B08NP7-TMA-559

0045594
000001

OCT 1996
RECEIVED
EDMC

WESTINGHOUSE HANFORD COMPANY

Results of Analyses For:

ORGANICS
CASE NO. 08-021
(TMA/ARLI Work Order # A3-08-021)

Organic results are presented for the following
WHC SOIL sample(s):

B08NP7	B08NQ6
B08NQ7	B08NQ9

Norcal Work Order # N3-08-030

Thermo Analytical Inc.
160 Taylor Street
Monrovia, CA 91016
(818) 357-3247

Date submitted:

9-29-93

000002A

N3-08-030

Westinghouse Hanford Company	CHAIN OF CUSTODY 004926

Custody Form Initiator L.GUERRA

Company Contact C.E. HEIDEN Telephone (509)376-2640

Project Designation/Sampling Locations RIVERLAND Collection Date 8-4-93

OPERABLE UNIT -100-IU-1 Collection Date 8-4-93

Ice Chest No. 190 JD Field Logbook No. WHC-N-205-#2

Bill of Lading/Airbill No. 970-892-436 Offsite Property No.

Method of Shipment AIR OVERNIGHT

Shipped to TMA NORCAL LAB ,RICHMOND CA

Possible Sample Hazards/Remarks NONE DETECTED

Sample Identification

B08NP7 ✓ (1-AG500ml)

B08NQ6 ✓ (1-AG500ml)

B08NQ7 ✓ (1-AG500ml)

B08NQ9 ✓ (1--AG500ml)

8-4-93

8-4-93

☐ Field Transfer of Custody CHAIN OF POSSESSION (Sign and Print Name

Relinquished By	Date	Time	Received By	Date	Time
L.GUERRA	8-4-93	1:30pm		8-6-93	11:15

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:

A 6000 407 (12/5

000003B

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

COC#4926

Collector L. GUERRA Date 08-4-93

Company Contact C.E. HEIDEN Telephone (509) 376-2640

Sample Number	*	Date Collected	Time Collected	Number and Type of Sample Containers/Analysis Requested
B08NP7	S	8-4-93	9:50	(1) AG 500ml HERBICIDES 8150/ PESTICIDES CLP.
B08NQ6	S	8-4-93	9:30	(1) AG 500ml HERBICIDES 8150/ PESTICIDES CLP.
B08NQ7	S	8-4-93	9:40	(1) AG 500ml HERBICIDES 8150/ PESTICIDES CLP.
B08NQ9	S	8-4-93	9:45	(1) AG 500ml HERBICIDES 8150/ PESTICIDES CLP.

8-4-93

8-4-93

8-4-93

*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 SAF# 93-181 RIVERLAND ERA.
OPERABLE UNIT -100-IU-1

Special Handling and/or Storage SHIPPED ON WET ICE. KEEP AT 4 DEGREES C^0.

Possible Sample Hazards NONE DETECTED.

08021

PAGE 1 TMA/Norcal CHAIN OF CUSTODY ORD # N3-08-030

RCVD: 08/06/93 DUE: 08/16/93 08/09/93 10:18:35 KEEP: 08/16/94 DISP: S

DASH	SAMPLE IDENTIFICATION		STORED	TESTS for FRACTIONS with work in DEPT: SU and CATEGORY	
01A-S	B08NP7		ARLI	WH015	WH204
02A-S	B08NQ6		ARLI	WH015	WH204
03A-S	B08NQ7		ARLI	WH015	WH204
04A-S	B08NQ9		ARLI	WH015	WH204
04B-S	B08NQ9	MS	ARLI	WH015	WH204
04C-S	B08NQ9	MSD	ARLI	WH015	WH204

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
Eyamamoto	8/9/93	ARLI	8/9/93	C Harris	8/10/93

SAMPLE LOG-IN SHEET

LAB NAME : TMA/ARLI

PAGE : 000003 OF

RECEIVED BY (PRINT NAME): PHILLIP HOOD

LOG-IN-DATE : 8/10/93

RECEIVED BY (SIGNATURE): pHood

ICE CHEST NO. SML 251

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.: 7290260482
7. Sample Tags Present / Absent*
8. Sample Tag 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: 8/10/93
12. Temp of ice chest 3.5 °C
13. Time Recieved: 900 am

SAMPLE TRANSFER

Fraction:

Area #:

By:

On:

EPA SAMPLE #	CORRESPONDING SAMPLE TAG #	CORRESPONDING ASSIGNED LAB #	REMARKS: CONDITION OF SAMPLE SHIPMENT, ETC
	B08NQ6		
	B08NP7		
	B08NQ7		
	B08NQ9		

* Contact SMO and attach record of resolution

Reviewed By:

Date:

Logbook No.:

Logbook Page No.:

FORM DC-1

000004

FEDERAL EXPRESS

QUESTIONS? CALL 800-238-5355 TOLL FREE.

AIRBILL PACKAGE TRACKING NUMBER 7290260482

7290260482

RECIPIENT'S COPY

1 Date 8-9-93

From (Your Name) Please Print: Sample Control
Your Phone Number (Very Important): 610-935-263
Company: [illegible]
Department/Floor No.:
Street Address: [illegible] SPIGHT AVE
City: [illegible] State: CA ZIP Required: 9 4 8 0 4

2 To (Recipient's Name) Please Print: Carole Harris
Recipient's Phone Number (Very Important): (818) 357-3247
Company: TMA/ARLI
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.): 2340-6406

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†)
11 [X] OTHER PACKAGING
16 [ ] FEDEX LETTER*
12 [ ] FEDEX PAK*
13 [ ] FEDEX BOX
14 [ ] FEDEX TUBE

Standard Overnight (Delivery by next business afternoon. No Saturday delivery†)
51 [ ] OTHER PACKAGING
56 [ ] FEDEX LETTER*
52 [ ] FEDEX PAK*
53 [ ] FEDEX BOX
54 [ ] FEDEX TUBE

Economy Two-Day (Delivery by second business day †)
30 [ ] ECONOMY*
* Economy Letter rate not available. Minimum charge. One pound economy rate

Government Overnight (Restricted for authorized users only)
46 [ ] GOVT LETTER
41 [ ] GOVT PACKAGE

Freight Service (for packages over 150 lbs.)
70 [ ] OVERNIGHT FREIGHT** (Confirmed reservation required)
80 [ ] TWO-DAY FREIGHT**
† Delivery commitment may be later in some areas
*Declared Value Limit $500. **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 Dangerous Goods Shipper's Declaration not required
Dry Ice, 9, UN 1845, ____ x ____ kg. 904 W
7 [ ] OTHER SPECIAL SERVICE
8 [ ]
9 [ ] SATURDAY PICK-UP (Extra charge)
[ ]
12 [ ] HOLIDAY DELIVERY (If offered) (Extra charge)

6

PACKAGES	WEIGHT In Pounds Only	YOUR DECLARED VALUE (See right)
1		
Total 1	Total 15	Total

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

Received At: 1 [ ] Regular Stop 2 [ ] On-Call Stop 3 [ ] Drop Box 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:

Federal Express Use
Base Charges
Declared Value Charge
Other 1
Other 2
Total Charges

REVISION DATE 11/92
PART #137204 FXEM 3/93
FORMAT #155
155
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CASE NARRATIVE

LABORATORY : TMA/ARLI

CASE : 08-021

CONTRACT ID : WESTINGHOUSE HANFORD COMPANY

SDG RECEIPT DATE : August 06, 1993

1.0 DESCRIPTION OF CASE :

Four soil samples were analyzed for TCL Organics- Pesticides/PCBs according to the USEPA Contract Laboratory Program (CLP) Statement of Work for Organic Analysis, Revision OLM01.8, and Chlorinated Herbicides according to the SW-846 Method 8150.

2.0 SAMPLE LIST :

WESTINGHOUSE ID	LAB ID	ANALYSIS REQUESTED	MATRIX
B08NP7	A3-08-021-01A	P & H	SOIL
B08NQ6	A3-08-021-02A	P & H	SOIL
B08NQ6 MS	A3-08-021-02B	H	SOIL
B08NQ6 MSD	A3-08-021-02C	H	SOIL
B08NQ7	A3-08-021-03A	P & H	SOIL
B08NQ7 MS	A3-08-021-03B	P	SOIL
B08NQ7 MSD	A3-08-021-03C	P	SOIL
B08NQ9	A3-08-021-04A	P & H	SOIL

3.0 COMMENTS :

3.1 SHIPPING AND DOCUMENTATION :

All of the samples were received unbroken and properly documented.

3.2 ANALYSIS

3.2.1 PESTICIDE/PCB ANALYSIS COMMENTS :

SEQUENCE NOTES :

The sequence was started on 08/13/93 and was analyzed according to the USEPA CLP SOW. The sequence was analyzed by single injection into a dual column system.

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

The chromatograms are presented in the manner consistent with the capabilities of the Nelson 2700 Turbochrome 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.

In sample B08NQ6, Aldrin, DDE and Dieldrin were detected at low concentrations. The percent difference in the quantitation of Aldrin between the two GC columns exceeded the 25% limit. Therefore, the Aldrin result has been "P" qualified.

Aldrin and Dieldrin were also detected in sample B08NQ7 at low concentrations. Dieldrin, 4,4'-DDE and 4,4'-DDT were detected in sample B08NQ9. However, the 4,4'-DDT was not reported in the preliminary results. Due to the small concentrations of the analytes detected in the samples, GC/MS confirmation could not be performed.

The TCX surrogate recoveries in samples B08NP7 and B08NQ9 were slightly below the advisory QC limits on the DB-608 column. The TCX surrogate recoveries on the DB-1701 column, for all of the samples, were higher in comparison with those of the DB-608 column. The higher recoveries on the DB-1701 column were caused by an interference peak that coeluted with the TCX. The %D for the TCX for most of the samples exceeded the 25% limit.

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

3.2.2 HERBICIDES ANALYSIS COMMENTS :

SEQUENCE NOTES :

The sequence was started on the 08/16/93 and was analyzed according to the SW-846 Method 8150. The sequence was analyzed by a single injection into a dual column system.

On the DB-608 primary column, the %RSD and %D for all analytes were within the advisory QC limits of 20% and 15%, respectively. However, on the DB-1701 confirmation column the %RSD for MCPA exceeded 20%. In the standard injected on 08/17/93 at 15:23, MCPA had a %D above the 15% limit. The %D for MCPP, MCPA, 2,4,5-T, and 2,4-DB exceeded 15% in the standard injected on 08/17/93 at 19:27.

All of the other QC criteria were within the limits specified by the SW-846 Method 8150.

SAMPLE NOTES :

LOW LEVEL SOIL :

The samples were extracted and analyzed within the SW-846 holding times. Approximately 50 grams of each sample were extracted and concentrated to a final volume of 5 mL. No TCL analytes were detected in any of the samples.

On the DB-608 column, the DCAA surrogate recoveries for the samples ranged from 78% to 117%. The method blank had a DCAA surrogate recovery of 108% on the DB-608 column. In addition, the matrix spike recoveries were acceptable for both the MS and the MSD on the DB-608 column, with the exception of Dinoseb which had a 0% recovery. Dalapon and MCPP were slightly low in both the MS and MSD, whereas 2,4-DB recoveries were slightly high. It appeared that 2,4-DB coeluted with an interference peak, which was more apparent in the MS when compared with the MSD. Therefore, the %RPD for 2,4-DB was high.

All of the other QC results were within the limits specified by the SW-846 Method 8150.

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 9/29/93 for Nicole Roth 9/29/93

Nicole Roth
CLP Program Manager

Wida Ang
Organics Manager

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08NP7

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08021 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A308021-01A

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

% Moisture: 0 decanted: (Y/N) N Date Received: 08/06/93

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 08/11/93

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 08/14/93

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 000021

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08NQ6

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08021 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A308021-02A

Sample wt/vol: 30.1 (g/mL) G Lab File ID:

% Moisture: 1 decanted: (Y/N) N Date Received: 08/06/93

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 08/11/93

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 08/14/93

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	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	0.45	JP
1024-57-3	Heptachlor epoxide	1.7	U
959-98-8	Endosulfan I	1.7	U
60-57-1	Dieldrin	2.0	J
72-55-9	4,4'-DDE	0.70	J
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.

B08NQ7

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08021 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A308021-03A

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

% Moisture: 2 decanted: (Y/N) N Date Received: 08/06/93

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 08/11/93

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 08/14/93

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	0.32	J
1024-57-3	Heptachlor epoxide	1.7	U
959-98-8	Endosulfan I	1.7	U
60-57-1	Dieldrin	1.5	J
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.

B08NQ9

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08021 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A308021-04A

Sample wt/vol: 30.1 (g/mL) G Lab File ID:

% Moisture: 3 decanted: (Y/N) N Date Received: 08/06/93

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 08/11/93

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 08/14/93

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 8.5 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	1.2	J
72-55-9	4,4'-DDE	6.7	
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	0.57	JP
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

TMA Inc. REPORT Work Order # A3-08-021

Received: 08/09/93

Results by Sample

SAMPLE ID B08NP7 FRACTION 01A TEST CODE 8150 NAME HERBICIDES 8150

Date & Time Collected 08/04/93 Category

8150 CHLORINATED HERBICIDES

Matrix: (soil/water) SOIL Lab. File ID: AH17005

Sample Wt/Vol: 50.3 Date Prepared: 08/10/93

Moisture: 0 Date Analyzed: 08/17/93

Extraction: (SepF/Cont/Sonc) Sepf Dilution Factor: 1.00

Concentrated Extract Volume: 5 (mL)

CAS No.	COMPOUND	RESULT ug/Kg	PQL ug/Kg
75-99-0	Dalapon	ND	60
93-65-2	MCPP	ND	2000
1918-00-9	Dicamba	ND	2
94-75-7	2,4-D	ND	20
94-74-6	MCPA	ND	2000
120-36-5	Dichloroprop	ND	20
93-72-1	2,4,5-TP	ND	2
93-76-5	2,4,5-T	ND	2
88-85-7	Dinoseb	ND	12
94-82-6	2,4-DB	ND	2

% RECOVERY SURROGATE COMPOUND

DCAA 113

FORM I

Received: 08/09/93

TMA Inc. REPORT
Results by Sample

Work Order # A3-08-021

SAMPLE ID B08MQ6 FRACTION 02A TEST CODE 8150 NAME HERBICIDES 8150
Date & Time Collected 08/04/93 Category

8150 CHLORINATED HERBICIDES

Matrix: (soil/water) SOIL

Lab. File ID: AH17006

Sample Wt/Vol: 50.4

Date Prepared: 08/10/93

Moisture: 1.3

Date Analyzed: 08/17/93

Extraction: (SepF/Cont/Sonc) Sepf

Dilution Factor: 1.00

Concentrated Extract Volume: 5 (mL)

CAS No.	COMPOUND	RESULT ug/Kg	PQL ug/Kg
75-99-0	Dalapon	ND	60
93-65-2	MCPP	ND	2000
1918-00-9	Dicamba	ND	2
94-75-7	2,4-D	ND	20
94-74-6	MCPA	ND	2000
120-36-5	Dichloroprop	ND	20
93-72-1	2,4,5-TP	ND	2
93-76-5	2,4,5-T	ND	2
88-85-7	Dinoseb	ND	12
94-82-6	2,4-DB	ND	2

% RECOVERY SURROGATE COMPOUND

DCAA 78

FORM I

TMA Inc. REPORT Work Order # A3-08-021

Received: 08/09/93

Results by Sample

SAMPLE ID B08NQ7 FRACTION 03A TEST CODE 8150 NAME HERBICIDES 8150

Date & Time Collected 08/04/93 Category

8150 CHLORINATED HERBICIDES

Matrix: (soil/water) SOIL Lab. File ID: AH17007

Sample Wt/Vol: 50.5 Date Prepared: 08/10/93

Moisture: 2.3 Date Analyzed: 08/17/93

Extraction: (SepF/Cont/Sonc) Sepf Dilution Factor: 1.00

Concentrated Extract Volume: 5 (mL)

CAS No.	COMPOUND	RESULT ug/Kg	PQL ug/Kg
75-99-0	Dalapon	ND	60
93-65-2	MCPP	ND	2000
1918-00-9	Dicamba	ND	2
94-75-7	2,4-D	ND	20
94-74-6	MCPA	ND	2000
120-36-5	Dichloroprop	ND	20
93-72-1	2,4,5-TP	ND	2
93-76-5	2,4,5-T	ND	2
88-85-7	Dinoseb	ND	12
94-82-6	2,4-DB	ND	20

% RECOVERY SURROGATE COMPOUND

DCAA 117

FORM I

TMA Inc. REPORT Work Order # A3-08-021

Received: 08/09/93

Results by Sample

SAMPLE ID B08MQ9 FRACTION 04A TEST CODE 8150 NAME HERBICIDES 8150

Date & Time Collected 08/04/93 Category

8150 CHLORINATED HERBICIDES

Matrix: (soil/water) SOIL

Lab. File ID: AH17008

Sample Wt/Vol: 50.7

Date Prepared: 08/10/93

Moisture: 2.9

Date Analyzed: 08/17/93

Extraction: (SepF/Cont/Sonc) Sepf

Dilution Factor: 1.00

Concentrated Extract Volume: 5 (mL)

CAS No.	COMPOUND	RESULT ug/Kg	PQL ug/Kg
75-99-0	Dalapon	ND	60
93-65-2	MCPP	ND	2000
1918-00-9	Dicamba	ND	2
94-75-7	2,4-D	ND	20
94-74-6	MCPA	ND	2000
120-36-5	Dichloroprop	ND	20
93-72-1	2,4,5-TP	ND	2
93-76-5	2,4,5-T	ND	2
88-85-7	Dinoseb	ND	12
94-82-6	2,4-DB	ND	20

% RECOVERY SURROGATE COMPOUND

DCAA 99

FORM I

VALIDATION SUMMARY

Received: 08/09/93

TMA Inc. REPORT
Results by Sample

Work Order # A3-08-021

SAMPLE ID B08MP7 FRACTION 01A TEST CODE 8150 NAME HERBICIDES 8150
Date & Time Collected 08/04/93 Category

8150 CHLORINATED HERBICIDES

Matrix: (soil/water) SOIL

Lab. File ID: AH17005

Sample Wt/Vol: 50.3

Date Prepared: 08/10/93

Moisture: 0

Date Analyzed: 08/17/93

Extraction: (SepF/Cont/Sonc) Sepf

Dilution Factor: 1.00

Concentrated Extract Volume: 5 (mL)

CAS No.	COMPOUND	RESULT ug/Kg	PQL ug/Kg	
75-99-0	Dalapon	ND	60	
93-65-2	MCPP	ND	2000	UJ
1918-00-9	Dicamba	ND	2	
94-75-7	2,4-D	ND	20	
94-74-6	MCPA	ND	2000	UJ
120-36-5	Dichloroprop	ND	20	
93-72-1	2,4,5-TP	ND	2	R
93-76-5	2,4,5-T	ND	2	UJ
88-85-7	Dinoseb	ND	12	
94-82-6	2,4-DB	ND	2	UJ

PMB 2/4/94

% RECOVERY SURROGATE COMPOUND

DCAA 113

FORM I

TMA Inc. REPORT Work Order # A3-08-021

eceived: 08/09/93

Results by Sample

AMPLE ID B08M06 FRACTION 02A TEST CODE 8150 NAME HERBICIDES 8150

Date & Time Collected 08/04/93 Category

8150 CHLORINATED HERBICIDES

Matrix: (soil/water) SOIL Lab. File ID: AH17006

Sample Wt/Vol: 50.4 Date Prepared: 08/10/93

Moisture: 1.3 Date Analyzed: 08/17/93

Extraction: (SepF/Cont/Sonc) Sepf Dilution Factor: 1.00

Concentrated Extract Volume: 5 (mL)

PW 2/4/94

CAS No.	COMPOUND	RESULT ug/Kg	PQL ug/Kg	
75-99-0	Dalapon	ND	60	
93-65-2	MCPP	ND	2000	UJ
1918-00-9	Dicamba	ND	2	
94-75-7	2,4-D	ND	20	
94-74-6	MCPA	ND	2000	UJ
120-36-5	Dichloroprop	ND	20	
93-72-1	2,4,5-TP	ND	2	R
93-76-5	2,4,5-T	ND	2	UJ
88-85-7	Dinoseb	ND	12	
94-82-6	2,4-DB	ND	2	UJ

% RECOVERY SURROGATE COMPOUND

DCAA 78

FORM I

TMA Inc. REPORT Work Order # A3-08-021

Received: 08/09/93

Results by Sample

SAMPLE ID B08WQ7 FRACTION 03A TEST CODE 8150 NAME HERBICIDES 8150

Date & Time Collected 08/04/93 Category

8150 CHLORINATED HERBICIDES

Matrix: (soil/water) SOIL Lab. File ID: AH17007

Sample Wt/Vol: 50.5 Date Prepared: 08/10/93

Moisture: 2.3 Date Analyzed: 08/17/93

Extraction: (SepF/Cont/Sonc) Sepf Dilution Factor: 1.00

Concentrated Extract Volume: 5 (mL)

PMD 2/4/94

CAS No.	COMPOUND	RESULT ug/Kg	PQL ug/Kg	
75-99-0	Dalapon	ND	60	
93-65-2	MCPP	ND	2000	UJ
1918-00-9	Dicamba	ND	2	
94-75-7	2,4-D	ND	20	
94-74-6	MCPA	ND	2000	UJ
120-36-5	Dichloroprop	ND	20	
93-72-1	2,4,5-TP	ND	2	R
93-76-5	2,4,5-T	ND	2	UJ
88-85-7	Dinoseb	ND	12	
94-82-6	2,4-DB	ND	20	UJ

% RECOVERY SURROGATE COMPOUND

DCAA 117

FORM I

TMA Inc. REPORT Work Order # A3-08-021

Received: 08/09/93

Results by Sample

SAMPLE ID B08MQ9 FRACTION 04A TEST CODE 8150 NAME HERBICIDES 8150

Date & Time Collected 08/04/93 Category

8150 CHLORINATED HERBICIDES

Matrix: (soil/water) SOIL Lab. File ID: AH17008

Sample Wt/Vol: 50.7 Date Prepared: 08/10/93

Moisture: 2.9 Date Analyzed: 08/17/93

Extraction: (SepF/Cont/Sonc) Sepf Dilution Factor: 1.00

Concentrated Extract Volume: 5 (mL)

PLB 2/4/94

CAS No.	COMPOUND	RESULT ug/Kg	PQL ug/Kg	
75-99-0	Dalapon	ND	60	
93-65-2	MCPP	ND	2000	UJ
1918-00-9	Dicamba	ND	2	
94-75-7	2,4-D	ND	20	
94-74-6	MCPA	ND	2000	UJ
120-36-5	Dichloroprop	ND	20	
93-72-1	2,4,5-TP	ND	2	R
93-76-5	2,4,5-T	ND	2	UJ
88-85-7	Dinoseb	ND	12	
94-82-6	2,4-DB	ND	20	UJ

% RECOVERY SURROGATE COMPOUND

DCAA 99

FORM I

1D 000014

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08NP7

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08021 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A308021-01A

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

% Moisture: 0 decanted: (Y/N) N Date Received: 08/06/93

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 08/11/93

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 08/14/93

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y X02412 Sulfur Cleanup: (Y/N) N

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

PW 1/18/94

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

1D 000021

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08NQ6

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08021 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A308021-02A

Sample wt/vol: 30.1 (g/mL) G Lab File ID: _____

% Moisture: 1 decanted: (Y/N) N Date Received: 08/06/93

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 08/11/93

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 08/14/93

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 8.7 Sulfur Cleanup: (Y/N) N

PWD 1/18/94

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	0.45	JP
1024-57-3	Heptachlor epoxide	1.7	U
959-98-8	Endosulfan I	1.7	U
60-57-1	Dieldrin	2.0	J
72-55-9	4,4'-DDE	0.70	J
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

000028

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08NQ7

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08021 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A308021-03A

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

% Moisture: 2 decanted: (Y/N) N Date Received: 08/06/93

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 08/11/93

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 08/14/93

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

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

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

CAS NO.	COMPOUND		Q
319-84-6	alpha-BHC	1.7	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	0.32	J
1024-57-3	Heptachlor epoxide	1.7	U
959-98-8	Endosulfan I	1.7	U
60-57-1	Dieldrin	1.5	J
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.

B08NQ9

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 08021 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A308021-04A

Sample wt/vol: 30.1 (g/mL) G Lab File ID:

% Moisture: 3 decanted: (Y/N) N Date Received: 08/06/93

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 08/11/93

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 08/14/93

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 8.5 Sulfur Cleanup: (Y/N) N

PLP 1/18/94

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

CAS NO.	COMPOUND		Q
319-84-6	alpha-BHC	1.7	UJ
319-85-7	beta-BHC	1.7	UJ
319-86-8	delta-BHC	1.7	UJ
58-89-9	gamma-BHC (Lindane)	1.7	UJ
76-44-8	Heptachlor	1.7	UJ
309-00-2	Aldrin	1.7	UJ
1024-57-3	Heptachlor epoxide	1.7	UJ
959-98-8	Endosulfan I	1.7	UJ
60-57-1	Dieldrin	1.2	J
72-55-9	4,4'-DDE	6.7	J
72-20-8	Endrin	3.4	UJ
33213-65-9	Endosulfan II	3.4	UJ
72-54-8	4,4'-DDD	3.4	UJ
1031-07-8	Endosulfan sulfate	3.4	UJ
50-29-3	4,4'-DDT	0.57	JP
72-43-5	Methoxychlor	17	UJ
53494-70-5	Endrin ketone	3.4	UJ
7421-36-3	Endrin aldehyde	3.4	UJ
5103-71-9	alpha-Chlordane	1.7	UJ
5103-74-2	gamma-Chlordane	1.7	UJ
8001-35-2	Toxaphene	170	UJ
12674-11-2	Aroclor-1016	34	UJ
11104-28-2	Aroclor-1221	69	UJ
11141-16-5	Aroclor-1232	34	UJ
53469-21-9	Aroclor-1242	34	UJ
12672-29-6	Aroclor-1248	34	UJ
11097-69-1	Aroclor-1254	34	UJ
11096-82-5	Aroclor-1260	34	UJ