0077283

# SAF-RC-032
# 100-F Remaining Sites Burial Grounds - Soil Full Protocol
# FINAL DATA PACKAGE

RECEIVED
MAY 2 1 2008
EDMC

**COMPLETE COPY OF DATA PACKAGE TO:**

| | | |
|---|---|---|
| Jeff DeBuigne | X9-10 | KW 5/15/08<br>INITIAL/DATE |
| Kathy Wendt | H4-21 | KW 5/15/08<br>INITIAL/DATE |

**COMMENTS:**

**SDG K1207 SAF-RC-032**

Rad only X Chem only Rad & Chem

X Complete Partial

**Waste Site:** **600-111 Verification**

LIONVILLE LABORATORY INC.

13 May 2008

RECEIVED MAY 2008

Joan Kessner
WC-Hanford
2620 Fermi Avenue
MSIN H9-03
Richland, WA 99354

**Subject:** Analytical Data Package

Dear Ms. Kessner:

Enclosed are the hard copy analytical reports for the batch number/fraction indicated (marked X) in the following table:

| | |
|---|---|
| LvLI Batch # | 0804L979 |
| SDG # | K1207 |
| SAF # | RC-032 |
| Date Received | 4/23/08 |
| # Samples | 12 |
| Matrix | SOIL |
| Volatiles | |
| Semivolatiles | X |
| Pest/PCB | X |
| Glycols | |
| DRO/KRO/GRO | |
| GC Alcohols | |
| Herbicides | |
| Metals | X |
| Inorganics | |

The electronic data deliverable (EDD) will be emailed shortly. If you have any questions, please don't hesitate to contact me at (610) 280-3012.

Sincerely,
Lionville Laboratory Incorporated

Orlette S. Johnson
Project Manager

r:\group\pm\orlette\tnu-hanford\data\b_ltrs.doc

208 Welsh Pool Road • Exton, PA 19341- 1313 • (610) 280-3000 • Fax (610) 280-3041

RECEIVED
MAY 2008

Lionville Laboratory, Inc.
BNA ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-032 K1207

DATE RECEIVED: 04/23/08 LVL LOT # :0804L979

| CLIENT ID | LVL # | MTX | PREP # | COLLECTION | EXTR/PREP | ANALYSIS |
|---|---|---|---|---|---|---|
| J16MM8 | 002 | S | 08LE0200 | 04/21/08 | 04/25/08 | 04/28/08 |
| J16MM8 | 002 MS | S | 08LE0200 | 04/21/08 | 04/25/08 | 04/28/08 |
| J16MM8 | 002 MSD | S | 08LE0200 | 04/21/08 | 04/25/08 | 04/28/08 |
| J16MM9 | 003 | S | 08LE0200 | 04/21/08 | 04/25/08 | 04/28/08 |
| J16MN0 | 004 | S | 08LE0200 | 04/21/08 | 04/25/08 | 04/28/08 |
| J16MN1 | 005 | S | 08LE0200 | 04/21/08 | 04/25/08 | 04/30/08 |
| J16MN2 | 006 | S | 08LE0200 | 04/21/08 | 04/25/08 | 04/29/08 |
| J16MN3 | 007 | S | 08LE0200 | 04/21/08 | 04/25/08 | 04/30/08 |
| J16MN4 | 008 | S | 08LE0200 | 04/21/08 | 04/25/08 | 04/29/08 |
| J16MN5 | 009 | S | 08LE0200 | 04/21/08 | 04/25/08 | 04/29/08 |
| J16MN6 | 010 | S | 08LE0200 | 04/21/08 | 04/25/08 | 04/29/08 |
| J16MN7 | 011 | S | 08LE0200 | 04/21/08 | 04/25/08 | 04/29/08 |
| J16MN8 | 012 | S | 08LE0200 | 04/21/08 | 04/25/08 | 04/29/08 |

LAB QC:

| | | | | | | |
|---|---|---|---|---|---|---|
| SBLKUH | MB1 | S | 08LE0200 | N/A | 04/25/08 | 04/28/08 |
| SBLKUH | MB1 BS | S | 08LE0200 | N/A | 04/25/08 | 04/29/08 |

LIONVILLE LABORATORY INC.

**Case Narrative**

**Client:** TNU-HANFORD RC-032
**LVL #:** 0804L979
**SDG/SAF #** K1207 / RC-032

**W.O. #:** 11343-606-001-9999-00
**Date Received:** 04-23-2008

**SEMIVOLATILE**

Eleven (11) soil samples were collected on 04-21-2008.

The samples and their associated QC samples were extracted according to Lionville Laboratory SOPs based on SW 846 method 3540C on 04-25-2008 and analyzed according to criteria set forth in Lionville Laboratory SOPs based on SW 846 Method 8270C for TCL Semivolatile target compounds on 04-28,29,30-2008.

All soil samples are reported on a dry weight basis unless requested by the client, required by the method, or noted otherwise. The following is a summary of QC results accompanying the sample results. Lionville Laboratory Inc (LvLI) certifies that all test results meet the requirements of NELAC except as noted below:

1. Samples were extracted and analyzed within required holding time.

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

3. Eleven (11) of ninety (90) surrogate recoveries were outside acceptance criteria. However, surrogate recovery acceptance criteria were met for samples J16MM9, J16MN1, J16MN7, J16MN8 (i.e., no more than one outlier per fraction {acid and base neutral} and no recoveries less than 10%). The surrogate recover criteria were not met for samples 08LE0200-MB1 and J16MN3. A copy of the Sample Discrepancy Report (SDR) has been enclosed.

4. Four (4) of one hundred and twenty-eight (128) matrix spike recoveries were outside acceptance criteria. A copy of the Sample Discrepancy Report (SDR) has been enclosed.

5. Two (2) of sixty-four (64) blank spike recoveries was outside acceptance criteria. A copy of the Sample Discrepancy Report (SDR) has been enclosed.

6. The method blank was below the reporting limit for all target compounds.

r:\group\data\2008\bna\tnu\0804-979ks2.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 31 pages.

7. All initial calibrations associated with this data set were within acceptance criteria.

8. All continuing calibrations standards analyzed prior to sample extracts were within acceptance criteria.

9. Internal standard area criteria were not met for sample J16MN5. The out of criteria sample was re-analyzed on 04-30-2008 with similar results and not reported. The GC/MS instrument was inspected for possible malfunction and was judged to be functioning properly and all surrogate recoveries were within QC limits; consequently, the sample was not reanalyzed.

10. Manual integrations are performed according to SOP QA-125 to produce quality data with the utmost integrity. All manual integrations are required to be technically valid and properly documented. Appropriate technical flags are defined in the Glossary ("Technical Flags For Manual Integration").

11. LvLI is NELAP accredited by the State of Pennsylvania. For a complete listing of accrediting authorities and the corresponding analytes/methods, please contact your Project Manager.

12. 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.

Judy Stum

Iain Daniels
Laboratory Manager
Lionville Laboratory Incorporated

5/8/08
Date

LvLI
LIONVILLE LABORATORY INC.

# Lionville Laboratory Sample Discrepancy Report (SDR)

SDR #: 08MS094

Initiator: Shawn Saylor
Date: 4-30-08
Client: TMY R6032

Batch: 08041 979
Samples: MS, MSD, MB, BS
Method: SW846/MCAWW/CLP/

Parameter: 8270
Matrix: SOLID
Prep Batch: 08LE0200

**1. Reason for SDR**

**a. COC Discrepancy** __ Tech Profile Error __ Client Request __ Sampler Error on C-O-C __ Transcription Error __ Wrong Test Code __ Other _____

**b. General Discrepancy**

__ Missing Sample/Extract* __ Container Broken __ Wrong Sample Pulled __ Label ID's Illegible
__ Hold Time Exceeded __ Insufficient Sample* __ Preservation Wrong __ Received Past Hold
__ Improper Bottle Type __ Not Amenable to Analysis

Note*: Verified by [Log-In] or [Prep Group] (circle)...signature/date: _____

**c. Problem** (Include all relevant specific results; attach data if necessary)

① low spike recoveries in the MS, MSD, + BS
② low recovery of 2,4,6-tribromophenol in sample 007 (J16MN3) (<10%) also Blk
③ low surrogate recoveries in the method blank (5 out of range)

**2. Known or Probable Causes(s)** ① acidic phenols, nitroanilines are subject to erratic chromatographic behavior especially if the GC system contaminated with high boiling material. Others specific ② loss due to a chemical reaction rather than a problem with the extraction process. Conversion compound has been reported as a TIC. ③ possible loss during concentration of the extract on Kemp

PGL 5/6/08

**3. Discussion and Proposed Action**

__ Re-log
__ Entire Batch
__ Following Samples: _____
__ Re-leach
__ Re-extract
__ Re-digest
__ Revise EDD
__ Change Test Code to _____
__ Place On/Take Off Hold (circle)

Other Description:

2 + 3 narrate no hits in sample (above reporting limits) - no impact on data

5/6/08

**4. Project Manager Instructions**...signature/date: _____

✓ Concur with Proposed Action
✓ Disagree with Proposed Action; See Instruction
__ Include in Case Narrative
__ Client Contacted:
Date/Person _____
__ Add
__ Cancel

**5. Final Action**...signature/date: _____ 5/8/08

Other Explanation:

__ Verified re-[log][leach][extract][digest][analysis] (circle)
✓ Included in Case Narrative
__ Hard Copy COC Revised
__ Electronic COC Revised
__ EDD Corrections Completed

**When Final Action has been recorded, forward original to QA Specialist for distribution and filing.**

| Route | Distribution of Completed SDR | Route | Distribution of Completed SDR |
|---|---|---|---|
| __ | X Initiator | __ | __ Metals: Beegle |
| __ | X Lab General Manager: M. Taylor | __ | __ Inorganic: Perrone |
| ① | X Project Mgr: Stone/Johnson | __ | __ GC/LC: Kiger |
| __ | __ Data Management: Stilwell | ② | X MS: Rychlak/Daley |
| __ | __ Sample Prep: Beegle/Kiger | __ | __ Log-in: Perry |
| | | __ | __ Admin: _____ |
| | | __ | __ Other: _____ |

QA-105-A-0805

# GLOSSARY

## 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.

# GLOSSARY

## 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. |

## TECHNICAL FLAGS FOR MANUAL INTEGRATION

Manual quan modifications or integrations are performed routinely to improve the data quality for a variety of technical reasons. Documentation of these modifications should be clear and concise. The following "flags" are used to indicate the technical reasons for quan modifications:

MP - Missed Peak: manually added peak not found by automatic quan program.

PA - Peak Assignment: quan report was changed to reflect correct peak assignment.

RI - Routine Integration: routine integrations are performed for some analytes that are consistently integrated improperly by the automatic integration programs. Examples are the dichlorobenzene isomers on the VOA packed column and benzo(b)fluoranthene/benzo(k)fluoranthene which are poorly resolved on the BNA column.

SP - Split Peak: the automatic integration improperly split the peak; a manual integration was performed to get the correct area.

CB - Coelution/Background: peak was manually integrated to eliminate contribution from coeluting compounds, background signal, or other interference.

PI - Proper Integration: a peak with poor or inconsistent integration (e.g., excessive tail) was properly integrated manually.

**Lionville Laboratory, Inc.**

Semivolatiles by GC/MS, HSL List

Report Date: 05/07/08 13:34

RFW Batch Number: **0804L979** Client: **TNUHANFORD RC-032 K1207** Work Order: 11343606001 Page: 1a

00000000

| | Cust ID: | J16MM8 | J16MM8 | J16MM8 | J16MM9 | J16MN0 | J16MN1 |
|---|---|---|---|---|---|---|---|
| Sample Information | RFW#: | 002 | 002 MS | 002 MSD | 003 | 004 | 005 |
| | 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 | 44 % | 53 % | 54 % | 51 % | 53 % | 20 * % |
| | 2-Fluorobiphenyl | 47 % | 68 % | 76 % | 61 % | 64 % | 35 % |
| | Terphenyl-d14 | 69 % | 79 % | 95 % | 83 % | 108 % | 70 % |
| | Phenol-d5 | 49 % | 62 % | 65 % | 50 % | 56 % | 17 * % |
| | 2-Fluorophenol | 49 % | 62 % | 63 % | 50 % | 52 % | 44 % |
| | 2,4,6-Tribromophenol | 34 % | 35 % | 29 % | 17 * % | 54 % | 25 % |
| | | fl | fl | fl | fl | fl | fl |
| Phenol | | 350 U | 59 % | 65 % | 350 U | 340 U | 340 U |
| bis(2-Chloroethyl)ether | | 350 U | 49 * % | 51 % | 350 U | 340 U | 340 U |
| 2-Chlorophenol | | 350 U | 59 % | 63 % | 350 U | 340 U | 340 U |
| 1,3-Dichlorobenzene | | 350 U | 50 % | 53 % | 350 U | 340 U | 340 U |
| 1,4-Dichlorobenzene | | 350 U | 51 % | 53 % | 350 U | 340 U | 340 U |
| 1,2-Dichlorobenzene | | 350 U | 57 % | 54 % | 350 U | 340 U | 340 U |
| 2-Methylphenol | | 350 U | 61 % | 66 % | 350 U | 340 U | 340 U |
| 2,2'-oxybis(1-Chloropropane) | | 350 U | 50 % | 49 * % | 350 U | 340 U | 340 U |
| 3/4 Methylphenol | | 350 U | 65 % | 68 % | 350 U | 340 U | 340 U |
| N-Nitroso-di-n-propylamine | | 350 U | 58 % | 61 % | 350 U | 340 U | 340 U |
| Hexachloroethane | | 350 U | 48 * % | 50 % | 350 U | 340 U | 340 U |
| Nitrobenzene | | 350 U | 52 % | 53 % | 350 U | 340 U | 340 U |
| Isophorone | | 350 U | 60 % | 63 % | 350 U | 340 U | 20 J |
| 2-Nitrophenol | | 350 U | 65 % | 66 % | 350 U | 340 U | 340 U |
| 2,4-Dimethylphenol | | 350 U | 65 % | 65 % | 350 U | 340 U | 340 U |
| bis(2-Chloroethoxy)methane | | 350 U | 57 % | 63 % | 350 U | 340 U | 340 U |
| 2,4-Dichlorophenol | | 350 U | 68 % | 74 % | 350 U | 340 U | 340 U |
| 1,2,4-Trichlorobenzene | | 350 U | 60 % | 64 % | 350 U | 340 U | 340 U |
| Naphthalene | | 350 U | 57 % | 60 % | 350 U | 340 U | 340 U |
| 4-Chloroaniline | | 350 U | 54 % | 59 % | 350 U | 340 U | 340 U |
| Hexachlorobutadiene | | 350 U | 60 % | 69 % | 350 U | 340 U | 340 U |
| 4-Chloro-3-methylphenol | | 350 U | 65 % | 78 % | 350 U | 340 U | 340 U |
| 2-Methylnaphthalene | | 350 U | 65 % | 68 % | 350 U | 340 U | 340 U |
| Hexachlorocyclopentadiene | | 350 U | 52 % | 58 % | 350 U | 340 U | 340 U |
| 2,4,6-Trichlorophenol | | 350 U | 45 % | 40 % | 350 U | 340 U | 340 U |
| 2,4,5-Trichlorophenol | | 880 U | 70 % | 56 % | 880 U | 860 U | 860 U |

*= Outside of EPA CLP QC limits.

RFW Batch Number: **0804L979** Client: **TNUHANFORD RC-032 K1207** Work Order: 11343606001 Page: 1b

| Cust ID: | J16MM8 | | J16MM8 | | J16MM8 | | J16MM9 | | J16MN0 | | J16MN1 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RFW#: | 002 | | 002 MS | | 002 MSD | | 003 | | 004 | | 005 | |
| 2-Chloronaphthalene | 350 | U | 67 | % | 73 | % | 350 | U | 340 | U | 340 | U |
| 2-Nitroaniline | 880 | U | 67 | % | 72 | % | 880 | U | 860 | U | 860 | U |
| Dimethylphthalate | 350 | U | 80 | % | 83 | % | 350 | U | 340 | U | 340 | U |
| Acenaphthylene | 350 | U | 69 | % | 75 | % | 350 | U | 340 | U | 340 | U |
| 2,6-Dinitrotoluene | 350 | U | 76 | % | 85 | % | 350 | U | 340 | U | 340 | U |
| 3-Nitroaniline | 880 | U | 65 | % | 61 | % | 880 | U | 860 | U | 860 | U |
| Acenaphthene | 350 | U | 68 | % | 74 | % | 350 | U | 340 | U | 340 | U |
| 2,4-Dinitrophenol | 880 | U | 40 | % | 12 * | % | 880 | U | 860 | U | 860 | U |
| 4-Nitrophenol | 880 | U | 66 | % | 116 | % | 880 | U | 860 | U | 860 | U |
| Dibenzofuran | 350 | U | 77 | % | 83 | % | 350 | U | 340 | U | 340 | U |
| 2,4-Dinitrotoluene | 350 | U | 83 | % | 93 | % | 350 | U | 340 | U | 340 | U |
| Diethylphthalate | 350 | U | 85 | % | 83 | % | 350 | U | 340 | U | 340 | U |
| 4-Chlorophenyl-phenylether | 350 | U | 79 | % | 83 | % | 350 | U | 340 | U | 340 | U |
| Fluorene | 350 | U | 78 | % | 84 | % | 350 | U | 340 | U | 340 | U |
| 4-Nitroaniline | 880 | U | 68 | % | 62 | % | 880 | U | 860 | U | 860 | U |
| 4,6-Dinitro-2-methylphenol | 880 | U | 56 | % | 42 | % | 880 | U | 860 | U | 860 | U |
| N-Nitrosodiphenylamine (1) | 350 | U | 52 | % | 65 | % | 350 | U | 340 | U | 340 | U |
| 4-Bromophenyl-phenylether | 350 | U | 64 | % | 79 | % | 350 | U | 340 | U | 340 | U |
| Hexachlorobenzene | 350 | U | 84 | % | 98 | % | 350 | U | 340 | U | 340 | U |
| Pentachlorophenol | 880 | U | 50 | % | 42 | % | 880 | U | 860 | U | 860 | U |
| Phenanthrene | 350 | U | 72 | % | 90 | % | 350 | U | 340 | U | 340 | U |
| Anthracene | 350 | U | 76 | % | 83 | % | 350 | U | 340 | U | 340 | U |
| Carbazole | 350 | U | 75 | % | 77 | % | 350 | U | 340 | U | 340 | U |
| Di-n-butylphthalate | 350 | U | 75 | % | 79 | % | 350 | U | 340 | U | 340 | U |
| Fluoranthene | 350 | U | 88 | % | 96 | % | 350 | U | 340 | U | 340 | U |
| Pyrene | 350 | U | 75 | % | 87 | % | 350 | U | 340 | U | 340 | U |
| Butylbenzylphthalate | 350 | U | 70 | % | 77 | % | 350 | U | 340 | U | 340 | U |
| 3,3'-Dichlorobenzidine | 350 | U | 61 | % | 65 | % | 350 | U | 340 | U | 340 | U |
| Benzo(a)anthracene | 350 | U | 76 | % | 84 | % | 350 | U | 340 | U | 340 | U |
| Chrysene | 350 | U | 80 | % | 89 | % | 350 | U | 340 | U | 340 | U |
| bis(2-Ethylhexyl)phthalate | 21 | J | 67 | % | 72 | % | 19 | J | 32 | J | 340 | U |
| Di-n-octyl phthalate | 350 | U | 75 | % | 80 | % | 350 | U | 340 | U | 340 | U |
| Benzo(b)fluoranthene | 350 | U | 82 | % | 87 | % | 350 | U | 340 | U | 340 | U |
| Benzo(k)fluoranthene | 350 | U | 85 | % | 87 | % | 350 | U | 340 | U | 340 | U |
| Benzo(a)pyrene | 350 | U | 79 | % | 84 | % | 350 | U | 340 | U | 340 | U |
| Indeno(1,2,3-cd)pyrene | 350 | U | 73 | % | 77 | % | 350 | U | 340 | U | 340 | U |
| Dibenz(a,h)anthracene | 350 | U | 79 | % | 79 | % | 350 | U | 340 | U | 340 | U |
| Benzo(g,h,i)perylene | 350 | U | 73 | % | 77 | % | 350 | U | 340 | U | 340 | U |

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

**Lionville Laboratory, Inc.**

Semivolatiles by GC/MS, HSL List

Report Date: 05/07/08 13:34

RFW Batch Number: 0804L979 Client: TNUHANFORD RC-032 K1207 Work Order: 11343606001 Page: 2a

| | Cust ID: | J16MN2 | J16MN3 | J16MN4 | J16MN5 | J16MN6 | J16MN7 |
|---|---|---|---|---|---|---|---|
| Sample Information | RFW#: | 006 | 007 | 008 | 009 | 010 | 011 |
| | 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 | 63 % | 61 % | 44 % | 46 % | 43 % | 58 % |
| | 2-Fluorobiphenyl | 73 % | 64 % | 55 % | 53 % | 57 % | 69 % |
| | Terphenyl-d14 | 97 % | 85 % | 84 % | 71 % | 87 % | 100 % |
| | Phenol-d5 | 75 % | 64 % | 53 % | 54 % | 51 % | 62 % |
| | 2-Fluorophenol | 72 % | 64 % | 49 % | 52 % | 51 % | 63 % |
| | 2,4,6-Tribromophenol | 36 % | 7 * % | 20 % | 41 % | 59 % | 10 * % |
| | | fl | fl | fl | fl | fl | fl |
| Phenol | | 340 U | 350 U | 360 U | 350 U | 350 U | 340 U |
| bis(2-Chloroethyl)ether | | 340 U | 350 U | 360 U | 350 U | 350 U | 340 U |
| 2-Chlorophenol | | 340 U | 350 U | 360 U | 350 U | 350 U | 340 U |
| 1,3-Dichlorobenzene | | 340 U | 350 U | 360 U | 350 U | 350 U | 340 U |
| 1,4-Dichlorobenzene | | 340 U | 350 U | 360 U | 350 U | 350 U | 340 U |
| 1,2-Dichlorobenzene | | 340 U | 350 U | 360 U | 350 U | 350 U | 340 U |
| 2-Methylphenol | | 340 U | 350 U | 360 U | 350 U | 350 U | 340 U |
| 2,2'-oxybis(1-Chloropropane) | | 340 U | 350 U | 360 U | 350 U | 350 U | 340 U |
| 3/4 Methylphenol | | 340 U | 350 U | 360 U | 350 U | 350 U | 340 U |
| N-Nitroso-di-n-propylamine | | 340 U | 350 U | 360 U | 350 U | 350 U | 340 U |
| Hexachloroethane | | 340 U | 350 U | 360 U | 350 U | 350 U | 340 U |
| Nitrobenzene | | 340 U | 350 U | 360 U | 350 U | 350 U | 340 U |
| Isophorone | | 340 U | 350 U | 360 U | 350 U | 350 U | 340 U |
| 2-Nitrophenol | | 340 U | 350 U | 360 U | 350 U | 350 U | 340 U |
| 2,4-Dimethylphenol | | 340 U | 350 U | 360 U | 350 U | 350 U | 340 U |
| bis(2-Chloroethoxy)methane | | 340 U | 350 U | 360 U | 350 U | 350 U | 340 U |
| 2,4-Dichlorophenol | | 340 U | 350 U | 360 U | 350 U | 350 U | 340 U |
| 1,2,4-Trichlorobenzene | | 340 U | 350 U | 360 U | 350 U | 350 U | 340 U |
| Naphthalene | | 340 U | 350 U | 360 U | 350 U | 350 U | 340 U |
| 4-Chloroaniline | | 340 U | 350 U | 360 U | 350 U | 350 U | 340 U |
| Hexachlorobutadiene | | 340 U | 350 U | 360 U | 350 U | 350 U | 340 U |
| 4-Chloro-3-methylphenol | | 340 U | 350 U | 360 U | 350 U | 350 U | 340 U |
| 2-Methylnaphthalene | | 340 U | 350 U | 360 U | 350 U | 350 U | 340 U |
| Hexachlorocyclopentadiene | | 340 U | 350 U | 360 U | 350 U | 350 U | 340 U |
| 2,4,6-Trichlorophenol | | 340 U | 350 U | 360 U | 350 U | 350 U | 340 U |
| 2,4,5-Trichlorophenol | | 850 U | 870 U | 900 U | 870 U | 870 U | 850 U |

*= Outside of EPA CLP QC limits.

010000000

| Cust ID: | J16MN2 | | J16MN3 | | J16MN4 | | J16MN5 | | J16MN6 | | J16MN7 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RFW#: | 006 | | 007 | | 008 | | 009 | | 010 | | 011 | |
| 2-Chloronaphthalene | 340 | U | 350 | U | 360 | U | 350 | U | 350 | U | 340 | U |
| 2-Nitroaniline | 850 | U | 870 | U | 900 | U | 870 | U | 870 | U | 850 | U |
| Dimethylphthalate | 340 | U | 350 | U | 360 | U | 350 | U | 350 | U | 340 | U |
| Acenaphthylene | 340 | U | 350 | U | 360 | U | 350 | U | 350 | U | 340 | U |
| 2,6-Dinitrotoluene | 340 | U | 350 | U | 360 | U | 350 | U | 350 | U | 340 | U |
| 3-Nitroaniline | 850 | U | 870 | U | 900 | U | 870 | U | 870 | U | 850 | U |
| Acenaphthene | 340 | U | 350 | U | 360 | U | 350 | U | 350 | U | 340 | U |
| 2,4-Dinitrophenol | 850 | U | 870 | U | 900 | U | 870 | U | 870 | U | 850 | U |
| 4-Nitrophenol | 850 | U | 870 | U | 900 | U | 870 | U | 870 | U | 850 | U |
| Dibenzofuran | 340 | U | 350 | U | 360 | U | 350 | U | 350 | U | 340 | U |
| 2,4-Dinitrotoluene | 340 | U | 350 | U | 360 | U | 350 | U | 350 | U | 340 | U |
| Diethylphthalate | 340 | U | 350 | U | 360 | U | 350 | U | 350 | U | 340 | U |
| 4-Chlorophenyl-phenylether | 340 | U | 350 | U | 360 | U | 350 | U | 350 | U | 340 | U |
| Fluorene | 340 | U | 350 | U | 360 | U | 350 | U | 350 | U | 340 | U |
| 4-Nitroaniline | 850 | U | 870 | U | 900 | U | 870 | U | 870 | U | 850 | U |
| 4,6-Dinitro-2-methylphenol | 850 | U | 870 | U | 900 | U | 870 | U | 870 | U | 850 | U |
| N-Nitrosodiphenylamine (1) | 340 | U | 350 | U | 360 | U | 350 | U | 350 | U | 340 | U |
| 4-Bromophenyl-phenylether | 340 | U | 350 | U | 360 | U | 350 | U | 350 | U | 340 | U |
| Hexachlorobenzene | 340 | U | 350 | U | 360 | U | 350 | U | 350 | U | 340 | U |
| Pentachlorophenol | 850 | U | 870 | U | 900 | U | 870 | U | 870 | U | 850 | U |
| Phenanthrene | 340 | U | 350 | U | 360 | U | 350 | U | 350 | U | 340 | U |
| Anthracene | 340 | U | 350 | U | 360 | U | 350 | U | 350 | U | 340 | U |
| Carbazole | 340 | U | 350 | U | 360 | U | 350 | U | 350 | U | 340 | U |
| Di-n-butylphthalate | 340 | U | 350 | U | 360 | U | 350 | U | 350 | U | 340 | U |
| Fluoranthene | 340 | U | 350 | U | 360 | U | 350 | U | 350 | U | 340 | U |
| Pyrene | 340 | U | 350 | U | 360 | U | 350 | U | 18 | J | 340 | U |
| Butylbenzylphthalate | 340 | U | 350 | U | 360 | U | 350 | U | 350 | U | 340 | U |
| 3,3'-Dichlorobenzidine | 340 | U | 350 | U | 360 | U | 350 | U | 350 | U | 340 | U |
| Benzo(a)anthracene | 340 | U | 350 | U | 360 | U | 350 | U | 350 | U | 340 | U |
| Chrysene | 340 | U | 350 | U | 360 | U | 350 | U | 350 | U | 340 | U |
| bis(2-Ethylhexyl)phthalate | 25 | J | 18 | J | 20 | J | 26 | J | 17 | J | 340 | U |
| Di-n-octyl phthalate | 340 | U | 350 | U | 360 | U | 350 | U | 350 | U | 340 | U |
| Benzo(b)fluoranthene | 340 | U | 350 | U | 360 | U | 350 | U | 350 | U | 340 | U |
| Benzo(k)fluoranthene | 340 | U | 350 | U | 360 | U | 350 | U | 350 | U | 340 | U |
| Benzo(a)pyrene | 340 | U | 350 | U | 360 | U | 350 | U | 350 | U | 340 | U |
| Indeno(1,2,3-cd)pyrene | 340 | U | 350 | U | 360 | U | 350 | U | 350 | U | 340 | U |
| Dibenz(a,h)anthracene | 340 | U | 350 | U | 360 | U | 350 | U | 350 | U | 340 | U |
| Benzo(g,h,i)perylene | 340 | U | 350 | U | 360 | U | 350 | U | 350 | U | 340 | U |

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

000000011

000000012

| | Cust ID: | J16MN8 | SBLKUH | SBLKUH BS |
|---|---|---|---|---|
| Sample Information | RFW#: | 012 | 08LE0200-MB1 | 08LE0200-MB1 |
| | Matrix: | SOIL | SOIL | SOIL |
| | D.F.: | 1.00 | 1.00 | 1.00 |
| | Units: | ug/Kg | ug/Kg | ug/Kg |
| Surrogate Recovery | Nitrobenzene-d5 | 57 % | 20 * % | 64 % |
| | 2-Fluorobiphenyl | 66 % | 24 * % | 70 % |
| | Terphenyl-d14 | 90 % | 63 % | 76 % |
| | Phenol-d5 | 62 % | 21 * % | 72 % |
| | 2-Fluorophenol | 62 % | 23 * % | 69 % |
| | 2,4,6-Tribromophenol | 10 * % | 5 * % | 48 % |
| Phenol | | 350 U | 330 U | 73 % |
| bis(2-Chloroethyl)ether | | 350 U | 330 U | 64 % |
| 2-Chlorophenol | | 350 U | 330 U | 68 % |
| 1,3-Dichlorobenzene | | 350 U | 330 U | 63 % |
| 1,4-Dichlorobenzene | | 350 U | 330 U | 61 % |
| 1,2-Dichlorobenzene | | 350 U | 330 U | 66 % |
| 2-Methylphenol | | 350 U | 330 U | 70 % |
| 2,2'-oxybis(1-Chloropropane) | | 350 U | 330 U | 69 % |
| 3/4 Methylphenol | | 350 U | 330 U | 72 % |
| N-Nitroso-di-n-propylamine | | 350 U | 330 U | 73 % |
| Hexachloroethane | | 350 U | 330 U | 62 % |
| Nitrobenzene | | 350 U | 330 U | 61 % |
| Isophorone | | 350 U | 330 U | 68 % |
| 2-Nitrophenol | | 350 U | 330 U | 65 % |
| 2,4-Dimethylphenol | | 350 U | 330 U | 63 % |
| bis(2-Chloroethoxy)methane | | 350 U | 330 U | 64 % |
| 2,4-Dichlorophenol | | 350 U | 330 U | 62 % |
| 1,2,4-Trichlorobenzene | | 350 U | 330 U | 62 % |
| Naphthalene | | 350 U | 330 U | 65 % |
| 4-Chloroaniline | | 350 U | 330 U | 51 % |
| Hexachlorobutadiene | | 350 U | 330 U | 67 % |
| 4-Chloro-3-methylphenol | | 350 U | 330 U | 64 % |
| 2-Methylnaphthalene | | 350 U | 330 U | 63 % |
| Hexachlorocyclopentadiene | | 350 U | 330 U | 65 % |
| 2,4,6-Trichlorophenol | | 350 U | 330 U | 57 % |
| 2,4,5-Trichlorophenol | | 870 U | 830 U | 67 % |

*= Outside of EPA CLP QC limits.

| Cust ID: | J16MN8 | | SBLKUH | | SBLKUH BS | | |
|---|---|---|---|---|---|---|---|
| RFW#: | 012 | | 08LE0200-MB1 | | 08LE0200-MB1 | | |
| 2-Chloronaphthalene | 350 | U | 330 | U | 68 | | % |
| 2-Nitroaniline | 870 | U | 830 | U | 72 | | % |
| Dimethylphthalate | 350 | U | 330 | U | 69 | | % |
| Acenaphthylene | 350 | U | 330 | U | 69 | | % |
| 2,6-Dinitrotoluene | 350 | U | 330 | U | 66 | | % |
| 3-Nitroaniline | 870 | U | 830 | U | 64 | | % |
| Acenaphthene | 350 | U | 330 | U | 66 | | % |
| 2,4-Dinitrophenol | 870 | U | 830 | U | 5 | * | % |
| 4-Nitrophenol | 870 | U | 830 | U | 56 | | % |
| Dibenzofuran | 350 | U | 330 | U | 72 | | % |
| 2,4-Dinitrotoluene | 350 | U | 330 | U | 74 | | % |
| Diethylphthalate | 350 | U | 330 | U | 71 | | % |
| 4-Chlorophenyl-phenylether | 350 | U | 330 | U | 65 | | % |
| Fluorene | 350 | U | 330 | U | 71 | | % |
| 4-Nitroaniline | 870 | U | 830 | U | 64 | | % |
| 4,6-Dinitro-2-methylphenol | 870 | U | 830 | U | 16 | * | % |
| N-Nitrosodiphenylamine (1) | 350 | U | 330 | U | 59 | | % |
| 4-Bromophenyl-phenylether | 350 | U | 330 | U | 66 | | % |
| Hexachlorobenzene | 350 | U | 330 | U | 79 | | % |
| Pentachlorophenol | 870 | U | 830 | U | 42 | | % |
| Phenanthrene | 350 | U | 330 | U | 71 | | % |
| Anthracene | 350 | U | 330 | U | 75 | | % |
| Carbazole | 350 | U | 330 | U | 66 | | % |
| Di-n-butylphthalate | 350 | U | 330 | U | 66 | | % |
| Fluoranthene | 350 | U | 330 | U | 75 | | % |
| Pyrene | 350 | U | 330 | U | 76 | | % |
| Butylbenzylphthalate | 350 | U | 330 | U | 76 | | % |
| 3,3'-Dichlorobenzidine | 350 | U | 330 | U | 62 | | % |
| Benzo(a)anthracene | 350 | U | 330 | U | 73 | | % |
| Chrysene | 350 | U | 330 | U | 75 | | % |
| bis(2-Ethylhexyl)phthalate | 62 | J | 330 | U | 73 | | % |
| Di-n-octyl phthalate | 350 | U | 330 | U | 66 | | % |
| Benzo(b)fluoranthene | 350 | U | 330 | U | 72 | | % |
| Benzo(k)fluoranthene | 350 | U | 330 | U | 68 | | % |
| Benzo(a)pyrene | 350 | U | 330 | U | 70 | | % |
| Indeno(1,2,3-cd)pyrene | 350 | U | 330 | U | 72 | | % |
| Dibenz(a,h)anthracene | 350 | U | 330 | U | 70 | | % |
| Benzo(g,h,i)perylene | 350 | U | 330 | U | 72 | | % |

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

000000013

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J16MM8

Lab Name: Lionville Labs, Inc. Work Order: 11343606001

Client: TNUHANFORD RC-032 K1207

Matrix: (soil/water) SOIL

Lab Sample ID: 0804L979-002

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: N042814

Level: (low/med) LOW

Date Received: 04/23/08

% Moisture: 6 decanted: (Y/N)__

Date Extracted: 04/25/08

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 04/28/08

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N

pH: _____

Number TICs found: 5

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

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | UNKNOWN | 3.203 | 90000 | JB |
| 2. | UNKNOWN | 3.447 | 60000 | J |
| 3. | UNKNOWN | 3.882 | 20000 | J |
| 4. | ALDOL CONDENSATE | 4.468 | 900 | JAB |
| 5. | UNKNOWN | 16.910 | 400 | JB |

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J16MM9

Lab Name: Lionville Labs, Inc. Work Order: 11343606001

Client: TNUHANFORD RC-032 K1207

Matrix: (soil/water) SOIL

Lab Sample ID: 0804L979-003

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: N042817

Level: (low/med) LOW

Date Received: 04/23/08

% Moisture: 6 decanted: (Y/N)__

Date Extracted: 04/25/08

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 04/28/08

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N

pH: _____

Number TICs found: 5

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

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | UNKNOWN | 3.457 | 300000 | JB |
| 2. | UNKNOWN | 3.553 | 900 | J |
| 3. | UNKNOWN | 4.059 | 30000 | J |
| 4. | ALDOL CONDENSATE | 4.559 | 1000 | JAB |
| 5. | UNKNOWN | 16.911 | 1000 | JB |

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J16MN0

Lab Name: Lionville Labs, Inc. Work Order: 11343606001

Client: TNUHANFORD RC-032 K1207

Matrix: (soil/water) SOIL

Lab Sample ID: 0804L979-004

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: N042818

Level: (low/med) LOW

Date Received: 04/23/08

% Moisture: 3 decanted: (Y/N)__

Date Extracted: 04/25/08

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 04/28/08

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

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

Number TICs found: 5

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

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | UNKNOWN | 2.239 | 700 | JB |
| 2. | UNKNOWN | 3.207 | 80000 | JB |
| 3. | UNKNOWN | 3.451 | 50000 | J |
| 4. | ALDOL CONDENSATE | 4.584 | 1000 | JAB |
| 5. | UNKNOWN | 16.908 | 400 | JB |

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J16MN1

Lab Name: Lionville Labs, Inc. Work Order: 11343606001

Client: TNUHANFORD RC-032 K1207

Matrix: (soil/water) SOIL

Lab Sample ID: 0804L979-005

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: N043003

Level: (low/med) LOW

Date Received: 04/23/08

% Moisture: 3 decanted: (Y/N)__

Date Extracted: 04/25/08

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 04/30/08

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

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

Number TICs found: 5

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

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | UNKNOWN | 1.260 | 500 | J |
| 2. | UNKNOWN | 2.106 | 40000 | JB |
| 3. | ALDOL CONDENSATE | 2.393 | 800 | JA |
| 4. | UNKNOWN | 3.056 | 100000 | JB |
| 5. | UNKNOWN | 3.143 | 20000 | J |

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J16MN2

Lab Name: Lionville Labs, Inc. Work Order: 11343606001

Client: TNUHANFORD RC-032 K1207

Matrix: (soil/water) SOIL

Lab Sample ID: 0804L979-006

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: N042905

Level: (low/med) LOW

Date Received: 04/23/08

% Moisture: 2 decanted: (Y/N)__

Date Extracted: 04/25/08

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 04/29/08

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N

pH: _____

Number TICs found: 5

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

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | UNKNOWN | 2.113 | 1000 | JB |
| 2. | UNKNOWN | 3.090 | 90000 | J |
| 3. | UNKNOWN | 3.334 | 60000 | JB |
| 4. | ALDOL CONDENSATE | 4.337 | 1000 | JAB |
| 5. | UNKNOWN | 16.761 | 700 | JB |

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO

J16MN3

Lab Name: Lionville Labs, Inc. Work Order: 11343606001

Client: TNUHANFORD RC-032 K1207

Matrix: (soil/water) SOIL

Lab Sample ID: 0804L979-007

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: N043004

Level: (low/med) LOW

Date Received: 04/23/08

% Moisture: 4 decanted: (Y/N)

Date Extracted: 04/25/08

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 04/30/08

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N

pH:

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

Number TICs found: 5

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | UNKNOWN | 2.026 | 2000 | JB |
| 2. | UNKNOWN | 3.046 | 200000 | JB |
| 3. | UNKNOWN | 3.613 | 50000 | J |
| 4. | ALDOL CONDENSATE | 4.258 | 1000 | JAB |
| 5. | UNKNOWN | 16.648 | 1000 | JB |

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J16MN4

Lab Name: Lionville Labs, Inc. Work Order: 11343606001

Client: TNUHANFORD RC-032 K1207

Matrix: (soil/water) SOIL

Lab Sample ID: 0804L979-008

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: N042907

Level: (low/med) LOW

Date Received: 04/23/08

% Moisture: 8 decanted: (Y/N)__

Date Extracted: 04/25/08

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 04/29/08

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N

pH: _____

Number TICs found: 5

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

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | UNKNOWN | 2.108 | 600 | JB |
| 2. | UNKNOWN | 3.355 | 300000 | JB |
| 3. | UNKNOWN | 3.643 | 30000 | J |
| 4. | ALDOL CONDENSATE | 4.332 | 900 | JAB |
| 5. | UNKNOWN | 16.765 | 900 | JB |

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J16MN5

Lab Name: Lionville Labs, Inc. Work Order: 11343606001

Client: TNUHANFORD RC-032 K1207

Matrix: (soil/water) SOIL

Lab Sample ID: 0804L979-009

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: N042908

Level: (low/med) LOW

Date Received: 04/23/08

% Moisture: 4 decanted: (Y/N)__

Date Extracted: 04/25/08

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 04/29/08

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N

pH: _____

Number TICs found: 5

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

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | UNKNOWN | 2.125 | 700 | JB |
| 2. | ALDOL CONDENSATE | 2.491 | 100 | JA |
| 3. | UNKNOWN | 3.267 | 200000 | JB |
| 4. | UNKNOWN | 3.415 | 1000 | J |
| 5. | ALDOL CONDENSATE | 4.339 | 900 | JAB |

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J16MN6

Lab Name: Lionville Labs, Inc. Work Order: 11343606001

Client: TNUHANFORD RC-032 K1207

Matrix: (soil/water) SOIL

Lab Sample ID: 0804L979-010

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: N042909

Level: (low/med) LOW

Date Received: 04/23/08

% Moisture: 4 decanted: (Y/N)__

Date Extracted: 04/25/08

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 04/29/08

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N

pH: _____

Number TICs found: 5

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

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | UNKNOWN | 2.116 | 400 | JB |
| 2. | ALDOL CONDENSATE | 2.491 | 200 | JA |
| 3. | UNKNOWN | 3.319 | 300000 | JB |
| 4. | UNKNOWN | 3.598 | 30000 | J |
| 5. | ALDOL CONDENSATE | 4.304 | 900 | JAB |

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J16MN7

Lab Name: Lionville Labs, Inc. Work Order: 11343606001

Client: TNUHANFORD RC-032 K1207

Matrix: (soil/water) SOIL

Lab Sample ID: 0804L979-011

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: N042910

Level: (low/med) LOW

Date Received: 04/23/08

% Moisture: 2 decanted: (Y/N)__

Date Extracted: 04/25/08

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 04/29/08

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N

pH: _____

Number TICs found: 5

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

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | UNKNOWN | 2.104 | 400 | JB |
| 2. | ALDOL CONDENSATE | 2.471 | 300 | JA |
| 3. | UNKNOWN | 3.282 | 200000 | JB |
| 4. | ALDOL CONDENSATE | 4.310 | 1000 | JAB |
| 5. | UNKNOWN | 16.770 | 1000 | JB |

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J16MN8

Lab Name: Lionville Labs, Inc. Work Order: 11343606001

Client: TNUHANFORD RC-032 K1207

Matrix: (soil/water) SOIL

Lab Sample ID: 0804L979-012

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: N042911

Level: (low/med) LOW

Date Received: 04/23/08

% Moisture: 4 decanted: (Y/N)__

Date Extracted: 04/25/08

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 04/29/08

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N

pH: _____

Number TICs found: 5

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

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | UNKNOWN | 2.115 | 500 | JB |
| 2. | UNKNOWN | 3.310 | 300000 | JB |
| 3. | UNKNOWN | 3.580 | 40000 | J |
| 4. | ALDOL CONDENSATE | 4.304 | 1000 | JAB |
| 5. | UNKNOWN | 16.793 | 1000 | JB |

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SBLKUH

Lab Name: Lionville Labs, Inc. Work Order: 11343606001

Client: TNUHANFORD RC-032 K1207

Matrix: (soil/water) SOIL

Lab Sample ID: 08LE0200-MB1

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: N042813

Level: (low/med) LOW

Date Received: 04/25/08

% Moisture: _____ decanted: (Y/N)__

Date Extracted: 04/25/08

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 04/28/08

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N

pH: _____

Number TICs found: 5

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

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | UNKNOWN | 1.137 | 200 | J |
| 2. | UNKNOWN | 2.218 | 200 | J |
| 3. | UNKNOWN | 3.212 | 80000 | J |
| 4. | ALDOL CONDENSATE | 4.276 | 300 | JA |
| 5. | UNKNOWN | 16.910 | 600 | J |

onville Laboratory Use Only

804L 979

# Custody Transfer Record/Lab Work Request

Page 1 of 2

LVLI

**FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS**

000000026

nt TNU HANFORD SAF# RC-032

. Final Proj. Sampling Date

ject# 11343-606-001-9999-00

ject Contact/Phone#

nville Laboratory Project Manager OJohnson

SW846 Del STD TAT 7days

e Rec'd 4-23-08 Date Due 4-30-08

| | | A | B | | | | | C-D | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Refrigerator # | | 3 | 3 | | | | | 3 | | | | | | | |
| #/Type Container | Liquid | | | | | | | | | | | | | | |
| | Solid | 1~~00~~ | 1~~00~~ | | | | | 2P | | | | | | | |
| Volume | | 120 | 60 | | | | | 120 | | | | | | | |
| Preservatives | | — | — | | | | | — | | | | | | | |
| ANALYSES REQUESTED → | | ORGANIC | | | | | | INORG | | | | | | | |
| | | VOA | BNA | ~~Pest/~~ PCB | Herb | | | Metal | CN | | | | | | |
| | | Lionville Laboratory Use Only | | | | | | | | | | | | | |
| | | | 8625H | 8PCB | | | | MetO | | | | | | | |

| TRIX DES: | Lab ID | Client ID/Description | Matrix QC Chosen (✓) MS | MSD | Matrix | Date Collected | Time Collected | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soil, Sediment, Solid, Sludge, Water, Oil, Air, Drum Solids, Drum Liquids, EP/TCLP, Leachate, Wipe, Other, Fish | 001 | J16MM7 | | | Soil | 4-21-08 | 1020 | | X | X | | | | X | | | | | |
| | 002 | M8 | | | | | 1025 | | X | X | | | | X | | | | | |
| | 003 | M9 | | | | | 1030 | | X | X | | | | X | | | | | |
| | 004 | N0 | | | | | 1035 | | X | X | | | | X | | | | | |
| | 005 | N1 | | | | | 1040 | | X | X | | | | X | | | | | |
| | 006 | N2 | | | | | 1045 | | X | X | | | | X | | | | | |
| | 007 | N3 | | | | | 1050 | | X | X | | | | X | | | | | |
| | 008 | N4 | | | | | 1055 | | X | X | | | | X | | | | | |
| | 009 | N5 | | | | | 1100 | | X | X | | | | X | | | | | |
| | 010 | N6 | | | | | 1100 | | X | X | | | | X | | | | | |

ecial Instructions:

MetO = HSL + B, Mo, S:
NOTL

**Special Instructions:**

1.
2.
3.
4.
5.
6.

| Relinquished by | Received by | Date | Time |
|---|---|---|---|
| [illegible] | [illegible] | 4/23/08 | 0930 |

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

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

U.S. DOE SITE WASTE

nville Laboratory Use Only

804C979

# Custody Transfer Record/Lab Work Request

Page 2 of 2

**FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS**

LVLI

000000027

nt TNU HANFORD

Final Proj. Sampling Date

ect#

ect Contact/Phone#

nville Laboratory Project Manager

Del. TAT

Send 91

e Rec'd 4-23-08 Date Due

| | | A | B | | | | | CD | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Refrigerator # | | 3 | 3 | | | | | | | | | | | | |
| #/Type Container | Liquid / Solid | 1G | 1G | | | | | 2P | | | | | | | |
| Volume | | 120 | 60 | | | | | 120 | | | | | | | |
| Preservatives | | — | — | | | | | — | | | | | | | |
| ANALYSES REQUESTED → | | ORGANIC | | | | | | INORG | | | | | | | |
| | | VOA | BNA | Pest/PCB | Herb | | | Metal | CN | | | | | | |
| | | Lionville Laboratory Use Only | | | | | | | | | | | | | |
| | | | 8625H | OPCB | | | | MetO | | | | | | | |

RIX
ES:
Soil
Sediment
Solid
Sludge
Water
Oil
Air
Drum
Solids
Drum
Liquids
EP/TCLP
Leachate
Wipe
Other
Fish

| Lab ID | Client ID/Description | Matrix QC Chosen (✓) MS | MSD | Matrix | Date Collected | Time Collected | VOA | BNA | Pest/PCB | Herb | | | | Metal | CN | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 011 | T16MN7 | | | Soil | 4/21/08 | 1105 | | X | X | | | | | X | | | | | | | |
| 012 | ↓ 8 | | | ↓ | ↓ | 1110 | | X | X | | | | | X | | | | | | | |

cial Instructions:

Special Instructions:

1.
2.
3.
4.
5.
6.

| Relinquished by | Received by | Date | Time |
|---|---|---|---|
| [illegible] | [illegible] | 4/23/08 | 0930 |

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

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

| Washington Closure Hanford | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | RC-032-198 | Page 1 of 3 |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Collector: T. Welch-Koelling | Company Contact: JR DEBUIGNE | Telephone No.: 528-6409 | Project Coordinator: KESSNER, JH |
| Project Designation: 100-F Remaining Sites Burial Grounds - Soil Full Protocol | Sampling Location: 600-111 Verification | | SAF No.: RC-032 |
| Ice Chest No.: EKC-02-007 | Field Logbook No.: EFL-1174-4 | COA: R601112000 | Method of Shipment: FED EX |
| Shipped To: EBERLINE SERVICES / LIONVILLE | Offsite Property No.: A080239 | | Bill of Lading/Air Bill No.: See OSPC |

| Price Code | Data Turnaround |
|---|---|
| 8B | 7 DAY |

POSSIBLE SAMPLE HAZARDS/REMARKS

NA

Special Handling and/or Storage

NA Cool 4°C

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservation | None | Cool 4C | Cool 4C | | | | | | | | |
| Type of Container | P | aG | aG | | | | | | | | |
| No. of Container(s) | 2 | 1 | 1 | | | | | | | | |
| Volume | 125mL | 60mL | 120mL | | | | | | | | |
| SAMPLE ANALYSIS | See item (1) in Special Instructions. | PCBs - 8082 | Semi-VOA - 8270A (TCL) | | | | | | | | |

| Sample No. | Matrix * | Sample Date | Sample Time | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| J16MM7 | SOIL | 4-21-08 | 1020 | X | | | | | | | | | EB |
| J16MM8 | SOIL | | 1025 | X | X | X | | | | | | | 1 |
| J16MM9 | SOIL | | 1030 | X | X | X | | | | | | | 2 |
| J16MN0 | SOIL | | 1035 | X | X | X | | | | | | | 3 |
| J16MN1 | SOIL | | 1040 | X | X | X | | | | | | | 4 |

| CHAIN OF POSSESSION | Sign/Print Names | | |
|---|---|---|---|
| Relinquished By/Removed From | Date/Time 4/21/08 1300 | Received By/Stored In | Date/Time 1300 |
| Relinquished By/Removed From | Date/Time 1530 | Received By/Stored In | Date/Time 1530 |
| Relinquished By/Removed From | Date/Time 0900 | Received By/Stored In | Date/Time Fed Ex |
| Relinquished By/Removed From | Date/Time 4-23-08 0930 | Received By/Stored In | Date/Time 4-23-08 0930 |
| Relinquished By/Removed From | Date/Time | Received By/Stored In | Date/Time |
| Relinquished By/Removed From | Date/Time | Received By/Stored In | Date/Time |

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010 (Client List) (Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc); Mercury - 7471 - (CV)

Matrix *

S=Soil
SE=Sediment
SO=Solid
Sl=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 |

VCH-EE-011

00000028

| Washington Closure Hanford | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | RC-032-198 | Page 2 of 3 |
|---|---|---|---|

| | | | |
|---|---|---|---|
| ollector<br>T. Welch-Koelling | Company Contact<br>JR DEBUIGNE | Telephone No.<br>528-6409 | Project Coordinator<br>KESSNER, JH | Price Code<br>8B | Data Turnaround<br>7 DAY |
| roject Designation<br>100-F Remaining Sites Burial Grounds - Soil Full Protocol | Sampling Location<br>600-111 Verification | | SAF No.<br>RC-032 | | |
| e Chest No.<br>ERC-02-007 | Field Logbook No.<br>EFL-1174-4 | COA<br>R601112000 | Method of Shipment<br>FED EX | | |
| hipped To<br>EBERLINE SERVICES / LIONVILLE | Offsite Property No.<br>A080239 | | Bill of Lading/Air Bill No.<br>See OSPC | | |

**POSSIBLE SAMPLE HAZARDS/REMARKS**
NA

**Special Handling and/or Storage**
NA Cool 4°C

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservation | None | Cool 4C | Cool 4C | | | | | | | | |
| Type of Container | P | aG | aG | | | | | | | | |
| No. of Container(s) | 2 | 1 | 1 | | | | | | | | |
| Volume | 125mL | 60mL | 120mL | | | | | | | | |
| SAMPLE ANALYSIS | See item (1) in Special Instructions. | PCBs - 8082 | Semi-VOA - 8270A (TCL) | | | | | | | | |

| Sample No. | Matrix * | Sample Date | Sample Time | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6MN2 | SOIL | 4-21-08 | 1045 | X | X | X | | | | | | | 5 |
| 6MN3 | SOIL | | 1050 | X | X | X | | | | | | | 6 |
| 6MN4 | SOIL | | 1055 | X | X | X | | | | | | | 7 |
| 6MN5 | SOIL | | 1100 | X | X | X | | | | | | | 8 |
| 6MN6 | SOIL | | 1100 | X | X | X | | | | | | | 8 DUP |

| CHAIN OF POSSESSION | | Sign/Print Names | |
|---|---|---|---|
| nquished By/Removed From | Date/Time 4-21-08 1300 | Received By/Stored In JRDeBuigne JRDeBuigne | Date/Time 1300 4-21-08 |
| nquished By/Removed From DeBuigne JRDeBuigne | Date/Time 1530 4-21-08 | Received By/Stored In MSTankovich 4/21/08 | Date/Time 1530 |
| nquished By/Removed From MSTankovich 4/22/08 | Date/Time 1500 | Received By/Stored In Fed EX | Date/Time |
| nquished By/Removed From 4-23-08 0930 | Date/Time | Received By/Stored In 4-23-08 0930 | Date/Time |
| nquished By/Removed From | Date/Time | Received By/Stored In | Date/Time |
| nquished By/Removed From | Date/Time | Received By/Stored In | Date/Time |

**SPECIAL INSTRUCTIONS**

(1) ICP Metals - 6010 (Client List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc}; Mercury - 7471 - (CV)

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

| | | | |
|---|---|---|---|
| .BORATORY SECTION | Received By | Title | Date/Time |
| AL SAMPLE ISPOSITION | Disposal Method | Disposed By | Date/Time |

H-EE-011

000000029

| Washington Closure Hanford | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | RC-032-198 | Page 1 of 1 |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Collector: T. Welch-Koelling | Company Contact: JR DEBUIGNE | Telephone No.: 528-6409 | Project Coordinator: KESSNER, JH |
| Price Code: 8B | Data Turnaround: 7 DAY | | |
| Project Designation: 100-F Remaining Sites Burial Grounds - Soil Full Protocol | Sampling Location: 600-111 Verification | SAF No.: RC-032 | |
| Ice Chest No.: ERC-02-007 | Field Logbook No.: EFL-1174-4 | COA: R601112000 | Method of Shipment: FED EX |
| Shipped To: EBERLINE SERVICES / CLONVILLE | Offsite Property No.: A080239 | Bill of Lading/Air Bill No.: See OSPC | |

**POSSIBLE SAMPLE HAZARDS/REMARKS**

NA

**Special Handling and/or Storage**

NA Cool 4°C

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservation | None | Cool 4C | Cool 4C | | | | | | | | | |
| Type of Container | P | aG | aG | | | | | | | | | |
| No. of Container(s) | 2 | 1 | 1 | | | | | | | | | |
| Volume | 125mL | 60mL | 120mL | | | | | | | | | |
| SAMPLE ANALYSIS | See item (1) in Special Instructions. | PCBs - 8082 | Semi-VOA - 8270A (TCL) | | | | | | | | | |

| Sample No. | Matrix * | Sample Date | Sample Time | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 16MN7 | SOIL | 4-21-08 | 1105 | X | X | X | | | | | | | 9 |
| 16MN8 | SOIL | 4-21-08 | 1110 | X | X | X | | | | | | | 10 |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |

**CHAIN OF POSSESSION** — **Sign/Print Names**

| Relinquished By/Removed From | Date/Time | Received By/Stored In | Date/Time |
|---|---|---|---|
| [signature] | 4-21-08 1300 | JR DeBuigne [signature] | 1300 4-21-08 |
| JR DeBuigne [signature] | 1530 4-21-08 | MLK MSHankovich | 4/21/08 1530 |
| MLK MSHankovich | 1500 4/22/08 | Fed Ex | |
| Fed Ex | 4-23-08 0930 | [signature] | 4-23-08 0930 |
| | | | |
| | | | |

**SPECIAL INSTRUCTIONS**

(1) ICP Metals - 6010 (Client List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc}; Mercury - 7471 - (CV)

**Matrix ***

S=Soil
SE=Sediment
SO=Solid
SL=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 |

CH-EE-011

000000030

Lionville Laboratory Incorporated

# SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: TNU HANFORD

Project/SAF/SOW/Release #: RC-032

Date: 4/23/08

LvLI Batch #: 08041979

Sample Custodian: [illegible]

NOTE: EXPLAIN ALL DISCREPANCIES

| | | | |
|---|---|---|---|
| 1. Samples Hand Delivered or Shipped? | Carrier Fed Ex | | Airbill #799311902306 |
| 2. Custody Seals on coolers or shipping containers intact, signed & dated? | ☑ Yes | ☐ No | ☐ No Seals |
| 3. Outside of coolers or shipping containers are free from damage? | ☑ Yes | ☐ No | *Comments:* |
| 4. All expected paperwork received (coc & other client specific information) sealed in plactic bag and easily accessible? | ☑ Yes | ☐ No | |
| 5. Samples received cooled or ambient? | Temp 39 | °C | Cooler # ERC-02-007 |
| How was the temperature taken? | ☑ IR | ☐ Temp. Blank | ☐ Other (Specify): |
| Is the Temp. Criteria met for these samples? (Hg in soils @ 4°C) | ☑ Yes | ☐ No | |
| 6. Custody seals on sample containers intact, signed and dated? | ☑ Yes | ☐ No | ☐ No Seals |
| 7. COC (Client & LvLI) signed & dated? | ☑ Yes | ☐ No | |
| 8. Sample containers are intact? | ☑ Yes | ☐ No | |
| 9. All samples on COC received? | ☑ Yes | ☐ No | |
| All samples received on COC? | ☑ Yes | ☐ No | |
| 10. All sample label information matches COC? | ☑ Yes | ☐ No | |
| 11. Samples properly preserved? (If #5 is no, then this is no.) | ☑ Yes | ☐ No | |
| 12. Samples received within hold times? | ☑ Yes | ☐ No | |
| Short holds taken to wet lab? | ☐ Yes | ☐ No | ☑ N/A |
| 13. VOA, TOC, TOX free of headspace? | ☐ Yes | ☐ No | ☑ N/A |
| 14. QC stickers placed on bottles designated by client? | ☐ Yes | ☐ No | ☑ N/A |
| 15. Shipment meets LvLI Sample Acceptance Policy? (Identify all bottles that do not meet the policy, which is on the reverse of this page.) | ☑ Yes | ☐ No | |
| 16. Project Manager contacted concerning any discrepancies? | ☐ Yes | ☐ No | ☑ N/A |

Person Contacted _____ Date _____

LVLI LIONVILLE LABORATORY INC.

Lionville Laboratory, Inc.
PCB ANALYTICAL DATA PACKAGE FOR
TNU-HANFORD RC-032 K1207

RECEIVED MAY 2008

DATE RECEIVED: 04/23/08 LVL LOT # :0804L979

| CLIENT ID | LVL # | MTX | PREP # | COLLECTION | EXTR/PREP | ANALYSIS |
|---|---|---|---|---|---|---|
| J16MM8 | 002 | S | 08LE0198 | 04/21/08 | 04/24/08 | 04/25/08 |
| J16MM8 | 002 MS | S | 08LE0198 | 04/21/08 | 04/24/08 | 04/25/08 |
| J16MM8 | 002 MSD | S | 08LE0198 | 04/21/08 | 04/24/08 | 04/25/08 |
| J16MM9 | 003 | S | 08LE0198 | 04/21/08 | 04/24/08 | 04/25/08 |
| J16MN0 | 004 | S | 08LE0198 | 04/21/08 | 04/24/08 | 04/25/08 |
| J16MN1 | 005 | S | 08LE0198 | 04/21/08 | 04/24/08 | 04/25/08 |
| J16MN2 | 006 | S | 08LE0198 | 04/21/08 | 04/24/08 | 04/25/08 |
| J16MN3 | 007 | S | 08LE0198 | 04/21/08 | 04/24/08 | 04/25/08 |
| J16MN4 | 008 | S | 08LE0198 | 04/21/08 | 04/24/08 | 04/25/08 |
| J16MN5 | 009 | S | 08LE0198 | 04/21/08 | 04/24/08 | 04/25/08 |
| J16MN6 | 010 | S | 08LE0198 | 04/21/08 | 04/24/08 | 04/25/08 |
| J16MN7 | 011 | S | 08LE0198 | 04/21/08 | 04/24/08 | 04/26/08 |
| J16MN8 | 012 | S | 08LE0198 | 04/21/08 | 04/24/08 | 04/26/08 |

LAB QC:

| | | | | | | |
|---|---|---|---|---|---|---|
| PBLKPN | MB1 | S | 08LE0198 | N/A | 04/24/08 | 04/25/08 |
| PBLKPN | MB1 BS | S | 08LE0198 | N/A | 04/24/08 | 04/25/08 |

LIONVILLE LABORATORY INC.

**Case Narrative**

**Client:** TNU-HANFORD RC-032
**LVL #:** 0804L979
**SDG/SAF #** K1207 / RC-032

**W.O. #:** 11343-606-001-9999-00
**Date Received:** 04-23-2008

**PCB**

Eleven (11) solid samples were collected on 04-21-2008.

The samples and their associated QC samples were extracted on 04-24-2008 and analyzed according to Lionville Laboratory SOPs based on SW846, 3rd Edition procedure on 04-25,26-2008. The extraction procedure was based on method 3540C and the extracts were analyzed based on method 8082.

All soil samples are reported on a dry weight basis unless requested by the client, required by the method, or noted otherwise. The following is a summary of the QC results accompanying the sample results. Lionville Laboratory Inc (LvLI) certifies that all test results meet the requirements of NELAC except as noted below:

1. All results presented in this report are derived from a sample that met LvLI's sample acceptance policy.
2. Samples were extracted and analyzed within required holding time
3. The samples and their associated QC samples received Copper-Sulfur and Sulfuric Acid cleanups according to Lionville Laboratory SOPs based on SW846 methods 3660A and 3665A respectively.
4. The method blank was below the reporting limits for all target compounds.
5. All surrogate recoveries were within acceptance criteria.
6. All blank spike recoveries were within acceptance criteria.
7. All matrix spike recoveries were within acceptance criteria.
8. The initial calibrations associated with this data set were within acceptance criteria.
9. The continuing calibration standards analyzed prior to sample extracts were within acceptance criteria.



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 16 pages.

208 Welsh Pool Road • Exton, PA 19341- 1313 • (610) 280-3000 • Fax (610) 280-3041

LIONVILLE LABORATORY INC.

10. LvLI is NELAP accredited by the State of Pennsylvania. For a complete listing of accrediting authorities and the corresponding analytes/methods, please contact your Project Manager.

11. 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.

Iain Daniels
Laboratory Manager
Lionville Laboratory Incorporated

5/6/08
Date

208 Welsh Pool Road • Exton, PA 19341- 1313 • (610) 280-3000 • Fax (610) 280-3041

# Lionville Laboratory Sample Discrepancy Report (SDR)

SDR #: 08GC037

Initiator: Svetlana Zak
Date: 04/28/2008
Client: TRN

Batch: 08041979
Samples: 002-T
Method: SW846/MCAWW/CLP/

Parameter: PCB
Matrix: soil
Prep Batch: 08LE0198

**1. Reason for SDR**

**a. COC Discrepancy** __ Tech Profile Error __ Client Request __ Sampler Error on C-O-C __ Transcription Error __ Wrong Test Code ✓ Other _____

**b. General Discrepancy**

__ Missing Sample/Extract* __ Container Broken __ Wrong Sample Pulled __ Label ID's Illegible
__ Hold Time Exceeded __ Insufficient Sample* __ Preservation Wrong __ Received Past Hold
__ Improper Bottle Type __ Not Amenable to Analysis

Note*: Verified by [Log-In] or [Prep Group] (circle)...signature/date: _____

**c. Problem** (Include all relevant specific results; attach data if necessary)

Sample 002F MSD not spiked w/ 1016 & 1260

**2. Known or Probable Causes(s)**

**3. Discussion and Proposed Action**

__ Re-log
__ Entire Batch
__ Following Samples: _____
__ Re-leach
__ Re-extract
__ Re-digest
__ Revise EDD
__ Change Test Code to _____
__ Place On/Take Off Hold (circle)

Other Description:

report + narrate

4/28/08

**4. Project Manager Instructions**...signature/date: _____

__ Concur with Proposed Action
__ Disagree with Proposed Action; See Instruction
✓ Include in Case Narrative
__ Client Contacted:
Date/Person _____
__ Add
__ Cancel

**5. Final Action**...signature/date: KDL 5-3-08

Other Explanation:

__ Verified re-[log][leach][extract][digest][analysis] (circle)
✓ Included in Case Narrative
__ Hard Copy COC Revised
__ Electronic COC Revised
__ EDD Corrections Completed

**When Final Action has been recorded, forward original to QA for diposition.**

Route
__ Lab Manager: Daniels
(i) Project Mgr (circle): Johnson / Stone
__ Sample Prep (circle): Ford
__ Log-in: King

Route
__ Metals: Welsh / _____
__ Inorganic: Perrone / _____
__ GC/LC: Carey / _____
__ MS VOA: Rubino / _____
__ MS BNA: Carden / _____
__ Other: _____

QA-139-A-0208

# GLOSSARY OF 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. |
| . I | = | Indicates an interference on one analytical column only. Result is reported from remaining analytical column. |

## 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. |
| NS | = | Not Spiked. |
| SP | = | Indicates Spiked Compound. |
| P | = | This flag is used for an PESTICIDE/PCB 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. |
| NPM | = | No pattern match for multi-component target analytes. |

**Lionville Laboratory, Inc.**

PCBs by GC

Report Date: 04/28/08 13:19

RFW Batch Number: **0804L979** Client: **TNU-HANFORD RC-032** Work Order: 11343606001 Page: 1

000000006

| | Cust ID: | J16MM8 | J16MM8 | J16MM8 | J16MM9 | J16MN0 | J16MN1 |
|---|---|---|---|---|---|---|---|
| Sample Information | RFW#: | 002 | 002 MS | 002 MSD | 003 | 004 | 005 |
| | 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 | 98 % | 98 % | 91 % | 96 % | 98 % | 72 % |
| | Decachlorobiphenyl | 68 % | 72 % | 65 % | 76 % | 79 % | 75 % |
| | | fl | fl | fl | fl | fl | fl |
| Aroclor-1016 | | 14 U | 93 % | NS % | 14 U | 14 U | 14 U |
| Aroclor-1221 | | 14 U | 14 U | 14 U | 14 U | 14 U | 14 U |
| Aroclor-1232 | | 14 U | 14 U | 14 U | 14 U | 14 U | 14 U |
| Aroclor-1242 | | 14 U | 14 U | 14 U | 14 U | 14 U | 14 U |
| Aroclor-1248 | | 14 U | 14 U | 14 U | 14 U | 14 U | 14 U |
| Aroclor-1254 | | 14 U | 14 U | 14 U | 14 U | 14 U | 14 U |
| Aroclor-1260 | | 14 U | 87 % | NS % | 14 U | 14 U | 14 U |

| | Cust ID: | J16MN2 | J16MN3 | J16MN4 | J16MN5 | J16MN6 | J16MN7 |
|---|---|---|---|---|---|---|---|
| Sample Information | RFW#: | 006 | 007 | 008 | 009 | 010 | 011 |
| | 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 | 92 % | 96 % | 88 % | 96 % | 56 % | 103 % |
| | Decachlorobiphenyl | 77 % | 84 % | 84 % | 90 % | 60 % | 91 % |
| | | fl | fl | fl | fl | fl | fl |
| Aroclor-1016 | | 14 U | 14 U | 14 U | 14 U | 14 U | 14 U |
| Aroclor-1221 | | 14 U | 14 U | 14 U | 14 U | 14 U | 14 U |
| Aroclor-1232 | | 14 U | 14 U | 14 U | 14 U | 14 U | 14 U |
| Aroclor-1242 | | 14 U | 14 U | 14 U | 14 U | 14 U | 14 U |
| Aroclor-1248 | | 14 U | 14 U | 14 U | 14 U | 14 U | 14 U |
| Aroclor-1254 | | 14 U | 14 U | 14 U | 14 U | 14 U | 14 U |
| Aroclor-1260 | | 14 U | 14 U | 14 U | 14 U | 14 U | 14 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

**Lionville Laboratory, Inc.**

PCBs by GC

Report Date: 04/28/08 13:19

RFW Batch Number: **0804L979** Client: **TNU-HANFORD RC-032** Work Order: 11343606001 Page: 2

000000007

| | | | | |
|---|---|---|---|---|
| | Cust ID: | **J16MN8** | **PBLKPN** | **PBLKPN BS** |
| Sample Information | RFW#: | **012** | **08LE0198-MB1** | **08LE0198-MB1** |
| | Matrix: | SOIL | SOIL | SOIL |
| | D.F.: | 1.00 | 1.00 | 1.00 |
| | Units: | UG/KG | UG/KG | UG/KG |
| Surrogate: Tetrachloro-m-xylene | | 96 % | 94 % | 99 % |
| Decachlorobiphenyl | | 90 % | 66 % | 72 % |
| Aroclor-1016 | | 14 U | 13 U | 91 % |
| Aroclor-1221 | | 14 U | 13 U | 13 U |
| Aroclor-1232 | | 14 U | 13 U | 13 U |
| Aroclor-1242 | | 14 U | 13 U | 13 U |
| Aroclor-1248 | | 14 U | 13 U | 13 U |
| Aroclor-1254 | | 14 U | 13 U | 13 U |
| Aroclor-1260 | | 14 U | 13 U | 86 % |

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

# SAMPLE EXTRACTION RECORD

Sheet no.: 1

Extract. Date: 04/24/08 Extraction Batch No: 08LE0198 Analyst: MF Method: ****

Test: OPCB Cleanup Date: 04/25/08 Analyst: MF Client: TNUHANFORD RC-088 K1183

LIMS Report Date: 04/28/08 Solvent: DCM/ACETONE,HEXANE Adsorbent: H2SO4

| Sample No: | Client Name / Client ID | pH | Initial WT/VOL | Surr. Mult. | Spike Mult. | Final VOL | Final VOL | Split Mult. | GPC Y/N | % Solid | Vis H2O | C/D FACTOR | Sulfur Clean? |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0804L930- | TNUHANFORD RC-088 K1183 | | | | | | | | | | | | |
| 001 | J169N8 | | 0.5 | 1.0 | | 10 | | 1.0 | N | 0.00 | | 20000 | |
| 001 -S | J169N8 | | 0.5 | 1.0 | 1.0 | 10 | | 1.0 | N | 0.00 | | 20000 | |
| 001 -T | J169N8 | | 0.5 | 1.0 | 1.0 | 10 | | 1.0 | N | 0.00 | | 20000 | |
| 0804L931- | TNUHANFORD RC-074 K1184 | | | | | | | | | | | | |
| 001 | J16DJ1 | | 30.0 | 1.0 | | 10 | | 1.0 | N | 0.00 | | 333.3 | |
| 001 -S | J16DJ1 | | 30.0 | 1.0 | 1.0 | 10 | | 1.0 | N | 0.00 | | 333.3 | |
| 001 -T | J16DJ1 | | 30.0 | 1.0 | 1.0 | 10 | | 1.0 | N | 0.00 | | 333.3 | |
| 0804L979- | TNU-HANFORD RC-032 | | | | | | | | | | | | |
| 002 | J16MM8 | | 30.0 | 1.0 | | 10 | | 1.0 | N | 94.40 | | 353.1 | |
| 002 -S | J16MM8 | | 30.0 | 1.0 | 1.0 | 10 | | 1.0 | N | 94.40 | | 353.1 | |
| 002 -T | J16MM8 | | 30.0 | 1.0 | 1.0 | 10 | | 1.0 | N | 94.40 | | 353.1 | |
| 003 | J16MM9 | | 30.0 | 1.0 | | 10 | | 1.0 | N | 94.30 | | 353.5 | |
| 004 | J16MN0 | | 30.0 | 1.0 | | 10 | | 1.0 | N | 97.22 | | 342.9 | |
| 005 | J16MN1 | | 30.0 | 1.0 | | 10 | | 1.0 | N | 97.16 | | 343.1 | |
| 006 | J16MN2 | | 30.0 | 1.0 | | 10 | | 1.0 | N | 97.67 | | 341.3 | |
| 007 | J16MN3 | | 30.0 | 1.0 | | 10 | | 1.0 | N | 95.96 | | 347.4 | |
| 008 | J16MN4 | | 30.0 | 1.0 | | 10 | | 1.0 | N | 92.46 | | 360.5 | |
| 009 | J16MN5 | | 30.0 | 1.0 | | 10 | | 1.0 | N | 95.97 | | 347.3 | |
| 010 | J16MN6 | | 30.0 | 1.0 | | 10 | | 1.0 | N | 96.25 | | 346.3 | |
| 011 | J16MN7 | | 30.0 | 1.0 | | 10 | | 1.0 | N | 97.97 | | 340.2 | |
| 012 | J16MN8 | | 30.0 | 1.0 | | 10 | | 1.0 | N | 95.66 | | 348.5 | |
| 08LE0198-MB1 | | | 30.0 | 1.0 | | 10 | | 1.0 | N | 100.00 | | 333.3 | |
| 08LE0198-MB1 -S | | | 30.0 | 1.0 | 1.0 | 10 | | 1.0 | N | 100.00 | | 333.3 | |

Comments: SMPL 930-931'S REC SILICA AND ACID CLN UP
Surrogate: 250 UL OLM PSURR 89916406
Spike: 250 UL AR1660 89916602

| Extracts Transferred | Relinquished By | Date Time | Received By | Date Time | Reason for Transfer |
|---|---|---|---|---|---|
| | | | CAC | 4/28/07 | % Solids |

000000008

SAMPLE EXTRACTION RECORD

Sheet no.: 1

Extract. Date: 04/24/08 Extraction Batch No: 08LE0198 Analyst: MF Method: **** SOX3540

Test: OPCB Cleanup Date: 04/25/08 Analyst: MF Client: TNUHANFORD RC-088 K1183

LIMS Report Date: 04/25/08 Solvent: DCM/ACETONE,HEXANE Adsorbent: H2SO4

| Sample No: | Client Name / Client ID | pH | Initial WT/VOL | Surr. Mult. | Spike Mult. | Final VOL | Final VOL | Split Mult. | GPC Y/N | % Solids | C/D FACTOR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0804L930- | TNUHANFORD RC-088 K1183 | | | | | | | | | | |
| 001 | J169N8 | | 0.5 | 1.0 | | 10 | | 1.0 | N | 0.0 | 20000 |
| 001 -S | J169N8 | | 0.5 | 1.0 | 1.0 | 10 | | 1.0 | N | 0.0 | 20000 |
| 001 -T | J169N8 | | 0.5 | 1.0 | 1.0 | 10 | | 1.0 | N | 0.0 | 20000 |
| 0804L931- | TNUHANFORD RC-074 K1184 | | | | | | | | | | |
| 001 | J16DJ1 | | 30.0 | 1.0 | | 10 | | 1.0 | N | 0.0 | 333.3 |
| 001 -S | J16DJ1 | | 30.0 | 1.0 | 1.0 | 10 | | 1.0 | N | 0.0 | 333.3 |
| 001 -T | J16DJ1 | | 30.0 | 1.0 | 1.0 | 10 | | 1.0 | N | 0.0 | 333.3 |
| 0804L979- | TNU-HANFORD RC-032 | | | | | | | | | | |
| 001 | J16MM7 | | 30.0 | 1.0 | | 10 | | 1.0 | N | 0.0 99.95 | 333.3 |
| 002 | J16MM8 | | 30.0 | 1.0 | | 10 | | 1.0 | N | 0.0 94.40 | 333.3 |
| 002 -S | J16MM8 | | 30.0 | 1.0 | 1.0 | 10 | | 1.0 | N | 0.0 | 333.3 |
| 002 -T | J16MM8 | | 30.0 | 1.0 | 1.0 | 10 | | 1.0 | N | 0.0 | 333.3 |
| 003 | J16MM9 | | 30.0 | 1.0 | | 10 | | 1.0 | N | 0.0 94.30 | 333.3 |
| 004 | J16MN0 | | 30.0 | 1.0 | | 10 | | 1.0 | N | 0.0 97.22 | 333.3 |
| 005 | J16MN1 | | 30.0 | 1.0 | | 10 | | 1.0 | N | 0.0 97.16 | 333.3 |
| 006 | J16MN2 | | 30.0 | 1.0 | | 10 | | 1.0 | N | 0.0 97.67 | 333.3 |
| 007 | J16MN3 | | 30.0 | 1.0 | | 10 | | 1.0 | N | 0.0 95.96 | 333.3 |
| 008 | J16MN4 | | 30.0 | 1.0 | | 10 | | 1.0 | N | 0.0 92.46 | 333.3 |
| 009 | J16MN5 | | 30.0 | 1.0 | | 10 | | 1.0 | N | 0.0 95.47 | 333.3 |
| 010 | J16MN6 | | 30.0 | 1.0 | | 10 | | 1.0 | N | 0.0 96.25 | 333.3 |
| 011 | J16MN7 | | 30.0 | 1.0 | | 10 | | 1.0 | N | 0.0 97.97 | 333.3 |
| 012 | J16MN8 | | 30.0 | 1.0 | | 10 | | 1.0 | N | 0.0 95.66 | 333.3 |
| 08LE0198-MB1 | PBLKPN | | 30.0 | 1.0 | | 10 | | 1.0 | N | 100.00 | 333.3 |

Comments: SMPL 930-931'S REC SILICA AND ACID CLN UP
Surrogate: 250 UL OLM PSURR 89916406
Spike: 250 UL AR1660 89916602

| Extracts Transferred | Relinquished By | Date Time | Received By | Date Time | Reason for Transfer |
|---|---|---|---|---|---|
| [illegible] | [illegible] | 4/25/08 | SZ | 4/25/08 15:10 | GC |

000000000

# SAMPLE EXTRACTION RECORD

Sheet no.: 2

Extract. Date: 04/24/08 Extraction Batch No: 08LE0198 Analyst: MF Method: **** SOX3540

Test: OPCB Cleanup Date: 04/25/08 Analyst: MF Client: TNUHANFORD RC-088 K1183

LIMS Report Date: 04/25/08 Solvent: DCM/ACETONE,HEXANE Adsorbent: H2SO4

| Sample No: | Client Name / Client ID | pH | Initial WT/VOL | Surr. Mult. | Spike Mult. | Final VOL | Final VOL | Split Mult. | GPC Y/N | % Solids | C/D FACTOR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 08LE0198-MB1 -S | PBLKPN | | 30.0 | 1.0 | 1.0 | 10 | | 1.0 | N | 100.00 | 333.3 |

Comments: SMPL 930-931'S REC SILICA AND ACID CLN UP
Surrogate: 250 UL OLM PSURR 89916406
Spike: 250 UL AR1660 89916602

| Extracts Transferred | Relinquished By | Date Time | Received By | Date Time | Reason for Transfer |
|---|---|---|---|---|---|
| all | [illegible] | 4/25/08 | SZ | 4/25/08 15:10 | GC |

010000000

nville Laboratory Use Only

8046 979

# Custody Transfer Record/Lab Work Request

Page 1 of 8

**FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS**

VLI

000000011

nt TNU HANFORD SAF# RC-032

. Final Proj. Sampling Date

ject# 11343-606-001-9999-00

ject Contact/Phone#

nville Laboratory Project Manager O Johnson

SW846 Del STD TAT 7days

e Rec'd 4-23-08 Date Due 4-30-08

| | | A | B | | | | | CD | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Refrigerator # | | 3 | 3 | | | | | 3 | | | | | | | |
| #/Type Container | Liquid | | | | | | | | | | | | | | |
| | Solid | 1~~00~~ | 1~~00~~ | | | | | 2P | | | | | | | |
| Volume | | 120 | 60 | | | | | 120 | | | | | | | |
| Preservatives | | – | – | | | | | – | | | | | | | |
| ANALYSES REQUESTED → | | ORGANIC | | | | | | INORG | | | | | | | |
| | | VOA | BNA | ~~PEST~~ PCB | Herb | | | Metal | CN | | | | | | |
| | | Lionville Laboratory Use Only | | | | | | | | | | | | | |
| | | | 8625H | OPCB | | | | MetO | | | | | | | |

| TRIX DES: | Lab ID | Client ID/Description | Matrix QC Chosen (✓) MS | MSD | Matrix | Date Collected | Time Collected | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soil, Sediment, Solid, Sludge, Water, Oil, Air, Drum Solids, Drum Liquids, EP/TCLP, Leachate, Wipe, Other, Fish | 001 | J16MM7 | | | Soil | 4-21-08 | 1020 | | 4 | X | | | | X | | | | | |
| | 002 | M8 | | | | | 1025 | | X | X | | | | X | | | | | |
| | 003 | M9 | | | | | 1030 | | X | X | | | | X | | | | | |
| | 004 | N0 | | | | | 1035 | | X | X | | | | X | | | | | |
| | 005 | N1 | | | | | 1040 | | X | X | | | | X | | | | | |
| | 006 | N2 | | | | | 1045 | | X | X | | | | X | | | | | |
| | 007 | N3 | | | | | 1050 | | X | X | | | | X | | | | | |
| | 008 | N4 | | | | | 1055 | | X | X | | | | X | | | | | |
| | 009 | N5 | | | | | 1100 | | X | X | | | | X | | | | | |
| | 010 | N6 | | | | | 1100 | | X | X | | | | X | | | | | |

ecial Instructions:

MetO = HSL + B, mo, S.
NOTL

Special Instructions:

1.
2.
3.
4.
5.
6.

| Relinquished by | Received by | Date | Time |
|---|---|---|---|
| [illegible] | [illegible] | 4/23/08 | 0930 |

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

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

nville Laboratory Use Only

'8040979

# Custody Transfer Record/Lab Work Request



**FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS**

VLI

000000012

nt TNU HANFORD

Final Proj. Sampling Date

ect# Sendg 1

ect Contact/Phone#

ville Laboratory Project Manager

Del TAT

Rec'd 4-23-08 Date Due

| Refrigerator # | | | A | B | | | | | CD | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| #/Type Container | Liquid | | | | | | | | | | | | | | | |
| | Solid | | 16 | 16 | | | | | 2P | | | | | | | |
| Volume | | | 120 | 60 | | | | | 120 | | | | | | | |
| Preservatives | | | – | – | | | | | – | | | | | | | |
| ANALYSES REQUESTED → | | ORGANIC | | | | | | | INORG | | | | | | | |
| | | VOA | BNA | Pest/PCB | Herb | | | | Metal | CN | | | | | | |
| | | Lionville Laboratory Use Only | | | | | | | | | | | | | | |
| | | | 0625H | OPCB | | | | | Metal | | | | | | | |

MATRIX ABBREVIATIONS: Soil, Sediment, Solid, Sludge, Water, Oil, Air, Drum Solids, Drum Liquids, EP/TCLP, Leachate, Wipe, Other, Fish

| Lab ID | Client ID/Description | Matrix QC Chosen (✓) MS | MSD | Matrix | Date Collected | Time Collected | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 011 | T16MN7 | | | Soil | 4/21/08 | 1105 | | X | X | | | | | X | | | | |
| 012 | ↓ 8 | | | ↓ | ↓ | 1110 | | X | X | | | | | X | | | | |

cial Instructions:

Special Instructions:

1.
2.
3.
4.
5.
6.

| Relinquished by | Received by | Date | Time |
|---|---|---|---|
| [illegible] | [illegible] | 4/23/08 | 0930 |

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

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

| Washington Closure Hanford | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | RC-032-198 | Page 1 of 3 |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Collector<br>T. Welch-Koelling | Company Contact<br>JR DEBUIGNE | Telephone No.<br>528-6409 | Project Coordinator<br>KESSNER, JH |
| Project Designation<br>100-F Remaining Sites Burial Grounds - Soil Full Protocol | Sampling Location<br>600-111 Verification | | SAF No.<br>RC-032 |
| Ice Chest No.<br>IE RC-02-007 | Field Logbook No.<br>EFL-1174-4 | COA<br>R601112000 | Method of Shipment<br>FED EX |
| Shipped To<br>EBERLINE SERVICES / LIONVILLE | Offsite Property No.<br>A080239 | | Bill of Lading/Air Bill No.<br>See OSPC |

| Price Code | Data Turnaround |
|---|---|
| 8B | 7 DAY |

POSSIBLE SAMPLE HAZARDS/REMARKS
NA

Special Handling and/or Storage
NA Cool 4°C

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservation | None | Cool 4C | Cool 4C | | | | | | | | |
| Type of Container | P | aG | aG | | | | | | | | |
| No. of Container(s) | 2 | 1 | 1 | | | | | | | | |
| Volume | 125mL | 60mL | 120mL | | | | | | | | |
| SAMPLE ANALYSIS | See item (1) in Special Instructions. | PCBs - 8082 | Semi-VOA - 8270A (TCL) | | | | | | | | |

| Sample No. | Matrix * | Sample Date | Sample Time | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 116MM7 | SOIL | 4-21-08 | 1020 | X | | | | | | | | | EB |
| 116MM8 | SOIL | | 1025 | X | X | X | | | | | | | 1 |
| 116MM9 | SOIL | | 1030 | X | X | X | | | | | | | 2 |
| 116MN0 | SOIL | | 1035 | X | X | X | | | | | | | 3 |
| 116MN1 | SOIL | | 1040 | X | X | X | | | | | | | 4 |

| CHAIN OF POSSESSION | Sign/Print Names | | |
|---|---|---|---|
| Relinquished By/Removed From | Date/Time | Received By/Stored In | Date/Time |
| [signature] | 4/21/08 1300 | JR DeBuigne JR DeBuigne | 1300 4-21-08 |
| Relinquished By/Removed From | Date/Time | Received By/Stored In | Date/Time |
| JR DeBuigne JR DeBuigne | 1530 4-21-08 | MLK MStankovich | 1530 4/21/08 |
| Relinquished By/Removed From | Date/Time | Received By/Stored In | Date/Time |
| MLK MStankovich | 0900 4/22/08 | | Fed Ex |
| Relinquished By/Removed From | Date/Time | Received By/Stored In | Date/Time |
| Fed Ex | 4-23-08 0930 | [signature] | 4-23-08 0930 |
| Relinquished By/Removed From | Date/Time | Received By/Stored In | Date/Time |
| | | | |
| Relinquished By/Removed From | Date/Time | Received By/Stored In | Date/Time |
| | | | |

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010 (Client List) (Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc); Mercury - 7471 - (CV)

Matrix *
S=Soil
SE=Sediment
SO=Solid
SI=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 |

VCH-EE-011

000000013

| Washington Closure Hanford | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | RC-032-198 | Page 2 of 3 |
|---|---|---|---|

| | | | |
|---|---|---|---|
| ollector<br>T. Welch-Koelling | Company Contact<br>JR DEBUIGNE<br>Telephone No.<br>528-6409 | Project Coordinator<br>KESSNER, JH | Price Code<br>8B<br>Data Turnaround<br>7 DAY |
| roject Designation<br>100-F Remaining Sites Burial Grounds - Soil Full Protocol | Sampling Location<br>600-111 Verification | SAF No.<br>RC-032 | |
| e Chest No.<br>ERC-02-007 | Field Logbook No.<br>EFL-1174-4<br>COA<br>R601112000 | Method of Shipment<br>FED EX | |
| hipped To<br>EBERLINE SERVICES / LIONVILLE | Offsite Property No.<br>A080239 | Bill of Lading/Air Bill No.<br>See OSPC | |

POSSIBLE SAMPLE HAZARDS/REMARKS
NA

Special Handling and/or Storage
NA Cool 4°C

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservation | None | Cool 4C | Cool 4C | | | | | | | | | |
| Type of Container | P | aG | aG | | | | | | | | | |
| No. of Container(s) | 2 | 1 | 1 | | | | | | | | | |
| Volume | 125mL | 60mL | 120mL | | | | | | | | | |
| SAMPLE ANALYSIS | See item (1) in Special Instructions. | PCBs - 8082 | Semi-VOA - 8270A (TCL) | | | | | | | | | |

| Sample No. | Matrix * | Sample Date | Sample Time | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 16MN2 | SOIL | 4-21-08 | 1045 | X | X | X | | | | | | | 5 |
| 16MN3 | SOIL | | 1050 | X | X | X | | | | | | | 6 |
| 16MN4 | SOIL | | 1055 | X | X | X | | | | | | | 7 |
| 16MN5 | SOIL | | 1100 | X | X | X | | | | | | | 8 |
| 16MN6 | SOIL | | 1100 | X | X | X | | | | | | | 8 DUP |

| CHAIN OF POSSESSION | Sign/Print Names | |
|---|---|---|
| elinquished By/Removed From<br>[signature] Date/Time 4-21-08 1300 | Received By/Stored In<br>JR DeBuigne [signature] Date/Time 1300 4-21-08 | |
| elinquished By/Removed From<br>JR DeBuigne [signature] Date/Time 1530 4-21-08 | Received By/Stored In<br>MS Stankovich 4/21/08 Date/Time 1530 | |
| elinquished By/Removed From<br>MS Stankovich 4/22/08 Date/Time 1500 | Received By/Stored In<br>Fed EX Date/Time | |
| elinquished By/Removed From<br>Fed Ex 4-23-08 0930 Date/Time | Received By/Stored In<br>[signature] 4-23-08 0930 Date/Time | |
| elinquished By/Removed From Date/Time | Received By/Stored In Date/Time | |
| elinquished By/Removed From Date/Time | Received By/Stored In Date/Time | |

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010 (Client List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc}; Mercury - 7471 - (CV)

Matrix *
S=Soil
SE=Sediment
SO=Solid
Sl=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 |

CH-EE-011

000000014

| Washington Closure Hanford | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | RC-032-198 | Page 1 of 1 |
|---|---|---|---|

| | | | |
|---|---|---|---|
| ollector<br>T. Welch-Koelling | Company Contact<br>JR DEBUIGNE | Telephone No.<br>528-6409 | Project Coordinator<br>KESSNER, JH |
| roject Designation<br>100-F Remaining Sites Burial Grounds - Soil Full Protocol | Sampling Location<br>600-111 Verification | | SAF No.<br>RC-032 |
| :e Chest No.<br>ERC-02-007 | Field Logbook No.<br>EFL-1174-4 | COA<br>R601112000 | Method of Shipment<br>FED EX |
| hipped To<br>EBERLINE SERVICES / CLONVILLE | Offsite Property No.<br>A080239 | | Bill of Lading/Air Bill No.<br>See OSPC |

| Price Code | Data Turnaround |
|---|---|
| 8B | 7 DAY |

**POSSIBLE SAMPLE HAZARDS/REMARKS**

VA

**Special Handling and/or Storage**

VA Cool 4°C

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservation | None | Cool 4C | Cool 4C | | | | | | | | | |
| Type of Container | P | aG | aG | | | | | | | | | |
| No. of Container(s) | 2 | 1 | 1 | | | | | | | | | |
| Volume | 125mL | 60mL | 120mL | | | | | | | | | |
| SAMPLE ANALYSIS | See item (1) in Special Instructions. | PCBs - 8082 | Semi-VOA - 8270A (TCL) | | | | | | | | | |
| Sample No. / Matrix * / Sample Date / Sample Time | | | | | | | | | | | | |
| 16MN7 / SOIL / 4-21-08 / 1105 | X | X | X | | | | | | | | | 9 |
| 16MN8 / SOIL / 4-21-08 / 1110 | X | X | X | | | | | | | | | 10 |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |

| CHAIN OF POSSESSION | Sign/Print Names | |
|---|---|---|
| linquished By/Removed From: [illegible] Date/Time: 4-21-08 1300 | Received By/Stored In: JR DeBuigne Date/Time: 1300 4-21-08 | |
| linquished By/Removed From: JR DeBuigne Date/Time: 1530 4-21-08 | Received By/Stored In: MS Hankovich Date/Time: 4/21/08 1530 | |
| linquished By/Removed From: MS Hankovich Date/Time: 1500 4/22/08 | Received By/Stored In: Fed Ex Date/Time: | |
| linquished By/Removed From: Fed Ex Date/Time: 4-23-08 0930 | Received By/Stored In: [illegible] Date/Time: 4-23-08 0930 | |
| linquished By/Removed From: Date/Time: | Received By/Stored In: Date/Time: | |
| linquished By/Removed From: Date/Time: | Received By/Stored In: Date/Time: | |

**SPECIAL INSTRUCTIONS**

(1) ICP Metals - 6010 (Client List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc}; Mercury - 7471 - (CV)

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

| | | | |
|---|---|---|---|
| ABORATORY SECTION | Received By | Title | Date/Time |
| INAL SAMPLE DISPOSITION | Disposal Method | Disposed By | Date/Time |

CH-EE-011

000000015

Lionville Laboratory Incorporated

# SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: TNU HANFORD

Project/SAE/SOW/Release #: RC-032

Date: 4/23/08

LvLI Batch #: 08041979

Sample Custodian: [illegible]

NOTE: EXPLAIN ALL DISCREPANCIES

| | | | |
|---|---|---|---|
| 1. Samples Hand Delivered or Shipped? | Carrier Fed Ex | | Airbill #799311902306 |
| 2. Custody Seals on coolers or shipping containers intact, signed & dated? | ☑ Yes | ☐ No | ☐ No Seals |
| 3. Outside of coolers or shipping containers are free from damage? | ☑ Yes | ☐ No | *Comments:* |
| 4. All expected paperwork received (coc & other client specific information) sealed in plactic bag and easily accessible? | ☑ Yes | ☐ No | |
| 5. Samples received cooled or ambient? | Temp 3.9 | °C | Cooler # ERC-02-007 |
| How was the temperature taken? | ☑ IR | ☐ Temp. Blank | ☐ Other (Specify): |
| Is the Temp. Criteria met for these samples? (Hg in soils @ 4°C) | ☑ Yes | ☐ No | |
| 6. Custody seals on sample containers intact, signed and dated? | ☑ Yes | ☐ No | ☐ No Seals |
| 7. COC (Client & LvLI) signed & dated? | ☑ Yes | ☐ No | |
| 8. Sample containers are intact? | ☑ Yes | ☐ No | |
| 9. All samples on COC received? | ☑ Yes | ☐ No | |
| All samples received on COC? | ☑ Yes | ☐ No | |
| 10. All sample label information matches COC? | ☑ Yes | ☐ No | |
| 11. Samples properly preserved? (If #5 is no, then this is no.) | ☑ Yes | ☐ No | |
| 12. Samples received within hold times? | ☑ Yes | ☐ No | |
| Short holds taken to wet lab? | ☐ Yes | ☐ No | ☑ N/A |
| 13. VOA, TOC, TOX free of headspace? | ☐ Yes | ☐ No | ☑ N/A |
| 14. QC stickers placed on bottles designated by client? | ☐ Yes | ☐ No | ☑ N/A |
| 15. Shipment meets LvLI Sample Acceptance Policy? (Identify all bottles that do not meet the policy, which is on the reverse of this page.) | ☑ Yes | ☐ No | |
| 16. Project Manager contacted concerning any discrepancies? | ☐ Yes | ☐ No | ☑ N/A |

Person Contacted _____ Date _____

LvLI LIONVILLE LABORATORY INC.

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNU-HANFORD RC-032

RECEIVED MAY 2008

DATE RECEIVED: 04/23/08 LVL LOT # :0804L979

| CLIENT ID /ANALYSIS | LVL # | MTX | PREP # | COLLECTION | EXTR/PREP | ANALYSIS |
|---|---|---|---|---|---|---|
| J16MM7 | | | | | | |
| SILVER, TOTAL | 001 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| ALUMINUM, TOTAL | 001 | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| ARSENIC, TOTAL | 001 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| BORON, TOTAL | 001 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| BARIUM, TOTAL | 001 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| BERYLLIUM, TOTAL | 001 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| CALCIUM, TOTAL | 001 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| CADMIUM, TOTAL | 001 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| COBALT, TOTAL | 001 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| CHROMIUM, TOTAL | 001 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| COPPER, TOTAL | 001 | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| IRON, TOTAL | 001 | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| MERCURY, TOTAL | 001 | S | 08C0075 | 04/21/08 | 04/28/08 | 04/29/08 |
| POTASSIUM, TOTAL | 001 | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| MAGNESIUM, TOTAL | 001 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| MANGANESE, TOTAL | 001 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| MOLYBDENUM, TOTAL | 001 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| SODIUM, TOTAL | 001 | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| NICKEL, TOTAL | 001 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| LEAD, TOTAL | 001 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| ANTIMONY, TOTAL | 001 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| SELENIUM, TOTAL | 001 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| SILICON, TOTAL | 001 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| VANADIUM, TOTAL | 001 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| ZINC, TOTAL | 001 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| J16MM8 | | | | | | |
| SILVER, TOTAL | 002 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| SILVER, TOTAL | 002 REP | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| SILVER, TOTAL | 002 MS | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| ALUMINUM, TOTAL | 002 | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| ALUMINUM, TOTAL | 002 REP | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| ALUMINUM, TOTAL | 002 MS | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| ARSENIC, TOTAL | 002 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNU-HANFORD RC-032

DATE RECEIVED: 04/23/08 LVL LOT # :0804L979

| CLIENT ID /ANALYSIS | LVL # | MTX | PREP # | COLLECTION | EXTR/PREP | ANALYSIS |
|---|---|---|---|---|---|---|
| ARSENIC, TOTAL | 002 REP | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| ARSENIC, TOTAL | 002 MS | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| BORON, TOTAL | 002 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| BORON, TOTAL | 002 REP | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| BORON, TOTAL | 002 MS | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| BARIUM, TOTAL | 002 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| BARIUM, TOTAL | 002 REP | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| BARIUM, TOTAL | 002 MS | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| BERYLLIUM, TOTAL | 002 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| BERYLLIUM, TOTAL | 002 REP | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| BERYLLIUM, TOTAL | 002 MS | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| CALCIUM, TOTAL | 002 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| CALCIUM, TOTAL | 002 REP | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| CALCIUM, TOTAL | 002 MS | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| CADMIUM, TOTAL | 002 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| CADMIUM, TOTAL | 002 REP | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| CADMIUM, TOTAL | 002 MS | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| COBALT, TOTAL | 002 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| COBALT, TOTAL | 002 REP | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| COBALT, TOTAL | 002 MS | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| CHROMIUM, TOTAL | 002 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| CHROMIUM, TOTAL | 002 REP | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| CHROMIUM, TOTAL | 002 MS | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| COPPER, TOTAL | 002 | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| COPPER, TOTAL | 002 REP | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| COPPER, TOTAL | 002 MS | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| IRON, TOTAL | 002 | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| IRON, TOTAL | 002 REP | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| IRON, TOTAL | 002 MS | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| MERCURY, TOTAL | 002 | S | 08C0075 | 04/21/08 | 04/28/08 | 04/29/08 |
| MERCURY, TOTAL | 002 REP | S | 08C0075 | 04/21/08 | 04/28/08 | 04/29/08 |
| MERCURY, TOTAL | 002 MS | S | 08C0075 | 04/21/08 | 04/28/08 | 04/29/08 |
| POTASSIUM, TOTAL | 002 | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| POTASSIUM, TOTAL | 002 REP | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| POTASSIUM, TOTAL | 002 MS | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| MAGNESIUM, TOTAL | 002 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| MAGNESIUM, TOTAL | 002 REP | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| MAGNESIUM, TOTAL | 002 MS | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNU-HANFORD RC-032

DATE RECEIVED: 04/23/08 LVL LOT # :0804L979

| CLIENT ID /ANALYSIS | LVL # | MTX | PREP # | COLLECTION | EXTR/PREP | ANALYSIS |
|---|---|---|---|---|---|---|
| MANGANESE, TOTAL | 002 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| MANGANESE, TOTAL | 002 REP | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| MANGANESE, TOTAL | 002 MS | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| MOLYBDENUM, TOTAL | 002 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| MOLYBDENUM, TOTAL | 002 REP | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| MOLYBDENUM, TOTAL | 002 MS | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| SODIUM, TOTAL | 002 | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| SODIUM, TOTAL | 002 REP | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| SODIUM, TOTAL | 002 MS | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| NICKEL, TOTAL | 002 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| NICKEL, TOTAL | 002 REP | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| NICKEL, TOTAL | 002 MS | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| LEAD, TOTAL | 002 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| LEAD, TOTAL | 002 REP | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| LEAD, TOTAL | 002 MS | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| ANTIMONY, TOTAL | 002 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| ANTIMONY, TOTAL | 002 REP | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| ANTIMONY, TOTAL | 002 MS | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| SELENIUM, TOTAL | 002 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| SELENIUM, TOTAL | 002 REP | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| SELENIUM, TOTAL | 002 MS | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| SILICON, TOTAL | 002 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| SILICON, TOTAL | 002 REP | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| SILICON, TOTAL | 002 MS | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| VANADIUM, TOTAL | 002 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| VANADIUM, TOTAL | 002 REP | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| VANADIUM, TOTAL | 002 MS | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| ZINC, TOTAL | 002 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| ZINC, TOTAL | 002 REP | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| ZINC, TOTAL | 002 MS | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| J16MM9 | | | | | | |
| SILVER, TOTAL | 003 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| ALUMINUM, TOTAL | 003 | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| ARSENIC, TOTAL | 003 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| BORON, TOTAL | 003 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| BARIUM, TOTAL | 003 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNU-HANFORD RC-032

DATE RECEIVED: 04/23/08 LVL LOT # :0804L979

| CLIENT ID /ANALYSIS | LVL # | MTX | PREP # | COLLECTION | EXTR/PREP | ANALYSIS |
|---|---|---|---|---|---|---|
| BERYLLIUM, TOTAL | 003 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| CALCIUM, TOTAL | 003 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| CADMIUM, TOTAL | 003 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| COBALT, TOTAL | 003 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| CHROMIUM, TOTAL | 003 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| COPPER, TOTAL | 003 | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| IRON, TOTAL | 003 | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| MERCURY, TOTAL | 003 | S | 08C0075 | 04/21/08 | 04/28/08 | 04/29/08 |
| POTASSIUM, TOTAL | 003 | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| MAGNESIUM, TOTAL | 003 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| MANGANESE, TOTAL | 003 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| MOLYBDENUM, TOTAL | 003 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| SODIUM, TOTAL | 003 | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| NICKEL, TOTAL | 003 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| LEAD, TOTAL | 003 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| ANTIMONY, TOTAL | 003 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| SELENIUM, TOTAL | 003 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| SILICON, TOTAL | 003 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| VANADIUM, TOTAL | 003 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| ZINC, TOTAL | 003 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| J16MN0 | | | | | | |
| SILVER, TOTAL | 004 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| ALUMINUM, TOTAL | 004 | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| ARSENIC, TOTAL | 004 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| BORON, TOTAL | 004 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| BARIUM, TOTAL | 004 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| BERYLLIUM, TOTAL | 004 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| CALCIUM, TOTAL | 004 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| CADMIUM, TOTAL | 004 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| COBALT, TOTAL | 004 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| CHROMIUM, TOTAL | 004 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| COPPER, TOTAL | 004 | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| IRON, TOTAL | 004 | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| MERCURY, TOTAL | 004 | S | 08C0075 | 04/21/08 | 04/28/08 | 04/29/08 |
| POTASSIUM, TOTAL | 004 | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| MAGNESIUM, TOTAL | 004 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNU-HANFORD RC-032

DATE RECEIVED: 04/23/08 LVL LOT # :0804L979

| CLIENT ID /ANALYSIS | LVL # | MTX | PREP # | COLLECTION | EXTR/PREP | ANALYSIS |
|---|---|---|---|---|---|---|
| MANGANESE, TOTAL | 004 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| MOLYBDENUM, TOTAL | 004 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| SODIUM, TOTAL | 004 | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| NICKEL, TOTAL | 004 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| LEAD, TOTAL | 004 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| ANTIMONY, TOTAL | 004 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| SELENIUM, TOTAL | 004 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| SILICON, TOTAL | 004 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| VANADIUM, TOTAL | 004 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| ZINC, TOTAL | 004 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| J16MN1 | | | | | | |
| SILVER, TOTAL | 005 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| ALUMINUM, TOTAL | 005 | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| ARSENIC, TOTAL | 005 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| BORON, TOTAL | 005 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| BARIUM, TOTAL | 005 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| BERYLLIUM, TOTAL | 005 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| CALCIUM, TOTAL | 005 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| CADMIUM, TOTAL | 005 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| COBALT, TOTAL | 005 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| CHROMIUM, TOTAL | 005 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| COPPER, TOTAL | 005 | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| IRON, TOTAL | 005 | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| MERCURY, TOTAL | 005 | S | 08C0075 | 04/21/08 | 04/28/08 | 04/29/08 |
| POTASSIUM, TOTAL | 005 | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| MAGNESIUM, TOTAL | 005 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| MANGANESE, TOTAL | 005 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| MOLYBDENUM, TOTAL | 005 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| SODIUM, TOTAL | 005 | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| NICKEL, TOTAL | 005 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| LEAD, TOTAL | 005 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| ANTIMONY, TOTAL | 005 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| SELENIUM, TOTAL | 005 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| SILICON, TOTAL | 005 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| VANADIUM, TOTAL | 005 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| ZINC, TOTAL | 005 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNU-HANFORD RC-032

DATE RECEIVED: 04/23/08 LVL LOT # :0804L979

| CLIENT ID /ANALYSIS | LVL # | MTX | PREP # | COLLECTION | EXTR/PREP | ANALYSIS |
|---|---|---|---|---|---|---|
| J16MN2 | | | | | | |
| SILVER, TOTAL | 006 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| ALUMINUM, TOTAL | 006 | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| ARSENIC, TOTAL | 006 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| BORON, TOTAL | 006 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| BARIUM, TOTAL | 006 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| BERYLLIUM, TOTAL | 006 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| CALCIUM, TOTAL | 006 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| CADMIUM, TOTAL | 006 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| COBALT, TOTAL | 006 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| CHROMIUM, TOTAL | 006 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| COPPER, TOTAL | 006 | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| IRON, TOTAL | 006 | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| MERCURY, TOTAL | 006 | S | 08C0075 | 04/21/08 | 04/28/08 | 04/29/08 |
| POTASSIUM, TOTAL | 006 | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| MAGNESIUM, TOTAL | 006 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| MANGANESE, TOTAL | 006 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| MOLYBDENUM, TOTAL | 006 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| SODIUM, TOTAL | 006 | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| NICKEL, TOTAL | 006 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| LEAD, TOTAL | 006 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| ANTIMONY, TOTAL | 006 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| SELENIUM, TOTAL | 006 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| SILICON, TOTAL | 006 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| VANADIUM, TOTAL | 006 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| ZINC, TOTAL | 006 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| J16MN3 | | | | | | |
| SILVER, TOTAL | 007 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| ALUMINUM, TOTAL | 007 | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| ARSENIC, TOTAL | 007 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| BORON, TOTAL | 007 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| BARIUM, TOTAL | 007 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| BERYLLIUM, TOTAL | 007 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| CALCIUM, TOTAL | 007 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNU-HANFORD RC-032

DATE RECEIVED: 04/23/08 LVL LOT # :0804L979

| CLIENT ID /ANALYSIS | LVL # | MTX | PREP # | COLLECTION | EXTR/PREP | ANALYSIS |
|---|---|---|---|---|---|---|
| CADMIUM, TOTAL | 007 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| COBALT, TOTAL | 007 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| CHROMIUM, TOTAL | 007 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| COPPER, TOTAL | 007 | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| IRON, TOTAL | 007 | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| MERCURY, TOTAL | 007 | S | 08C0075 | 04/21/08 | 04/28/08 | 04/29/08 |
| POTASSIUM, TOTAL | 007 | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| MAGNESIUM, TOTAL | 007 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| MANGANESE, TOTAL | 007 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| MOLYBDENUM, TOTAL | 007 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| SODIUM, TOTAL | 007 | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| NICKEL, TOTAL | 007 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| LEAD, TOTAL | 007 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| ANTIMONY, TOTAL | 007 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| SELENIUM, TOTAL | 007 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| SILICON, TOTAL | 007 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| VANADIUM, TOTAL | 007 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| ZINC, TOTAL | 007 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| J16MN4 | | | | | | |
| SILVER, TOTAL | 008 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| ALUMINUM, TOTAL | 008 | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| ARSENIC, TOTAL | 008 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| BORON, TOTAL | 008 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| BARIUM, TOTAL | 008 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| BERYLLIUM, TOTAL | 008 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| CALCIUM, TOTAL | 008 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| CADMIUM, TOTAL | 008 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| COBALT, TOTAL | 008 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| CHROMIUM, TOTAL | 008 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| COPPER, TOTAL | 008 | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| IRON, TOTAL | 008 | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| MERCURY, TOTAL | 008 | S | 08C0075 | 04/21/08 | 04/28/08 | 04/29/08 |
| POTASSIUM, TOTAL | 008 | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| MAGNESIUM, TOTAL | 008 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| MANGANESE, TOTAL | 008 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| MOLYBDENUM, TOTAL | 008 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNU-HANFORD RC-032

DATE RECEIVED: 04/23/08 LVL LOT # :0804L979

| CLIENT ID /ANALYSIS | LVL # | MTX | PREP # | COLLECTION | EXTR/PREP | ANALYSIS |
|---|---|---|---|---|---|---|
| SODIUM, TOTAL | 008 | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| NICKEL, TOTAL | 008 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| LEAD, TOTAL | 008 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| ANTIMONY, TOTAL | 008 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| SELENIUM, TOTAL | 008 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| SILICON, TOTAL | 008 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| VANADIUM, TOTAL | 008 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| ZINC, TOTAL | 008 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| J16MN5 | | | | | | |
| SILVER, TOTAL | 009 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| ALUMINUM, TOTAL | 009 | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| ARSENIC, TOTAL | 009 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| BORON, TOTAL | 009 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| BARIUM, TOTAL | 009 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| BERYLLIUM, TOTAL | 009 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| CALCIUM, TOTAL | 009 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| CADMIUM, TOTAL | 009 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| COBALT, TOTAL | 009 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| CHROMIUM, TOTAL | 009 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| COPPER, TOTAL | 009 | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| IRON, TOTAL | 009 | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| MERCURY, TOTAL | 009 | S | 08C0075 | 04/21/08 | 04/28/08 | 04/29/08 |
| POTASSIUM, TOTAL | 009 | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| MAGNESIUM, TOTAL | 009 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| MANGANESE, TOTAL | 009 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| MOLYBDENUM, TOTAL | 009 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| SODIUM, TOTAL | 009 | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| NICKEL, TOTAL | 009 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| LEAD, TOTAL | 009 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| ANTIMONY, TOTAL | 009 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| SELENIUM, TOTAL | 009 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| SILICON, TOTAL | 009 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| VANADIUM, TOTAL | 009 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| ZINC, TOTAL | 009 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| J16MN6 | | | | | | |
| SILVER, TOTAL | 010 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNU-HANFORD RC-032

DATE RECEIVED: 04/23/08 LVL LOT # :0804L979

| CLIENT ID /ANALYSIS | LVL # | MTX | PREP # | COLLECTION | EXTR/PREP | ANALYSIS |
|---|---|---|---|---|---|---|
| ALUMINUM, TOTAL | 010 | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| ARSENIC, TOTAL | 010 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| BORON, TOTAL | 010 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| BARIUM, TOTAL | 010 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| BERYLLIUM, TOTAL | 010 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| CALCIUM, TOTAL | 010 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| CADMIUM, TOTAL | 010 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| COBALT, TOTAL | 010 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| CHROMIUM, TOTAL | 010 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| COPPER, TOTAL | 010 | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| IRON, TOTAL | 010 | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| MERCURY, TOTAL | 010 | S | 08C0075 | 04/21/08 | 04/28/08 | 04/29/08 |
| POTASSIUM, TOTAL | 010 | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| MAGNESIUM, TOTAL | 010 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| MANGANESE, TOTAL | 010 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| MOLYBDENUM, TOTAL | 010 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| SODIUM, TOTAL | 010 | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| NICKEL, TOTAL | 010 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| LEAD, TOTAL | 010 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| ANTIMONY, TOTAL | 010 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| SELENIUM, TOTAL | 010 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| SILICON, TOTAL | 010 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| VANADIUM, TOTAL | 010 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| ZINC, TOTAL | 010 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| J16MN7 | | | | | | |
| SILVER, TOTAL | 011 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| ALUMINUM, TOTAL | 011 | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| ARSENIC, TOTAL | 011 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| BORON, TOTAL | 011 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| BARIUM, TOTAL | 011 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| BERYLLIUM, TOTAL | 011 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| CALCIUM, TOTAL | 011 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| CADMIUM, TOTAL | 011 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| COBALT, TOTAL | 011 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| CHROMIUM, TOTAL | 011 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| COPPER, TOTAL | 011 | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNU-HANFORD RC-032

DATE RECEIVED: 04/23/08 LVL LOT # :0804L979

| CLIENT ID /ANALYSIS | LVL # | MTX | PREP # | COLLECTION | EXTR/PREP | ANALYSIS |
|---|---|---|---|---|---|---|
| IRON, TOTAL | 011 | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| MERCURY, TOTAL | 011 | S | 08C0075 | 04/21/08 | 04/28/08 | 04/29/08 |
| POTASSIUM, TOTAL | 011 | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| MAGNESIUM, TOTAL | 011 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| MANGANESE, TOTAL | 011 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| MOLYBDENUM, TOTAL | 011 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| SODIUM, TOTAL | 011 | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| NICKEL, TOTAL | 011 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| LEAD, TOTAL | 011 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| ANTIMONY, TOTAL | 011 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| SELENIUM, TOTAL | 011 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| SILICON, TOTAL | 011 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| VANADIUM, TOTAL | 011 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| ZINC, TOTAL | 011 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| J16MN8 | | | | | | |
| SILVER, TOTAL | 012 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| ALUMINUM, TOTAL | 012 | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| ARSENIC, TOTAL | 012 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| BORON, TOTAL | 012 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| BARIUM, TOTAL | 012 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| BERYLLIUM, TOTAL | 012 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| CALCIUM, TOTAL | 012 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| CADMIUM, TOTAL | 012 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| COBALT, TOTAL | 012 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| CHROMIUM, TOTAL | 012 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| COPPER, TOTAL | 012 | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| IRON, TOTAL | 012 | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| MERCURY, TOTAL | 012 | S | 08C0075 | 04/21/08 | 04/28/08 | 04/29/08 |
| POTASSIUM, TOTAL | 012 | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| MAGNESIUM, TOTAL | 012 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| MANGANESE, TOTAL | 012 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| MOLYBDENUM, TOTAL | 012 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| SODIUM, TOTAL | 012 | S | 08L0173 | 04/21/08 | 04/30/08 | 05/01/08 |
| NICKEL, TOTAL | 012 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| LEAD, TOTAL | 012 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| ANTIMONY, TOTAL | 012 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNU-HANFORD RC-032

DATE RECEIVED: 04/23/08 LVL LOT # :0804L979

| CLIENT ID /ANALYSIS | LVL # | MTX | PREP # | COLLECTION | EXTR/PREP | ANALYSIS |
|---|---|---|---|---|---|---|
| SELENIUM, TOTAL | 012 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| SILICON, TOTAL | 012 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| VANADIUM, TOTAL | 012 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |
| ZINC, TOTAL | 012 | S | 08L0173 | 04/21/08 | 04/30/08 | 04/30/08 |

AB QC:

| | | | | | | |
|---|---|---|---|---|---|---|
| SILVER LABORATORY | LC1 BS | S | 08L0173 | N/A | 04/30/08 | 04/30/08 |
| SILVER, TOTAL | MB1 | S | 08L0173 | N/A | 04/30/08 | 04/30/08 |
| ALUMINUM LABORTORY | LC1 BS | S | 08L0173 | N/A | 04/30/08 | 05/01/08 |
| ALUMINUM, TOTAL | MB1 | S | 08L0173 | N/A | 04/30/08 | 05/01/08 |
| ARSENIC LABORATORY | LC1 BS | S | 08L0173 | N/A | 04/30/08 | 04/30/08 |
| ARSENIC, TOTAL | MB1 | S | 08L0173 | N/A | 04/30/08 | 04/30/08 |
| BORON LABORATORY | LC1 BS | S | 08L0173 | N/A | 04/30/08 | 04/30/08 |
| BORON, TOTAL | MB1 | S | 08L0173 | N/A | 04/30/08 | 04/30/08 |
| BARIUM LABORATORY | LC1 BS | S | 08L0173 | N/A | 04/30/08 | 04/30/08 |
| BARIUM, TOTAL | MB1 | S | 08L0173 | N/A | 04/30/08 | 04/30/08 |
| BERYLLIUM LABORATORY | LC1 BS | S | 08L0173 | N/A | 04/30/08 | 04/30/08 |
| BERYLLIUM, TOTAL | MB1 | S | 08L0173 | N/A | 04/30/08 | 04/30/08 |
| CALCIUM LABORATORY | LC1 BS | S | 08L0173 | N/A | 04/30/08 | 04/30/08 |
| CALCIUM, TOTAL | MB1 | S | 08L0173 | N/A | 04/30/08 | 04/30/08 |
| CADMIUM LABORATORY | LC1 BS | S | 08L0173 | N/A | 04/30/08 | 04/30/08 |
| CADMIUM, TOTAL | MB1 | S | 08L0173 | N/A | 04/30/08 | 04/30/08 |
| COBALT LABORATORY | LC1 BS | S | 08L0173 | N/A | 04/30/08 | 04/30/08 |
| COBALT, TOTAL | MB1 | S | 08L0173 | N/A | 04/30/08 | 04/30/08 |
| CHROMIUM LABORATORY | LC1 BS | S | 08L0173 | N/A | 04/30/08 | 04/30/08 |
| CHROMIUM, TOTAL | MB1 | S | 08L0173 | N/A | 04/30/08 | 04/30/08 |
| COPPER LABORATORY | LC1 BS | S | 08L0173 | N/A | 04/30/08 | 05/01/08 |
| COPPER, TOTAL | MB1 | S | 08L0173 | N/A | 04/30/08 | 05/01/08 |
| IRON LABORATORY | LC1 BS | S | 08L0173 | N/A | 04/30/08 | 05/01/08 |
| IRON, TOTAL | MB1 | S | 08L0173 | N/A | 04/30/08 | 05/01/08 |
| MERCURY LABORATORY | LC1 BS | S | 08C0075 | N/A | 04/28/08 | 04/29/08 |
| MERCURY, TOTAL | MB1 | S | 08C0075 | N/A | 04/28/08 | 04/29/08 |
| POTASSIUM LABORATORY | LC1 BS | S | 08L0173 | N/A | 04/30/08 | 05/01/08 |
| POTASSIUM, TOTAL | MB1 | S | 08L0173 | N/A | 04/30/08 | 05/01/08 |
| MAGNESIUM LABORATORY | LC1 BS | S | 08L0173 | N/A | 04/30/08 | 04/30/08 |
| MAGNESIUM, TOTAL | MB1 | S | 08L0173 | N/A | 04/30/08 | 04/30/08 |
| MANGANESE LABORATORY | LC1 BS | S | 08L0173 | N/A | 04/30/08 | 04/30/08 |

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNU-HANFORD RC-032

DATE RECEIVED: 04/23/08 LVL LOT # :0804L979

| CLIENT ID /ANALYSIS | LVL # | MTX | PREP # | COLLECTION | EXTR/PREP | ANALYSIS |
|---|---|---|---|---|---|---|
| MANGANESE, TOTAL | MB1 | S | 08L0173 | N/A | 04/30/08 | 04/30/08 |
| MOLYBDENUM LABORATOR | LC1 BS | S | 08L0173 | N/A | 04/30/08 | 04/30/08 |
| MOLYBDENUM, TOTAL | MB1 | S | 08L0173 | N/A | 04/30/08 | 04/30/08 |
| SODIUM LABORATORY | LC1 BS | S | 08L0173 | N/A | 04/30/08 | 05/01/08 |
| SODIUM, TOTAL | MB1 | S | 08L0173 | N/A | 04/30/08 | 05/01/08 |
| NICKEL LABORATORY | LC1 BS | S | 08L0173 | N/A | 04/30/08 | 04/30/08 |
| NICKEL, TOTAL | MB1 | S | 08L0173 | N/A | 04/30/08 | 04/30/08 |
| LEAD LABORATORY | LC1 BS | S | 08L0173 | N/A | 04/30/08 | 04/30/08 |
| LEAD, TOTAL | MB1 | S | 08L0173 | N/A | 04/30/08 | 04/30/08 |
| ANTIMONY LABORATORY | LC1 BS | S | 08L0173 | N/A | 04/30/08 | 04/30/08 |
| ANTIMONY, TOTAL | MB1 | S | 08L0173 | N/A | 04/30/08 | 04/30/08 |
| SELENIUM LABORATORY | LC1 BS | S | 08L0173 | N/A | 04/30/08 | 04/30/08 |
| SELENIUM, TOTAL | MB1 | S | 08L0173 | N/A | 04/30/08 | 04/30/08 |
| SILICON LABORATORY | LC1 BS | S | 08L0173 | N/A | 04/30/08 | 04/30/08 |
| SILICON, TOTAL | MB1 | S | 08L0173 | N/A | 04/30/08 | 04/30/08 |
| VANADIUM LABORATORY | LC1 BS | S | 08L0173 | N/A | 04/30/08 | 04/30/08 |
| VANADIUM, TOTAL | MB1 | S | 08L0173 | N/A | 04/30/08 | 04/30/08 |
| ZINC LABORATORY | LC1 BS | S | 08L0173 | N/A | 04/30/08 | 04/30/08 |
| ZINC, TOTAL | MB1 | S | 08L0173 | N/A | 04/30/08 | 04/30/08 |

LIONVILLE LABORATORY INC.

**Analytical Report**

**Client:** TNU-HANFORD RC-032
**LVL#:** 0804L979
**SDG/SAF#:** K1201/RC-032

**W.O.#:** 11343-606-001-9999-00
**Date Received:** 04-23-08

## METALS CASE NARRATIVE

The following is a summary of the QC results accompanying the sample results. Lionville Laboratory (LvLI) certifies that all test results meet the requirements of NELAC except as noted below.

All soil samples are reported on a dry weight basis unless requested by the client, required by the method, or noted otherwise.

1. This narrative covers the analyses of 12 soil samples.

2. The samples were prepared and analyzed in accordance with methods checked on the attached glossary.

   All samples with the exception of sample J16MM7 were reported with a 3-fold dilution for all ICP metals due to sample matrix.

   All samples were rerun on a different instrument for Copper and Iron due to sample matrix.

   All samples were rerun for Potassium and Sodium due to ICVs and CCVs were outside the control limits in file TA0430C. All samples were rerun for Aluminum due to CCBs were outside control limits in file TA0430C.

   All samples rerun for Aluminum, Copper, Iron, Potassium, and Sodium were rerun and reported from file PS0501C

3. All analyses were performed within the required holding times.

4. All Initial and Continuing Calibration Verifications (ICV/CCVs) were within the 90-110% control limits (80-120% for Mercury).

5. All Initial and Continuing Calibration Blanks (ICB/CCBs) were within control limits (less than the LOQ).

6. The preparation/method blank for 1 analyte was outside method criteria. {less than the Limit of Quantitation (3-10X the LOD), samples greater than 20X MB value}. Refer to the Inorganics Method Blank Data Summary.

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 41 pages.

a). The MB result for Sodium was greater than the Limit of Quantitation (LOQ) {3-10x the (LOD) Limit of Detection} and all samples read less than 20 times the MB concentration. However, no corrective action criteria for MBs were provided in SW846 method 6010B. The sample results were reported herein "uncorrected" for the levels found in the MB.

7. All ICP Interference Check Standards were within control limits.

8. All laboratory control samples (LCS) were within the 80-120% control with the exception of Silicon at 6.2%. Refer to the Inorganics Laboratory Control Standards Report. Associated sample results may be biased low.

9. The matrix spike (MS) recoveries for 5 analytes were outside the 75-125% control limits. Refer to the Inorganics Accuracy Report.

10. For analytes where the ICP MS is out-of-control, a post-digestion MS (PDS) and serial dilution are performed. A PDS was prepared at meaningful concentration level for the following analytes:

| Sample ID | Element | PDS Concentration (ppb) | PDS % Recovery |
|---|---|---|---|
| J16MM8 | Aluminum | 66,000 | 107.8 |
| | Manganese | 3000 | 105.2 |
| | Iron | 126,000 | 102.1 |
| | Antimony | 300 | 101.3 |
| | Silicon | 6,300 | 97.2 |

11. All duplicate analyses were within the 20% Relative Percent Difference (RPD) control limits. Refer to the Inorganics Precision Report.

12. For the purposes of this report, the data has been reported to the Limit of Detection (LOD). Values between the LOD and the Limit of Quantitation (LOQ) are acquired in a region of less-certain quantification.

13. LvLI is NELAP accredited by the state of Pennsylvania. For a complete listing of accrediting authorities and the corresponding analytes/methods, please contact your Project Manager.

14. 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.

Judy Stone

Iris Daniels
Laboratory Manager
Lionville Laboratory Incorporated

5/7/08
Date

alm/m04-979

# METALS METHOD GLOSSARY

he following methods are used as reference for the digestion and analysis of samples contained within th

ot#: 0804L979

eaching Procedure: __1310 __1311 __1312 __Other:_____

LP Metals __ Digestion and __ Analysis Methods: __ILM03.0 __ILM04.0

letals Digestion Methods: __3005A __3010A __3015 __3020A ✓3050B __3051 __200.7 __SS17
__Other: _____

## Metals Analysis Methods

| | SW846 | | EPA | | STD MTD | EPA OSWR | USATHAMA |
|---|---|---|---|---|---|---|---|
| luminum | ✓6010B | | __200.7 | | | | __99 |
| ntimony | ✓6010B | __7041 [5] | __200.7 | __204.2 | | | __99 |
| rsenic | ✓6010B | __7060A [5] | __200.7 | __206.2 | __3113B | | __99 |
| arium | ✓6010B | | __200.7 | | | | __99 |
| eryllium | ✓6010B | | __200.7 | | | | __99 |
| ismuth | __6010B [1] | | __200.7 [1] | | | __1620 | __99 |
| oron | ✓6010B | | __200.7 | | | | __99 |
| admium | ✓6010B | __7131A [5] | __200.7 | __213.2 | | | __99 |
| alcium | ✓6010B | | __200.7 | | | | __99 |
| hromium | ✓6010B | __7191 [5] | __200.7 | __218.2 | | | __SS17 |
| obalt | ✓6010B | | __200.7 | | | | __99 |
| opper | ✓6010B | __7211 [5] | __200.7 | __220.2 | | | __99 |
| on | ✓6010B | | __200.7 | | | | __99 |
| ead | ✓6010B | __7421 [5] | __200.7 | __239.2 | __3113B | | __99 |
| ithium | __6010B | __7430 [4] | __200.7 | | | __1620 | __99 |
| lagnesium | ✓6010B | | __200.7 | | | | __99 |
| langanese | ✓6010B | | __200.7 | | | | __99 |
| lercury | __7470A [3] | ✓7471A [3] | __245.1 [2] | __245.5 [2] | | | __99 |
| lolybdenum | ✓6010B | | __200.7 | | | | __99 |
| ickel | ✓6010B | | __200.7 | | | | __99 |
| otassium | ✓6010B | __7610 [4] | __200.7 | __258.1 [4] | | | __99 |
| are Earths | __6010B [1] | | __200.7 [1] | | | __1620 | __99 |
| elenium | ✓6010B | __7740 [5] | __200.7 | __270.2 | __3113B | | __99 |
| ilicon | ✓6010B [1] | | __200.7 | | | __1620 | __99 |
| ilica | __6010B | | __200.7 | | | __1620 | __99 |
| ilver | ✓6010B | __7761 [5] | __200.7 | __272.2 | | | __99 |
| odium | ✓6010B | __7770 [4] | __200.7 | __273.1 [4] | | | __99 |
| trontium | __6010B | | __200.7 | | | | __99 |
| hallium | __6010B | __7841 [5] | __200.7 | __279.2 | __200.9 | | __99 |
| in | __6010B | | __200.7 | | | | __99 |
| itanium | __6010B | | __200.7 | | | | __99 |
| ranium | __6010B [1] | | __200.7 [1] | | | __1620 | __99 |
| anadium | ✓6010B | | __200.7 | | | | __99 |
| inc | ✓6010B | | __200.7 | | | | __99 |
| irconium | __6010B [1] | | __200.7 [1] | | | __1620 | __99 |

ther:_____ Method:_____

# METHOD REFERENCES AND DATA QUALIFIERS

## DATA QUALIFIERS

U = Indicates that the parameter was not detected at or above the reported limit. The associated numerical value is the sample detection limit.

* = Indicates that the original sample result is greater than 4x the spike amount added.

## ABBREVIATIONS

MB = Method or Preparation Blank.
MS = Matrix Spike.
MSD = Matrix Spike Duplicate.
REP = Sample Replicate
LCS = Laboratory Control Sample.
NC = Not calculated.

## ANALYTICAL METAL METHODS

1. Not included in the method element list.

2. Modified Hg: Hg1 and Hg2 require less total volume of digestate due to the autosampler analysis. Sample volumes and reagents for mercury determinations in water and soil have been proportionately scaled down to adapt to this semi-automated technique. The sample volume used for water analysis is 33 mL. For soils, approximately 0.3 grams of sample is taken to a final volume of 50 mL (including all reagents).

3. Flame AA.

4. Graphite Furnace AA.

L-WI-033/N-04/98

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 05/05/08

CLIENT: TNU-HANFORD RC-032

LVL LOT #: 0804L979

WORK ORDER: 11343-606-001-9999-00

| SAMPLE | SITE ID | ANALYTE | RESULT | UNITS | REPORTING LIMIT | DILUTION FACTOR |
|---|---|---|---|---|---|---|
| -001 | J16MM7 | Silver, Total | 0.09 u | MG/KG | 0.09 | 1.0 |
| | | Aluminum, Total | 50.2 | MG/KG | 3.4 | 1.0 |
| | | Arsenic, Total | 0.43 u | MG/KG | 0.43 | 1.0 |
| | | Boron, Total | 0.43 u | MG/KG | 0.43 | 1.0 |
| | | Barium, Total | 1.0 | MG/KG | 0.09 | 1.0 |
| | | Beryllium, Total | 0.04 u | MG/KG | 0.04 | 1.0 |
| | | Calcium, Total | 18.7 | MG/KG | 3.4 | 1.0 |
| | | Cadmium, Total | 0.04 u | MG/KG | 0.04 | 1.0 |
| | | Cobalt, Total | 0.17 u | MG/KG | 0.17 | 1.0 |
| | | Chromium, Total | 0.17 u | MG/KG | 0.17 | 1.0 |
| | | Copper, Total | 0.20 u | MG/KG | 0.20 | 1.0 |
| | | Iron, Total | 1480 | MG/KG | 3.9 | 1.0 |
| | | Mercury, Total | 0.009u | MG/KG | 0.009 | 1.0 |
| | | Potassium, Total | 53.2 | MG/KG | 42.5 | 1.0 |
| | | Magnesium, Total | 8.0 | MG/KG | 2.2 | 1.0 |
| | | Manganese, Total | 11.5 | MG/KG | 0.03 | 1.0 |
| | | Molybdenum, Total | 0.26 u | MG/KG | 0.26 | 1.0 |
| | | Sodium, Total | 16.0 | MG/KG | 1.7 | 1.0 |
| | | Nickel, Total | 0.20 | MG/KG | 0.17 | 1.0 |
| | | Lead, Total | 0.26 u | MG/KG | 0.26 | 1.0 |
| | | Antimony, Total | 0.26 u | MG/KG | 0.26 | 1.0 |
| | | Selenium, Total | 0.52 u | MG/KG | 0.52 | 1.0 |
| | | Silicon, Total | 41.8 | MG/KG | 3.4 | 1.0 |
| | | Vanadium, Total | 0.12 | MG/KG | 0.12 | 1.0 |
| | | Zinc, Total | 1.0 | MG/KG | 0.52 | 1.0 |

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 05/05/08

CLIENT: TNU-HANFORD RC-032

LVL LOT #: 0804L979

WORK ORDER: 11343-606-001-9999-00

| SAMPLE | SITE ID | ANALYTE | RESULT | UNITS | REPORTING LIMIT | DILUTION FACTOR |
|---|---|---|---|---|---|---|
| -002 | J16MM8 | Silver, Total | 0.25 u | MG/KG | 0.25 | 3.0 |
| | | Aluminum, Total | 11500 | MG/KG | 10.1 | 3.0 |
| | | Arsenic, Total | 4.2 | MG/KG | 1.3 | 3.0 |
| | | Boron, Total | 1.3 u | MG/KG | 1.3 | 3.0 |
| | | Barium, Total | 151 | MG/KG | 0.25 | 3.0 |
| | | Beryllium, Total | 0.73 | MG/KG | 0.13 | 3.0 |
| | | Calcium, Total | 4060 | MG/KG | 10.1 | 3.0 |
| | | Cadmium, Total | 0.13 u | MG/KG | 0.13 | 3.0 |
| | | Cobalt, Total | 8.6 | MG/KG | 0.50 | 3.0 |
| | | Chromium, Total | 12.0 | MG/KG | 0.50 | 3.0 |
| | | Copper, Total | 15.6 | MG/KG | 0.58 | 3.0 |
| | | Iron, Total | 27200 | MG/KG | 11.4 | 3.0 |
| | | Mercury, Total | 0.01 u | MG/KG | 0.01 | 1.0 |
| | | Potassium, Total | 1620 | MG/KG | 124 | 3.0 |
| | | Magnesium, Total | 5000 | MG/KG | 6.3 | 3.0 |
| | | Manganese, Total | 420 | MG/KG | 0.10 | 3.0 |
| | | Molybdenum, Total | 0.76 u | MG/KG | 0.76 | 3.0 |
| | | Sodium, Total | 176 | MG/KG | 5.0 | 3.0 |
| | | Nickel, Total | 13.1 | MG/KG | 0.50 | 3.0 |
| | | Lead, Total | 8.9 | MG/KG | 0.76 | 3.0 |
| | | Antimony, Total | 1.0 | MG/KG | 0.76 | 3.0 |
| | | Selenium, Total | 1.5 u | MG/KG | 1.5 | 3.0 |
| | | Silicon, Total | 498 | MG/KG | 10.1 | 3.0 |
| | | Vanadium, Total | 56.6 | MG/KG | 0.35 | 3.0 |
| | | Zinc, Total | 52.4 | MG/KG | 1.5 | 3.0 |

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 05/05/08

CLIENT: TNU-HANFORD RC-032 LVL LOT #: 0804L979

WORK ORDER: 11343-606-001-9999-00

| SAMPLE | SITE ID | ANALYTE | RESULT | UNITS | REPORTING LIMIT | DILUTION FACTOR |
|---|---|---|---|---|---|---|
| -003 | J16MM9 | Silver, Total | 0.25 u | MG/KG | 0.25 | 3.0 |
| | | Aluminum, Total | 10600 | MG/KG | 10.1 | 3.0 |
| | | Arsenic, Total | 1.7 | MG/KG | 1.3 | 3.0 |
| | | Boron, Total | 1.3 u | MG/KG | 1.3 | 3.0 |
| | | Barium, Total | 168 | MG/KG | 0.25 | 3.0 |
| | | Beryllium, Total | 1.1 | MG/KG | 0.13 | 3.0 |
| | | Calcium, Total | 5540 | MG/KG | 10.1 | 3.0 |
| | | Cadmium, Total | 0.13 u | MG/KG | 0.13 | 3.0 |
| | | Cobalt, Total | 11.2 | MG/KG | 0.51 | 3.0 |
| | | Chromium, Total | 10.0 | MG/KG | 0.51 | 3.0 |
| | | Copper, Total | 26.5 | MG/KG | 0.58 | 3.0 |
| | | Iron, Total | 35100 | MG/KG | 11.4 | 3.0 |
| | | Mercury, Total | 0.009u | MG/KG | 0.009 | 1.0 |
| | | Potassium, Total | 1080 | MG/KG | 124 | 3.0 |
| | | Magnesium, Total | 5670 | MG/KG | 6.3 | 3.0 |
| | | Manganese, Total | 438 | MG/KG | 0.10 | 3.0 |
| | | Molybdenum, Total | 1.3 | MG/KG | 0.76 | 3.0 |
| | | Sodium, Total | 183 | MG/KG | 5.1 | 3.0 |
| | | Nickel, Total | 14.9 | MG/KG | 0.51 | 3.0 |
| | | Lead, Total | 5.2 | MG/KG | 0.76 | 3.0 |
| | | Antimony, Total | 0.76 u | MG/KG | 0.76 | 3.0 |
| | | Selenium, Total | 1.5 u | MG/KG | 1.5 | 3.0 |
| | | Silicon, Total | 470 | MG/KG | 10.1 | 3.0 |
| | | Vanadium, Total | 77.1 | MG/KG | 0.35 | 3.0 |
| | | Zinc, Total | 65.8 | MG/KG | 1.5 | 3.0 |

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 05/05/08

CLIENT: TNU-HANFORD RC-032 LVL LOT #: 0804L979

WORK ORDER: 11343-606-001-9999-00

| SAMPLE | SITE ID | ANALYTE | RESULT | UNITS | REPORTING LIMIT | DILUTION FACTOR |
|---|---|---|---|---|---|---|
| -004 | J16MN0 | Silver, Total | 0.23 u | MG/KG | 0.23 | 3.0 |
| | | Aluminum, Total | 10600 | MG/KG | 9.3 | 3.0 |
| | | Arsenic, Total | 4.1 | MG/KG | 1.2 | 3.0 |
| | | Boron, Total | 1.2 u | MG/KG | 1.2 | 3.0 |
| | | Barium, Total | 170 | MG/KG | 0.23 | 3.0 |
| | | Beryllium, Total | 0.92 | MG/KG | 0.12 | 3.0 |
| | | Calcium, Total | 4810 | MG/KG | 9.3 | 3.0 |
| | | Cadmium, Total | 0.12 u | MG/KG | 0.12 | 3.0 |
| | | Cobalt, Total | 11.4 | MG/KG | 0.46 | 3.0 |
| | | Chromium, Total | 12.0 | MG/KG | 0.46 | 3.0 |
| | | Copper, Total | 23.3 | MG/KG | 0.53 | 3.0 |
| | | Iron, Total | 33200 | MG/KG | 10.4 | 3.0 |
| | | Mercury, Total | 0.009u | MG/KG | 0.009 | 1.0 |
| | | Potassium, Total | 1270 | MG/KG | 114 | 3.0 |
| | | Magnesium, Total | 5670 | MG/KG | 5.8 | 3.0 |
| | | Manganese, Total | 527 | MG/KG | 0.09 | 3.0 |
| | | Molybdenum, Total | 0.86 | MG/KG | 0.70 | 3.0 |
| | | Sodium, Total | 180 | MG/KG | 4.6 | 3.0 |
| | | Nickel, Total | 14.7 | MG/KG | 0.46 | 3.0 |
| | | Lead, Total | 7.2 | MG/KG | 0.70 | 3.0 |
| | | Antimony, Total | 0.70 u | MG/KG | 0.70 | 3.0 |
| | | Selenium, Total | 1.4 u | MG/KG | 1.4 | 3.0 |
| | | Silicon, Total | 453 | MG/KG | 9.3 | 3.0 |
| | | Vanadium, Total | 76.1 | MG/KG | 0.33 | 3.0 |
| | | Zinc, Total | 61.6 | MG/KG | 1.4 | 3.0 |

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 05/05/08

CLIENT: TNU-HANFORD RC-032

LVL LOT #: 0804L979

WORK ORDER: 11343-606-001-9999-00

| SAMPLE | SITE ID | ANALYTE | RESULT | UNITS | REPORTING LIMIT | DILUTION FACTOR |
|---|---|---|---|---|---|---|
| -005 | J16MN1 | Silver, Total | 0.25 u | MG/KG | 0.25 | 3.0 |
| | | Aluminum, Total | 9280 | MG/KG | 10 | 3.0 |
| | | Arsenic, Total | 3.3 | MG/KG | 1.2 | 3.0 |
| | | Boron, Total | 1.2 u | MG/KG | 1.2 | 3.0 |
| | | Barium, Total | 137 | MG/KG | 0.25 | 3.0 |
| | | Beryllium, Total | 1.1 | MG/KG | 0.12 | 3.0 |
| | | Calcium, Total | 5620 | MG/KG | 10 | 3.0 |
| | | Cadmium, Total | 0.12 u | MG/KG | 0.12 | 3.0 |
| | | Cobalt, Total | 11.6 | MG/KG | 0.50 | 3.0 |
| | | Chromium, Total | 9.4 | MG/KG | 0.50 | 3.0 |
| | | Copper, Total | 24.0 | MG/KG | 0.57 | 3.0 |
| | | Iron, Total | 40800 | MG/KG | 11.2 | 3.0 |
| | | Mercury, Total | 0.008u | MG/KG | 0.008 | 1.0 |
| | | Potassium, Total | 957 | MG/KG | 123 | 3.0 |
| | | Magnesium, Total | 5350 | MG/KG | 6.2 | 3.0 |
| | | Manganese, Total | 703 | MG/KG | 0.1 | 3.0 |
| | | Molybdenum, Total | 1.1 | MG/KG | 0.75 | 3.0 |
| | | Sodium, Total | 187 | MG/KG | 5.0 | 3.0 |
| | | Nickel, Total | 15.0 | MG/KG | 0.50 | 3.0 |
| | | Lead, Total | 6.0 | MG/KG | 0.75 | 3.0 |
| | | Antimony, Total | 0.75 u | MG/KG | 0.75 | 3.0 |
| | | Selenium, Total | 1.5 u | MG/KG | 1.5 | 3.0 |
| | | Silicon, Total | 399 | MG/KG | 10 | 3.0 |
| | | Vanadium, Total | 86.5 | MG/KG | 0.35 | 3.0 |
| | | Zinc, Total | 64.1 | MG/KG | 1.5 | 3.0 |

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 05/05/08

CLIENT: TNU-HANFORD RC-032 LVL LOT #: 0804L979

WORK ORDER: 11343-606-001-9999-00

| SAMPLE | SITE ID | ANALYTE | RESULT | UNITS | REPORTING LIMIT | DILUTION FACTOR |
|---|---|---|---|---|---|---|
| -006 | J16MN2 | Silver, Total | 0.20 u | MG/KG | 0.20 | 3.0 |
| | | Aluminum, Total | 9560 | MG/KG | 7.9 | 3.0 |
| | | Arsenic, Total | 3.6 | MG/KG | 0.98 | 3.0 |
| | | Boron, Total | 0.98 u | MG/KG | 0.98 | 3.0 |
| | | Barium, Total | 156 | MG/KG | 0.20 | 3.0 |
| | | Beryllium, Total | 0.84 | MG/KG | 0.1 | 3.0 |
| | | Calcium, Total | 4750 | MG/KG | 7.9 | 3.0 |
| | | Cadmium, Total | 0.1 u | MG/KG | 0.1 | 3.0 |
| | | Cobalt, Total | 9.7 | MG/KG | 0.39 | 3.0 |
| | | Chromium, Total | 10.3 | MG/KG | 0.39 | 3.0 |
| | | Copper, Total | 20.0 | MG/KG | 0.45 | 3.0 |
| | | Iron, Total | 28200 | MG/KG | 8.9 | 3.0 |
| | | Mercury, Total | 0.01 u | MG/KG | 0.01 | 1.0 |
| | | Potassium, Total | 1250 | MG/KG | 96.9 | 3.0 |
| | | Magnesium, Total | 5000 | MG/KG | 4.9 | 3.0 |
| | | Manganese, Total | 424 | MG/KG | 0.08 | 3.0 |
| | | Molybdenum, Total | 1.0 | MG/KG | 0.59 | 3.0 |
| | | Sodium, Total | 130 | MG/KG | 3.9 | 3.0 |
| | | Nickel, Total | 12.9 | MG/KG | 0.39 | 3.0 |
| | | Lead, Total | 8.3 | MG/KG | 0.59 | 3.0 |
| | | Antimony, Total | 0.59 u | MG/KG | 0.59 | 3.0 |
| | | Selenium, Total | 1.2 u | MG/KG | 1.2 | 3.0 |
| | | Silicon, Total | 432 | MG/KG | 7.9 | 3.0 |
| | | Vanadium, Total | 63.6 | MG/KG | 0.28 | 3.0 |
| | | Zinc, Total | 60.7 | MG/KG | 1.2 | 3.0 |

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 05/05/08

CLIENT: TNU-HANFORD RC-032 LVL LOT #: 0804L979

WORK ORDER: 11343-606-001-9999-00

| SAMPLE | SITE ID | ANALYTE | RESULT | UNITS | REPORTING LIMIT | DILUTION FACTOR |
|---|---|---|---|---|---|---|
| -007 | J16MN3 | Silver, Total | 0.25 u | MG/KG | 0.25 | 3.0 |
| | | Aluminum, Total | 6860 | MG/KG | 10.2 | 3.0 |
| | | Arsenic, Total | 2.8 | MG/KG | 1.3 | 3.0 |
| | | Boron, Total | 1.3 u | MG/KG | 1.3 | 3.0 |
| | | Barium, Total | 91.4 | MG/KG | 0.25 | 3.0 |
| | | Beryllium, Total | 0.88 | MG/KG | 0.13 | 3.0 |
| | | Calcium, Total | 4970 | MG/KG | 10.2 | 3.0 |
| | | Cadmium, Total | 0.13 u | MG/KG | 0.13 | 3.0 |
| | | Cobalt, Total | 9.8 | MG/KG | 0.51 | 3.0 |
| | | Chromium, Total | 8.2 | MG/KG | 0.51 | 3.0 |
| | | Copper, Total | 15.9 | MG/KG | 0.58 | 3.0 |
| | | Iron, Total | 30900 | MG/KG | 11.4 | 3.0 |
| | | Mercury, Total | 0.009u | MG/KG | 0.009 | 1.0 |
| | | Potassium, Total | 663 | MG/KG | 125 | 3.0 |
| | | Magnesium, Total | 4560 | MG/KG | 6.4 | 3.0 |
| | | Manganese, Total | 391 | MG/KG | 0.10 | 3.0 |
| | | Molybdenum, Total | 0.94 | MG/KG | 0.76 | 3.0 |
| | | Sodium, Total | 133 | MG/KG | 5.1 | 3.0 |
| | | Nickel, Total | 9.4 | MG/KG | 0.51 | 3.0 |
| | | Lead, Total | 2.9 | MG/KG | 0.76 | 3.0 |
| | | Antimony, Total | 0.76 u | MG/KG | 0.76 | 3.0 |
| | | Selenium, Total | 1.5 u | MG/KG | 1.5 | 3.0 |
| | | Silicon, Total | 316 | MG/KG | 10.2 | 3.0 |
| | | Vanadium, Total | 76.1 | MG/KG | 0.36 | 3.0 |
| | | Zinc, Total | 54.0 | MG/KG | 1.5 | 3.0 |

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 05/05/08

CLIENT: TNU-HANFORD RC-032 LVL LOT #: 0804L979

WORK ORDER: 11343-606-001-9999-00

| SAMPLE | SITE ID | ANALYTE | RESULT | UNITS | REPORTING LIMIT | DILUTION FACTOR |
|---|---|---|---|---|---|---|
| -008 | J16MN4 | Silver, Total | 0.28 u | MG/KG | 0.28 | 3.0 |
| | | Aluminum, Total | 10300 | MG/KG | 11.1 | 3.0 |
| | | Arsenic, Total | 6.6 | MG/KG | 1.4 | 3.0 |
| | | Boron, Total | 1.4 u | MG/KG | 1.4 | 3.0 |
| | | Barium, Total | 128 | MG/KG | 0.28 | 3.0 |
| | | Beryllium, Total | 0.80 | MG/KG | 0.14 | 3.0 |
| | | Calcium, Total | 4370 | MG/KG | 11.1 | 3.0 |
| | | Cadmium, Total | 0.14 u | MG/KG | 0.14 | 3.0 |
| | | Cobalt, Total | 9.1 | MG/KG | 0.55 | 3.0 |
| | | Chromium, Total | 12.7 | MG/KG | 0.55 | 3.0 |
| | | Copper, Total | 18.7 | MG/KG | 0.64 | 3.0 |
| | | Iron, Total | 30300 | MG/KG | 12.5 | 3.0 |
| | | Mercury, Total | 0.009u | MG/KG | 0.009 | 1.0 |
| | | Potassium, Total | 1680 | MG/KG | 137 | 3.0 |
| | | Magnesium, Total | 5500 | MG/KG | 6.9 | 3.0 |
| | | Manganese, Total | 428 | MG/KG | 0.11 | 3.0 |
| | | Molybdenum, Total | 0.83 u | MG/KG | 0.83 | 3.0 |
| | | Sodium, Total | 175 | MG/KG | 5.5 | 3.0 |
| | | Nickel, Total | 14.8 | MG/KG | 0.55 | 3.0 |
| | | Lead, Total | 11.1 | MG/KG | 0.83 | 3.0 |
| | | Antimony, Total | 0.99 | MG/KG | 0.83 | 3.0 |
| | | Selenium, Total | 1.7 u | MG/KG | 1.7 | 3.0 |
| | | Silicon, Total | 494 | MG/KG | 11.1 | 3.0 |
| | | Vanadium, Total | 65.7 | MG/KG | 0.39 | 3.0 |
| | | Zinc, Total | 56.3 | MG/KG | 1.7 | 3.0 |

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 05/05/08

CLIENT: TNU-HANFORD RC-032

LVL LOT #: 0804L979

WORK ORDER: 11343-606-001-9999-00

| SAMPLE | SITE ID | ANALYTE | RESULT | UNITS | REPORTING LIMIT | DILUTION FACTOR |
|---|---|---|---|---|---|---|
| -009 | J16MN5 | Silver, Total | 0.23 u | MG/KG | 0.23 | 3.0 |
| | | Aluminum, Total | 10700 | MG/KG | 9.1 | 3.0 |
| | | Arsenic, Total | 7.0 | MG/KG | 1.1 | 3.0 |
| | | Boron, Total | 1.2 | MG/KG | 1.1 | 3.0 |
| | | Barium, Total | 129 | MG/KG | 0.23 | 3.0 |
| | | Beryllium, Total | 0.93 | MG/KG | 0.11 | 3.0 |
| | | Calcium, Total | 5450 | MG/KG | 9.1 | 3.0 |
| | | Cadmium, Total | 0.11 u | MG/KG | 0.11 | 3.0 |
| | | Cobalt, Total | 10.3 | MG/KG | 0.46 | 3.0 |
| | | Chromium, Total | 12.7 | MG/KG | 0.46 | 3.0 |
| | | Copper, Total | 23.2 | MG/KG | 0.52 | 3.0 |
| | | Iron, Total | 31500 | MG/KG | 10.3 | 3.0 |
| | | Mercury, Total | 0.03 | MG/KG | 0.008 | 1.0 |
| | | Potassium, Total | 1760 | MG/KG | 112 | 3.0 |
| | | Magnesium, Total | 5550 | MG/KG | 5.7 | 3.0 |
| | | Manganese, Total | 441 | MG/KG | 0.09 | 3.0 |
| | | Molybdenum, Total | 0.96 | MG/KG | 0.68 | 3.0 |
| | | Sodium, Total | 200 | MG/KG | 4.6 | 3.0 |
| | | Nickel, Total | 16.0 | MG/KG | 0.46 | 3.0 |
| | | Lead, Total | 21.4 | MG/KG | 0.68 | 3.0 |
| | | Antimony, Total | 0.79 | MG/KG | 0.68 | 3.0 |
| | | Selenium, Total | 1.4 u | MG/KG | 1.4 | 3.0 |
| | | Silicon, Total | 378 | MG/KG | 9.1 | 3.0 |
| | | Vanadium, Total | 69.6 | MG/KG | 0.32 | 3.0 |
| | | Zinc, Total | 66.7 | MG/KG | 1.4 | 3.0 |

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 05/05/08

CLIENT: TNU-HANFORD RC-032

LVL LOT #: 0804L979

WORK ORDER: 11343-606-001-9999-00

| SAMPLE | SITE ID | ANALYTE | RESULT | UNITS | REPORTING LIMIT | DILUTION FACTOR |
|---|---|---|---|---|---|---|
| -010 | J16MN6 | Silver, Total | 0.29 u | MG/KG | 0.29 | 3.0 |
| | | Aluminum, Total | 8410 | MG/KG | 11.5 | 3.0 |
| | | Arsenic, Total | 5.0 | MG/KG | 1.4 | 3.0 |
| | | Boron, Total | 1.4 u | MG/KG | 1.4 | 3.0 |
| | | Barium, Total | 107 | MG/KG | 0.29 | 3.0 |
| | | Beryllium, Total | 0.82 | MG/KG | 0.14 | 3.0 |
| | | Calcium, Total | 5170 | MG/KG | 11.5 | 3.0 |
| | | Cadmium, Total | 0.14 u | MG/KG | 0.14 | 3.0 |
| | | Cobalt, Total | 9.1 | MG/KG | 0.58 | 3.0 |
| | | Chromium, Total | 8.7 | MG/KG | 0.58 | 3.0 |
| | | Copper, Total | 20.8 | MG/KG | 0.66 | 3.0 |
| | | Iron, Total | 28400 | MG/KG | 13.0 | 3.0 |
| | | Mercury, Total | 0.01 u | MG/KG | 0.01 | 1.0 |
| | | Potassium, Total | 1270 | MG/KG | 142 | 3.0 |
| | | Magnesium, Total | 4680 | MG/KG | 7.2 | 3.0 |
| | | Manganese, Total | 367 | MG/KG | 0.12 | 3.0 |
| | | Molybdenum, Total | 0.87 u | MG/KG | 0.87 | 3.0 |
| | | Sodium, Total | 176 | MG/KG | 5.8 | 3.0 |
| | | Nickel, Total | 11.8 | MG/KG | 0.58 | 3.0 |
| | | Lead, Total | 15.5 | MG/KG | 0.87 | 3.0 |
| | | Antimony, Total | 1.2 | MG/KG | 0.87 | 3.0 |
| | | Selenium, Total | 1.7 u | MG/KG | 1.7 | 3.0 |
| | | Silicon, Total | 513 | MG/KG | 11.5 | 3.0 |
| | | Vanadium, Total | 62.4 | MG/KG | 0.40 | 3.0 |
| | | Zinc, Total | 57.7 | MG/KG | 1.7 | 3.0 |

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 05/05/08

CLIENT: TNU-HANFORD RC-032

LVL LOT #: 0804L979

WORK ORDER: 11343-606-001-9999-00

| SAMPLE | SITE ID | ANALYTE | RESULT | UNITS | REPORTING LIMIT | DILUTION FACTOR |
|---|---|---|---|---|---|---|
| -011 | J16MN7 | Silver, Total | 0.25 u | MG/KG | 0.25 | 3.0 |
| | | Aluminum, Total | 8730 | MG/KG | 10.0 | 3.0 |
| | | Arsenic, Total | 6.1 | MG/KG | 1.3 | 3.0 |
| | | Boron, Total | 1.3 u | MG/KG | 1.3 | 3.0 |
| | | Barium, Total | 126 | MG/KG | 0.25 | 3.0 |
| | | Beryllium, Total | 0.75 | MG/KG | 0.13 | 3.0 |
| | | Calcium, Total | 5520 | MG/KG | 10.0 | 3.0 |
| | | Cadmium, Total | 0.13 u | MG/KG | 0.13 | 3.0 |
| | | Cobalt, Total | 9.7 | MG/KG | 0.50 | 3.0 |
| | | Chromium, Total | 11.3 | MG/KG | 0.50 | 3.0 |
| | | Copper, Total | 20.3 | MG/KG | 0.58 | 3.0 |
| | | Iron, Total | 28600 | MG/KG | 11.3 | 3.0 |
| | | Mercury, Total | 0.02 | MG/KG | 0.01 | 1.0 |
| | | Potassium, Total | 1390 | MG/KG | 124 | 3.0 |
| | | Magnesium, Total | 4920 | MG/KG | 6.3 | 3.0 |
| | | Manganese, Total | 391 | MG/KG | 0.10 | 3.0 |
| | | Molybdenum, Total | 1.1 | MG/KG | 0.75 | 3.0 |
| | | Sodium, Total | 179 | MG/KG | 5.0 | 3.0 |
| | | Nickel, Total | 14.7 | MG/KG | 0.50 | 3.0 |
| | | Lead, Total | 11.0 | MG/KG | 0.75 | 3.0 |
| | | Antimony, Total | 0.75 u | MG/KG | 0.75 | 3.0 |
| | | Selenium, Total | 1.5 u | MG/KG | 1.5 | 3.0 |
| | | Silicon, Total | 404 | MG/KG | 10.0 | 3.0 |
| | | Vanadium, Total | 66.6 | MG/KG | 0.35 | 3.0 |
| | | Zinc, Total | 55.1 | MG/KG | 1.5 | 3.0 |

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 05/05/08

CLIENT: TNU-HANFORD RC-032 LVL LOT #: 0804L979

WORK ORDER: 11343-606-001-9999-00

| SAMPLE | SITE ID | ANALYTE | RESULT | UNITS | REPORTING LIMIT | DILUTION FACTOR |
|---|---|---|---|---|---|---|
| -012 | J16MN8 | Silver, Total | 0.28 u | MG/KG | 0.28 | 3.0 |
| | | Aluminum, Total | 7840 | MG/KG | 11.1 | 3.0 |
| | | Arsenic, Total | 2.8 | MG/KG | 1.4 | 3.0 |
| | | Boron, Total | 1.4 u | MG/KG | 1.4 | 3.0 |
| | | Barium, Total | 94.8 | MG/KG | 0.28 | 3.0 |
| | | Beryllium, Total | 0.88 | MG/KG | 0.14 | 3.0 |
| | | Calcium, Total | 4940 | MG/KG | 11.1 | 3.0 |
| | | Cadmium, Total | 0.14 u | MG/KG | 0.14 | 3.0 |
| | | Cobalt, Total | 9.3 | MG/KG | 0.56 | 3.0 |
| | | Chromium, Total | 7.4 | MG/KG | 0.56 | 3.0 |
| | | Copper, Total | 17.6 | MG/KG | 0.64 | 3.0 |
| | | Iron, Total | 29100 | MG/KG | 12.5 | 3.0 |
| | | Mercury, Total | 0.009u | MG/KG | 0.009 | 1.0 |
| | | Potassium, Total | 1060 | MG/KG | 137 | 3.0 |
| | | Magnesium, Total | 4510 | MG/KG | 6.9 | 3.0 |
| | | Manganese, Total | 374 | MG/KG | 0.11 | 3.0 |
| | | Molybdenum, Total | 0.83 u | MG/KG | 0.83 | 3.0 |
| | | Sodium, Total | 188 | MG/KG | 5.6 | 3.0 |
| | | Nickel, Total | 11.7 | MG/KG | 0.56 | 3.0 |
| | | Lead, Total | 4.1 | MG/KG | 0.83 | 3.0 |
| | | Antimony, Total | 0.83 u | MG/KG | 0.83 | 3.0 |
| | | Selenium, Total | 1.7 u | MG/KG | 1.7 | 3.0 |
| | | Silicon, Total | 441 | MG/KG | 11.1 | 3.0 |
| | | Vanadium, Total | 70.0 | MG/KG | 0.39 | 3.0 |
| | | Zinc, Total | 54.5 | MG/KG | 1.7 | 3.0 |

Lionville Laboratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 05/05/08

CLIENT: TNU-HANFORD RC-032 LVL LOT #: 0804L979

WORK ORDER: 11343-606-001-9999-00

| SAMPLE | SITE ID | ANALYTE | RESULT | | UNITS | REPORTING LIMIT | DILUTION FACTOR |
|---|---|---|---|---|---|---|---|
| BLANK1 | 08L0173-MB1 | Silver, Total | 0.10 | u | MG/KG | 0.10 | 1.0 |
| | | Aluminum, Total | 4.0 | u | MG/KG | 4.0 | 1.0 |
| | | Arsenic, Total | 0.50 | u | MG/KG | 0.50 | 1.0 |
| | | Boron, Total | 0.50 | u | MG/KG | 0.50 | 1.0 |
| | | Barium, Total | 0.10 | u | MG/KG | 0.10 | 1.0 |
| | | Beryllium, Total | 0.05 | u | MG/KG | 0.05 | 1.0 |
| | | Calcium, Total | 5.3 | | MG/KG | 4.0 | 1.0 |
| | | Cadmium, Total | 0.05 | | MG/KG | 0.05 | 1.0 |
| | | Cobalt, Total | 0.20 | u | MG/KG | 0.20 | 1.0 |
| | | Chromium, Total | 0.20 | u | MG/KG | 0.20 | 1.0 |
| | | Copper, Total | 0.47 | | MG/KG | 0.23 | 1.0 |
| | | Iron, Total | 4.5 | u | MG/KG | 4.5 | 1.0 |
| | | Potassium, Total | 49.3 | u | MG/KG | 49.3 | 1.0 |
| | | Magnesium, Total | 2.5 | u | MG/KG | 2.5 | 1.0 |
| | | Manganese, Total | 0.10 | | MG/KG | 0.04 | 1.0 |
| | | Molybdenum, Total | 0.30 | u | MG/KG | 0.30 | 1.0 |
| | | Sodium, Total | 26.7 | | MG/KG | 2.0 | 1.0 |
| | | Nickel, Total | 0.20 | u | MG/KG | 0.20 | 1.0 |
| | | Lead, Total | 0.30 | u | MG/KG | 0.30 | 1.0 |
| | | Antimony, Total | 0.30 | u | MG/KG | 0.30 | 1.0 |
| | | Selenium, Total | 0.60 | u | MG/KG | 0.60 | 1.0 |
| | | Silicon, Total | 4.0 | u | MG/KG | 4.0 | 1.0 |
| | | Vanadium, Total | 0.14 | u | MG/KG | 0.14 | 1.0 |
| | | Zinc, Total | 0.60 | u | MG/KG | 0.60 | 1.0 |
| BLANK1 | 08C0075-MB1 | Mercury, Total | 0.01 | u | MG/KG | 0.01 | 1.0 |

Lionville Laboratory, Inc.

INORGANICS ACCURACY REPORT 05/05/08

CLIENT: TNU-HANFORD RC-032 LVL LOT #: 0804L979

WORK ORDER: 11343-606-001-9999-00

| SAMPLE | SITE ID | ANALYTE | SPIKED SAMPLE | INITIAL RESULT | SPIKED AMOUNT | %RECOV | DILUTION FACTOR(SPK) |
|---|---|---|---|---|---|---|---|
| -002 | J16MM8 | Silver, Total | 4.0 | 0.25u | 4.2 | 95.2 | 3.0 |
| | | Aluminum, Total | 14100 | 11500 | 167 | 1579 * | 3.0 |
| | | Arsenic, Total | 163 | 4.2 | 167 | 95.3 | 3.0 |
| | | Boron, Total | 77.9 | 1.3 u | 83.4 | 93.4 | 3.0 |
| | | Barium, Total | 328 | 151 | 167 | 106.1 | 3.0 |
| | | Beryllium, Total | 4.8 | 0.73 | 4.2 | 96.8 | 3.0 |
| | | Calcium, Total | 6570 | 4060 | 2080 | 120.2 | 3.0 |
| | | Cadmium, Total | 4.0 | 0.13u | 4.2 | 95.2 | 3.0 |
| | | Cobalt, Total | 49.3 | 8.6 | 41.7 | 97.6 | 3.0 |
| | | Chromium, Total | 29.6 | 12.0 | 16.7 | 105.4 | 3.0 |
| | | Copper, Total | 37.6 | 15.6 | 20.9 | 105.3 | 3.0 |
| | | Iron, Total | 29600 | 27200 | 83.4 | 2911 * | 3.0 |
| | | Mercury, Total | 0.17 | 0.01u | 0.16 | 103.1 | 1.0 |
| | | Potassium, Total | 3850 | 1620 | 2080 | 106.6 | 3.0 |
| | | Magnesium, Total | 7520 | 5000 | 2080 | 120.9 | 3.0 |
| | | Manganese, Total | 497 | 420 | 41.7 | 184.7* | 3.0 |
| | | Molybdenum, Total | 76.1 | 0.76u | 83.4 | 91.2 | 3.0 |
| | | Sodium, Total | 2260 | 176 | 2080 | 100.1 | 3.0 |
| | | Nickel, Total | 54.9 | 13.1 | 41.7 | 100.2 | 3.0 |
| | | Lead, Total | 50.8 | 8.9 | 41.7 | 100.5 | 3.0 |
| | | Antimony, Total | 20.5 | 1.0 | 41.7 | 46.8 | 3.0 |
| | | Selenium, Total | 137 | 1.5 u | 167 | 82.1 | 3.0 |
| | | Silicon, Total | 634 | 498 | 83.4 | 162.1* | 3.0 |
| | | Vanadium, Total | 100 | 56.6 | 41.7 | 104.3 | 3.0 |
| | | Zinc, Total | 97.6 | 52.4 | 41.7 | 108.4 | 3.0 |

Lionville Laboratory, Inc.

INORGANICS PRECISION REPORT 05/05/08

CLIENT: TNU-HANFORD RC-032

LVL LOT #: 0804L979

WORK ORDER: 11343-606-001-9999-00

| SAMPLE | SITE ID | ANALYTE | INITIAL RESULT | REPLICATE | RPD | DILUTION FACTOR(REP) |
|---|---|---|---|---|---|---|
| -002REP | J16MM8 | Silver, Total | 0.25u | 0.26u | NC | 3.0 |
| | | Aluminum, Total | 11500 | 11900 | 4.2 | 3.0 |
| | | Arsenic, Total | 4.2 | 5.1 | 19.4 | 3.0 |
| | | Boron, Total | 1.3 u | 1.3 u | NC | 3.0 |
| | | Barium, Total | 151 | 162 | 7.1 | 3.0 |
| | | Beryllium, Total | 0.73 | 0.76 | 2.9 | 3.0 |
| | | Calcium, Total | 4060 | 4020 | 1.1 | 3.0 |
| | | Cadmium, Total | 0.13u | 0.13u | NC | 3.0 |
| | | Cobalt, Total | 8.6 | 9.0 | 4.5 | 3.0 |
| | | Chromium, Total | 12.0 | 12.2 | 1.7 | 3.0 |
| | | Copper, Total | 15.6 | 16.6 | 6.2 | 3.0 |
| | | Iron, Total | 27200 | 26700 | 2.0 | 3.0 |
| | | Mercury, Total | 0.01u | 0.01u | NC | 1.0 |
| | | Potassium, Total | 1620 | 1800 | 10.1 | 3.0 |
| | | Magnesium, Total | 5000 | 5130 | 2.4 | 3.0 |
| | | Manganese, Total | 420 | 416 | 0.98 | 3.0 |
| | | Molybdenum, Total | 0.76u | 0.79u | NC | 3.0 |
| | | Sodium, Total | 176 | 154 | 13.3 | 3.0 |
| | | Nickel, Total | 13.1 | 13.8 | 5.2 | 3.0 |
| | | Lead, Total | 8.9 | 9.3 | 4.4 | 3.0 |
| | | Antimony, Total | 1.0 | 0.79u | NC | 3.0 |
| | | Selenium, Total | 1.5 u | 1.6 u | NC | 3.0 |
| | | Silicon, Total | 498 | 498 | 0.18 | 3.0 |
| | | Vanadium, Total | 56.6 | 52.4 | 7.7 | 3.0 |
| | | Zinc, Total | 52.4 | 52.6 | 0.38 | 3.0 |

Lionville Laboratory, Inc.

INORGANICS LABORATORY CONTROL STANDARDS REPORT 05/05/08

CLIENT: TNU-HANFORD RC-032 LVL LOT #: 0804L979

WORK ORDER: 11343-606-001-9999-00

| SAMPLE | SITE ID | ANALYTE | SPIKED SAMPLE | SPIKED AMOUNT | UNITS | %RECOV |
|---|---|---|---|---|---|---|
| LCS1 | 08L0173-LC1 | Silver, LCS | 48.3 | 50.0 | MG/KG | 96.6 |
| | | Aluminum, LCS | 469 | 500 | MG/KG | 93.9 |
| | | Arsenic, LCS | 957 | 1000 | MG/KG | 95.7 |
| | | Boron, LCS | 469 | 500 | MG/KG | 93.8 |
| | | Barium, LCS | 481 | 500 | MG/KG | 96.2 |
| | | Beryllium, LCS | 24.7 | 25.0 | MG/KG | 98.8 |
| | | Calcium, LCS | 2480 | 2500 | MG/KG | 99.1 |
| | | Cadmium, LCS | 24.4 | 25.0 | MG/KG | 97.6 |
| | | Cobalt, LCS | 240 | 250 | MG/KG | 96.0 |
| | | Chromium, LCS | 48.7 | 50.0 | MG/KG | 97.4 |
| | | Copper, LCS | 114 | 125 | MG/KG | 91.4 |
| | | Iron, LCS | 477 | 500 | MG/KG | 95.3 |
| | | Potassium, LCS | 2290 | 2500 | MG/KG | 91.7 |
| | | Magnesium, LCS | 2380 | 2500 | MG/KG | 95.3 |
| | | Manganese, LCS | 73.3 | 75.0 | MG/KG | 97.7 |
| | | Molybdenum, LCS | 466 | 500 | MG/KG | 93.1 |
| | | Sodium, LCS | 2340 | 2500 | MG/KG | 93.5 |
| | | Nickel, LCS | 196 | 200 | MG/KG | 98.0 |
| | | Lead, LCS | 247 | 250 | MG/KG | 98.6 |
| | | Antimony, LCS | 285 | 300 | MG/KG | 95.1 |
| | | Selenium, LCS | 923 | 1000 | MG/KG | 92.3 |
| | | Silicon, LCS | 30.9 | 500 | MG/KG | 6.2 |
| | | Vanadium, LCS | 233 | 250 | MG/KG | 93.4 |
| | | Zinc, LCS | 97.7 | 100 | MG/KG | 97.7 |
| LCS1 | 08C0075-LC1 | Mercury, LCS | 4.9 | 4.7 | MG/KG | 103.4 |

# SAMPLE DIGESTION RECORD

SOP: L-SPI-3020 Rev. 00

Digestion Batch #: 08L173
Date/Time Initiated: 4/30/08 1110
Date/Time Completed: ↓ 1300
Analyst(s): DD
Matrix: (Soil) Water Other:
Instr. Type: AA (ICP)
Parameters: HSL + B, Mo, Si, -Tl

Digested / Undigested (circle one)
Balance #: B20
Balance Cal Verif: (Y) NA
Hot Plate Temp: 95°

Method: (circle)

| | | | |
|---|---|---|---|
| SW | 3005A | DW | 200.7 (1994) |
| | 3010A | | 200.9 |
| | 3015 | | 3113B |
| | 3020A | | |
| | 7060A (As/Se) | MCAWW | 200.7 (1982) |
| | 7760A (Ag) | | 200 (AA) |
| | | | 206.2 (As/Se) |
| | (3050B) | | |
| | 3051 | SM | 3030C (NC) |
| CLP | ILMO3.0 | Other | |
| | ILMO4.0 | | |

| COC Batch # | Spike Vol(s) (mL) | Initial Wt/Vol (g/mL) | Final Vol (mL) | pH <2 (TNU) | Type: To/So/TC | Texture | Color/Appearance (TEF) | Artifact | Turb |
|---|---|---|---|---|---|---|---|---|---|
| 0804L979-001 | | 1.16 | 100mL | NA | TOT | FINE | BROWN | NA | NA |
| 002 | | 1.26 | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ |
| 002R | | 1.21 | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ |
| 0025 | 1.0 | 1.27 | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ |
| 003 | | 1.26 | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ |
| 004 | | 1.33 | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ |
| 005 | | 1.24 | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ |
| 006 | | 1.56 | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ |
| 007 | | 1.23 | ↓ | ↓ | ↓ | ↓ | GRAY | ↓ | ↓ |
| 008 | | 1.17 | ↓ | ↓ | ↓ | ↓ | BROWN | ↓ | ↓ |
| 009 | | 1.37 | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ |
| 010 | | 1.08 | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ |
| 011 | | 1.22 | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ |
| 012 | | 1.13 | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ |
| 08L0173-MB1 | | 1.0 | ↓ | ↓ | ↓ | NA | CLEAR | ↓ | ↓ |
| LC1 | 1.0 | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ |

CAN 4/30/08

Spiking IDs:
MS #: 8100-004-01
↓ 02
↓ 03
6072-78-07
LCS #: ↓ 08
↓ 09
↓ 10
↓ 11

Reagent IDs:

| | |
|---|---|
| $HNO_3$ | E46025 |
| HCL | E45047 |
| $H_2O_2$ | E44A06 |
| 1:1 $HNO_3$ | 9789-077-04 |
| 1:1 HCL | |

File ID#: ICO7301
LIMS Transfer: (Y) N Updated
Data Review By/Date: PMP, 04/30/08

ionville Laboratory
ncorporated

# MERCURY PREPARATION

Logbook # 420

Analyst: TRB
Date: 4/28/08
Start Time/Temp: 1540/93°
End Time/Temp: 1615/97°

Instrument ID: HG3.1
Balance #: B29 ✓/NA
Pipette Calibration (Daily) Y ✓

Prep Batch: 080075
Worksheet: HG042901
SOP No. ME-HgCVAA, Rev. 02

pH < 2 for Liquids? __ Yes NA No (If no: designate affected samples in Comments column, and initiate an SDR)

**NOTE: The Inital/Final Volume for water samples = 33mL, unless otherwise noted.**
**The Final volume for soil samples = 50mL, unless otherwise noted.**

| LvLI Batch # | Container Number | Spike Volume (mL) | Spike Conc. (µg/L) | Initial Wt. or Volume (g or mL) | Final Sample Volume (mL) | Comments, % Solids, etc. |
|---|---|---|---|---|---|---|
| Blank | B6 | | | 10mL | 50mL | |
| 0.2 µg/L | E7 | 0.100 | | | | |
| 1.0 | X5 | 0.500 | | | | |
| 2.0 | P5 | 1.000 | | | | |
| 5.0 | W0 | 2.500 | | | | |
| 10.0 | G7 | 5.000 | | | | |
| ICV | 3C | 0.125 | 2.5 | | | |
| CCV | G12 | 0.250 | 5.0 | | | |
| ICB/CCB | 8 | | | | | 9.50L |
| MB1 | 3VG | | | 0.30 | | PBS175 100.00 |
| LC1 | PF | * | * | 0.31 | | LCSS175 |
| 0804L932-001 | JC | | | 0.33 | | 100.00 |
| 001R | HR | | | 0.31 | | |
| 001S | BB | 0.500 | 1.0 | 0.33 | | |
| 002 | HH | | | 0.32 | | |
| 003 | 500 | | | 0.34 | | |
| 004 | SPRT | | | 0.34 | | |
| 005 | N2 | | | 0.34 | | |
| 0804L979-001 | AH | | | 0.34 | | 99.95 |
| 002 | 114 | | | 0.33 | | 94.40 |
| 002R | 11A | | | 0.31 | | |
| 002S | AN | 0.500 | 1.0 | 0.33 | | |
| 003 | Gd | | | 0.35 | | 94.30 |
| 004 | Z4 | | | 0.33 | R | 97.22 |
| 005 | B32 | | | 0.41 | | 97.16 |
| 006 | 2B | | | 0.32 | | 97.67 |
| 007 | L15 | | | 0.34 | | 95.96 |

| Standard: | ID | Prep Date/Time |
|---|---|---|
| ML/MS | RI 6072-78-014B | 4/28/08 1130 |
| ICCV/LCS | US 6072-78-015 A | |

Reviewed By/Date: [signature] 5/05/08

see book # 5368 for std traceability information

LCS =US Metals in soil No.3; True Value = 4.70 mg/Kg *
Analogue #1RM-021, Lot # E021

Water Matrix Spiking Solution Concentration = 0.1 µg/ml
Water LCS Spiking Concentration: 1.0 µg/ml

HgCVAA-Prep1007

Page #:

nville Laboratory
orporated

# MERCURY PREPARATION

Logbook # 422

alyst: TEB
e 4/28/08
t Time/Temp:
Time/Temp: See page 086

Instrument ID HG3.1
Balance #: B29 /NA
Pipette Calibration (Daily) Y ✓

Prep Batch: 08C0075
Worksheet: HG042901
SOP No. ME-HgCVAA, Rev. 02

pH < 2 for Liquids? __ Yes JA No (If no: designate affected samples in Comments column, and initiate an SDR)

**NOTE: The Inital/Final Volume for water samples = 33mL, unless otherwise noted.**
**The Final volume for soil samples = 50mL, unless otherwise noted.**

| LvLI Batch # | Container Number | Spike Volume (mL) | Spike Conc. (µg/L) | Initial Wt. or Volume (g or mL) | Final Sample Volume (mL) | Comments, % Solids, etc. |
|---|---|---|---|---|---|---|
| 08041979-008 | 55 | | | 0.35 | 0.50mL | R 92.46 |
| 009 | AHA | | | 0.41 | | 95.97 |
| 010 | NJ | | | 0.30 | | 96.25 |
| 011 | 92 | | | 0.30 | | 97.97 |
| 012 | 31 | | | 0.34 | | 95.66 |

| rd: | ID | Prep Date/Time |
|---|---|---|
| S | | |
| V/LCS | See page 086 | |

Reviewed By/Date: 5/05/08

see book # 9368 for std traceability information

=US Metals in soil No.3; True Value = 4.70 mg/Kg
e #1RM-021, Lot # E021

Water Matrix Spiking Solution Concentration = 0.1 µg/ml
Water LCS Spiking Concentration: 1.0 µg/ml

VAA-Prep1007

Page #:

000000035

Lionville Laboratory Use Only

0804L 979

# Custody Transfer Record/Lab Work Request



LVLI

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: TNU HANFORD SAF# RC-032

Est. Final Proj. Sampling Date:

Project#: 11343-606-001-9999-00

Project Contact/Phone#:

Lionville Laboratory Project Manager: O Johnson

QC: SW846 Del: STO TAT: 7days

Date Rec'd: 4-23-08 Date Due: 4-30-08

| | | A | B | | | | | CD | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Refrigerator # | | 3 | 3 | | | | | 3 | | | | | | | |
| #/Type Container | Liquid | | | | | | | | | | | | | | |
| | Solid | 1~~00~~ | 1~~00~~ | | | | | 2P | | | | | | | |
| Volume | | 120 | 60 | | | | | 120 | | | | | | | |
| Preservatives | | — | — | | | | | — | | | | | | | |
| ANALYSES REQUESTED → | | ORGANIC | | | | | | INORG | | | | | | | |
| | | VOA | BNA | ~~Pest/~~ PCB | Herb | | | ~~Metal~~ | CN | | | | | | |
| | | Lionville Laboratory Use Only | | | | | | | | | | | | | |
| | | | 0625H | OPCB | | | | MetO | | | | | | | |

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 | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 001 | J16MM7 | | | Soil | 4-21-08 | 1020 | | X | X | | | | | X | | | | |
| 002 | M8 | | | | | 1025 | | X | X | | | | | X | | | | |
| 003 | M9 | | | | | 1030 | | X | X | | | | | X | | | | |
| 004 | N0 | | | | | 1035 | | X | X | | | | | X | | | | |
| 005 | N1 | | | | | 1040 | | X | X | | | | | X | | | | |
| 006 | N2 | | | | | 1045 | | X | X | | | | | X | | | | |
| 007 | N3 | | | | | 1050 | | X | X | | | | | X | | | | |
| 008 | N4 | | | | | 1055 | | X | X | | | | | X | | | | |
| 009 | N5 | | | | | 1100 | | X | X | | | | | X | | | | |
| 010 | N6 | | | | | 1100 | | X | X | | | | | X | | | | |

Special Instructions:

MetO = HSL + B, Mo, S.
NOTL

Special Instructions:

1.
2.
3.
4.
5.
6.

| Relinquished by | Received by | Date | Time |
|---|---|---|---|
| Ed Eg | K. Hunnicutt | 4/23/08 | 0930 |

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

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

000000036

Lionville Laboratory Use Only

0804979

# Custody Transfer Record/Lab Work Request



LVLI

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

000000037

Client: TNX HANFORD

Est. Final Proj. Sampling Date:

Project#: Seal97

Project Contact/Phone#:

Lionville Laboratory Project Manager:

QC: Del: TAT:

Date Rec'd: 4-23-08 Date Due:

| | | A | B | | | | | CD | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Refrigerator # | | 3 | 3 | | | | | | | | | | | | |
| #/Type Container | Liquid / Solid | 1G | 1G | | | | | 2P | | | | | | | |
| Volume | | 120 | 60 | | | | | 120 | | | | | | | |
| Preservatives | | – | – | | | | | – | | | | | | | |
| ANALYSES REQUESTED | | ORGANIC | | | | | | INORG | | | | | | | |
| | | VOA | BNA | Pest/PCB | Herb | | | Metal | CN | | | | | | |
| | | Lionville Laboratory Use Only | | | | | | | | | | | | | |
| | | | 8625H | OPCB | | | | MetO | | | | | | | |

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
O- Other
F- Fish

| Lab ID | Client ID/Description | Matrix QC Chosen (✓) MS | MSD | Matrix | Date Collected | Time Collected | VOA | BNA | Pest/PCB | Herb | | | | Metal | CN | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 011 | T16MN7 | | | Soil | 4/21/08 | 1105 | | X | X | | | | | X | | | | | | | |
| 012 | 1 8 | | | 1 | 1 | 1110 | | X | X | | | | | X | | | | | | | |

Special Instructions:

Special Instructions:

1.
2.
3.
4.
5.
6.

| Relinquished by | Received by | Date | Time |
|---|---|---|---|
| [illegible] | [illegible] | 4/23/08 | 0930 |

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

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

| Washington Closure Hanford | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | RC-032-198 | Page 1 of 3 |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Collector<br>T. Welch-Koelling | Company Contact<br>JR DEBUIGNE | Telephone No.<br>528-6409 | Project Coordinator<br>KESSNER, JH |
| Price Code<br>8B | Data Turnaround<br>7 DAY | | |
| Project Designation<br>100-F Remaining Sites Burial Grounds - Soil Full Protocol | Sampling Location<br>600-111 Verification | | SAF No.<br>RC-032 |
| Ice Chest No.<br>ERC-02-007 | Field Logbook No.<br>EFL-1174-4 | COA<br>R601112000 | Method of Shipment<br>FED EX |
| Shipped To<br>EBERLINE SERVICES / LIONVILLE | Offsite Property No.<br>A080239 | | Bill of Lading/Air Bill No.<br>See OSPC |

0000000038

**POSSIBLE SAMPLE HAZARDS/REMARKS**

NA

**Special Handling and/or Storage**

NA Cool 4°C

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservation | None | Cool 4C | Cool 4C | | | | | | | | |
| Type of Container | P | aG | aG | | | | | | | | |
| No. of Container(s) | 2 | 1 | 1 | | | | | | | | |
| Volume | 125mL | 60mL | 120mL | | | | | | | | |
| SAMPLE ANALYSIS | See item (1) in Special Instructions. | PCBs - 8082 | Semi-VOA - 8270A (TCL) | | | | | | | | |

| Sample No. | Matrix * | Sample Date | Sample Time | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| J16MM7 | SOIL | 4-21-08 | 1020 | X | | | | | | | | | EB |
| J16MM8 | SOIL | | 1025 | X | X | X | | | | | | | 1 |
| J16MM9 | SOIL | | 1030 | X | X | X | | | | | | | 2 |
| J16MN0 | SOIL | | 1035 | X | X | X | | | | | | | 3 |
| J16MN1 | SOIL | | 1040 | X | X | X | | | | | | | 4 |

| CHAIN OF POSSESSION | | Sign/Print Names | |
|---|---|---|---|
| Relinquished By/Removed From<br>Toni Welch Koelling / Welch Koelling | Date/Time<br>4/21/08 1300 | Received By/Stored In<br>JR DeBuigne JR DeBuigne | Date/Time 1300<br>4-21-08 |
| Relinquished By/Removed From<br>JR DeBuigne JR DeBuigne | Date/Time 1530<br>4-21-08 | Received By/Stored In<br>MLK MStankovich | Date/Time 1530<br>4/21/08 |
| Relinquished By/Removed From<br>MLK MStankovich | Date/Time 0900<br>4/22/08 | Received By/Stored In<br>Fed Ex | Date/Time |
| Relinquished By/Removed From<br>Fed Ex | Date/Time<br>4-23-08 0930 | Received By/Stored In<br>[illegible] | Date/Time<br>4-23-08 0930 |
| Relinquished By/Removed From | Date/Time | Received By/Stored In | Date/Time |
| Relinquished By/Removed From | Date/Time | Received By/Stored In | Date/Time |

**SPECIAL INSTRUCTIONS**

(1) ICP Metals - 6010 (Client List) (Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc); Mercury - 7471 - (CV)

Matrix *

S=Soil
SE=Sediment
SO=Solid
SI=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 |

WCH-EE-011

| Washington Closure Hanford | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | RC-032-198 | Page 2 of 3 |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Collector<br>T. Welch-Koelling | Company Contact<br>JR DEBUIGNE | Telephone No.<br>528-6409 | Project Coordinator<br>KESSNER, JH |
| Price Code<br>8B | Data Turnaround<br>7 DAY | | |
| Project Designation<br>100-F Remaining Sites Burial Grounds - Soil Full Protocol | Sampling Location<br>600-111 Verification | | SAF No.<br>RC-032 |
| Ice Chest No.<br>ERC-02-007 | Field Logbook No.<br>EFL-1174-4 | COA<br>R601112000 | Method of Shipment<br>FED EX |
| Shipped To<br>EBERLINE SERVICES / LIONVILLE | Offsite Property No.<br>A080239 | | Bill of Lading/Air Bill No.<br>See OSPC |

00000039

**POSSIBLE SAMPLE HAZARDS/REMARKS**

*NA*

**Special Handling and/or Storage**

*NA* Cool 4°C

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservation | None | Cool 4C | Cool 4C | | | | | | | | |
| Type of Container | P | aG | aG | | | | | | | | |
| No. of Container(s) | 2 | 1 | 1 | | | | | | | | |
| Volume | 125mL | 60mL | 120mL | | | | | | | | |
| SAMPLE ANALYSIS | See item (1) in Special Instructions. | PCBs - 8082 | Semi-VOA - 8270A (TCL) | | | | | | | | |

| Sample No. | Matrix * | Sample Date | Sample Time | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| J16MN2 | SOIL | 4-21-08 | 1045 | X | X | X | | | | | | | | 5 |
| J16MN3 | SOIL | | 1050 | X | X | X | | | | | | | | 6 |
| J16MN4 | SOIL | | 1055 | X | X | X | | | | | | | | 7 |
| J16MN5 | SOIL | | 1100 | X | X | X | | | | | | | | 8 |
| J16MN6 | SOIL | | 1100 | X | X | X | | | | | | | | 8 DUP |

**CHAIN OF POSSESSION** — **Sign/Print Names**

| Relinquished By/Removed From | Date/Time | Received By/Stored In | Date/Time |
|---|---|---|---|
| [signature] | 4-21-08 1300 | JR DeBuigne [signature] | 1300 4-21-08 |
| JR DeBuigne [signature] | 1530 4-21-08 | [signature] MSTankovich | 1530 4/21/08 |
| [signature] MSTankovich | 1500 4/22/08 | Fed EX | |
| Fed Ex | 4-23-08 0930 | [signature] | 4-23-08 0930 |
| | | | |
| | | | |

**SPECIAL INSTRUCTIONS**

(1) ICP Metals - 6010 (Client List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc}; Mercury - 7471 - (CV)

Matrix *
S=Soil
SE=Sediment
SO=Solid
Sl=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 |

WCH-EE-011

| Washington Closure Hanford | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | RC-032-198 | Page 3 of 3 |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Collector<br>T. Welch-Koelling | Company Contact<br>JR DEBUIGNE | Telephone No.<br>528-6409 | Project Coordinator<br>KESSNER, JH |
| Project Designation<br>100-F Remaining Sites Burial Grounds - Soil Full Protocol | Sampling Location<br>600-111 Verification | | SAF No.<br>RC-032 |
| Ice Chest No.<br>ERC-02-007 | Field Logbook No.<br>EFL-1174-4 | COA<br>R601112000 | Method of Shipment<br>FED EX |
| Shipped To<br>EBERLINE SERVICES / CLONVILLE | Offsite Property No.<br>A080239 | | Bill of Lading/Air Bill No.<br>See OSPC |

| Price Code | Data Turnaround |
|---|---|
| 8B | 7DAY |

000000040

**POSSIBLE SAMPLE HAZARDS/REMARKS**

NA

**Special Handling and/or Storage**

NA Cool 4°C

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservation | None | Cool 4C | Cool 4C | | | | | | | | | |
| Type of Container | P | aG | aG | | | | | | | | | |
| No. of Container(s) | 2 | 1 | 1 | | | | | | | | | |
| Volume | 125mL | 60mL | 120mL | | | | | | | | | |
| SAMPLE ANALYSIS | See item (1) in Special Instructions. | PCBs - 8082 | Semi-VOA - 8270A (TCL) | | | | | | | | | |

| Sample No. | Matrix * | Sample Date | Sample Time | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| J16MN7 | SOIL | 4-21-08 | 1105 | X | X | X | | | | | | | 9 |
| J16MN8 | SOIL | 4-21-08 | 1110 | X | X | X | | | | | | | 10 |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |

**CHAIN OF POSSESSION** — **Sign/Print Names**

| Relinquished By/Removed From | Date/Time | Received By/Stored In | Date/Time |
|---|---|---|---|
| [signature] | 4-21-08 1300 | JR DeBuigne [signature] | 1300 4-21-08 |
| JR DeBuigne [signature] | 1530 4-21-08 | MLK MSHankovich | 4/21/08 1530 |
| MLK MSHankovich | 1500 4/22/08 | Fed Ex | |
| Fed Ex | 4-23-08 0930 | [signature] | 4-23-08 0930 |
| | | | |
| | | | |

**SPECIAL INSTRUCTIONS**

(1) ICP Metals - 6010 (Client List) (Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc); Mercury - 7471 - (CV)

**Matrix ***

S=Soil
SE=Sediment
SO=Solid
SI=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 |

WCH-EE-011

Lionville Laboratory Incorporated

# SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: TNU HANFORD
Project/SAF/SOW/Release #: RC-032

Date: 4/23/08

LvLI Batch #: 08041979

Sample Custodian: [illegible]

NOTE: EXPLAIN ALL DISCREPANCIES

| | | | |
|---|---|---|---|
| 1. Samples Hand Delivered or Shipped? | Carrier Fed Ex | | Airbill #799311902306 |
| 2. Custody Seals on coolers or shipping containers intact, signed & dated? | ☑ Yes | ☐ No | ☐ No Seals |
| 3. Outside of coolers or shipping containers are free from damage? | ☑ Yes | ☐ No | *Comments:* |
| 4. All expected paperwork received (coc & other client specific information) sealed in plactic bag and easily accessible? | ☑ Yes | ☐ No | |
| 5. Samples received cooled or ambient? | Temp 3.9 | °C | Cooler # ERC-02-007 |
| How was the temperature taken? | ☑ IR | ☐ Temp. Blank | ☐ Other (Specify): |
| Is the Temp. Criteria met for these samples? (Hg in soils @ 4°C) | ☑ Yes | ☐ No | |
| 6. Custody seals on sample containers intact, signed and dated? | ☑ Yes | ☐ No | ☐ No Seals |
| 7. COC (Client & LvLI) signed & dated? | ☑ Yes | ☐ No | |
| 8. Sample containers are intact? | ☑ Yes | ☐ No | |
| 9. All samples on COC received? | ☑ Yes | ☐ No | |
| All samples received on COC? | ☑ Yes | ☐ No | |
| 10. All sample label information matches COC? | ☑ Yes | ☐ No | |
| 11. Samples properly preserved? (If #5 is no, then this is no.) | ☑ Yes | ☐ No | |
| 12. Samples received within hold times? | ☑ Yes | ☐ No | |
| Short holds taken to wet lab? | ☐ Yes | ☐ No | ☑ N/A |
| 13. VOA, TOC, TOX free of headspace? | ☑ Yes | ☐ No | ☑ N/A |
| 14. QC stickers placed on bottles designated by client? | ☐ Yes | ☐ No | ☑ N/A |
| 15. Shipment meets LvLI Sample Acceptance Policy? (Identify all bottles that do not meet the policy, which is on the reverse of this page.) | ☑ Yes | ☐ No | |
| 16. Project Manager contacted concerning any discrepancies? | ☐ Yes | ☐ No | ☑ N/A |

Person Contacted _____ Date _____

LvLI LIONVILLE LABORATORIES