

START

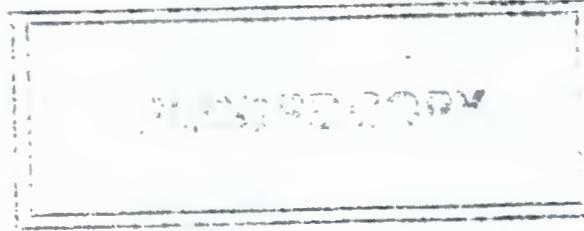
9613490.0555

BOBFK2-TMA-720

0045383

TMA

7/2



WESTINGHOUSE HANFORD COMPANY

Results of Analyses For:

GENERAL CHEMISTRY & ORGANICS
Case No. 03-048
(TMA/ARLI W.O. No. A4-03-048)



April 21, 1994

TMA Master Work Order N4-03-061

9613490.0556

000001

WESTINGHOUSE HANFORD COMPANY

Results of Analyses For:

GENERAL CHEMISTRY
CASE NO. 03-048
(TMA/ARLI Work Order # A4-03-048)

ORGANICS
CASE NO. 03-048
(TMA/ARLI Work Order # A4-03-048)

General Chemistry and Organic results are presented
for the following WHC LIQUID samples:

BOBFK2 BOBFK4
BOBFJ5 BOBFJ8

Norcal Work Order # N4-03-061

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

Date submitted:

4 / 20 / 94

000002

PAGE 1

TMA/Norcal

CHAIN OF CUSTODY

ORD # N4-03-061

RCVD: 03/14/94 DUE: 04/18/94

03/14/94 22:08:20

KEEP: 04/18/95 DISP: S

| DASH | SAMPLE IDENTIFICATION | STORED | TESTS for FRACTIONS with work in DEPT: SU and CATEGORY |
|-------|-----------------------|--------|--|
| 01A-W | BOBFK2 | ARLI | : WH099 WH118 |
| 02A-W | BOBFK4 | ARLI | : WH099 WH118 |
| 03A-W | BOBFJ5 | ARLI | : WH099 WH118 |
| 04A-W | BOBFJB | ARLI | : WH099 WH118 |
| 04B-W | BOBFJB MS | ARLI | : WH099 |
| 04C-W | BOBFJB MSD | ARLI | : WH099 |
| 04D-W | BOBFJB DUP | ARLI | : WH118 |

| RELEASED BY | DATE | TRANSFERRED TO | DATE | RECEIVED BY | DATE |
|------------------|----------------|----------------|----------------|-------------|----------------|
| <u>tyamamoto</u> | <u>3/14/94</u> | <u>ARLI</u> | <u>3/14/94</u> | <u>P.S</u> | <u>3/15/94</u> |
| _____ | _____ | _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ | _____ | _____ |

BOBFJ5 FOR TPH WAS BROKEN BY ARRIVAL TO ARLI/TMA
(3/15/94) P.S

| | |
|--|--|
| Westinghouse Hanford Company | <h2 style="margin: 0;">CHAIN OF CUSTODY</h2> |
| Custody Form Initiator <i>K. Donnelson</i> | |
| Company Contact PH BUTCHER | Telephone (509) 376-5045 |
| Project Designation/Sampling Locations 100-NR-2 | Collection Date <i>3/7/94</i> |
| Ice Chest No. <i>GWS013</i> | Field Logbook No. <i>EFL-1058</i> |
| Bill of Lading/Airbill No. <i>40213820T</i> | Offsite Property No. <i>W94-0-0336-11</i> |
| Method of Shipment EMERY | |
| Shipped to TMA | |
| Possible Sample Hazards/Remarks NONE DETECTED | |

Sample Identification

BOBFK2

- 1; 2L; G; WATER; TPH-Diesel Range (H2SO4 to pH<2)
- 1; 2L; G; WATER; OIL AND GREASE (H2SO4 to pH<2)

| [] Field Transfer of Custody | Chain of Possession | | | | (Sign and Print Names) | |
|-------------------------------|---------------------|-------------|----------------------------|----------------|------------------------|--|
| Relinquished By | Date | Time | Received By | Date | Time | |
| <i>Karl F. Donnelson</i> | <i>3-8-94</i> | <i>0800</i> | <i>Blweeney L Sweeney</i> | <i>3/8/94</i> | <i>0800</i> | |
| <i>L Sweeney</i> | <i>3/11/94</i> | <i>0900</i> | <i>Kermit Blum K. Blum</i> | <i>3-14-94</i> | <i>*</i> | |
| | | | | | | |

Final Sample Disposition

| | | |
|---|--------------|------------|
| Disposal Method: | Disposed by: | Date/Time: |
| | | |
| Comments: <i>Fridge 2L 3-7-94 KN 1210</i> | | |

* Received @ TMA / NORCAL 3-12-94; opened 3-14-94. KB

Westinghouse
Hanford Company

CHAIN OF CUSTODY

Custody Form Initiator *K. Trapp*
 Company Contact **PH BUTCHER**
 Project Designation/Sampling Locations **100-NR-2**
 Ice Chest No. *GWSO25*
 Bill of Lading/Airbill No. *140213820T*
 Method of Shipment **EMERY**
 Shipped to **TMA**
 Possible Sample Hazards/Remarks **NONE DETECTED**

Telephone **(509) 376-5045**
 Collection Date *3/8/94*
 Field Logbook No. *EFL-1098*
 Offsite Property No. *W94-0-0336-11*

Sample Identification

BOBF^{K4}

- 1; 2L; G; WATER; TPH-Diesel Range (H2SO4 to pH<2)
- 1; 2L; G; WATER; OIL AND GREASE (H2SO4 to pH<2)

| Field Transfer of Custody | | Chain of Possession | | (Sign and Print Names) | |
|------------------------------|----------------|---------------------|-----------------------------|------------------------|-------------|
| Relinquished By | Date | Time | Received By | Date | Time |
| <i>K. Trapp / K. Trapp</i> | <i>3/10/94</i> | <i>0822</i> | <i>A. Simpson</i> | <i>3/10/94</i> | <i>0822</i> |
| <i>A. Simpson AT SIMPSON</i> | <i>3/11/94</i> | <i>0900</i> | <i>Kenneth Blum K. Blum</i> | <i>3-14-94</i> | <i>*</i> |
| | | | | | |

Final Sample Disposition

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

Comments:

Set in Frig 3 at 1045 on 3/8/94

** Received @ TMA/Norcal 3-12-94; opened 3-14-94 . KB*

| | |
|--|--|
| Westinghouse Hanford Company | <h2 style="margin: 0;">CHAIN OF CUSTODY</h2> |
| Custody Form Initiator <i>K. Trapp</i> | |
| Company Contact PH BUTCHER | Telephone (509) 376-5045 |
| Project Designation/Sampling Locations 100-NR-2 | Collection Date <i>3/4/94</i> |
| Ice Chest No. <i>GWS025</i> | Field Logbook No. <i>EFL-1096</i> |
| Bill of Lading/Airbill No. <i>140 213820T</i> | Offsite Property No. <i>W94-0-033611</i> |
| Method of Shipment EMERY | |
| Shipped to TMA | |
| Possible Sample Hazards/Remarks NONE DETECTED | |

Sample Identification

BOBFJ5

- 1; 2L; G; WATER; TPH-Diesel Range (H2SO4 to pH<2)
- 1; 2L; G; WATER; OIL AND GREASE (H2SO4 to pH<2)

| [] Field Transfer of Custody | | Chain of Possession | | | (Sign and Print Names) | |
|-------------------------------|----------------|---------------------|-----------------------------|----------------|------------------------|--|
| Relinquished By | Date | Time | Received By | Date | Time | |
| <i>K. Trapp / K. Trapp</i> | <i>3/8/94</i> | <i>0804</i> | <i>A. Simpson</i> AJSIMPSON | <i>3/8/94</i> | <i>0823</i> | |
| <i>A. Simpson</i> AJSIMPSON | <i>3/11/94</i> | <i>0900</i> | <i>Hermit Blum</i> K. Blum | <i>3-14-94</i> | <i>*</i> | |
| | | | | | | |

Final Sample Disposition

| | | |
|--|--------------|------------|
| Disposal Method: | Disposed by: | Date/Time: |
| Comments: <i>Set in Frig 3 on 3/4/94 at 1400</i> | | |

** Received @ TMA/Norcal 3-12-94; opened 3-14-94 ·KB*

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| | | |
|--|--|---|
| Westinghouse Hanford Company | CHAIN OF CUSTODY | |
| Custody Form Initiator <i>K. Donnelson</i> | Company Contact PH BUTCHER | Telephone (509) 376-5045 |
| Project Designation/Sampling Locations 100-NR-2 | Ice Chest No. <i>GW5013</i> | Collection Date <i>3/7/94</i> |
| Bill of Lading/Airbill No. <i>140213820T</i> | Method of Shipment EMERY | Field Logbook No. <i>EFL-1058</i> |
| Shipped to TMA | Possible Sample Hazards/Remarks NONE DETECTED | Offsite Property No. <i>W94-0-0336-11</i> |

Sample Identification

BOBFJ9

1; 2L; G; WATER; TPH-Diesel Range (H2SO4 to pH<2)
 1; 2L; G; WATER; OIL AND GREASE (H2SO4 to pH<2)

| [] Field Transfer of Custody | | Chain of Possession | | (Sign and Print Names) | |
|-------------------------------|----------------|---------------------|--------------------|------------------------|-------------|
| Relinquished By | Date | Time | Received By | Date | Time |
| <i>K. Donnelson</i> | <i>3-8-94</i> | <i>0800</i> | <i>L. Sweeney</i> | <i>3/8/94</i> | <i>0800</i> |
| <i>L. Sweeney</i> | <i>3/11/94</i> | <i>0900</i> | <i>Kermit Blum</i> | <i>3-14-94</i> | <i>*</i> |
| | | | | | |

Final Sample Disposition

| | | |
|--|--------------|------------|
| Disposal Method: | Disposed by: | Date/Time: |
| Comments: <i>Fridge 2C KD 3-7-94 1210</i> | | |

* Received @ TMA/Norcal 3-12-94 ; opened 3-14-94 .KB

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N403061

OFFICE OF SAMPLE MANAGEMENT

RECORD OF DISPOSITION

ROD-94-0057
Record of Disposition No.

DATE: 3/16/94

LABORATORY: TMA

PROJECT TITLE/NO.: 100-NR-2/SAF# 94-049

NCR NO.: N/A

SAMPLE IDENTIFICATION NUMBERS:

BOBFJ5

DESCRIPTION OF EVENT:

The TPH aliquot was broken in transit from the TMA NORCAL to ARLI laboratory.

Since the event occurred at the laboratory, generation of a WHC Nonconformance Report is not required.

DISPOSITION OF SAMPLES:

With consent from the technical representative, A. D. Krug, the laboratory will use 500 mL of the 2000 mL Oil and Grease aliquot of sample BOBFJ5.

APPROVAL SIGNATURES:

W. E. Strohben / *W.E. Strohben*
OSM Project Coordinator (Print/Sign Name)

3/16/94
Date

A. D. Krug / *Alan D. Krug*
Technical Representative (Print/Sign Name)

3/17/94
Date

N/A
Quality Assurance (Print/Sign Name)

Date

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N403061
N40304T
N403011

OFFICE OF SAMPLE MANAGEMENT

MAR 25 1994 RECORD OF DISPOSITION

ROD-94-0058
Record of Disposition No.

DATE: 3/16/94

LABORATORY: TMA

PROJECT TITLE/NO.: 100-NR-2/SAF# 94-049

NCR NO.: 051949

SAMPLE IDENTIFICATION NUMBERS:

BOBFJ0, BOBFJ1, BOBFJ2, BOBFJ4, BOBFJ5, BOBFJ6, BOBFJ7, BOBFJ8, BOBFJ9, BOBFK0,
BOBFK1, BOBFK2, BOBFK3, BOBFK4

DESCRIPTION OF EVENT:

Sample Authorization Form (SAF) 94-049 specifies two, 1-liter glass bottles per sample for Oil and Grease aliquots by SW-846 Method 9070. One, 2-liter glass bottle per sample was provided by the samplers. This departure in sample bottle requirements forces the laboratory to deviate from the 9070 protocol. Oil and Grease Method 9070, section 7.4, requires the 1-liter bottle to be rinsed with 30 mL of fluorocarbon-113 and added to the 1-liter sample portion in order to remove any oil and grease adhering to the walls of the container. With a 2-liter bottle, the fluorocarbon is exposed to a larger surface area. The fluorocarbon exposed to the 2-liter bottle is then added to the required 1-liter sample aliquot.

DISPOSITION OF SAMPLES:

With consent from the technical representative, A. D. Krug, continue with the analysis for Oil and Grease with the understanding that the method deviations will result in questionable data due to the sample inhomogeneity. Data useability shall be addressed during the validation process.

APPROVAL SIGNATURES:

W. E. Strohben / *W. E. Strohben*
OSM Project Coordinator (Print/Sign Name)

3/16/94
Date

A. D. Krug / *Alan D. Krug*
Technical Representative (Print/Sign Name)

3/17/94
Date

N/A
Quality Assurance (Print/Sign Name)

Date

9613490.0568

OFFICE OF SAMPLE MANAGEMENT
RECORD OF DISPOSITION

ROD-94-0062
Record of Disposition No.

DATE: 3/22/94

LABORATORY: TMA

PROJECT TITLE/NO.: 100-NR-2/SAF# 94-049

NCR NO.: N/A

SAMPLE IDENTIFICATION NUMBERS:

BOBFJ5

DESCRIPTION OF EVENT:

The holding time of 14 days for Total Petroleum Hydrocarbons by SW-846 8015M was exceeded by two days.

In this circumstance, the holding time excursion occurred while the sample was in possession of the laboratory; a Westinghouse Nonconformance Report written against the laboratory is not required.

DISPOSITION OF SAMPLES:

With consent from the technical representative, A. D. Krug, report the Total Petroleum Hydrocarbon result. Discuss the holding time excursion in the case narrative.

APPROVAL SIGNATURES:

W. E. Strohben / *W. E. Strohben*
OSM Project Coordinator (Print/Sign Name)

3/23/94
Date

Alan D. Krug
A. D. Krug/
Technical Representative (Print/Sign Name)

3/23/94
Date

N/A
Quality Assurance (Print/Sign Name)

Date

| | | | | |
|---|------------------------------|--|------------------|---------------------------------|
|  Westinghouse Hanford Company | NONCONFORMANCE REPORT | | 1. Page <u>1</u> | 2. Preprinted No. 051949 |
| | | | of <u>2</u> | QA Log No. EQA-94-016 |

| | | | | |
|--|--------------------------------|---------------------------------|---|-------------------|
| 3. P. O., W. O., or Job Control No. N/A | 4. System/End Use RI/FS | 5. Item/Material SAMPLES | 6. Dwg./Spec./Other No. SEE BOX 19 | 7. Rev N/A |
|--|--------------------------------|---------------------------------|---|-------------------|

| | | |
|--|----------------------------|--|
| 8. Program/Project/Other 100-NR-2 SAF# 94-048 | 9. Safety Class N/A | 10. ASME Code Items <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (If yes, notify authorized inspector) |
|--|----------------------------|--|

| | |
|--|---|
| 11. Supplier Name/Address ENVIRONMENTAL FIELD SAMPLING SERVICES | 12. Notification of Potential Occurrence Required <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
|--|---|

| | | | | |
|--------------------------------------|------------------------|----------------------|------------------------|---|
| 13. Code: Lot/Heat/Serial N/A | 14. Lot Size 14 | 15. Sample 14 | 16. Qty. Acc. 0 | 17. Inspection Criteria <input type="checkbox"/> Dwg. <input type="checkbox"/> Spec. <input type="checkbox"/> Insp. Plan <input checked="" type="checkbox"/> Other SW-246 METHOD 9070, SAF# 94-048 |
|--------------------------------------|------------------------|----------------------|------------------------|---|

| 18. Item | 19. Description of Nonconformance (list serial no. where applicable) | 22. Disposition, Justification, and Instructions |
|----------|---|---|
| | <p>SW-246 METHOD 9070, SECTION 6.0, SAMPLE COLLECTION, PRESERVATION AND HANDLING STATES THAT A REPRESENTATIVE SAMPLE SHOULD BE COLLECTED IN A 1-LITER GLASS BOTTLE. SAF # 94-048 REQUIRES TWO 1-LITER BOTTLES FOR EACH SAMPLE.</p> <p>ONE 2-LITER BOTTLES WERE USED IN SAMPLE COLLECTION. THIS DEPARTURE FROM THE REQUIRED 1-LITER BOTTLE REQUIREMENTS FORCES THE LABORATORY TO DEVIATE FROM THE METHOD 9070 EXTRACTION PROTOCOL.</p> <p>AFFECTED SAMPLES: BOBEJ0, BOBEJ1, BOBEJ2, BOBEJ3, BOBEJ4, BOBEJ5, BOBEJ6, BOBEJ7, BOBEJ8, BOBEJ9, BOBEK0, BOBEK1, BOBEK2, BOBEK3, BOBEK4</p> | <p>Accept-As-Is-</p> <p>Reference ROD-94-0058 for a description of the event. This NCR event may have effected the analysis results for these samples. This NCR shall serve to identify, to future users of the data that data may have been effected.</p> |

| | | |
|--|---------------------|--|
| 20. Originator's Signature W. E. Strubbe W. E. STRUBBE | Date 3/16/94 | 23. Design Document Change Required? <input type="checkbox"/> Yes, Doc. No. <input checked="" type="checkbox"/> No |
|--|---------------------|--|

| | | |
|---|---------------------|--|
| 21. Cognizant QA Manager's Signature TL BENNINGTON | Date 3/28/94 | 24. Corrective Action Required? <input type="checkbox"/> Yes, No. <input checked="" type="checkbox"/> No |
|---|---------------------|--|

| | | | | | |
|------------|---|------------------------------|------|--------------------------|------|
| Disp. App. | 25. Cognizant Engineer A.D. KRUG A.D. KRUG Date 4/14/94 | 26. Technical Rep. NA | Date | Signature/Org. | Date |
| | QA Engineer GS CORRIGAN GS CORRIGAN Date 4-14-94 | Signature/Org. NA | Date | Signature/Org. NA | Date |

| | | |
|-----------|--|--|
| 27. Close | Accept <u>14</u> Reject <u>0</u> Follow on NCR <u>NA</u> | Signature TL Bennington Date 4-14-94 |
|-----------|--|--|

SAMPLE LOG-IN SHEET

WTC

LAB NAME : TMA/ARLI

PAGE : 1 OF 1

RECEIVED BY (PRINT NAME): PAYAM SHADI

LOG-IN-DATE : 3/15/94

RECEIVED BY (SIGNATURE): *Payam Shadi*

ICE CHEST NO. SML522

REMARKS: Broken BOBFS5

| EPA SAMPLE # | SAMPLE TAG # | ASSIGNED LAB # | CORRESPONDING |
|--------------|--------------|----------------|--|
| | | | REMARKS: CONDITION OF SAMPLE SHIPMENT, ETC |
| | BOBFS5 | AL-03-048 | good ↓ |
| | BOBFK4 | | |
| | BOBFK2 | | |
| | BOBFS8 | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

1. Custody Seal(s) Present / Absent* Intact / Broken

2. Custody Seal Nos: N/A

3. Chain of Custody Records Present / Absent*

4. Traffic Reports or Packing List Present / Absent*

5. Airbill Airbill / Sticker Present / Absent*

6. Airbill No.: 72 89153502

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 Received at Lab: 3/15/94

12. Temp of ice chest 4 °C

13. Time Received: 9:30

SAMPLE TRANSFER

Fraction: N/A

Area #: N/A

By: N/A

On: N/A

Contact SMO and attach record of resolution reviewed By:

Date:

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

000004

GENERAL FEDEX QUESTIONS? CALL 800-238-5355 TOLL FREE.

AIRBILL PACKAGE TRACKING NUMBER 7289153502

3095M 7289153502

RECIPIENT'S COPY

From (Your Name) Please Print: **SAMPLE CONTROL** Your Phone Number (Very Important): **610-235-2633** Date: **3-14-94**

To (Recipient's Name) Please Print: **CAROLE HARRIS** Recipient's Phone Number (Very Important): **818 357-3247**

Company: **I M A / NORCAL** Department/Floor No.: **TMA/ARLI**

Street Address: **2030 WRIGHT AVE** Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.): **160 TAYLOR STREET**

City: **RICHMOND** State: **CA** ZIP Required: **94804** City: **MONROVIA,** State: **CA** ZIP Required: **91016**

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice): **2340-6406**

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

PAYMENT: Cash Check Bill Recipient's FedEx Acct. No. Bill 3rd Party FedEx Acct. No. Bill Credit Card

4 SERVICES (Check only one box) **5 DELIVERY AND SPECIAL HANDLING (Check all that apply)** **6 PACKAGES** **7 WEIGHT** **8 YOUR DECLARED VALUE (See right)**

11 OTHER PACKAGING 16 FEDEX LETTER 12 FEDEX PAK 13 FEDEX BOX 14 FEDEX TUBE

51 OTHER PACKAGING 56 FEDEX LETTER* 52 FEDEX PAK* 53 FEDEX BOX 54 FEDEX TUBE

1 HOLD FOR PICK-UP (Call for box #) 2 DELIVER WEEKDAY 3 DELIVER SATURDAY (Extra charge) (Not available to all locations) 4 DANGEROUS GOODS (Extra charge) 6 DIM SHIPMENT (Chargeable Weight) 7 OTHER SPECIAL SERVICE 8 SATURDAY PICK-UP (Extra charge) 9 HOLIDAY DELIVERY (if offered) (Extra charge)

10 DIM SHIPMENT (Chargeable Weight) 11 DIM SHIPMENT (Chargeable Weight) 12 DIM SHIPMENT (Chargeable Weight)

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100 DIM SHIPMENT (Chargeable Weight)

Emp. No. Date Federal Express Use

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

REVISION DATE 11/92 PART #137204 FYEM 3/93 FORMAT #155

155

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Release Signature:

BEST AVAILABLE COPY

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Signature Security Service

Saturday Delivery

| | | |
|-------------------|--------------------------------------|---|
| Contractor WHC | OFF-SITE PROPERTY CONTROL | CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT) <i>W94-0-0336-11</i> |
|-------------------|--------------------------------------|---|

PART I - TO BE COMPLETED BY ORIGINATOR

| | | |
|------------------------------|---------------------|----------------------------|
| Department Env. Eng. & Tech. | Section Geosciences | Unit Geochem. & Hydrochem. |
|------------------------------|---------------------|----------------------------|

The following items are to be shipped from Contractor Vendor

Routing Emery Contractor Vendor

| | |
|--|--------------------|
| Shipped to TMA/NORCAL 2030 Wright Ave. Richmond, CA 94804 | Off-site Custodian |
| | Full Title |

| Quantity | Description (Include Serial and any Government Tag Numbers) | Original Cost |
|---------------------|---|---------------|
| 1 <i>72 lbs.</i> | Sample #: <i>B6 BFK2, D0BFJ8</i> Cooler ID: <i>GWS013</i> Polycooler with groundwater samples packed in wet ice and vermiculite | N/A |
| 1 <i>68 lbs.</i> | Sample #: <i>B6 BFJ5, B0BFK4</i> Cooler ID: <i>GWS005</i> Polycooler with groundwater samples packed in wet ice and vermiculite | N/A |

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

Necessity for the Off-Site Use of this Property

Sampling supports RI/FS work in the *100 AREA*

Bill of lading # *140213820T*

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

| | | |
|---|--|---|
| RM Clearance for Public Release <i>Approved</i> | RM Survey No. <i>157205</i> | Date <i>3-11-94</i> |
| Location of Property (Area & Bldg.) <i>100-NR-2</i> | Contact <i>PH Butcher</i> | Phone <i>(509) 376-5045</i> |
| Date Ready for Shipment <i>3-11-94</i> | Cost Code to be Charged <i>W812321 P213A</i> | Approximate Date This Property will be Returned <i>NA</i> |
| Originated By <i>PH Butcher</i> | Date <i>3/11/94</i> | Authorized By <i>[Signature]</i> |
| Signature and Name of Property Control | Custodian Date | Property Management Approval Date <i>3/11/94</i> |

PART II - TO BE COMPLETED BY SHIPPING

| | | | | |
|---|------------------|-------------|--------------------|-------------|
| Signature of Recipient <i>[Signature]</i> | Return Order No. | Date Issued | Purchase Order No. | Date Issued |
| Date <i>3-11-94</i> | | | | |

DISTRIBUTION

| | | |
|--|---|--|
| <p>By Originator</p> <p>White, Green, Yellow, Pink - Property Management Goldenrod - Retain</p> | <p>Shipping Operation - Sign all Copies and Forward to:</p> <p>White - Property Management Yellow - Retain</p> | <p>Green - Property Control Custodian (Issuing Office) Pink - Originator</p> |
|--|---|--|

9613490.0573

000004B

EMERY
WORLDWIDE



DATE: 03-11-94 SHIPMENT NO.: 140213820 T
SHIPPER: WESTINGHOUSE SHIPPING DEPT (509) 376-6665
REFERENCE NO.: W94-0-0336#11

SIGNATURE AND TALLY RECORD

60029-46 (8/89) Litho USA

SHIPPER NAME AND ADDRESS

WESTINGHOUSE SHIPPING DEPT (509) 376-6665
U.S. DEPARTMENT OF ENERGY C/O
WESTINGHOUSE HANFORD COMPANY
2355 STEVENS DRIVE 1163 BUILDING
PO BOX 1970
RICHLAND WA 99352

CONSIGNEE NAME AND ADDRESS

TMA/MORCAL
2030 WRIGHT AVENUE
RICHLAND CA 94804

| | | | |
|--------------------|--------------------------|---|-------------------------|
| Pieces 2 | Weight 141 LBS | Description/Marks COOLERS ID: GWS 013 72# GWS 025 69# WATER SAMPLES | Emery Authorization No. |
|--------------------|--------------------------|---|-------------------------|

EACH PERSON HANDLING OR TAKING CUSTODY OF THIS SHIPMENT MUST SIGN AND COMPLETE THE INFORMATION BELOW

| Name of Person/Company | Tranship Point/Destination | Signature of Person Accepting Custody | Time/Date |
|---|----------------------------|---------------------------------------|--------------|
| 1. CR NELSON WESTINGHOUSE HANFORD CO SHIPPING DEPT | RICHLAND WA | | |
| 2. <i>[Signature]</i> | | | |
| 3. <i>[Signature]</i> | | | |
| 4. <i>[Signature]</i> | | | |
| 5. C Schlegel Ferris | TMA | <i>[Signature]</i> | 1300 3-12-94 |
| 6. J Corso | TMA/Morcal Oak | <i>[Signature]</i> | 1300 3-14-94 |
| 7. | | | |
| 8. | | | |

SPECIAL HANDLING INSTRUCTIONS

CONSIGNEE COPY

000006

GENERAL CHEMISTRY RESULTS

CASE NO. 03-048

Sample #s:

| | |
|--------|--------|
| BOBFK2 | BOBFK4 |
| BOBFJ5 | BOBFJ8 |

CASE NARRATIVE

The TPH bottle for sample BOBFJ5 was broken in transit from TMA/Norcal to TMA/ARLI laboratory. In accordance with ROD-94-0057, TMA/ARLI will analyze for TPH using 500ml of the 2000ml Oil and Grease aliquot. The removal of the 500ml could effect the homogeneity of the sample.

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

Maureen Parrish 4/20/94

Maureen Parrish

9613490.0576

TMA Inc.

REPORT

Work Order # A4-03-048

Received: 03/14/94

04/20/94 12:05:22

000007

REPORT Westinghouse Hanford Company
TO 345 Hills
Richland, WA 99352

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

Maureen Parrish

CERTIFIED BY

ATTEN Ms. Briana Colley

ATTEN Ms. Carole Harris

PHONE 818-357-3247

CONTACT MKP CIH

CLIENT WHC SAMPLES 5

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 SAF # 94-049

TAKEN By Westinghouse Staff

TRANS Federal Express

TYPE Liquid

P.O. # N4-03-061-SU-AR

INVOICE under separate cover

SAMPLE IDENTIFICATION

TEST CODES and NAMES used on this workorder

- 01 BOBFK2
- 01 BOBFK2 MS
- 01 BOBFK2 MSD
- 01 BOBFK2
- 02 BOBFK4
- 02 BOBFK4 Duplicate
- 03 BOBFJ5
- 04 BOBFJ8
- 05 DBLK0321
- 05 Lab Blank
- 05 LCS

- 8015E3 8015M (Extractable) Form 3
- 8015MS EPA 8015M EXTRACT.
- BLKSUM Method Blank Summary
- BROKEN Samples Broken on Arrival
- OIL GR Oil and Grease - gravimet.
- WCCLPL Anions & Wet Chem.
- WCLCS Lab Control Sample Summary
- WCOCD Quality Control Summary

9613490.0577

TMA Inc.

REPORT

Work Order # A4-03-048

Received: 03/14/94

Results by Sample

SAMPLE ID BOBFK2

FRACTION 01D

TEST CODE WCCLPL

NAME Anions & Wet Chem.

Date & Time Collected 03/07/94

Category _____

| ANIONS AND WET CHEMISTRY - LIQUIDS | | | | |
|------------------------------------|---------------|---------------|--------------|--------------|
| <u>ANALYSIS</u> | <u>METHOD</u> | <u>RESULT</u> | <u>UNITS</u> | <u>LIMIT</u> |
| Oil and Grease | 9070 | <5 | mg/L | 5 |
| | | | | |

000009

FORM I

9613490.0578

Received: 03/14/94

TMA Inc.

REPORT

Work Order # A4-03-048

Results by Sample

SAMPLE ID BOBFK4

FRACTION 02B

TEST CODE WCCLPL

NAME Anions & Wet Chem.

Date & Time Collected 03/08/94

Category _____

| ANIONS AND WET CHEMISTRY - LIQUIDS | | | | |
|------------------------------------|---------------|---------------|--------------|--------------|
| <u>ANALYSIS</u> | <u>METHOD</u> | <u>RESULT</u> | <u>UNITS</u> | <u>LIMIT</u> |
| Oil and Grease | 9070 | <5 | mg/L | 5 |
| | | | | |

000010

FORM I

9613490.0579

TMA Inc.

REPORT

Work Order # A4-03-048

Received: 03/14/94

Results by Sample

SAMPLE ID BOBFJ5

FRACTION 03B

TEST CODE WCCLPL

NAME Anions & Wet Chem.

Date & Time Collected 03/04/94

Category _____

| ANIONS AND WET CHEMISTRY - LIQUIDS | | | | |
|------------------------------------|---------------|---------------|--------------|--------------|
| <u>ANALYSIS</u> | <u>METHOD</u> | <u>RESULT</u> | <u>UNITS</u> | <u>LIMIT</u> |
| Oil and Grease | 9070 | <5 | mg/L | 5 |
| | | | | |

000011

FORM I

000012

TMA Inc.

REPORT

Work Order # A4-03-048

Received: 03/14/94

Results by Sample

SAMPLE ID BOBFJ8

FRACTION 04B

TEST CODE WCCLPL

NAME Anions & Wet Chem.

Date & Time Collected 03/07/94

Category _____

| ANIONS AND WET CHEMISTRY - LIQUIDS | | | | |
|------------------------------------|---------------|---------------|--------------|--------------|
| <u>ANALYSIS</u> | <u>METHOD</u> | <u>RESULT</u> | <u>UNITS</u> | <u>LIMIT</u> |
| Oil and Grease | 9070 | <5 | mg/L | 5 |
| | | | | |

000012

FORM I

9516452 0771



RECORD COPY

000020

CASE NO. 03-048

*DATA REPORT
ORGANICS*

PREPARED BY:

*TMA/ARLI
160 TAYLOR ST.
MONROVIA, CA 91016*

CASE NARRATIVE

LABORATORY : TMA/ARLI

CASE : 03-048

000021

CONTRACT ID : WESTINGHOUSE HANFORD COMPANY

SDG RECEIPT DATE : March 14, 1994

1.0 DESCRIPTION OF CASE :

Four water samples were analyzed for Total Petroleum Hydrocarbons (Diesel Range) according to USEPA SW846 Method 8015 Modified.

2.0 SAMPLE LIST :

| <u>WESTINGHOUSE ID</u> | <u>LAB ID</u> | <u>ANALYSIS REQUESTED</u> | <u>MATRIX</u> |
|------------------------|---------------|-------------------------------|---------------|
| BOBFK2 | A4-03-048-01A | TPH | WATER |
| BOBFK2 MS | A4-03-048-01B | TPH | WATER |
| BOBFK2 MSD | A4-03-048-01C | TPH | WATER |
| BOBFK4 | A4-03-048-02A | TPH | WATER |
| BOBFJ5 | A4-03-048-03B | TPH | WATER |
| BOBFJ8 | A4-03-048-04A | TPH | WATER |

TPH by 8015 Modified

3.0 COMMENTS :

3.1 SHIPPING AND DOCUMENTATION :

1, 2-Liter amber glass container for sample BOBFJ5 was received broken at TMA/ARLI. As per WHC ROD-94-0057, the laboratory was instructed to use 500 mL of the 2000 mL Oil & Grease aliquot in order to analyze for TPH by Method 8015 Modified.

All of the other samples were received unbroken and properly documented.

3.2 ANALYSIS

3.2.1 TOTAL PETROLEUM HYDROCARBONS ANALYSIS COMMENTS :

SEQUENCE NOTES :

The sequence was started on 03/26/94 and was analyzed according to the SW-846 Method 8015M. Five different concentrations of Diesel were injected as part of the initial calibration. The initial calibration and continuing calibrations met all of the QC requirements established by the method.

LOW LEVEL WATER :

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

000022

Sample B0BFK2 was spiked with 20.2 mg/L of Diesel. The MS and MSD recoveries were 86% and 83%, respectively. A blank spike was also performed, which yielded a 89% recovery. The blank spike data has been included as "Additional Raw Data" in the package.

The surrogate recoveries for o-Terphenyl ranged from 76% to 89%. These results were included in the "Additional Raw Data" portion of the package.

All of the results were within the QC criteria specified by the SW-846 Method 8015M.

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 is authorized by the Laboratory Manager or his designee, as verified by the following signatures.

Nicole Roth
Nicole Roth 4/19/94
Program Manager

Maureen Parrish
Maureen Parrish 4/20/94
Program Manager

9613490.0584

Received: 03/14/94

TMA Inc.

REPORT

Work Order # A4-03-048

Results by Sample

SAMPLE ID BOBPK2

FRACTION 01A TEST CODE 8015MS NAME EPA 8015M EXTRACT.

Date & Time Collected 03/07/94

Category _____

000026

MODIFIED 8015 - EXTRACTABLE FUEL HYDROCARBONS

Matrix: WATER

Date Analyzed: 03/27/94

Dilution factor: 1.00

Concentration Units: mg/L

| Compound | Sample Result | PQL |
|--------------------------|---------------|-----|
| Kerosene Range | NA | NA |
| C10 - C16 Jet Fuel Range | NA | NA |
| C9 - C22 Diesel Range | ND | 1.0 |
| Hydraulic Range | NA | NA |

ND = Not detected at the specified limits

Form I

9613490.0585

TMA Inc.

REPORT

Work Order # A4-03-048

Received: 03/14/94

Results by Sample

SAMPLE ID BOBFK4

FRACTION 02A TEST CODE 8015MS NAME EPA 8015M EXTRACT.

Date & Time Collected 03/08/94

Category _____

000028

MODIFIED 8015 - EXTRACTABLE FUEL HYDROCARBONS

Matrix: WATER

Date Analyzed: 03/27/94

Dilution factor: 1.00

Concentration Units: mg/L

| Compound | Sample Result | PQL |
|--------------------------|---------------|-----|
| Kerosene Range | NA | NA |
| C10 - C16 Jet Fuel Range | NA | NA |
| C9 - C22 Diesel Range | ND | 1.0 |
| Hydraulic Range | NA | NA |

ND = Not detected at the specified limits

Form I

9613490.0586

TMA Inc.

REPORT

Work Order # A4-03-048

Received: 03/14/94

Results by Sample

SAMPLE ID BOBFJ5

FRACTION 03B TEST CODE 8015MS NAME EPA 8015M EXTRACT.

Date & Time Collected 03/04/94

Category _____

000030

MODIFIED 8015 - EXTRACTABLE FUEL HYDROCARBONS

Matrix: WATER

Date Analyzed: 03/27/94

Dilution factor: 1.00

Concentration Units: mg/L

| Compound | Sample Result | PQL |
|--------------------------|---------------|-----|
| Kerosene Range | NA | NA |
| C10 - C16 Jet Fuel Range | NA | NA |
| C9 - C22 Diesel Range | ND | 1.0 |
| Hydraulic Range | NA | NA |

ND = Not detected at the specified limits

Form I

0000032

TMA Inc.

REPORT

Work Order # A4-03-048

Received: 03/14/94

Results by Sample

SAMPLE ID BOBFJ8

FRACTION 04A

TEST CODE 8015MS

NAME EPA 8015M EXTRACT.

Date & Time Collected 03/07/94

Category _____

000032

MODIFIED 8015 - EXTRACTABLE FUEL HYDROCARBONS

Matrix: WATER

Date Analyzed: 03/27/94

Dilution factor: 1.00

Concentration Units: mg/L

| Compound | Sample Result | PQL |
|--------------------------|---------------|-----|
| Kerosene Range | NA | NA |
| C10 - C16 Jet Fuel Range | NA | NA |
| C9 - C22 Diesel Range | ND | 1.0 |
| Hydraulic Range | NA | NA |

ND = Not detected at the specified limits

Form I