

PHASE II SUBSURFACE INVESTIGATION
55 W. Madison Street
Franklin, Indiana

AME PROJECT #: JO0820.320

PREPARED FOR:

City of Franklin
Ms. Rhoni Oliver
70 East Monroe Street
Franklin, Indiana 46131

PREPARED BY:

August Mack Environmental, Inc.
1302 N. Meridian Street, Suite 300
Indianapolis, Indiana 46202

ISSUE DATE:

June 6, 2014





317.916.8000 ▪ www.augustmack.com
1302 North Meridian Street, Suite 300 ▪ Indianapolis, Indiana 46202

June 6, 2014

City of Franklin
Ms. Rhoni Oliver
70 East Monroe Street
Franklin, IN 46131

**Re: Phase II Subsurface Investigation
55 W. Madison Street
Franklin, Indiana
August Mack Project Number JO0820.320**

Dear Ms. Oliver:

August Mack Environmental, Inc. (August Mack) has completed subsurface investigation activities at the above-referenced Site. During a recent Phase I Environmental Site Assessment (ESA) performed by August Mack (Project Number JO0485.710), the following Recognized Environmental Condition (REC) warranting further investigation was identified:

- A dry cleaning facility was historically located adjacent to the east from approximately 1959 to 1972

The purpose of this investigation is to determine whether the subsurface conditions on the Site have been impacted by operations at the former off-Site drycleaner facility. This report includes a description of the scope of work, a summary of field activities, sampling procedures, laboratory analytical results, and conclusions.

The report was prepared at the request of and may be relied on by the City of Franklin. Reliance on the information and conclusions presented in this report by any other party(ies) is not authorized by August Mack.



SUBSURFACE INVESTIGATION

Investigation Locations

August Mack mobilized to the Site on May 30, 2014 to evaluate the subsurface conditions at the Site. Prior to starting soil boring activities, ground penetrating radar (GPR), electromagnetic (EM) and other utility locating tools were utilized to clear all boring locations. A total of three (3) soil borings (SB-1 through SB-3) were advanced along the southeast boundary of the Site adjacent to the former drycleaner using a Geoprobe® direct push sampling system. The soil boring locations are depicted on **Figure 1**.

Soil and Groundwater Sampling Methodology

Each boring was advanced to a depth of 16 feet below grade (ft bg). The purpose of the borings was to field screen soils, determine geological conditions, and collect soil and groundwater samples for laboratory analysis. All of the soils were inspected in the field for odors and staining, and field screened using a photoionization detector (PID). Field screening results and soil lithological information is provided on soil boring logs included as **Attachment A**.

One (1) soil sample interval from each boring was selected for laboratory analysis based on field inspection observations and screening results. The soil samples were submitted to Microbac Laboratories, Inc. (Microbac) located in Indianapolis, IN for volatile organic compound (VOC) analysis.

Each boring was converted into a temporary 1-inch diameter PVC well to aid in the collection of groundwater samples. Groundwater samples were collected from the temporary wells using a Geotech Geopump Peristaltic Pump attached to new, disposable sample tubing. One (1) groundwater sample was collected from each of the temporary wells and submitted to Microbac for VOC analysis. August Mack field procedures for Geoprobe® soil and groundwater sampling are provided in **Attachment B**.

Field Observations

Inspection of collected soil samples revealed the subsurface geology to be primarily comprised of silty clay from beneath the asphalt and gravel fill material to approximately 4 ft bg, with sand and gravelly sand throughout the remainder of the borings. Saturated conditions were encountered at 12 ft bg in all of the borings. Field observations and PID measurements collected from the soil borings did not indicate any

evidence of impacts. It should be noted that there was very poor recovery from the ground surface to approximately 8 ft bg.

Analytical Results

The soil and groundwater analytical results were compared to the Indiana Department of Environmental Management's (IDEM) Remediation Closure Guide (RCG) Residential Screening Levels (SLs) for Soil Migration to Groundwater and Tap Water. The laboratory analysis reported no constituents of concern above the laboratory reporting limits. A copy of the laboratory analytical report and chain of custody documentation is included in **Attachment C**.

SUMMARY AND CONCLUSION

August Mack has completed the Phase II Subsurface Investigation activities at 55 West Madison Street in Franklin, Indiana. A total of three (3) soil borings (SB-1 through SB-3) were advanced along the southeast perimeter of the property to evaluate whether the subsurface conditions have been impacted by operations at the former drycleaner facility located on the east adjoining property.

During field screening activities, no evidence of impacts were identified in any of the collected soil borings. Laboratory analytical results revealed no VOC constituents detected in any of the soil or groundwater samples at concentrations above the laboratory reporting limits, which are below the applicable IDEM RCG Screening Levels. Based on the results of the investigation, the subsurface conditions at the Site do not appear to be impacted by the former off-Site dry cleaner.

We appreciate the opportunity to provide you with environmental consulting services and trust that this submittal is in accordance with your needs. Please feel free to contact us if you have any questions or comments, or require additional information regarding this project or the project site.

Sincerely,



Tyler Zschieidrich

Environmental Site Assessor



Robert Brooks

Senior Manager, Environmental Professional

Attachments

FIGURES

Figure 1 - Site Plan with Sampling Locations

ATTACHMENT A

Soil Boring Logs



Project Number: JO0820.320	Date Drilled: 5/30/2014
Client Name: City of Franklin	Personnel: A.York
Project Name: Phase II	Driller: EFS (MW)
Drilling Method: Geoprobe	Driller License: NA
Site Address: Franklin, Indiana	GW Sample Method: 1" Temporary Screen
UTM Northing*: NA	UTM Easting*: NA
Boring Location: NA	Surface Elevation*: NA

SB-1

Depth (ft.)	Soil Type	Lithology Description	% Recovery	PID (ppm)	GW Sample Interval	Soil Sample Interval	Comments
0	FILL MATERIAL	(Asphalt and gravel)	<5%	1.3			
1		Dark brown, medium plasticity, soft, damp					
2	SILTY CLAY		0	9.7			
3							
4							
5	NO RECOVERY		0	NA			
6							
7				NA			
8	GRAVELLY SAND	Light brown, loose, coarse grained, well graded, damp	90	21.5			
9							
10				24.4			Soil sample (10-12') collected at 10:50
11		Orange, wet					
12	SAND	Brownish gray, medium grained, medium dense, medium graded, saturated	70	17.5			
13							
14							
15				23.6			Groundwater sample collected at 11:10
16		Orange, coarse grained, well graded					End of boring at 16'

* = UTM Northing, Easting, and Surface Elevation are estimated, unless specified in the report to have been surveyed.



Project Number: JO0820.320	Date Drilled: 5/30/2014
Client Name: City of Franklin	Personnel: A.York
Project Name: Phase II	Driller: EFS (MW)
Drilling Method: Geoprobe	Driller License: NA
Site Address: Franklin, Indiana	GW Sample Method: 1" Temporary Screen
UTM Northing*: NA	UTM Easting*: NA
Boring Location: NA	Surface Elevation*: NA

SB-2

Depth (ft.)	Soil Type	Lithology Description	% Recovery	PID (ppm)	GW Sample Interval	Soil Sample Interval	Comments
0	FILL MATERIAL	(Asphalt and gravel)	<5%	1.8			
1							
2	NO RECOVERY		0	NA			
3							
4							
5							
6	GRAVELLY SAND	Light brown, coarse grained, well graded, loose, damp	15	2.6			Soil sample (10-12') collected at 11:35
7							
8		Medium grained	60	4.2			
9							
10		Brown, medium grained, medium dense, saturated	60	5.2			
11							
12						Groundwater sample collected at 11:50	
13							
14							End of boring at 16'
15							
16							

* = UTM Northing, Easting, and Surface Elevation are estimated, unless specified in the report to have been surveyed.



SB-3

Project Number: JO0820.320	Date Drilled: 5/30/2014
Client Name: City of Franklin	Personnel: A.York
Project Name: Phase II	Driller: EFS (MW)
Drilling Method: Geoprobe	Driller License: NA
Site Address: Franklin, Indiana	GW Sample Method: 1" Temporary Screen
UTM Northing*: NA	UTM Easting*: NA
Boring Location: NA	Surface Elevation*: NA

Depth (ft.)	Soil Type	Lithology Description	% Recovery	PID (ppm)	GW Sample Interval	Soil Sample Interval	Comments
0	FILL MATERIAL	(Asphalt and gravel)	0	NA			
1				NA			
2	NO RECOVERY		10	NA			
3							
4	SAND	Brown, fine grained, medium dense, poorly graded, damp	50	0.8			
5							
6		Medium grained, medium graded			1.1		
7							
8							
9							
10			60	2.3			
11				4.6			Soil sample (10-12') collected at 12:15
12							
13		Coarse grained, well graded, saturated		4.3			
14							
15				3.4			Groundwater sample collected at 12:25
16		Orangish brown					End of boring at 16'

* = UTM Northing, Easting, and Surface Elevation are estimated, unless specified in the report to have been surveyed.

ATTACHMENT B

Field Procedures

SOIL & GROUNDWATER SAMPLING PROCEDURES

Soil Sampling Activities

Soil borings were advanced using a Geoprobe® Direct Push Sampling System (Geoprobe®). Soil borings were advanced to the desired depth required for the investigation. Soil samples were collected continuously from each boring location by pushing a 4-foot long nickel-plated core barrel sampler attached to the end of boring rods. The sampler was recovered with a soil sample collected within an acetate liner inside the barrel. A new acetate liner was used for each sample collected. All reusable equipment that contacted the soil samples was decontaminated with a Liquinox® solution and rinsed with water between each sample collection.

Upon retrieving the 4-foot sections of soil, the samples were divided into 2-foot sections and inspected in the field for evidence of contamination (odors, staining, etc.). Each sample was also screened in the field by headspace analysis using a MiniRae® photoionization detector (PID). The 2-foot section that exhibited the highest potential for contamination was sampled and transferred to clean, labeled sample containers (provided by the laboratory) and placed on ice in a cooler for preservation in the field. All samples were submitted to Microbac Laboratories, Inc. (Microbac) for laboratory analysis of VOCs using standard United States Environmental Protection Agency (U.S. EPA) SW-846 analytical methods.

Groundwater Sampling Activities

Temporary 1-inch groundwater sampling piezometers were installed at each boring to allow groundwater to collect for sampling purposes. Groundwater samples were collected from the temporary groundwater sampling points using a peristaltic pump and dedicated tubing. The groundwater samples were transferred to clean, labeled sample containers (provided by the laboratory) and placed on ice in a cooler for preservation in the field. Groundwater samples were submitted to Envision for laboratory analysis of VOCs using standard U.S. EPA SW-846 analytical methods.

Site Restoration Activities

Upon completion of the field sampling activities, the boreholes were abandoned by manually pouring soil cuttings and bentonite into the boring. Study site restoration was completed by patching the surface materials to match pre-investigation conditions.

ATTACHMENT C

Laboratory Results



June 4, 2014

August Mack Environmental, Inc.
1302 N. Meridian St., Suite 300
Indianapolis, IN 46204-

Work Order No.: 14F0039

Re: J00485.710/City of Franklin, IN

Dear Tyler Zschiedrich:

Microbac Laboratories, Inc. - Chicagoland Division received 6 sample(s) on 6/2/2014 11:20:00AM for the analyses presented in the following report as Work Order 14F0039.

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 contact your project manager. For any feedback, please contact Robert Crookston, Interim Managing Director, at robert.crookston@microbac.com.

Sincerely,
Microbac Laboratories, Inc.

A handwritten signature in black ink that reads "Kristen Gehlbach". The signature is written in a cursive, flowing style.

Kristen Gehlbach
Senior Project Manager

[Microbac Laboratories, Inc.](http://www.microbac.com)

250 West 84th Drive | Merrillville, IN 46410 | 800.536.8379 p | 219.769.8378 p | 219.769.1664 f | www.microbac.com



WORK ORDER SAMPLE SUMMARY

Date: *Wednesday, June 4, 2014*

Client: August Mack Environmental, Inc.
Project: J00485.710/City of Franklin, IN
Lab Order: 14F0039

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
14F0039-01	SB-1 (10-12')		05/30/2014 10:50	6/2/2014 11:20:00AM
14F0039-02	SB-2 (10-12')		05/30/2014 11:35	6/2/2014 11:20:00AM
14F0039-03	SB-3 (10-12')		05/30/2014 12:15	6/2/2014 11:20:00AM
14F0039-04	SB-1-GW		06/02/2014 11:10	6/2/2014 11:20:00AM
14F0039-05	SB-2-GW		05/30/2014 11:50	6/2/2014 11:20:00AM
14F0039-06	SB-3-GW		05/30/2014 12:25	6/2/2014 11:20:00AM

Microbac Laboratories, Inc.

250 West 84th Drive | Merrillville, IN 46410 | 800.536.8379 p | 219.769.8378 p | 219.769.1664 f | www.microbac.com

CASE NARRATIVE**Date:** *Wednesday, June 4, 2014*

Client: August Mack Environmental, Inc.
Project: J00485.710/City of Franklin, IN
Lab Order: 14F0039

The Matrix Spike and Matrix Spike Duplicate performed on the SB-2-GW sample failed the accuracy criteria for acetone with a high bias. The precision criteria were met. This data is indicative of a bias related to sample matrix.

At the time of analysis the pH of the SB-1-GW and SB-2-GW sample was greater than 2. This is considered insignificant as the samples were analyzed within the 7 day maximum allowable hold time for Volatile Organics.

The Laboratory Control Sample Duplicate associated with SB-1 (10-12') and SB-2 (10-12') sample failed the precision criteria for 2-butanone, 2-hexanone, 4-methyl-2-pentanone, acetone, acrolein, acrylonitrile, bromomethane and vinyl acetate. The accuracy criteria was met by the Laboratory Control Sample Duplicate.

The Laboratory Control Sample Duplicate associated with SB-3 (10-12') sample failed the precision criteria for Bromomethane. The accuracy criteria was met by the Laboratory Control Sample and Laboratory Control Sample Duplicate.

Analytical Results

Date: *Wednesday, June 4, 2014*

Client: August Mack Environmental, Inc.
 Client Project: J00485.710/City of Franklin, IN
 Client Sample ID: SB-1 (10-12')
 Sample Description:
 Matrix: Solid

Work Order/ID: 14F0039-01
 Sampled: 05/30/2014 10:50
 Received: 06/02/2014 11:20

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analized
				Method: SW-846 8260B		Analyst: jln		
Volatile Organic Compounds				Prep Method: soil prep		Prep Date/Time: 06/03/2014 15:00		
1,1,1,2-Tetrachloroethane	cgkn	A	ND	11		µg/Kg dry	1	06/03/2014 18:01
1,1,1-Trichloroethane	cgkn	A	ND	5.4		µg/Kg dry	1	06/03/2014 18:01
1,1,2,2-Tetrachloroethane	cgkn	A	ND	5.4		µg/Kg dry	1	06/03/2014 18:01
1,1,2-Trichloroethane	cgkn	A	ND	5.4		µg/Kg dry	1	06/03/2014 18:01
1,1-Dichloroethane	cgkn	A	ND	5.4		µg/Kg dry	1	06/03/2014 18:01
1,1-Dichloroethene	cgkn	A	ND	5.4		µg/Kg dry	1	06/03/2014 18:01
1,2-Dichloroethane	cgkn	A	ND	5.4		µg/Kg dry	1	06/03/2014 18:01
1,2-Dichloropropane	cgkn	A	ND	5.4		µg/Kg dry	1	06/03/2014 18:01
2-Butanone	cgkn	A	ND	11		µg/Kg dry	1	06/03/2014 18:01
2-Hexanone	cgkn	A	ND	11		µg/Kg dry	1	06/03/2014 18:01
4-Methyl-2-Pentanone	cgkn	A	ND	11		µg/Kg dry	1	06/03/2014 18:01
Acetone	cgkn	A	ND	54		µg/Kg dry	1	06/03/2014 18:01
Acrolein	cgkn	A	ND	110		µg/Kg dry	1	06/03/2014 18:01
Acrylonitrile	cgkn	A	ND	110		µg/Kg dry	1	06/03/2014 18:01
Benzene	cgkn	A	ND	5.4		µg/Kg dry	1	06/03/2014 18:01
Bromodichloromethane	cgkn	A	ND	5.4		µg/Kg dry	1	06/03/2014 18:01
Bromoform	cgkn	A	ND	5.4		µg/Kg dry	1	06/03/2014 18:01
Bromomethane	cgkn	A	ND	11		µg/Kg dry	1	06/03/2014 18:01
Carbon Disulfide	cgkn	A	ND	11		µg/Kg dry	1	06/03/2014 18:01
Carbon tetrachloride	cgkn	A	ND	5.4		µg/Kg dry	1	06/03/2014 18:01
Chlorobenzene	cgkn	A	ND	5.4		µg/Kg dry	1	06/03/2014 18:01
Chloroethane	cgkn	A	ND	11		µg/Kg dry	1	06/03/2014 18:01
Chloroform	cgkn	A	ND	5.4		µg/Kg dry	1	06/03/2014 18:01
Chloromethane	cgkn	A	ND	11		µg/Kg dry	1	06/03/2014 18:01
cis-1,2-Dichloroethene	cgkn	A	ND	5.4		µg/Kg dry	1	06/03/2014 18:01
cis-1,3-Dichloropropene	cgkn	A	ND	5.4		µg/Kg dry	1	06/03/2014 18:01
Dibromochloromethane	cgkn	A	ND	5.4		µg/Kg dry	1	06/03/2014 18:01
Ethylbenzene	cgkn	A	ND	5.4		µg/Kg dry	1	06/03/2014 18:01
m,p-Xylene	cgkn	A	ND	5.4		µg/Kg dry	1	06/03/2014 18:01
Methylene chloride	cgkn	A	ND	22		µg/Kg dry	1	06/03/2014 18:01
Methyl-t-Butyl Ether	cgkn	A	ND	5.4		µg/Kg dry	1	06/03/2014 18:01
o-Xylene	cgkn	A	ND	5.4		µg/Kg dry	1	06/03/2014 18:01
Styrene	cgkn	A	ND	5.4		µg/Kg dry	1	06/03/2014 18:01
Tetrachloroethene	cgkn	A	ND	5.4		µg/Kg dry	1	06/03/2014 18:01
Toluene	cgkn	A	ND	5.4		µg/Kg dry	1	06/03/2014 18:01
trans-1,2-Dichloroethene	cgkn	A	ND	5.4		µg/Kg dry	1	06/03/2014 18:01
trans-1,3-Dichloropropene	cgkn	A	ND	5.4		µg/Kg dry	1	06/03/2014 18:01
Trichloroethene	cgkn	A	ND	5.4		µg/Kg dry	1	06/03/2014 18:01
Trichlorofluoromethane	cgkn	A	ND	11		µg/Kg dry	1	06/03/2014 18:01
Vinyl Acetate	cgkn	A	ND	11		µg/Kg dry	1	06/03/2014 18:01
Vinyl chloride	cgkn	A	ND	11		µg/Kg dry	1	06/03/2014 18:01
Total 1,2-Dichloroethene	kn	M	ND	11		µg/Kg dry	1	06/03/2014 18:01

Microbac Laboratories, Inc.

Analytical Results

Date: *Wednesday, June 4, 2014*

Client: August Mack Environmental, Inc.
Client Project: J00485.710/City of Franklin, IN
Client Sample ID: SB-1 (10-12')
Sample Description:
Matrix: Solid

Work Order/ID: 14F0039-01
Sampled: 05/30/2014 10:50
Received: 06/02/2014 11:20

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
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Method: SW-846 8260B				Analyst: jln				
Prep Method: soil prep				Prep Date/Time: 06/03/2014 15:00				
Volatile Organic Compounds								
Total Xylenes	cgkn	M	ND	5.4		µg/Kg dry	1	06/03/2014 18:01
<i>ISTD: 1,4-Dichlorobenzene-d4</i>		I	84.1	50-200		%REC	1	06/03/2014 18:01
<i>ISTD: Chlorobenzene-d5</i>		I	93.2	50-200		%REC	1	06/03/2014 18:01
<i>ISTD: Fluorobenzene</i>		I	95.4	50-200		%REC	1	06/03/2014 18:01
<i>Surr: 1,2-Dichloroethane-d4</i>		S	101	51.7-162		%REC	1	06/03/2014 18:01
<i>Surr: 4-Bromofluorobenzene</i>		S	96.8	57.4-135		%REC	1	06/03/2014 18:01
<i>Surr: Dibromofluoromethane</i>		S	99.8	63.5-139		%REC	1	06/03/2014 18:01
<i>Surr: Toluene-d8</i>		S	96.2	66.6-143		%REC	1	06/03/2014 18:01

Method: SM 2540 G-1997				Analyst: ABG				
Prep Method: soil prep				Prep Date/Time: 06/03/2014 16:06				
Percent Solids								
Percent Solids	cg	A	92	0.10		wt%	1	06/04/2014 11:46

Analytical Results

Date: *Wednesday, June 4, 2014*

Client: August Mack Environmental, Inc.
 Client Project: J00485.710/City of Franklin, IN
 Client Sample ID: SB-2 (10-12')
 Sample Description:
 Matrix: Solid

Work Order/ID: 14F0039-02
 Sampled: 05/30/2014 11:35
 Received: 06/02/2014 11:20

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
				Method: SW-846 8260B		Analyst: jln		
Volatile Organic Compounds				Prep Method: soil prep		Prep Date/Time: 06/03/2014 15:00		
1,1,1,2-Tetrachloroethane	cgkn	A	ND	10		µg/Kg dry	1	06/03/2014 18:30
1,1,1-Trichloroethane	cgkn	A	ND	5.2		µg/Kg dry	1	06/03/2014 18:30
1,1,2,2-Tetrachloroethane	cgkn	A	ND	5.2		µg/Kg dry	1	06/03/2014 18:30
1,1,2-Trichloroethane	cgkn	A	ND	5.2		µg/Kg dry	1	06/03/2014 18:30
1,1-Dichloroethane	cgkn	A	ND	5.2		µg/Kg dry	1	06/03/2014 18:30
1,1-Dichloroethene	cgkn	A	ND	5.2		µg/Kg dry	1	06/03/2014 18:30
1,2-Dichloroethane	cgkn	A	ND	5.2		µg/Kg dry	1	06/03/2014 18:30
1,2-Dichloropropane	cgkn	A	ND	5.2		µg/Kg dry	1	06/03/2014 18:30
2-Butanone	cgkn	A	ND	10		µg/Kg dry	1	06/03/2014 18:30
2-Hexanone	cgkn	A	ND	10		µg/Kg dry	1	06/03/2014 18:30
4-Methyl-2-Pentanone	cgkn	A	ND	10		µg/Kg dry	1	06/03/2014 18:30
Acetone	cgkn	A	ND	52		µg/Kg dry	1	06/03/2014 18:30
Acrolein	cgkn	A	ND	100		µg/Kg dry	1	06/03/2014 18:30
Acrylonitrile	cgkn	A	ND	100		µg/Kg dry	1	06/03/2014 18:30
Benzene	cgkn	A	ND	5.2		µg/Kg dry	1	06/03/2014 18:30
Bromodichloromethane	cgkn	A	ND	5.2		µg/Kg dry	1	06/03/2014 18:30
Bromoform	cgkn	A	ND	5.2		µg/Kg dry	1	06/03/2014 18:30
Bromomethane	cgkn	A	ND	10		µg/Kg dry	1	06/03/2014 18:30
Carbon Disulfide	cgkn	A	ND	10		µg/Kg dry	1	06/03/2014 18:30
Carbon tetrachloride	cgkn	A	ND	5.2		µg/Kg dry	1	06/03/2014 18:30
Chlorobenzene	cgkn	A	ND	5.2		µg/Kg dry	1	06/03/2014 18:30
Chloroethane	cgkn	A	ND	10		µg/Kg dry	1	06/03/2014 18:30
Chloroform	cgkn	A	ND	5.2		µg/Kg dry	1	06/03/2014 18:30
Chloromethane	cgkn	A	ND	10		µg/Kg dry	1	06/03/2014 18:30
cis-1,2-Dichloroethene	cgkn	A	ND	5.2		µg/Kg dry	1	06/03/2014 18:30
cis-1,3-Dichloropropene	cgkn	A	ND	5.2		µg/Kg dry	1	06/03/2014 18:30
Dibromochloromethane	cgkn	A	ND	5.2		µg/Kg dry	1	06/03/2014 18:30
Ethylbenzene	cgkn	A	ND	5.2		µg/Kg dry	1	06/03/2014 18:30
m,p-Xylene	cgkn	A	ND	5.2		µg/Kg dry	1	06/03/2014 18:30
Methylene chloride	cgkn	A	ND	21		µg/Kg dry	1	06/03/2014 18:30
Methyl-t-Butyl Ether	cgkn	A	ND	5.2		µg/Kg dry	1	06/03/2014 18:30
o-Xylene	cgkn	A	ND	5.2		µg/Kg dry	1	06/03/2014 18:30
Styrene	cgkn	A	ND	5.2		µg/Kg dry	1	06/03/2014 18:30
Tetrachloroethene	cgkn	A	ND	5.2		µg/Kg dry	1	06/03/2014 18:30
Toluene	cgkn	A	ND	5.2		µg/Kg dry	1	06/03/2014 18:30
trans-1,2-Dichloroethene	cgkn	A	ND	5.2		µg/Kg dry	1	06/03/2014 18:30
trans-1,3-Dichloropropene	cgkn	A	ND	5.2		µg/Kg dry	1	06/03/2014 18:30
Trichloroethene	cgkn	A	ND	5.2		µg/Kg dry	1	06/03/2014 18:30
Trichlorofluoromethane	cgkn	A	ND	10		µg/Kg dry	1	06/03/2014 18:30
Vinyl Acetate	cgkn	A	ND	10		µg/Kg dry	1	06/03/2014 18:30
Vinyl chloride	cgkn	A	ND	10		µg/Kg dry	1	06/03/2014 18:30
Total 1,2-Dichloroethene	kn	M	ND	10		µg/Kg dry	1	06/03/2014 18:30

Microbac Laboratories, Inc.

Analytical Results

Date: *Wednesday, June 4, 2014*

Client: August Mack Environmental, Inc.
 Client Project: J00485.710/City of Franklin, IN
 Client Sample ID: SB-2 (10-12')
 Sample Description:
 Matrix: Solid

Work Order/ID: 14F0039-02
 Sampled: 05/30/2014 11:35
 Received: 06/02/2014 11:20

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
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Method: SW-846 8260B				Analyst: jln				
Prep Method: soil prep				Prep Date/Time: 06/03/2014 15:00				
Volatile Organic Compounds								
Total Xylenes	cgkn	M	ND	5.2		µg/Kg dry	1	06/03/2014 18:30
ISTD: 1,4-Dichlorobenzene-d4		I	80.1	50-200		%REC	1	06/03/2014 18:30
ISTD: Chlorobenzene-d5		I	91.1	50-200		%REC	1	06/03/2014 18:30
ISTD: Fluorobenzene		I	95.0	50-200		%REC	1	06/03/2014 18:30
Surr: 1,2-Dichloroethane-d4		S	98.9	51.7-162		%REC	1	06/03/2014 18:30
Surr: 4-Bromofluorobenzene		S	94.6	57.4-135		%REC	1	06/03/2014 18:30
Surr: Dibromofluoromethane		S	95.7	63.5-139		%REC	1	06/03/2014 18:30
Surr: Toluene-d8		S	97.2	66.6-143		%REC	1	06/03/2014 18:30

Method: SM 2540 G-1997				Analyst: ABG				
Prep Date/Time: 06/03/2014 16:06								
Percent Solids								
Percent Solids	cg	A	95	0.10		wt%	1	06/04/2014 11:46

Analytical Results

Date: *Wednesday, June 4, 2014*

Client: August Mack Environmental, Inc.
 Client Project: J00485.710/City of Franklin, IN
 Client Sample ID: SB-3 (10-12')
 Sample Description:
 Matrix: Solid

Work Order/ID: 14F0039-03
 Sampled: 05/30/2014 12:15
 Received: 06/02/2014 11:20

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analized
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Method: SW-846 8260B

Analyst: jln

Prep Date/Time: 06/04/2014 08:32

Volatile Organic Compounds

1,1,1,2-Tetrachloroethane	cgkn	A	ND	10		µg/Kg dry	1	06/04/2014 14:04
1,1,1-Trichloroethane	cgkn	A	ND	5.1		µg/Kg dry	1	06/04/2014 14:04
1,1,2,2-Tetrachloroethane	cgkn	A	ND	5.1		µg/Kg dry	1	06/04/2014 14:04
1,1,2-Trichloroethane	cgkn	A	ND	5.1		µg/Kg dry	1	06/04/2014 14:04
1,1-Dichloroethane	cgkn	A	ND	5.1		µg/Kg dry	1	06/04/2014 14:04
1,1-Dichloroethene	cgkn	A	ND	5.1		µg/Kg dry	1	06/04/2014 14:04
1,2-Dichloroethane	cgkn	A	ND	5.1		µg/Kg dry	1	06/04/2014 14:04
1,2-Dichloropropane	cgkn	A	ND	5.1		µg/Kg dry	1	06/04/2014 14:04
2-Butanone	cgkn	A	ND	10		µg/Kg dry	1	06/04/2014 14:04
2-Hexanone	cgkn	A	ND	10		µg/Kg dry	1	06/04/2014 14:04
4-Methyl-2-Pentanone	cgkn	A	ND	10		µg/Kg dry	1	06/04/2014 14:04
Acetone	cgkn	A	ND	51		µg/Kg dry	1	06/04/2014 14:04
Acrolein	cgkn	A	ND	100		µg/Kg dry	1	06/04/2014 14:04
Acrylonitrile	cgkn	A	ND	100		µg/Kg dry	1	06/04/2014 14:04
Benzene	cgkn	A	ND	5.1		µg/Kg dry	1	06/04/2014 14:04
Bromodichloromethane	cgkn	A	ND	5.1		µg/Kg dry	1	06/04/2014 14:04
Bromoform	cgkn	A	ND	5.1		µg/Kg dry	1	06/04/2014 14:04
Bromomethane	cgkn	A	ND	10		µg/Kg dry	1	06/04/2014 14:04
Carbon Disulfide	cgkn	A	ND	10		µg/Kg dry	1	06/04/2014 14:04
Carbon tetrachloride	cgkn	A	ND	5.1		µg/Kg dry	1	06/04/2014 14:04
Chlorobenzene	cgkn	A	ND	5.1		µg/Kg dry	1	06/04/2014 14:04
Chloroethane	cgkn	A	ND	10		µg/Kg dry	1	06/04/2014 14:04
Chloroform	cgkn	A	ND	5.1		µg/Kg dry	1	06/04/2014 14:04
Chloromethane	cgkn	A	ND	10		µg/Kg dry	1	06/04/2014 14:04
cis-1,2-Dichloroethene	cgkn	A	ND	5.1		µg/Kg dry	1	06/04/2014 14:04
cis-1,3-Dichloropropene	cgkn	A	ND	5.1		µg/Kg dry	1	06/04/2014 14:04
Dibromochloromethane	cgkn	A	ND	5.1		µg/Kg dry	1	06/04/2014 14:04
Ethylbenzene	cgkn	A	ND	5.1		µg/Kg dry	1	06/04/2014 14:04
m,p-Xylene	cgkn	A	ND	5.1		µg/Kg dry	1	06/04/2014 14:04
Methylene chloride	cgkn	A	ND	21		µg/Kg dry	1	06/04/2014 14:04
Methyl-t-Butyl Ether	cgkn	A	ND	5.1		µg/Kg dry	1	06/04/2014 14:04
o-Xylene	cgkn	A	ND	5.1		µg/Kg dry	1	06/04/2014 14:04
Styrene	cgkn	A	ND	5.1		µg/Kg dry	1	06/04/2014 14:04
Tetrachloroethene	cgkn	A	ND	5.1		µg/Kg dry	1	06/04/2014 14:04
Toluene	cgkn	A	ND	5.1		µg/Kg dry	1	06/04/2014 14:04
trans-1,2-Dichloroethene	cgkn	A	ND	5.1		µg/Kg dry	1	06/04/2014 14:04
trans-1,3-Dichloropropene	cgkn	A	ND	5.1		µg/Kg dry	1	06/04/2014 14:04
Trichloroethene	cgkn	A	ND	5.1		µg/Kg dry	1	06/04/2014 14:04
Trichlorofluoromethane	cgkn	A	ND	10		µg/Kg dry	1	06/04/2014 14:04
Vinyl Acetate	cgkn	A	ND	10		µg/Kg dry	1	06/04/2014 14:04
Vinyl chloride	cgkn	A	ND	10		µg/Kg dry	1	06/04/2014 14:04
Total 1,2-Dichloroethene	kn	M	ND	10		µg/Kg dry	1	06/04/2014 14:04

Microbac Laboratories, Inc.

Analytical Results

Date: *Wednesday, June 4, 2014*

Client: August Mack Environmental, Inc.
 Client Project: J00485.710/City of Franklin, IN
 Client Sample ID: SB-3 (10-12')
 Sample Description:
 Matrix: Solid

Work Order/ID: 14F0039-03
 Sampled: 05/30/2014 12:15
 Received: 06/02/2014 11:20

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
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Method: **SW-846 8260B**

Analyst: **jln**

Volatile Organic Compounds

Prep Date/Time: **06/04/2014 08:32**

	cgkn	M	Result	RL	Qual	Units	DF	Analyzed
Total Xylenes			<i>ND</i>	5.1		µg/Kg dry	1	06/04/2014 14:04
ISTD: 1,4-Dichlorobenzene-d4		I	76.6	50-200		%REC	1	06/04/2014 14:04
ISTD: Chlorobenzene-d5		I	85.5	50-200		%REC	1	06/04/2014 14:04
ISTD: Fluorobenzene		I	84.0	50-200		%REC	1	06/04/2014 14:04
Surr: 1,2-Dichloroethane-d4		S	110	51.7-162		%REC	1	06/04/2014 14:04
Surr: 4-Bromofluorobenzene		S	88.7	57.4-135		%REC	1	06/04/2014 14:04
Surr: Dibromofluoromethane		S	102	63.5-139		%REC	1	06/04/2014 14:04
Surr: Toluene-d8		S	104	66.6-143		%REC	1	06/04/2014 14:04

Method: **SM 2540 G-1997**

Analyst: **ABG**

Percent Solids

Prep Date/Time: **06/03/2014 16:06**

	cg	A	Result	RL	Qual	Units	DF	Analyzed
Percent Solids			96	0.10		wt%	1	06/04/2014 11:46

Analytical Results

Date: *Wednesday, June 4, 2014*

Client: August Mack Environmental, Inc.
 Client Project: J00485.710/City of Franklin, IN
 Client Sample ID: SB-1-GW
 Sample Description:
 Matrix: Aqueous

Work Order/ID: 14F0039-04
 Sampled: 06/02/2014 11:10
 Received: 06/02/2014 11:20

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
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Method: SW-846 8260B

Analyst: jln

Volatile Organic Compounds

Prep Date/Time: 06/03/2014 08:24

1,1,1,2-Tetrachloroethane	cgkn	A	ND	10		µg/L	1	06/03/2014 10:46
1,1,1-Trichloroethane	cgkn	A	ND	5.0		µg/L	1	06/03/2014 10:46
1,1,2,2-Tetrachloroethane	cgkn	A	ND	5.0		µg/L	1	06/03/2014 10:46
1,1,2-Trichloroethane	cgkn	A	ND	5.0		µg/L	1	06/03/2014 10:46
1,1-Dichloroethane	cgkn	A	ND	5.0		µg/L	1	06/03/2014 10:46
1,1-Dichloroethene	cgkn	A	ND	5.0		µg/L	1	06/03/2014 10:46
1,2-Dichloroethane	cgkn	A	ND	5.0		µg/L	1	06/03/2014 10:46
1,2-Dichloropropane	cgkn	A	ND	5.0		µg/L	1	06/03/2014 10:46
2-Butanone	cgkn	A	ND	10		µg/L	1	06/03/2014 10:46
2-Hexanone	cgkn	A	ND	10		µg/L	1	06/03/2014 10:46
4-Methyl-2-Pentanone	cgkn	A	ND	10		µg/L	1	06/03/2014 10:46
Acetone	cgkn	A	ND	50		µg/L	1	06/03/2014 10:46
Acrolein	cgkn	A	ND	100		µg/L	1	06/03/2014 10:46
Acrylonitrile	cgkn	A	ND	100		µg/L	1	06/03/2014 10:46
Benzene	cgkn	A	ND	5.0		µg/L	1	06/03/2014 10:46
Bromodichloromethane	cgkn	A	ND	5.0		µg/L	1	06/03/2014 10:46
Bromoform	cgkn	A	ND	5.0		µg/L	1	06/03/2014 10:46
Bromomethane	cgkn	A	ND	10		µg/L	1	06/03/2014 10:46
Carbon Disulfide	cgkn	A	ND	10		µg/L	1	06/03/2014 10:46
Carbon tetrachloride	cgkn	A	ND	5.0		µg/L	1	06/03/2014 10:46
Chlorobenzene	cgkn	A	ND	5.0		µg/L	1	06/03/2014 10:46
Chloroethane	cgkn	A	ND	10		µg/L	1	06/03/2014 10:46
Chloroform	cgkn	A	ND	5.0		µg/L	1	06/03/2014 10:46
Chloromethane	cgkn	A	ND	10		µg/L	1	06/03/2014 10:46
cis-1,2-Dichloroethene	cgkn	A	ND	5.0		µg/L	1	06/03/2014 10:46
cis-1,3-Dichloropropene	cgkn	A	ND	5.0		µg/L	1	06/03/2014 10:46
Dibromochloromethane	cgkn	A	ND	5.0		µg/L	1	06/03/2014 10:46
Ethylbenzene	cgkn	A	ND	5.0		µg/L	1	06/03/2014 10:46
m,p-Xylene	cgkn	A	ND	5.0		µg/L	1	06/03/2014 10:46
Methylene chloride	cgkn	A	ND	10		µg/L	1	06/03/2014 10:46
Methyl-t-Butyl Ether	cgkn	A	ND	5.0		µg/L	1	06/03/2014 10:46
o-Xylene	cgkn	A	ND	5.0		µg/L	1	06/03/2014 10:46
Styrene	cgkn	A	ND	5.0		µg/L	1	06/03/2014 10:46
Tetrachloroethene	cgkn	A	ND	5.0		µg/L	1	06/03/2014 10:46
Toluene	cgkn	A	ND	5.0		µg/L	1	06/03/2014 10:46
trans-1,2-Dichloroethene	cgkn	A	ND	5.0		µg/L	1	06/03/2014 10:46
trans-1,3-Dichloropropene	cgkn	A	ND	5.0		µg/L	1	06/03/2014 10:46
Trichloroethene	cgkn	A	ND	5.0		µg/L	1	06/03/2014 10:46
Trichlorofluoromethane	cgkn	A	ND	10		µg/L	1	06/03/2014 10:46
Vinyl Acetate	cgkn	A	ND	10		µg/L	1	06/03/2014 10:46
Vinyl chloride	cgkn	A	ND	2.0		µg/L	1	06/03/2014 10:46
Total 1,2-Dichloroethene	kn	M	ND	5.0		µg/L	1	06/03/2014 10:46

Microbac Laboratories, Inc.

Analytical Results

Date: *Wednesday, June 4, 2014*

Client:	August Mack Environmental, Inc.	Work Order/ID:	14F0039-04
Client Project:	J00485.710/City of Franklin, IN	Sampled:	06/02/2014 11:10
Client Sample ID:	SB-1-GW	Received:	06/02/2014 11:20
Sample Description:			
Matrix:	Aqueous		

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
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Method: **SW-846 8260B**

Analyst: **jln**

Volatile Organic Compounds

Prep Date/Time: **06/03/2014 08:24**

	cgkn	M	ND	5.0		µg/L	1	06/03/2014 10:46
Total Xylenes		I					1	06/03/2014 10:46
ISTD: 1,4-Dichlorobenzene-d4		I	90.2	50-200		%REC	1	06/03/2014 10:46
ISTD: Chlorobenzene-d5		I	93.1	50-200		%REC	1	06/03/2014 10:46
ISTD: Fluorobenzene		I	95.3	50-200		%REC	1	06/03/2014 10:46
Surr: 1,2-Dichloroethane-d4		S	113	74.5-132		%REC	1	06/03/2014 10:46
Surr: 4-Bromofluorobenzene		S	98.4	80-120		%REC	1	06/03/2014 10:46
Surr: Dibromofluoromethane		S	98.1	80-120		%REC	1	06/03/2014 10:46
Surr: Toluene-d8		S	102	80-120		%REC	1	06/03/2014 10:46

Analytical Results

Date: *Wednesday, June 4, 2014*

Client: August Mack Environmental, Inc.
 Client Project: J00485.710/City of Franklin, IN
 Client Sample ID: SB-2-GW
 Sample Description:
 Matrix: Aqueous

Work Order/ID: 14F0039-05
 Sampled: 05/30/2014 11:50
 Received: 06/02/2014 11:20

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
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Method: SW-846 8260B

Analyst: jln

Prep Date/Time: 06/03/2014 08:24

Volatile Organic Compounds

1,1,1,2-Tetrachloroethane	cgkn	A	ND	10		µg/L	1	06/03/2014 11:08
1,1,1-Trichloroethane	cgkn	A	ND	5.0		µg/L	1	06/03/2014 11:08
1,1,2,2-Tetrachloroethane	cgkn	A	ND	5.0		µg/L	1	06/03/2014 11:08
1,1,2-Trichloroethane	cgkn	A	ND	5.0		µg/L	1	06/03/2014 11:08
1,1-Dichloroethane	cgkn	A	ND	5.0		µg/L	1	06/03/2014 11:08
1,1-Dichloroethene	cgkn	A	ND	5.0		µg/L	1	06/03/2014 11:08
1,2-Dichloroethane	cgkn	A	ND	5.0		µg/L	1	06/03/2014 11:08
1,2-Dichloropropane	cgkn	A	ND	5.0		µg/L	1	06/03/2014 11:08
2-Butanone	cgkn	A	ND	10		µg/L	1	06/03/2014 11:08
2-Hexanone	cgkn	A	ND	10		µg/L	1	06/03/2014 11:08
4-Methyl-2-Pentanone	cgkn	A	ND	10		µg/L	1	06/03/2014 11:08
Acetone	cgkn	A	ND	50		µg/L	1	06/03/2014 11:08
Acrolein	cgkn	A	ND	100		µg/L	1	06/03/2014 11:08
Acrylonitrile	cgkn	A	ND	100		µg/L	1	06/03/2014 11:08
Benzene	cgkn	A	ND	5.0		µg/L	1	06/03/2014 11:08
Bromodichloromethane	cgkn	A	ND	5.0		µg/L	1	06/03/2014 11:08
Bromoform	cgkn	A	ND	5.0		µg/L	1	06/03/2014 11:08
Bromomethane	cgkn	A	ND	10		µg/L	1	06/03/2014 11:08
Carbon Disulfide	cgkn	A	ND	10		µg/L	1	06/03/2014 11:08
Carbon tetrachloride	cgkn	A	ND	5.0		µg/L	1	06/03/2014 11:08
Chlorobenzene	cgkn	A	ND	5.0		µg/L	1	06/03/2014 11:08
Chloroethane	cgkn	A	ND	10		µg/L	1	06/03/2014 11:08
Chloroform	cgkn	A	ND	5.0		µg/L	1	06/03/2014 11:08
Chloromethane	cgkn	A	ND	10		µg/L	1	06/03/2014 11:08
cis-1,2-Dichloroethene	cgkn	A	ND	5.0		µg/L	1	06/03/2014 11:08
cis-1,3-Dichloropropene	cgkn	A	ND	5.0		µg/L	1	06/03/2014 11:08
Dibromochloromethane	cgkn	A	ND	5.0		µg/L	1	06/03/2014 11:08
Ethylbenzene	cgkn	A	ND	5.0		µg/L	1	06/03/2014 11:08
m,p-Xylene	cgkn	A	ND	5.0		µg/L	1	06/03/2014 11:08
Methylene chloride	cgkn	A	ND	10		µg/L	1	06/03/2014 11:08
Methyl-t-Butyl Ether	cgkn	A	ND	5.0		µg/L	1	06/03/2014 11:08
o-Xylene	cgkn	A	ND	5.0		µg/L	1	06/03/2014 11:08
Styrene	cgkn	A	ND	5.0		µg/L	1	06/03/2014 11:08
Tetrachloroethene	cgkn	A	ND	5.0		µg/L	1	06/03/2014 11:08
Toluene	cgkn	A	ND	5.0		µg/L	1	06/03/2014 11:08
trans-1,2-Dichloroethene	cgkn	A	ND	5.0		µg/L	1	06/03/2014 11:08
trans-1,3-Dichloropropene	cgkn	A	ND	5.0		µg/L	1	06/03/2014 11:08
Trichloroethene	cgkn	A	ND	5.0		µg/L	1	06/03/2014 11:08
Trichlorofluoromethane	cgkn	A	ND	10		µg/L	1	06/03/2014 11:08
Vinyl Acetate	cgkn	A	ND	10		µg/L	1	06/03/2014 11:08
Vinyl chloride	cgkn	A	ND	2.0		µg/L	1	06/03/2014 11:08
Total 1,2-Dichloroethene	kn	M	ND	5.0		µg/L	1	06/03/2014 11:08

Microbac Laboratories, Inc.



Analytical Results

Date: Wednesday, June 4, 2014

Client: August Mack Environmental, Inc.
Client Project: J00485.710/City of Franklin, IN
Client Sample ID: SB-2-GW
Sample Description:
Matrix: Aqueous

Work Order/ID: 14F0039-05
Sampled: 05/30/2014 11:50
Received: 06/02/2014 11:20

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analized
Method: SW-846 8260B				Analyst: jln				
Prep Date/Time: 06/03/2014 08:24								
Volatile Organic Compounds								
Total Xylenes	cgkn	M	ND	5.0		µg/L	1	06/03/2014 11:08
ISTD: 1,4-Dichlorobenzene-d4		I	90.0	50-200		%REC	1	06/03/2014 11:08
ISTD: Chlorobenzene-d5		I	91.6	50-200		%REC	1	06/03/2014 11:08
ISTD: Fluorobenzene		I	92.9	50-200		%REC	1	06/03/2014 11:08
Surr: 1,2-Dichloroethane-d4		S	116	74.5-132		%REC	1	06/03/2014 11:08
Surr: 4-Bromofluorobenzene		S	97.8	80-120		%REC	1	06/03/2014 11:08
Surr: Dibromofluoromethane		S	99.6	80-120		%REC	1	06/03/2014 11:08
Surr: Toluene-d8		S	100	80-120		%REC	1	06/03/2014 11:08

Microbac Laboratories, Inc.

250 West 84th Drive | Merrillville, IN 46410 | 800.536.8379 p | 219.769.8378 p | 219.769.1664 f | www.microbac.com

Analytical Results

Date: *Wednesday, June 4, 2014*

Client: August Mack Environmental, Inc.
 Client Project: J00485.710/City of Franklin, IN
 Client Sample ID: SB-3-GW
 Sample Description:
 Matrix: Aqueous

Work Order/ID: 14F0039-06
 Sampled: 05/30/2014 12:25
 Received: 06/02/2014 11:20

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
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Method: SW-846 8260B

Analyst: jln

Prep Date/Time: 06/03/2014 08:24

Volatile Organic Compounds

1,1,1,2-Tetrachloroethane	cgkn	A	ND	10		µg/L	1	06/03/2014 11:30
1,1,1-Trichloroethane	cgkn	A	ND	5.0		µg/L	1	06/03/2014 11:30
1,1,2,2-Tetrachloroethane	cgkn	A	ND	5.0		µg/L	1	06/03/2014 11:30
1,1,2-Trichloroethane	cgkn	A	ND	5.0		µg/L	1	06/03/2014 11:30
1,1-Dichloroethane	cgkn	A	ND	5.0		µg/L	1	06/03/2014 11:30
1,1-Dichloroethene	cgkn	A	ND	5.0		µg/L	1	06/03/2014 11:30
1,2-Dichloroethane	cgkn	A	ND	5.0		µg/L	1	06/03/2014 11:30
1,2-Dichloropropane	cgkn	A	ND	5.0		µg/L	1	06/03/2014 11:30
2-Butanone	cgkn	A	ND	10		µg/L	1	06/03/2014 11:30
2-Hexanone	cgkn	A	ND	10		µg/L	1	06/03/2014 11:30
4-Methyl-2-Pentanone	cgkn	A	ND	10		µg/L	1	06/03/2014 11:30
Acetone	cgkn	A	ND	50		µg/L	1	06/03/2014 11:30
Acrolein	cgkn	A	ND	100		µg/L	1	06/03/2014 11:30
Acrylonitrile	cgkn	A	ND	100		µg/L	1	06/03/2014 11:30
Benzene	cgkn	A	ND	5.0		µg/L	1	06/03/2014 11:30
Bromodichloromethane	cgkn	A	ND	5.0		µg/L	1	06/03/2014 11:30
Bromoform	cgkn	A	ND	5.0		µg/L	1	06/03/2014 11:30
Bromomethane	cgkn	A	ND	10		µg/L	1	06/03/2014 11:30
Carbon Disulfide	cgkn	A	ND	10		µg/L	1	06/03/2014 11:30
Carbon tetrachloride	cgkn	A	ND	5.0		µg/L	1	06/03/2014 11:30
Chlorobenzene	cgkn	A	ND	5.0		µg/L	1	06/03/2014 11:30
Chloroethane	cgkn	A	ND	10		µg/L	1	06/03/2014 11:30
Chloroform	cgkn	A	ND	5.0		µg/L	1	06/03/2014 11:30
Chloromethane	cgkn	A	ND	10		µg/L	1	06/03/2014 11:30
cis-1,2-Dichloroethene	cgkn	A	ND	5.0		µg/L	1	06/03/2014 11:30
cis-1,3-Dichloropropene	cgkn	A	ND	5.0		µg/L	1	06/03/2014 11:30
Dibromochloromethane	cgkn	A	ND	5.0		µg/L	1	06/03/2014 11:30
Ethylbenzene	cgkn	A	ND	5.0		µg/L	1	06/03/2014 11:30
m,p-Xylene	cgkn	A	ND	5.0		µg/L	1	06/03/2014 11:30
Methylene chloride	cgkn	A	ND	10		µg/L	1	06/03/2014 11:30
Methyl-t-Butyl Ether	cgkn	A	ND	5.0		µg/L	1	06/03/2014 11:30
o-Xylene	cgkn	A	ND	5.0		µg/L	1	06/03/2014 11:30
Styrene	cgkn	A	ND	5.0		µg/L	1	06/03/2014 11:30
Tetrachloroethene	cgkn	A	ND	5.0		µg/L	1	06/03/2014 11:30
Toluene	cgkn	A	ND	5.0		µg/L	1	06/03/2014 11:30
trans-1,2-Dichloroethene	cgkn	A	ND	5.0		µg/L	1	06/03/2014 11:30
trans-1,3-Dichloropropene	cgkn	A	ND	5.0		µg/L	1	06/03/2014 11:30
Trichloroethene	cgkn	A	ND	5.0		µg/L	1	06/03/2014 11:30
Trichlorofluoromethane	cgkn	A	ND	10		µg/L	1	06/03/2014 11:30
Vinyl Acetate	cgkn	A	ND	10		µg/L	1	06/03/2014 11:30
Vinyl chloride	cgkn	A	ND	2.0		µg/L	1	06/03/2014 11:30
Total 1,2-Dichloroethene	kn	M	ND	5.0		µg/L	1	06/03/2014 11:30

Microbac Laboratories, Inc.

Analytical Results

Date: Wednesday, June 4, 2014

Client:	August Mack Environmental, Inc.	Work Order/ID:	14F0039-06
Client Project:	J00485.710/City of Franklin, IN	Sampled:	05/30/2014 12:25
Client Sample ID:	SB-3-GW	Received:	06/02/2014 11:20
Sample Description:			
Matrix:	Aqueous		

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
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Method: SW-846 8260B

Analyst: jln

Volatile Organic Compounds

Prep Date/Time: 06/03/2014 08:24

	cgkn	M	ND	5.0		µg/L	1	06/03/2014 11:30
Total Xylenes		I	92.4	50-200		%REC	1	06/03/2014 11:30
ISTD: 1,4-Dichlorobenzene-d4		I	91.2	50-200		%REC	1	06/03/2014 11:30
ISTD: Chlorobenzene-d5		I	92.3	50-200		%REC	1	06/03/2014 11:30
ISTD: Fluorobenzene		S	113	74.5-132		%REC	1	06/03/2014 11:30
Surr: 1,2-Dichloroethane-d4		S	98.0	80-120		%REC	1	06/03/2014 11:30
Surr: 4-Bromofluorobenzene		S	99.3	80-120		%REC	1	06/03/2014 11:30
Surr: Dibromofluoromethane		S	100	80-120		%REC	1	06/03/2014 11:30
Surr: Toluene-d8								

FLAGS, FOOTNOTES AND ABBREVIATIONS (as needed)

B = Detected in the associated method Blank at a concentration above the routine RL
 b- = Detected in the associated method Blank at a concentration greater than 2.2 times the MDL
 b* = Detected in the associated method Blank at a concentration greater than half the RL
 CFU = Colony forming units
 D = Dilution performed on sample
 DF = Dilution Factor
 g = Gram
 E = Value above quantitation range
 H = Analyte was prepared and/or analyzed outside of the analytical method holding time
 I = Matrix Interference
 J = Analyte concentration detected between RL and MDL (Metals / Organics)
 LOD = Limit of Detection
 m3 = Meters cubed
 MDL = Method Detection Limit
 mg/Kg = Milligrams per Kilogram (ppm)
 mg/L = Milligrams per Liter (ppm)
 NA = Not Analyzed
 ND = Not Detected at the Reporting Limit (or the Method Detection Limit, if used)
 NR = Not Recovered
 R = RPD outside accepted recovery limits
 RL = Reporting Limit
 S = Spike recovery outside recovery limits
 Surr = Surrogate
 U = Undetected
 > = Greater than
 < = Less than
 % = Percent

ANALYTE TYPES: (AT)

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

QC SAMPLE IDENTIFICATIONS

BLK = Method Blank	ICSA = Interference Check Standard "A"
DUP = Method Duplicate	ICSAB = Interference Check Standard "AB"
BS = Method Blank Spike	BSD = Method Blank Spike Duplicate
MS = Matrix Spike	MSD = Matrix Spike Duplicate
ICB = Initial Calibration Blank	ICV = Initial Calibration Verification
CCB = Continuing Calibration Blank	CCV = Continuing Calibration Verification
CRL = Client Required Reporting Limit	OPR = Ongoing Precision and Recovery Standard
PDS = Post Digestion Spike	SD = Serial Dilution
QCS = Quality Control Standard	

CERTIFICATIONS (Certs)

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.

- a The American Association for Laboratory Accreditation [A2LA] for Biological Testing, ISO/IEC 17025 (Certificate# 3045.01)
- b The American Association for Laboratory Accreditation [A2LA] for Environmental Department of Defense Testing, ISO/IEC 17025 (Certificate# 3045.02)
- c Illinois EPA for the analysis wastewater and solid waste in accordance with the requirements of the National Environmental Laboratory Accreditation Program [NELAP] (accreditation #200064)
- d 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
- e Indiana SDH for the chemical analysis of drinking water (lab #C-45-03)
- f Indiana SDH for the microbiological analysis of drinking water (lab #M-45-8)
- g Kansas Department of Health and Environment for the analysis of drinking water, wastewater, and solid hazardous waste in accordance with the requirements of the National Environmental Laboratory Accreditation Program [NELAP] (Certificate No. E-10397)
- h Kentucky EPPC for the analysis of samples applicable to the Underground Storage Tank program (lab #75)
- i New York SDOH in accordance with the requirements of the National Environmental Laboratory Accreditation Program [NELAP] (Lab#12006; accreditation #49179)
- j New York SDOH in accordance with the requirements of the National Environmental Laboratory Accreditation Program [NELAP] (Lab# 12006; accreditation #49386)
- k North Carolina DENR for the environmental analysis for NPDES effluent, surface water, groundwater, and pretreatment regulations(certificate #597)
- l Pennsylvania Department of Environmental Protection [NELAP] (Lab# 68-04863)
- m Washington State Department of Ecology in accordance to Ch. 173-50 WAC (lab #C992)
- n Wisconsin DNR for the chemical analysis of wastewater and solid waste (lab #998036710)

Microbac Laboratories, Inc.



COOLER INSPECTION

Client Name: August Mack Environmental, Inc.

Date: Wednesday, June 4, 2014

Date/Time Received: 06/02/2014 11:20

Work Order Number: 14F0039

Received by: James Meyer

Checklist completed by: 6/2/2014 5:28:00PM | James Meyer

Reviewed by: 6/3/2014 | KG

Carrier Name: Microbac

Cooler ID: Default Cooler

Container/Temp Blank Temperature: 3.0° C

After-Hour Arrival?	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>		
Shipping container/cooler in good condition?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	Not Present	<input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	Not Present	<input type="checkbox"/>
Custody seals intact on sample containers?	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	Not Present	<input checked="" type="checkbox"/>
COC present?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>		
COC included sufficient client identification?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>		
COC included sufficient sample collector information?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>		
COC included a sample description?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>		
COC agrees with sample labels?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>		
COC identified the appropriate matrix?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>		
COC included date of collection?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>		
COC included time of collection?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>		
COC identified the appropriate number of containers?	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>		
Samples in proper container/bottle?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>		
Sample containers intact?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>		
Sufficient sample volume for indicated test?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>		
All samples received within holding time?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>		
If the samples are preserved, are the preservatives identified?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>		

If No, adjusted by? _____

COC included the requested analyses?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	
COC signed when relinquished and received?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	
Samples received on ice?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	
Samples properly preserved?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	
Voa vials for aqueous samples have zero headspace?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	No VOA vials submitted <input type="checkbox"/>

Cooler Comments: _____

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

Sample ID	Client Sample ID	Comments
14F0039-01	SB-1 (10-12')	
14F0039-02	SB-2 (10-12')	
14F0039-03	SB-3 (10-12')	
14F0039-04	SB-1-GW	
14F0039-05	SB-2-GW	
14F0039-06	SB-3-GW	

Microbac Laboratories, Inc.

250 West 84th Drive | Merrillville, IN 46410 | 800.536.8379 p | 219.769.8378 p | 219.769.1664 f | www.microbac.com

Microbac®

LABORATORY SERVICES

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

Use this COC for Air Analysis only

Number A **1379**

Instructions on back

Client Name <u>August Macks Environmental</u>	Project <u>City of Franklin - Phase II</u>	Turnaround Time	Report Type
Address <u>1302 N. Meridian St, Ste 300</u>	Location <u>Franklin, IN</u>	<input type="checkbox"/> Routine (7 working days)	<input type="checkbox"/> Results Only <input type="checkbox"/> Level II
City, State, Zip <u>Indianapolis, IN 46202</u>	PO # <u>500485.710</u>	<input checked="" type="checkbox"/> RUSH* (notify lab)	<input type="checkbox"/> Level III <input type="checkbox"/> Level III CLP-like
Contact <u>Tyler Zschiedrich</u>	Compliance Monitoring? <input type="checkbox"/> Yes(1) <input type="checkbox"/> No	RUSH <small>3 day turn (not guaranteed)</small>	<input checked="" type="checkbox"/> Level IV <input type="checkbox"/> Level IV CLP-like
Telephone # <u>(317) 916-8000</u>	(1) Agency/Program		<input type="checkbox"/> EDD
Implemented by (PRINT) <u>Austin York</u>	Sampler Signature <u>Austin York</u>	Sampler Phone # <u>(317) 916-8000</u>	
Send Report via <input checked="" type="checkbox"/> Mail <input type="checkbox"/> Telephone <input type="checkbox"/> Fax (fax #)		<input type="checkbox"/> e-mail (address) <u>TZschiedrich@augustmacks.com</u>	

* Matrix Types: (A) - Air * SL - Soil
** Preservative Types: NA * GW - Groundwater

Client Sample ID	Matrix*	Grab	Composite	Date Collected	Start Time	End Time	Summa ID	Vacuum (Initial)	Vacuum (final)	VOCs	For Lab Use Only
SB-1 (10-12')	SL	X		5-30-14	1050					X	14F0039 -01
SB-2 (10-12')	SL				1135						-02
SB-3 (10-12')	SL				1215						-03
SB-1-GW	GW				1110						-04
SB-2-GW	GW				1130						-05
SB-3-GW	GW				1225						-06

Possible Hazard Identification Hazardous Non-Hazardous Radioactive Dispose/as appropriate Return Archive

Comments <u>* 3 day TAT</u>	Relinquished By (signature) <u>Austin York</u>	Date/Time 5-30-14/1340	Received By (signature) <u>K. Schiebach</u>	Date/Time 5/30/14 1346
	Relinquished By (signature) <u>K. Schiebach</u>	Date/Time 6/2/14 900	Received By (signature) <u>M. McCoy</u>	Date/Time 6/2/14 900
	Relinquished By (signature) <u>M. McCoy</u>	Date/Time 6/2/14 1120	Received for Lab By (signature) <u>[Signature]</u>	Date/Time 6/2/14 1120

Sample temperature upon receipt in degrees C = 50°C

City of Franklin-Phase II J00485.710