**Michael Baker Jr., Inc.**
*A Unit of Michael Baker Corporation*

Airside Business Park
100 Airside Drive
Moon Township, PA 15108
412-269-6300
FAX 412-375-3996

June 9, 2011

Mr. Glenn Mitzel
Project Officer
PADEP Central Office
Rachel Carson State Office Building
400 Market Street
Harrisburg, PA 17101

Re: Field Investigation Report
Lansdale Finishers, Inc. Site
EPA ID No. PAD002371581
Requisition No. 5-0-372
Montgomery County, Pennsylvania

Dear Mr. Mitzel:

Michael Baker Jr., Inc. (Baker) is pleased to present to the Pennsylvania Department of Environmental Protection (PADEP) this Field Investigation Report, summarizing the field activities performed on May 17, 2011 by Ms. Tina Entenman, P.G. at the Lansdale Finishers, Inc. Site (site) located in Montgomery County, Pennsylvania. A discussion of the field activities performed at the site is provided in the sections below.

## Project Background

Lansdale Finishers was located on approximately 2 acres on the eastern side of Broad Street in Lansdale, Montgomery County, Pennsylvania as depicted on Appendix A: Figure 1. The former facility is located within the borough of Lansdale, which consists of residential, commercial, and industrial areas. The northern half of the property is a large gravel parking area. A building that contained an office, a production area, a paint vault, and a warehouse is located on the southern half of the property. The building is currently vacant. A wooded area is located on the eastern side of the building and continues around to the southern side of the building. The site is bordered to the east by railroad tracks. There is a small intermittent creek that parallels the railroad tracks and is located within fifty feet of the building. The south corner of the building is located within the intermittent stream (observed during the field activities conducted on May 17, 2011). To the west of the site is Williams Place. Historically, the facility received pre-manufactured metal components such as windows and door frames, cleaned and treated them, applied a finish, and baked the components to harden the finish. Final products were wrapped and stored in the warehouse until shipment.

During the Environmental Indicator (EI) site inspection (Tetra Tech, 2004), areas of surface staining, stressed vegetation and paint chips were noted behind the facility. Surface water from this area drains from the back of the facility toward an intermittent stream via a storm sewer pipe. In addition, according to the EI documentation, benzene and other gasoline constituents were detected in shallow groundwater during removal of a 550-gallon leaded gasoline underground storage tank (UST) on the northern side of the main building.

On October 12, 2010, PADEP contracted Baker to conduct sampling at the site with the purpose of providing supplemental data to further characterize:

(1) the site surface soil (0 to 12 inches below the ground surface [bgs]) in the vicinity of the former empty drum storage area and other suspect areas
(2) soil gas in the vicinity of the former UST to evaluate the potential indoor air exposure pathway associated with the documented release

In March 2011, Baker submitted the final Work Plan, Field Sampling Plan, and Quality Assurance Project Plan to PADEP which discussed the field methods proposed to fulfill the project objectives. The Work Plan proposed to install two soil gas sampling points along the north end of the building (Former Gasoline UST Area) and collect four surface soil samples in two areas along the south end of the building (Former Drum Storage Area and Former Paint Vault Debris Area). The following sections discuss the attempted installation of the soil gas sampling points and surface soil sampling procedures completed at the site.

**Installation of Soil Gas Sampling Points**

To assess the vapor intrusion pathway at the site related to VOCs identified in a shallow grab groundwater sample collected during the UST removal, Baker retained the services of Odyssey Environmental, Inc. (Odyssey), Harrisburg, Pennsylvania to install two soil gas sample points in the Former Gasoline UST Area (Appendix A: Figure 1). Prior to mobilizing to the site, Odyssey contacted the Pennsylvania One Call System to mark the underground utilities at the site.

On May 17, 2011, Baker and Odyssey mobilized to the site to install the soil gas sampling points. Upon arriving at the site, standing water was observed in portions of the northern gravel parking lot and in the loading dock area (Appendix B: Photo Documentation). It was also observed that the topography of the site slopes toward the building.

Odyssey used an air excavation unit to clear the boreholes for the soil gas sample points for underground utilities. Five attempts were made to install the soil gas sample points along the north wall of the building (LD-SG01 through LD-SG05, Appendix A: Figure 1). The subsurface materials were saturated at all boring locations starting at approximately one foot bgs. Water was encountered near five feet bgs in the boring near the loading dock area (LD-SG05, Appendix A: Figure 1); however, the water level continued to quickly rise in the borehole.

Down-hole photoionization detector (PID) readings did not exceed two parts per million (ppm) in any of the boreholes. There were no odors and no sheens were observed on the water in the boreholes to indicate the presence of residual fluids from the Former Gasoline UST Area. Note: One of the attempted locations (LD-SG04) was within the former UST excavation area (assumed based on the different type of subsurface materials encountered that included layers of large, rounded rocks and concrete slabs, and from photographs from previous investigations). All of the boreholes were backfilled with the materials removed from them. Based on discussions with the United States Environmental Protection Agency (USEPA) representative on-site, Mr. Griff Miller, during the field activities, no soil gas samples points were installed. Based on email correspondence from Mr. Miller dated May 23, 2011, no additional attempts will be made to install the soil gas sample points at the site.

**Surface Soil Sampling**

The surface soil sampling was conducted at the Former Drum Storage Area and the Former Paint Vault Area in accordance with the March 2011 Work Plan, with no modifications. Three surface soil sample locations were selected at each area (a total of six sample locations). The surface soil sample locations are shown on Appendix A: Figure 1, and summary of the field activities is presented below. The surface sample locations were selected collaboratively by Baker and USEPA. Both the Former Drum Storage Area and the Former Paint Vault Debris Area were overgrown with healthy vegetation. No distressed areas or low topographic areas were observed. Therefore, the sample locations were selected based on information and photographs provided in the EI report.

One composite sample was collected from the three surface soil sample locations in the Former Drum Storage Area (LD-SS01-C, Appendix A: Figure 1) and from the three surface soil sample locations in the Former Paint Vault Debris Area (LD-SS02-C) to determine if soils were impacted by metals from paints or solvents used at the facility (a total of two composite samples). In addition, one grab sample was collected from one of the three surface soil locations in both areas (a total of two VOC samples; LD-SS03-G and LD-SS04-G, Figure 1).

The soils encountered at the Former Drum Storage Area and the Former Paint Vault Area consisted primarily of silty sand with abundant sub-angular rock fragments up to three inches long. The soil color was generally gray to dark gray, except in the westernmost sample location in the Former Drum Storage Area (LD-SS03-G, Appendix A: Figure 1) where the soil encountered to six inches bgs was orange brown. In addition, the silty sand encountered at the southernmost sample location in the Former Paint Vault Area (LD-SS04-G, Appendix A: Figure 1) was greenish gray to red to a depth of six inches bgs and reddish brown to one foot bgs. Large sub-angular rocks (approximately six inches long) also were encountered at this sample location.

The soil samples were collected with clean/decontaminated hand tools (a spade and hand trowels). Samples collected for metals analyses (composite samples) were collected from 0 to 6 inches bgs. The grab samples collected for VOCs were collected from 6 to 12 inches bgs from one of the three composite

sample locations. The soils were collected from the decontaminated hand tools and placed into sealable plastic bags and homogenized. After approximately 10 minutes, the soils in the sealable bag were field screened using a PID. The PID readings ranged from 9.7 ppm at sample location LD-SS03-G to 16.6 ppm at sample location LD-SS04-G. Due to the high humidity (rain, 60 degrees Fahrenheit), the PID repeatedly malfunctioned (false high readings). Therefore, the sample locations for the VOC samples were selected based primarily on the discolored soils observed. After the soils in the sealable plastic bags were screened, the three samples were composited and placed into the sample container for metals analysis. VOC samples were collected by removing an additional six inches of soil from the sample location, collecting the sample directly from the bottom of the hole using a five gram plunger, and placing the sample directly into the Terra Core sample containers. Organic material (i.e., wood, biota, roots, etc.) as well as large gravel fragments were removed from the sample before placement into the sample containers for analysis.

The soil samples were immediately placed into a sample cooler and kept at approximately 4 degrees Celsius using wet ice until hand delivered under proper chain of custody to Analytical Laboratory Services, Inc., Middletown, Pennsylvania. The composite surface soil samples were analyzed for total cadmium, chromium and lead by Method SW-846 6020 by inductively coupled plasma mass spectrometry (ICP-MS). The grab surface soil samples were analyzed for Target Compound List of VOCs by Method SW-846 8260 by gas chromatography/mass spectrometry (GC/MS). The analytical results are provided as Appendix C, but are not discussed in this report at the request of USEPA.

Baker appreciates this opportunity to continue work with the PADEP and USEPA on this project. Please feel free to call me at (412) 269-6114, or Mr. Matthew Maloney (GTAC5 Program Manager) at (412) 269-6008, if you have any questions or need further information.

Sincerely,

**MICHAEL BAKER JR., INC.**

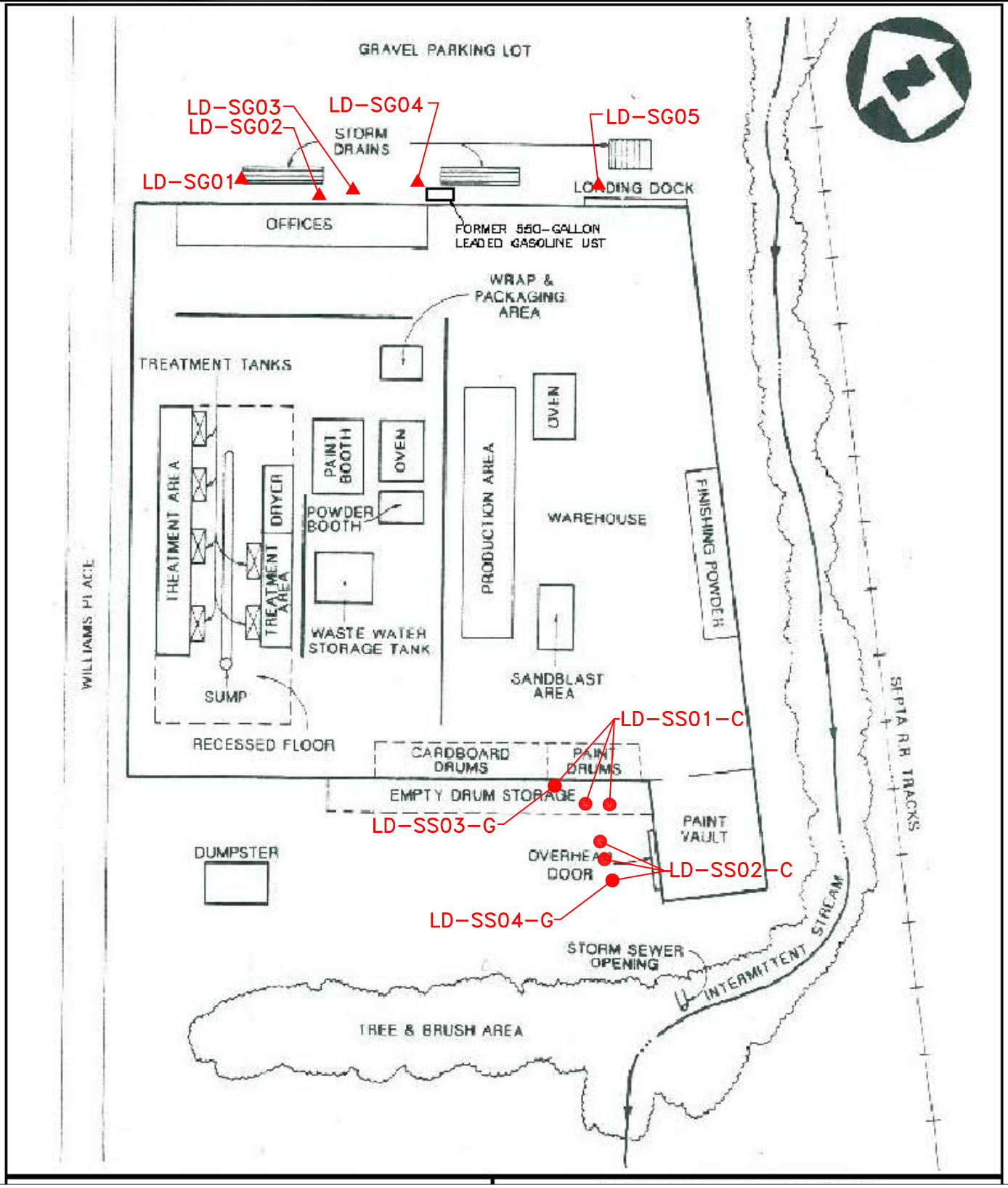
Susan R. Frund, P.G.
Project Manager

SRF:tme

Attachments

# APPENDIX A

## *Site Figure*




LEGEND
- ● SURFACE SOIL SAMPLE
- ▲ SOIL GAS SAMPLE POINT ATTEMPT

FIGURE 1
SAMPLE LOCATION MAP
LANSDALE FINISHERS, INC.

BASEMAP SOURCE: PRELIMINARY ASSESSMENT, 1989.

| | | | |
|---|---|---|---|
| SCALE: | NOT TO SCALE | DATE: | JUNE 2011 |
| S.O. NO.: | 121312 | FILE: | 121312-LFI-03 |
| DSN/DWN: | TE/RRR | CHK: | TE |

Baker MICHAEL BAKER JR., INC.
MOON TOWNSHIP, PENNSYLVANIA

# APPENDIX B

## *Photo Documentation from Field Investigation*

**MICHAEL BAKER JR., INC. – PHOTOGRAPHIC RECORD**

**SITE NAME: Lansdale Finishers, Inc., Lansdale, Pennsylvania**

| | |
|---|---|
| PHOTOGRAPH<br><br>**1** | |
| VIEW<br><br>**South** | |
| PHOTOGRAPHS BY<br><br>**Baker** | |

**Comments:** Water in Loading Dock area, north side of building.

| | |
|---|---|
| PHOTOGRAPH<br><br>**2** | |
| VIEW<br><br>**Southeast** | |
| PHOTOGRAPHS BY<br><br>**Baker** | |

**Comments:** Standing water in portions of northern gravel parking lot.

**MICHAEL BAKER JR., INC. – PHOTOGRAPHIC RECORD**

**SITE NAME: Lansdale Finishers, Inc., Lansdale, Pennsylvania**

| | |
|---|---|
| PHOTOGRAPH<br><br>**3** | |
| VIEW | |
| PHOTOGRAPHS BY<br><br>**Baker** | |

**Comments:** Typical saturated conditions encountered during installation of soil gas sample points.

| | |
|---|---|
| PHOTOGRAPH<br><br>**4** | |
| VIEW<br><br>**East** | |
| PHOTOGRAPHS BY<br><br>**Baker** | |

**Comments:** Sample locations in the Former Drum Storage Area.

**MICHAEL BAKER JR., INC. – PHOTOGRAPHIC RECORD**

**SITE NAME: Lansdale Finishers, Inc., Lansdale, Pennsylvania**

| | |
|---|---|
| PHOTOGRAPH<br><br>**5** | |
| VIEW | |
| PHOTOGRAPHS BY<br><br>**Baker** | |

**Comments:** Soil encountered at 0 to 6 inches in LD-SS03-G in the Former Drum Storage Area.

| | |
|---|---|
| PHOTOGRAPH<br><br>**6** | |
| VIEW<br>**Southeast** | |
| PHOTOGRAPHS BY<br><br>**Baker** | |

**Comments:** Sample locations in the Former Paint Vault Area.

**MICHAEL BAKER JR., INC. – PHOTOGRAPHIC RECORD**

**SITE NAME: Lansdale Finishers, Inc., Lansdale, Pennsylvania**

| | |
|---|---|
| PHOTOGRAPH<br><br>**7** | |
| VIEW | |
| PHOTOGRAPHS BY<br><br>**Baker** | |

**Comments:** Soil encountered at 0 to 6 inches in LD-SS04-G in the Former Paint Vault Area.

| | |
|---|---|
| PHOTOGRAPH<br><br>**8** | |
| VIEW | |
| PHOTOGRAPHS BY<br><br>**Baker** | |

**Comments:** Close up of soil encountered in LD-SS04-G in the Former Paint Vault Area. Note larger rock sizes.

Baker

*Michael Baker Jr., Inc.*

# APPENDIX C

## *Laboratory Analytical Data*

ALS Environmental | Analytical Laboratory Services, Inc.
Now part of the ALS Group

34 Dogwood Lane ■ Middletown, PA 17057 ■ Phone: 717-944-5541 ■ Fax: 717-944-1430 ■ www.analyticallab.com ■ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: CT PH-0224 , DE ID 11 , GA 914 , MA PA0102 , MD 128 , LA 04162 , VA 421 , WY EPA Region 8 , WV 343

May 31, 2011

Ms. Tina Entenman
Michael Baker Jr., Inc.
4431 N Front Street
2nd Floor
Harrisburg, PA 17110

# Certificate of Analysis

| | | | |
|---|---|---|---|
| Project Name: | **2011-LANSDALE - DO121312-001** | Workorder: | **9905817** |
| Purchase Order: | **121312-001** | Workorder ID: | **2011-LANSDALE - DO121312-001** |

Dear Ms. Entenman,

Enclosed are the analytical results for samples received by the laboratory on Wednesday, May 18, 2011.

The ALS Environmental laboratory in Middletown, Pennsylvania (formerly Analytical Laboratory Services, Inc.) is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Susan Scherer (Project Coordinator) or Anna G Milliken (Technical Manager) at (717) 944-5541.

Please visit us at www.analyticallab.com for a listing of ALS' NELAP accreditations and Scope of Work, as well as other links to Water Quality documentation on the internet.

This laboratory report may not be reproduced, except in full, without the written approval of ALS Environmental.

*This page is included as part of the Analytical Report and must be retained as a permanent record thereof.*

Anna G Milliken
Technical Manager

## SAMPLE SUMMARY

Workorder: 9905817 2011-LANSDALE - DO121312-001 Discard Date: 06/14/2011

| Lab ID | Sample ID | Matrix | Date Collected | Date Received | Collected By |
|---|---|---|---|---|---|
| 9905817001 | LD-SS01-C | Solid | 5/17/11 13:25 | 5/18/11 08:55 | Tina Entenman |
| 9905817002 | LD-SS03-G | Solid | 5/17/11 13:35 | 5/18/11 08:55 | Tina Entenman |
| 9905817003 | LD-SS02-C | Solid | 5/17/11 14:30 | 5/18/11 08:55 | Tina Entenman |
| 9905817004 | LD-SS04-G | Solid | 5/17/11 14:40 | 5/18/11 08:55 | Tina Entenman |

***Workorder Comments:***

**Notes**

-- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
-- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
-- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
-- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
-- The Chain of Custody document is included as part of this report.
-- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.

**Standard Acronyms/Flags**

| | |
|---|---|
| J, B | Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte |
| U | Indicates that the analyte was Not Detected (ND) |
| N | Indicates presumptive evidence of the presence of a compound |
| MDL | Method Detection Limit |
| PQL | Practical Quantitation Limit |
| RDL | Reporting Detection Limit |
| ND | Not Detected - indicates that the analyte was Not Detected at the RDL |
| Cntr | Analysis was performed using this container |
| RegLmt | Regulatory Limit |
| LCS | Laboratory Control Sample |
| MS | Matrix Spike |
| MSD | Matrix Spike Duplicate |
| DUP | Sample Duplicate |
| %Rec | Percent Recovery |
| RPD | Relative Percent Difference |

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# ANALYTICAL RESULTS

Workorder: 9905817 2011-LANSDALE - DO121312-001

Lab ID: **9905817001** Date Collected: 5/17/2011 13:25 Matrix: Solid

Sample ID: **LD-SS01-C** Date Received: 5/18/2011 08:55

| Parameters | Results | Flag | Units | RDL | Method | Prepared | By | Analyzed | By | Cntr |
|---|---|---|---|---|---|---|---|---|---|---|
| **WET CHEMISTRY** | | | | | | | | | | |
| Moisture | 15.7 | | % | 0.1 | SM20-2540 G | | | 5/19/11 17:05 | DLV | A |
| Total Solids | 84.3 | | % | 0.1 | SM20-2540 G | | | 5/19/11 17:05 | DLV | A |
| **METALS** | | | | | | | | | | |
| Cadmium, Total | 2.9 | | mg/kg | 0.50 | SW846 6020A | 5/24/11 | KMK | 5/27/11 16:41 | AJB | A2 |
| Chromium, Total | 3350 | | mg/kg | 1.0 | SW846 6020A | 5/24/11 | KMK | 5/27/11 16:41 | AJB | A2 |
| Lead, Total | 92.5 | | mg/kg | 1.0 | SW846 6020A | 5/24/11 | KMK | 5/27/11 16:41 | AJB | A2 |

***Sample Comments:***

Anna G Milliken
Technical Manager

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# ANALYTICAL RESULTS

Workorder: 9905817 2011-LANSDALE - DO121312-001

Lab ID: **9905817002** Date Collected: 5/17/2011 13:35 Matrix: Solid

Sample ID: **LD-SS03-G** Date Received: 5/18/2011 08:55

| Parameters | Results | Flag | Units | RDL | Method | Prepared | By | Analyzed | By | Cntr |
|---|---|---|---|---|---|---|---|---|---|---|
| **VOLATILE ORGANICS** | | | | | | | | | | |
| Acetone | 275 | | ug/kg | 8.6 | 8260/5035 | 5/17/11 | DD | 5/26/11 14:53 | MES | C |
| Benzene | ND | | ug/kg | 1.7 | 8260/5035 | 5/17/11 | DD | 5/26/11 14:53 | MES | C |
| Bromochloromethane | ND | | ug/kg | 1.7 | 8260/5035 | 5/17/11 | DD | 5/26/11 14:53 | MES | C |
| Bromodichloromethane | ND | | ug/kg | 1.7 | 8260/5035 | 5/17/11 | DD | 5/26/11 14:53 | MES | C |
| Bromoform | ND | | ug/kg | 1.7 | 8260/5035 | 5/17/11 | DD | 5/26/11 14:53 | MES | C |
| Bromomethane | ND | | ug/kg | 1.7 | 8260/5035 | 5/17/11 | DD | 5/26/11 14:53 | MES | C |
| 2-Butanone | ND | | ug/kg | 8.6 | 8260/5035 | 5/17/11 | DD | 5/26/11 14:53 | MES | C |
| Carbon Disulfide | ND | | ug/kg | 1.7 | 8260/5035 | 5/17/11 | DD | 5/26/11 14:53 | MES | C |
| Carbon Tetrachloride | ND | | ug/kg | 1.7 | 8260/5035 | 5/17/11 | DD | 5/26/11 14:53 | MES | C |
| Chlorobenzene | ND | | ug/kg | 1.7 | 8260/5035 | 5/17/11 | DD | 5/26/11 14:53 | MES | C |
| Chlorodibromomethane | ND | | ug/kg | 1.7 | 8260/5035 | 5/17/11 | DD | 5/26/11 14:53 | MES | C |
| Chloroethane | ND | | ug/kg | 4.3 | 8260/5035 | 5/17/11 | DD | 5/26/11 14:53 | MES | C |
| Chloroform | ND | | ug/kg | 1.7 | 8260/5035 | 5/17/11 | DD | 5/26/11 14:53 | MES | C |
| Chloromethane | ND | | ug/kg | 1.7 | 8260/5035 | 5/17/11 | DD | 5/26/11 14:53 | MES | C |
| 1,2-Dibromo-3-chloropropane | ND | | ug/kg | 4.3 | 8260/5035 | 5/17/11 | DD | 5/26/11 14:53 | MES | C |
| 1,2-Dibromoethane | ND | | ug/kg | 1.7 | 8260/5035 | 5/17/11 | DD | 5/26/11 14:53 | MES | C |
| 1,1-Dichloroethane | ND | | ug/kg | 1.7 | 8260/5035 | 5/17/11 | DD | 5/26/11 14:53 | MES | C |
| 1,2-Dichloroethane | ND | | ug/kg | 1.7 | 8260/5035 | 5/17/11 | DD | 5/26/11 14:53 | MES | C |
| 1,1-Dichloroethene | ND | | ug/kg | 1.7 | 8260/5035 | 5/17/11 | DD | 5/26/11 14:53 | MES | C |
| cis-1,2-Dichloroethene | 12.7 | | ug/kg | 1.7 | 8260/5035 | 5/17/11 | DD | 5/26/11 14:53 | MES | C |
| trans-1,2-Dichloroethene | ND | | ug/kg | 1.7 | 8260/5035 | 5/17/11 | DD | 5/26/11 14:53 | MES | C |
| 1,2-Dichloropropane | ND | | ug/kg | 1.7 | 8260/5035 | 5/17/11 | DD | 5/26/11 14:53 | MES | C |
| cis-1,3-Dichloropropene | ND | | ug/kg | 1.7 | 8260/5035 | 5/17/11 | DD | 5/26/11 14:53 | MES | C |
| trans-1,3-Dichloropropene | ND | | ug/kg | 1.7 | 8260/5035 | 5/17/11 | DD | 5/26/11 14:53 | MES | C |
| Ethylbenzene | ND | | ug/kg | 1.7 | 8260/5035 | 5/17/11 | DD | 5/26/11 14:53 | MES | C |
| 2-Hexanone | ND | | ug/kg | 8.6 | 8260/5035 | 5/17/11 | DD | 5/26/11 14:53 | MES | C |
| 4-Methyl-2-Pentanone(MIBK) | ND | | ug/kg | 8.6 | 8260/5035 | 5/17/11 | DD | 5/26/11 14:53 | MES | C |
| Methylene Chloride | ND | | ug/kg | 1.7 | 8260/5035 | 5/17/11 | DD | 5/26/11 14:53 | MES | C |
| Styrene | ND | | ug/kg | 1.7 | 8260/5035 | 5/17/11 | DD | 5/26/11 14:53 | MES | C |
| 1,1,2,2-Tetrachloroethane | ND | | ug/kg | 1.7 | 8260/5035 | 5/17/11 | DD | 5/26/11 14:53 | MES | C |
| Tetrachloroethene | ND | | ug/kg | 1.7 | 8260/5035 | 5/17/11 | DD | 5/26/11 14:53 | MES | C |
| Toluene | ND | | ug/kg | 1.7 | 8260/5035 | 5/17/11 | DD | 5/26/11 14:53 | MES | C |
| Total Xylenes | ND | 1 | ug/kg | 5.2 | 8260/5035 | 5/17/11 | DD | 5/26/11 14:53 | MES | C |
| 1,1,1-Trichloroethane | ND | | ug/kg | 1.7 | 8260/5035 | 5/17/11 | DD | 5/26/11 14:53 | MES | C |
| 1,1,2-Trichloroethane | ND | | ug/kg | 1.7 | 8260/5035 | 5/17/11 | DD | 5/26/11 14:53 | MES | C |
| Trichloroethene | 2.3 | | ug/kg | 1.7 | 8260/5035 | 5/17/11 | DD | 5/26/11 14:53 | MES | C |
| Vinyl Chloride | 5.4 | | ug/kg | 1.7 | 8260/5035 | 5/17/11 | DD | 5/26/11 14:53 | MES | C |
| o-Xylene | ND | | ug/kg | 1.7 | 8260/5035 | 5/17/11 | DD | 5/26/11 14:53 | MES | C |
| mp-Xylene | ND | 2 | ug/kg | 3.5 | 8260/5035 | 5/17/11 | DD | 5/26/11 14:53 | MES | C |

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# ANALYTICAL RESULTS

Workorder: 9905817 2011-LANSDALE - DO121312-001

| | | | | | |
|---|---|---|---|---|---|
| Lab ID: | **9905817002** | Date Collected: | 5/17/2011 13:35 | Matrix: | Solid |
| Sample ID: | **LD-SS03-G** | Date Received: | 5/18/2011 08:55 | | |

| Parameters | Results | Flag | Units | RDL | Method | Prepared | By | Analyzed | By | Cntr |
|---|---|---|---|---|---|---|---|---|---|---|
| *Surrogate Recoveries* | *Results* | *Flag* | *Units* | *Limits* | *Method* | *Prepared* | *By* | *Analyzed* | *By* | *Cntr* |
| 1,2-Dichloroethane-d4 (S) | 85.3 | | % | 56-124 | 8260/5035 | 5/17/11 | DD | 5/26/11 14:53 | MES | C |
| 4-Bromofluorobenzene (S) | 68.1 | | % | 51-128 | 8260/5035 | 5/17/11 | DD | 5/26/11 14:53 | MES | C |
| Dibromofluoromethane (S) | 79.6 | | % | 62-123 | 8260/5035 | 5/17/11 | DD | 5/26/11 14:53 | MES | C |
| Toluene-d8 (S) | 71.7 | | % | 59-131 | 8260/5035 | 5/17/11 | DD | 5/26/11 14:53 | MES | C |
| **WET CHEMISTRY** | | | | | | | | | | |
| Moisture | 16.7 | | % | 0.1 | SM20-2540 G | | | 5/19/11 17:05 | DLV | A |
| Total Solids | 83.3 | | % | 0.1 | SM20-2540 G | | | 5/19/11 17:05 | DLV | A |

***Sample Comments:***

Anna G Milliken
Technical Manager

ALS Environmental
Analytical Laboratory Services, Inc.
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State Certifications: CT PH-0224 , DE ID 11 , GA 914 , MA PA0102 , MD 128 , LA 04162 , VA 421 , WY EPA Region 8 , WV 343

# ANALYTICAL RESULTS

Workorder: 9905817 2011-LANSDALE - DO121312-001

Lab ID: **9905817003** Date Collected: 5/17/2011 14:30 Matrix: Solid

Sample ID: **LD-SS02-C** Date Received: 5/18/2011 08:55

| Parameters | Results | Flag | Units | RDL | Method | Prepared | By | Analyzed | By | Cntr |
|---|---|---|---|---|---|---|---|---|---|---|
| **WET CHEMISTRY** | | | | | | | | | | |
| Moisture | 21.0 | | % | 0.1 | SM20-2540 G | | | 5/19/11 17:05 | DLV | A |
| Total Solids | 79.0 | | % | 0.1 | SM20-2540 G | | | 5/19/11 17:05 | DLV | A |
| **METALS** | | | | | | | | | | |
| Cadmium, Total | 13.9 | | mg/kg | 0.55 | SW846 6020A | 5/24/11 | KMK | 5/27/11 16:55 | AJB | A2 |
| Chromium, Total | 241 | | mg/kg | 1.1 | SW846 6020A | 5/24/11 | KMK | 5/27/11 16:55 | AJB | A2 |
| Lead, Total | 253 | | mg/kg | 1.1 | SW846 6020A | 5/24/11 | KMK | 5/27/11 16:55 | AJB | A2 |

***Sample Comments:***

Anna G Milliken
Technical Manager

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# ANALYTICAL RESULTS

Workorder: 9905817 2011-LANSDALE - DO121312-001

Lab ID: **9905817004** Date Collected: 5/17/2011 14:40 Matrix: Solid

Sample ID: **LD-SS04-G** Date Received: 5/18/2011 08:55

| Parameters | Results | Flag | Units | RDL | Method | Prepared | By | Analyzed | By | Cntr |
|---|---|---|---|---|---|---|---|---|---|---|
| **VOLATILE ORGANICS** | | | | | | | | | | |
| Acetone | 806 | | ug/kg | 11.5 | 8260/5035 | 5/17/11 | DD | 5/26/11 15:22 | MES | C |
| Benzene | ND | | ug/kg | 2.3 | 8260/5035 | 5/17/11 | DD | 5/26/11 15:22 | MES | C |
| Bromochloromethane | ND | | ug/kg | 2.3 | 8260/5035 | 5/17/11 | DD | 5/26/11 15:22 | MES | C |
| Bromodichloromethane | ND | | ug/kg | 2.3 | 8260/5035 | 5/17/11 | DD | 5/26/11 15:22 | MES | C |
| Bromoform | ND | | ug/kg | 2.3 | 8260/5035 | 5/17/11 | DD | 5/26/11 15:22 | MES | C |
| Bromomethane | ND | | ug/kg | 2.3 | 8260/5035 | 5/17/11 | DD | 5/26/11 15:22 | MES | C |
| 2-Butanone | 233 | | ug/kg | 11.5 | 8260/5035 | 5/17/11 | DD | 5/26/11 15:22 | MES | C |
| Carbon Disulfide | ND | | ug/kg | 2.3 | 8260/5035 | 5/17/11 | DD | 5/26/11 15:22 | MES | C |
| Carbon Tetrachloride | ND | | ug/kg | 2.3 | 8260/5035 | 5/17/11 | DD | 5/26/11 15:22 | MES | C |
| Chlorobenzene | ND | | ug/kg | 2.3 | 8260/5035 | 5/17/11 | DD | 5/26/11 15:22 | MES | C |
| Chlorodibromomethane | ND | | ug/kg | 2.3 | 8260/5035 | 5/17/11 | DD | 5/26/11 15:22 | MES | C |
| Chloroethane | ND | | ug/kg | 5.8 | 8260/5035 | 5/17/11 | DD | 5/26/11 15:22 | MES | C |
| Chloroform | ND | | ug/kg | 2.3 | 8260/5035 | 5/17/11 | DD | 5/26/11 15:22 | MES | C |
| Chloromethane | ND | | ug/kg | 2.3 | 8260/5035 | 5/17/11 | DD | 5/26/11 15:22 | MES | C |
| 1,2-Dibromo-3-chloropropane | ND | | ug/kg | 5.8 | 8260/5035 | 5/17/11 | DD | 5/26/11 15:22 | MES | C |
| 1,2-Dibromoethane | ND | | ug/kg | 2.3 | 8260/5035 | 5/17/11 | DD | 5/26/11 15:22 | MES | C |
| 1,1-Dichloroethane | ND | | ug/kg | 2.3 | 8260/5035 | 5/17/11 | DD | 5/26/11 15:22 | MES | C |
| 1,2-Dichloroethane | ND | | ug/kg | 2.3 | 8260/5035 | 5/17/11 | DD | 5/26/11 15:22 | MES | C |
| 1,1-Dichloroethene | ND | | ug/kg | 2.3 | 8260/5035 | 5/17/11 | DD | 5/26/11 15:22 | MES | C |
| cis-1,2-Dichloroethene | ND | | ug/kg | 2.3 | 8260/5035 | 5/17/11 | DD | 5/26/11 15:22 | MES | C |
| trans-1,2-Dichloroethene | ND | | ug/kg | 2.3 | 8260/5035 | 5/17/11 | DD | 5/26/11 15:22 | MES | C |
| 1,2-Dichloropropane | ND | | ug/kg | 2.3 | 8260/5035 | 5/17/11 | DD | 5/26/11 15:22 | MES | C |
| cis-1,3-Dichloropropene | ND | | ug/kg | 2.3 | 8260/5035 | 5/17/11 | DD | 5/26/11 15:22 | MES | C |
| trans-1,3-Dichloropropene | ND | | ug/kg | 2.3 | 8260/5035 | 5/17/11 | DD | 5/26/11 15:22 | MES | C |
| Ethylbenzene | ND | | ug/kg | 2.3 | 8260/5035 | 5/17/11 | DD | 5/26/11 15:22 | MES | C |
| 2-Hexanone | ND | | ug/kg | 11.5 | 8260/5035 | 5/17/11 | DD | 5/26/11 15:22 | MES | C |
| 4-Methyl-2-Pentanone(MIBK) | ND | | ug/kg | 11.5 | 8260/5035 | 5/17/11 | DD | 5/26/11 15:22 | MES | C |
| Methylene Chloride | ND | | ug/kg | 2.3 | 8260/5035 | 5/17/11 | DD | 5/26/11 15:22 | MES | C |
| Styrene | ND | | ug/kg | 2.3 | 8260/5035 | 5/17/11 | DD | 5/26/11 15:22 | MES | C |
| 1,1,2,2-Tetrachloroethane | ND | | ug/kg | 2.3 | 8260/5035 | 5/17/11 | DD | 5/26/11 15:22 | MES | C |
| Tetrachloroethene | ND | | ug/kg | 2.3 | 8260/5035 | 5/17/11 | DD | 5/26/11 15:22 | MES | C |
| Toluene | 124 | | ug/kg | 2.3 | 8260/5035 | 5/17/11 | DD | 5/26/11 15:22 | MES | C |
| Total Xylenes | ND | 1 | ug/kg | 6.9 | 8260/5035 | 5/17/11 | DD | 5/26/11 15:22 | MES | C |
| 1,1,1-Trichloroethane | ND | | ug/kg | 2.3 | 8260/5035 | 5/17/11 | DD | 5/26/11 15:22 | MES | C |
| 1,1,2-Trichloroethane | ND | | ug/kg | 2.3 | 8260/5035 | 5/17/11 | DD | 5/26/11 15:22 | MES | C |
| Trichloroethene | ND | | ug/kg | 2.3 | 8260/5035 | 5/17/11 | DD | 5/26/11 15:22 | MES | C |
| Vinyl Chloride | ND | | ug/kg | 2.3 | 8260/5035 | 5/17/11 | DD | 5/26/11 15:22 | MES | C |
| o-Xylene | ND | | ug/kg | 2.3 | 8260/5035 | 5/17/11 | DD | 5/26/11 15:22 | MES | C |
| mp-Xylene | ND | 2 | ug/kg | 4.6 | 8260/5035 | 5/17/11 | DD | 5/26/11 15:22 | MES | C |

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# ANALYTICAL RESULTS

Workorder: 9905817 2011-LANSDALE - DO121312-001

| | | | | | |
|---|---|---|---|---|---|
| Lab ID: | **9905817004** | Date Collected: | 5/17/2011 14:40 | Matrix: | Solid |
| Sample ID: | **LD-SS04-G** | Date Received: | 5/18/2011 08:55 | | |

| Parameters | Results | Flag | Units | RDL | Method | Prepared | By | Analyzed | By | Cntr |
|---|---|---|---|---|---|---|---|---|---|---|
| *Surrogate Recoveries* | *Results* | *Flag* | *Units* | *Limits* | *Method* | *Prepared* | *By* | *Analyzed* | *By* | *Cntr* |
| 1,2-Dichloroethane-d4 (S) | 75.1 | | % | 56-124 | 8260/5035 | 5/17/11 | DD | 5/26/11 15:22 | MES | C |
| 4-Bromofluorobenzene (S) | 89.2 | | % | 51-128 | 8260/5035 | 5/17/11 | DD | 5/26/11 15:22 | MES | C |
| Dibromofluoromethane (S) | 76.9 | | % | 62-123 | 8260/5035 | 5/17/11 | DD | 5/26/11 15:22 | MES | C |
| Toluene-d8 (S) | 89.6 | | % | 59-131 | 8260/5035 | 5/17/11 | DD | 5/26/11 15:22 | MES | C |
| **WET CHEMISTRY** | | | | | | | | | | |
| Moisture | 26.9 | | % | 0.1 | SM20-2540 G | | | 5/19/11 17:05 | DLV | A |
| Total Solids | 73.1 | | % | 0.1 | SM20-2540 G | | | 5/19/11 17:05 | DLV | A |

***Sample Comments:***

One or more of the method 8260 internal standards were recovered outside of the control limits. The sample was re-analyzed with similar results, indicating a significant matrix interference.

Anna G Milliken
Technical Manager

## ANALYTICAL RESULTS QUALIFIERS\FLAGS

Workorder: 9905817 2011-LANSDALE - DO121312-001

**PARAMETER QUALIFIERS\FLAGS**

[1] The Method Blank for method 8260/5035 reported a value greater than the reporting level for the analyte Total Xylenes.

[2] The Method Blank for method 8260/5035 reported a value greater than the reporting level for the analyte mp-Xylene.

## QUALITY CONTROL DATA

Workorder: 9905817 2011-LANSDALE - DO121312-001

QC Batch: VOMS/22286 Analysis Method: 8260/5035

QC Batch Method: SW846 5035

Associated Lab Samples: 9905817002 9905817004

METHOD BLANK: 844440

| Parameter | Result | Qualifiers | Units | Reporting Limit |
|---|---|---|---|---|
| Acetone | ND | | ug/kg | 10.0 |
| Benzene | ND | | ug/kg | 2.0 |
| Bromochloromethane | ND | | ug/kg | 2.0 |
| Bromodichloromethane | ND | | ug/kg | 2.0 |
| Bromoform | ND | | ug/kg | 2.0 |
| Bromomethane | ND | | ug/kg | 2.0 |
| 2-Butanone | ND | | ug/kg | 10.0 |
| Carbon Disulfide | ND | | ug/kg | 2.0 |
| Carbon Tetrachloride | ND | | ug/kg | 2.0 |
| Chlorobenzene | ND | | ug/kg | 2.0 |
| Chlorodibromomethane | ND | | ug/kg | 2.0 |
| Chloroethane | ND | | ug/kg | 5.0 |
| Chloroform | ND | | ug/kg | 2.0 |
| Chloromethane | ND | | ug/kg | 2.0 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/kg | 5.0 |
| 1,2-Dibromoethane | ND | | ug/kg | 2.0 |
| 1,1-Dichloroethane | ND | | ug/kg | 2.0 |
| 1,2-Dichloroethane | ND | | ug/kg | 2.0 |
| 1,1-Dichloroethene | ND | | ug/kg | 2.0 |
| cis-1,2-Dichloroethene | ND | | ug/kg | 2.0 |
| trans-1,2-Dichloroethene | ND | | ug/kg | 2.0 |
| 1,2-Dichloropropane | ND | | ug/kg | 2.0 |
| cis-1,3-Dichloropropene | ND | | ug/kg | 2.0 |
| trans-1,3-Dichloropropene | ND | | ug/kg | 2.0 |
| Ethylbenzene | ND | | ug/kg | 2.0 |
| 2-Hexanone | ND | | ug/kg | 10.0 |
| 4-Methyl-2-Pentanone(MIBK) | ND | | ug/kg | 10.0 |
| Methylene Chloride | ND | | ug/kg | 2.0 |
| Styrene | ND | | ug/kg | 2.0 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/kg | 2.0 |
| Tetrachloroethene | ND | | ug/kg | 2.0 |
| Toluene | ND | | ug/kg | 2.0 |
| Total Xylenes | 12.4 | 1 | ug/kg | 6.0 |
| 1,1,1-Trichloroethane | ND | | ug/kg | 2.0 |
| 1,1,2-Trichloroethane | ND | | ug/kg | 2.0 |
| Trichloroethene | ND | | ug/kg | 2.0 |
| Vinyl Chloride | ND | | ug/kg | 2.0 |

# QUALITY CONTROL DATA

Workorder: 9905817 2011-LANSDALE - DO121312-001

METHOD BLANK: 844440

| Parameter | Result | Qualifiers | Units | Reporting Limit |
|---|---|---|---|---|
| o-Xylene | ND | | ug/kg | 2.0 |
| mp-Xylene | 12.4 | 2 | ug/kg | 4.0 |
| *Surrogate Recoveries* | | | | |
| 4-Bromofluorobenzene | 67.1 | | % | 51-128 |
| Dibromofluoromethane | 70.2 | | % | 62-123 |
| 1,2-Dichloroethane-d4 | 69.2 | | % | 56-124 |
| Toluene-d8 | 96.1 | | % | 59-131 |

LABORATORY CONTROL SAMPLE & LCSD: 844441 844442

| Parameter | LCS Result | LCSD Result | Qualifiers | Units | Spike Conc. | LCS % Rec | LCSD % Rec | % Rec Limit | RPD | Max RPD |
|---|---|---|---|---|---|---|---|---|---|---|
| Acetone | 91.6 | 93.9 | | ug/kg | 100 | 91.6 | 93.9 | 58-146 | 2.46 | 40 |
| Benzene | 17.6 | 18.2 | | ug/kg | 20 | 87.8 | 90.8 | 75-132 | 3.32 | 40 |
| Bromochloromethane | 18.4 | 19.7 | | ug/kg | 20 | 91.9 | 98.5 | 71-120 | 6.86 | 40 |
| Bromodichloromethane | 18.6 | 19.6 | | ug/kg | 20 | 92.9 | 98.1 | 74-127 | 5.45 | 40 |
| Bromoform | 18.3 | 20.2 | | ug/kg | 20 | 91.7 | 101 | 68-131 | 9.61 | 40 |
| Bromomethane | 19.9 | 20.0 | | ug/kg | 20 | 99.5 | 100 | 43-148 | 0.44 | 40 |
| 2-Butanone | 93.5 | 93.3 | | ug/kg | 100 | 93.5 | 93.3 | 64-148 | 0.13 | 40 |
| Carbon Disulfide | 18.2 | 18.7 | | ug/kg | 20 | 90.8 | 93.3 | 47-144 | 2.65 | 40 |
| Carbon Tetrachloride | 19.1 | 19.4 | | ug/kg | 20 | 95.3 | 96.8 | 64-136 | 1.58 | 40 |
| Chlorobenzene | 18.4 | 19.8 | | ug/kg | 20 | 91.9 | 99.1 | 76-125 | 7.54 | 40 |
| Chlorodibromomethane | 17.9 | 20.4 | | ug/kg | 20 | 89.5 | 102 | 75-124 | 13.1 | 40 |
| Chloroethane | 24.0 | 25.2 | | ug/kg | 20 | 120 | 126 | 1-141 | 4.87 | 40 |
| Chloroform | 19.0 | 19.6 | | ug/kg | 20 | 95.1 | 98.1 | 73-126 | 3.08 | 40 |
| Chloromethane | 16.6 | 17.2 | | ug/kg | 20 | 83 | 86.1 | 44-139 | 3.72 | 40 |
| 1,2-Dibromo-3-chloropropane | 23.2 | 22.0 | | ug/kg | 20 | 116 | 110 | 52-151 | 5.32 | 40 |
| 1,2-Dibromoethane | 17.5 | 19.2 | | ug/kg | 20 | 87.6 | 96.2 | 76-127 | 9.3 | 40 |
| 1,1-Dichloroethane | 18.6 | 19.3 | | ug/kg | 20 | 93.1 | 96.4 | 74-131 | 3.49 | 40 |
| 1,2-Dichloroethane | 22.0 | 22.6 | | ug/kg | 20 | 110 | 113 | 69-132 | 2.55 | 40 |
| 1,1-Dichloroethene | 17.4 | 18.8 | | ug/kg | 20 | 87.2 | 94 | 59-139 | 7.45 | 40 |
| cis-1,2-Dichloroethene | 19.0 | 19.3 | | ug/kg | 20 | 95.2 | 96.4 | 75-128 | 1.32 | 40 |
| trans-1,2-Dichloroethene | 19.0 | 19.1 | | ug/kg | 20 | 95.1 | 95.7 | 66-133 | 0.62 | 40 |
| 1,2-Dichloropropane | 18.5 | 19.1 | | ug/kg | 20 | 92.3 | 95.5 | 78-131 | 3.35 | 40 |
| cis-1,3-Dichloropropene | 17.9 | 19.6 | | ug/kg | 20 | 89.3 | 98.1 | 76-123 | 9.39 | 40 |
| trans-1,3-Dichloropropene | 17.4 | 19.8 | | ug/kg | 20 | 87.1 | 99.2 | 77-123 | 13 | 40 |
| Ethylbenzene | 18.3 | 18.8 | | ug/kg | 20 | 91.4 | 93.9 | 73-133 | 2.66 | 40 |
| 2-Hexanone | 92.5 | 113 | | ug/kg | 100 | 92.5 | 113 | 62-147 | 20 | 40 |
| 4-Methyl-2-Pentanone(MIBK) | 93.9 | 109 | | ug/kg | 100 | 93.9 | 109 | 64-143 | 15.1 | 40 |
| Methylene Chloride | 26.7 | 26.0 | | ug/kg | 20 | 133 | 130 | 68-133 | 2.41 | 40 |
| Styrene | 18.8 | 20.0 | | ug/kg | 20 | 94 | 99.9 | 77-130 | 6.03 | 40 |

## QUALITY CONTROL DATA

Workorder: 9905817 2011-LANSDALE - DO121312-001

LABORATORY CONTROL SAMPLE & LCSD: 844441 844442

| Parameter | LCS Result | LCSD Result | Qualifiers | Units | Spike Conc. | LCS % Rec | LCSD % Rec | % Rec Limit | RPD | Max RPD |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,2,2-Tetrachloroethane | 18.7 | 19.5 | | ug/kg | 20 | 93.7 | 97.4 | 72-134 | 3.92 | 40 |
| Tetrachloroethene | 19.3 | 19.9 | | ug/kg | 20 | 96.7 | 99.3 | 58-137 | 2.67 | 40 |
| Toluene | 17.5 | 18.4 | | ug/kg | 20 | 87.6 | 92.1 | 73-129 | 5.06 | 40 |
| Total Xylenes | 56.5 | 58.4 | | ug/kg | 60 | 94.2 | 97.4 | 73-130 | 3.31 | 40 |
| 1,1,1-Trichloroethane | 19.1 | 19.5 | | ug/kg | 20 | 95.6 | 97.7 | 68-131 | 2.22 | 40 |
| 1,1,2-Trichloroethane | 16.9 | 20.2 | | ug/kg | 20 | 84.3 | 101 | 79-123 | 18.1 | 40 |
| Trichloroethene | 18.8 | 18.6 | | ug/kg | 20 | 94.1 | 92.9 | 72-129 | 1.25 | 40 |
| Vinyl Chloride | 19.8 | 20.2 | | ug/kg | 20 | 99 | 101 | 53-141 | 1.84 | 40 |
| o-Xylene | 17.2 | 18.5 | | ug/kg | 20 | 86.2 | 92.5 | 75-129 | 7.01 | 40 |
| mp-Xylene | 39.3 | 39.9 | | ug/kg | 40 | 98.2 | 99.8 | 72-130 | 1.64 | 40 |
| *Surrogate Recoveries* | | | | | | | | | | |
| 4-Bromofluorobenzene (S) | | | | % | | 68.4 | 63.9 | 51-128 | 6.89 | |
| Dibromofluoromethane (S) | | | | % | | 62.9 | 65.1 | 62-123 | 3.47 | |
| 1,2-Dichloroethane-d4 (S) | | | | % | | 64.3 | 66.2 | 56-124 | 2.91 | |
| Toluene-d8 (S) | | | | % | | 62.1 | 69.9 | 59-131 | 11.9 | |

# QUALITY CONTROL DATA

Workorder: 9905817 2011-LANSDALE - DO121312-001

QC Batch: MDIG/31602 Analysis Method: SW846 6020A

QC Batch Method: SW846 3051

Associated Lab Samples: 9905817001 9905817003

## METHOD BLANK: 843691

| Parameter | Result | Qualifiers | Units | Reporting Limit |
|---|---|---|---|---|
| Cadmium, Total | ND | | mg/kg | 0.50 |
| Chromium, Total | ND | | mg/kg | 1.0 |
| Lead, Total | ND | | mg/kg | 1.0 |

## LABORATORY CONTROL SAMPLE: 843692

| Parameter | LCS Result | Qualifiers | Units | Spike Conc. | LCS % Rec | % Rec Limits |
|---|---|---|---|---|---|---|
| Cadmium, Total | 19.3 | | mg/kg | 20 | 96.6 | 80-120 |
| Chromium, Total | 20.8 | | mg/kg | 20 | 104 | 80-120 |
| Lead, Total | 19.1 | | mg/kg | 20 | 95.7 | 80-120 |

## MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 843693 843694 Original: 9906302019

*****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.*

| Parameter | Original Result | Qualifiers | Units | Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limit | RPD | Max RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Cadmium, Total | 0.97 | | mg/kg | 17.2 | 18.4 | 18.6 | 90.4 | 91.9 | 75-125 | 1.51 | 20 |
| Chromium, Total | 22.8 | | mg/kg | 17.2 | 45.8 | 43.9 | 107 | 97.2 | 75-125 | 4.18 | 20 |
| Lead, Total | 232 | | mg/kg | 17.2 | 295 | 271 | 199 | 70.2 | 75-125 | 8.69 | 20 |

## QUALITY CONTROL DATA

Workorder: 9905817 2011-LANSDALE - DO121312-001

QC Batch: WETC/95141 Analysis Method: SM20-2540 G

QC Batch Method: SM20-2540 G

Associated Lab Samples: 9905817001 9905817002 9905817003 9905817004

SAMPLE DUPLICATE: 842269 Original: 9905577001

*****NOTE - The Original Result and Duplicate Result shown below are raw results and are only used for the purpose of calculating Sample Duplicate percent recoveries. This result is not a final value and cannot be used as such.*

| Parameter | Original Result | Qualifiers | Units | DUP Result | RPD | Max RPD |
|---|---|---|---|---|---|---|
| Moisture | 1.5924 | | % | 1.4 | 11.1 | 10 |
| Total Solids | 98.4075 | | % | 98.6 | 0.17 | 5 |

SAMPLE DUPLICATE: 842270 Original: 9905742001

*****NOTE - The Original Result and Duplicate Result shown below are raw results and are only used for the purpose of calculating Sample Duplicate percent recoveries. This result is not a final value and cannot be used as such.*

| Parameter | Original Result | Qualifiers | Units | DUP Result | RPD | Max RPD |
|---|---|---|---|---|---|---|
| Moisture | 81.9504 | | % | 81.7 | 0.36 | 10 |
| Total Solids | 18.0495 | | % | 18.3 | 1.62 | 5 |

SAMPLE DUPLICATE: 842271 Original: 9905838003

*****NOTE - The Original Result and Duplicate Result shown below are raw results and are only used for the purpose of calculating Sample Duplicate percent recoveries. This result is not a final value and cannot be used as such.*

| Parameter | Original Result | Qualifiers | Units | DUP Result | RPD | Max RPD |
|---|---|---|---|---|---|---|
| Moisture | 19.1525 | | % | 19.0 | 0.68 | 10 |
| Total Solids | 80.8474 | | % | 81.0 | 0.16 | 5 |

## QUALITY CONTROL DATA QUALIFIERS\FLAGS

Workorder: 9905817 2011-LANSDALE - DO121312-001

**QUALITY CONTROL PARAMETER QUALIFIERS**

[1] The Method Blank for method 8260/5035 reported a value greater than the reporting level for the analyte Total Xylenes.

[2] The Method Blank for method 8260/5035 reported a value greater than the reporting level for the analyte mp-Xylene.

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 9905817 2011-LANSDALE - DO121312-001

| Lab ID | Sample ID | Prep Batch Method | Prep Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| **9905817002** | **LD-SS03-G** | SW846 5035 | VOMS/22286 | 8260/5035 | VOMS/22290 |
| **9905817004** | **LD-SS04-G** | SW846 5035 | VOMS/22286 | 8260/5035 | VOMS/22290 |
| **9905817001** | **LD-SS01-C** | SW846 3051 | MDIG/31602 | SW846 6020A | META/33287 |
| **9905817003** | **LD-SS02-C** | SW846 3051 | MDIG/31602 | SW846 6020A | META/33287 |
| **9905817001** | **LD-SS01-C** | | | SM20-2540 G | WETC/95141 |
| **9905817002** | **LD-SS03-G** | | | SM20-2540 G | WETC/95141 |
| **9905817003** | **LD-SS02-C** | | | SM20-2540 G | WETC/95141 |
| **9905817004** | **LD-SS04-G** | | | SM20-2540 G | WETC/95141 |

34 Dogwood Lane ■ Middletown, PA 17057 ■ Phone: 717-944-5541 ■ Fax: 717-944-1430 ■ www.analyticallab.com ■ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: CT PH-0224 , DE ID 11 , GA 914 , MA PA0102 , MD 128 , LA 04162 , VA 421 , WY EPA Region 8 , WV 343

# CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT/SAMPLER - INSTRUCTIONS ON THE BACK

Page ___ of ___
Courier:
Tracking #:

ALS Environmental — Analytical Laboratory Services, Inc. (Now part of the ALS Group)
Ship to: 34 Dogwood Lane • Middletown, PA 17057 • 717.944.5541 • Fax: 717.944.1430

Co. Name: Michael Baker Jr, Inc
Contact (Report to): Susan Fund — Phone: 412 269 6114
Address: 100 Airside Drive, Moon Township PA 15108

Bill to (if different than Report to):
PO#:
Project Name/#: 2011 - UNSDALE - D01 2312 - ALS Quote #:
TAT: ☒ Normal-Standard TAT is 10-12 business days. ☐ Rush-Subject to ALSI approval and surcharges. Date Required: Approved By:
Email? Y SFRUND@MBAKER.COM
Fax? Y No:

| | Sample Description/Location (as it will appear on the lab report) | COC Comments | Sample Date | Military Time | G or C | Matrix | ***Container Type | ***Container Size | Preservative | Total Volatile Solids (Ca, K, Mg) | Total Volatile Solids (Ca & Mg) | 8260 - TCL | 8260 - TCL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | LD-SS01-C | | 5/17/11 | 1325 | C | SO | CG | 4oz | — | 1 | | | |
| 2 | LD-SS03-G | | 5/17/11 | 1335 | G | SO | CG | 4oz | HCl | | 1 | 2 | 1 |
| 3 | LD-SS02-C | | 5/17/11 | 1430 | C | SO | CG | 4oz | HCl | 1 | | | |
| 4 | LD-SS04-G | | 5/17/11 | 1440 | G | SO | CG | 4oz | HCl | | 1 | 2 | 1 |
| 5 | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | |

Enter Number of Containers Per Analysis

ANALYSES/METHOD REQUESTED

Receipt Information (completed by Sample Receipt): Performed by: Date/Time: Cooler Temp: 6C Therm. ID: 10330704 No. of Coolers: Notes:

| | | |
|---|---|---|
| Custody seals Present? | Y | N |
| (If present) Seals intact? | Y | N |
| Received on Ice? | Y | N |
| COC/Labels completed/accurate? | Y | N |
| Container in good condition? | Y | N |
| Correct container? | Y | N |
| Correct sample volume? | Y | N |
| Correct preservation? | Y | N |
| Headspace/Volatiles? | Y | N |
| Circle appropriate Y or N. | | |

ALS FIELD SERVICES: ☐ Pickup ☐ Labor ☐ Composite Sampling ☐ Rental Equipment ☐ Other:

Data Deliverables: ☒ Standard ☐ CLP-like ☐ NJ-Reduced ☐ NJ-Full ☐ yes, format type: Other
SDWA Forms? yes yes yes yes
State Samples Collected In? MD NJ NY PA ☒
EDDs: Required? ☒ yes, format type: Other
DOD Criteria Required? —

SAMPLED BY (Please Print): Tina Bitterman
LOGGED BY (signature): DATE: TIME:
REVIEWED BY (signature): DATE: TIME:

| Relinquished By / Company Name | Date | Time | Received By / Company Name | Date | Time |
|---|---|---|---|---|---|
| Michael Baker Jr Inc | 5/18/11 | 0855 | ALS | 5/18/11 | 0855 |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

* Grab; C=Composite **Matrix: Air=Air; DW=Drinking Water; GW=Groundwater; OW=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater
***Container Type: AG-Amber Glass; CG-Clear Glass; PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz, etc. Preservative: HCl, HNO3, NaOH, etc.

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY Rev 03/2011