WEAVER
BOOS
CONSULTANTS

March 4, 2010
Project Number 0058-375-01

Ms. Ann Kolata
City of South Bend
Department of Community and Economic Development
227 W. Jefferson Blvd.
South Bend, IN 46601

Re: Soil Characterization of Former Studebaker Foundry Reservoir
Northeast Corner of Prairie Avenue and Cotter Street
South Bend, Indiana

Dear Ms. Kolata:

Weaver Boos Consultants, LLC (Weaver Boos) has completed the soil characterization of the former Studebaker Foundry reservoir as outlined in our proposal dated January 21, 2010 (Proposal M100103). It is our understanding that the existing stormwater collection system located along Cotter Street will be redirected to the former Studebaker Foundry reservoir located at the northeast corner of the intersection of Cotter Street and Prairie Avenue. As part of the reconstruction project the existing reservoir will be enlarged and deepened by approximately six feet to accommodate the anticipated volume of stormwater. Based on cross sections provided to Weaver Boos there are indications that approximately 7,000 cubic yards of subsurface material will be removed.

Background

A limited environmental investigation of the reservoir completed by Hull and Associates, Inc. (Hull) indicated that the reservoir was dry and densely vegetated. Two outfalls possibly leading into the former foundry building were observed along the east wall of the reservoir. A small amount of surface debris was observed at the bottom of the reservoir by Hull and there are indications that additional material may be buried along the banks of the reservoir. Four soil samples collected by Hull from a depth of 0.0-2.0 feet along on the top of the eastern reservoir bank and at the bottom of the reservoir contained detectable concentrations of heavy metals and polynuclear aromatic hydrocarbons (PNAs). The lead and arsenic concentrations exceed current

Indiana Risk Integrated System of Closure (RISC) industrial default closure levels but not the Tier II nonresidential cleanup criteria listed in the 1996 VRP Guidance Document (see Table 1).

Project Objectives

The two objectives of this project were as follows:

1. Complete an exploratory subsurface study primarily along the bank of the reservoir to explore for buried debris that could be considered a potential contaminant source.
2. Further characterize the extent of heavy metal and PNA contamination in the surface and subsurface soils within the perimeter of the planned reservoir reconstruction to assess whether planned reuse and/or disposal of the spoil might be restricted or prohibited.

Scope of Work

Task 1 – Complete Exploratory Study

To access the site (due to dense vegetation) and complete the assessment, Weaver Boos subcontracted with a local excavating company to excavate test pits along the bank and within the floor of the existing reservoir to explore for any buried debris that could be considered a source of contamination. The field study commenced on February 4, 2010 and was completed in one day. Weaver Boos recorded observations (see Table 2 and photographs) and approximate locations of each test pit location on the attached figure (Figure 1 – Test Pit Location Map). A total of 35 test pits were excavated to a maximum depth of 5-7 feet.

Task 2 – Collect and Analyze Surface and Subsurface Soil Samples

Concurrently with Task 1, soil samples were collected from the surface (< 2.0 feet below the ground surface) and subsurface of the reservoir from pits or trenches dug using the excavator. The subsurface soil samples were collected from above the proposed bottom of the new retention basin. Weaver Boos collected six (6) surface and six (6) subsurface soil samples at locations shown on Figure 1 – Test Pit Location Map.

The soil samples were submitted to an analytical laboratory for analysis of the following parameters: lead, arsenic, and PNAs (including naphthalene). Based upon results of the analytical results, Weaver Boos requested a TCLP analysis of the sample with the highest arsenic and lead concentrations to assess whether the soil exhibits hazardous waste characteristics.

Results

The following materials were identified in several test pits.

- metal conduit, brick debris, wire, copper pipe, metal buckets, concrete debris, barrels, tires, glass, rubber materials, bottles, discarded empty drums and containers, sanitary refuse, plastic debris, fencing, buried topsoil, and demolition debris.

Most of the debris was encountered along the eastern bank of the reservoir where a considerable amount of material was disposed. However, smaller percentages of buried debris were also identified along the entire rim of the reservoir. The thickness of debris ranged from 2-7 feet from the ground surface. There were no indications of buried debris inside the reservoir at the basin bottom. Remnants of a street (former Catalpa Avenue) were also identified just to the east of the reservoir. There were no visual or olfactory indications of potential soil contamination associated with the debris. The debris identified could be acceptable for disposal at a nearby Subtitle D landfill disposal facility. Some of the debris also could be recyclable.

The results of the analytical testing are tabulated in Table 1. Similar to the results from the investigation completed by Hull and Associates, Inc. in 2001, elevated arsenic, lead, and PNAs were detected in most of the samples collected. However, the concentrations did not exceed the 1996 Tier II Nonresidential Cleanup Criteria. The arsenic, lead, and benzo(a)pyrene (a PNA) concentrations did exceed current Indiana RISC industrial default closure concentrations. To determine if the soil exhibited hazardous waste characteristics, the soil samples with the highest metal concentrations were reanalyzed using the toxicity leaching characteristic procedure (TCLP). The results indicated that the soil samples did not exhibit hazardous waste characteristics (see Table 1).

Recommendations

Weaver Boos recommends that the buried debris be disposed off-site at an acceptable disposal facility such as a Subtitle D landfill. A small percentage of the debris could be recyclable. Any potential bidder for the reconstruction project should anticipate buried debris along the entire rim of the existing reservoir.

Weaver Boos understands that the Project Site and the adjoining properties to the north and east have been enrolled into the Indiana Voluntary Remediation Program (VRP) using the July 1996

Guidance Protocol. As a result, any soil with contaminant concentrations that do not exceed the 1996 Indiana Tier II nonresidential default closure standards could be reused on-site as backfill material. Based on the results of this study, the soil excavated as part of this stormwater reconstruction project (once the debris has been removed) can be stockpiled and reused on-site assuming the physical characteristics of the soil meet the requirements for suitable backfill or topsoil. Any proposed removal/disposal of the soil from this site or the adjoining sites associated with the VRP would be restricted and could require disposal at a licensed Subtitle D landfill.

We appreciate this opportunity to be of service and are looking forward to working with you on this project. If you should have any questions or comments concerning this study, please do not hesitate to contact our office.

Sincerely,

Weaver Boos Consultants, LLC

Edward B. Stefanek
Senior Project Manager

Attachments: Tables
Figure
Analytical Laboratory Report
Photographs

TABLES

TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
FORMER STUDEBAKER FOUNDRY
SOUTH BEND, IN

Sample I.D.:		HA-1	HA-2	HMW-1D	SB-5	TP-1	TP-1	TP-2	TP-2	TP-3	TP-3	TP-4	TP-4	TP-5	TP-5	TP-6	TP-6	1996 Tier II Nonresidential Cleanup Criteria		RISC Industrial Default Closure Level
Depth (ft):		0-0.5	0-1.0	0-2.0	0-1.5	0-2.0	4.0-5.0	0-2.0	4.0-5.0	0-2.0	4.0-5.0	0-2.0	4.0-5.0	0-2.0	4.0-5.0	0-2.0	4.0-5.0			
Date Collected:		7/31/2001	7/31/2001	7/31/2001	8/8/2001	2/4/2010	2/4/2010	2/4/2010	2/4/2010	2/4/2010	2/4/2010	2/4/2010	2/4/2010	2/4/2010	2/4/2010	2/4/2010	2/4/2010			
Parameter	**Units**																	Surface Soils	Subsurface Soils	
METALS																				
Arsenic	mg/kg-dry	13.4	18	7.4	57.1	14	2.7	2	2	9.9	11	7.2	19	3.6	2.7	8.5	12	612	438	5.8
Lead	mg/kg-dry	599	449	68	122	480	3.2	11	3.3	79	250	410	420	9.7	5	240	150	1000	1000	230
TCLP Arsenic	mg/l												<RL							
TCLP Lead	mg/l					0.09														
PNAS																				
Acenaphthene	mg/kg-dry	<RL	---	---	<RL	0.26	<RL	<RL	<RL	0.63	0.32	0.21	0.33	<RL	<RL	<RL	<RL	10000	10000	1800
Acenaphthylene	mg/kg-dry	<RL	---	---	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	0.35	NA	NA	180
Anthracene	mg/kg-dry	<RL	---	---	<RL	0.58	<RL	<RL	<RL	1.7	0.79	0.58	0.85	<RL	<RL	<RL	0.53	10000	10000	2000
Benzo[a]anthracene	mg/kg-dry	<RL	0.84	---	<RL	2.9	<RL	<RL	<RL	8.1	3.1	2.4	2.6	<RL	<RL	0.26	2.7	79.45	103.88	15
Benzo[a]pyrene	mg/kg-dry	<RL	0.75	0.28	<RL	2	<RL	<RL	<RL	5.8	2.6	1.5	1.9	<RL	<RL	0.16	2.2	7.94	69.85	1.5
Benzo[b]fluoranthene	mg/kg-dry	<RL	1.69	0.56	<RL	3.9	<RL	<RL	<RL	9.5	4	2	2.5	<RL	<RL	0.21	3.3	79.45	354.98	15
Benzo[k]fluoranthene	mg/kg-dry	<RL	0.36	---	<RL	0.78	<RL	<RL	<RL	2.3	1.3	0.89	1.4	<RL	<RL	<RL	1.3	794.52	3759.12	150
Benzo(g,h,i) perylene	mg/kg-dry	---	---	---	---	1.6	<RL	<RL	<RL	4.2	1.6	0.91	1.2	<RL	<RL	<RL	1.6	NA	NA	NA
Chrysene	mg/kg-dry	<RL	1.58	---	<RL	3.2	<RL	<RL	<RL	7.4	3.2	2	2.7	<RL	<RL	0.34	2.8	7945.21	10000	1500
Dibenz[a,h]anthracene	mg/kg-dry	<RL	---	---	<RL	0.31	<RL	<RL	<RL	0.8	0.34	0.18	0.16	<RL	<RL	<RL	0.34	7.95	69.86	1.5
Fluoranthene	mg/kg-dry	<RL	0.64	0.59	<RL	6.4	<RL	<RL	<RL	17	8.8	4.9	6.4	<RL	<RL	0.28	4.9	10000	10000	2000
Fluorene	mg/kg-dry	<RL	---	---	<RL	0.22	<RL	<RL	<RL	0.71	0.35	0.2	0.29	<RL	<RL	<RL	0.26	10000	10000	2000
Indeno[1,2,3-cd]pyrene	mg/kg-dry	<RL	---	---	<RL	1.3	<RL	<RL	<RL	3.5	1.3	0.72	0.97	<RL	<RL	<RL	1.4	79.45	629.17	15
Naphthalene	mg/kg-dry	<RL	0.93	---	<RL	0.19	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	10000	10000	170
Phenanthrene	mg/kg-dry	<RL	1.17	0.36	<RL	3.2	<RL	<RL	<RL	8	4	2.7	3.9	<RL	<RL	0.2	2.6	NA	NA	170
Pyrene	mg/kg-dry	<RL	1.54	0.54	<RL	5.2	<RL	<RL	<RL	14	6.3	4	4.9	<RL	<RL	0.32	5.1	1000	10000	2000
DRY WEIGHT																				
DRY WEIGHT	wt%	90.8	95	93.2	98.6	85	94.7	95.3	94.8	90.9	89	90	94.4	86	93.4	91.2	91.2	---	---	---

Source: Results from samples collected in 2001 were obtained from Table 2, Initial Phase II for the Studebaker Area A Properties by Hull and Associates dated December 2001

Notes: NA - Data Not Available
RL - Reporting Limit
Surface Soil - Defined as the upper two feet of the soil column.
Subsurface Soil - Defined as the soil below a depth of two feet.
1996 Cleanup Critera from 1996 VRP Resource Guide Tables 9, 10, and 14
RISC Cleanup Criteria from RISC Technical Guide Appendix 1 (Updated September 9, 2009)
RCRA hazardous waste criteria for lead and arsenic is 5 mg/l.

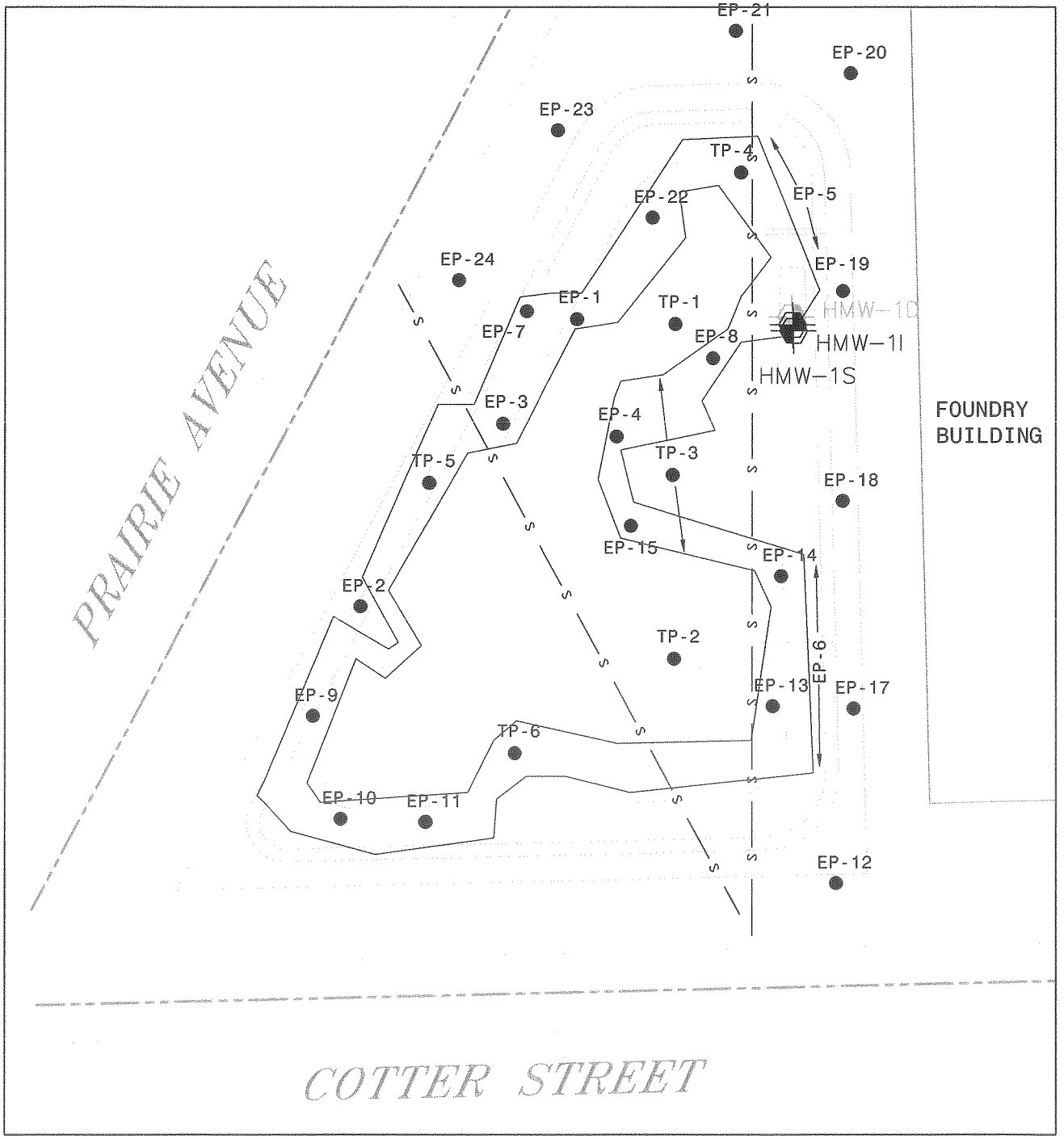
2 — Sample concentration exceeding 1996 Tier II Nonresidential Criteria
2 — Sample concentration exceeding RISC Industrial Default Cleanup Criteria

TABLE 2
TEST/EXPLORATORY PIT DESCRIPTION
FORMER STUDEBAKER FOUNDRY BUILDING
FEBRUARY 4, 2010

Location	Description	Total Depth of Excavation (from ground surface)
TP-1	No debris	5'
TP-2	No debris	5'
TP-3	Brick, cans, cups, rubber mats, tarp, bottles, metal scraps, glass, wires, metal conduit, leather scraps and concrete blocks	7'
TP-4	metal scraps chains, plastic and bricks	7'
TP-5	No debris	6'
TP-6	Barrel lids, conduit, metal stripping, concrete blocks, tires, glass, empty 55 gallon drum,	6'
	christmas decorations, wood blocks and concrete slabs	5'
EP-1	conduit bricks, wiring, empty 10 gal can of prestone, wood bricks, conduit, metal scraps, and rubber tubing	3'
EP-2	No debris, possibly stockpiled topsoil	2'
EP-3	No debris	3'
EP-4	Brick, cans, cups, rubber mats, tarp, bottles, metal scraps, lids, glass, wires, and metal conduit	5'
EP-5	concrete	2'
EP-6	metal fencing scraps	2'
EP-7	wood bricks, tire, and tubing	5'
EP-8	Smoke stack part, rubber belts, electrical wiring (with plugs) metal strips, and chains	5'
EP-9	No debris	4'
EP-10	No debris	4'
EP-11	No debris	4'
EP-12	No debris	4'
EP-13	No debris	5'
EP-14	No debris	5'
EP-15	copper strips, empty metal buckets	5'
EP-16	Pea gravel	3'
EP-17	No debris	5'
EP-18	No debris, encountered old sidewalk	2'
EP-19	No debris, encountered old sidewalk	2'
EP-20	No debris, encountered old sidewalk	2'
EP-21	Large quantity of bricks and some piping	6'
EP-22	Bricks, wire, metal conduit	5'
EP-23	No debris, possibly stockpiled topsoil	3'
EP-24	No debris, possibly stockpiled topsoil	3'

TP Test Pit - Soil samples collected for analysis
EP Exploratory Pit - No soil samples collected for analysis

FIGURE



LEGEND:

- APPROXIMATE LOCATION OF TEST PIT
- APPROXIMATE LOCATION OF EXPLORATORY PIT
- DEEP MONITORING WELL LOCATIONS
- MONITORING WELL NEST LOCATIONS (S=SHALLOW, I=INTERMEDIATE)
- APPROXIMATE LOCATION OF SEWER LINE BISECTING THE PROPERTY

APPROXIMATE GRAPHIC SCALE

60 0 15 30 60

(IN FEET)
1 inch = 30 ft.

N

NOTE
THIS SITE MAP WAS CREATED FROM DRAWINGS PROVIDED BY C. RIGHTLEY, C.A. McCARRISON (DRAWING #56652, 6/48), THE SIDWELL COMPANY, AND HULL & ASSOC., INC. ALL INFORMATION REPRESENTED ON THIS DRAWING IS APPROXIMATE AND SHOULD BE USED FOR GENERAL PURPOSES ONLY.

TEST PIT LOCATION MAP
FORMER STUDEBAKER FOUNDRY
1100 PRAIRIE AVENUE
SOUTH BEND, IN

Weaver Boos Consultants
4085 MEGHAN BEELER COURT
SOUTH BEND, IN 46628
(574) 271-3447

DRAWN BY: RMD	DATE: 1/15/2010	FILE: 0058-373-01
REVIEWED BY: ES	CAD: SITELOC.DWG	FIGURE 1

ANALYTICAL LABORATORY REPORT

Microbac®

February 24, 2010

Ed Stefanek
Weaver Boos Consultants, LLC
4085 Meghan Beeler Court
South Bend, IN 46628

Work Order No.: ME1002212

RE: South Bend, Indiana

Dear Ed Stefanek:

Microbac Laboratories, Inc. received 12 samples on 2/5/2010 1:00:00 PM for the analyses presented in the following report.

The enclosed results were obtained from and are applicable to the sample(s) as received at the laboratory. All sample results are reported on an "as received" basis unless otherwise noted.

All data included in this report have been reviewed and meet the applicable project specific and certification specific requirements, unless otherwise noted. A qualifications page is included in this report and lists the programs under which Microbac maintains certification.

This report has been paginated in its entirety and shall not be reproduced except in full, without the written approval of Microbac Laboratories.

We appreciate the opportunity to service your analytical needs. If you have any questions, please feel free to contact us.

Sincerely,
Microbac Laboratories, Inc.

Ronald J. Misiunas
Client Services Manager

Enclosures

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WORK ORDER SAMPLE SUMMARY

Date: *Wednesday, February 24, 2010*

CLIENT: Weaver Boos Consultants, LLC
Project: South Bend, Indiana
Lab Order: ME1002212

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
ME1002212-01A	TP - 1 @ 0 - 2'		2/4/2010 10:10:00 AM	2/5/2010
ME1002212-02A	TP - 1 @ 4 - 5'		2/4/2010 10:15:00 AM	2/5/2010
ME1002212-03A	TP - 2 @ 0 - 2'		2/4/2010 10:43:00 AM	2/5/2010
ME1002212-04A	TP - 2 @ 4 - 5'		2/4/2010 10:52:00 AM	2/5/2010
ME1002212-05A	TP - 3 @ 0 - 2'		2/4/2010 11:15:00 AM	2/5/2010
ME1002212-06A	TP - 3 @ 4 - 5'		2/4/2010 11:22:00 AM	2/5/2010
ME1002212-07A	TP - 4 @ 0 - 2'		2/4/2010 11:28:00 AM	2/5/2010
ME1002212-08A	TP - 4 @ 4 - 5'		2/4/2010 11:34:00 AM	2/5/2010
ME1002212-09A	TP - 5 @ 0 - 2'		2/4/2010 10:20:00 AM	2/5/2010
ME1002212-10A	TP - 5 @ 4 - 5'		2/4/2010 10:25:00 AM	2/5/2010
ME1002212-11A	TP - 6 @ 0 - 2'		2/4/2010 10:30:00 AM	2/5/2010
ME1002212-12A	TP - 6 @ 4 - 5'		2/4/2010 10:37:00 AM	2/5/2010

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ANALYTICAL RESULTS

Date: *Wednesday, February 24, 2010*

Client:	Weaver Boos Consultants, LLC		
Client Project:	South Bend, Indiana		
Client Sample ID:	TP - 1 @ 0 - 2'	**Work Order / ID:**	ME1002212-01
Sample Description:		**Collection Date:**	02/04/10 10:10
Sample Matrix:	Solid	**Date Received:**	02/05/10 13:00

Analyses	ST	Result	RL	Qual	Units	DF	Analyzed
TOTAL METALS	Method: **SW6010B**			Prep Date/Time: **02/08/10 08:30**		Analyst: **SAA**	
Arsenic	A	*14*	0.57		mg/Kg-dry	1	02/09/10 15:52
Lead	A	*480*	0.42		mg/Kg-dry	1	02/09/10 15:52
TCLP METALS	Method: **SW1311/6010B**			Prep Date/Time: **02/15/10 08:33**		Analyst: **SAA**	
Lead	A	*0.090*	0.0075		mg/L	1	02/15/10 19:01
PAH BY GC/MS	Method: **SW8270C**			Prep Date/Time: **02/08/10 08:14**		Analyst: **CLR**	
Acenaphthene	A	*0.26*	0.18		mg/Kg-dry	1	02/09/10 16:46
Acenaphthylene	A	*ND*	0.18		mg/Kg-dry	1	02/09/10 16:46
Anthracene	A	*0.58*	0.18		mg/Kg-dry	1	02/09/10 16:46
Benzo[a]anthracene	A	*2.9*	0.18		mg/Kg-dry	1	02/09/10 16:46
Benzo[a]pyrene	A	*2.0*	0.18		mg/Kg-dry	1	02/09/10 16:46
Benzo[b]fluoranthene	A	*3.9*	0.18		mg/Kg-dry	1	02/09/10 16:46
Benzo[g,h,i]perylene	A	*1.6*	0.18		mg/Kg-dry	1	02/09/10 16:46
Benzo[k]fluoranthene	A	*0.78*	0.18		mg/Kg-dry	1	02/09/10 16:46
Chrysene	A	*3.2*	0.18		mg/Kg-dry	1	02/09/10 16:46
Dibenz[a,h]anthracene	A	*0.31*	0.18		mg/Kg-dry	1	02/09/10 16:46
Fluoranthene	A	*6.4*	0.18		mg/Kg-dry	1	02/09/10 16:46
Fluorene	A	*0.22*	0.18		mg/Kg-dry	1	02/09/10 16:46
Indeno[1,2,3cd]pyrene	A	*1.3*	0.18		mg/Kg-dry	1	02/09/10 16:46
Naphthalene	A	*0.19*	0.18		mg/Kg-dry	1	02/09/10 16:46
Phenanthrene	A	*3.2*	0.18		mg/Kg-dry	1	02/09/10 16:46
Pyrene	A	*5.2*	0.18		mg/Kg-dry	1	02/09/10 16:46
Surr: Nitrobenzene-d5	S	86.4	14.2-125		%REC	1	02/09/10 16:46
Surr: 2-Fluorobiphenyl	S	86.9	21.6-112		%REC	1	02/09/10 16:46
Surr: Terphenyl-d14	S	99.5	10-139		%REC	1	02/09/10 16:46
PERCENT MOISTURE	Method: **2540B_18ED**			Prep Date/Time:		Analyst: **SMA**	
Percent Moisture	A	*15*	0.10		WT%	1	02/05/10 14:07

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ANALYTICAL RESULTS

Date: *Wednesday, February 24, 2010*

Client:	Weaver Boos Consultants, LLC		
Client Project:	South Bend, Indiana		
Client Sample ID:	TP - 1 @ 4 - 5'	**Work Order / ID:**	ME1002212-02
Sample Description:		**Collection Date:**	02/04/10 10:15
Sample Matrix:	Solid	**Date Received:**	02/05/10 13:00

Analyses	ST	Result	RL	Qual	Units	DF	Analyzed
TOTAL METALS	Method: **SW6010B**			Prep Date/Time: **02/08/10 08:30**			Analyst: **SAA**
Arsenic	A	*2.7*	0.49		mg/Kg-dry	1	02/09/10 15:57
Lead	A	*3.2*	0.37		mg/Kg-dry	1	02/09/10 15:57
PAH BY GC/MS	Method: **SW8270C**			Prep Date/Time: **02/08/10 08:14**			Analyst: **CLR**
Acenaphthene	A	*ND*	0.16		mg/Kg-dry	1	02/09/10 12:50
Acenaphthylene	A	*ND*	0.16		mg/Kg-dry	1	02/09/10 12:50
Anthracene	A	*ND*	0.16		mg/Kg-dry	1	02/09/10 12:50
Benzo[a]anthracene	A	*ND*	0.16		mg/Kg-dry	1	02/09/10 12:50
Benzo[a]pyrene	A	*ND*	0.16		mg/Kg-dry	1	02/09/10 12:50
Benzo[b]fluoranthene	A	*ND*	0.16		mg/Kg-dry	1	02/09/10 12:50
Benzo[g,h,i]perylene	A	*ND*	0.16		mg/Kg-dry	1	02/09/10 12:50
Benzo[k]fluoranthene	A	*ND*	0.16		mg/Kg-dry	1	02/09/10 12:50
Chrysene	A	*ND*	0.16		mg/Kg-dry	1	02/09/10 12:50
Dibenz[a,h]anthracene	A	*ND*	0.16		mg/Kg-dry	1	02/09/10 12:50
Fluoranthene	A	*ND*	0.16		mg/Kg-dry	1	02/09/10 12:50
Fluorene	A	*ND*	0.16		mg/Kg-dry	1	02/09/10 12:50
Indeno[1,2,3cd]pyrene	A	*ND*	0.16		mg/Kg-dry	1	02/09/10 12:50
Naphthalene	A	*ND*	0.16		mg/Kg-dry	1	02/09/10 12:50
Phenanthrene	A	*ND*	0.16		mg/Kg-dry	1	02/09/10 12:50
Pyrene	A	*ND*	0.16		mg/Kg-dry	1	02/09/10 12:50
Surr: Nitrobenzene-d5	S	55.3	14.2-125		%REC	1	02/09/10 12:50
Surr: 2-Fluorobiphenyl	S	73.0	21.6-112		%REC	1	02/09/10 12:50
Surr: Terphenyl-d14	S	90.4	10-139		%REC	1	02/09/10 12:50
PERCENT MOISTURE	Method: **2540B_18ED**			Prep Date/Time:			Analyst: **SMA**
Percent Moisture	A	*5.3*	0.10		WT%	1	02/05/10 14:07

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ANALYTICAL RESULTS

Date: *Wednesday, February 24, 2010*

Client:	Weaver Boos Consultants, LLC		
Client Project:	South Bend, Indiana		
Client Sample ID:	TP - 2 @ 0 - 2'	**Work Order / ID:**	ME1002212-03
Sample Description:		**Collection Date:**	02/04/10 10:43
Sample Matrix:	Solid	**Date Received:**	02/05/10 13:00

Analyses	ST	Result	RL	Qual	Units	DF	Analyzed
TOTAL METALS	Method: **SW6010B**			Prep Date/Time: **02/08/10 08:30**			Analyst: **SAA**
Arsenic	A	***2.0***	0.43		mg/Kg-dry	1	02/09/10 16:09
Lead	A	***11***	0.32		mg/Kg-dry	1	02/09/10 16:09
PAH BY GC/MS	Method: **SW8270C**			Prep Date/Time: **02/08/10 08:14**			Analyst: **CLR**
Acenaphthene	A	***ND***	0.16		mg/Kg-dry	1	02/09/10 15:13
Acenaphthylene	A	***ND***	0.16		mg/Kg-dry	1	02/09/10 15:13
Anthracene	A	***ND***	0.16		mg/Kg-dry	1	02/09/10 15:13
Benzo[a]anthracene	A	***ND***	0.16		mg/Kg-dry	1	02/09/10 15:13
Benzo[a]pyrene	A	***ND***	0.16		mg/Kg-dry	1	02/09/10 15:13
Benzo[b]fluoranthene	A	***ND***	0.16		mg/Kg-dry	1	02/09/10 15:13
Benzo[g,h,i]perylene	A	***ND***	0.16		mg/Kg-dry	1	02/09/10 15:13
Benzo[k]fluoranthene	A	***ND***	0.16		mg/Kg-dry	1	02/09/10 15:13
Chrysene	A	***ND***	0.16		mg/Kg-dry	1	02/09/10 15:13
Dibenz[a,h]anthracene	A	***ND***	0.16		mg/Kg-dry	1	02/09/10 15:13
Fluoranthene	A	***ND***	0.16		mg/Kg-dry	1	02/09/10 15:13
Fluorene	A	***ND***	0.16		mg/Kg-dry	1	02/09/10 15:13
Indeno[1,2,3cd]pyrene	A	***ND***	0.16		mg/Kg-dry	1	02/09/10 15:13
Naphthalene	A	***ND***	0.16		mg/Kg-dry	1	02/09/10 15:13
Phenanthrene	A	***ND***	0.16		mg/Kg-dry	1	02/09/10 15:13
Pyrene	A	***ND***	0.16		mg/Kg-dry	1	02/09/10 15:13
Surr: Nitrobenzene-d5	S	61.1	14.2-125		%REC	1	02/09/10 15:13
Surr: 2-Fluorobiphenyl	S	87.0	21.6-112		%REC	1	02/09/10 15:13
Surr: Terphenyl-d14	S	102	10-139		%REC	1	02/09/10 15:13
PERCENT MOISTURE	Method: **2540B_18ED**			Prep Date/Time:			Analyst: **SMA**
Percent Moisture	A	***4.7***	0.10		WT%	1	02/05/10 14:07

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ANALYTICAL RESULTS

Date: *Wednesday, February 24, 2010*

Client:	Weaver Boos Consultants, LLC		
Client Project:	South Bend, Indiana		
Client Sample ID:	TP - 2 @ 4 - 5'	**Work Order / ID:**	ME1002212-04
Sample Description:		**Collection Date:**	02/04/10 10:52
Sample Matrix:	Solid	**Date Received:**	02/05/10 13:00

Analyses	ST	Result	RL	Qual	Units	DF	Analyzed
TOTAL METALS	Method: **SW6010B**			Prep Date/Time: **02/08/10 08:30**		Analyst: **SAA**	
Arsenic	A	***2.0***	0.48		mg/Kg-dry	1	02/09/10 16:15
Lead	A	***3.3***	0.36		mg/Kg-dry	1	02/09/10 16:15
PAH BY GC/MS	Method: **SW8270C**			Prep Date/Time: **02/08/10 08:14**		Analyst: **CLR**	
Acenaphthene	A	***ND***	0.16		mg/Kg-dry	1	02/09/10 14:02
Acenaphthylene	A	***ND***	0.16		mg/Kg-dry	1	02/09/10 14:02
Anthracene	A	***ND***	0.16		mg/Kg-dry	1	02/09/10 14:02
Benzo[a]anthracene	A	***ND***	0.16		mg/Kg-dry	1	02/09/10 14:02
Benzo[a]pyrene	A	***ND***	0.16		mg/Kg-dry	1	02/09/10 14:02
Benzo[b]fluoranthene	A	***ND***	0.16		mg/Kg-dry	1	02/09/10 14:02
Benzo[g,h,i]perylene	A	***ND***	0.16		mg/Kg-dry	1	02/09/10 14:02
Benzo[k]fluoranthene	A	***ND***	0.16		mg/Kg-dry	1	02/09/10 14:02
Chrysene	A	***ND***	0.16		mg/Kg-dry	1	02/09/10 14:02
Dibenz[a,h]anthracene	A	***ND***	0.16		mg/Kg-dry	1	02/09/10 14:02
Fluoranthene	A	***ND***	0.16		mg/Kg-dry	1	02/09/10 14:02
Fluorene	A	***ND***	0.16		mg/Kg-dry	1	02/09/10 14:02
Indeno[1,2,3cd]pyrene	A	***ND***	0.16		mg/Kg-dry	1	02/09/10 14:02
Naphthalene	A	***ND***	0.16		mg/Kg-dry	1	02/09/10 14:02
Phenanthrene	A	***ND***	0.16		mg/Kg-dry	1	02/09/10 14:02
Pyrene	A	***ND***	0.16		mg/Kg-dry	1	02/09/10 14:02
Surr: Nitrobenzene-d5	S	74.3	14.2-125		%REC	1	02/09/10 14:02
Surr: 2-Fluorobiphenyl	S	79.8	21.6-112		%REC	1	02/09/10 14:02
Surr: Terphenyl-d14	S	100	10-139		%REC	1	02/09/10 14:02
PERCENT MOISTURE	Method: **2540B_18ED**			Prep Date/Time:		Analyst: **SMA**	
Percent Moisture	A	***5.2***	0.10		WT%	1	02/05/10 14:07

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ANALYTICAL RESULTS

Date: *Wednesday, February 24, 2010*

Client:	Weaver Boos Consultants, LLC		
Client Project:	South Bend, Indiana		
Client Sample ID:	TP - 3 @ 0 - 2'	**Work Order / ID:**	ME1002212-05
Sample Description:		**Collection Date:**	02/04/10 11:15
Sample Matrix:	Solid	**Date Received:**	02/05/10 13:00

Analyses	ST	Result	RL	Qual	Units	DF	Analyzed
TOTAL METALS	Method: **SW6010B**			Prep Date/Time: **02/08/10 08:30**		Analyst: **SAA**	
Arsenic	A	*9.9*	0.53		mg/Kg-dry	1	02/09/10 16:20
Lead	A	*79*	0.40		mg/Kg-dry	1	02/09/10 16:20
PAH BY GC/MS	Method: **SW8270C**			Prep Date/Time: **02/08/10 08:14**		Analyst: **CLR**	
Acenaphthene	A	*0.63*	0.16		mg/Kg-dry	1	02/09/10 17:09
Acenaphthylene	A	*ND*	0.16		mg/Kg-dry	1	02/09/10 17:09
Anthracene	A	*1.7*	0.16		mg/Kg-dry	1	02/09/10 17:09
Benzo[a]anthracene	A	*8.1*	0.16		mg/Kg-dry	1	02/09/10 17:09
Benzo[a]pyrene	A	*5.8*	0.16		mg/Kg-dry	1	02/09/10 17:09
Benzo[b]fluoranthene	A	*9.5*	0.16		mg/Kg-dry	1	02/09/10 17:09
Benzo[g,h,i]perylene	A	*4.2*	0.16		mg/Kg-dry	1	02/09/10 17:09
Benzo[k]fluoranthene	A	*2.3*	0.16		mg/Kg-dry	1	02/09/10 17:09
Chrysene	A	*7.4*	0.16		mg/Kg-dry	1	02/09/10 17:09
Dibenz[a,h]anthracene	A	*0.80*	0.16		mg/Kg-dry	1	02/09/10 17:09
Fluoranthene	A	*17*	0.16		mg/Kg-dry	1	02/09/10 17:09
Fluorene	A	*0.71*	0.16		mg/Kg-dry	1	02/09/10 17:09
Indeno[1,2,3cd]pyrene	A	*3.5*	0.16		mg/Kg-dry	1	02/09/10 17:09
Naphthalene	A	*ND*	0.16		mg/Kg-dry	1	02/09/10 17:09
Phenanthrene	A	*8.0*	0.16		mg/Kg-dry	1	02/09/10 17:09
Pyrene	A	*14*	0.16		mg/Kg-dry	1	02/09/10 17:09
Surr: Nitrobenzene-d5	S	86.1	14.2-125		%REC	1	02/09/10 17:09
Surr: 2-Fluorobiphenyl	S	78.1	21.6-112		%REC	1	02/09/10 17:09
Surr: Terphenyl-d14	S	97.1	10-139		%REC	1	02/09/10 17:09
PERCENT MOISTURE	Method: **2540B_18ED**			Prep Date/Time:		Analyst: **SMA**	
Percent Moisture	A	*9.1*	0.10		WT%	1	02/05/10 14:07

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ANALYTICAL RESULTS

Date: *Wednesday, February 24, 2010*

Client:	Weaver Boos Consultants, LLC		
Client Project:	South Bend, Indiana		
Client Sample ID:	TP - 3 @ 4 - 5'	**Work Order / ID:**	ME1002212-06
Sample Description:		**Collection Date:**	02/04/10 11:22
Sample Matrix:	Solid	**Date Received:**	02/05/10 13:00

Analyses	ST	Result	RL	Qual	Units	DF	Analyzed
TOTAL METALS	Method: **SW6010B**			Prep Date/Time: **02/08/10 08:30**		Analyst: **SAA**	
Arsenic	A	*11*	0.46		mg/Kg-dry	1	02/09/10 16:26
Lead	A	*250*	0.35		mg/Kg-dry	1	02/09/10 16:26
PAH BY GC/MS	Method: **SW8270C**			Prep Date/Time: **02/08/10 08:14**		Analyst: **CLR**	
Acenaphthene	A	*0.32*	0.17		mg/Kg-dry	1	02/09/10 17:33
Acenaphthylene	A	*ND*	0.17		mg/Kg-dry	1	02/09/10 17:33
Anthracene	A	*0.79*	0.17		mg/Kg-dry	1	02/09/10 17:33
Benzo[a]anthracene	A	*3.1*	0.17		mg/Kg-dry	1	02/09/10 17:33
Benzo[a]pyrene	A	*2.6*	0.17		mg/Kg-dry	1	02/09/10 17:33
Benzo[b]fluoranthene	A	*4.0*	0.17		mg/Kg-dry	1	02/09/10 17:33
Benzo[g,h,i]perylene	A	*1.6*	0.17		mg/Kg-dry	1	02/09/10 17:33
Benzo[k]fluoranthene	A	*1.3*	0.17		mg/Kg-dry	1	02/09/10 17:33
Chrysene	A	*3.2*	0.17		mg/Kg-dry	1	02/09/10 17:33
Dibenz[a,h]anthracene	A	*0.34*	0.17		mg/Kg-dry	1	02/09/10 17:33
Fluoranthene	A	*8.8*	0.17		mg/Kg-dry	1	02/09/10 17:33
Fluorene	A	*0.35*	0.17		mg/Kg-dry	1	02/09/10 17:33
Indeno[1,2,3cd]pyrene	A	*1.3*	0.17		mg/Kg-dry	1	02/09/10 17:33
Naphthalene	A	*ND*	0.17		mg/Kg-dry	1	02/09/10 17:33
Phenanthrene	A	*4.0*	0.17		mg/Kg-dry	1	02/09/10 17:33
Pyrene	A	*6.3*	0.17		mg/Kg-dry	1	02/09/10 17:33
Surr: Nitrobenzene-d5	S	91.2	14.2-125		%REC	1	02/09/10 17:33
Surr: 2-Fluorobiphenyl	S	94.6	21.6-112		%REC	1	02/09/10 17:33
Surr: Terphenyl-d14	S	116	10-139		%REC	1	02/09/10 17:33
PERCENT MOISTURE	Method: **2540B_18ED**			Prep Date/Time:		Analyst: **SMA**	
Percent Moisture	A	*11*	0.10		WT%	1	02/05/10 14:07

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ANALYTICAL RESULTS

Date: *Wednesday, February 24, 2010*

Client:	Weaver Boos Consultants, LLC		
Client Project:	South Bend, Indiana		
Client Sample ID:	TP - 4 @ 0 - 2'	**Work Order / ID:**	ME1002212-07
Sample Description:		**Collection Date:**	02/04/10 11:28
Sample Matrix:	Solid	**Date Received:**	02/05/10 13:00

Analyses	ST	Result	RL	Qual	Units	DF	Analyzed
TOTAL METALS	Method: **SW6010B**			Prep Date/Time: **02/08/10 08:30**		Analyst: **SAA**	
Arsenic	A	*7.2*	0.53		mg/Kg-dry	1	02/09/10 16:32
Lead	A	*410*	0.40		mg/Kg-dry	1	02/09/10 16:32
PAH BY GC/MS	Method: **SW8270C**			Prep Date/Time: **02/08/10 08:14**		Analyst: **CLR**	
Acenaphthene	A	*0.21*	0.17		mg/Kg-dry	1	02/09/10 15:36
Acenaphthylene	A	*ND*	0.17		mg/Kg-dry	1	02/09/10 15:36
Anthracene	A	*0.58*	0.17		mg/Kg-dry	1	02/09/10 15:36
Benzo[a]anthracene	A	*2.4*	0.17		mg/Kg-dry	1	02/09/10 15:36
Benzo[a]pyrene	A	*1.5*	0.17		mg/Kg-dry	1	02/09/10 15:36
Benzo[b]fluoranthene	A	*2.0*	0.17		mg/Kg-dry	1	02/09/10 15:36
Benzo[g,h,i]perylene	A	*0.91*	0.17		mg/Kg-dry	1	02/09/10 15:36
Benzo[k]fluoranthene	A	*0.89*	0.17		mg/Kg-dry	1	02/09/10 15:36
Chrysene	A	*2.0*	0.17		mg/Kg-dry	1	02/09/10 15:36
Dibenz[a,h]anthracene	A	*0.18*	0.17		mg/Kg-dry	1	02/09/10 15:36
Fluoranthene	A	*4.9*	0.17		mg/Kg-dry	1	02/09/10 15:36
Fluorene	A	*0.20*	0.17		mg/Kg-dry	1	02/09/10 15:36
Indeno[1,2,3cd]pyrene	A	*0.72*	0.17		mg/Kg-dry	1	02/09/10 15:36
Naphthalene	A	*ND*	0.17		mg/Kg-dry	1	02/09/10 15:36
Phenanthrene	A	*2.7*	0.17		mg/Kg-dry	1	02/09/10 15:36
Pyrene	A	*4.0*	0.17		mg/Kg-dry	1	02/09/10 15:36
Surr: Nitrobenzene-d5	S	66.0	14.2-125		%REC	1	02/09/10 15:36
Surr: 2-Fluorobiphenyl	S	74.3	21.6-112		%REC	1	02/09/10 15:36
Surr: Terphenyl-d14	S	84.4	10-139		%REC	1	02/09/10 15:36
PERCENT MOISTURE	Method: **2540B_18ED**			Prep Date/Time:		Analyst: **SMA**	
Percent Moisture	A	*10*	0.10		WT%	1	02/05/10 14:07

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ANALYTICAL RESULTS

Date: *Wednesday, February 24, 2010*

Client:	Weaver Boos Consultants, LLC		
Client Project:	South Bend, Indiana		
Client Sample ID:	TP - 4 @ 4 - 5'	**Work Order / ID:**	ME1002212-08
Sample Description:		**Collection Date:**	02/04/10 11:34
Sample Matrix:	Solid	**Date Received:**	02/05/10 13:00

Analyses	ST	Result	RL	Qual	Units	DF	Analyzed
TOTAL METALS	Method: **SW6010B**			Prep Date/Time: **02/08/10 08:30**			Analyst: **SAA**
Arsenic	A	***19***	0.51		mg/Kg-dry	1	02/09/10 16:59
Lead	A	***420***	0.38		mg/Kg-dry	1	02/09/10 16:59
TCLP METALS	Method: **SW1311/6010B**			Prep Date/Time: **02/24/10 08:20**			Analyst: **SAA**
Arsenic	A	***ND***	0.010		mg/L	1	02/24/10 14:02
PAH BY GC/MS	Method: **SW8270C**			Prep Date/Time: **02/08/10 08:14**			Analyst: **CLR**
Acenaphthene	A	***0.33***	0.16		mg/Kg-dry	1	02/09/10 16:00
Acenaphthylene	A	***ND***	0.16		mg/Kg-dry	1	02/09/10 16:00
Anthracene	A	***0.85***	0.16		mg/Kg-dry	1	02/09/10 16:00
Benzo[a]anthracene	A	***2.6***	0.16		mg/Kg-dry	1	02/09/10 16:00
Benzo[a]pyrene	A	***1.9***	0.16		mg/Kg-dry	1	02/09/10 16:00
Benzo[b]fluoranthene	A	***2.5***	0.16		mg/Kg-dry	1	02/09/10 16:00
Benzo[g,h,i]perylene	A	***1.2***	0.16		mg/Kg-dry	1	02/09/10 16:00
Benzo[k]fluoranthene	A	***1.4***	0.16		mg/Kg-dry	1	02/09/10 16:00
Chrysene	A	***2.7***	0.16		mg/Kg-dry	1	02/09/10 16:00
Dibenz[a,h]anthracene	A	***0.16***	0.16		mg/Kg-dry	1	02/09/10 16:00
Fluoranthene	A	***6.4***	0.16		mg/Kg-dry	1	02/09/10 16:00
Fluorene	A	***0.29***	0.16		mg/Kg-dry	1	02/09/10 16:00
Indeno[1,2,3cd]pyrene	A	***0.97***	0.16		mg/Kg-dry	1	02/09/10 16:00
Naphthalene	A	***ND***	0.16		mg/Kg-dry	1	02/09/10 16:00
Phenanthrene	A	***3.9***	0.16		mg/Kg-dry	1	02/09/10 16:00
Pyrene	A	***4.9***	0.16		mg/Kg-dry	1	02/09/10 16:00
Surr: Nitrobenzene-d5	S	69.3	14.2-125		%REC	1	02/09/10 16:00
Surr: 2-Fluorobiphenyl	S	77.3	21.6-112		%REC	1	02/09/10 16:00
Surr: Terphenyl-d14	S	98.8	10-139		%REC	1	02/09/10 16:00
PERCENT MOISTURE	Method: **2540B_18ED**			Prep Date/Time:			Analyst: **SMA**
Percent Moisture	A	***5.6***	0.10		WT%	1	02/05/10 14:07

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ANALYTICAL RESULTS

Date: *Wednesday, February 24, 2010*

Client:	Weaver Boos Consultants, LLC		
Client Project:	South Bend, Indiana		
Client Sample ID:	TP - 5 @ 0 - 2'	**Work Order / ID:**	ME1002212-09
Sample Description:		**Collection Date:**	02/04/10 10:20
Sample Matrix:	Solid	**Date Received:**	02/05/10 13:00

Analyses	ST	Result	RL	Qual	Units	DF	Analyzed
TOTAL METALS	Method: **SW6010B**			Prep Date/Time: **02/08/10 08:30**			Analyst: **SAA**
Arsenic	A	***3.6***	0.55		mg/Kg-dry	1	02/09/10 17:04
Lead	A	***9.7***	0.41		mg/Kg-dry	1	02/09/10 17:04
PAH BY GC/MS	Method: **SW8270C**			Prep Date/Time: **02/08/10 08:14**			Analyst: **CLR**
Acenaphthene	A	***ND***	0.17		mg/Kg-dry	1	02/09/10 14:26
Acenaphthylene	A	***ND***	0.17		mg/Kg-dry	1	02/09/10 14:26
Anthracene	A	***ND***	0.17		mg/Kg-dry	1	02/09/10 14:26
Benzo[a]anthracene	A	***ND***	0.17		mg/Kg-dry	1	02/09/10 14:26
Benzo[a]pyrene	A	***ND***	0.17		mg/Kg-dry	1	02/09/10 14:26
Benzo[b]fluoranthene	A	***ND***	0.17		mg/Kg-dry	1	02/09/10 14:26
Benzo[g,h,i]perylene	A	***ND***	0.17		mg/Kg-dry	1	02/09/10 14:26
Benzo[k]fluoranthene	A	***ND***	0.17		mg/Kg-dry	1	02/09/10 14:26
Chrysene	A	***ND***	0.17		mg/Kg-dry	1	02/09/10 14:26
Dibenz[a,h]anthracene	A	***ND***	0.17		mg/Kg-dry	1	02/09/10 14:26
Fluoranthene	A	***ND***	0.17		mg/Kg-dry	1	02/09/10 14:26
Fluorene	A	***ND***	0.17		mg/Kg-dry	1	02/09/10 14:26
Indeno[1,2,3cd]pyrene	A	***ND***	0.17		mg/Kg-dry	1	02/09/10 14:26
Naphthalene	A	***ND***	0.17		mg/Kg-dry	1	02/09/10 14:26
Phenanthrene	A	***ND***	0.17		mg/Kg-dry	1	02/09/10 14:26
Pyrene	A	***ND***	0.17		mg/Kg-dry	1	02/09/10 14:26
Surr: Nitrobenzene-d5	S	59.8	14.2-125		%REC	1	02/09/10 14:26
Surr: 2-Fluorobiphenyl	S	73.3	21.6-112		%REC	1	02/09/10 14:26
Surr: Terphenyl-d14	S	75.9	10-139		%REC	1	02/09/10 14:26
PERCENT MOISTURE	Method: **2540B_18ED**			Prep Date/Time:			Analyst: **SMA**
Percent Moisture	A	***14***	0.10		WT%	1	02/05/10 14:07

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ANALYTICAL RESULTS

Date: *Wednesday, February 24, 2010*

Client:	Weaver Boos Consultants, LLC		
Client Project:	South Bend, Indiana		
Client Sample ID:	TP - 5 @ 4 - 5'	**Work Order / ID:**	ME1002212-10
Sample Description:		**Collection Date:**	02/04/10 10:25
Sample Matrix:	Solid	**Date Received:**	02/05/10 13:00

Analyses	ST	Result	RL	Qual	Units	DF	Analyzed
TOTAL METALS	Method: **SW6010B**			Prep Date/Time: **02/08/10 08:30**			Analyst: **SAA**
Arsenic	A	***2.7***	0.48		mg/Kg-dry	1	02/09/10 17:10
Lead	A	***5.0***	0.36		mg/Kg-dry	1	02/09/10 17:10
PAH BY GC/MS	Method: **SW8270C**			Prep Date/Time: **02/08/10 08:14**			Analyst: **CLR**
Acenaphthene	A	***ND***	0.16		mg/Kg-dry	1	02/09/10 14:49
Acenaphthylene	A	***ND***	0.16		mg/Kg-dry	1	02/09/10 14:49
Anthracene	A	***ND***	0.16		mg/Kg-dry	1	02/09/10 14:49
Benzo[a]anthracene	A	***ND***	0.16		mg/Kg-dry	1	02/09/10 14:49
Benzo[a]pyrene	A	***ND***	0.16		mg/Kg-dry	1	02/09/10 14:49
Benzo[b]fluoranthene	A	***ND***	0.16		mg/Kg-dry	1	02/09/10 14:49
Benzo[g,h,i]perylene	A	***ND***	0.16		mg/Kg-dry	1	02/09/10 14:49
Benzo[k]fluoranthene	A	***ND***	0.16		mg/Kg-dry	1	02/09/10 14:49
Chrysene	A	***ND***	0.16		mg/Kg-dry	1	02/09/10 14:49
Dibenz[a,h]anthracene	A	***ND***	0.16		mg/Kg-dry	1	02/09/10 14:49
Fluoranthene	A	***ND***	0.16		mg/Kg-dry	1	02/09/10 14:49
Fluorene	A	***ND***	0.16		mg/Kg-dry	1	02/09/10 14:49
Indeno[1,2,3cd]pyrene	A	***ND***	0.16		mg/Kg-dry	1	02/09/10 14:49
Naphthalene	A	***ND***	0.16		mg/Kg-dry	1	02/09/10 14:49
Phenanthrene	A	***ND***	0.16		mg/Kg-dry	1	02/09/10 14:49
Pyrene	A	***ND***	0.16		mg/Kg-dry	1	02/09/10 14:49
Surr: Nitrobenzene-d5	S	54.8	14.2-125		%REC	1	02/09/10 14:49
Surr: 2-Fluorobiphenyl	S	72.0	21.6-112		%REC	1	02/09/10 14:49
Surr: Terphenyl-d14	S	91.4	10-139		%REC	1	02/09/10 14:49
PERCENT MOISTURE	Method: **2540B_18ED**			Prep Date/Time:			Analyst: **SMA**
Percent Moisture	A	***6.6***	0.10		WT%	1	02/05/10 14:07

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ANALYTICAL RESULTS

Date: *Wednesday, February 24, 2010*

Client:	Weaver Boos Consultants, LLC		
Client Project:	South Bend, Indiana		
Client Sample ID:	TP - 6 @ 0 - 2'	**Work Order / ID:**	ME1002212-11
Sample Description:		**Collection Date:**	02/04/10 10:30
Sample Matrix:	Solid	**Date Received:**	02/05/10 13:00

Analyses	ST	Result	RL	Qual	Units	DF	Analyzed
TOTAL METALS	Method: **SW6010B**			Prep Date/Time: **02/08/10 08:30**			Analyst: **SAA**
Arsenic	A	***8.5***	0.52		mg/Kg-dry	1	02/09/10 17:15
Lead	A	***240***	0.39		mg/Kg-dry	1	02/09/10 17:15
PAH BY GC/MS	Method: **SW8270C**			Prep Date/Time: **02/08/10 08:14**			Analyst: **CLR**
Acenaphthene	A	***ND***	0.16		mg/Kg-dry	1	02/09/10 16:23
Acenaphthylene	A	***ND***	0.16		mg/Kg-dry	1	02/09/10 16:23
Anthracene	A	***ND***	0.16		mg/Kg-dry	1	02/09/10 16:23
Benzo[a]anthracene	A	***0.26***	0.16		mg/Kg-dry	1	02/09/10 16:23
Benzo[a]pyrene	A	***0.16***	0.16		mg/Kg-dry	1	02/09/10 16:23
Benzo[b]fluoranthene	A	***0.21***	0.16		mg/Kg-dry	1	02/09/10 16:23
Benzo[g,h,i]perylene	A	***ND***	0.16		mg/Kg-dry	1	02/09/10 16:23
Benzo[k]fluoranthene	A	***ND***	0.16		mg/Kg-dry	1	02/09/10 16:23
Chrysene	A	***0.34***	0.16		mg/Kg-dry	1	02/09/10 16:23
Dibenz[a,h]anthracene	A	***ND***	0.16		mg/Kg-dry	1	02/09/10 16:23
Fluoranthene	A	***0.28***	0.16		mg/Kg-dry	1	02/09/10 16:23
Fluorene	A	***ND***	0.16		mg/Kg-dry	1	02/09/10 16:23
Indeno[1,2,3cd]pyrene	A	***ND***	0.16		mg/Kg-dry	1	02/09/10 16:23
Naphthalene	A	***ND***	0.16		mg/Kg-dry	1	02/09/10 16:23
Phenanthrene	A	***0.20***	0.16		mg/Kg-dry	1	02/09/10 16:23
Pyrene	A	***0.32***	0.16		mg/Kg-dry	1	02/09/10 16:23
Surr: Nitrobenzene-d5	S	83.6	14.2-125		%REC	1	02/09/10 16:23
Surr: 2-Fluorobiphenyl	S	84.0	21.6-112		%REC	1	02/09/10 16:23
Surr: Terphenyl-d14	S	109	10-139		%REC	1	02/09/10 16:23
PERCENT MOISTURE	Method: **2540B_18ED**			Prep Date/Time:			Analyst: **SMA**
Percent Moisture	A	***8.8***	0.10		WT%	1	02/05/10 14:07

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ANALYTICAL RESULTS

Date: *Wednesday, February 24, 2010*

Client:	Weaver Boos Consultants, LLC		
Client Project:	South Bend, Indiana		
Client Sample ID:	TP - 6 @ 4 - 5'	**Work Order / ID:**	ME1002212-12
Sample Description:		**Collection Date:**	02/04/10 10:37
Sample Matrix:	Solid	**Date Received:**	02/05/10 13:00

Analyses	ST	Result	RL	Qual	Units	DF	Analyzed
TOTAL METALS	Method: **SW6010B**			Prep Date/Time: **02/08/10 08:30**			Analyst: **SAA**
Arsenic	A	*12*	0.52		mg/Kg-dry	1	02/09/10 17:21
Lead	A	*150*	0.39		mg/Kg-dry	1	02/09/10 17:21
PAH BY GC/MS	Method: **SW8270C**			Prep Date/Time: **02/08/10 08:14**			Analyst: **CLR**
Acenaphthene	A	*ND*	0.16		mg/Kg-dry	1	02/09/10 17:56
Acenaphthylene	A	*0.35*	0.16		mg/Kg-dry	1	02/09/10 17:56
Anthracene	A	*0.53*	0.16		mg/Kg-dry	1	02/09/10 17:56
Benzo[a]anthracene	A	*2.7*	0.16		mg/Kg-dry	1	02/09/10 17:56
Benzo[a]pyrene	A	*2.2*	0.16		mg/Kg-dry	1	02/09/10 17:56
Benzo[b]fluoranthene	A	*3.3*	0.16		mg/Kg-dry	1	02/09/10 17:56
Benzo[g,h,i]perylene	A	*1.6*	0.16		mg/Kg-dry	1	02/09/10 17:56
Benzo[k]fluoranthene	A	*1.3*	0.16		mg/Kg-dry	1	02/09/10 17:56
Chrysene	A	*2.8*	0.16		mg/Kg-dry	1	02/09/10 17:56
Dibenz[a,h]anthracene	A	*0.34*	0.16		mg/Kg-dry	1	02/09/10 17:56
Fluoranthene	A	*4.9*	0.16		mg/Kg-dry	1	02/09/10 17:56
Fluorene	A	*0.26*	0.16		mg/Kg-dry	1	02/09/10 17:56
Indeno[1,2,3cd]pyrene	A	*1.4*	0.16		mg/Kg-dry	1	02/09/10 17:56
Naphthalene	A	*ND*	0.16		mg/Kg-dry	1	02/09/10 17:56
Phenanthrene	A	*2.6*	0.16		mg/Kg-dry	1	02/09/10 17:56
Pyrene	A	*5.1*	0.16		mg/Kg-dry	1	02/09/10 17:56
Surr: Nitrobenzene-d5	S	83.7	14.2-125		%REC	1	02/09/10 17:56
Surr: 2-Fluorobiphenyl	S	88.8	21.6-112		%REC	1	02/09/10 17:56
Surr: Terphenyl-d14	S	129	10-139		%REC	1	02/09/10 17:56
PERCENT MOISTURE	Method: **2540B_18ED**			Prep Date/Time:			Analyst: **SMA**
Percent Moisture	A	*8.8*	0.10		WT%	1	02/05/10 14:07

FLAGS, FOOTNOTES AND ABBREVIATIONS (as needed)

NA	=	Not Analyzed	N/A	=	Not Applicable			
mg/L	=	Milligrams per Liter (ppm)	ug/L	=	Micrograms per Liter (ppb)	cfu	=	Colony Forming Unit
mg/Kg	=	Milligrams per Kilogram (ppm)	ug/Kg	=	Micrograms per Kilogram (ppb)	ng/L	=	Nanograms per Liter (ppt)

U	=	Undetected
J	=	Analyte concentration detected between RL and MDL (Metals / Organics)
j	=	Analyte concentration detected betweeen 1/2 PQL and PQL (for TIC analytes only)
B	=	Detected in the associated Method Blank at a concentration above the routine PQL/RL
b	=	Detected in the associated Method Blank at a concentration above the Method Detection Limit but less than the routine PQL/RL
D	=	Surrogate recoveries are not calculated due to sample dilution
ND	=	Not Detected at the Reporting Limit (or the Method Detection Limit, if listed)
E	=	Value above quantitation range
H	=	Analyte was prepared and/or analyzed outside of the analytical method holding time
I	=	Matrix Interference
R	=	RPD outside accepted recovery limits
S	=	Spike recovery outside recovery limits
Surr	=	Surrogate

DF = Dilution Factor RL = Reporting Limit ST = Sample Type MDL = Method Detection Limit

SAMPLE TYPES

A	=	Analyte
I	=	Internal Standard
S	=	Surrogate
T	=	Tentatively Identified Compound (TIC, concentration estimated)

QC SAMPLE IDENTIFICATIONS

MBLK	=	Method Blank	ICSA	=	Interference Check Standard "A"	OPR	=	Ongoing Precision and Recovery Standard
DUP	=	Method Duplicate	ICSAB	=	Interference Check Standard "AB"			
LCS	=	Laboratory Control Sample	LCSD	=	Laboratory Control Sample Duplicate			
MS	=	Matrix Spike	MSD	=	Matrix Spike Duplicate			
ICB	=	Initial Calibration Blank	CCB	=	Continuing Calibration Blank			
ICV	=	Initial Calibration Verification	CCV	=	Continuing Calibration Verification			
PDS	=	Post Digestion Spike	SD	=	Serial Dilution			

CERTIFICATIONS

Below is a list of certifications maintained by the Microbac Merrillville Laboratory. All data included in this report has been reviewed for and meets all project specific and quality control requirements of the applicable accreditation, unless otherwise noted. Complete lists of individual analytes pursuant to each certification below are available upon request.

- Illinois EPA for the analysis wastewater and solid waste in accordance with the requirements of the National Environmental Laboratory Accreditation Program [NELAP] (accreditation #100435)
- Illinois Department of Public Health for the microbiological analysis of drinking water (registry #1755266)
- Indiana DEM approved support laboratory for solid waste and wastewater analyses
- Indiana SDH for the chemical analysis of drinking water (lab #C-45-03)
- Indiana SDH for the microbiological analysis of drinking water (lab #M-45-8)
- Kentucky DEP for the chemical analysis of drinking water (lab #90147)
- Kentucky EPPC for the analysis of samples applicable to the Underground Storage Tank program (lab #75)
- New York SDH for the chemical analysis of air and emissions (lab #11909)
- North Carolina DENR for the environmental analysis for NPDES effluent, surface water, groundwater, and pretreatment regulations (certificate #597)
- Tennessee DEC for the chemical analysis of drinking water (lab #04017)
- Wisconsin DNR for the chemical analysis of wastewater and solid waste (lab #998036710)

MICROBAC LOCATIONS, SERVICE CENTERS (SC) AND SATELLITE OFFICES (Sat)

Baltimore Division - Baltimore, MD
Camp Hill Division - Camp Hill, PA
Camp Hill Division (SC) - Pittston, PA
Chicagoland Division - Merrillville, IN
Chicagoland Division (SC) - Indianapolis, IN
Southern California Division - Corona, CA
Erie Division - Erie, PA
Fayetteville Division - Fayetteville, NC
Hauser Division - Boulder, CO
Kentucky Division - Louisville, KY
Kentucky Division (Sat) - Evansville, IN
Kentucky Division (Sat) - Lexington, KY
Kentucky Division (Sat) - Paducah, KY
Knoxville Division - Maryville, TN
Massachusetts Division - Worchester, MA
Microbac Corporate Office - Pittsburgh, PA
Microbac NY - Cortland Office - Cortland, NY
Microbac NY - Waverly Office - Waverly, NY
Ohio Valley Division - Marietta, OH
Pittsburgh Division - Warrendale, PA
Richmond Division - Richmond, VA
South Carolina Division - New Ellenton, SC
South Jersey Division - Laurel Springs, NJ
Southern Headquarters - Poquoson, VA
Southern Testing Division - Wilson, NC
Southern Testing Division (Sat) - Greensboro, NC
Venice Division - Venice, FL

COOLER INSPECTION

Date: Wednesday, February 24, 2010

Client Name: ***Weaver Boos Consultants, LL***
Work Order Number ***ME1002212***
Checklist completed by DP | 2/5/2010 1:41:05 PM

Date / Time Received: ***2/5/2010 1:00:00 PM***
Received by: DP
Reviewed by DPP | 2/5/2010 3:07:54 PM

Carrier name: Microbac

After-Hour Arrival?	Yes ☐	No ☑	
Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shippping 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 included sufficient client identification?	Yes ☑	No ☐	
Chain of custody included sufficient sample collector information?	Yes ☑	No ☐	
Chain of custody included a sample description?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Chain of custody identified the appropriate matrix?	Yes ☑	No ☐	
Chain of custody included date of collection?	Yes ☑	No ☐	
Chain of custody included time of collection?	Yes ☑	No ☐	
Chain of custody identified the appropriate number of containers?	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 ☐	
If samples are preserved, are the preservatives identified?	Yes ☑	No ☐	
Samples properly preserved?	Yes ☑	No ☐	

If No, adjusted by? _____ Date/Time _____

Chain of custody included the requested analyses?	Yes ☑	No ☐
Chain of custody signed when relinquished and received?	Yes ☑	No ☐
Samples received on ice?	Yes ☑	No ☐

Container/Temp Blank temperatures	Cooler	Temp
	1	4 ºC

VOA vials for aqueous samples have zero headspace? No VOA vials submitted ☑ Yes ☐ No ☐

ANY "NO" EVALUATION (excluding After-Hour Receipt) REQUIRES CLIENT NOTIFICATION.

General Comments:

Sample ID	Client Sample ID	Comments
ME1002212-01A	TP - 1 @ 0 - 2'	Report in dry weight
ME1002212-02A	TP - 1 @ 4 - 5'	Report in dry weight
ME1002212-03A	TP - 2 @ 0 - 2'	Report in dry weight
ME1002212-04A	TP - 2 @ 4 - 5'	Report in dry weight
ME1002212-05A	TP - 3 @ 0 - 2'	Report in dry weight
ME1002212-06A	TP - 3 @ 4 - 5'	Report in dry weight
ME1002212-07A	TP - 4 @ 0 - 2'	Report in dry weight
ME1002212-08A	TP - 4 @ 4 - 5'	Report in dry weight
ME1002212-09A	TP - 5 @ 0 - 2'	Report in dry weight
ME1002212-10A	TP - 5 @ 4 - 5'	Report in dry weight
ME1002212-11A	TP - 6 @ 0 - 2'	Report in dry weight
ME1002212-12A	TP - 6 @ 4 - 5'	Report in dry weight

Ron Misiunas

From: Stefanek, Ed [estefanek@weaverboos.com]
Sent: Friday, February 12, 2010 12:26 PM
To: Ron Misiunas; Slough, Jodi
Subject: RE: ME1002212 - South Bend, Indiana

Ron,

I also need a TCLP for the highest lead, which I believe is TP-1 at 0-2. Can you put that on order as well?

Ed

Edward B. Stefanek | Sr. Project Manager
Weaver Boos Consultants
4085 Meghan Beeler Court | South Bend, IN 46628
t. 574-271-3447 | f. 574-271-3343 | m. 574-302-0614
www.weaverboos.com | estefanek@weaverboos.com

From: Ron Misiunas [mailto:rmisiunas@microbac.com]
Sent: Friday, February 12, 2010 12:02 PM
To: Stefanek, Ed; Slough, Jodi
Subject: ME1002212 - South Bend, Indiana

Hello Ed & Jodi –

I have attached the results for the samples we rec'd on 2/5. Sample 1002212-08 (TP-4@4-5') had the highest total As value (19 mg/Kg) of the bunch. Per the COC, I am having this sample analyzed for TCLP As. Results will be available next week.

Thanks and have a great day.

Ron

Ronald J. Misiunas
Microbac Laboratories, Inc.
250 West 84th Drive
Merrillville, IN 46410
office: 219-769-8378
fax: 219-769-1664
mobile: 219-746-4677
email: rmisiunas@microbac.com

Microbac®

Samples Submitted to:
[ ] 250 West 84th Drive, Merrillville, IN 46410, Tel: 219-769-8378, Fax: 219-769-1664
[ ] 5713 West 85th Street, Indianapolis, IN 46278, Tel: 317-872-1375, Fax: 317-872-1379

Chain of Custody Record

Number 81027

Instructions on back

Client Name: Weaver Boos Consultants	Project: City of South Bend	Turnaround Time	Report Type
Address: 4085 Meghan Beeler Ct.	Location: Prairie Ave, South Bend	[x] Routine (7 working days)	[ ] Results Only [ ] Level II
City, State, Zip: South Bend IN	PO #: 0058-375-01	[ ] RUSH* (notify lab)	[ ] Level III [ ] Level III CLP-like
Contact: Edward Stefanek	Compliance Monitoring? [ ] Yes(1) [ ] No	(needed by)	[ ] Level IV [ ] Level IV CLP-like
Telephone #: 574.271.3447	(1)Agency/Program		[ ] EDD

Sampled by (PRINT): Jodi Slough Sampler Signature: [signature] Sampler Phone #: 574.952.5280

Send Report via [ ] Mail [ ] Telephone [ ] Fax (fax #) [x] e-mail (address): estefanek@weaverboos.com

* Matrix Types: Soil/Solid (S), Sludge, Oil, Wipe, Drinking Water (DW), Groundwater (GW), Surface Water (SW), Waste Water (WW), Other (specify)

** Preservative Types: (1) HNO3, (2) H2SO4, (3) HCl, (4) NaOH, (5) Zinc Acetate, (6) Methanol, (7) Sodium Bisulfate, (8) Sodium Thiosulfate, (9) Hexane, (U) Unpreserved

Client Sample ID	Matrix*	Grab	Composite	Filtered	Date Collected	Time Collected	No. of Containers	Requested Analyses → Preservative Types **	Lead	Arsenic	PNAs							For Lab Use Only 1002212
TP-1 @ 0-2'	S	✓			2/4/10	10:10	2	U	✓	✓	✓							01 A
TP-1 @ 4-5'	S	✓			2/4/10	10:15	2	U	✓	✓	✓							02 A
TP-2 @ 0-2'	S	✓			2/4/10	10:43	2	U	✓	✓	✓							03 A
TP-2 @ 4-5'	S	✓			2/4/10	10:52	2	U	✓	✓	✓							04 A
TP-3 @ 0-2'	S	✓			2/4/10	11:15	2	U	✓	✓	✓							05 A
TP-3 @ 4-5'	S	✓			2/4/10	11:22	2	U	✓	✓	✓							06 A
TP-4 @ 0-2'	S	✓			2/4/10	11:28	2	U	✓	✓	✓							07 A
TP-4 @ 4-5'	S	✓			2/4/10	11:34	2	U	✓	✓	✓							08 A
TP-5 @ 0-2'	S	✓			2/4/10	10:20	2	U	✓	✓	✓							09 A
TP-5 @ 4-5'	S	✓			2/4/10	10:25	2	U	✓	✓	✓							10 A
TP-6 @ 0-2'	S	✓			2/4/10	10:30	2	U	✓	✓	✓							11 A

Possible Hazard Identification [ ] Hazardous [ ] Non-Hazardous [ ] Radioactive Sample Disposition [ ] Dispose as appropriate [ ] Return [ ] Archive

Comments:
*Do TCLP Analysis on sample with the highest Arsenic level.
-PNAs including naphthalene

Sample temperature upon receipt in degrees C = 4°

Relinquished By (signature)	Date/Time	Received By (signature)	Date/Time
[signature]	2/5/10, 10:25	[signature]	2/5 1025
[signature]	2/5 1300		
		Received for Lab By (signature)	Date/Time 2/5/10 1300

rev. 11/04/04

Page 1 of 2

ME-1002212 WBG-SOUTH BEND
South Bend, Indiana
Ed Stefanek
2/16/2010 CES

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01

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Samples Submitted to:
[ ] 250 West 84th Drive, Merrillville, IN 46410, Tel: 219-769-8378, Fax: 219-769-1664
[ ] 5713 West 85th Street, Indianapolis, IN 46278, Tel: 317-872-1375, Fax: 317-872-1379

Chain of Custody Record

Number 74442

Instructions on back

Client Name: Weaver Boos Consultants	Project: City of South Bend	Turnaround Time	Report Type
Address: 4085 Meghan Beeler Ct	Location: Prairie Ave, South Bend	[X] Routine (7 working days)	[ ] Results Only [ ] Level II
City, State, Zip: South Bend IN	PO #: 0058-375-01	[ ] RUSH* (notify lab)	[ ] Level III [ ] Level III CLP-like
Contact: Edward Stefanek	Compliance Monitoring? [ ] Yes(1) [ ] No	(needed by)	[ ] Level IV [ ] Level IV CLP-like
Telephone #: 574.271.3447	(1)Agency/Program		[ ] EDD

Sampled by (PRINT): Jodi Slough Sampler Signature: Jodi Slough Sampler Phone #: 952.5280

Send Report via [ ] Mail [ ] Telephone [ ] Fax (fax #) _____ [ ] e-mail (address) _____

* Matrix Types: Soil/Solid (S), Sludge, Oil, Wipe, Drinking Water (DW), Groundwater (GW), Surface Water (SW), Waste Water (WW), Other (specify)

** Preservative Types: (1) HNO3, (2) H2SO4, (3) HCl, (4) NaOH, (5) Zinc Acetate, (6) Methanol, (7) Sodium Bisulfate, (8) Sodium Thiosulfate, (9) Hexane, (U) Unpreserved

Client Sample ID	Matrix*	Grab	Composite	Filtered	Date Collected	Time Collected	No. of Containers	Requested Analyses → Preservative Types ** ↓	Lead	Arsenic	PAHs						For Lab Use Only
																	1002 212
TP-6 @ 4-5'	S	✓			2/4/10	10:37	2	U	✓	✓	✓						12

Possible Hazard Identification [ ] Hazardous [ ] Non-Hazardous [ ] Radioactive Sample Disposition [ ] Dispose as appropriate [ ] Return [ ] Archive

Comments	Relinquished By (signature)	Date/Time	Received By (signature)	Date/Time
	Jodi Slough	2/5/10, 10:25	M. Stahl	2/5 1025
	M. Stahl	2/5 1300		
Sample temperature upon receipt in degrees C = 4°C OI			Received for Lab By (signature)	Date/Time 2/5/10 13:20

rev. 11/04/04

PHOTOGRAPHS


HITACHI


HITACHI