39979	20.29
09	B075N0MSD	15721	7.70	56707	16.25	53461	20.34
10	VBLK0827R1	11874	8.00	45014	16.29	41054	20.34

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = + 100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT.
RT LOWER LIMIT = -0.50 minutes of internal standard RT.

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

ab Name: TMA/ARLI Contract: WHC

ab Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

ab File ID (Standard): 20902S01 Date Analyzed: 09/02/92

nstrument ID: SHERMA Time Analyzed: 1300

		IS1(DCB) AREA #	RT #	IS2(NPT) AREA #	RT #	IS3(ANT) AREA #	RT #
	12 HOUR STD	28644	8.52	104970	11.49	53250	15.90
	UPPER LIMIT	57288	9.02	209940	11.99	106500	16.40
	LOWER LIMIT	14322	8.02	52485	10.99	26625	15.40
	EPA SAMPLE NO.						
01	B075G8	30374	8.52	103837	11.49	56564	15.90
02	B075G9	29868	8.52	102160	11.49	55460	15.90
03	B075H0	31578	8.52	108021	11.49	58719	15.90
04	B075M7	32632	8.52	109500	11.49	60058	15.90
05	B075M9	31588	8.52	108687	11.49	58602	15.90
06	B075G9MS	31396	8.52	104666	11.49	57470	15.90
07	B075G9MSD	28236	8.52	96446	11.49	53386	15.90
08	SBLK0826S	32462	8.52	111704	11.49	59980	15.90

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = + 100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT.
RT LOWER LIMIT = -0.50 minutes of internal standard RT.

Column used to flag internal standard area values with an asterisk.
* Values outside of QC limits.

8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

ab Name: TMA/ARLI Contract: WHC

ab Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

ab File ID (Standard): 20902S01 Date Analyzed: 09/02/92

nstrument ID: SHERMA Time Analyzed: 1300

		IS4(PHN) AREA #	RT #	IS5(CRY) AREA #	RT #	IS6(PRY) AREA #	RT #
	12 HOUR STD	78650	19.65	71186	25.74	46569	29.02
	UPPER LIMIT	157300	20.15	142372	26.24	93138	29.52
	LOWER LIMIT	39325	19.15	35593	25.24	23284	28.52
	EPA SAMPLE NO.						
01	B075G8	92312	19.65	74153	25.74	56041	29.02
02	B075G9	86802	19.65	63973	25.74	47911	29.02
03	B075H0	92470	19.65	71227	25.74	53207	29.02
04	B075M7	92861	19.65	72933	25.74	56467	29.02
05	B075M9	92297	19.65	71213	25.74	55015	29.02
06	B075G9MS	85767	19.65	67468	25.74	49681	29.02
07	B075G9MSD	86010	19.65	76477	25.74	59454	29.02
08	SBLK0826S	95447	19.65	72950	25.74	54636	29.02

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = + 100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT.
RT LOWER LIMIT = -0.50 minutes of internal standard RT.

Column used to flag internal standard area values with an asterisk.
* Values outside of QC limits.

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08050 SAS No.: NA SDG No.: NA

Instrument ID: 4500 Calibration date: 08/27/92 Time: 1342

Lab File ID: 20827R06 Init. Calib. Date(s): 08/24/92 08/24/92

Heated Purge: (Y/N) Y Init. Calib. Times: 0949 1421

GC Column: PACK ID: 2.00(mm)

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
Chloromethane	0.587	0.676	0.010	-15.2	
Bromomethane	1.555	1.085	0.100	30.2	25.0
Vinyl Chloride	0.723	0.665	0.100	8.0	25.0
Chloroethane	1.030	0.694	0.010	32.6	
Methylene Chloride	1.294	1.694	0.010	-30.9	
Acetone	1.167	1.076	0.010	7.8	
Carbon Disulfide	2.540	3.396	0.010	-33.7	
1,1-Dichloroethene	1.214	1.343	0.100	-10.6	25.0
1,1-Dichloroethane	2.643	3.034	0.200	-14.8	25.0
1,2-Dichloroethene (total)	1.377	1.534	0.010	-11.4	
Chloroform	2.804	3.230	0.200	-15.2	25.0
1,2-Dichloroethane	2.150	2.346	0.100	-9.1	25.0
2-Butanone	1.967	2.004	0.010	-1.9	
1,1,1-Trichloroethane	0.499	0.584	0.100	-17.0	25.0
Carbon Tetrachloride	0.508	0.584	0.100	-15.0	25.0
Bromodichloromethane	0.794	0.899	0.200	-13.2	25.0
1,2-Dichloropropane	0.393	0.449	0.010	-14.2	
cis-1,3-Dichloropropene	0.557	0.635	0.200	-14.0	25.0
Trichloroethene	0.400	0.463	0.300	-15.8	25.0
Dibromochloromethane	0.703	0.790	0.100	-12.4	25.0
1,1,2-Trichloroethane	0.340	0.393	0.100	-15.6	25.0
Benzene	1.029	1.166	0.500	-13.3	25.0
trans-1,3-Dichloropropene	0.583	0.649	0.100	-11.3	25.0
Bromoform	0.624	0.714	0.100	-14.4	25.0
4-Methyl-2-Pentanone	0.960	0.956	0.010	0.4	
2-Hexanone	0.776	0.761	0.010	1.9	
Tetrachloroethene	0.381	0.426	0.200	-11.8	25.0
1,1,2,2-Tetrachloroethane	0.952	1.047	0.500	-10.0	25.0
Toluene	0.692	0.771	0.400	-11.4	25.0
Chlorobenzene	0.881	0.971	0.500	-10.2	25.0
Ethylbenzene	0.394	0.444	0.100	-12.7	25.0
Styrene	0.865	0.932	0.300	-7.7	25.0
Xylene (total)	0.484	0.527	0.300	-8.9	25.0
Toluene-d8	1.008	0.960	0.010	4.8	
Bromofluorobenzene	0.758	0.699	0.200	7.8	25.0
1,2-Dichloroethane-d4	1.930	1.800	0.010	6.7	

All other compounds must meet a minimum RRF of 0.010.