Thermo Retec
W.O. No. R0-09-072-7487

Bechtel Hanford Inc.
SDG H1019

Case Narrative



## 1.0 GENERAL

Bechtel Hanford Inc. (BHI) Sample Delivery Group H1019 was composed of four solid (soil) samples designated under SAF No. B00-029 with a Project Designation of: 100 F Area – Quick Turn.

The samples were received as stated on the Chain-of-Custody documents. Any discrepancies are noted on the Thermo Retec Sample Receipt Checklist. The results were transmitted to BHI via e-Fax on October 2, 2000.

RECEIVED
DEC 0 1 2000
EDMC

## 2.0 ANALYSIS NOTES

### 2.1 Isotopic Uranium Analyses

The LCS recovery (121%) for U-235 was slightly above the protocol limits of 80 to 120%, but within the 3-sigma limits of 70 to 130%.

No other problems were encountered during the course of the analyses.

OCT 2000
RECEIVED

# TMA/RICHMOND

SAMPLE DELIVERY GROUP H1019

## SAMPLE SUMMARY

SDG 7487
Contact Melissa C. Mannion

Client Hanford
Contract TRC-SBB-207925
Case no SDG H1019

| CLIENT SAMPLE ID | LOCATION | MATRIX | LEVEL | LAB SAMPLE ID | SAF NO | CHAIN OF CUSTODY | COLLECTED |
|---|---|---|---|---|---|---|---|
| B106P6 | 1607-F6 | SOLID | | R009072-01 | B00-029 | B00-029-041 | 09/07/00 12:58 |
| B106P7 | 1607-F6 | SOLID | | R009072-02 | B00-029 | B00-029-041 | 09/07/00 13:06 |
| B106P8 | 1607-F6 | SOLID | | R009072-03 | B00-029 | B00-029-041 | 09/07/00 13:13 |
| B106P9 | 1607-F6 | SOLID | | R009072-04 | B00-029 | B00-029-041 | 09/07/00 13:28 |
| Method Blank | | SOLID | | R009072-06 | B00-029 | | |
| Lab Control Sample | | SOLID | | R009072-05 | B00-029 | | |
| Duplicate (R009072-04) | 1607-F6 | SOLID | | R009072-07 | B00-029 | | 09/07/00 13:28 |



Lab id TMANC
Protocol Hanford
Version Ver 1.0
Form DVD-CS
Version 3.06
Report date 10/02/00

# TMA/RICHMOND

SAMPLE DELIVERY GROUP H1019

## QC SUMMARY

SDG 7487
Contact Melissa C. Mannion

Client Hanford
Contract TRC-SBB-207925
Case no SDG H1019

| QC BATCH | CHAIN OF CUSTODY | CLIENT SAMPLE ID | MATRIX | % SOLIDS | SAMPLE AMOUNT | BASIS AMOUNT | DAYS SINCE RECEIVED | DAYS SINCE COLL | LAB SAMPLE ID | DEPARTMENT SAMPLE ID |
|---|---|---|---|---|---|---|---|---|---|---|
| 7487 | B00-029-041 | B106P6 | SOLID | 95.4 | | | 09/13/00 | 6 | R009072-01 | 7487-001 |
| | | B106P7 | SOLID | 93.7 | | | 09/13/00 | 6 | R009072-02 | 7487-002 |
| | | B106P8 | SOLID | 94.9 | | | 09/13/00 | 6 | R009072-03 | 7487-003 |
| | | B106P9 | SOLID | 95.8 | | | 09/13/00 | 6 | R009072-04 | 7487-004 |
| | | Method Blank | SOLID | | | | | | R009072-06 | 7487-006 |
| | | Lab Control Sample | SOLID | | | | | | R009072-05 | 7487-005 |
| | | Duplicate (R009072-04) | SOLID | 95.8 | | | 09/13/00 | 6 | R009072-07 | 7487-007 |



Lab id TMANC
Protocol Hanford
Version Ver 1.0
Form DVD-QS
Version 3.06
Report date 10/02/00

# TMA/RICHMOND

SAMPLE DELIVERY GROUP H1019

SDG 7487
Contact Melissa C. Mannion

## PREP BATCH SUMMARY

Client Hanford
Contract TRC-SBB-207925
Case no SDG H1019

| TEST | MATRIX | METHOD | PREPARATION BATCH | ERROR 2σ % | PLANCHETS ANALYZED CLIENT | MORE | RE | BLANK | LCS | DUP/ORIG | MS/ORIG | QUALIFIERS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Alpha Spectroscopy** | | | | | | | | | | | | |
| U | SOLID | Uranium, Isotopic in Soil | 6955-052 | 5.0 | 4 | | | 1 | 1 | 1/1 | | |

Duplicates and Matrix Spikes are those with original (Client) sample in this Sample Delivery Group.
Blank and LCS planchets are those in the same preparation batch as some Client, Duplicate or Spike sample.



Lab id TMANC
Protocol Hanford
Version Ver 1.0
Form DVD-PBS
Version 3.06
Report date 10/02/00

# TMA/RICHMOND

SAMPLE DELIVERY GROUP H1019

## WORK SUMMARY

SDG 7487
Contact Melissa C. Mannion

Client Hanford
Contract TRC-SBB-207925
Case no SDG H1019

| CLIENT SAMPLE ID / LOCATION / CUSTODY | SAF No | MATRIX | LAB SAMPLE ID / COLLECTED / RECEIVED | PLANCHET | TEST | SUF-FIX | ANALYZED | REVIEWED | BY | METHOD |
|---|---|---|---|---|---|---|---|---|---|---|
| B106P6 | | | R009072-01 | 7487-001 | U | | 09/27/00 | 09/29/00 | NJV | Uranium, Isotopic in Soil |
| 1607-F6 | | SOLID | 09/07/00 | | | | | | | |
| B00-029-041 | B00-029 | | 09/13/00 | | | | | | | |
| B106P7 | | | R009072-02 | 7487-002 | U | | 09/27/00 | 09/29/00 | NJV | Uranium, Isotopic in Soil |
| 1607-F6 | | SOLID | 09/07/00 | | | | | | | |
| B00-029-041 | B00-029 | | 09/13/00 | | | | | | | |
| B106P8 | | | R009072-03 | 7487-003 | U | | 09/27/00 | 09/29/00 | NJV | Uranium, Isotopic in Soil |
| 1607-F6 | | SOLID | 09/07/00 | | | | | | | |
| B00-029-041 | B00-029 | | 09/13/00 | | | | | | | |
| B106P9 | | | R009072-04 | 7487-004 | U | | 09/29/00 | 09/29/00 | NJV | Uranium, Isotopic in Soil |
| 1607-F6 | | SOLID | 09/07/00 | | | | | | | |
| B00-029-041 | B00-029 | | 09/13/00 | | | | | | | |
| Method Blank | | | R009072-06 | 7487-006 | U | | 09/27/00 | 09/29/00 | NJV | Uranium, Isotopic in Soil |
| | | SOLID | | | | | | | | |
| | B00-029 | | | | | | | | | |
| Lab Control Sample | | | R009072-05 | 7487-005 | U | | 09/27/00 | 09/29/00 | NJV | Uranium, Isotopic in Soil |
| | | SOLID | | | | | | | | |
| | B00-029 | | | | | | | | | |
| Duplicate (R009072-04) | | | R009072-07 | 7487-007 | U | | 09/27/00 | 09/29/00 | NJV | Uranium, Isotopic in Soil |
| 1607-F6 | | SOLID | 09/07/00 | | | | | | | |
| | B00-029 | | 09/13/00 | | | | | | | |

## COUNTS OF TESTS BY SAMPLE TYPE

| TEST | SAF No | METHOD | REFERENCE | CLIENT | MORE | RE | BLANK | LCS | DUP SPIKE | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|
| U | B00-029 | Uranium, Isotopic in Soil | UISO_PLATE_AEA | 4 | | | 1 | 1 | 1 | 7 |
| TOTALS | | | | 4 | | | 1 | 1 | 1 | 7 |

Lab id TMANC
Protocol Hanford
Version Ver 1.0
Form DVD-CWS
Version 3.06
Report date 10/02/00

# TMA / RICHMOND

**SAMPLE DELIVERY GROUP H1019**

R009072-06 **Method Blank**

## METHOD BLANK

| | | | | |
|---|---|---|---|---|
| SDG | 7487 | Client/Case no | Hanford | SDG H1019 |
| Contact | Melissa C. Mannion | Contract | TRC-SBB-207925 | |
| Lab sample id | R009072-06 | Client sample id | Method Blank | |
| Dept sample id | 7487-006 | Material/Matrix | | SOLID |
| | | SAF No | B00-029 | |

| ANALYTE | CAS NO | RESULT pCi/g | 2σ ERR (COUNT) | MDA pCi/g | RDL pCi/g | QUALI-FIERS | TEST |
|---|---|---|---|---|---|---|---|
| Uranium 233 | U-233/234 | 0.056 | 0.056 | 0.21 | 1.0 | U | U |
| Uranium 235 | 15117-96-1 | 0 | 0.068 | 0.26 | 1.0 | U | U |
| Uranium 238 | U-238 | 0 | 0.056 | 0.21 | 1.0 | U | U |

1607-F6

QC-BLANK 35863



| | |
|---|---|
| Lab id | TMANC |
| Protocol | Hanford |
| Version | Ver 1.0 |
| Form | DVD-DS |
| Version | 3.06 |
| Report date | 10/02/00 |

# TMA/RICHMOND

SAMPLE DELIVERY GROUP H1019

R009072-05 Lab Control Sample

## LAB CONTROL SAMPLE

| | | | |
|---|---|---|---|
| SDG | 7487 | Client/Case no | Hanford SDG H1019 |
| Contact | Melissa C. Mannion | Case no | TRC-SBB-207925 |
| Lab sample id | R009072-05 | Client sample id | Lab Control Sample |
| Dept sample id | 7487-005 | Material/Matrix | SOLID |
| | | SAF No | B00-029 |

| ANALYTE | RESULT pCi/g | 2σ ERR (COUNT) | MDA pCi/g | RDL pCi/g | QUALI-FIERS | TEST | ADDED pCi/g | 2σ ERR pCi/g | REC % | 3σ LMTS (TOTAL) | PROTOCOL LIMITS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Uranium 233 | 10.1 | 1.5 | 0.75 | 1.0 | | U | 9.28 | 0.37 | 109 | 74-126 | 80-120 |
| Uranium 235 | 9.12 | 1.4 | 0.23 | 1.0 | | U | 7.54 | 0.30 | 121 | 70-130 | 80-120 |
| Uranium 238 | 10.9 | 1.6 | 0.71 | 1.0 | | U | 10.1 | 0.40 | 108 | 74-126 | 80-120 |

1607-F6

QC-LCS 35862



| | |
|---|---|
| Lab id | TMANC |
| Protocol | Hanford |
| Version | Ver 1.0 |
| Form | DVD-LCS |
| Version | 3.06 |
| Report date | 10/02/00 |

# TMA/RICHMOND

SAMPLE DELIVERY GROUP H1019

R009072-07 B106P9

## DUPLICATE

| | | | | | |
|---|---|---|---|---|---|
| SDG | 7487 | | | Client/Case no | Hanford SDG H1019 |
| Contact | Melissa C. Mannion | | | Case no | TRC-SBB-207925 |
| DUPLICATE | | ORIGINAL | | | |
| Lab sample id | R009072-07 | Lab sample id | R009072-04 | Client sample id | B106P9 |
| Dept sample id | 7487-007 | Dept sample id | 7487-004 | Location/Matrix | 1607-F6 SOLID |
| | | Received | 09/13/00 | Collected | 09/07/00 13:28 |
| % solids | 95.8 | % solids | 95.8 | Custody/SAF No | B00-029-041 B00-029 |

| ANALYTE | DUPLICATE pCi/g | 2σ ERR (COUNT) | MDA pCi/g | RDL pCi/g | QUALI-FIERS | TEST | ORIGINAL pCi/g | 2σ ERR (COUNT) | MDA pCi/g | QUALI-FIERS | RPD % | 3σ TOT | PROT LIMIT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Uranium 233 | 0.101 | 0.10 | 0.19 | 1.0 | U | U | 0.152 | 0.10 | 0.13 | J | 40 | 168 | |
| Uranium 235 | 0 | 0.061 | 0.23 | 1.0 | U | U | 0 | 0.041 | 0.16 | U | - | | |
| Uranium 238 | 0.051 | 0.051 | 0.19 | 1.0 | U | U | 0.051 | 0.068 | 0.13 | U | - | | |

1607-F6

QC-DUP#4 35864



| | |
|---|---|
| Lab id | TMANC |
| Protocol | Hanford |
| Version | Ver 1.0 |
| Form | DVD-DUP |
| Version | 3.06 |
| Report date | 10/02/00 |

# TMA / RICHMOND

**SAMPLE DELIVERY GROUP H1019**

R009072-01 B106P6

## DATA SHEET

| | | | | | |
|---|---|---|---|---|---|
| SDG | 7487 | Client/Case no | Hanford | SDG H1019 | |
| Contact | Melissa C. Mannion | Contract | TRC-SBB-207925 | | |
| Lab sample id | R009072-01 | Client sample id | B106P6 | | |
| Dept sample id | 7487-001 | Location/Matrix | 1607-F6 | SOLID | |
| Received | 09/13/00 | Collected | 09/07/00 12:58 | | |
| % solids | 95.4 | Custody/SAF No | B00-029-041 | B00-029 | |

| ANALYTE | CAS NO | RESULT pCi/g | 2σ ERR (COUNT) | MDA pCi/g | RDL pCi/g | QUALI-FIERS | TEST |
|---|---|---|---|---|---|---|---|
| Uranium 233 | U-233/234 | 0.076 | 0.061 | 0.12 | 1.0 | U | U |
| Uranium 235 | 15117-96-1 | 0 | 0.037 | 0.14 | 1.0 | U | U |
| Uranium 238 | U-238 | 0.183 | 0.093 | 0.12 | 1.0 | J | U |

1607-F6



| | |
|---|---|
| Lab id | TMANC |
| Protocol | Hanford |
| Version | Ver 1.0 |
| Form | DVD-DS |
| Version | 3.06 |
| Report date | 10/02/00 |

# TMA / RICHMOND

**SAMPLE DELIVERY GROUP H1019**

R009072-02 B106P7

## DATA SHEET

| | | | | | |
|---|---|---|---|---|---|
| SDG | 7487 | Client/Case no | Hanford | SDG H1019 | |
| Contact | Melissa C. Mannion | Contract | TRC-SBB-207925 | | |
| Lab sample id | R009072-02 | Client sample id | B106P7 | | |
| Dept sample id | 7487-002 | Location/Matrix | 1607-F6 | SOLID | |
| Received | 09/13/00 | Collected | 09/07/00 13:06 | | |
| % solids | 93.7 | Custody/SAF No | B00-029-041 | B00-029 | |

| ANALYTE | CAS NO | RESULT pCi/g | 2σ ERR (COUNT) | MDA pCi/g | RDL pCi/g | QUALI-FIERS | TEST |
|---|---|---|---|---|---|---|---|
| Uranium 233 | U-233/234 | 0.117 | 0.088 | 0.11 | 1.0 | J | U |
| Uranium 235 | 15117-96-1 | 0 | 0.035 | 0.14 | 1.0 | U | U |
| Uranium 238 | U-238 | 0.088 | 0.059 | 0.11 | 1.0 | U | U |

1607-F6



| | |
|---|---|
| Lab id | TMANC |
| Protocol | Hanford |
| Version | Ver 1.0 |
| Form | DVD-DS |
| Version | 3.06 |
| Report date | 10/02/00 |

# TMA/RICHMOND

**SAMPLE DELIVERY GROUP H1019**

R009072-03 B106P8

## DATA SHEET

| | | | |
|---|---|---|---|
| SDG | 7487 | Client/Case no | Hanford SDG H1019 |
| Contact | Melissa C. Mannion | Contract | TRC-SBB-207925 |
| Lab sample id | R009072-03 | Client sample id | B106P8 |
| Dept sample id | 7487-003 | Location/Matrix | 1607-F6 SOLID |
| Received | 09/13/00 | Collected | 09/07/00 13:13 |
| % solids | 94.9 | Custody/SAF No | B00-029-041 B00-029 |

| ANALYTE | CAS NO | RESULT pCi/g | 2σ ERR (COUNT) | MDA pCi/g | RDL pCi/g | QUALI-FIERS | TEST |
|---|---|---|---|---|---|---|---|
| Uranium 233 | U-233/234 | 0.232 | 0.14 | 0.18 | 1.0 | J | U |
| Uranium 235 | 15117-96-1 | 0 | 0.056 | 0.21 | 1.0 | U | U |
| Uranium 238 | U-238 | 0.348 | 0.19 | 0.18 | 1.0 | J | U |

1607-F6



| | |
|---|---|
| Lab id | TMANC |
| Protocol | Hanford |
| Version | Ver 1.0 |
| Form | DVD-DS |
| Version | 3.06 |
| Report date | 10/02/00 |

# TMA / RICHMOND

**SAMPLE DELIVERY GROUP H1019**

R009072-04 B106P9

## DATA SHEET

| | | | |
|---|---|---|---|
| SDG | 7487 | Client/Case no | Hanford SDG H1019 |
| Contact | Melissa C. Mannion | Contract | TRC-SBB-207925 |
| Lab sample id | R009072-04 | Client sample id | B106P9 |
| Dept sample id | 7487-004 | Location/Matrix | 1607-F6 SOLID |
| Received | 09/13/00 | Collected | 09/07/00 13:28 |
| % solids | 95.8 | Custody/SAF No | B00-029-041 B00-029 |

| ANALYTE | CAS NO | RESULT pCi/g | 2σ ERR (COUNT) | MDA pCi/g | RDL pCi/g | QUALI-FIERS | TEST |
|---|---|---|---|---|---|---|---|
| Uranium 233 | U-233/234 | 0.152 | 0.10 | 0.13 | 1.0 | J | U |
| Uranium 235 | 15117-96-1 | 0 | 0.041 | 0.16 | 1.0 | U | U |
| Uranium 238 | U-238 | 0.051 | 0.068 | 0.13 | 1.0 | U | U |

1607-F6



| | |
|---|---|
| Lab id | TMANC |
| Protocol | Hanford |
| Version | Ver 1.0 |
| Form | DVD-DS |
| Version | 3.06 |
| Report date | 10/02/00 |

# TMA/RICHMOND

*SAMPLE DELIVERY GROUP H1019*

| | |
|---|---|
| Test U | Matrix SOLID |
| SDG 7487 | |
| Contact Melissa C. Mannion | |

## METHOD SUMMARY

URANIUM, ISOTOPIC IN SOIL

ALPHA SPECTROSCOPY

| | |
|---|---|
| Client Hanford | |
| Contract TRC-SBB-207925 | |
| Contract SDG H1019 | |

## RESULTS

| CLIENT SAMPLE ID | LAB SAMPLE ID | RAW TEST | SUF-FIX | PLANCHET | 1: Uranium 233 | 2: Uranium 235 | 3: Uranium 238 | RESULT RATIOS (%) 1+3 | 2σ | 2+3 | 2σ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Preparation batch 6955-052 | | | | | | | | | | | |
| B106P6 | R009072-01 | | | 7487-001 | U | U | 0.183 J | 42 | 39 | 0 | 20 |
| B106P7 | R009072-02 | | | 7487-002 | 0.117 J | U | U | | | | |
| B106P8 | R009072-03 | | | 7487-003 | 0.232 J | U | 0.348 J | 67 | 54 | 0 | 16 |
| B106P9 | R009072-04 | | | 7487-004 | 0.152 J | U | U | | | | |
| BLK (QC ID=35863) | R009072-06 | | | 7487-006 | U | U | U | | | | |
| LCS (QC ID=35862) | R009072-05 | | | 7487-005 | ok | HIGH | ok | | | | |
| Duplicate (R009072-04) | R009072-07 | | | 7487-007 | ok U | - U | - U | | | | |
| Nominal values and limits from method 1607-F6 | | | | RDLs (pCi/g) | 1.0 | 1.0 | 1.0 | 100 | | 4 | |
| | | | | | | | Averages | 54 | | 0 | |

## METHOD PERFORMANCE

| CLIENT SAMPLE ID | LAB SAMPLE ID | RAW TEST | SUF-FIX | MAX MDA pCi/g | ALIQ g | PREP FAC | DILU-TION | YIELD % | EFF % | COUNT min | FWHM keV | DRIFT KeV | DAYS HELD | PREPARED | ANAL-YZED | DETECTOR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preparation batch 6955-052 2σ prep error 5.0 % Reference Lab Notebook 6955 pg. 052 | | | | | | | | | | | | | | | | |
| B106P6 | R009072-01 | | | 0.14 | 0.550 | | | 90 | | 157 | | | 20 | 09/18/00 | 09/27 | SS-033 |
| B106P7 | R009072-02 | | | 0.14 | 0.570 | | | 90 | | 158 | | | 20 | 09/18/00 | 09/27 | SS-034 |
| B106P8 | R009072-03 | | | 0.21 | 0.500 | | | 86 | | 156 | | | 20 | 09/18/00 | 09/27 | SS-019 |
| B106P9 | R009072-04 | | | 0.16 | 0.530 | | | 86 | | 200 | | | 22 | 09/18/00 | 09/29 | SS-024 |
| BLK (QC ID=35863) | R009072-06 | | | 0.26 | 0.500 | | | 75 | | 156 | | | | 09/18/00 | 09/27 | SS-022 |
| LCS (QC ID=35862) | R009072-05 | | | 0.75 | 0.500 | | | 81 | | 156 | | | | 09/18/00 | 09/27 | SS-021 |
| Duplicate (R009072-04) (QC ID=35864) | R009072-07 | | | 0.23 | 0.510 | | | 85 | | 150 | | | 20 | 09/18/00 | 09/27 | SS-022 |
| Nominal values and limits from method | | | | 1.0 | 0.500 | | | 20-105 | | 150 | 100 | | 180 | | | |

| | | |
|---|---|---|
| PROCEDURES | REFERENCE | UISO_PLATE_AEA |
| | CP-911 | Uranium in Water and Dissolved Sample by Extraction Chromatography, rev 2 |
| | CP-008 | Heavy Element Electroplating, rev 3 |

| | | | |
|---|---|---|---|
| AVERAGES ± 2 SD FOR 7 SAMPLES | MDA | 0.27 | ± 0.43 |
| | YIELD | 85 | ± 11 |

| | |
|---|---|
| Lab id | TMANC |
| Protocol | Hanford |
| Version | Ver 1.0 |
| Form | DVD-CMS |
| Version | 3.06 |
| Report date | 10/02/00 |

| Bechtel Hanford Inc. | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | B00-029-041 | Page 1 of 1 |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Collector: R. Nielson | Company Contact: Mike Stankovich | Telephone No.: 531-7620 | Project Coordinator: TRENT, SJ |
| Price Code: 2E | Data Turnaround: 15 day | | |
| Project Designation: 100 F Area - Quick Turn | Sampling Location: 1607-F6 H1019 (7487) | SAF No.: B00-029 | Air Quality ☐ |
| Ice Chest No.: IPS/1A2 (1 of 1) | Field Logbook No.: EL-1535 | COA: R607F62600 | Method of Shipment: Federal Express |
| Shipped To: TMA/RECRA | Offsite Property No.: HMSR# 000896 | Bill of Lading/Air Bill No.: NA | |

POSSIBLE SAMPLE HAZARDS/REMARKS
PCBs

Special Handling and/or Storage
PCBs

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Preservation | Cooled | None | [illegible] | | | | | | | |
| Type of Container | aG | aG | aG | | | | | | | |
| No. of Container(s) | 1 | 1 | 1 | | | | | | | |
| Volume | 60mL | 60mL | 120mL | | | | | | | |
| SAMPLE ANALYSIS | PCBs - 8082 | Isotopic Uranium; ~~Isotopic Plutonium; Americium-241~~ | Semi-VOA - 8270A (TCL) RT 9.8.00 | | | | | | | |
| Sample No. | Matrix * | Sample Date | Sample Time | | | | | | | |
| B106P6 | SOIL | 9-7-00 | 1258 | X | X | X | | | | B106P5 |
| B106P7 | SOIL | 9-7-00 | 1306 | X | X | X | | | | |
| B106P8 | SOIL | 9-7-00 | 1313 | X | X | X | | | | |
| B106P9 | SOIL | 9-7-00 | 1328 | X | X | X | | | | |

| CHAIN OF POSSESSION | Sign/Print Names | Date/Time | Received By | Date/Time |
|---|---|---|---|---|
| Relinquished By | R Nielson | 9/7/00 1625 | Ref #1B | 9/7/00 1625 |
| Relinquished By | Removed from 3728 R.H. 1B | 9.12.00 | R. Thoren | 9-12-00 0800 |
| Relinquished By | R. Thoren | 9-12-00 0800 | FED EX | 09/12/00 |
| Relinquished By | FED. Express | 9/13/00 10:AM | E Aguirre | 9/13/00 10:AM |
| Relinquished By | | | Received By | |
| Relinquished By | | | Received By | |

SPECIAL INSTRUCTIONS

Samples stored in Ref.# 1B at the 3728 Shipping Facility on 9/7/00. Collector not available to relinquish samples on 9/12/00 for shipment.
RT 9-12-00

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

| | | | |
|---|---|---|---|
| LABORATORY SECTION | Received By | Title | Date/Time |
| FINAL SAMPLE DISPOSITION | Disposal Method | Disposed By | Date/Time |

BHI-EE-011 (10/99)

Thermo NUtech - Richmond

## SAMPLE RECEIPT CHECKLIST

### SAMPLE RECEIPT

Client: BECHTEL HANFORD INC. Date/Time received 9/13/00 10:AM

CoC No. B00-029-041

Container I.D. No. IPS/1AZ Requested TAT (Days) 15 P.O. Received Yes [ ] No [✓]

### INSPECTION

1. Custody seals on shipping container intact? Yes [✓] No [ ] N/A [ ]
2. Custody seals on shipping container dated & signed? Yes [✓] No [ ] N/A [ ]
3. Custody seals on sample containers intact? Yes [✓] No [ ] N/A [ ]
4. Custody seals on sample containers dated & signed? Yes [✓] No [ ] N/A [ ]
5. Cooler Temperature: _____ Packing material is: Wet [ ] Dry [✓]
6. Number of samples in shipping container: 4
7. Number of containers per sample: 1 (EACH) (Or see CoC _____)
8. Paperwork agrees with samples? Yes [✓] No [ ]
9. Samples have: Tape [✓] Hazard labels [ ] Rad labels [✓] Appropriate sample labels [✓]
10. Samples are: In good condition [✓] Leaking [ ] Broken Container [ ] Missing [ ]
11. Describe any anomalies: _____

13. Was P.M. notified of any anomalies? Yes [ ] No [ ] Date _____
14. Received by E. Segura Date: 09/13/00 Time: 10:AM

### LOGIN

TNU W.O. No. _____ Group No. _____ Client W.O. No. _____

### PROGRAM MANAGER

Sample holding times exceeded? Yes [ ] No [ ]

Client Notified: Name _____ Date/time _____

RECRA
ENVIRONMENTAL
INC.

*Chemical and Environmental Measurement Information*

OCT 2000
RECEIVED

**Recra LabNet Philadelphia**
**Analytical Report**

**Client:** TNU-HANFORD B00-029
**RFW #:** 0009L591
**SDG/SAF #:** H1019/B00-029

**W.O. #:** 10985-001-001-9999-00
**Date Received:** 09-13-2000

**SEMIVOLATILE**

Four (4) soil samples were collected on 09-07-2000.

The samples and their associated QC samples were extracted on 09-19-2000 and analyzed according to criteria set forth in Recra OPs based on SW 846 Method 8270C for TCL Semivolatile target compounds on 09-20,28-2000.

The following is a summary of the QC results accompanying the sample results and a description of any problems encountered during their analyses:

1. The cooler temperature upon receipt has been recorded on the chain-of-custody.

2. The samples were extracted and analyzed within required holding times.

3. Non-target compounds were detected in the samples.

4. All surrogate recoveries were within EPA QC limits.

5. All blank spike recoveries were within EPA QC limits.

6. All matrix spike recoveries were within EPA QC limits.

7. "I certify that this sample data package is in compliance with SOW requirements, both technically and for completeness, other than the conditions detailed above. Release of the data contained in this hard-copy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature."

by J. Michael Taylor
Vice President
Philadelphia Analytical Laboratory

10-18-00
Date

som\group\data\bna\tnu-hanford-09-591.doc
The results presented in this report relate only to the analytical testing and conditions of the samples at receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of 1 4 pages.



208 Welsh Pool Road • Lionville, PA 19341-1333 • (610) 280-3000 • Fax (610) 280-3041

# GLOSSARY OF BNA DATA

## DATA QUALIFIERS

| | | |
|---|---|---|
| U | = | Compound was analyzed for but not detected. The associated numerical value is the estimated sample quantitation limit which is included and corrected for dilution and percent moisture. |
| J | = | Indicates an estimated value. This flag is used under the following circumstances: 1) when estimating a concentration for tentatively identified compounds (TICs) where a 1:1 response is assumed; or 2) when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. For example, if the limit of detection is 10 ug/L and a concentration of 3 ug/L is calculated, it is reported as 3J. |
| B | = | This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination. This flag is also used for a TIC as well as for a positively identified TCL compound. |
| E | = | Indicates that the compound was detected beyond the calibration range and was subsequently analyzed at a dilution. |
| D | = | Identifies all compounds identified in an analysis at a secondary dilution factor. |
| I | = | Interference. |
| NQ | = | Result qualitatively confirmed but not able to quantify. |
| A | = | Indicates that a TIC is a suspected aldol-condensation product. |
| N | = | Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the N code is not used. |
| X | = | This flag is used for a TIC compound which is quantified relative to a response factor generated from a daily calibration standard (rather than quantified relative to the closest internal standard). |
| Y | = | Additional qualifiers used as required are explained in the case narrative. |

mmz\10-94\gloss.bna

# GLOSSARY OF BNA DATA

## ABBREVIATIONS

| | | |
|---|---|---|
| **BS** | = | Indicates blank spike in which reagent grade water is spiked with the CLP matrix spike solutions and carried through all the steps in the method. Spike recoveries are reported. |
| **BSD** | = | Indicates blank spike duplicate. |
| **MS** | = | Indicates matrix spike. |
| **MSD** | = | Indicates matrix spike duplicate. |
| **DL** | = | Suffix added to sample number to indicate that results are from a diluted analysis. |
| **NA** | = | Not Applicable. |
| **DF** | = | Dilution Factor. |
| **NR** | = | Not Required. |
| **SP, Z** | = | Indicates Spiked Compound. |

mmz\10-94\gloss.bna

**Recra LabNet - Lionville Laboratory**

Semivolatiles by GC/MS, HSL List

Report Date: 10/07/00 12:01

RFW Batch Number: **0009L591** Client: **TNU-HANFORD B00-029** Work Order: 10985001001 Page: 1a

| | Cust ID: | B106P6 | | B106P6 | | B106P6 | | B106P7 | | B106P8 | | B106P9 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Information | RFW#: | 001 | | 001 MS | | 001 MSD | | 002 | | 003 | | 004 | |
| | Matrix: | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | D.F.: | 1.00 | | 1.00 | | 1.00 | | 1.00 | | 1.00 | | 1.00 | |
| | Units: | UG/KG | | UG/KG | | UG/KG | | UG/KG | | UG/KG | | UG/KG | |
| Surrogate Recovery | Nitrobenzene-d5 | 71 | % | 73 | % | 77 | % | 65 | % | 80 | % | 81 | % |
| | 2-Fluorobiphenyl | 72 | % | 79 | % | 78 | % | 69 | % | 84 | % | 81 | % |
| | Terphenyl-d14 | 96 | % | 110 | % | 96 | % | 89 | % | 103 | % | 103 | % |
| | Phenol-d5 | 71 | % | 77 | % | 79 | % | 63 | % | 82 | % | 80 | % |
| | 2-Fluorophenol | 82 | % | 87 | % | 92 | % | 76 | % | 93 | % | 91 | % |
| | 2,4,6-Tribromophenol | 66 | % | 81 | % | 74 | % | 61 | % | 75 | % | 76 | % |
| | | | fl | | fl | | fl | | fl | | fl | | fl |
| Phenol | | 340 | U | 65 | % | 79 | % | 350 | U | 340 | U | 330 | U |
| bis(2-Chloroethyl)ether | | 340 | U | 510 | U | 990 | U | 350 | U | 340 | U | 330 | U |
| 2-Chlorophenol | | 340 | U | 64 | % | 77 | % | 350 | U | 340 | U | 330 | U |
| 1,3-Dichlorobenzene | | 340 | U | 510 | U | 990 | U | 350 | U | 340 | U | 330 | U |
| 1,4-Dichlorobenzene | | 340 | U | 55 | % | 65 | % | 350 | U | 340 | U | 330 | U |
| 1,2-Dichlorobenzene | | 340 | U | 510 | U | 990 | U | 350 | U | 340 | U | 330 | U |
| 2-Methylphenol | | 340 | U | 510 | U | 990 | U | 350 | U | 340 | U | 330 | U |
| 2,2'-oxybis(1-Chloropropane) | | 340 | U | 510 | U | 990 | U | 350 | U | 340 | U | 330 | U |
| 4-Methylphenol | | 340 | U | 510 | U | 990 | U | 350 | U | 340 | U | 330 | U |
| N-Nitroso-di-n-propylamine | | 340 | U | 62 | % | 77 | % | 350 | U | 340 | U | 330 | U |
| Hexachloroethane | | 340 | U | 510 | U | 990 | U | 350 | U | 340 | U | 330 | U |
| Nitrobenzene | | 340 | U | 510 | U | 990 | U | 350 | U | 340 | U | 330 | U |
| Isophorone | | 340 | U | 510 | U | 990 | U | 350 | U | 340 | U | 330 | U |
| 2-Nitrophenol | | 340 | U | 510 | U | 990 | U | 350 | U | 340 | U | 330 | U |
| 2,4-Dimethylphenol | | 340 | U | 510 | U | 990 | U | 350 | U | 340 | U | 330 | U |
| bis(2-Chloroethoxy)methane | | 340 | U | 510 | U | 990 | U | 350 | U | 340 | U | 330 | U |
| 2,4-Dichlorophenol | | 340 | U | 510 | U | 990 | U | 350 | U | 340 | U | 330 | U |
| 1,2,4-Trichlorobenzene | | 340 | U | 59 | % | 74 | % | 350 | U | 340 | U | 330 | U |
| Naphthalene | | 340 | U | 510 | U | 990 | U | 350 | U | 340 | U | 330 | U |
| 4-Chloroaniline | | 340 | U | 510 | U | 990 | U | 350 | U | 340 | U | 330 | U |
| Hexachlorobutadiene | | 340 | U | 510 | U | 990 | U | 350 | U | 340 | U | 330 | U |
| 4-Chloro-3-methylphenol | | 340 | U | 66 | % | 79 | % | 350 | U | 340 | U | 330 | U |
| 2-Methylnaphthalene | | 340 | U | 510 | U | 990 | U | 350 | U | 340 | U | 330 | U |
| Hexachlorocyclopentadiene | | 340 | U | 510 | U | 990 | U | 350 | U | 340 | U | 330 | U |
| 2,4,6-Trichlorophenol | | 340 | U | 510 | U | 990 | U | 350 | U | 340 | U | 330 | U |
| 2,4,5-Trichlorophenol | | 860 | U | 1300 | U | 2500 | U | 880 | U | 850 | U | 840 | U |

*= Outside of EPA CLP QC limits.

RFW Batch Number: 0009L591 Client: TNU-HANFORD B00-029 Work Order: 10985001001 Page: 1b

| Cust ID: | B106P6 | | B106P6 | | B106P6 | | B106P7 | | B106P8 | | B106P9 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RFW#: | 001 | | 001 MS | | 001 MSD | | 002 | | 003 | | 004 | |
| 2-Chloronaphthalene | 340 | U | 510 | U | 990 | U | 350 | U | 340 | U | 330 | U |
| 2-Nitroaniline | 860 | U | 1300 | U | 2500 | U | 880 | U | 850 | U | 840 | U |
| Dimethylphthalate | 340 | U | 510 | U | 990 | U | 350 | U | 340 | U | 330 | U |
| Acenaphthylene | 340 | U | 510 | U | 990 | U | 350 | U | 340 | U | 330 | U |
| 2,6-Dinitrotoluene | 340 | U | 510 | U | 990 | U | 350 | U | 340 | U | 330 | U |
| 3-Nitroaniline | 860 | U | 1300 | U | 2500 | U | 880 | U | 850 | U | 840 | U |
| Acenaphthene | 340 | U | 62 | % | 73 | % | 350 | U | 340 | U | 330 | U |
| 2,4-Dinitrophenol | 860 | U | 1300 | U | 2500 | U | 880 | U | 850 | U | 840 | U |
| 4-Nitrophenol | 860 | U | 55 | % | 70 | % | 880 | U | 850 | U | 840 | U |
| Dibenzofuran | 340 | U | 510 | U | 990 | U | 350 | U | 340 | U | 330 | U |
| 2,4-Dinitrotoluene | 340 | U | 60 | % | 68 | % | 350 | U | 340 | U | 330 | U |
| Diethylphthalate | 340 | U | 510 | U | 990 | U | 350 | U | 340 | U | 330 | U |
| 4-Chlorophenyl-phenylether | 340 | U | 510 | U | 990 | U | 350 | U | 340 | U | 330 | U |
| Fluorene | 340 | U | 510 | U | 990 | U | 350 | U | 340 | U | 330 | U |
| 4-Nitroaniline | 860 | U | 1300 | U | 2500 | U | 880 | U | 850 | U | 840 | U |
| 4,6-Dinitro-2-methylphenol | 860 | U | 1300 | U | 2500 | U | 880 | U | 850 | U | 840 | U |
| N-Nitrosodiphenylamine (1) | 340 | U | 510 | U | 990 | U | 350 | U | 340 | U | 330 | U |
| 4-Bromophenyl-phenylether | 340 | U | 510 | U | 990 | U | 350 | U | 340 | U | 330 | U |
| Hexachlorobenzene | 340 | U | 510 | U | 990 | U | 350 | U | 340 | U | 330 | U |
| Pentachlorophenol | 860 | U | 62 | % | 73 | % | 880 | U | 850 | U | 840 | U |
| Phenanthrene | 340 | U | 510 | U | 990 | U | 350 | U | 340 | U | 330 | U |
| Anthracene | 340 | U | 510 | U | 990 | U | 350 | U | 340 | U | 330 | U |
| Carbazole | 340 | U | 510 | U | 990 | U | 350 | U | 340 | U | 330 | U |
| Di-n-butylphthalate | 340 | U | 510 | U | 990 | U | 350 | U | 340 | U | 330 | U |
| Fluoranthene | 340 | U | 510 | U | 990 | U | 350 | U | 340 | U | 330 | U |
| Pyrene | 340 | U | 81 | % | 87 | % | 350 | U | 340 | U | 330 | U |
| Butylbenzylphthalate | 340 | U | 510 | U | 990 | U | 350 | U | 340 | U | 330 | U |
| 3,3'-Dichlorobenzidine | 340 | U | 510 | U | 990 | U | 350 | U | 340 | U | 330 | U |
| Benzo(a)anthracene | 340 | U | 510 | U | 990 | U | 350 | U | 340 | U | 330 | U |
| Chrysene | 340 | U | 510 | U | 990 | U | 350 | U | 340 | U | 330 | U |
| bis(2-Ethylhexyl)phthalate | 340 | U | 510 | U | 990 | U | 350 | U | 340 | U | 330 | U |
| Di-n-octyl phthalate | 340 | U | 510 | U | 990 | U | 350 | U | 340 | U | 330 | U |
| Benzo(b)fluoranthene | 340 | U | 510 | U | 990 | U | 350 | U | 340 | U | 330 | U |
| Benzo(k)fluoranthene | 340 | U | 510 | U | 990 | U | 350 | U | 340 | U | 330 | U |
| Benzo(a)pyrene | 340 | U | 510 | U | 990 | U | 350 | U | 340 | U | 330 | U |
| Indeno(1,2,3-cd)pyrene | 340 | U | 510 | U | 990 | U | 350 | U | 340 | U | 330 | U |
| Dibenz(a,h)anthracene | 340 | U | 510 | U | 990 | U | 350 | U | 340 | U | 330 | U |
| Benzo(g,h,i)perylene | 340 | U | 510 | U | 990 | U | 350 | U | 340 | U | 330 | U |

(1) - Cannot be separated from Diphenylamine. *= Outside of EPA CLP QC limits.

**Recra LabNet - Lionville Laboratory**

Semivolatiles by GC/MS, HSL List

Report Date: 10/07/00 12:01

RFW Batch Number: **0009L591** Client: **TNU-HANFORD B00-029** Work Order: 10985001001 Page: 2a

| | | | |
|---|---|---|---|
| | Cust ID: | **SBLKAW** | **SBLKAW BS** |
| Sample Information | RFW#: | **00LE1174-MB1** | **00LE1174-MB1** |
| | Matrix: | SOIL | SOIL |
| | D.F.: | 1.00 | 1.00 |
| | Units: | UG/KG | UG/KG |

| | | | | | |
|---|---|---|---|---|---|
| Surrogate Recovery | Nitrobenzene-d5 | 76 | % | 77 | % |
| | 2-Fluorobiphenyl | 81 | % | 83 | % |
| | Terphenyl-d14 | 125 | % | 116 | % |
| | Phenol-d5 | 67 | % | 66 | % |
| | 2-Fluorophenol | 74 | % | 72 | % |
| | 2,4,6-Tribromophenol | 72 | % | 78 | % |

| | | | | |
|---|---|---|---|---|
| Phenol | 330 | U | 60 | % |
| bis(2-Chloroethyl)ether | 330 | U | 330 | U |
| 2-Chlorophenol | 330 | U | 60 | % |
| 1,3-Dichlorobenzene | 330 | U | 330 | U |
| 1,4-Dichlorobenzene | 330 | U | 62 | % |
| 1,2-Dichlorobenzene | 330 | U | 330 | U |
| 2-Methylphenol | 330 | U | 330 | U |
| 2,2'-oxybis(1-Chloropropane) | 330 | U | 330 | U |
| 4-Methylphenol | 330 | U | 330 | U |
| N-Nitroso-di-n-propylamine | 330 | U | 65 | % |
| Hexachloroethane | 330 | U | 330 | U |
| Nitrobenzene | 330 | U | 330 | U |
| Isophorone | 330 | U | 330 | U |
| 2-Nitrophenol | 330 | U | 330 | U |
| 2,4-Dimethylphenol | 330 | U | 330 | U |
| bis(2-Chloroethoxy)methane | 330 | U | 330 | U |
| 2,4-Dichlorophenol | 330 | U | 330 | U |
| 1,2,4-Trichlorobenzene | 330 | U | 68 | % |
| Naphthalene | 330 | U | 330 | U |
| 4-Chloroaniline | 330 | U | 330 | U |
| Hexachlorobutadiene | 330 | U | 330 | U |
| 4-Chloro-3-methylphenol | 330 | U | 62 | % |
| 2-Methylnaphthalene | 330 | U | 330 | U |
| Hexachlorocyclopentadiene | 330 | U | 330 | U |
| 2,4,6-Trichlorophenol | 330 | U | 330 | U |
| 2,4,5-Trichlorophenol | 830 | U | 830 | U |

*= Outside of EPA CLP QC limits.

| | | | | |
|---|---|---|---|---|
| Cust ID: | SBLKAW | | SBLKAW BS | |
| RFW#: | 00LE1174-MB1 | | 00LE1174-MB1 | |
| 2-Chloronaphthalene | 330 | U | 330 | U |
| 2-Nitroaniline | 830 | U | 830 | U |
| Dimethylphthalate | 330 | U | 330 | U |
| Acenaphthylene | 330 | U | 330 | U |
| 2,6-Dinitrotoluene | 330 | U | 330 | U |
| 3-Nitroaniline | 830 | U | 830 | U |
| Acenaphthene | 330 | U | 67 | % |
| 2,4-Dinitrophenol | 830 | U | 830 | U |
| 4-Nitrophenol | 830 | U | 60 | % |
| Dibenzofuran | 330 | U | 330 | U |
| 2,4-Dinitrotoluene | 330 | U | 66 | % |
| Diethylphthalate | 330 | U | 330 | U |
| 4-Chlorophenyl-phenylether | 330 | U | 330 | U |
| Fluorene | 330 | U | 330 | U |
| 4-Nitroaniline | 830 | U | 830 | U |
| 4,6-Dinitro-2-methylphenol | 830 | U | 830 | U |
| N-Nitrosodiphenylamine (1) | 330 | U | 330 | U |
| 4-Bromophenyl-phenylether | 330 | U | 330 | U |
| Hexachlorobenzene | 330 | U | 330 | U |
| Pentachlorophenol | 830 | U | 72 | % |
| Phenanthrene | 330 | U | 330 | U |
| Anthracene | 330 | U | 330 | U |
| Carbazole | 330 | U | 330 | U |
| Di-n-butylphthalate | 330 | U | 330 | U |
| Fluoranthene | 330 | U | 330 | U |
| Pyrene | 330 | U | 90 | % |
| Butylbenzylphthalate | 330 | U | 330 | U |
| 3,3'-Dichlorobenzidine | 330 | U | 330 | U |
| Benzo(a)anthracene | 330 | U | 330 | U |
| Chrysene | 330 | U | 330 | U |
| bis(2-Ethylhexyl)phthalate | 330 | U | 330 | U |
| Di-n-octyl phthalate | 330 | U | 330 | U |
| Benzo(b)fluoranthene | 330 | U | 330 | U |
| Benzo(k)fluoranthene | 330 | U | 330 | U |
| Benzo(a)pyrene | 330 | U | 330 | U |
| Indeno(1,2,3-cd)pyrene | 330 | U | 330 | U |
| Dibenz(a,h)anthracene | 330 | U | 330 | U |
| Benzo(g,h,i)perylene | 330 | U | 330 | U |

(1) - Cannot be separated from Diphenylamine. *= Outside of EPA CLP QC limits.

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

B106P6

Lab Name: Recra.LabNet Work Order: 10985001001

Client: TNU-HANFORD B00-029

Matrix: (soil/water) SOIL Lab Sample ID: 0009L591-001

Sample wt/vol: 30.4 (g/mL) G Lab File ID: A092812

Level: (low/med) LOW Date Received: 09/13/00

% Moisture: 4 decanted: (Y/N) __ Date Extracted: 09/19/00

Concentrated Extract Volume: 1000(uL) Date Analyzed: 09/28/00

Injection Volume: 2.0(uL) Dilution Factor: 1.00

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

Number TICs found: 2

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

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | ALDOL CONDENSATE | 7.38 | 800 | JAB |
| 2. | ALKANE | 27.35 | 70 | J |

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

B106P7

Lab Name: Recra.LabNet Work Order: 10985001001

Client: TNU-HANFORD B00-029

Matrix: (soil/water) SOIL Lab Sample ID: 0009L591-002

Sample wt/vol: 30.1 (g/mL) G Lab File ID: A092815

Level: (low/med) LOW Date Received: 09/13/00

% Moisture: 5 decanted: (Y/N) Date Extracted: 09/19/00

Concentrated Extract Volume: 1000(uL) Date Analyzed: 09/28/00

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH:

Number TICs found: 2

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

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | ALDOL CONDENSATE | 7.38 | 1000 | JAB |
| 2. | ALDOL CONDENSATE | 8.72 | 70 | JA |

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

B106P8

Lab Name: Recra.LabNet Work Order: 10985001001

Client: TNU-HANFORD B00-029

Matrix: (soil/water) SOIL Lab Sample ID: 0009L591-003

Sample wt/vol: 30.8 (g/mL) G Lab File ID: A092816

Level: (low/med) LOW Date Received: 09/13/00

% Moisture: 4 decanted: (Y/N) __ Date Extracted: 09/19/00

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 09/28/00

Injection Volume: 2.0 (uL) Dilution Factor: 1.00

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

Number TICs found: 2

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

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | ALDOL CONDENSATE | 7.38 | 1000 | JAB |
| 2. | ALDOL CONDENSATE | 8.72 | 70 | JA |

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

B106P9

Lab Name: Recra.LabNet Work Order: 10985001001

Client: TNU-HANFORD B00-029

Matrix: (soil/water) SOIL Lab Sample ID: 0009L591-004

Sample wt/vol: 30.6 (g/mL) G Lab File ID: A092817

Level: (low/med) LOW Date Received: 09/13/00

% Moisture: 2 decanted: (Y/N) Date Extracted: 09/19/00

Concentrated Extract Volume: 1000(uL) Date Analyzed: 09/28/00

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH:

Number TICs found: 3 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | UNKNOWN | 6.67 | 80 | J |
| 2. | ALDOL CONDENSATE | 7.38 | 1000 | JAB |
| 3. | ALDOL CONDENSATE | 8.72 | 80 | JA |



11

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SBLKAW

Lab Name: Recra.LabNet Work Order: 10985001001

Client: TNU-HANFORD B00-029

Matrix: (soil/water) SOIL Lab Sample ID: 00LE1174-MB1

Sample wt/vol: 30.0 (g/mL) G Lab File ID: a092004

Level: (low/med) LOW Date Received: 09/19/00

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 09/19/00

Concentrated Extract Volume: 1000(uL) Date Analyzed: 09/20/00

Injection Volume: 2.0(uL) Dilution Factor: 1.00

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

Number TICs found: 1

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

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | ALDOL CONDENSATE | 7.58 | 700 | JA |

Recra LabNet - Lionville Laboratory
BNA ANALYTICAL DATA PACKAGE FOR
TNU-HANFORD B00-029

DATE RECEIVED: 09/13/00 RFW LOT # :0009L591

| CLIENT ID | RFW # | MTX | PREP # | COLLECTION | EXTR/PREP | ANALYSIS |
|---|---|---|---|---|---|---|
| B106P6 | 001 | S | 00LE1174 | 09/07/00 | 09/19/00 | 09/28/00 |
| B106P6 | 001 MS | S | 00LE1174 | 09/07/00 | 09/19/00 | 09/28/00 |
| B106P6 | 001 MSD | S | 00LE1174 | 09/07/00 | 09/19/00 | 09/28/00 |
| B106P7 | 002 | S | 00LE1174 | 09/07/00 | 09/19/00 | 09/28/00 |
| B106P8 | 003 | S | 00LE1174 | 09/07/00 | 09/19/00 | 09/28/00 |
| B106P9 | 004 | S | 00LE1174 | 09/07/00 | 09/19/00 | 09/28/00 |
| LAB QC: | | | | | | |
| SBLKAW | MB1 | S | 00LE1174 | N/A | 09/19/00 | 09/20/00 |
| SBLKAW | MB1 BS | S | 00LE1174 | N/A | 09/19/00 | 09/20/00 |

RECRA LabNet Use Only
0009L591

# Custody Transfer Record/Lab Work Request

Page 1 of 1

RECRA LabNet

ALL FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: TRU-Hanford B00-029
Est. Final Proj. Sampling Date:
Project #: 10985-001-001-9999-00
Project Contact/Phone #:
RECRA Project Manager: OS
QC: Spec Del: Std TAT: 15day
Date Rec'd: 9-13-00 Date Due: 9-28-00
Account #:

| | | | |
|---|---|---|---|
| Refrigerator # | | N | N |
| #/Type Container | Liquid | | |
| | Solid | 1AG | 1AG |
| Volume | Liquid | | |
| | Solid | 120 | 60 |
| Preservatives | | - | - |

ANALYSES REQUESTED → ORGANIC: VOA, BNA, Pest/PCB, Herb; INORG: Metal, CN

RECRA LabNet Use Only

MATRIX CODES:
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
WI - Wipe
X - Other
F - Fish

| Lab ID | Client ID/Description | Matrix QC Chosen (✓) MS | MSD | Matrix | Date Collected | Time Collected | BNA | PCB |
|---|---|---|---|---|---|---|---|---|
| 001 | B1Q2R1Q | | | S | 9-7-00 | 1258 | ✓ | ✓ |
| 002 | 7 | | | | | 1306 | ✓ | ✓ |
| 003 | 8 | | | | | 1313 | ✓ | ✓ |
| 004 | 9 | | | | | 1328 | ✓ | ✓ |

Special Instructions: Saf B00-029

DATE/REVISIONS:
1. Run Matrix QC
2.
3.
4.
5.
6.

RECRA LabNet Use Only

Samples were: 1) Shipped ✓ or Hand Delivered ___
Airbill # See below
2) Ambient or Chilled
3) Received In Good Condition (Y) or N
4) Labels Indicate Properly Preserved (Y) or N
5) Received Within Holding Times (Y) or N

COC Tape was: 1) Present on Outer Package (Y) or N
2) Unbroken on Outer Package (Y) or N
3) Present on Sample (Y) or N
4) Unbroken on Sample (Y) or N
COC Record Present Upon Sample Rec't (Y) or N
Cooler Temp. 5.0 C

| Relinquished by | Received by | Date | Time |
|---|---|---|---|
| FedEx | TRappel | 9-13-00 | 0915 |

| Relinquished by | Received by | Date | Time |
|---|---|---|---|
| | | | |

COMPOSITE ORIGINAL

Discrepancies Between Samples Labels and COC Record? Y or (N)
NOTES: 3365.08 2510

RECRA
ENVIRONMENTAL
INC.

*Chemical and Environmental Measurement Information*

OCT 2000
RECEIVED

**Recra LabNet Philadelphia**
**Analytical Report**

**Client:** TNU HANFORD B00-029
**RFW#:** 0009L591
**SDG/SAF#:** H1019/B00-029

**W.O.#:** 10985-001-9999-00
**Date Received:** 09-13-00

**PCB**

The set of samples consisted of four (4) soil samples collected on 09-07-00.

The samples and their associated QC samples were extracted on 09-14-00 and analyzed according to Recra OPs based on SW846, 3rd Edition procedures on 09-25-00. The extraction procedure was based on method 3540 and the extracts were analyzed based on method 8082 for Aroclors only.

The following is a summary of the QC results accompanying the sample results and a description of any problems encountered during their analyses:

1. The cooler temperature has been recorded on the chain-of-custody.
2. All required holding times for extraction and analysis have been met.
3. The samples and their associated QC samples received a sulfuric acid and sulfur cleanup.
4. The method blank was below the reporting limits for all target compounds.
5. Seven (7) of sixteen (16) surrogate recoveries were outside QC limits; however, the surrogate recovery acceptance criteria were met (i.e., no more than one outlier per sample).
6. The blank spike recovery was within acceptance criteria.
7. All matrix spike recoveries were within acceptance criteria.
8. All initial calibrations associated with this data set were within acceptance criteria.
9. All continuing calibration standards analyzed prior to sample extracts were within acceptance criteria.
10. I certify that this sample data package is in compliance with SOW requirements, both technically and for completeness, other than the conditions detailed above. Release of the data contained in this hard-copy data package has been authorized by the laboratory Manager or a designee, as verified by the following signature.

By J. Michael Taylor
Vice President
Philadelphia Analytical Laboratory

10-11-00
Date

pef\r:\group\data\pest\09L-591.pcb

The results presented in this report relate only to the analytical testing and conditions of the samples at receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of 8 pages.



208 Welsh Pool Road • Lionville, PA 19341-1333 • (610) 280-3000 • Fax (610) 280-3041

Recra LabNet Philadelphia

# GLOSSARY OF PESTICIDE/PCB DATA

## DATA QUALIFIERS

**U** = Indicates that the compound was analyzed for but not detected. The minimum detection limit for the sample (not the method detection limit) is reported with the U (e.g., 10U).

**J** = Indicates an estimated value. This flag is used in cases where a target analyte is detected at a level less than the lower quantification level. If the limit of quantification is 10 ug/L and a concentration of 3 ug/L is calculated, it is reported as 3J.

**B** = This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination.

**E** = Indicates that the compound was detected beyond the calibration range and was subsequently analyzed at a dilution.

**I** = Interference.

## ABBREVIATIONS

**BS** = Indicates blank spike in which reagent grade water is spiked with the CLP matrix spiking solutions and carried through all the steps in the method. Spike recoveries are reported.

**BSD** = Indicates blank spike duplicate.

**MS** = Indicates matrix spike.

**MSD** = Indicates matrix spike duplicate.

**DL** = Indicates that recoveries were not obtained because the extract had to be diluted for analysis.

**NA** = Not Applicable.

**DF** = Dilution Factor.

**NR** = Not Required.

**SP** = Indicates Spiked Compound.

## GLOSSARY OF PESTICIDE/PCB DATA

**P** = This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns (see Form X). The lower of the two values is reported on Form I and flagged with a "P".

**D** = This flag identifies all compounds identified in an analysis at a secondary dilution factor.

**C** = This flag applies to a compound that has been confirmed by GC/MS.

**Recra LabNet - Lionville Laboratory**

PCBs by GC

Report Date: 10/09/00 11:29

RFW Batch Number: **0009L591** Client: **TNU-HANFORD B00-029** Work Order: 10985001001 Page: 1

40

| | Cust ID: | B106P6 | B106P6 | B106P6 | B106P7 | B106P8 | B106P9 |
|---|---|---|---|---|---|---|---|
| Sample Information | RFW#: | 001 | 001 MS | 001 MSD | 002 | 003 | 004 |
| | Matrix: | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| | D.F.: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| | Units: | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG |
| Surrogate: | Tetrachloro-m-xylene | 25 * % | 28 % | 25 * % | 25 * % | 22 * % | 25 * % |
| | Decachlorobiphenyl | 62 % | 65 % | 68 % | 64 % | 65 % | 71 % |
| Aroclor-1016 | | 35 U | 35 U | 35 U | 35 U | 35 U | 34 U |
| Aroclor-1221 | | 70 U | 70 U | 70 U | 70 U | 70 U | 68 U |
| Aroclor-1232 | | 35 U | 35 U | 35 U | 35 U | 35 U | 34 U |
| Aroclor-1242 | | 35 U | 35 U | 35 U | 35 U | 35 U | 34 U |
| Aroclor-1248 | | 35 U | 35 U | 35 U | 35 U | 35 U | 34 U |
| Aroclor-1254 | | 35 U | 93 % | 90 % | 35 U | 35 U | 34 U |
| Aroclor-1260 | | 35 U | 35 U | 35 U | 35 U | 35 U | 34 U |

| | Cust ID: | PBLKZZ | PBLKZZ BS |
|---|---|---|---|
| Sample Information | RFW#: | 00LE1148-MB1 | 00LE1148-MB1 |
| | Matrix: | SOIL | SOIL |
| | D.F.: | 1.00 | 1.00 |
| | Units: | UG/KG | UG/KG |
| Surrogate: | Tetrachloro-m-xylene | 25 * % | 25 * % |
| | Decachlorobiphenyl | 71 % | 68 % |
| Aroclor-1016 | | 33 U | 33 U |
| Aroclor-1221 | | 67 U | 67 U |
| Aroclor-1232 | | 33 U | 33 U |
| Aroclor-1242 | | 33 U | 33 U |
| Aroclor-1248 | | 33 U | 33 U |
| Aroclor-1254 | | 33 U | 94 % |
| Aroclor-1260 | | 33 U | 33 U |

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not reported. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

Recra LabNet - Lionville Laboratory
PCB ANALYTICAL DATA PACKAGE FOR
TNU-HANFORD B00-029

DATE RECEIVED: 09/13/00 RFW LOT # :0009L591

| CLIENT ID | RFW # | MTX | PREP # | COLLECTION | EXTR/PREP | ANALYSIS |
|---|---|---|---|---|---|---|
| B106P6 | 001 | S | 00LE1148 | 09/07/00 | 09/14/00 | 09/25/00 |
| B106P6 | 001 MS | S | 00LE1148 | 09/07/00 | 09/14/00 | 09/25/00 |
| B106P6 | 001 MSD | S | 00LE1148 | 09/07/00 | 09/14/00 | 09/25/00 |
| B106P7 | 002 | S | 00LE1148 | 09/07/00 | 09/14/00 | 09/25/00 |
| B106P8 | 003 | S | 00LE1148 | 09/07/00 | 09/14/00 | 09/25/00 |
| B106P9 | 004 | S | 00LE1148 | 09/07/00 | 09/14/00 | 09/25/00 |

LAB QC:

| | | | | | | |
|---|---|---|---|---|---|---|
| PBLKZZ | MB1 | S | 00LE1148 | N/A | 09/14/00 | 09/25/00 |
| PBLKZZ | MB1 BS | S | 00LE1148 | N/A | 09/14/00 | 09/25/00 |

GW 10-10-00

| RECRA LabNet Use Only |
|---|
| 0009L591 |

# Custody Transfer Record/Lab Work Request

Page 1 of 1

RECRA LabNet

ALL FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: Tru-Hanford B00-029
Est. Final Proj. Sampling Date:
Project #: 10985-001-001-9999-00
Project Contact/Phone #:
RECRA Project Manager: OS
QC: Spec Del: Std TAT: 15day
Date Rec'd: 9-13-00 Date Due: 9-28-00
Account #:

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Refrigerator # | | | 4 | 4 | | | | | | | | | | | | | | |
| #/Type Container | Liquid | | | | | | | | | | | | | | | | | |
| | Solid | | 1AG | 1AG | | | | | | | | | | | | | | |
| Volume | Liquid | | | | | | | | | | | | | | | | | |
| | Solid | | 100 | 100 | | | | | | | | | | | | | | |
| Preservatives | | | - | - | | | | | | | | | | | | | | |
| ANALYSES REQUESTED → | | | ORGANIC | | | | | | | | INORG | | | | | | | |
| | | | VOA | BNA | Pest/PCB | Herb | | | | | Metal | CN | | | | | | |
| | | | | RECRA LabNet Use Only | | | | | | | | | | | | | | |
| | | | | OQ2SH | OPC3 | | | | | | | | | | | | | |

MATRIX CODES:
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
WI - Wipe
X - Other
F - Fish

| Lab ID | Client ID/Description | Matrix QC Chosen (✓) MS | MSD | Matrix | Date Collected | Time Collected | OQ2SH | OPC3 |
|---|---|---|---|---|---|---|---|---|
| 001 | B1OLP10 | | | S | 9-7-00 | 1258 | ✓ | ✓ |
| 002 | 7 | | | | | 1306 | ✓ | ✓ |
| 003 | 8 | | | | | 1313 | ✓ | ✓ |
| 004 | 9 | | | | | 1328 | ✓ | ✓ |

Special Instructions: Saf B00-029

DATE/REVISIONS:
1. Run Matrix QC
2.
3.
4.
5.
6.

RECRA LabNet Use Only

Samples were:
1) Shipped ✓ or Hand Delivered ___
Airbill # Scrbelow
2) Ambient or Chilled
3) Received in Good Condition (Y) or N
4) Labels Indicate Properly Preserved (Y) or N
5) Received Within Holding Times (Y) or N

COC Tape was:
1) Present on Outer Package (Y) or N
2) Unbroken on Outer Package (Y) or N
3) Present on Sample (Y) or N
4) Unbroken on Sample (Y) or N
COC Record Present Upon Sample Rec't (Y) or N
Cooler Temp. 5.0 c

Discrepancies Between Samples Labels and COC Record? Y or (N)
NOTES:
3305081290

| Relinquished by | Received by | Date | Time |
|---|---|---|---|
| FedEx | TRappel | 9-13-00 | 0915 |
| | | | |

| Relinquished by | Received by | Date | Time |
|---|---|---|---|
| COMPOSITE WASTE | | ORIGINAL REWRITTEN | |

| Bechtel Hanford Inc. | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | | B00-029-041 | Page 1 of 1 |
|---|---|---|---|---|
| Collector<br>R. Nielson | Company Contact<br>Mike Stankovich | Telephone No.<br>531-7620 | Project Coordinator<br>TRENT, SJ | Price Code 2E<br>Air Quality ☐ |
| Project Designation<br>100 F Area - Quick Turn | Sampling Location<br>1607-F6 | | SAF No.<br>B00-029 | Data Turnaround 15 day |
| Ice Chest No. IP6/IA2 C10F1 | Field Logbook No.<br>EL-1535 | COA<br>R607F62600 | Method of Shipment<br>Federal Express | |
| Shipped To<br>TMA/RECRA | Offsite Property No. HMSR 000908 | | Bill of Lading/Air Bill No. NA | |

**POSSIBLE SAMPLE HAZARDS/REMARKS**
PCBs

**Special Handling and/or Storage**
PCBs

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Preservation | Cool 4C | None | Cool 4C | | | | | | | |
| Type of Container | aG | aG | aG | | | | | | | |
| No. of Container(s) | 1 | 1 | 1 | | | | | | | |
| Volume | 60mL | 60mL | 120mL | | | | | | | |
| SAMPLE ANALYSIS | PCBs - 8082 | Isotopic Uranium; ~~Isotopic Plutonium; Americium-241~~ RT 9-8-00 | Semi-VOA - 8270A (TCL) | | | | | | | |

| Sample No. | Matrix * | Sample Date | Sample Time | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B106P6 | SOIL | 9-7-00 | 1258 | X | X | X | | | | | | B106P5 | |
| B106P7 | SOIL | 9-7-00 | 1306 | X | X | X | | | | | | | |
| B106P8 | SOIL | 9-7-00 | 1313 | X | X | X | | | | | | | |
| B106P9 | SOIL | 9-7-00 | 1328 | X | X | X | | | | | | | |

**CHAIN OF POSSESSION**

| Relinquished By | Date/Time | Received By | Date/Time |
|---|---|---|---|
| P. Nielson / P. Nielson | 9/7/00 1625 | Ref #1B | 9/7/00 1625 |
| Removed P. Nielson Ref 1B 3728 | 9-12-00 0800 | R Thoren | 9-12-00 0800 |
| R. Thoren / R Thoren | 9-12-00 0800 | FEDEX | |
| FedEx | 9-13-00 0915 | Thoppel | 9-13-00 0915 |
| | | | |
| | | | |

**SPECIAL INSTRUCTIONS**

Samples stored in Ref.# 1B at the 3728 Shipping Facility on 9/7/00 Collector not available to relinquish samples on 9/12/00 for shipment.
RT 9-12-00

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

| LABORATORY SECTION | Received By | Title | Date/Time |
|---|---|---|---|
| FINAL SAMPLE DISPOSITION | Disposal Method | Disposed By | Date/Time |

BHI-EE-011 (10/99)

FedEx Dangerous Goods Airbill

Recipient's Copy

3305081290

From 9-12-00 Sender's FedEx Account Number [redacted]

Sender's J.E. MAXWELL Phone (509) 376 7493

WASTE MANAGEMENT TECHNICAL SERVICES/U.S. DOE Dept./Floor/Suite/Room

Company [redacted]

Address 2355 STEVENS DRIVE MS GI-14

RICHLAND State WA Zip 99352

Your Internal Billing Reference Information R607F62600

To Recipient's ORLETTE JOHNSON Phone (610) 280-3012

Dept./Floor/Suite/Room

Company RECRA LAB NET

Address 208 WELSH POOL ROAD

LIONVILLE State PA Zip 19341-1333

For HOLD at FedEx Location check here

☐ Hold Weekday (Not available with FedEx First Overnight)

☐ Hold Saturday (Not available at all locations. Not available with FedEx First Overnight or FedEx Standard Overnight)

For Saturday Delivery check here

☐ (Extra Charge. Not available in all locations. Not available with FedEx First Overnight or FedEx Standard Overnight)

Express Package Service *Packages under 150 lbs.* Delivery commitment may be later in some areas

☒ FedEx Priority Overnight (Next business morning)

☐ FedEx Standard Overnight (Next business afternoon)

☐ FedEx 2Day* (Second business day)

* FedEx Letter Rate not available. Minimum charge: One pound FedEx 2Day rate

Express Freight Service *Packages over 150 lbs.* Delivery commitment may be later in some areas

☐ FedEx Overnight Freight (Next business-day service for any distance)

☐ FedEx 2Day Freight (Second business-day service for any distance)

☐ FedEx Express Saver Freight (Up to 3 business-day service based upon distance)

(Call for delivery schedule. See back for detailed descriptions of freight products.)

Questions? Call 1•800•Go•FedEx (1-800-463-3339)

5 Packaging

1 ☒ Other Packaging

Dangerous Goods cannot be shipped in FedEx packaging.

6 Special Handling

4 ☒ Dangerous Goods as per attached Shipper's Declaration

☐ Dangerous Goods Shipper's Declaration not required

☐ Cargo Aircraft Only

6 ☐ Dry Ice Dry ice, 9, UN 1845 in _____ x _____ kg 904 (Dangerous Goods Shipper's Declaration not required)

7 Payment

Bill to: 1 ☐ Sender (Account no. in section 1 will be billed) 2 ☐ Recipient 3 ☒ Third Party 4 ☐ Credit Card 5 ☐ Cash/Check

(Enter FedEx account no. or Credit Card no. below)

[redacted]

| Total Packages | Total Weight | Total Declared Value* | Total Charges |
|---|---|---|---|
| 1 | 26 | $ NVD .00 | $ |

* When declaring a value higher than $100 per shipment, you pay an additional charge. See SERVICE CONDITIONS, DECLARED VALUE AND LIMIT OF LIABILITY section for further information.

Credit Card Auth.:

Signature Release Unavailable

Rev. Date 8/96 PART #140199 ©1994-96 FedEx PRINTED IN U.S.A.

241

SRC 96

TRACKING NUMBER 3305081290

Page 1 of 1 Pages

*Two completed and signed copies of this Declaration must be handed to the operator.*

**WARNING**

**Failure to comply in all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties. This Declaration must not, in any circumstances, be completed and/or signed by a consolidator, a forwarder or an IATA cargo agent.**

**TRANSPORT DETAILS**

This shipment is within the limitations prescribed for: (delete non-applicable)

PASSENGER AND CARGO AIRCRAFT [redacted]

Airport of Departure: PASCO, WA

Airport of Destination

Shipment type: *(delete non-applicable)*

NON-RADIOACTIVE [redacted]

**NATURE AND QUANTITY OF DANGEROUS GOODS**

| Dangerous Goods Identification: Proper Shipping Name | Class or Division | UN or ID No. | Packing Group | Subsidiary Risk | Quantity and type of packing | Packing Inst. | Authorization |
|---|---|---|---|---|---|---|---|
| POLYCHLORINATED BIPHENYLS, SOLID | 9 | UN2315 | II | | 1 METAL DRUM x 1.3 Kg | 911 | PACKAGED PER FX-06 |

Additional Handling Information SHIPPED ACCORDING TO IATA/ICAO

EMERGENCY RESPONSE GUIDE # 171 ATTACHED

I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked, and labelled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Name/Title of Signatory JOHN E. MAXWELL/TRAFFIC SPEC.

Place and Date RICHLAND, WA 9-12-00

Signature (see warning above) J. E. Maxwell 03

Emergency Telephone Number (Required for US Origin or Destination Shipments) 1-888-766-0771

ACCEPTABLE FOR PASSENGER AIRCRAFT. THIS SHIPMENT CONTAINS RADIOACTIVE MATERIAL INTENDED FOR USE IN, OR INCIDENT TO, RESEARCH, MEDICAL DIAGNOSIS, OR TREATMENT.