AECOM Environment

Submitted to:
Loveland Products, Inc.
1525 Lockwood Road
Billings, Montana 59101

Submitted by:
AECOM
Billings, Montana
October 2010

Soils Corrective Measures Implementation Completion Report

Loveland Products, Inc.
Billings, Montana

AECOM Environment

Submitted to:
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Soils Corrective Measures Implementation Completion Report

Loveland Products, Inc.
Billings, Montana

Prepared By
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Technically Reviewed By
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For Gregg Somermeyer, P.E., Senior Project Manager

List of Acronyms

2,4-D	2,4-dichlorophenoxyacetic acid
AECOM	AECOM Environment
AOC	Areas of concern
AST	above ground storage tank
bgs	below ground surface
CMI	Corrective Measures Implementation
CMS	Corrective Measures Study
CPS	Crop Production Services, Inc.
Facility	Loveland Products, Inc. Billings, Montana, Facility
LPI	Loveland Products, Inc.
MCPA	4-chloro-2 methylphenoxy acetic acid
MDEQ	Montana Department of Environmental Quality
mg/kg	milligrams per kilogram
Olympus	Olympus Technical Services, Inc.
PRG	Preliminary Remediation Goals
QA	quality assurance
QC	quality control
RAA	Risk Assessment Addendum
RBAL	Risk based action level
RCRA	Resource Conservation and Recovery Act
RSL	Regional Screening Level
UAP	United Agri Products
U.S.	United States
USEPA	United States Environmental Protection Agency

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1.0 Introduction

This document presents the Soils Corrective Measures Implementation (CMI) Completion Report and has been developed by AECOM Inc., dba AECOM Environment (AECOM) on behalf of Crop Production Services, Inc. (CPS), formerly United Agri Products (UAP), and Loveland Products, Inc. (LPI), formerly Transbas, for the facility located in Billings, Montana (Facility).

1.1 Purpose

The objective of this Soils CMI Completion Report is to document the implementation of corrective measures recommended in the Soils Corrective Measures Study (Soils CMS) and selected in the Fact Sheet/Statement of Basis issued by Montana Department of Environmental Quality (MDEQ) in April 2010 (MDEQ 2010a). This report presents a description of closure activities, sample locations, and analytical results implemented per the CMI Work Plan (AECOM 2010b) submitted by AECOM on behalf of CPS in July 2010.

One soil area, SA1-15, required remediation; excavation of the SA1-15 area was the selected corrective action in the Statement of Basis (MDEQ 2010a). The excavation criteria within the area of SA1-15 included the following:

- 2-methyl-4-chlorophenoxy acetic acid (MCPA) – risk based action level (RBAL) of 310 milligrams per kilogram (mg/kg) (equal to USEPA Region 9 Industrial Regional Screening Level [RSL]); and
- 2,4-dichlorophenoxyacetic acid (2,4-D) – Voluntary goal of 690 mg/kg (equal to United States [U.S.] Environmental Protection Agency [USEPA] Region 9 Residential RSL).

1.2 Background

A risk assessment for the site was finalized in August 2005 as a Risk Assessment Addendum (RAA) (RETEC 2005) and evaluated human health risks to current and future receptors (i.e., industrial workers) through their potential exposure to soil and groundwater at the Facility. The RAA also evaluated soil contaminants leaching into groundwater and impacting groundwater quality and determined if adverse risks to ecological receptors may be present at the Facility.

During preparation of the CMS Work Plan (RETEC 2006a) and review of the May 2006 groundwater sample collection, UAP proposed in a July 26, 2006, letter to MDEQ (UAP 2006) and subsequent conference call on July 28, 2006, that groundwater treatability testing be conducted at the Facility to evaluate treatment options for groundwater prior to preparing the groundwater CMS. MDEQ requested in an August 8, 2006, letter (MDEQ 2006) that Transbas prepare a Soil CMS Report and Groundwater Treatability Work Plan so that a soil remedy could be chosen while the groundwater treatment options were further evaluated. The September 2006 Soil CMS Report and Groundwater Treatability Work Plan (RETEC 2006b) addressed the soil corrective measure alternatives and presented a work plan for treatability testing of groundwater. The Groundwater CMS Report (AECOM 2010a) submitted May 19, 2010, to MDEQ provided results from the groundwater treatability studies, performed in accordance with the revised Soil CMS Report and Groundwater Treatability Work Plan (ENSR 2008), and addressed the groundwater remedial alternative development and screening.

MDEQ issued a Statement of Basis announcing the proposed decision for subsurface soil at LPI in April 2010 (MDEQ 2010a). The preferred remedy identified in the Statement of Basis was source removal and excavation of soil that exceeds RBALs in non-deferred areas of the Facility.

1.3 Document Organization

Chapter 1.0 of this Soils CMI Completion Report presents an introduction. A summary of the excavation activities at SA1-15 and analytical results is presented in Chapter 2.0. Chapter 3.0 presents the references.

2.0 SA1-15 Soil Excavation

Due to concentrations in excess of the industrial RBAL for MCPA, soil excavation was determined as the remedial action in the soil area of SA1-15. Soil area SA1-15 is located to the north of the facility building, and is adjacent to a former aboveground storage tank (AST) secondary containment area. A general site layout is provided as **Figure 2-1**. This chapter details the site excavation activities completed within soil area SA1-15.

2.1 Description of Closure Activities

Final closure of soil area SA1-15 was implemented and completed on August 23, 2010. The excavation was performed by Olympus Technical Services of Billings, Montana, under the supervision of AECOM, CPS and LPI personnel. The area of excavation is shown in **Figure 2-2.** Due to the small area to be excavated, the approximate extent was measured from the northwest corner of the concrete secondary containment pad for the former waste water AST.

Approximately 18 cubic yards of soil were excavated via backhoe from soil area SA1-15. The total depth of the excavation was approximately 10 feet below ground surface (bgs), with a total surface disturbance of approximately 4 feet by 12 feet. The width of the excavation was increased from a proposed 3 feet to 4 feet to allow for sample collection with the backhoe bucket. The narrower dimension caused soil from both sides of the excavation to fall into the backhoe bucket during sampling attempts. The length of the excavation was increased from a proposed 8 feet to 12 feet during efforts to remove soil spoils from the bottom of the excavation prior to sample collection and to even out the southern wall following sloughing.

Security of the excavation area was achieved by enclosing the trench with silt fencing to prevent accidental entry prior to backfilling. In addition to securing the area with silt fencing, plastic sheeting was placed over the excavation and secured with clean soil to prevent storm water from running into the excavation before it could be backfilled.

Soils were separately stored into non-impacted and suspected impacted temporary soil stockpiles located on or near the concrete truck pads located east of the rail lines. Soil was placed on 6-mil polyethylene liners and the stockpiles were covered to prevent generation of dust and runoff. Based on previous investigations, soil from within 0 to 2 feet bgs was stockpiled as non-impacted soil. Soil excavated from a depth greater than 2 feet bgs was stockpiled as impacted soil. Samples were collected from both stockpiles for toxicity characterization prior to disposal.

During excavation, a total of five confirmation samples and one duplicate sample were collected from within the excavation area; two additional samples were collected from the excavated material stockpiles. Due to the depth of excavation, confirmation samples were collected using the bucket of the backhoe. Soil was scraped from each designated sample location, and a composite sample comprising of five grab locations was collected using a stainless steel spoon, mixed in a disposable plastic sealable bag, and was placed in a soil sample jar for laboratory analysis. Samples were collected from the bottom of the excavation pit at a depth of approximately 10 feet bgs, and from each of the four side walls at a depth of approximately 5 to 7 feet bgs. One duplicate sample was collected for quality assurance (QA) and quality control (QC).

Representative photos of excavation activities are provided in **Appendix A**.

2.2 Summary of Results

All soil samples collected were hand delivered under chain-of-custody to Energy Laboratories of Billings, Montana. Soil samples collected from within the excavation area were submitted for analysis of MCPA and 2,4-D by USEPA Method 8151A. The composite samples collected from both the non-impacted and impacted soil stockpiles were submitted for toxicity characteristic leaching procedure (TCLP) analysis

using USEPA Methods 6020, 7470A, 8081A, 8151A and 8260B. Sample results indicate concentrations from all samples were below applicable RBALs and RSLs for an industrial worker (**Table 2-1**).

Concentrations of 2,4-D were detected at each sample location; however, the maximum concentration of 15 mg/kg from the sample collected at the south sidewall (SA1-15-S1) was well below the CPS voluntary cleanup goal of 690 mg/kg. Concentrations of MCPA were below detection at all sample locations with the exception of sample location SA1-15-S1, which had a concentration of 29 mg/kg, well below the RBAL of 310 mg/kg. A copy of the laboratory report and chain of custody (COC) is provided in **Appendix B.**

Analytical results from the soil stockpiles samples were compared to USEPA Region 9 RSLs. All constituents analyzed in the non-impacted soil stockpile sample (SA1-15-TCLP NORTH) were below detection (**Table 2-2**). Two constituents analyzed in the impacted soil stockpile sample were above detection, including 2,4-D and total methylphenol as 2-methylphenol; however, concentrations were well below applicable screening levels. A copy of the laboratory report and COC is provided in **Appendix B.**

2.3 Backfilling and Soil Disposal

Upon completion of excavation, the trench was backfilled with clean soil from material stored at the Facility. Using the backhoe buckets and wheels, backfilled soil was compressed to 95 percent compaction. On September 1, 2010, a total of 23,080 pounds of excavated soil was transported as non-hazardous by PSC Environmental Services, LLC (PSC) to the Montana Waste Systems High Plain Landfill facility in Great Falls, Montana. The soil was received at High Plains Landfill on September 2, 2010.

2.4 Work Plan Deviations

There were no deviations from the excavation activities detailed in the approved Soils CMI Work Plan (AECOM 2010b).

During excavation activities, several obstructions were encountered, including an abandoned electrical line, casing from an abandoned monitoring well and asphalt from a former asphalt pit located in the vicinity of the excavation area. However, all obstructions were removed without complication or did not prohibit excavation activities.

2.5 Summary of Effectiveness

Soil confirmation sampling showed constituents of concern, MCPA and 2,4-D, to be below the remediation goals previously developed for CPS from all five samples and one duplicate sample collected from within the initial excavation area. This area is considered to meet the defined remediation goals.

2.6 Certification of Completion and Permit Modification

Upon 45 days of receipt of MDEQ approval of this Soils CMI Completion Report, a Certification of Completion Letter will be submitted to MDEQ on behalf of CPS and LPI. Upon further approval of the Certification of Completion, a permit modification request will be submitted for removal of area SA1-15 from the current permit required actions.

3.0 References

AECOM. 2010a. Groundwater Corrective Measures Study Report, Loveland Products, Inc. Billings, Montana. May 2010.

____. 2010b. Soils Corrective Measures Implementation Work Plan. Loveland Products, Inc. Billings, Montana. July 2010.

ENSR. 2008. Soil Corrective Measures Study Report and Groundwater Treatability Work Plan. February 2008.

Montana Department of Environmental Quality (MDEQ). 2010a. Fact Sheet/Statement of Basis, Loveland Products, Inc., Lockwood, Montana. March, 2010.

_____. 2006. Letter to Mr. Rick Yabroff, United Agri Products, Regarding Transbas Corrective Measures Study. August 8, 2006.

RETEC. 2006a. Corrective Measures Study Work Plan. May 25, 2006.

_____. 2006b. Soil Corrective Measures Study Report and Groundwater Treatability Work Plan. September 25, 2006.

_____. 2005. Risk Assessment Addendum. August, 2005.

United Agri Products (UAP). 2006. Letter to Ms. Ann Kron, Montana Department of Environmental Quality, Regarding Transbas Corrective Measures Study. July 26, 2006.

Tables

Table 2-1 Confirmation Sample Analytical Summary

Sample ID			SA1-15-B1	SA1-15-N1	SA1-15-E1	SA1-15-S1	SA1-15-W1	SA1-15-D1 (DUP - SA1-15-B1)
Sample Collection Date			8/23/2010	8/23/2010	8/23/2010	8/23/2010	8/23/2010	8/23/2010
Constituent	**Units**	**SL**	**Results**					
2,4-D	mg/kg	690	**0.80**	**0.034**	**0.25**	**15**	**0.052**	**0.65**
MCPA	mg/kg	310	<4.0	<4.0	<4.0	**29**	<4.0	<4.0

Notes:

SL = Screening Level

The SL for 2,4-D is based on the USEPA Region 9 Residential Soil Supporting Regional Screening Level (RSL), May 2010.

The SL for MCPA is based on the USEPA Region 9 Industrial Soil Supporting RSL, May 2010.

Bold font indicates concentrations above the laboratory detection limit.

Table 2-2 Soil Stockpile Analytical Summary

		Sample ID	SA1-15-TCLP NORTH	SA1-15-TCLP SOUTH
		Sample Collection Date	8/23/2010	8/23/2010
Constituent	**Unit**	**RSL**	**Result**	
2,4,5-TP (Silvex)	mg/kg	4900	<0.0020	<0.0054
2,4-D	mg/kg	690*	<0.010	**2.5**
Lead	mg/kg	800	<0.5	<0.5
Silver	mg/kg	5100	<0.5	<0.5
Arsenic	mg/kg	1.6	<0.5	<0.5
Barium	mg/kg	190000	<10	<10
Cadmium	mg/kg	800	<0.1	<0.1
Chromium	mg/kg	1400	<0.5	<0.5
Selenium	mg/kg	5100	<0.1	<0.1
Toxaphene	mg/kg	1.6	<0.050	<0.050
Heptachlor	mg/kg	0.38	<0.00050	<0.00050
2,4-Dinitrotoluene	mg/kg	5.5	<0.050	<0.050
3-,4-Methylphenol	mg/kg	93000	<0.050	<0.050
Endrin	mg/kg	180	<0.00050	<0.00050
Heptachlor epoxide	mg/kg	0.19	<0.00050	<0.00050
Methoxychlor	mg/kg	3100	<0.00050	<0.00050
2,4,6-Trichlorophenol	mg/kg	160	<0.050	<0.050
Chlordane	mg/kg	6.5	<0.025	<0.025
2,4,5-Trichlorophenol	mg/kg	62000	<0.050	<0.050
gamma-BHC (Lindane)	mg/kg	2.1	<0.00050	<0.00050
1,2-Dichloroethane	mg/kg	2.2	<0.010	<0.010
Chlorobenzene	mg/kg	1500	<0.010	<0.010
Tetrachloroethene	mg/kg	2.7	<0.010	<0.010
Carbon Tetrachloride	mg/kg	1.3	<0.010	<0.010
Chloroform	mg/kg	1.5	<0.010	<0.010
Benzene	mg/kg	5.6	<0.010	<0.010
Vinyl Chloride	mg/kg	1.7	<0.010	<0.010
1,1-Dichloroethene	mg/kg	1100	<0.010	<0.010
2-Butanone	mg/kg	190000	<0.20	<0.20
Trichloroethene	mg/kg	14	<0.010	<0.010
Mercury	mg/kg	24	<0.02	<0.02
Hexachlorobutadiene	mg/kg	22	<0.050	<0.050
2-Methylphenol	mg/kg	31000	<0.050	<0.25
Pentachlorophenol	mg/kg	9	<0.25	<0.050
Nitrobenzene	mg/kg	22	<0.050	<0.050
Hexachlorobenzene	mg/kg	1.1	<0.050	<0.050
Hexachloroethane	mg/kg	120	<0.050	<0.10
Pyridine	mg/kg	1000	<0.10	**0.029 J**
1,4-Dichlorobenzene	mg/kg	13	<0.010	<0.010
Total Methylphenols	mg/kg	-	<0.050	**0.029 J**

Notes:

RSL = Regional Screening Level

All concentrations are compared to the USEPA Region 9 Industrial Soil Supporting RSLs, May 2010, with the exception of 2,4-D.

The 2,4-D concentration is compared to the USEPA Region 9 Residential Soil Supporting RSL, May 2010.

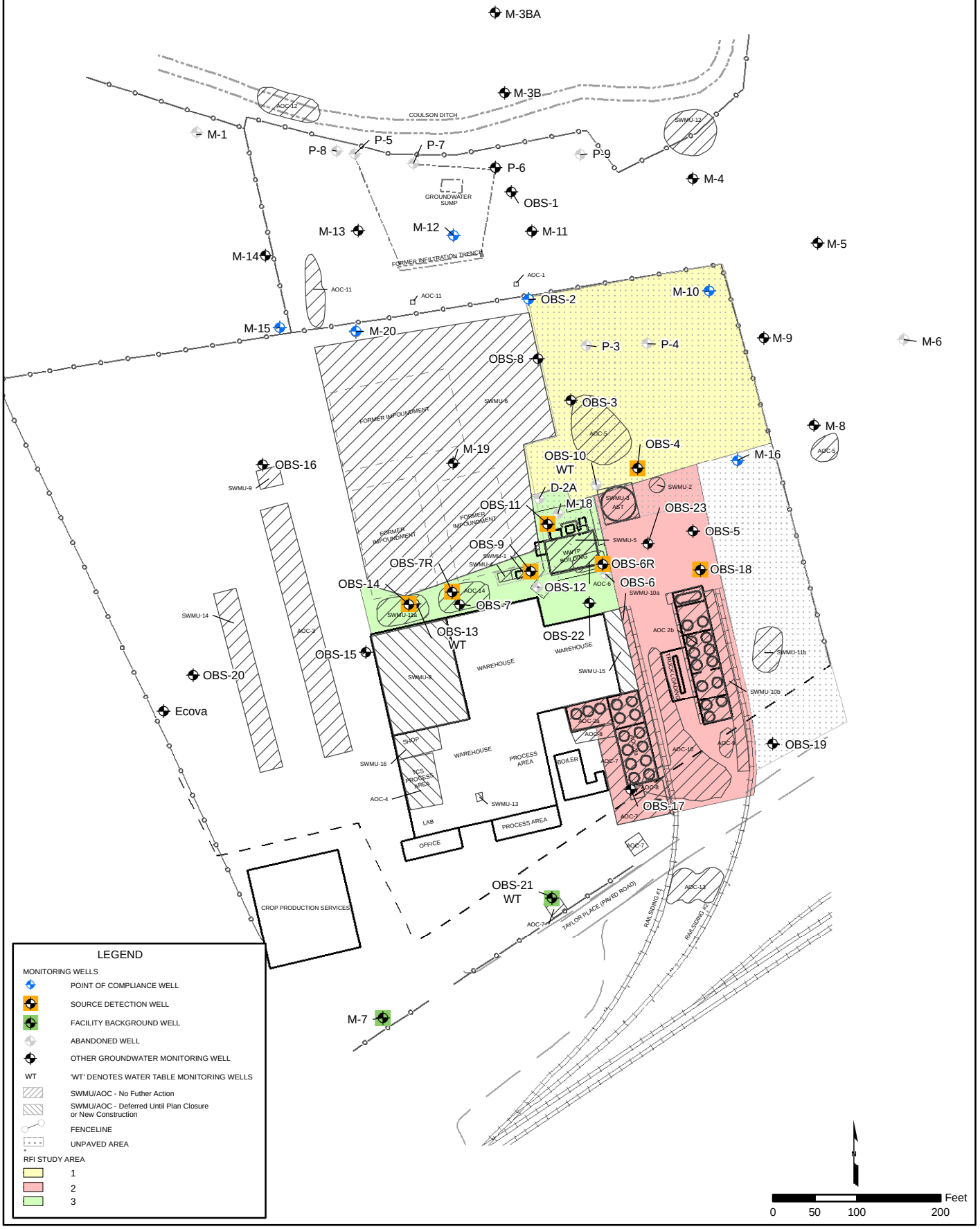
Bold font indicates concentrations above the laboratory detection limit.

SA1-15-TCLP North was collected from the non-impacted soil stockpile; SA1-15-TCLP South was collected from the impacted soil stockpile.

Qualifiers:

J = Concentration is estimated

Figures

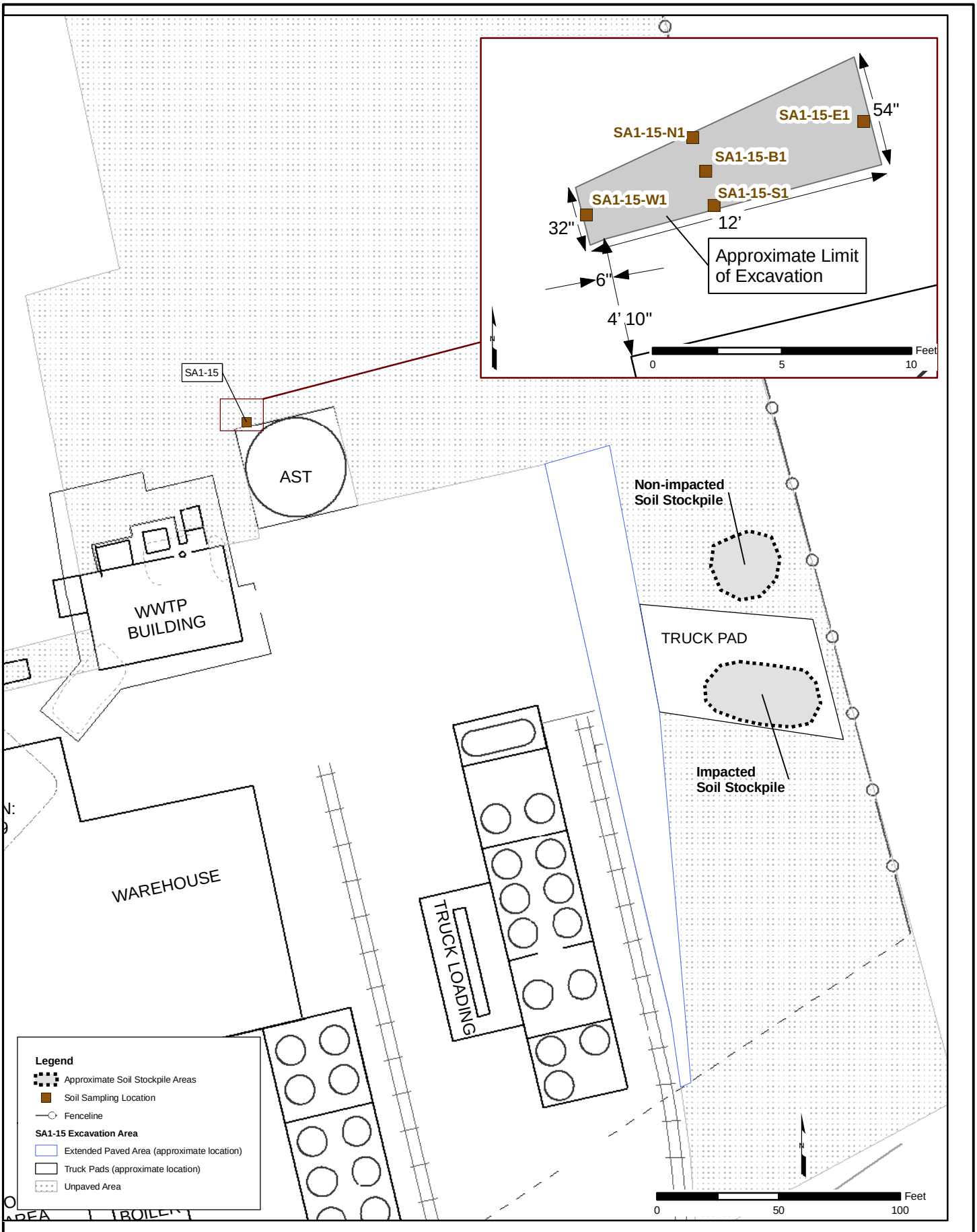


Note:
SWMU 7 (Groundwater) Corrective Action Is In Progress.

AECOM

CROP PRODUCTION SERVICES LOVELAND PRODUCTS, INC. 60160357-04056		**SITE MAP**
DATE: 10/04/2010	DRWN: LjP/ftc	Revision: 0
		FIGURE 2-1

T:\UAP_TRANSBAS_NAD83\Projects\Working\Oct_2010\SiteLayout.mxd



T:\UAP_TRANSBAS_NAD83\Projects\Working\SpecialRequests_2010\Fig2-2_Limits_Of_SA1-15_Excavation_tw.mxd

AECOM

LOVELAND PRODUCTS, INC.
BILLINGS, MONTANA
60157610-03040

LIMITS OF EXCAVATION

DATE:10/06/2010	DRWN: LjP	Revision: 1		**FIGURE 2-2**

Appendix A

Representative Photos

Sample collection from south wall. Flag tied at five feet above bucket.

Excavation area facing west.

Excavation area facing southwest.

Post backfilling of excavation area.

Silt fencing for access restriction and runoff.

Covered soil stockpiles.

Soil stockpile.

Silt fencing for access restriction and runoff.

Appendix B

Laboratory Report and COC

ANALYTICAL SUMMARY REPORT

August 26, 2010

Shelly Young
AECOM
207 N 28th St
Billings, MT 59101-1951

Workorder No.: B10082089 Quote ID: B2224 - Loveland Products Soil Sampling

Project Name: LPI - UMI Implementation

Energy Laboratories Inc received the following 8 samples for AECOM on 8/23/2010 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B10082089-001	SA1-15-B1	08/23/10 11:50	08/23/10	Soil	8151-Herbicides, Chlorinated Moisture Moisture Sonication Extraction
B10082089-002	SA1-15-N1	08/23/10 12:40	08/23/10	Soil	Same As Above
B10082089-003	SA1-15-S1	08/23/10 12:50	08/23/10	Soil	Same As Above
B10082089-004	SA1-15-W1	08/23/10 12:58	08/23/10	Soil	Same As Above
B10082089-005	SA1-15-E1	08/23/10 13:05	08/23/10	Soil	Same As Above
B10082089-006	SA1-15-D1	08/23/10 11:45	08/23/10	Soil	Same As Above
B10082089-007	SA1-15-TCLP North	08/23/10 12:19	08/23/10	Soil	Metals by ICP/ICPMS, TCLP Mercury, TCLP Digestion, Mercury by CVAA TCLP Extraction, Non-volatiles TCLP Zero Headspace Extraction, Volatiles Seperatory Funnel Liquid-Liquid Ext. Herbicides, Chlorinated TCLP Digestion, Total Metals Seperatory Funnel Liquid-Liquid Ext. Organochlorine Pesticides, TCLP BNA TCLP Extraction Semi-Volatile Organic Compounds, TCLP Volatile Organic Compounds, TCLP
B10082089-008	SA1-15-TCLP South	08/23/10 12:19	08/23/10	Soil	Same As Above

This report was prepared by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:

DATES REPORT

Lab Order: B10082089
Client: AECOM
Project: LPI - UMI Implementation
Report Date:

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date Method Batch	Analysis Date
B10082089-001A	SA1-15-B1	8/23/2010 11:50:00 AM	Soil	8151-Herbicides, Chlorinated		08/23/2010 SW8151A [48546]	8/24/2010
B10082089-001A	SA1-15-B1	8/23/2010 11:50:00 AM	Soil	8151-Herbicides, Chlorinated		08/23/2010 SW8151A [48546]	8/24/2010
B10082089-001A	SA1-15-B1	8/23/2010 11:50:00 AM	Soil	Moisture		08/23/2010 SW3550A [48547]	8/24/2010
B10082089-002A	SA1-15-N1	8/23/2010 12:40:00 PM	Soil	8151-Herbicides, Chlorinated		08/23/2010 SW8151A [48546]	8/24/2010
B10082089-002A	SA1-15-N1	8/23/2010 12:40:00 PM	Soil	Moisture		08/23/2010 SW3550A [48547]	8/24/2010
B10082089-003A	SA1-15-S1	8/23/2010 12:50:00 PM	Soil	8151-Herbicides, Chlorinated		08/23/2010 SW8151A [48546]	8/24/2010
B10082089-003A	SA1-15-S1	8/23/2010 12:50:00 PM	Soil	8151-Herbicides, Chlorinated		08/23/2010 SW8151A [48546]	8/24/2010
B10082089-003A	SA1-15-S1	8/23/2010 12:50:00 PM	Soil	Moisture		08/23/2010 SW3550A [48547]	8/24/2010
B10082089-004A	SA1-15-W1	8/23/2010 12:58:00 PM	Soil	8151-Herbicides, Chlorinated		08/23/2010 SW8151A [48546]	8/24/2010
B10082089-004A	SA1-15-W1	8/23/2010 12:58:00 PM	Soil	Moisture		08/23/2010 SW3550A [48547]	8/24/2010
B10082089-005A	SA1-15-E1	8/23/2010 1:05:00 PM	Soil	8151-Herbicides, Chlorinated		08/23/2010 SW8151A [48546]	8/24/2010
B10082089-005A	SA1-15-E1	8/23/2010 1:05:00 PM	Soil	8151-Herbicides, Chlorinated		08/23/2010 SW8151A [48546]	8/24/2010
B10082089-005A	SA1-15-E1	8/23/2010 1:05:00 PM	Soil	Moisture		08/23/2010 SW3550A [48547]	8/24/2010
B10082089-006A	SA1-15-D1	8/23/2010 11:45:00 AM	Soil	8151-Herbicides, Chlorinated		08/23/2010 SW8151A [48546]	8/24/2010
B10082089-006A	SA1-15-D1	8/23/2010 11:45:00 AM	Soil	8151-Herbicides, Chlorinated		08/23/2010 SW8151A [48546]	8/24/2010
B10082089-006A	SA1-15-D1	8/23/2010 11:45:00 AM	Soil	Moisture		08/23/2010 SW3550A [48547]	8/24/2010
B10082089-007A	SA1-15-TCLP North	8/23/2010 12:19:00 PM	Soil	Herbicides, Chlorinated TCLP		08/24/2010 SW8151A [48569]	8/24/2010
B10082089-007A	SA1-15-TCLP North	8/23/2010 12:19:00 PM	Soil	Mercury, TCLP		08/24/2010 SW7470A [48567]	8/24/2010
B10082089-007A	SA1-15-TCLP North	8/23/2010 12:19:00 PM	Soil	Metals by ICP/ICPMS, TCLP		08/24/2010 SW6020 [48600]	8/24/2010
B10082089-007A	SA1-15-TCLP North	8/23/2010 12:19:00 PM	Soil	Metals by ICP/ICPMS, TCLP		08/24/2010 SW6020 [48600]	8/25/2010
B10082089-007A	SA1-15-TCLP North	8/23/2010 12:19:00 PM	Soil	Organochlorine Pesticides, TCLP		08/24/2010 SW8081A [48571]	8/24/2010
B10082089-007A	SA1-15-TCLP North	8/23/2010 12:19:00 PM	Soil	Semi-Volatile Organic Compounds, TCLP		08/24/2010 SW8270C [48568]	8/24/2010
B10082089-007A	SA1-15-TCLP North	8/23/2010 12:19:00 PM	Soil	Supervisor Review		NA	8/25/2010
B10082089-007A	SA1-15-TCLP North	8/23/2010 12:19:00 PM	Soil	Volatile Organic Compounds, TCLP		08/24/2010 SW8260B [48564]	8/25/2010
B10082089-008A	SA1-15-TCLP South	8/23/2010 12:19:00 PM	Soil	Herbicides, Chlorinated TCLP		08/24/2010 SW8151A [48569]	8/24/2010
B10082089-008A	SA1-15-TCLP South	8/23/2010 12:19:00 PM	Soil	Herbicides, Chlorinated TCLP		08/24/2010 SW8151A [48569]	8/25/2010
B10082089-008A	SA1-15-TCLP South	8/23/2010 12:19:00 PM	Soil	Mercury, TCLP		08/24/2010 SW7470A [48567]	8/24/2010
B10082089-008A	SA1-15-TCLP South	8/23/2010 12:19:00 PM	Soil	Metals by ICP/ICPMS, TCLP		08/24/2010 SW6020 [48600]	8/24/2010
B10082089-008A	SA1-15-TCLP South	8/23/2010 12:19:00 PM	Soil	Metals by ICP/ICPMS, TCLP		08/24/2010 SW6020 [48600]	8/25/2010
B10082089-008A	SA1-15-TCLP South	8/23/2010 12:19:00 PM	Soil	Organochlorine Pesticides, TCLP		08/24/2010 SW8081A [48571]	8/24/2010
B10082089-008A	SA1-15-TCLP South	8/23/2010 12:19:00 PM	Soil	Semi-Volatile Organic Compounds, TCLP		08/24/2010 SW8270C [48568]	8/24/2010

DATES REPORT

Lab Order: B10082089
Client: AECOM
Project: LPI - UMI Implementation
Report Date:

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date Method Batch	Analysis Date
B10082089-008A	SA1-15-TCLP South	8/23/2010 12:19:00 PM	Soil	Volatile Organic Compounds, TCLP		08/24/2010 SW8260B [48564]	8/25/2010

LABORATORY ANALYTICAL REPORT

Client: AECOM
Client Sample ID: SA1-15-B1
Project: LPI - UMI Implementation
Matrix: Soil

Lab ID: B10082089-001
Collection Date: 08/23/10 11:50
DateReceived: 08/23/10
Report Date: 08/25/10

Analyses	Result	Units	QUAL	RL	MCL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	12	wt%		0.2		SW3550A	08/24/10 06:17 / amn	08/23/10 15:04	SW3550A	BAL-ARS-120_100824A	5	48547
HERBICIDES, CHLORINATED												
2,4-D	0.80	mg/kg		0.20		SW8151A	08/24/10 12:50 / jrz	08/23/10 15:00	SW3550B	CECD.I_100823A	8	48546
MCPA	ND	mg/kg		4.0		SW8151A	08/24/10 16:58 / jrz	08/23/10 15:00	SW3550B	CECD.I_100823A	21	48546
Surr: DCAA	61.0	%REC		53-114		SW8151A	08/24/10 16:58 / jrz	08/23/10 15:00	SW3550B	CECD.I_100823A	21	48546

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Client: AECOM
Client Sample ID: SA1-15-N1
Project: LPI - UMI Implementation
Matrix: Soil

Lab ID: B10082089-002
Collection Date: 08/23/10 12:40
DateReceived: 08/23/10
Report Date: 08/25/10

Analyses	Result	Units	QUAL	RL	MCL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	12	wt%		0.2		SW3550A	08/24/10 06:17 / amn	08/23/10 15:04	SW3550A	BAL-ARS-120_100824A	6	48547
HERBICIDES, CHLORINATED												
2,4-D	0.034	mg/kg		0.020		SW8151A	08/24/10 17:27 / jrz	08/23/10 15:00	SW3550B	CECD.I_100823A	19	48546
MCPA	ND	mg/kg		4.0		SW8151A	08/24/10 17:27 / jrz	08/23/10 15:00	SW3550B	CECD.I_100823A	19	48546
Surr: DCAA	62.0	%REC		53-114		SW8151A	08/24/10 17:27 / jrz	08/23/10 15:00	SW3550B	CECD.I_100823A	19	48546

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Client: AECOM
Client Sample ID: SA1-15-S1
Project: LPI - UMI Implementation
Matrix: Soil

Lab ID: B10082089-003
Collection Date: 08/23/10 12:50
DateReceived: 08/23/10
Report Date: 08/25/10

Analyses	Result	Units	QUAL	RL	MCL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	13	wt%		0.2		SW3550A	08/24/10 06:16 / amn	08/23/10 15:04	SW3550A	BAL-ARS-120_100824A	1	48547
HERBICIDES, CHLORINATED												
2,4-D	15	mg/kg		2.0		SW8151A	08/24/10 11:20 / jrz	08/23/10 15:00	SW3550B	CECD.I_100823A	5	48546
MCPA	29	mg/kg		4.0		SW8151A	08/24/10 10:16 / jrz	08/23/10 15:00	SW3550B	CECD.I_100823A	4	48546
Surr: DCAA	83.0	%REC		53-114		SW8151A	08/24/10 11:20 / jrz	08/23/10 15:00	SW3550B	CECD.I_100823A	5	48546

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Client: AECOM
Client Sample ID: SA1-15-W1
Project: LPI - UMI Implementation
Matrix: Soil

Lab ID: B10082089-004
Collection Date: 08/23/10 12:58
DateReceived: 08/23/10
Report Date: 08/25/10

Analyses	Result	Units	QUAL	RL	MCL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	7.0	wt%		0.2		SW3550A	08/24/10 06:16 / amn	08/23/10 15:04	SW3550A	BAL-ARS-120_100824A	2	48547
HERBICIDES, CHLORINATED												
2,4-D	0.052	mg/kg		0.020		SW8151A	08/24/10 17:58 / jrz	08/23/10 15:00	SW3550B	CECD.I_100823A	14	48546
MCPA	ND	mg/kg		4.0		SW8151A	08/24/10 17:58 / jrz	08/23/10 15:00	SW3550B	CECD.I_100823A	14	48546
Surr: DCAA	63.0	%REC		53-114		SW8151A	08/24/10 17:58 / jrz	08/23/10 15:00	SW3550B	CECD.I_100823A	14	48546

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Client: AECOM
Client Sample ID: SA1-15-E1
Project: LPI - UMI Implementation
Matrix: Soil

Lab ID: B10082089-005
Collection Date: 08/23/10 13:05
DateReceived: 08/23/10
Report Date: 08/25/10

Analyses	Result	Units	QUAL	RL	MCL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	19	wt%		0.2		SW3550A	08/24/10 06:16 / amn	08/23/10 15:04	SW3550A	BAL-ARS-120_100824A	3	48547
HERBICIDES, CHLORINATED												
2,4-D	0.25	mg/kg		0.20		SW8151A	08/24/10 12:20 / jrz	08/23/10 15:00	SW3550B	CECD.I_100823A	7	48546
MCPA	ND	mg/kg		4.0		SW8151A	08/24/10 18:28 / jrz	08/23/10 15:00	SW3550B	CECD.I_100823A	20	48546
Surr: DCAA	62.0	%REC		53-114		SW8151A	08/24/10 18:28 / jrz	08/23/10 15:00	SW3550B	CECD.I_100823A	20	48546

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Client: AECOM
Client Sample ID: SA1-15-D1
Project: LPI - UMI Implementation
Matrix: Soil

Lab ID: B10082089-006
Collection Date: 08/23/10 11:45
DateReceived: 08/23/10
Report Date: 08/25/10

Analyses	Result	Units	QUAL	RL	MCL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	11	wt%		0.2		SW3550A	08/24/10 06:16 / amn	08/23/10 15:04	SW3550A	BAL-ARS-120_100824A	4	48547
HERBICIDES, CHLORINATED												
2,4-D	0.65	mg/kg		0.20		SW8151A	08/24/10 13:28 / jrz	08/23/10 15:00	SW3550B	CECD.I_100823A	10	48546
MCPA	ND	mg/kg		4.0		SW8151A	08/24/10 18:57 / jrz	08/23/10 15:00	SW3550B	CECD.I_100823A	15	48546
Surr: DCAA	70.0	%REC		53-114		SW8151A	08/24/10 13:28 / jrz	08/23/10 15:00	SW3550B	CECD.I_100823A	10	48546

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Client: AECOM
Client Sample ID: SA1-15-TCLP North
Project: LPI - UMI Implementation
Matrix: Soil

Lab ID: B10082089-007
Collection Date: 08/23/10 12:19
DateReceived: 08/23/10
Report Date: 08/25/10

Analyses	Result	Units	QUAL	RL	MCL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, TCLP EXTRACTABLE												
Arsenic	ND	mg/L		0.5	5	SW6020	08/24/10 16:44 / jjw	08/24/10 09:00	SW3010	ICPMS203-B_100823A : 325		48600
Barium	ND	mg/L		10	100	SW6020	08/24/10 16:44 / jjw	08/24/10 09:00	SW3010	ICPMS203-B_100823A : 325		48600
Cadmium	ND	mg/L		0.1	1	SW6020	08/24/10 16:44 / jjw	08/24/10 09:00	SW3010	ICPMS203-B_100823A : 325		48600
Chromium	ND	mg/L		0.5	5	SW6020	08/24/10 16:44 / jjw	08/24/10 09:00	SW3010	ICPMS203-B_100823A : 325		48600
Lead	ND	mg/L		0.5	5	SW6020	08/24/10 16:44 / jjw	08/24/10 09:00	SW3010	ICPMS203-B_100823A : 325		48600
Mercury	ND	mg/L		0.02	0.2	SW7470A	08/24/10 15:00 / age	08/24/10 08:30	SW7470A	HGCV201-B_100824A : 7		48567
Selenium	ND	mg/L		0.1	1	SW6020	08/24/10 16:44 / jjw	08/24/10 09:00	SW3010	ICPMS203-B_100823A : 325		48600
Silver	ND	mg/L		0.5	5	SW6020	08/24/10 16:44 / jjw	08/24/10 09:00	SW3010	ICPMS203-B_100823A : 325		48600
VOLATILE ORGANIC COMPOUNDS, TCLP EXTRACTABLE												
Benzene	ND	mg/L		0.010	0.5	SW8260B	08/25/10 11:15 / jrj	08/24/10 15:15	SW1311	SV5972.I_100825A : 5		48564
Carbon tetrachloride	ND	mg/L		0.010	0.5	SW8260B	08/25/10 11:15 / jrj	08/24/10 15:15	SW1311	SV5972.I_100825A : 5		48564
Chlorobenzene	ND	mg/L		0.010	100	SW8260B	08/25/10 11:15 / jrj	08/24/10 15:15	SW1311	SV5972.I_100825A : 5		48564
Chloroform	ND	mg/L		0.010	6	SW8260B	08/25/10 11:15 / jrj	08/24/10 15:15	SW1311	SV5972.I_100825A : 5		48564
1,4-Dichlorobenzene	ND	mg/L		0.010	7.5	SW8260B	08/25/10 11:15 / jrj	08/24/10 15:15	SW1311	SV5972.I_100825A : 5		48564
1,2-Dichloroethane	ND	mg/L		0.010	0.5	SW8260B	08/25/10 11:15 / jrj	08/24/10 15:15	SW1311	SV5972.I_100825A : 5		48564
1,1-Dichloroethene	ND	mg/L		0.010	0.7	SW8260B	08/25/10 11:15 / jrj	08/24/10 15:15	SW1311	SV5972.I_100825A : 5		48564
Methyl ethyl ketone	ND	mg/L		0.20	200	SW8260B	08/25/10 11:15 / jrj	08/24/10 15:15	SW1311	SV5972.I_100825A : 5		48564
Tetrachloroethene	ND	mg/L		0.010	0.7	SW8260B	08/25/10 11:15 / jrj	08/24/10 15:15	SW1311	SV5972.I_100825A : 5		48564
Trichloroethene	ND	mg/L		0.010	0.5	SW8260B	08/25/10 11:15 / jrj	08/24/10 15:15	SW1311	SV5972.I_100825A : 5		48564
Vinyl chloride	ND	mg/L		0.010	0.2	SW8260B	08/25/10 11:15 / jrj	08/24/10 15:15	SW1311	SV5972.I_100825A : 5		48564
Surr: 1,2-Dichloroethane-d4	108	%REC		70-130		SW8260B	08/25/10 11:15 / jrj	08/24/10 15:15	SW1311	SV5972.I_100825A : 5		48564
Surr: Dibromofluoromethane	102	%REC		77-126		SW8260B	08/25/10 11:15 / jrj	08/24/10 15:15	SW1311	SV5972.I_100825A : 5		48564
Surr: p-Bromofluorobenzene	99.0	%REC		76-127		SW8260B	08/25/10 11:15 / jrj	08/24/10 15:15	SW1311	SV5972.I_100825A : 5		48564
Surr: Toluene-d8	99.0	%REC		79-122		SW8260B	08/25/10 11:15 / jrj	08/24/10 15:15	SW1311	SV5972.I_100825A : 5		48564
SEMI-VOLATILE ORGANIC COMPOUNDS, TCLP EXTRACTABLE												
Cresols, Total	ND	mg/L		0.050	200	SW8270C	08/24/10 16:51 / dsm	08/24/10 09:04	SW8270C	SV5973.I_100824A : 5		48568
m+p-Cresols	ND	mg/L		0.050		SW8270C	08/24/10 16:51 / dsm	08/24/10 09:04	SW8270C	SV5973.I_100824A : 5		48568
o-Cresol	ND	mg/L		0.050		SW8270C	08/24/10 16:51 / dsm	08/24/10 09:04	SW8270C	SV5973.I_100824A : 5		48568
Pentachlorophenol	ND	mg/L		0.25	100	SW8270C	08/24/10 16:51 / dsm	08/24/10 09:04	SW8270C	SV5973.I_100824A : 5		48568
2,4,5-Trichlorophenol	ND	mg/L		0.050	400	SW8270C	08/24/10 16:51 / dsm	08/24/10 09:04	SW8270C	SV5973.I_100824A : 5		48568
2,4,6-Trichlorophenol	ND	mg/L		0.050	2	SW8270C	08/24/10 16:51 / dsm	08/24/10 09:04	SW8270C	SV5973.I_100824A : 5		48568
2,4-Dinitrotoluene	ND	mg/L		0.050	0.13	SW8270C	08/24/10 16:51 / dsm	08/24/10 09:04	SW8270C	SV5973.I_100824A : 5		48568
Hexachlorobutadiene	ND	mg/L		0.050	0.5	SW8270C	08/24/10 16:51 / dsm	08/24/10 09:04	SW8270C	SV5973.I_100824A : 5		48568

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Client: AECOM
Client Sample ID: SA1-15-TCLP North
Project: LPI - UMI Implementation
Matrix: Soil

Lab ID: B10082089-007
Collection Date: 08/23/10 12:19
DateReceived: 08/23/10
Report Date: 08/25/10

Analyses	Result	Units	QUAL	RL	MCL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
SEMI-VOLATILE ORGANIC COMPOUNDS, TCLP EXTRACTABLE												
Hexachlorobenzene	ND	mg/L		0.050	0.13	SW8270C	08/24/10 16:51 / dsm	08/24/10 09:04	SW8270C	SV5973.I_100824A	5	48568
Hexachloroethane	ND	mg/L		0.050	3	SW8270C	08/24/10 16:51 / dsm	08/24/10 09:04	SW8270C	SV5973.I_100824A	5	48568
Nitrobenzene	ND	mg/L		0.050	2	SW8270C	08/24/10 16:51 / dsm	08/24/10 09:04	SW8270C	SV5973.I_100824A	5	48568
Pyridine	ND	mg/L		0.10	5	SW8270C	08/24/10 16:51 / dsm	08/24/10 09:04	SW8270C	SV5973.I_100824A	5	48568
Surr: 2,4,6-Tribromophenol	78.0	%REC		37-101		SW8270C	08/24/10 16:51 / dsm	08/24/10 09:04	SW8270C	SV5973.I_100824A	5	48568
Surr: 2-Fluorobiphenyl	70.0	%REC		46-96		SW8270C	08/24/10 16:51 / dsm	08/24/10 09:04	SW8270C	SV5973.I_100824A	5	48568
Surr: 2-Fluorophenol	54.0	%REC		27-82		SW8270C	08/24/10 16:51 / dsm	08/24/10 09:04	SW8270C	SV5973.I_100824A	5	48568
Surr: Nitrobenzene-d5	73.0	%REC		45-103		SW8270C	08/24/10 16:51 / dsm	08/24/10 09:04	SW8270C	SV5973.I_100824A	5	48568
Surr: Phenol-d5	51.0	%REC		21-82		SW8270C	08/24/10 16:51 / dsm	08/24/10 09:04	SW8270C	SV5973.I_100824A	5	48568
Surr: Terphenyl-d14	76.0	%REC		48-118		SW8270C	08/24/10 16:51 / dsm	08/24/10 09:04	SW8270C	SV5973.I_100824A	5	48568
PESTICIDES, TCLP EXTRACTABLE												
Chlordane	ND	mg/L		0.025	0.03	SW8081A	08/24/10 17:56 / ldw	08/24/10 09:13	SW8081A	BECD.I_100823C	9	48571
Heptachlor	ND	mg/L		0.00050	0.008	SW8081A	08/24/10 17:56 / ldw	08/24/10 09:13	SW8081A	BECD.I_100823C	9	48571
Heptachlor epoxide	ND	mg/L		0.00050		SW8081A	08/24/10 17:56 / ldw	08/24/10 09:13	SW8081A	BECD.I_100823C	9	48571
Endrin	ND	mg/L		0.00050	0.02	SW8081A	08/24/10 17:56 / ldw	08/24/10 09:13	SW8081A	BECD.I_100823C	9	48571
gamma-BHC (Lindane)	ND	mg/L		0.00050	0.4	SW8081A	08/24/10 17:56 / ldw	08/24/10 09:13	SW8081A	BECD.I_100823C	9	48571
Methoxychlor	ND	mg/L		0.00050	10	SW8081A	08/24/10 17:56 / ldw	08/24/10 09:13	SW8081A	BECD.I_100823C	9	48571
Toxaphene	ND	mg/L		0.050	0.5	SW8081A	08/24/10 17:56 / ldw	08/24/10 09:13	SW8081A	BECD.I_100823C	9	48571
Surr: Decachlorobiphenyl	92.0	%REC		44-119		SW8081A	08/24/10 17:56 / ldw	08/24/10 09:13	SW8081A	BECD.I_100823C	9	48571
Surr: Tetrachloro-m-xylene	72.0	%REC		40-120		SW8081A	08/24/10 17:56 / ldw	08/24/10 09:13	SW8081A	BECD.I_100823C	9	48571
HERBICIDES, TCLP EXTRACTABLE												
2,4-D	ND	mg/L		0.010	10	SW8151A	08/24/10 21:57 / jrz	08/24/10 09:06	SW8151A	CECD.I_100823B	4	48569
2,4,5-TP (Silvex)	ND	mg/L		0.0020	1	SW8151A	08/24/10 21:57 / jrz	08/24/10 09:06	SW8151A	CECD.I_100823B	4	48569
Surr: DCAA	64.0	%REC		57-125		SW8151A	08/24/10 21:57 / jrz	08/24/10 09:06	SW8151A	CECD.I_100823B	4	48569

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Client: AECOM
Client Sample ID: SA1-15-TCLP South
Project: LPI - UMI Implementation
Matrix: Soil

Lab ID: B10082089-008
Collection Date: 08/23/10 12:19
DateReceived: 08/23/10
Report Date: 08/25/10

Analyses	Result	Units	QUAL	RL	MCL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, TCLP EXTRACTABLE												
Arsenic	ND	mg/L		0.5	5	SW6020	08/24/10 16:49 / jjw	08/24/10 09:00	SW3010	ICPMS203-B_100823A	326	48600
Barium	ND	mg/L		10	100	SW6020	08/24/10 16:49 / jjw	08/24/10 09:00	SW3010	ICPMS203-B_100823A	326	48600
Cadmium	ND	mg/L		0.1	1	SW6020	08/24/10 16:49 / jjw	08/24/10 09:00	SW3010	ICPMS203-B_100823A	326	48600
Chromium	ND	mg/L		0.5	5	SW6020	08/24/10 16:49 / jjw	08/24/10 09:00	SW3010	ICPMS203-B_100823A	326	48600
Lead	ND	mg/L		0.5	5	SW6020	08/24/10 16:49 / jjw	08/24/10 09:00	SW3010	ICPMS203-B_100823A	326	48600
Mercury	ND	mg/L		0.02	0.2	SW7470A	08/24/10 15:03 / age	08/24/10 08:30	SW7470A	HGCV201-B_100824A	9	48567
Selenium	ND	mg/L		0.1	1	SW6020	08/24/10 16:49 / jjw	08/24/10 09:00	SW3010	ICPMS203-B_100823A	326	48600
Silver	ND	mg/L		0.5	5	SW6020	08/24/10 16:49 / jjw	08/24/10 09:00	SW3010	ICPMS203-B_100823A	326	48600
VOLATILE ORGANIC COMPOUNDS, TCLP EXTRACTABLE												
Benzene	ND	mg/L		0.010	0.5	SW8260B	08/25/10 11:44 / jrj	08/24/10 15:15	SW1311	SV5972.I_100825A	6	48564
Carbon tetrachloride	ND	mg/L		0.010	0.5	SW8260B	08/25/10 11:44 / jrj	08/24/10 15:15	SW1311	SV5972.I_100825A	6	48564
Chlorobenzene	ND	mg/L		0.010	100	SW8260B	08/25/10 11:44 / jrj	08/24/10 15:15	SW1311	SV5972.I_100825A	6	48564
Chloroform	ND	mg/L		0.010	6	SW8260B	08/25/10 11:44 / jrj	08/24/10 15:15	SW1311	SV5972.I_100825A	6	48564
1,4-Dichlorobenzene	ND	mg/L		0.010	7.5	SW8260B	08/25/10 11:44 / jrj	08/24/10 15:15	SW1311	SV5972.I_100825A	6	48564
1,2-Dichloroethane	ND	mg/L		0.010	0.5	SW8260B	08/25/10 11:44 / jrj	08/24/10 15:15	SW1311	SV5972.I_100825A	6	48564
1,1-Dichloroethene	ND	mg/L		0.010	0.7	SW8260B	08/25/10 11:44 / jrj	08/24/10 15:15	SW1311	SV5972.I_100825A	6	48564
Methyl ethyl ketone	ND	mg/L		0.20	200	SW8260B	08/25/10 11:44 / jrj	08/24/10 15:15	SW1311	SV5972.I_100825A	6	48564
Tetrachloroethene	ND	mg/L		0.010	0.7	SW8260B	08/25/10 11:44 / jrj	08/24/10 15:15	SW1311	SV5972.I_100825A	6	48564
Trichloroethene	ND	mg/L		0.010	0.5	SW8260B	08/25/10 11:44 / jrj	08/24/10 15:15	SW1311	SV5972.I_100825A	6	48564
Vinyl chloride	ND	mg/L		0.010	0.2	SW8260B	08/25/10 11:44 / jrj	08/24/10 15:15	SW1311	SV5972.I_100825A	6	48564
Surr: 1,2-Dichloroethane-d4	107	%REC		70-130		SW8260B	08/25/10 11:44 / jrj	08/24/10 15:15	SW1311	SV5972.I_100825A	6	48564
Surr: Dibromofluoromethane	101	%REC		77-126		SW8260B	08/25/10 11:44 / jrj	08/24/10 15:15	SW1311	SV5972.I_100825A	6	48564
Surr: p-Bromofluorobenzene	99.0	%REC		76-127		SW8260B	08/25/10 11:44 / jrj	08/24/10 15:15	SW1311	SV5972.I_100825A	6	48564
Surr: Toluene-d8	98.0	%REC		79-122		SW8260B	08/25/10 11:44 / jrj	08/24/10 15:15	SW1311	SV5972.I_100825A	6	48564
SEMI-VOLATILE ORGANIC COMPOUNDS, TCLP EXTRACTABLE												
Cresols, Total	0.029	mg/L	J	0.050	200	SW8270C	08/24/10 17:53 / dsm	08/24/10 09:04	SW8270C	SV5973.I_100824A	7	48568
m+p-Cresols	ND	mg/L		0.050		SW8270C	08/24/10 17:53 / dsm	08/24/10 09:04	SW8270C	SV5973.I_100824A	7	48568
o-Cresol	0.029	mg/L	J	0.050		SW8270C	08/24/10 17:53 / dsm	08/24/10 09:04	SW8270C	SV5973.I_100824A	7	48568
Pentachlorophenol	ND	mg/L		0.25	100	SW8270C	08/24/10 17:53 / dsm	08/24/10 09:04	SW8270C	SV5973.I_100824A	7	48568
2,4,5-Trichlorophenol	ND	mg/L		0.050	400	SW8270C	08/24/10 17:53 / dsm	08/24/10 09:04	SW8270C	SV5973.I_100824A	7	48568
2,4,6-Trichlorophenol	ND	mg/L		0.050	2	SW8270C	08/24/10 17:53 / dsm	08/24/10 09:04	SW8270C	SV5973.I_100824A	7	48568
2,4-Dinitrotoluene	ND	mg/L		0.050	0.13	SW8270C	08/24/10 17:53 / dsm	08/24/10 09:04	SW8270C	SV5973.I_100824A	7	48568
Hexachlorobutadiene	ND	mg/L		0.050	0.5	SW8270C	08/24/10 17:53 / dsm	08/24/10 09:04	SW8270C	SV5973.I_100824A	7	48568

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Client: AECOM
Client Sample ID: SA1-15-TCLP South
Project: LPI - UMI Implementation
Matrix: Soil

Lab ID: B10082089-008
Collection Date: 08/23/10 12:19
DateReceived: 08/23/10
Report Date: 08/25/10

Analyses	Result	Units	QUAL	RL	MCL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
SEMI-VOLATILE ORGANIC COMPOUNDS, TCLP EXTRACTABLE												
Hexachlorobenzene	ND	mg/L		0.050	0.13	SW8270C	08/24/10 17:53 / dsm	08/24/10 09:04	SW8270C	SV5973.I_100824A	7	48568
Hexachloroethane	ND	mg/L		0.050	3	SW8270C	08/24/10 17:53 / dsm	08/24/10 09:04	SW8270C	SV5973.I_100824A	7	48568
Nitrobenzene	ND	mg/L		0.050	2	SW8270C	08/24/10 17:53 / dsm	08/24/10 09:04	SW8270C	SV5973.I_100824A	7	48568
Pyridine	ND	mg/L		0.10	5	SW8270C	08/24/10 17:53 / dsm	08/24/10 09:04	SW8270C	SV5973.I_100824A	7	48568
Surr: 2,4,6-Tribromophenol	77.0	%REC		37-101		SW8270C	08/24/10 17:53 / dsm	08/24/10 09:04	SW8270C	SV5973.I_100824A	7	48568
Surr: 2-Fluorobiphenyl	67.0	%REC		46-96		SW8270C	08/24/10 17:53 / dsm	08/24/10 09:04	SW8270C	SV5973.I_100824A	7	48568
Surr: 2-Fluorophenol	50.0	%REC		27-82		SW8270C	08/24/10 17:53 / dsm	08/24/10 09:04	SW8270C	SV5973.I_100824A	7	48568
Surr: Nitrobenzene-d5	69.0	%REC		45-103		SW8270C	08/24/10 17:53 / dsm	08/24/10 09:04	SW8270C	SV5973.I_100824A	7	48568
Surr: Phenol-d5	49.0	%REC		21-82		SW8270C	08/24/10 17:53 / dsm	08/24/10 09:04	SW8270C	SV5973.I_100824A	7	48568
Surr: Terphenyl-d14	73.0	%REC		48-118		SW8270C	08/24/10 17:53 / dsm	08/24/10 09:04	SW8270C	SV5973.I_100824A	7	48568
PESTICIDES, TCLP EXTRACTABLE												
Chlordane	ND	mg/L		0.025	0.03	SW8081A	08/24/10 19:49 / ldw	08/24/10 09:13	SW8081A	BECD.I_100823C	13	48571
Heptachlor	ND	mg/L		0.00050	0.008	SW8081A	08/24/10 19:49 / ldw	08/24/10 09:13	SW8081A	BECD.I_100823C	13	48571
Heptachlor epoxide	ND	mg/L		0.00050		SW8081A	08/24/10 19:49 / ldw	08/24/10 09:13	SW8081A	BECD.I_100823C	13	48571
Endrin	ND	mg/L		0.00050	0.02	SW8081A	08/24/10 19:49 / ldw	08/24/10 09:13	SW8081A	BECD.I_100823C	13	48571
gamma-BHC (Lindane)	ND	mg/L		0.00050	0.4	SW8081A	08/24/10 19:49 / ldw	08/24/10 09:13	SW8081A	BECD.I_100823C	13	48571
Methoxychlor	ND	mg/L		0.00050	10	SW8081A	08/24/10 19:49 / ldw	08/24/10 09:13	SW8081A	BECD.I_100823C	13	48571
Toxaphene	ND	mg/L		0.050	0.5	SW8081A	08/24/10 19:49 / ldw	08/24/10 09:13	SW8081A	BECD.I_100823C	13	48571
Surr: Decachlorobiphenyl	102	%REC		44-119		SW8081A	08/24/10 19:49 / ldw	08/24/10 09:13	SW8081A	BECD.I_100823C	13	48571
Surr: Tetrachloro-m-xylene	77.0	%REC		40-120		SW8081A	08/24/10 19:49 / ldw	08/24/10 09:13	SW8081A	BECD.I_100823C	13	48571
HERBICIDES, TCLP EXTRACTABLE												
2,4-D	2.5	mg/L		0.20	10	SW8151A	08/25/10 13:13 / jrz	08/24/10 09:06	SW8151A	CECD.I_100823B	10	48569
2,4,5-TP (Silvex)	ND	mg/L	D	0.0054	1	SW8151A	08/24/10 22:27 / jrz	08/24/10 09:06	SW8151A	CECD.I_100823B	6	48569
Surr: DCAA	80.0	%REC		57-125		SW8151A	08/24/10 22:27 / jrz	08/24/10 09:06	SW8151A	CECD.I_100823B	6	48569

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.

Client: AECOM
Work Order: B10082089
Project: LPI - UMI Implementation

ANALYTICAL QC SUMMARY REPORT

BatchID: R152777

Date: *25-Aug-10*

Run ID :Run Order: **ICPMS203-B_100823A: 263** SampType: **Initial Calibration Verification Standard** Sample ID: **QCS-100607A,100726A,100301B** Method: **SW6020**

Analysis Date: **08/23/10 11:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0489	0.0010	0.05		98	90	110				
Barium	0.0472	0.0010	0.05		94	90	110				
Cadmium	0.0252	0.0010	0.025		101	90	110				
Chromium	0.0488	0.0010	0.05		98	90	110				
Lead	0.0485	0.0010	0.05		97	90	110				
Selenium	0.0489	0.0010	0.05		98	90	110				
Silver	0.0253	0.0010	0.025		101	90	110				

Associated samples: **B10082089-007A; B10082089-008A**

Run ID :Run Order: **ICPMS203-B_100823A: 264** SampType: **Interference Check Sample A** Sample ID: **ICSA-ME091229B** Method: **SW6020**

Analysis Date: **08/23/10 12:08** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.000230	0.0010									
Barium	0.000146	0.0010									
Cadmium	0.00107	0.0010									
Chromium	0.000491	0.0010									
Lead	8.40E-05	0.0010									
Selenium	0.000199	0.0010									
Silver	0.000138	0.0010									

Associated samples: **B10082089-007A; B10082089-008A**

Run ID :Run Order: **ICPMS203-B_100823A: 265** SampType: **Interference Check Sample AB** Sample ID: **ICSAB-ME091229B,09100119H** Method: **SW6020**

Analysis Date: **08/23/10 12:13** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0103	0.0010	0.01		103	70	130				
Barium	0.000154	0.0010				0	0				
Cadmium	0.0108	0.0010	0.01		108	70	130				
Chromium	0.0207	0.0010	0.02		103	70	130				
Lead	7.60E-05	0.0010				0	0				
Selenium	0.00990	0.0010	0.01		99	70	130				
Silver	0.0190	0.0010	0.02		95	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: AECOM
Work Order: B10082089
Project: LPI - UMI Implementation

ANALYTICAL QC SUMMARY REPORT

BatchID: R152777

Date: *25-Aug-10*

Run ID :Run Order: **ICPMS203-B_100823A: 265** SampType: **Interference Check Sample AB** Sample ID: **ICSAB-ME091229B,09100119H** Method: **SW6020**

Analysis Date: **08/23/10 12:13** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **B10082089-007A; B10082089-008A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: AECOM
Work Order: B10082089
Project: LPI - UMI Implementation

ANALYTICAL QC SUMMARY REPORT

Date: *25-Aug-10*

BatchID: 48600

Run ID :Run Order: **ICPMS203-B_100823A: 503** SampType: **Method Blank** Sample ID: **MB-48600** Method: **SW6020**

Analysis Date: **08/25/10 07:23** Units: **mg/L** **Prep Info:** Prep Date: **8/24/2010** Prep Method: **SW3010**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0006	2E-05									
Barium	0.05	2E-05									
Cadmium	3E-05	5E-06									
Chromium	0.002	1E-05									
Lead	0.0006	2E-05									
Selenium	0.0005	2E-05									
Silver	0.0004	2E-05									

Associated samples: **B10082089-007A; B10082089-008A**

Run ID :Run Order: **ICPMS203-B_100823A: 507** SampType: **Serial Dilution** Sample ID: **B10082089-008ADIL** Method: **SW6020**

Analysis Date: **08/25/10 07:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.00490	0.50				0	0	0.005288		10	
Barium	1.20	1.0				0	0	1.282	6.9	10	
Cadmium	0.000900	0.10				0	0	0.001096		10	
Chromium	0.00190	0.50				0	0	0.001424		10	
Lead	0.00220	0.50				0	0	0.001813		10	N
Selenium	0.0115	0.10				0	0	0.002254		10	
Silver	ND	0.50				0	0	0.00012		10	

Associated samples: **B10082089-007A; B10082089-008A**

Run ID :Run Order: **ICPMS203-B_100823A: 508** SampType: **Laboratory Control Sample** Sample ID: **LCS-48600** Method: **SW6020**

Analysis Date: **08/25/10 07:46** Units: **mg/L** **Prep Info:** Prep Date: **8/24/2010** Prep Method: **SW3010**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.479	0.50	0.5	0.000575	96	85	115				
Barium	5.68	1.0	5.5	0.04936	102	85	115				
Cadmium	0.237	0.10	0.25	0.000027	95	85	115				
Chromium	0.478	0.50	0.5	0.001747	95	85	115				
Lead	0.479	0.50	0.5	0.0006304	96	85	115				
Selenium	0.452	0.10	0.5	0.0004528	90	85	115				
Silver	0.0461	0.50	0.05	0.0004302	91	85	115				

Associated samples: **B10082089-007A; B10082089-008A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: AECOM
Work Order: B10082089
Project: LPI - UMI Implementation

ANALYTICAL QC SUMMARY REPORT

Date: *25-Aug-10*

BatchID: 48600

Run ID :Run Order: **ICPMS203-B_100823A: 513** SampType: **Laboratory Control Sample Duplicate** Sample ID: **LCSD-48600** Method: **SW6020**

Analysis Date: **08/25/10 08:10** Units: **mg/L** **Prep Info:** Prep Date: **8/24/2010** Prep Method: **SW3010**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.478	0.50	0.5	0.000575	95	85	115				
Barium	6.34	1.0	5.5	0.04936	114	85	115				
Cadmium	0.257	0.10	0.25	0.000027	103	85	115				
Chromium	0.492	0.50	0.5	0.001747	98	85	115				
Lead	0.529	0.50	0.5	0.0006304	106	85	115				
Selenium	0.475	0.10	0.5	0.0004528	95	85	115				
Silver	0.0507	0.50	0.05	0.0004302	101	85	115				

Associated samples: **B10082089-007A; B10082089-008A**

Run ID :Run Order: **ICPMS203-B_100823A: 515** SampType: **Sample Matrix Spike** Sample ID: **B10082089-007AMS3** Method: **SW6020**

Analysis Date: **08/25/10 08:19** Units: **mg/L** **Prep Info:** Prep Date: **8/24/2010** Prep Method: **SW3010**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.511	0.50	0.5	0.01675	99	75	125				
Barium	6.53	1.0	5.5	0.5612	108	75	125				
Cadmium	0.250	0.10	0.25	0.001027	100	75	125				
Chromium	0.500	0.50	0.5	0.001852	100	75	125				
Lead	0.504	0.50	0.5	0.000424	101	75	125				
Selenium	0.498	0.10	0.5	0.002712	99	75	125				
Silver	0.0493	0.50	0.05	0.0000934	98	75	125				

Associated samples: **B10082089-007A; B10082089-008A**

Run ID :Run Order: **ICPMS203-B_100823A: 517** SampType: **Sample Matrix Spike** Sample ID: **B10082089-008AMS3** Method: **SW6020**

Analysis Date: **08/25/10 08:28** Units: **mg/L** **Prep Info:** Prep Date: **8/24/2010** Prep Method: **SW3010**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.496	0.50	0.5	0.005908	98	75	125				
Barium	7.41	1.0	5.5	1.298	111	75	125				
Cadmium	0.255	0.10	0.25	0.001178	102	75	125				
Chromium	0.494	0.50	0.5	0.001506	99	75	125				
Lead	0.513	0.50	0.5	0.001818	102	75	125				
Selenium	0.493	0.10	0.5	0.0005974	99	75	125				
Silver	0.0501	0.50	0.05	0.0003108	100	75	125				

Associated samples: **B10082089-007A; B10082089-008A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: AECOM
Work Order: B10082089
Project: LPI - UMI Implementation

ANALYTICAL QC SUMMARY REPORT

BatchID: 100824A

Date: *25-Aug-10*

Run ID :Run Order: **HGCV201-B_100824A: 1** SampType: **Initial Calibration Verification Standard** Sample ID: **QCS** Method: **SW7470A**

Analysis Date: **08/24/10 14:47** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00205	0.020	0.002		103	90	110				

Associated samples: **B10082089-007A; B10082089-008A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: AECOM
Work Order: B10082089
Project: LPI - UMI Implementation

ANALYTICAL QC SUMMARY REPORT

BatchID: 48567

Date: *25-Aug-10*

Run ID :Run Order: **HGCV201-B_100824A: 4** SampType: **Method Blank** Sample ID: **MB-48567** Method: **SW7470A**
Analysis Date: **08/24/10 14:52** Units: **mg/L** **Prep Info:** Prep Date: **8/24/2010** Prep Method: **SW7470A**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0002	6E-05									

Associated samples: **B10082089-007A; B10082089-008A**

Run ID :Run Order: **HGCV201-B_100824A: 5** SampType: **Laboratory Control Sample** Sample ID: **LCS-48567** Method: **SW7470A**
Analysis Date: **08/24/10 14:55** Units: **mg/L** **Prep Info:** Prep Date: **8/24/2010** Prep Method: **SW7470A**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0100	0.0020	0.01	0.00015	99	85	115				

Associated samples: **B10082089-007A; B10082089-008A**

Run ID :Run Order: **HGCV201-B_100824A: 6** SampType: **Laboratory Control Sample Duplicate** Sample ID: **LCSD-48567** Method: **SW7470A**
Analysis Date: **08/24/10 14:58** Units: **mg/L** **Prep Info:** Prep Date: **8/24/2010** Prep Method: **SW7470A**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0101	0.0020	0.01	0.00015	100	85	115	0.01005	0.5	10	

Associated samples: **B10082089-007A; B10082089-008A**

Run ID :Run Order: **HGCV201-B_100824A: 8** SampType: **Sample Matrix Spike** Sample ID: **B10082089-007AMS** Method: **SW7470A**
Analysis Date: **08/24/10 15:01** Units: **mg/L** **Prep Info:** Prep Date: **8/24/2010** Prep Method: **SW7470A**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0108	0.020	0.01	0.0002	106	75	125				

Associated samples: **B10082089-007A; B10082089-008A**

Run ID :Run Order: **HGCV201-B_100824A: 10** SampType: **Serial Dilution** Sample ID: **B10082089-008ADIL** Method: **SW7470A**
Analysis Date: **08/24/10 15:04** Units: **mg/L** **Prep Info:** Prep Date: **8/24/2010** Prep Method: **SW7470A**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.020				0	0	0.0002		10	

Associated samples: **B10082089-007A; B10082089-008A**

Run ID :Run Order: **HGCV201-B_100824A: 11** SampType: **Sample Matrix Spike** Sample ID: **B10082089-008AMS** Method: **SW7470A**
Analysis Date: **08/24/10 15:06** Units: **mg/L** **Prep Info:** Prep Date: **8/24/2010** Prep Method: **SW7470A**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00945	0.020	0.01	0.0002	93	75	125				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: AECOM
Work Order: B10082089
Project: LPI - UMI Implementation

ANALYTICAL QC SUMMARY REPORT

BatchID: 48567

Date: *25-Aug-10*

Run ID :Run Order: **HGCV201-B_100824A: 11** SampType: **Sample Matrix Spike** Sample ID: **B10082089-008AMS** Method: **SW7470A**

Analysis Date: **08/24/10 15:06** Units: **mg/L** **Prep Info:** Prep Date: **8/24/2010** Prep Method: **SW7470A**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **B10082089-007A; B10082089-008A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: AECOM
Work Order: B10082089
Project: LPI - UMI Implementation

ANALYTICAL QC SUMMARY REPORT

BatchID: 48571

Date: *25-Aug-10*

Run ID :Run Order: **BECD.I_100823C: 5** SampType: **Method Blank** Sample ID: **MB-48571** Method: **SW8081A**
Analysis Date: **08/24/10 16:05** Units: **mg/L** **Prep Info:** Prep Date: **8/24/2010** Prep Method: **SW8081A**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlordane	ND	0.025									
Heptachlor	ND	0.00050									
Heptachlor epoxide	ND	0.00050									
Endrin	ND	0.00050									
gamma-BHC (Lindane)	ND	0.00050									
Methoxychlor	ND	0.00050									
Toxaphene	ND	0.050									
Surr: Decachlorobiphenyl	0.0189	0.00050	0.02		95	44	119				
Surr: Tetrachloro-m-xylene	0.0149	0.00050	0.02		74	40	120				

Associated samples: **B10082089-007A; B10082089-008A**

Run ID :Run Order: **BECD.I_100823C: 6** SampType: **Laboratory Control Sample** Sample ID: **LCS-48571** Method: **SW8081A**
Analysis Date: **08/24/10 16:33** Units: **mg/L** **Prep Info:** Prep Date: **8/24/2010** Prep Method: **SW8081A**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Heptachlor	0.0105	0.00050	0.01		105	57	118				
Heptachlor epoxide	0.0120	0.00050	0.01		120	70	120				
Endrin	0.0122	0.00050	0.01		122	62	143				
gamma-BHC (Lindane)	0.0110	0.00050	0.01		110	64	118				
Methoxychlor	0.0112	0.00050	0.01		112	63	137				
Surr: Decachlorobiphenyl	0.0180	0.00050	0.02		90	44	119				
Surr: Tetrachloro-m-xylene	0.0149	0.00050	0.02		74	40	120				

Associated samples: **B10082089-007A; B10082089-008A**

Run ID :Run Order: **BECD.I_100823C: 7** SampType: **Laboratory Control Sample** Sample ID: **LCS2-48571** Method: **SW8081A**
Analysis Date: **08/24/10 17:00** Units: **mg/L** **Prep Info:** Prep Date: **8/24/2010** Prep Method: **SW8081A**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlordane	0.0213	0.025	0.025		85	37	126				
Surr: Decachlorobiphenyl	0.0196	0.00050	0.02		98	44	119				
Surr: Tetrachloro-m-xylene	0.0145	0.00050	0.02		73	40	120				

Associated samples: **B10082089-007A; B10082089-008A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: AECOM
Work Order: B10082089
Project: LPI - UMI Implementation

ANALYTICAL QC SUMMARY REPORT

BatchID: 48571

Date: *25-Aug-10*

Run ID :Run Order: **BECD.I_100823C: 8** SampType: **Laboratory Control Sample** Sample ID: **LCS3-48571** Method: **SW8081A**
Analysis Date: **08/24/10 17:28** Units: **mg/L** **Prep Info:** Prep Date: **8/24/2010** Prep Method: **SW8081A**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Toxaphene	0.0513	0.050	0.05		103	27	124				
Surr: Decachlorobiphenyl	0.0186	0.00050	0.02		93	44	119				
Surr: Tetrachloro-m-xylene	0.0156	0.00050	0.02		78	40	120				

Associated samples: **B10082089-007A; B10082089-008A**

Run ID :Run Order: **BECD.I_100823C: 10** SampType: **Sample Matrix Spike** Sample ID: **B10082089-007APT** Method: **SW8081A**
Analysis Date: **08/24/10 18:26** Units: **mg/L** **Prep Info:** Prep Date: **8/24/2010** Prep Method: **SW8081A**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Heptachlor	0.0101	0.00050	0.01		101	57	118				
Heptachlor epoxide	0.0117	0.00050	0.01		117	70	120				
Endrin	0.0124	0.00050	0.01		124	62	143				
gamma-BHC (Lindane)	0.0109	0.00050	0.01		109	64	118				
Methoxychlor	0.0113	0.00050	0.01		113	63	137				
Surr: Decachlorobiphenyl	0.0183	0.00050	0.02		92	44	119				
Surr: Tetrachloro-m-xylene	0.0137	0.00050	0.02		69	40	120				

Associated samples: **B10082089-007A; B10082089-008A**

Run ID :Run Order: **BECD.I_100823C: 11** SampType: **Sample Matrix Spike** Sample ID: **B10082089-007ACD** Method: **SW8081A**
Analysis Date: **08/24/10 18:54** Units: **mg/L** **Prep Info:** Prep Date: **8/24/2010** Prep Method: **SW8081A**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlordane	0.0222	0.025	0.025		89	37	126				
Surr: Decachlorobiphenyl	0.0175	0.00050	0.02		87	44	119				
Surr: Tetrachloro-m-xylene	0.0129	0.00050	0.02		65	40	120				

Associated samples: **B10082089-007A; B10082089-008A**

Run ID :Run Order: **BECD.I_100823C: 12** SampType: **Sample Matrix Spike** Sample ID: **B10082089-007ATX** Method: **SW8081A**
Analysis Date: **08/24/10 19:21** Units: **mg/L** **Prep Info:** Prep Date: **8/24/2010** Prep Method: **SW8081A**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Toxaphene	0.0469	0.050	0.05		94	27	124				
Surr: Decachlorobiphenyl	0.0189	0.00050	0.02		95	44	119				
Surr: Tetrachloro-m-xylene	0.0138	0.00050	0.02		69	40	120				

Associated samples: **B10082089-007A; B10082089-008A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: AECOM
Work Order: B10082089
Project: LPI - UMI Implementation

ANALYTICAL QC SUMMARY REPORT

Date: *25-Aug-10*

BatchID: 48571

Run ID :Run Order: **BECD.I_100823C: 14** SampType: **Sample Matrix Spike** Sample ID: **B10082089-008APT** Method: **SW8081A**
Analysis Date: **08/24/10 20:17** Units: **mg/L** **Prep Info:** Prep Date: **8/24/2010** Prep Method: **SW8081A**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Heptachlor	0.0115	0.00050	0.01		115	57	118				
Heptachlor epoxide	0.0128	0.00050	0.01		128	70	120				S
Endrin	0.0128	0.00050	0.01		128	62	143				
gamma-BHC (Lindane)	0.0127	0.00050	0.01		127	64	118				S
Methoxychlor	0.0110	0.00050	0.01		110	63	137				
Surr: Decachlorobiphenyl	0.0206	0.00050	0.02		103	44	119				
Surr: Tetrachloro-m-xylene	0.0157	0.00050	0.02		79	40	120				

Associated samples: **B10082089-007A; B10082089-008A**

Run ID :Run Order: **BECD.I_100823C: 15** SampType: **Sample Matrix Spike** Sample ID: **B10082089-008ACD** Method: **SW8081A**
Analysis Date: **08/24/10 20:44** Units: **mg/L** **Prep Info:** Prep Date: **8/24/2010** Prep Method: **SW8081A**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlordane	0.0241	0.025	0.025		96	37	126				
Surr: Decachlorobiphenyl	0.0190	0.00050	0.02		95	44	119				
Surr: Tetrachloro-m-xylene	0.0151	0.00050	0.02		76	40	120				

Associated samples: **B10082089-007A; B10082089-008A**

Run ID :Run Order: **BECD.I_100823C: 16** SampType: **Sample Matrix Spike** Sample ID: **B10082089-008ATX** Method: **SW8081A**
Analysis Date: **08/24/10 21:12** Units: **mg/L** **Prep Info:** Prep Date: **8/24/2010** Prep Method: **SW8081A**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Toxaphene	0.0447	0.050	0.05		89	27	124				
Surr: Decachlorobiphenyl	0.0193	0.00050	0.02		97	44	119				
Surr: Tetrachloro-m-xylene	0.0151	0.00050	0.02		76	40	120				

Associated samples: **B10082089-007A; B10082089-008A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: AECOM
Work Order: B10082089
Project: LPI - UMI Implementation

ANALYTICAL QC SUMMARY REPORT

BatchID: R152860

Date: *25-Aug-10*

Run ID :Run Order: **BECD.I_100823C: 2** SampType: **Continuing Calibration Verification Standard** Sample ID: **8081ck3** Method: **SW8081A**
Analysis Date: **08/24/10 14:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Heptachlor	0.0216	0.00050	0.02		108	85	115				
Heptachlor epoxide	0.0209	0.00050	0.02		104	85	115				
Endrin	0.0216	0.00050	0.02		108	85	115				
gamma-BHC (Lindane)	0.0216	0.00050	0.02		108	85	115				
Methoxychlor	0.0184	0.00050	0.02		92	85	115				
Surr: Decachlorobiphenyl	0.0238	0.00050	0.02		119	85	115				S
Surr: Tetrachloro-m-xylene	0.0230	0.00050	0.02		115	85	115				

Associated samples: **B10082089-007A; B10082089-008A**

Run ID :Run Order: **BECD.I_100823C: 3** SampType: **Continuing Calibration Verification Standard** Sample ID: **Tox** Method: **SW8081A**
Analysis Date: **08/24/10 15:10** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Toxaphene	0.537	0.050	0.5		107	85	115				
Surr: Decachlorobiphenyl	0.0558	0.00050	0.05		112	85	115				
Surr: Tetrachloro-m-xylene	0.0542	0.00050	0.05		108	85	115				

Associated samples:

Run ID :Run Order: **BECD.I_100823C: 4** SampType: **Continuing Calibration Verification Standard** Sample ID: **CLD** Method: **SW8081A**
Analysis Date: **08/24/10 15:37** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlordane	0.111	0.025	0.1		111	85	115				
Surr: Decachlorobiphenyl	0.0138	0.00050	0.01		138	85	115				S
Surr: Tetrachloro-m-xylene	0.0119	0.00050	0.01		119	85	115				S

Associated samples: **B10082089-007A; B10082089-008A**

Run ID :Run Order: **BECD.I_100823C: 17** SampType: **Continuing Calibration Verification Standard** Sample ID: **8081ck6** Method: **SW8081A**
Analysis Date: **08/24/10 22:08** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Heptachlor	0.220	0.00050	0.2		110	85	115				
Heptachlor epoxide	0.227	0.00050	0.2		113	85	115				
Endrin	0.211	0.00050	0.2		105	85	115				
gamma-BHC (Lindane)	0.214	0.00050	0.2		107	85	115				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: AECOM
Work Order: B10082089
Project: LPI - UMI Implementation

ANALYTICAL QC SUMMARY REPORT

BatchID: R152860

Date: *25-Aug-10*

Run ID :Run Order: **BECD.I_100823C: 17** SampType: **Continuing Calibration Verification Standard** Sample ID: **8081ck6** Method: **SW8081A**

Analysis Date: **08/24/10 22:08** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methoxychlor	0.192	0.00050	0.2		96	85	115				
Surr: Decachlorobiphenyl	0.220	0.00050	0.2		110	85	115				
Surr: Tetrachloro-m-xylene	0.217	0.00050	0.2		108	85	115				

Associated samples:

Run ID :Run Order: **BECD.I_100823C: 18** SampType: **Continuing Calibration Verification Standard** Sample ID: **Tox** Method: **SW8081A**

Analysis Date: **08/24/10 22:35** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Toxaphene	0.521	0.050	0.5		104	85	115				
Surr: Decachlorobiphenyl	0.0565	0.00050	0.05		113	85	115				
Surr: Tetrachloro-m-xylene	0.0538	0.00050	0.05		108	85	115				

Associated samples:

Run ID :Run Order: **BECD.I_100823C: 19** SampType: **Continuing Calibration Verification Standard** Sample ID: **CLD** Method: **SW8081A**

Analysis Date: **08/24/10 23:03** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlordane	0.114	0.025	0.1		114	85	115				
Surr: Decachlorobiphenyl	0.0150	0.00050	0.01		150	85	115				S
Surr: Tetrachloro-m-xylene	0.0120	0.00050	0.01		120	85	115				S

Associated samples:

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: AECOM
Work Order: B10082089
Project: LPI - UMI Implementation

ANALYTICAL QC SUMMARY REPORT

Date: *25-Aug-10*

BatchID: 48569

Run ID :Run Order: **CECD.I_100823B: 2** SampType: **Method Blank** Sample ID: **MB-48569** Method: **SW8151A**
Analysis Date: **08/24/10 21:27** Units: **mg/L** **Prep Info:** Prep Date: **8/24/2010** Prep Method: **SW8151A**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2,4-D	ND	0.010									
2,4,5-TP (Silvex)	ND	0.0020									
Surr: DCAA	0.0612	0.010	0.1		61	57	125				

Associated samples: **B10082089-007A; B10082089-008A**

Run ID :Run Order: **CECD.I_100823B: 3** SampType: **Laboratory Control Sample** Sample ID: **LCS-48569** Method: **SW8151A**
Analysis Date: **08/24/10 20:57** Units: **mg/L** **Prep Info:** Prep Date: **8/24/2010** Prep Method: **SW8151A**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2,4-D	0.0422	0.010	0.05		84	58	136				
2,4,5-TP (Silvex)	0.0383	0.0020	0.05		77	66	153				
Surr: DCAA	0.0576	0.010	0.1		58	57	125				

Associated samples: **B10082089-007A; B10082089-008A**

Run ID :Run Order: **CECD.I_100823B: 5** SampType: **Sample Matrix Spike** Sample ID: **B10082089-007AMS** Method: **SW8151A**
Analysis Date: **08/24/10 22:57** Units: **mg/L** **Prep Info:** Prep Date: **8/24/2010** Prep Method: **SW8151A**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2,4-D	0.0529	0.010	0.05		106	50	150				
2,4,5-TP (Silvex)	0.0450	0.0020	0.05		90	50	150				
Surr: DCAA	0.0669	0.010	0.1		67	57	125				

Associated samples: **B10082089-007A; B10082089-008A**

Run ID :Run Order: **CECD.I_100823B: 7** SampType: **Sample Matrix Spike** Sample ID: **B10082089-008AMS** Method: **SW8151A**
Analysis Date: **08/24/10 23:27** Units: **mg/L** **Prep Info:** Prep Date: **8/24/2010** Prep Method: **SW8151A**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2,4,5-TP (Silvex)	0.0479	0.0020	0.05		96	50	150				
Surr: DCAA	0.0655	0.010	0.1		66	57	125				

Associated samples: **B10082089-007A; B10082089-008A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: AECOM
Work Order: B10082089
Project: LPI - UMI Implementation

ANALYTICAL QC SUMMARY REPORT

BatchID: 48569

Date: *25-Aug-10*

Run ID :Run Order: **CECD.I_100823B: 12** SampType: **Sample Duplicate** Sample ID: **B10082089-008ADUP** Method: **SW8151A**

Analysis Date: **08/25/10 13:43** Units: **mg/L** **Prep Info:** Prep Date: **8/24/2010** Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2,4-D	2.52	0.20		2.54				2.59	2.7	40	
Surr: DCAA	0.0704	0.20	0.1		70	57	125				

Associated samples: **B10082089-007A; B10082089-008A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: AECOM
Work Order: B10082089
Project: LPI - UMI Implementation

ANALYTICAL QC SUMMARY REPORT

BatchID: R152868

Date: *25-Aug-10*

Run ID :Run Order: **CECD.I_100823B: 1** SampType: **Continuing Calibration Verification Standard** Sample ID: **8151Ck8** Method: **SW8151A**
Analysis Date: **08/24/10 20:27** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2,4-D	0.540	0.010	0.5		108	85	115				
2,4,5-TP (Silvex)	0.500	0.0020	0.5		100	85	115				
Surr: DCAA	0.466	0.010	0.5		93	85	115				

Associated samples: **B10082089-007A; B10082089-008A**

Run ID :Run Order: **CECD.I_100823B: 8** SampType: **Continuing Calibration Verification Standard** Sample ID: **8151Ck8** Method: **SW8151A**
Analysis Date: **08/25/10 00:27** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2,4-D	0.544	0.010	0.5		109	85	115				
2,4,5-TP (Silvex)	0.488	0.0020	0.5		98	85	115				
Surr: DCAA	0.486	0.010	0.5		97	85	115				

Associated samples:

Run ID :Run Order: **CECD.I_100823B: 9** SampType: **Continuing Calibration Verification Standard** Sample ID: **8151Ck8** Method: **SW8151A**
Analysis Date: **08/25/10 12:10** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2,4-D	0.469	0.010	0.5		94	85	115				
2,4,5-TP (Silvex)	0.459	0.0020	0.5		92	85	115				
Surr: DCAA	0.444	0.010	0.5		89	85	115				

Associated samples: **B10082089-008A**

Run ID :Run Order: **CECD.I_100823B: 13** SampType: **Continuing Calibration Verification Standard** Sample ID: **8151Ck8** Method: **SW8151A**
Analysis Date: **08/25/10 14:43** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2,4-D	0.527	0.010	0.5		105	85	115				
2,4,5-TP (Silvex)	0.486	0.0020	0.5		97	85	115				
Surr: DCAA	0.464	0.010	0.5		93	85	115				

Associated samples:

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: AECOM
Work Order: B10082089
Project: LPI - UMI Implementation

ANALYTICAL QC SUMMARY REPORT

Date: *25-Aug-10*

BatchID: 48564

Run ID :Run Order: **SV5972.I_100825A: 3** SampType: **Laboratory Control Sample** Sample ID: **lcs082510** Method: **SW8260B**

Analysis Date: **08/25/10 09:29** Units: **mg/L** **Prep Info:** Prep Date: **8/25/2010** Prep Method: **SW1311**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	0.00560	0.0010	0.005		112	71	133				
Carbon tetrachloride	0.00568	0.0010	0.005		114	61	144				
Chlorobenzene	0.00540	0.0010	0.005		108	78	136				
Chloroform	0.00564	0.0010	0.005		113	69	133				
1,4-Dichlorobenzene	0.00536	0.0010	0.005		107	78	132				
1,2-Dichloroethane	0.00564	0.0010	0.005		113	57	146				
1,1-Dichloroethene	0.00576	0.0010	0.005		115	66	142				
Methyl ethyl ketone	0.0504	0.020	0.05		101	55	145				
Tetrachloroethene	0.00564	0.0010	0.005		113	78	137				
Trichloroethene	0.00560	0.0010	0.005		112	75	138				
Vinyl chloride	0.00504	0.0010	0.005		101	66	140				
Surr: 1,2-Dichloroethane-d4	0.0107	0.0010	0.01		107	70	130				
Surr: Dibromofluoromethane	0.0102	0.0010	0.01		102	77	126				
Surr: p-Bromofluorobenzene	0.00984	0.0010	0.01		98	76	127				
Surr: Toluene-d8	0.0100	0.0010	0.01		100	79	122				

Associated samples: **B10082089-007A; B10082089-008A**

Run ID :Run Order: **SV5972.I_100825A: 4** SampType: **Method Blank** Sample ID: **mb-48564** Method: **SW8260B**

Analysis Date: **08/25/10 10:46** Units: **mg/L** **Prep Info:** Prep Date: **8/24/2010** Prep Method: **SW1311**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.010									
Carbon tetrachloride	ND	0.010									
Chlorobenzene	ND	0.010									
Chloroform	ND	0.010									
1,4-Dichlorobenzene	ND	0.010									
1,2-Dichloroethane	ND	0.010									
1,1-Dichloroethene	ND	0.010									
Methyl ethyl ketone	ND	0.20									
Tetrachloroethene	ND	0.010									
Trichloroethene	ND	0.010									
Vinyl chloride	ND	0.010									
Surr: 1,2-Dichloroethane-d4	0.103	0.010	0.1		103	70	130				
Surr: Dibromofluoromethane	0.0996	0.010	0.1		100	77	126				
Surr: p-Bromofluorobenzene	0.0996	0.010	0.1		100	76	127				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: AECOM
Work Order: B10082089
Project: LPI - UMI Implementation

ANALYTICAL QC SUMMARY REPORT

Date: *25-Aug-10*

BatchID: 48564

Run ID :Run Order: **SV5972.I_100825A: 4** SampType: **Method Blank** Sample ID: **mb-48564** Method: **SW8260B**
Analysis Date: **08/25/10 10:46** Units: **mg/L** **Prep Info:** Prep Date: **8/24/2010** Prep Method: **SW1311**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: Toluene-d8	0.100	0.010	0.1		100	79	122				

Associated samples: **B10082089-007A; B10082089-008A**

Run ID :Run Order: **SV5972.I_100825A: 7** SampType: **Sample Matrix Spike** Sample ID: **b10082089-007ams** Method: **SW8260B**
Analysis Date: **08/25/10 13:31** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	0.0556	0.010	0.05		111	71	133				
Carbon tetrachloride	0.0576	0.010	0.05		115	61	144				
Chlorobenzene	0.0544	0.010	0.05		109	78	136				
Chloroform	0.0564	0.010	0.05		113	69	133				
1,4-Dichlorobenzene	0.0560	0.010	0.05		112	78	132				
1,2-Dichloroethane	0.0568	0.010	0.05		114	57	146				
1,1-Dichloroethene	0.0576	0.010	0.05		115	66	142				
Methyl ethyl ketone	0.964	0.20	1.25		77	55	145				
Tetrachloroethene	0.0564	0.010	0.05		113	78	137				
Trichloroethene	0.0540	0.010	0.05		108	75	138				
Vinyl chloride	0.0580	0.010	0.05		116	66	140				
Surr: 1,2-Dichloroethane-d4	0.106	0.010	0.1		106	70	130				
Surr: Dibromofluoromethane	0.102	0.010	0.1		102	77	126				
Surr: p-Bromofluorobenzene	0.103	0.010	0.1		103	76	127				
Surr: Toluene-d8	0.101	0.010	0.1		101	79	122				

Associated samples: **B10082089-007A; B10082089-008A**

Run ID :Run Order: **SV5972.I_100825A: 8** SampType: **Sample Matrix Spike** Sample ID: **b10082089-008ams** Method: **SW8260B**
Analysis Date: **08/25/10 14:00** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	0.0504	0.010	0.05		101	71	133				
Carbon tetrachloride	0.0528	0.010	0.05		106	61	144				
Chlorobenzene	0.0508	0.010	0.05		102	78	136				
Chloroform	0.0516	0.010	0.05		103	69	133				
1,4-Dichlorobenzene	0.0500	0.010	0.05		100	78	132				
1,2-Dichloroethane	0.0528	0.010	0.05		106	57	146				
1,1-Dichloroethene	0.0528	0.010	0.05		106	66	142				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: AECOM
Work Order: B10082089
Project: LPI - UMI Implementation

ANALYTICAL QC SUMMARY REPORT

Date: *25-Aug-10*

BatchID: 48564

Run ID :Run Order: **SV5972.I_100825A: 8** SampType: **Sample Matrix Spike** Sample ID: **b10082089-008ams** Method: **SW8260B**

Analysis Date: **08/25/10 14:00** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl ethyl ketone	0.956	0.20	1.25		76	55	145				
Tetrachloroethene	0.0524	0.010	0.05		105	78	137				
Trichloroethene	0.0504	0.010	0.05		101	75	138				
Vinyl chloride	0.0512	0.010	0.05		102	66	140				
Surr: 1,2-Dichloroethane-d4	0.107	0.010	0.1		107	70	130				
Surr: Dibromofluoromethane	0.101	0.010	0.1		101	77	126				
Surr: p-Bromofluorobenzene	0.0996	0.010	0.1		100	76	127				
Surr: Toluene-d8	0.0996	0.010	0.1		100	79	122				

Associated samples: **B10082089-007A; B10082089-008A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: AECOM
Work Order: B10082089
Project: LPI - UMI Implementation

ANALYTICAL QC SUMMARY REPORT

Date: *25-Aug-10*

BatchID: R152873

Run ID :Run Order: **SV5972.I_100825A: 1** SampType: **MS Tuning File** Sample ID: **BFB082510** Method: **SW8260B**

Analysis Date: **08/25/10 08:31** Units: **%** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
95, Base Peak	100		100		100	0	100				
50, % of mass 95	22.4		100		22.4	15	40				
75, % of mass 95	47.0		100		47	30	60				
96, % of mass 95	7.07		100		7.07	5	9				
173, % of mass 174	ND		100			0	1.99				
174, % of mass 95	60.0		100		60	50	99.99				
175, % of mass 174	7.42		100		7.42	5	9				
176, % of mass 174	99.0		100		99	95	101				
177, % of mass 176	8.37		100		8.37	5	9				

Associated samples: **B10082089-007A; B10082089-008A**

Run ID :Run Order: **SV5972.I_100825A: 2** SampType: **Continuing Calibration Verification Standard** Sample ID: **ccv082510** Method: **SW8260B**

Analysis Date: **08/25/10 08:59** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	0.00564	0.0010	0.005		113	70	130				
Carbon tetrachloride	0.00584	0.0010	0.005		117	70	130				
Chlorobenzene	0.00556	0.0010	0.005		111	70	130				
Chloroform	0.00568	0.0010	0.005		114	80	120				
1,4-Dichlorobenzene	0.00556	0.0010	0.005		111	70	130				
1,2-Dichloroethane	0.00580	0.0010	0.005		116	70	130				
1,1-Dichloroethene	0.00588	0.0010	0.005		118	70	130				
Methyl ethyl ketone	0.0536	0.020	0.05		107	70	130				
Tetrachloroethene	0.00552	0.0010	0.005		110	70	130				
Trichloroethene	0.00572	0.0010	0.005		114	70	130				
Vinyl chloride	0.00480	0.0010	0.005		96	70	130				
Surr: 1,2-Dichloroethane-d4	0.0108	0.0010	0.01		108	70	130				
Surr: Dibromofluoromethane	0.0101	0.0010	0.01		101	77	126				
Surr: p-Bromofluorobenzene	0.0100	0.0010	0.01		100	76	127				
Surr: Toluene-d8	0.0100	0.0010	0.01		100	79	122				

Associated samples: **B10082089-007A; B10082089-008A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: AECOM
Work Order: B10082089
Project: LPI - UMI Implementation

ANALYTICAL QC SUMMARY REPORT

Date: *25-Aug-10*

BatchID: 48568

Run ID :Run Order: **SV5973.I_100824A: 3** SampType: **Method Blank** Sample ID: **MB-48568** Method: **SW8270C**

Analysis Date: **08/24/10 15:49** Units: **mg/L** **Prep Info:** Prep Date: **8/24/2010** Prep Method: **SW8270C**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
m+p-Cresols	ND	0.050									
o-Cresol	ND	0.050									
Pentachlorophenol	ND	0.25									
2,4,5-Trichlorophenol	ND	0.050									
2,4,6-Trichlorophenol	ND	0.050									
2,4-Dinitrotoluene	ND	0.050									
Hexachlorobutadiene	ND	0.050									
Hexachlorobenzene	ND	0.050									
Hexachloroethane	ND	0.050									
Nitrobenzene	ND	0.050									
Pyridine	ND	0.10									
Cresols, Total	ND	0.050									
Surr: 2,4,6-Tribromophenol	0.800	0.050	1		80	37	101				
Surr: 2-Fluorobiphenyl	0.372	0.050	0.5		75	46	96				
Surr: 2-Fluorophenol	0.610	0.050	1		61	27	82				
Surr: Nitrobenzene-d5	0.380	0.050	0.5		76	45	103				
Surr: Phenol-d5	0.555	0.050	1		56	21	82				
Surr: Terphenyl-d14	0.404	0.050	0.5		81	48	118				

Associated samples: **B10082089-007A; B10082089-008A**

Run ID :Run Order: **SV5973.I_100824A: 4** SampType: **Laboratory Control Sample** Sample ID: **LCS-48568** Method: **SW8270C**

Analysis Date: **08/24/10 16:20** Units: **mg/L** **Prep Info:** Prep Date: **8/24/2010** Prep Method: **SW8270C**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
m+p-Cresols	0.520	0.050	1		52	31	90				
o-Cresol	0.270	0.050	0.5		54	38	96				
Pentachlorophenol	0.326	0.25	0.5		65	27	122				
2,4,5-Trichlorophenol	0.380	0.050	0.5		76	48	128				
2,4,6-Trichlorophenol	0.268	0.050	0.5		54	48	102				
2,4-Dinitrotoluene	0.357	0.050	0.5		71	55	93				
Hexachlorobutadiene	0.280	0.050	0.5		56	29	107				
Hexachlorobenzene	0.225	0.050	0.5		45	43	87				
Hexachloroethane	0.262	0.050	0.5		53	34	84				
Nitrobenzene	0.329	0.050	0.5		66	46	107				
Pyridine	0.123	0.10	0.5		25	10	87				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: AECOM
Work Order: B10082089
Project: LPI - UMI Implementation

ANALYTICAL QC SUMMARY REPORT

Date: *25-Aug-10*

BatchID: 48568

Run ID :Run Order: **SV5973.I_100824A: 4** SampType: **Laboratory Control Sample** Sample ID: **LCS-48568** Method: **SW8270C**

Analysis Date: **08/24/10 16:20** Units: **mg/L** **Prep Info:** Prep Date: **8/24/2010** Prep Method: **SW8270C**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: 2,4,6-Tribromophenol	0.730	0.050	1		73	37	101				
Surr: 2-Fluorobiphenyl	0.320	0.050	0.5		64	46	96				
Surr: 2-Fluorophenol	0.505	0.050	1		51	27	82				
Surr: Nitrobenzene-d5	0.331	0.050	0.5		66	45	103				
Surr: Phenol-d5	0.480	0.050	1		48	21	82				
Surr: Terphenyl-d14	0.372	0.050	0.5		74	48	118				

Associated samples: **B10082089-007A; B10082089-008A**

Run ID :Run Order: **SV5973.I_100824A: 6** SampType: **Sample Matrix Spike** Sample ID: **B10082089-007AMS** Method: **SW8270C**

Analysis Date: **08/24/10 17:22** Units: **mg/L** **Prep Info:** Prep Date: **8/24/2010** Prep Method: **SW8270C**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
m+p-Cresols	0.625	0.050	1		63	31	90				
o-Cresol	0.316	0.050	0.5		63	38	96				
Pentachlorophenol	0.331	0.25	0.5		66	27	122				
2,4,5-Trichlorophenol	0.444	0.050	0.5		89	48	128				
2,4,6-Trichlorophenol	0.306	0.050	0.5		61	48	102				
2,4-Dinitrotoluene	0.406	0.050	0.5		81	55	93				
Hexachlorobutadiene	0.310	0.050	0.5		62	29	107				
Hexachlorobenzene	0.250	0.050	0.5		50	43	87				
Hexachloroethane	0.302	0.050	0.5		60	34	84				
Nitrobenzene	0.370	0.050	0.5		74	46	107				
Pyridine	0.142	0.10	0.5		28	10	87				
Surr: 2,4,6-Tribromophenol	0.810	0.050	1		81	37	101				
Surr: 2-Fluorobiphenyl	0.361	0.050	0.5		72	46	96				
Surr: 2-Fluorophenol	0.580	0.050	1		58	27	82				
Surr: Nitrobenzene-d5	0.360	0.050	0.5		72	45	103				
Surr: Phenol-d5	0.520	0.050	1		52	21	82				
Surr: Terphenyl-d14	0.400	0.050	0.5		80	48	118				

Associated samples: **B10082089-007A; B10082089-008A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: AECOM
Work Order: B10082089
Project: LPI - UMI Implementation

ANALYTICAL QC SUMMARY REPORT

Date: *25-Aug-10*

BatchID: 48568

Run ID :Run Order: **SV5973.I_100824A: 8** SampType: **Sample Matrix Spike** Sample ID: **B10082089-008AMS** Method: **SW8270C**

Analysis Date: **08/24/10 18:24** Units: **mg/L** **Prep Info:** Prep Date: **8/24/2010** Prep Method: **SW8270C**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
m+p-Cresols	0.615	0.050	1		62	31	90				
o-Cresol	0.345	0.050	0.5	0.0294	63	38	96				
Pentachlorophenol	0.431	0.25	0.5		86	27	122				
2,4,5-Trichlorophenol	0.429	0.050	0.5		86	48	128				
2,4,6-Trichlorophenol	0.310	0.050	0.5		62	48	102				
2,4-Dinitrotoluene	0.396	0.050	0.5		79	55	93				
Hexachlorobutadiene	0.303	0.050	0.5		61	29	107				
Hexachlorobenzene	0.240	0.050	0.5		48	43	87				
Hexachloroethane	0.288	0.050	0.5		58	34	84				
Nitrobenzene	0.362	0.050	0.5		72	46	107				
Pyridine	0.140	0.10	0.5		28	10	87				
Surr: 2,4,6-Tribromophenol	0.775	0.050	1		78	37	101				
Surr: 2-Fluorobiphenyl	0.336	0.050	0.5		67	46	96				
Surr: 2-Fluorophenol	0.545	0.050	1		55	27	82				
Surr: Nitrobenzene-d5	0.338	0.050	0.5		68	45	103				
Surr: Phenol-d5	0.520	0.050	1		52	21	82				
Surr: Terphenyl-d14	0.356	0.050	0.5		71	48	118				

Associated samples: **B10082089-007A; B10082089-008A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: AECOM
Work Order: B10082089
Project: LPI - UMI Implementation

ANALYTICAL QC SUMMARY REPORT

Date: *25-Aug-10*

BatchID: R152891

Run ID :Run Order: **SV5973.I_100824A: 1** SampType: **MS Tuning File** Sample ID: **24-Aug-10_TUNE_1** Method: **SW8270C**

Analysis Date: **08/24/10 14:44** Units: **%** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
198, Base Peak	100	0.010	100		100	100	100				
51, % of mass 198	40.6	0.010	100		40.6	30	60				
68, % of mass 69	ND	0.010	100			0	1.99				
69, % Relative Abundance	43.3	0.010	100		43.3	0.01	99.99				
70, % of mass 69	0.730	0.010	100		0.73	0	1.99				
127, % of mass 198	47.7	0.010	100		47.7	40	60				
197, % of mass 198	ND	0.010	100			0	0.99				
199, % of mass 198	6.64	0.010	100		6.64	5	9				
275, % of mass 198	26.8	0.010	100		26.8	10	30				
365, % of mass 198	2.73	0.010	100		2.73	1	99.99				
441, % of mass 443	81.1	0.010	100		81.1	0.01	99.99				
442, % of mass 198	80.7	0.010	100		80.7	40	100				
443, % of mass 442	19.4	0.010	100		19.4	17	23				

Associated samples: **B10082089-007A; B10082089-008A**

Run ID :Run Order: **SV5973.I_100824A: 2** SampType: **Continuing Calibration Verification Standard** Sample ID: **24-Aug-10_CCV_2** Method: **SW8270C**

Analysis Date: **08/24/10 15:06** Units: **ug/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2,4,5-Trichlorophenol	81.2	10	75		108	70	130				
2,4,6-Trichlorophenol	70.2	10	75		94	80	120				
2,4-Dinitrotoluene	78.5	10	75		105	70	130				
Hexachlorobenzene	65.9	10	75		88	70	130				
Hexachlorobutadiene	66.1	10	75		88	80	120				
Hexachloroethane	67.1	10	75		89	70	130				
m+p-Cresols	70.7	10	75		94	70	130				
Nitrobenzene	71.3	10	75		95	70	130				
o-Cresol	68.9	10	75		92	70	130				
Pentachlorophenol	64.2	50	75		86	80	120				
Pyridine	62.8	10	75		84	70	130				
Surr: 2,4,6-Tribromophenol	72.2	10	75		96	70	130				
Surr: 2-Fluorobiphenyl	71.1	10	75		95	70	130				
Surr: 2-Fluorophenol	70.6	10	75		94	70	130				
Surr: Nitrobenzene-d5	68.0	10	75		91	70	130				
Surr: Phenol-d5	70.9	10	75		95	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: AECOM
Work Order: B10082089
Project: LPI - UMI Implementation

ANALYTICAL QC SUMMARY REPORT

BatchID: R152891

Date: *25-Aug-10*

Run ID :Run Order: **SV5973.I_100824A: 2** SampType: **Continuing Calibration Verification Standard** Sample ID: **24-Aug-10_CCV_2** Method: **SW8270C**

Analysis Date: **08/24/10 15:06** Units: **ug/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: Terphenyl-d14	73.3	10	75		98	70	130				

Associated samples: **B10082089-007A; B10082089-008A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: AECOM
Work Order: B10082089
Project: LPI - UMI Implementation

ANALYTICAL QC SUMMARY REPORT

BatchID: 48546

Date: *25-Aug-10*

Run ID :Run Order: **CECD.I_100823A: 2** SampType: **Method Blank** Sample ID: **MB-48546** Method: **SW8151A**
Analysis Date: **08/24/10 08:45** Units: **mg/kg** **Prep Info:** Prep Date: **8/23/2010** Prep Method: **SW3550B**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2,4-D	ND	0.020									
MCPA	ND	4.0									
Surr: DCAA	0.109	0.0020	0.2		55	53	114				

Associated samples: **B10082089-001A; B10082089-002A; B10082089-003A; B10082089-004A; B10082089-005A; B10082089-006A**

Run ID :Run Order: **CECD.I_100823A: 3** SampType: **Laboratory Control Sample** Sample ID: **LCS-48546** Method: **SW8151A**
Analysis Date: **08/24/10 15:27** Units: **mg/kg** **Prep Info:** Prep Date: **8/23/2010** Prep Method: **SW3550B**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2,4-D	0.0880	0.020	0.1		88	25	117				
MCPA	6.64	4.0	10		66	11	120				
Surr: DCAA	0.124	0.0020	0.2		62	53	114				

Associated samples: **B10082089-001A; B10082089-002A; B10082089-003A; B10082089-004A; B10082089-005A; B10082089-006A**

Run ID :Run Order: **CECD.I_100823A: 11** SampType: **Sample Duplicate** Sample ID: **B10082089-006ADUP** Method: **SW8151A**
Analysis Date: **08/24/10 14:27** Units: **mg/kg** **Prep Info:** Prep Date: **8/23/2010** Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2,4-D	0.480	0.20						0.748	44	40	R

Associated samples: **B10082089-001A; B10082089-002A; B10082089-003A; B10082089-004A; B10082089-005A; B10082089-006A**

Run ID :Run Order: **CECD.I_100823A: 12** SampType: **Sample Duplicate** Sample ID: **B10082089-006ADUP** Method: **SW8151A**
Analysis Date: **08/24/10 14:57** Units: **mg/kg** **Prep Info:** Prep Date: **8/23/2010** Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2,4-D	0.614	0.20						0.748	20	40	

Associated samples: **B10082089-001A; B10082089-002A; B10082089-003A; B10082089-004A; B10082089-005A; B10082089-006A**

Run ID :Run Order: **CECD.I_100823A: 13** SampType: **Continuing Calibration Verification Standard** Sample ID: **8151Ck8** Method: **SW8151A**
Analysis Date: **08/24/10 15:57** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2,4-D	0.525	0.020	0.5		105	85	115				
MCPA	50.2	4.0	50		100	85	115				
Surr: DCAA	0.455	0.0020	0.5		91	85	115				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: AECOM
Work Order: B10082089
Project: LPI - UMI Implementation

ANALYTICAL QC SUMMARY REPORT

BatchID: 48546

Date: *25-Aug-10*

Run ID :Run Order: **CECD.I_100823A: 13** SampType: **Continuing Calibration Verification Standard** Sample ID: **8151Ck8** Method: **SW8151A**
Analysis Date: **08/24/10 15:57** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **B10082089-001A; B10082089-002A; B10082089-004A; B10082089-005A; B10082089-006A**

Run ID :Run Order: **CECD.I_100823A: 16** SampType: **Sample Matrix Spike** Sample ID: **B10082089-006AMS** Method: **SW8151A**
Analysis Date: **08/24/10 19:27** Units: **mg/kg** **Prep Info:** Prep Date: **8/23/2010** Prep Method: **SW3550B**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
MCPA	6.60	4.0	10		66	11	120				
Surr: DCAA	0.131	0.0020	0.2		65	53	114				

Associated samples: **B10082089-001A; B10082089-002A; B10082089-003A; B10082089-004A; B10082089-005A; B10082089-006A**

Run ID :Run Order: **CECD.I_100823A: 17** SampType: **Sample Matrix Spike Duplicate** Sample ID: **B10082089-006AMSD** Method: **SW8151A**
Analysis Date: **08/24/10 19:57** Units: **mg/kg** **Prep Info:** Prep Date: **8/23/2010** Prep Method: **SW3550B**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
MCPA	7.46	4.0	10		75	11	120	6.6	12	40	
Surr: DCAA	0.134	0.0020	0.2		67	53	114				

Associated samples: **B10082089-001A; B10082089-002A; B10082089-003A; B10082089-004A; B10082089-005A; B10082089-006A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: AECOM
Work Order: B10082089
Project: LPI - UMI Implementation

ANALYTICAL QC SUMMARY REPORT

BatchID: R152857

Date: *25-Aug-10*

Run ID :Run Order: **CECD.I_100823A: 1** SampType: **Continuing Calibration Verification Standard** Sample ID: **8151Ck8** Method: **SW8151A**

Analysis Date: **08/24/10 08:16** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2,4-D	0.485	0.020	0.5		97	85	115				
MCPA	50.3	4.0	50		101	85	115				
Surr: DCAA	0.445	0.0020	0.5		89	85	115				

Associated samples: **B10082089-001A; B10082089-003A; B10082089-005A; B10082089-006A**

Run ID :Run Order: **CECD.I_100823A: 18** SampType: **Continuing Calibration Verification Standard** Sample ID: **8151Ck8** Method: **SW8151A**

Analysis Date: **08/24/10 20:27** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2,4-D	0.540	0.020	0.5		108	85	115				
MCPA	46.8	4.0	50		94	85	115				
Surr: DCAA	0.466	0.0020	0.5		93	85	115				

Associated samples:

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Workorder Receipt Checklist

B10082089

AECOM

Login completed by: Darwin C. Miller
Date Received: 8/23/2010

Reviewed by: BL2000\kmcdonald
Received by: klb

Reviewed Date: 8/23/2010
Carrier name: Hand Del

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature:	13°C On Ice		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	Not Applicable ☑

Contact and Corrective Action Comments:

None

Chain of Custody and Analytical Request Record

ENERGY LABORATORIES

PLEASE PRINT (Provide as much information as possible.)

Company Name: AECOM	Project Name, PWS, Permit, Etc.: LPI - CMI Implementation	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: 207 N Broadway, Suite 315, Billings, MT 59101	Contact Name: Shelly Young; Phone/Fax: 406 896 4582; Email: Shelly.young@aecom.com		Sampler: (Please Print) Shelly Young
Invoice Address: SAA	Invoice Contact & Phone: Shelly Young 896 4582 / Joyce Sheldon 896-4585	Purchase Order: Quote 2224	Quote/Bottle Order:

Special Report/Formats:

☐ DW
☐ POTW/WWTP
☐ State: _____
☐ Other: _____

☑ EDD/EDT (Electronic Data) Format: AECOM format
☐ LEVEL IV similar to 6w. EQuIS
☐ NELAC

ANALYSIS REQUESTED

Number of Containers
Sample Type: A W S V B O DW
Air Water Soils/Solids Vegetation Bioassay Other DW - Drinking Water

SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	MCPA + 2,4-D by 8151	Full TCLP - per quote 2224	SEE ATTACHED	Standard Turnaround (TAT)	RUSH	Lab ID
1 SA1-15-B1	08/23/10	1150	Soil	X				24hr	B10082089-001
2 SA1-15-N1		1240		X					-002
3 SA1-15-S1		1250		X					-003
4 SA1-15-W1		1258		X					-004
5 SA1-15-E1		1305		X					-005
6 SA1-15-D1		1145		X					-006
7 SA-1-15-TCLP North		1219			X			3day	-007
8 SA-1-15 TCLP South		1219			X			3day	-008
9									
10									

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments:
24 hour rush on 2-4,D + MCPA results
3 day rush on TCLP
per Andy 8-23-10 12:16

Sample collected in 16oz jar - remainder of 4oz

Shipped by: hand
Cooler ID(s):
Receipt Temp: 13 °C
On Ice: (Y) N
Custody Seal: On Bottle (Y) N; On Cooler (Y) N
Intact: Y N
Signature Match: Y N

LABORATORY USE ONLY

Custody Record MUST be Signed

Relinquished by (print): Shelly Young	Date/Time: 08/23/10 1420	Signature:	Received by (print): / Date/Time: / Signature:
Relinquished by (print):	Date/Time:	Signature:	Received by (print): / Date/Time: / Signature:
Sample Disposal: Return to Client: _____ Lab Disposal: _____			Received by Laboratory: Blue Buehler 8-23-10 14:20

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested.
This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.
Visit our web site at www.energylab.com for additional information, downloadable fee schedule, forms, and links.