

BODOG1-TMA

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WESTINGHOUSE HANFORD COMPANY

Results of Analyses For:

ORGANICS
CASE NO. 09-068
(TMA/ARLI Work Order # A4-09-068)

Organic results are presented
for the following WHC SOIL samples:

BODOG1



Norcal Work Order # N4-09-132

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

Date submitted:

10 / 24 / 94

CASE NARRATIVE

LABORATORY : TMA/ARLI

CASE : 09-068

CONTRACT ID : WESTINGHOUSE HANFORD COMPANY

SDG RECEIPT DATE : September 29, 1994

1.0 DESCRIPTION OF CASE :

One soil sample was analyzed for TCL Organics- Pesticides/PCBs, Organophosphorus Pesticides and Herbicides in accordance with USEPA SW-846 Methods 8080, 8140, and 8150, respectively. All of the final sample results have been reported on a dry weight basis.

2.0 SAMPLE LIST :

| <u>WESTINGHOUSE ID</u> | <u>LAB ID</u> | <u>ANALYSIS REQUESTED</u> | <u>MATRIX</u> |
|------------------------|---------------|-------------------------------|---------------|
| BODOG1 | A4-09-068-01 | P, OP, H | SOIL |
| BODOG1 MS | A4-09-068-01 | P, OP, H | SOIL |
| BODOG1 MSD | A4-09-068-01 | P, OP, H | SOIL |

3.0 COMMENTS :

3.1 SHIPPING AND DOCUMENTATION :

All of the samples were received intact and properly documented.

3.2 ANALYSIS

3.2.1 PESTICIDE/PCB ANALYSIS COMMENTS :

SEQUENCE NOTES :

The sequence was started on 10/04/94 and was analyzed according to the SW-846 Method 8080. The initial calibration for the multiresponse analytes was performed from 09/22/94 through 09/26/94. The sequence was analyzed by single injection into a dual column system.

On both the DB-5 and the DB-608 columns, the %RSD for all Pesticide analytes were below the QC limit. The %D for Aroclor-1254 exceeded the 15% limit on the DB-608 column in GC file BJ04021. The %D for Aroclor-1232 exceeded the 15% limit on the DB-5 column in GC file AJ04018.

All of the other QC results were within the limits specified by the SW-846 Method 8080.

The chromatograms were presented in the manner consistent with the capabilities of the Nelson 2700 Turbochrome Data System which normalized the largest peak to scale.

000003

SAMPLE NOTES :

LOW LEVEL SOIL :

The samples were extracted and analyzed within the required SW-846 holding times.

All of the QC results were within the limits specified by the SW-846 Method 8080.

3.2.2 ORGANOPHOSPHORUS PESTICIDE ANALYSIS COMMENTS :

SEQUENCE NOTES :

The sequence was started on 10/05/94 and was analyzed according to the SW-846 Method 8140. The sequence was analyzed by single injection into a primary column.

The retention times for several of the TCL analytes in the ending continuing calibration standard (AJ05016) shifted outside of their established windows. The following analytes were outside of the windows: Dementon-O, Ethoprop, Phorate, Bolstar, Azinphos Methyl, and surrogates TPP and TBP. The shift in retention time ranged from 0.01-0.02 minutes. The samples were not reinjected since there were no TCL analytes detected by the very specific detector used for this analysis.

All of the other QC results were within the limits specified by the SW-846 Method 8140.

SAMPLE NOTES :

LOW LEVEL SOIL :

The samples were extracted and analyzed within the required SW-846 holding times.

All of the QC results were within the limits specified by the SW-846 Method 8140.

3.2.3 HERICIDES ANALYSIS COMMENTS :

SEQUENCE NOTES :

The sequence was started on 10/05/94 and was analyzed according to the SW-846 Method 8150. The sequence was analyzed by single injection into a dual column system.

On the DB-1701 (confirmation) column, the %RSD for MCPA exceeded the 20% QC limit for the ICAL as well as the 15% D QC limit in the continuing calibration standards.

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

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SAMPLE NOTES :

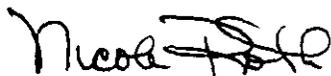
LOW LEVEL SOIL :

The samples were extracted and analyzed within the required SW-846 holding times. 2,4-D was detected in the sample at approximately 140 ug/Kg.

The matrix spike recoveries in the MS and MSD samples were very low for 2,4-D as a result of the higher concentration detected in the unspiked sample than the MS and MSD (non-homogenous). The MSD sample also showed an increase in the background interferences. The MSD sample yielded higher spike recoveries for Silvex and Dichlorprop and lower surrogate recovery for DCAA. An LCS was processed throughout the entire process and it yielded good recoveries. The results of rthe LCS have been included in the package.

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

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 in this hardcopy data package is authorized by the Laboratory Manager or his designee, as verified by the following signature.



Nicole Roth
CLP Program Manager

10/24/94

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PAGE 1 TMA/Morcal CHAIN OF CUSTODY ORD # W4-09-132
RCVD: 09/29/94 DUE: 10/09/94 09/29/94 14:27:18 KKKP: 10/09/95 DISP: 8

| <u>DASH</u> | <u>SAMPLE IDENTIFICATION</u> | <u>STORED</u> | <u>TESTS for FRACTIONS with work in DEPT: SU and CATEGORY</u> | | |
|-------------|------------------------------|---------------|---------------------------------------------------------------|-------|-------|
| 01A-S | BODOG1 | ARLI | WE200 | WE203 | WE204 |
| 01B-S | BODOG1 MS | ARLI | WE200 | WE203 | WE204 |
| 01C-S | BODOG1 MSD | ARLI | WE200 | WE203 | WE204 |

| <u>RELEASED BY</u> | <u>DATE</u> | <u>TRANSFERRED TO</u> | <u>DATE</u> | <u>RECEIVED BY</u> | <u>DATE</u> |
|--------------------|----------------|-----------------------|----------------|--------------------|----------------|
| <u>Yamanamoto</u> | <u>9/29/94</u> | <u>ARLI</u> | <u>9/29/94</u> | <u>[Signature]</u> | <u>9/30/94</u> |
| | | | | | |
| | | | | | |

"Data Deliverable - Summary" "Priority Turnaround"

CH2M Hill
Hanford

CHAIN OF CUSTODY

Custody Form Initiator C.E. Heiden

Company Contact C.E. Heiden

Project Designation/Sampling Locations Riverland ERA
Suspect Waste Site

Ice Chest No. IT-1

Bill of Lading/Airbill No.

Method of Shipment Burlington

Shipped to TMA Richmond, CA

Possible Sample Hazards/Remarks Potential 2H-D Amine Contamination

Telephone 376-2640

Collection Date 9/26/94

Field Logbook No. EL-1042-3

Offsite Property No. W94-0-0944 #24

Sample Identification

BODOG1 - Soil (3) 120 ml a/g jars, (1) 120 ml jar

[] Field Transfer of Custody

Chain of Possession

(Sign and Print Names)

| Relinquished By | Date | Time | Received By | Date | Time |
|-------------------------|---------|------|-------------|---------|------|
| C.E. Heiden C.E. Heiden | 9/29/94 | 1245 | [Signature] | 9-29-94 | 1:30 |
| | | | | | |
| | | | | | |

Final Sample Disposition

Disposal Method: _____ Disposed by: _____ Date/Time: _____

Comments:

"Next Day Delivery"

| | | |
|--------------------------------------------|------------------------------|------------------------------------------------------------------------------------|
| Contractor CH2M Hill Hanford | OFF-SITE PROPERTY CONTROL | CONTROL NO. (To be obtained from PROPERTY MANAGEMENT) 1294-0-0944 #25 |
|--------------------------------------------|------------------------------|------------------------------------------------------------------------------------|

PART I - TO BE COMPLETED BY ORIGINATOR

| | | |
|-------------------------------------------------------------------|-------------------------------------------------------------|--------------------------------------------------------------------------------|
| Department Environmental Engineering & Sciences | Section Field Characterization & Sampling | Unit — |
| The following items are to be shipped from | | <input checked="" type="checkbox"/> Contractor <input type="checkbox"/> Vendor |
| Routing | | <input checked="" type="checkbox"/> Prepaid <input type="checkbox"/> Collect |
| Shipped to TMA/Norcal | Off-site Custodian Attn: Robert Fox | |
| Company 2030 Wright Ave. | On-site Custodian | |
| Address Richmond | State CA | Payroll No. |
| City | Zip Code 94804 | |
| Country | | |

| Qty. | Property No. | Description (include Manufacture Name, Model, Serial No.) | Acquisition Cost |
|------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| 1 | | Polycooler (IT-1) Samples packed in plastic bags and vermiculite. Samples stored with blue ice. Sample # BODOG1 Weight - 22 lbs. | |

- Classified
 Unclassified
 Shipped Under DOE Contract
 Shipped Under Contractor's Use Permit Contract.

Necessity for the off-site use of this property

Required for Project Work. List Project No. _____
 Business Trip
 Off-site Assignment
 Shipment to Subcontractor. List Subcontract No. _____
 Other (Please specify) **Samples require analysis that is not presently available on site.
Bill of Lading # 520 302 607**

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

| | | |
|-------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------------------------------------------------------------------|
| RM Clearance for Public Release L. Miller | RM Survey No. 179393 | Date 9-28-94 |
| Location of and Contact for Property (Name/Phone No./Bldg./Area) Riverland ERA/Suspect Waste Site | | |
| Date Ready for Shipment 9/28/94 | Cost Code to be Charged PB60AE | Approximate Date This Property will be Returned |
| Originated By CE Heiden | Date 9/28/94 | Authorized By Jonathan G. Lucas Date 9-28-94 |
| Property Representative Signature [Signature] | Date 9/28/94 | Property Management Approval [Signature] Date 9/28/94 |

PART II - TO BE COMPLETED BY SHIPPING

| | |
|-----------------------------------------------------|------------------------|
| Authorized Shipping Signature [Signature] | Date 9/29/94 |
|-----------------------------------------------------|------------------------|

DISTRIBUTION (AFTER FINAL SIGNATURES)

- White - Property Management Yellow - Shipping Green - Accounts Payable Pink - Originator Goldenrod - Property Management

| SAMPLE LOG-IN SHEET | | | | |
|---------------------------------------------------------------------------------|------------------------------|--------------------|--------------------------------------------------|----------------------|
| LAB NAME : TMA/ARLI | WMC | PAGE : 1 | OF 1 | |
| RECEIVED BY (PRINT NAME): | Nora McElearney | | LOG-IN-DATE : 9/30/94 | |
| RECEIVED BY (SIGNATURE): | <i>[Signature]</i> | | | |
| ICE CHEST NO. <u>RM89</u> | CORRESPONDING | | REMARKS: CONDITION OF SAMPLE SHIPMENT, ETC | |
| | EPA SAMPLE # | SAMPLE TAG # | | ASSIGNED LAB # |
| REMARKS: | B0D061 | | 4409068 | GOOD |
| 1. Custody Seal(s) | B0D0J6 | | 4409067 | 1 w/ BUBBLES |
| | B0D0T1 | | ↓ | 1 w/ BUBBLES |
| 2. Custody Seal Nos: | <i>[Large diagonal line]</i> | | | |
| 3. Chain of Custody Records | | | | |
| 4. Traffic Reports or Packing List | | | | |
| 5. Air bill | | | | |
| 6. Air bill No.: | | | | |
| 7. Sample Tags | | | | |
| 8. Sample Tags Numbers | | | | |
| 9. Sample Condition: | | | | |
| 10. Does information on custody records, traffic reports, and sample tags agree | | | | |
| 11. Date Received at Lab: | | | | |
| 12. Temp of ice chest | | | 3 °C | |
| 13. Time Received: | | | 0940 | |
| SAMPLE TRANSFER | | | | |
| Fraction: | | | | |
| Area #: | | | | |
| By: | <i>[Signature]</i> | | | |
| On: | | | | |

* Contact SMO and attach record of resolution

Reviewed By: Maureen Parrish
Date: 9/30/94

Logbook No.: N/A
Logbook Page No.: N/A

000008

TMA/ARLI
Thermo Analytical Inc.

RADIATION DOSE RATE SURVEY FORM

Date 9/30/94 COMPANY TMA/RICHMOND (WMC) OTHER ORD # FED EX 9552159304

Surveyor's Name NEIL McELRATH

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

Serial Nos. 710289 1 02619 Serial Nos. 407726 1 02628

Calibration Date 5/17/94 Calibration Date 9/12/94

Instrument Calibration Factor 28.4% Instrument Calibration Factor 19.3%

| 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 | | 25 | | | 2 | | | | |
| Consistency | | 7250 | 28.0% | | 5010 | 19.3% | | | |
| Smears: | | | | | | | | | |
| RMEY | | 35 | | | 1 | | | | |
| WESTINGHOUSE REPORTS ALL SAMPLES < 50 pCi/g | | | | | | | | | |
| (D) 9/30/94 | | | | | | | | | |

Comments: VIBRODOSE SURVEY = 225 uR/h

All OK Approved (Signature)

Not OK Date 9/30/94

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Received: 09/30/94

TMA Inc. REPORT
Results by Sample

Work Order # A4-09-068

SAMPLE ID B000G1FRACTION 01A TEST CODE 8080SP NAME Pest/PCB Soil Pkg.
Date & Time Collected 09/26/94 Category OTHER

8080 PESTICIDE/PCB ORGANICS

Matrix: SOIL
Sample wt/vol: 30.2 g
Moisture: 4
Extraction (SepF/Cont/Sonc): SONC
Concentrated Extract Volume: 10 mL
Injection Volume: 1 uL
GPC Cleanup (Y/N): N pH _____Lab File Id: BJ04030
Decanted (Y/N): N
Date Prepared: 10/03/94
Date Analyzed: 10/05/94
Dilution Factor: 1.0
Sulfur Cleanup (Y/N): N

| CAS NO. | COMPOUND | RESULT ug/Kg | DET. LIM ug/Kg |
|------------|---------------------|-----------------|-------------------|
| 319-84-6 | alpha-BHC | ND | 1.8 |
| 319-85-7 | beta-BHC | ND | 1.8 |
| 319-86-8 | delta-BHC | ND | 1.8 |
| 58-89-9 | gamma-BHC (Lindane) | ND | 1.8 |
| 76-44-8 | Heptachlor | ND | 1.8 |
| 309-00-2 | Aldrin | ND | 1.8 |
| 1024-57-3 | Heptachlor epoxide | ND | 1.8 |
| 959-98-8 | Endosulfan I | ND | 1.8 |
| 60-57-1 | Dieldrin | ND | 3.4 |
| 72-55-9 | 4,4'-DDE | ND | 3.4 |
| 72-20-8 | Endrin | ND | 3.4 |
| 33213-65-9 | Endosulfan II | ND | 3.4 |
| 72-54-8 | 4,4'-DDD | ND | 3.4 |
| 1031-07-8 | Endosulfan sulfate | ND | 3.4 |
| 50-29-3 | 4,4'-DDT | ND | 3.4 |
| 72-43-5 | Methoxychlor | ND | 18 |
| 53494-70-5 | Endrin ketone | ND | 3.4 |
| 7421-93-4 | Endrin aldehyde | ND | 3.4 |
| 57-74-9 | Chlordane | ND | 18 |
| 8001-35-2 | Toxaphene | ND | 180 |
| 12674-11-2 | Aroclor-1016 | ND | 34 |
| 11104-28-2 | Aroclor-1221 | ND | 68 |
| 11141-16-5 | Aroclor-1232 | ND | 34 |
| 53469-21-9 | Aroclor-1242 | ND | 34 |
| 12672-29-6 | Aroclor-1248 | ND | 34 |
| 11097-69-1 | Aroclor-1254 | ND | 34 |
| 11096-82-5 | Aroclor-1260 | ND | 34 |

Percent Surrogate Recovery

TCX 87DCB 108

FORM I