Site Characterization Report

Former Inner City Oil
3816 E 31ST Street
Kansas City, MO
ST8310, R#8771, Claim 62330

Prepared for:

Zill LLC
3816 E 31St Street
Kansas City, MO 65128

August 24, 2015

Prepared by:

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1.0 Introduction

1.1 Authorization, Purpose and Scope of Work

This report discusses activities undertaken to further characterize petroleum impact discovered during removal of the former Inner City Oil UST system, identified by DNR as Release No. 8771.

The following tasks have been completed and are discussed in this report:

- Coordination of events, utility location, and notification of concerned parties;
- Advancement of six (6) subsurface borings (MW-A through MW-F);
- Field screening of soil samples utilizing a photoionization detector (PID);
- Installation of monitoring wells (MW-11, MW-12, MW-13 and MW-A through MW-F);
- Collection and submittal of soil and water samples;
- Analysis of soil samples for BTEX, oxygenates, TPH-GRO, TPH-DRO, TPH-ORO, lead and 4 samples were analyzed for PAHs;
- Analysis of groundwater samples from the new wells for BTEX, oxygenates, TPH-GRO, TPH-DRO, TPH-ORO, lead and 5 samples were analyzed for PAHs;
- LNAPL gauging of existing and new wells;
- HVE activities on MW-7, MW-9 and MW-10.

2.0 Site Background

2.1 Site Location

The Former Inner City Oil property is located at the intersection of E 31st Street and Mersington Avenue in Kansas City, Missouri (Site). North of the Site is residential. East of the Site lies Mersington Avenue, with an active fueling station beyond. South of the Site lies E 31st Street with a Park N Ride parking lot and residential beyond. West of the Site is an auto repair business with a restaurant (Smaxx) located farther west.

The site is currently an active service station, where a 12,000-gallon gasoline UST and a 12,000-gallon split compartment tank with 8,000-gallons of gasoline and 4,000-gallons of diesel were installed in 2006.

2.2 History

2003 Waste Oil Tank Closure Activities

A 500 gallon waste oil tank, previously owned and operated by Inner City Oil, was removed from the property in January 2003. Low concentrations of TPH-GRO and TEH as waste oil were found in one of the samples. The closure received a No Further Action letter from DNR in February 2007.

See Figure 6 for approximate locations of the closure samples. Closure sample results are provided in Table 1c. See 2003 Closure Report for more information.

2006 UST Closure Activities

Three USTs previously owned and operated by Inner City Oil were removed from the property in September 2006. The UST closure report documented petroleum-impacted soil in the tank pit and beneath the piping and dispensers. The highest concentrations were reported beneath and near the southern dispensers.

A total of 805.43 tons of soil was removed and disposed of in a permitted landfill. Neither water nor LNAPL were observed in the excavated area during closure activities.

See Figure 6 for approximate locations of the closure samples. Closure sample results are provided in Table 1c. See 2006 Closure Report for more information.

2013 Site Characterization Activities

In December 2013, Apex Envirotech, Inc (Apex) drilled nine (9) soil borings onsite (MW-1 through MW-9) and converted five (5) of the borings into monitoring wells (MW-1, MW-3, MW-4, MW-7 and MW-9). The remaining borings were dry, so they were not converted to monitoring wells. The 2013 site characterization activities and a site conceptual model were discussed in a report dated January 8, 2014.

2014 Site Characterization Activities

In November 2014, Apex drilled seven (7) soil borings onsite and on the western adjacent property (MW-10 through MW-16) and converted three (3) of the borings into monitoring wells (MW-10, MW-15 & MW-16). The remaining borings were dry, so they were not converted to monitoring wells. The 2014 site characterization activities were discussed in a report dated March 13, 2015.

2.3 Geology

Surface topography in the area across the Site generally slopes toward the north-northwest. Regional drainage is east towards the Blue River.

Unconsolidated surficial materials in the area generally consist of a dark brown silty clay loam, light brown loess and silty clay loam fill material that contains pieces of concrete, bricks, glass, and other manmade material. The thickness of the unconsolidated surface materials on the site is approximately 8' to 15'.

Geotechnical samples were collected from 5-7.5' bgs and 7.5-10' bgs at the site. However, there was not enough soil in the 5-7.5' sample for geotechnical analysis to be conducted. The geotechnical analysis on the 7.5-10' sample indicates that the soil at this depth is clay.

Geology in the area consists of the upper Pennsylvanian Age interbedded limestone and shale of the Kansas City Group. The uppermost bedrock in the area is the lower portion of the Wyandotte Formation of Middle Zarah Subgroup. The Wyandotte Formation consists of the Argentine Limestone, Quindaro Shale and Frisbie Shale Members.

Only the lower portion of the Argentine Limestone is present at the site. The lower portion consists of thin to thick beds of limestone interbedded with gray shale. Beneath the Argentine lies the Quindaro shale which consists of 0.5 to 1.5 feet of gray shale with lenses and nodular beds of tan limestone. The Frisbie Limestone lies beneath the Quindaro and consists of 0.5 to 3.0 feet of dark gray, thin bedded shaley limestone that weathers to a tan rubble. The rocks in the formation have a northeast/southwest fracture, or joint, pattern and to a lesser extent a southwest/northeast fracture pattern.[1]

At the site, and in nearby wells, the Wyandotte Formation has been encountered at 4-12' bgs. The top of the Wyandotte is encountered as a heavily weathered shale and/or limestone, with a more competent limestone present beneath to a depth of 8-22' bgs. See boring logs of the recently installed wells in Appendix A.

Beneath the Wyandotte Formation lies the Liberty Memorial Formation of the Lower Zarah Subgroup. The Liberty Memorial consists of a dark gray to dark bluish-grey shale that is up to 20-25 feet thick. The shale of the Liberty Memorial is competent and confining, thus preventing the downward migration of water and/or petroleum impact on and near the site. [1]

Using observations made during drilling, Apex has prepared bedrock elevation maps showing the top of the limestone of the Wyandotte Formation (Figure 5a) and the dark grey shale of the Liberty Memorial Formation (Figure 5b). The elevation maps show a northeasterly dip of the Wyandotte Formation and a north-northeasterly dip of the

Liberty Memorial Formation in the site area. However, regional dip for both formations is to the northwest. [1]

Apex and MDNR have agreed that there is no reasonable probability of groundwater in the area being used as a drinking water source.

[1] Geologic Map of the Missouri Part of the Kansas City MO-KS 7.5' Quadrangle, Jackson County, Missouri, June 2004, Richard J. Gentile, et al (OFM-04-487-GS), and from personal discussions with Mr. Gentile on July 29, 2015.

3.0 Recent Site Characterization Activities

3.1 Ground-Penetrating Radar Survey

The owner reported a long time resident of the area indicated tanks were formerly located northwest of the current onsite building. Therefore, prior to commencing drilling activities, a ground penetrating radar (GPR) survey was conducted in this area; to small areas of subsurface disturbance were found, but no evidence of any buried metallic structures was found. The areas of disturbance were around 5-6' in depth and not indicative of former buried tanks. However, a well (MW-B) was placed in the area of these disturbances.

In addition, a review of Sanborn maps revealed two separate gas stations previously located on the lots that now comprise the site. See Attachment C for a copy of the historical Sanborn Maps. The stations were located on the south central and southeastern portions of the site. Therefore, a GPR survey of those areas was also conducted; no evidence of buried metallic structures, or areas of subsurface disturbance indicative of a former buried object, was found.

3.2 Borehole Advancement

Six soil borings (MW-A through MW-F) were done on June 3-5, 2015.

Figure 3 shows the locations of the six (6) borings.

Boring logs are presented in Appendix A. Missouri One-Call and a private utility locator were notified to locate all public and private utilities in the area. All borings were advanced by Missouri-permitted drillers employed by Razek Environmental of Louisburg, Kansas.

3.3 Decontamination Procedures, QA/QC

All sampling, analysis and decontamination procedures were performed in general accordance with DNR-approved methodologies.

3.4 Soil Sampling

The soil was characterized using the Unified Soil Classification System; indicators of petroleum contamination, such as staining and odor, were noted, as was relative moisture content. PID readings were collected at approximately 1-foot intervals from all soil borings.

On June 3-5, 2015, soil samples were collected from six (6) boreholes. Soil samples were placed into an iced cooler immediately after labeling. The samples were sent to Pace Analytical, in Lenexa, Kansas, under chain of custody. See Tables 1a and 1b for analytical results.

3.5 Monitoring Well Installation

The six (6) new boreholes (MW-A through MW-F) and three (3) previous boreholes (MW-11, MW-12 and MW-13) were converted to permanent 2-inch-diameter monitoring wells. The wells were drilled utilizing air rotary. The wells included 0.010 inch slotted, schedule 40 PVC screen with flush threaded bottom caps and solid, schedule 40 PVC flush threaded riser pipes. Environmental silica sand graded to 20/40 mesh was placed around the screened intervals as a filter pack from the bottom of the boreholes to two (2) feet above the screened interval.

A bentonite seal was installed above the filter pack to the surface. Each well was completed at the surface with a manhole cover. Razek Environmental installed the monitoring wells and filed certification forms with the MDNR. Well construction details and certification forms are included in Appendix A.

3.6 Groundwater Level Measurements

Depth to groundwater was measured in seventeen (17) monitoring wells. The groundwater measurements are presented in Table 2. The newest wells (MW-11 to MW-13 and MW-A through MW-F) were drilled to the underlying Liberty Memorial Shale and screened across the limestone(s) of the Wyandotte Formation (the Deeper Wells). However, the older wells were only drilled to the top of the limestone (the Shallow Wells). Therefore, Apex produced two groundwater potentiometric maps (Figures 4a and 4b).

The data indicate shallow groundwater flow is likely towards the west and deeper groundwater flow is likely to the west, north and east from the center of the site (around MW-E). The average depth to water in the shallow wells is 9.03' and in the deeper wells is 11.66'.

3.7 Groundwater Sampling

On June 12, 2015, the wells were developed to allow for sorting of the filter pack, removal of groundwater adversely influenced by the probing and well installation, and to re-establish migratory pathways in the borehole wall. The wells were developed by

removing three (3) well volumes of water. In addition, three (3) times the amount of any water added to the borehole during drilling was removed.

Apex returned to the area on June 19, 2015, to purge and sample the wells. Three (3) well volumes of water were removed from the wells before samples were collected.

Samples were collected from all seventeen (17) wells. All samples were transferred to new, clean, and pretreated vials provided by the laboratory. Immediately after the samples were labeled, they were placed into an iced cooler. The coolers were sent to Pace Analytical, in Lenexa, Kansas, under chain of custody, where they were analyzed for BTEXN, Oxygenates, TPH-GRO, TPH-DRO/TPH-ORO and lead. PAHs were also run on five of the samples. See Table 3 for analytical results.

3.8 Sample Results

Soil analytical results are displayed in Tables 1a and 1b. Actual lab results and chain of custody can be found in Appendix B.

Groundwater analytical results are shown in Table 3 and the lab results and chain of custody forms can be found in Appendix B.

4.0 LNAPL Gauging & Removal Activities

4.1 LNAPL Gauging Activities

On March 13, March 19, March 30, April 9, April 22, May 1, June 12, June 19, July 21, August 4 & August 19, 2015, Apex conducted LNAPL gauging of the site wells.
In addition, LNAPL gauging was conducted only on MW-7, MW-9 and MW-10 on March 24, April 30 and June 16/17, 2015. LNAPL has been found in MW-7, MW-9, MW-10, MW-11 and MW-B. See Table 2 for the results of the LNAPL gauging activities.

4.2 LNAPL Removal Activities

When onsite for LNAPL gauging, Apex conducted manual LNAPL recovery on wells containing LNAPL. Since November 2014, Apex has removed less than 0.5 gallon of LNAPL from MW-7, approximately 2.7 gallons from MW-10 and trace amounts from MW-9 and MW-B.

High vacuum extraction (HVE) was conducted on March 24 and April 30, 2015. On March 24, HVE was conducted on MW-7 and MW-10 by Dupree Testing Services (DTS). A total of 800 gallons of liquid was removed from the two wells. DTS does not report the quantity of hydrocarbons removed.

On April 30, 2015, HVE was conducted by EcoVac Services on wells MW-7, MW-9 and MW-10. A total of 370 gallons of liquid and the equivalent of 250 gallons of unidentified vapor phase hydrocarbons was removed.

Apex continues to conduct onsite LNAPL gauging every two weeks and manual LNAPL recovery as necessary. HVE will be conducted if the LNAPL thickness in a well exceeds 0.5 feet.

5.0 Remarks/Signature

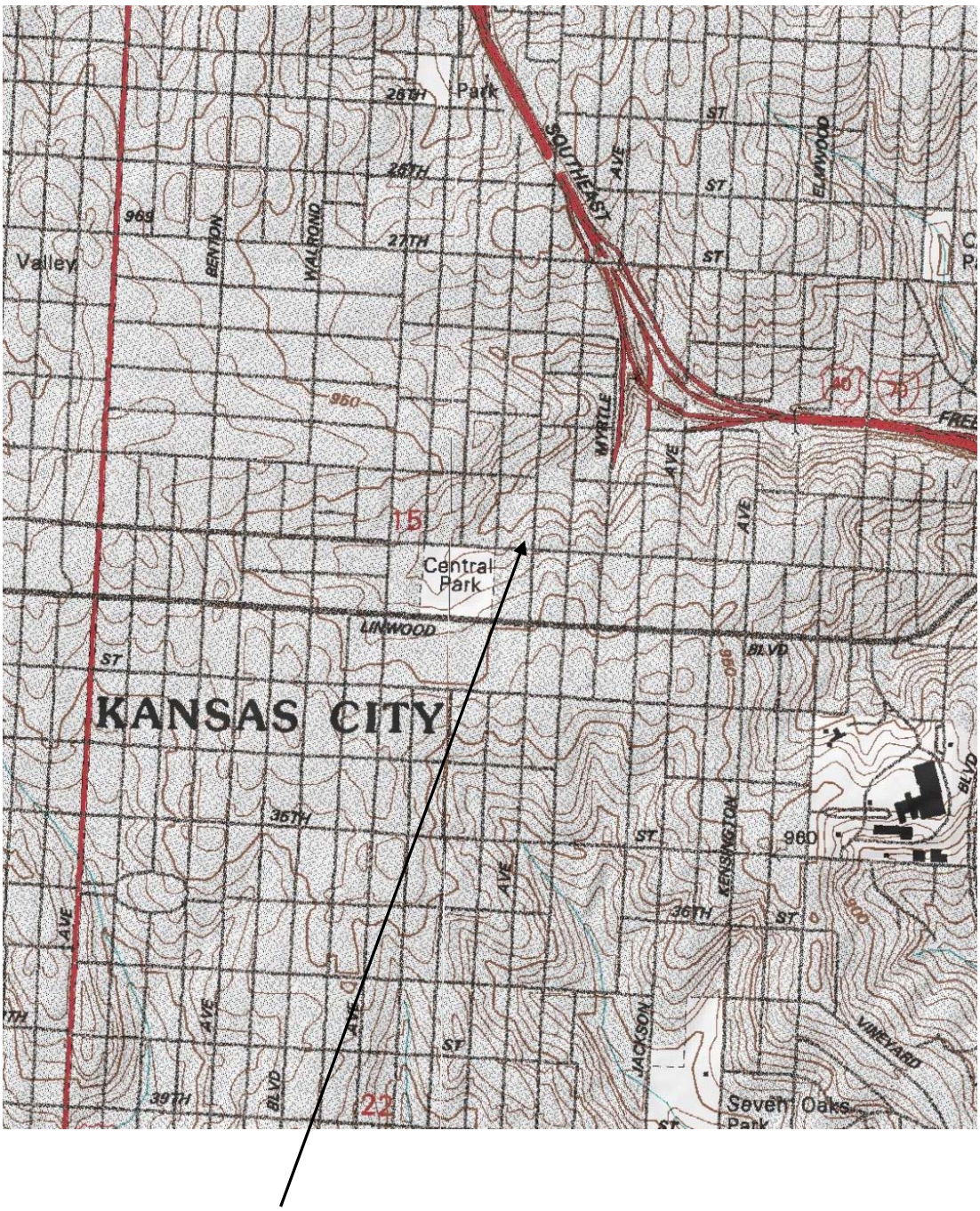
We appreciate the opportunity to provide Zill LLC with geologic, engineering and environmental consulting services. If you have any questions or comments, please call me at 816-807-2856.

APEX ENVIROTECH, INC.

Patty Currier

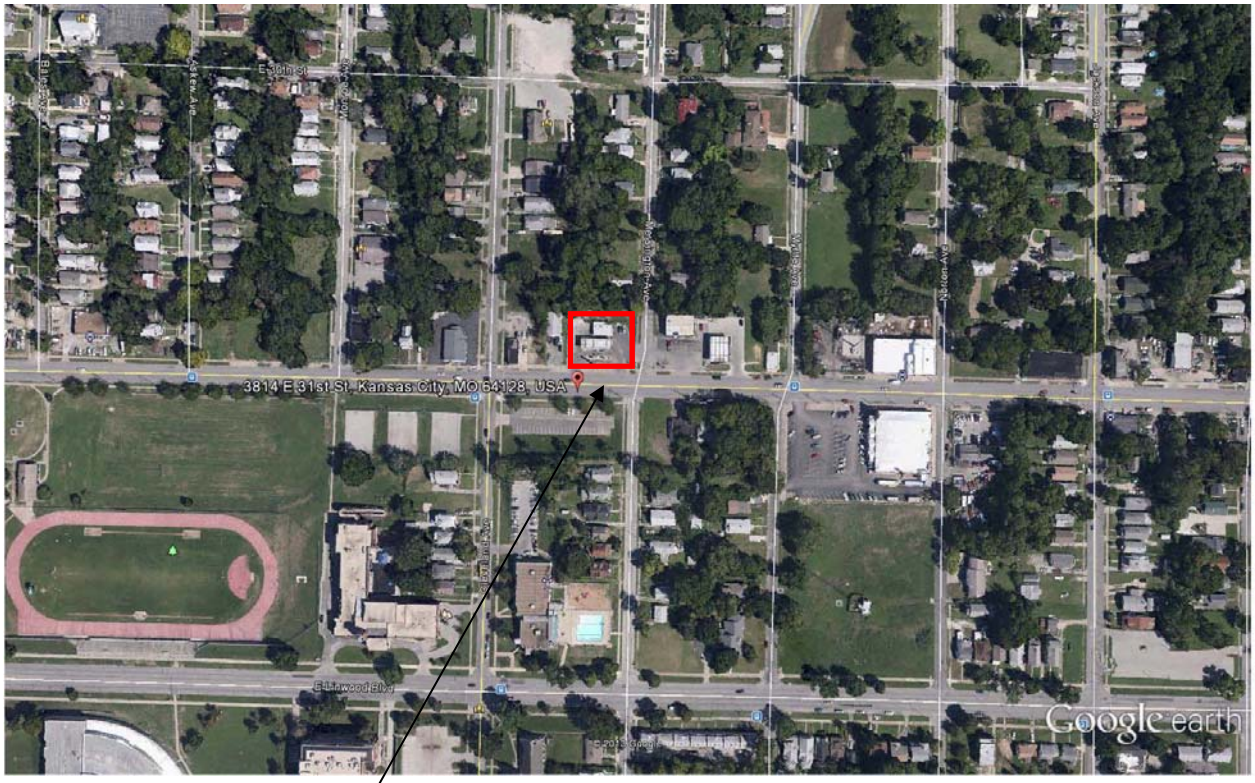
Patty Currier, R.G.
Project Geologist

FIGURES



Approximate Site Location

APEX ENVIROTECH, INC.	**Topographic Map** Inner City Oil 3814 E 31st Street Kansas City, MO ST8310, R8771, Claim 62330	Figure 1 12/13 Apex Project Number: ZIL57.001



Site Location

N

APEX ENVIROTECH, INC.

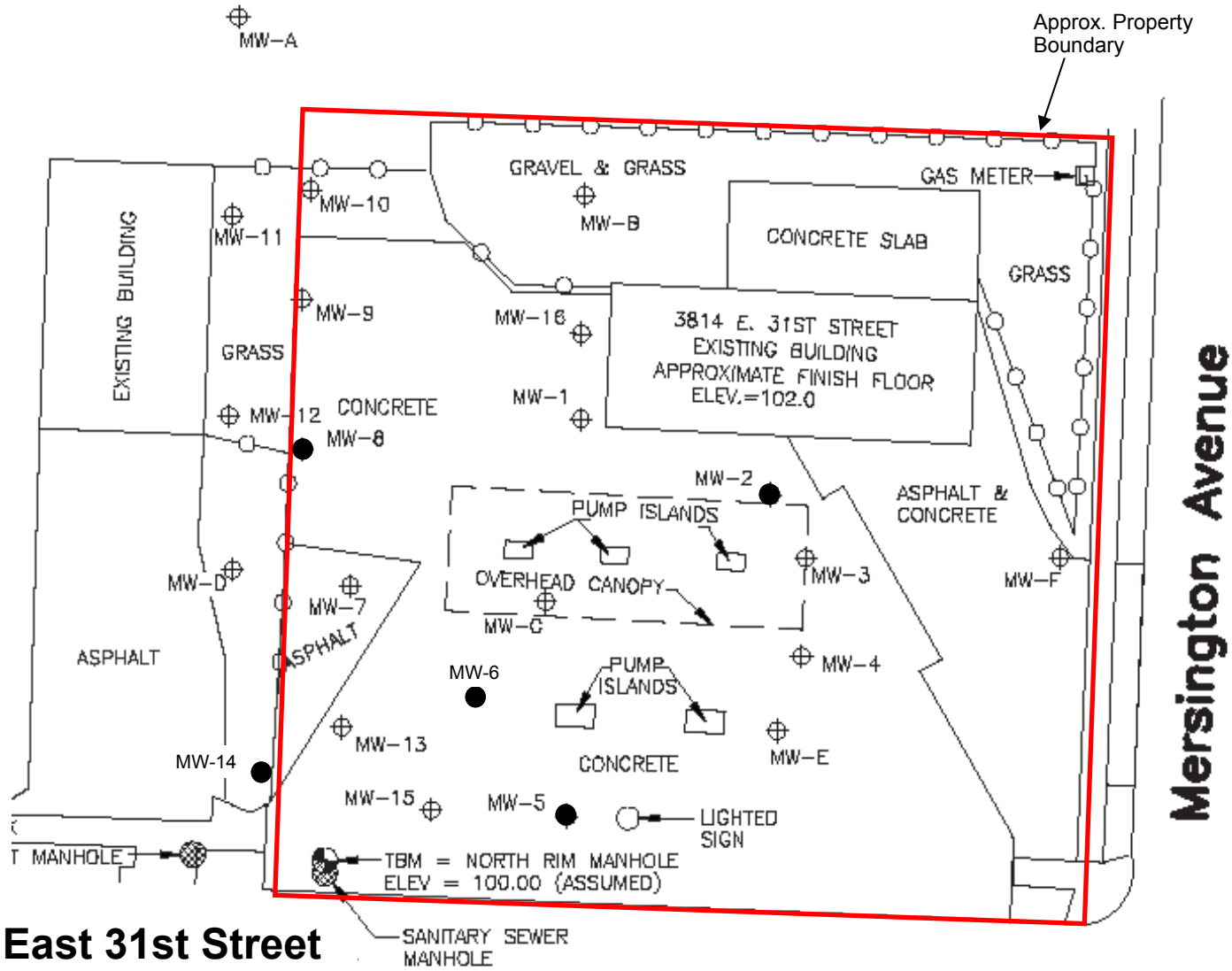
Aerial Photograph of Site

Inner City Oil
3814 E 31st Street
Kansas City, MO
ST00008310, Claim 62330

Figure 2
12/13

Apex Project Number:
ZIL57

Residential



Legend

- Soil Boring
- Monitoring Well

30' 0 30' 60'
SCALE IN FEET

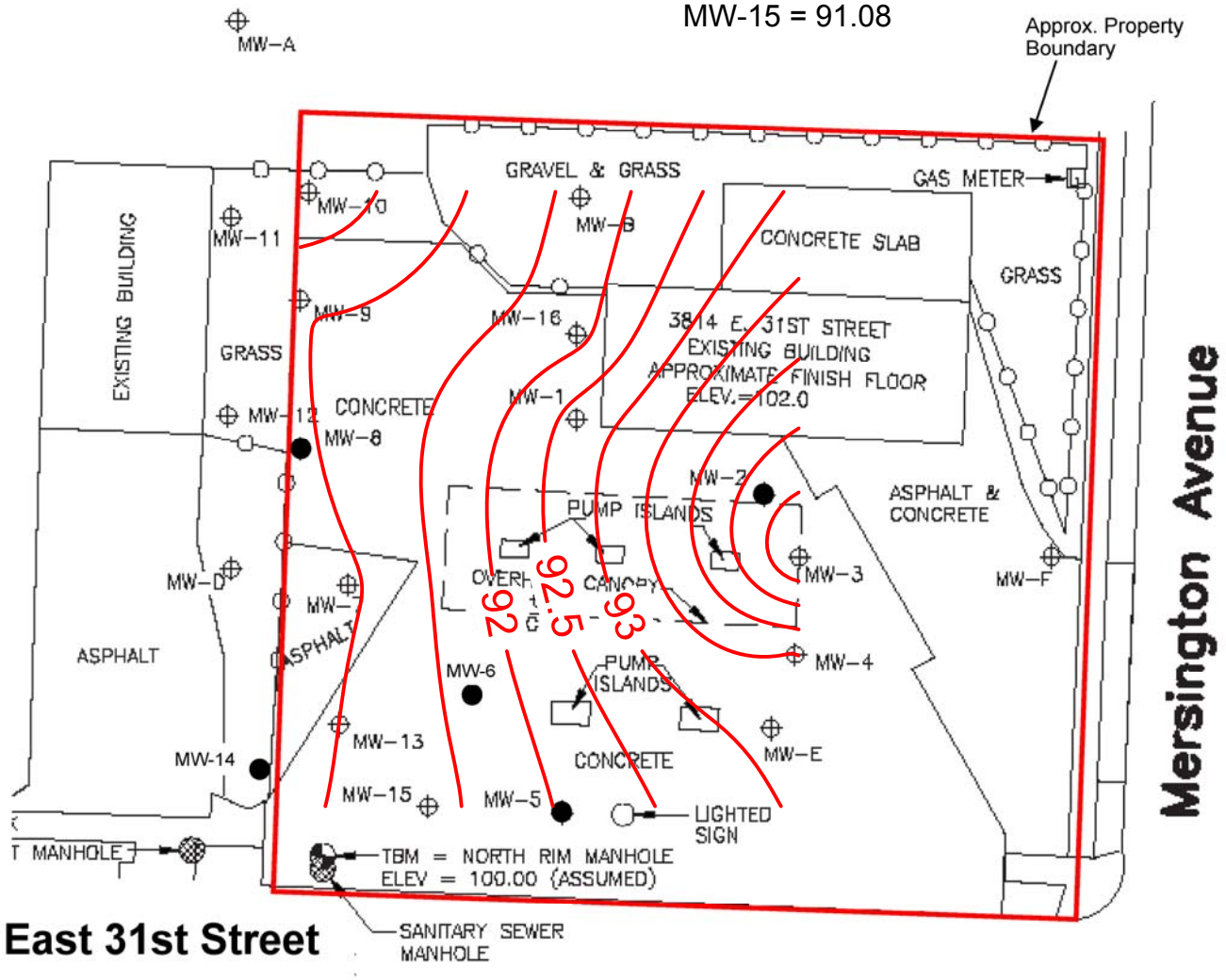
Site Map

Inner City Oil
3814 E 31St ST
Kansas City, MO
ST00008310, Claim 62330

Figure 3
06/15

Apex Project Number:
ZIL57.001

Groundwater Elevations
6/19/15
MW-1 = 92.70
MW-3 = 95.52
MW-4 = 93.45
MW-7 = 90.90
MW-9 = 90.97
MW-10 = 90.03
MW-15 = 91.08



Legend
- Soil Boring
- Monitoring Well

30' 0 30' 60'
SCALE IN FEET

APEX ENVIROTECH, INC.

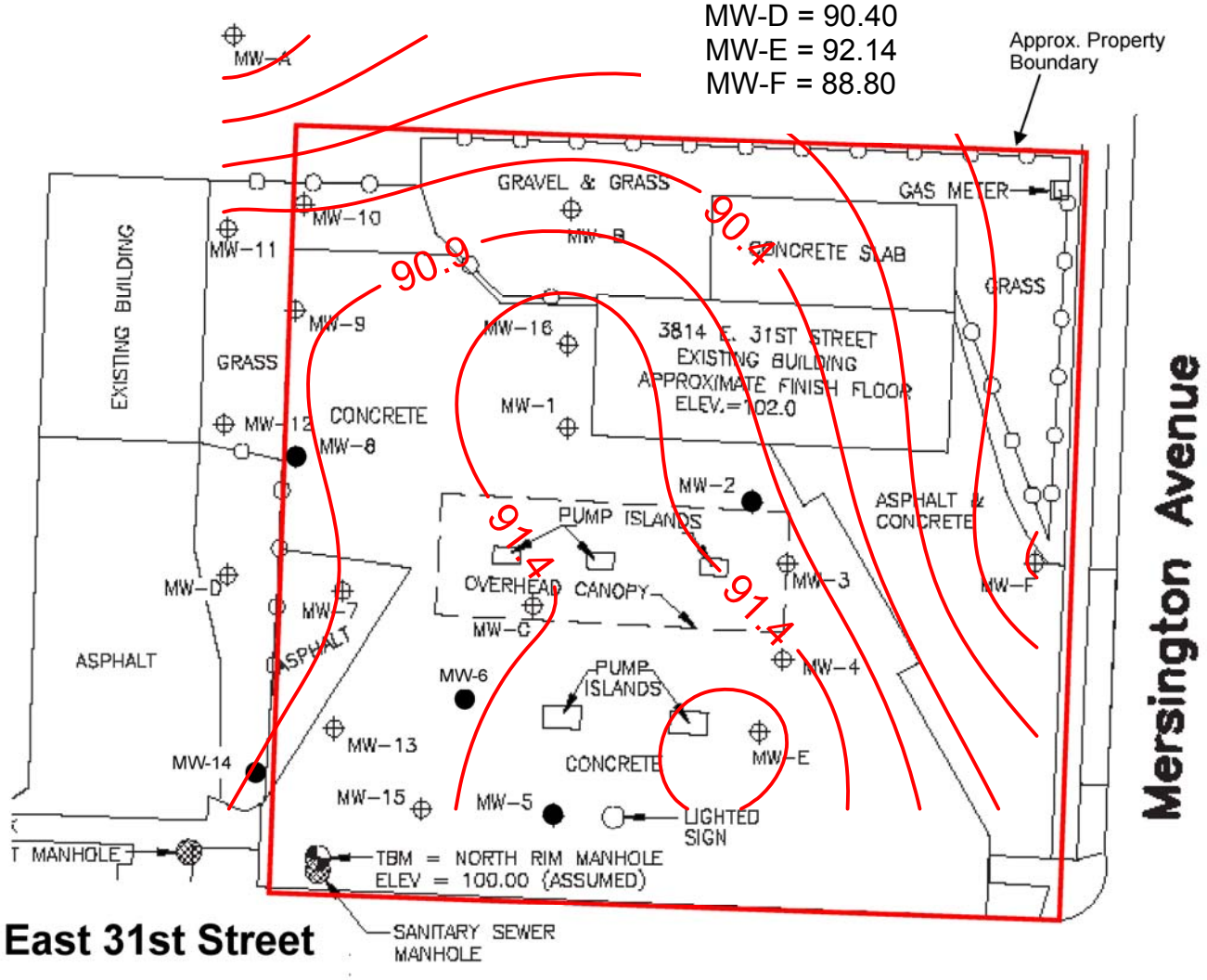
Potentiometric Map
Shallow Wells
Inner City Oil
3814 E 31St ST
Kansas City, MO
ST00008310, Claim 62330

Figure 4a
6/15

Apex Project Number:
ZIL57.001

Groundwater Elevations
6/19/15

MW-11 = 90.61
MW-12 = 90.63
MW-13= 91.08
MW-A = 88.42
MW-B = 90.73
MW-C = 91.33
MW-D = 90.40
MW-E = 92.14
MW-F = 88.80



Legend
- Soil Boring
- Monitoring Well

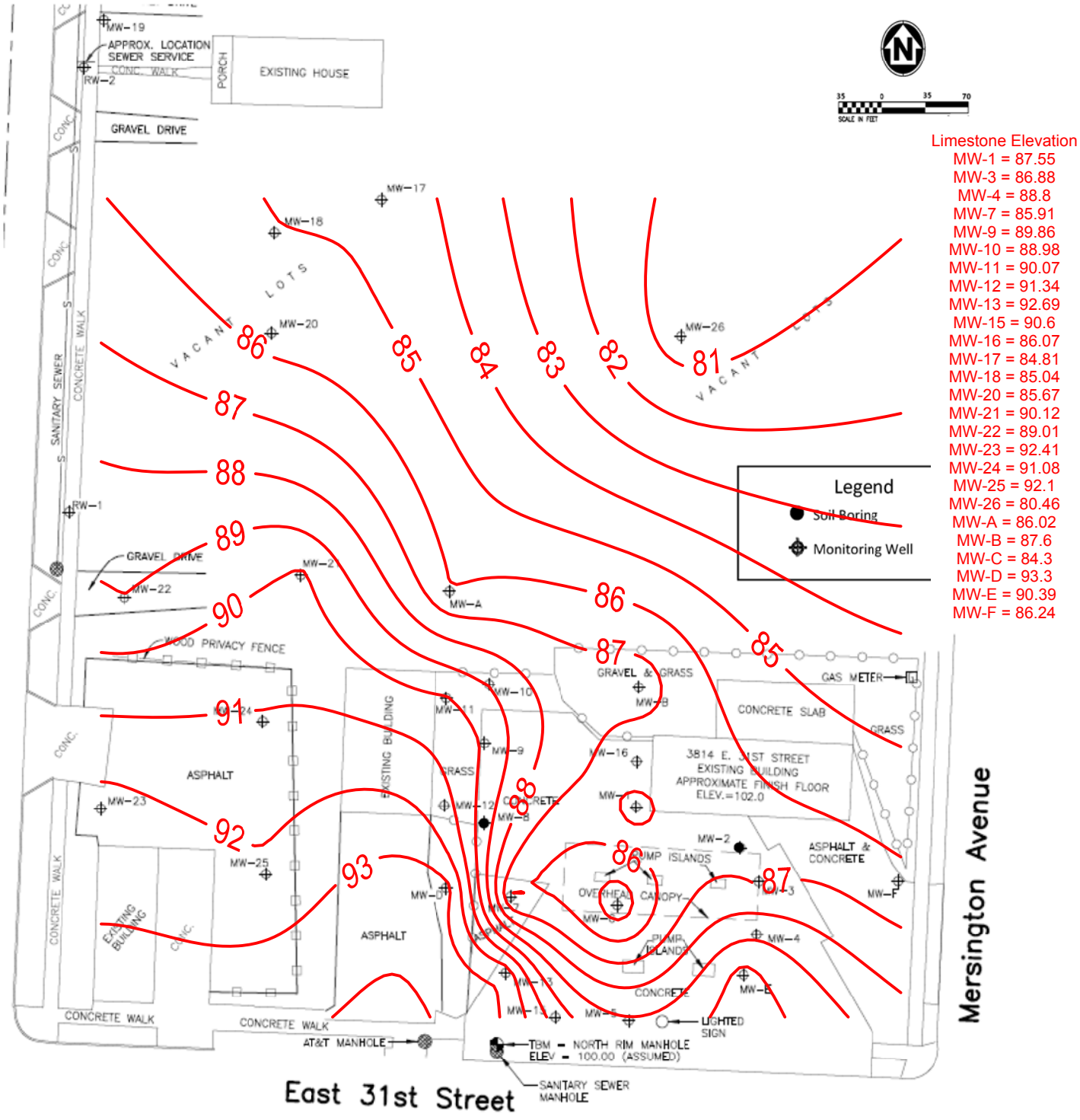
30' 0 30' 60'
SCALE IN FEET

APEX ENVIROTECH, INC.

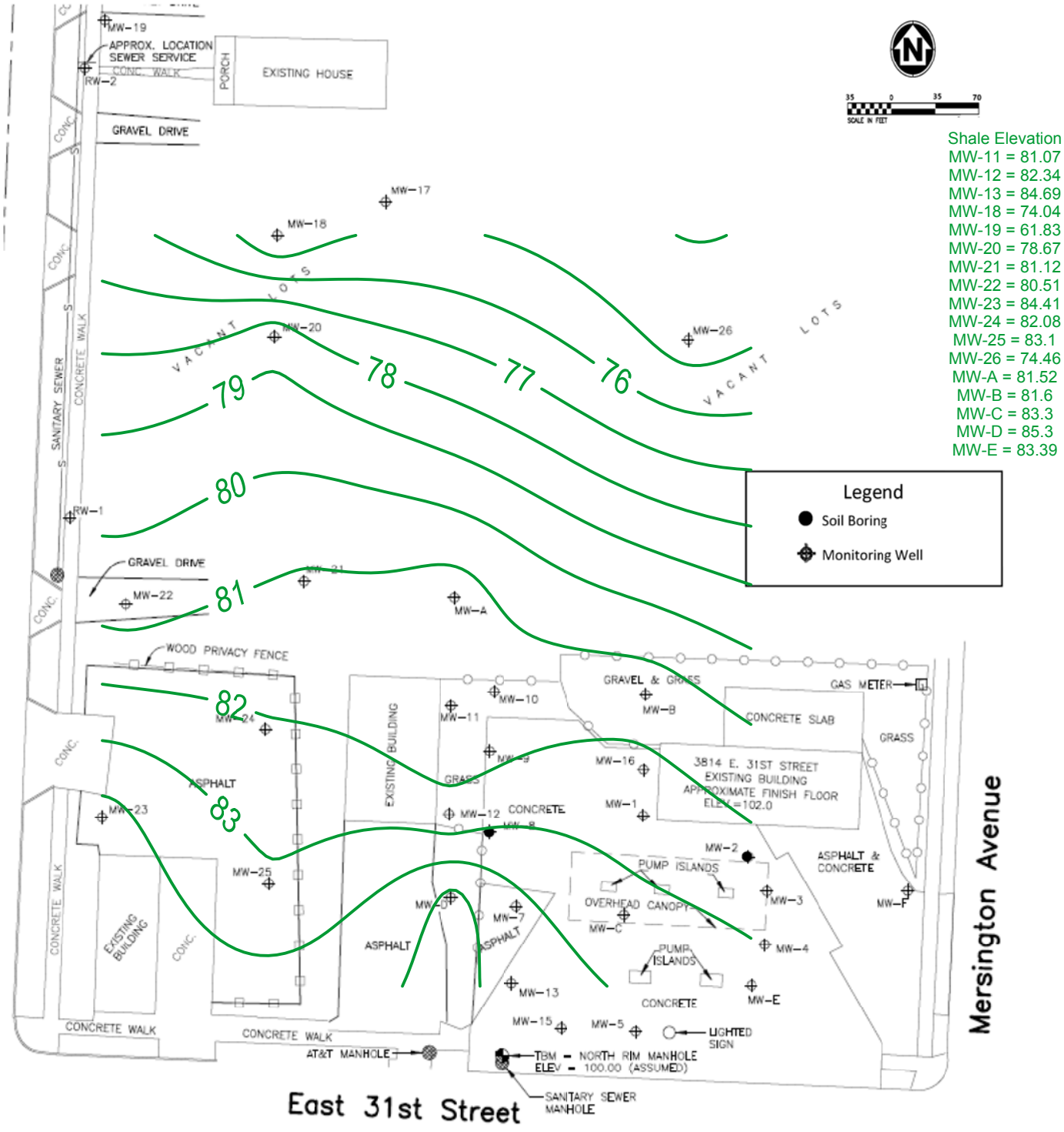
Potentiometric Map
Deeper Wells
Inner City Oil
3814 E 31St ST
Kansas City, MO
ST00008310, Claim 62330

Figure 4b
6/15

Apex Project Number:
ZIL57.001

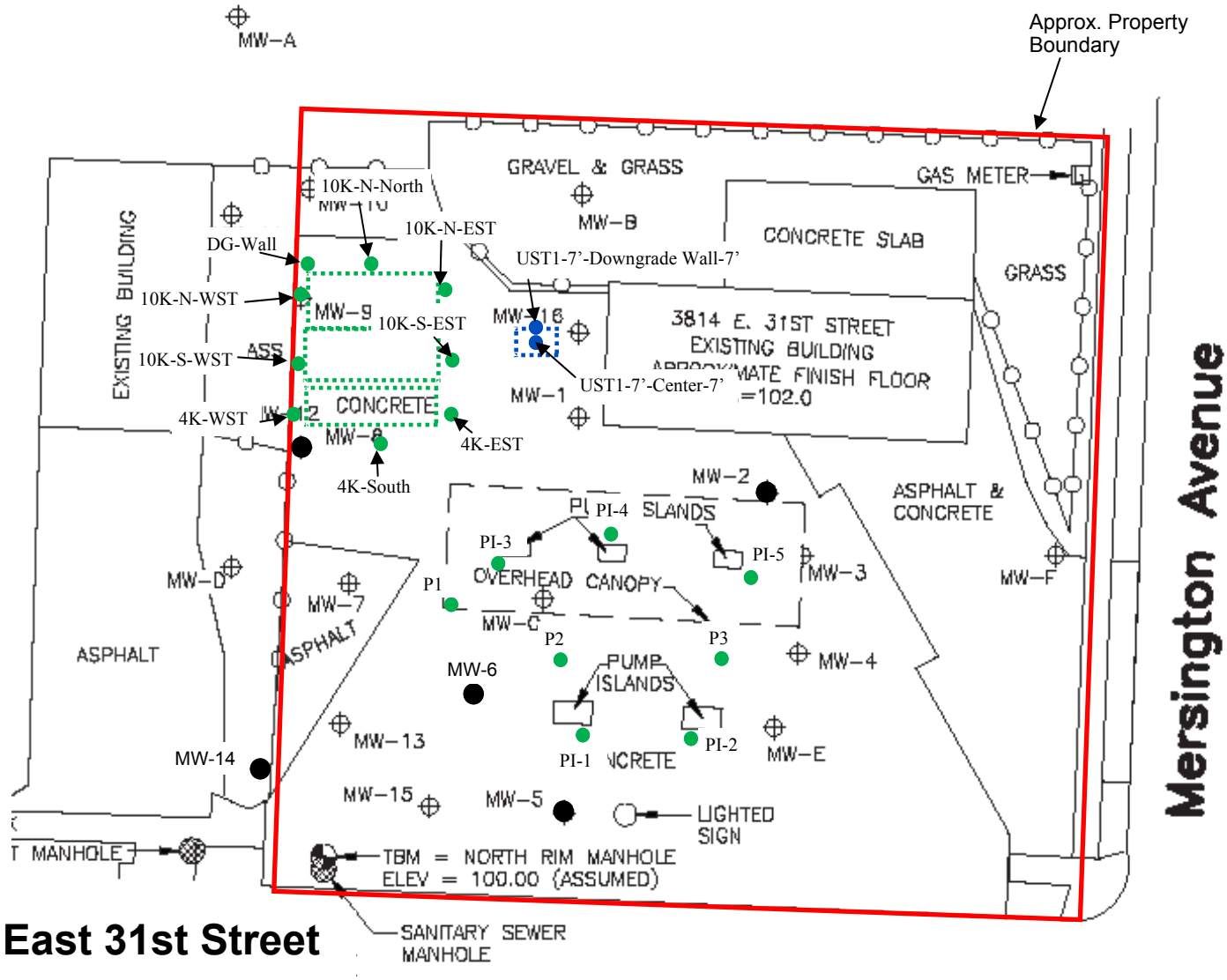


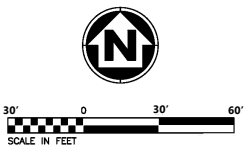
APEX ENVIROTECH, INC.	**Area Bedrock Elevation Map** **Wyandotte Formation** Inner City Oil 3814 E 31St ST Kansas City, MO ST00008310, Claim 62330	**Figure 5a** **8/15** Apex Project Number: ZIL57.001



APEX ENVIROTECH, INC.	**Area Bedrock Elevation Map** **Liberty Memorial Formation** Inner City Oil 3814 E 31St ST Kansas City, MO ST00008310, Claim 62330	**Figure 5b** **8/15** Apex Project Number: ZIL57.001

Residential





Legend

- Approximate location of former waste oil UST
- Approximate locations of former USTs
- Soil Boring
- Monitoring Well
- 2003 Waste Oil Closure Sample – Approx. Location
- 2006 UST Closure Sample— Approx. Location

APEX ENVIROTECH, INC.

Historical Sample Map

Inner City Oil
3814 E 31St ST
Kansas City, MO
ST00008310, Claim 62330

Figure 6
08/15

Apex Project Number:
ZIL57.001

TABLES

Table 1a: Surficial Soil Analytical Results

Soil Boring ID	Depth of Sample (feet bgs)	Date	Benzene (ppm)	Toluene (ppm)	Ethylbenzene (ppm)	Total Xylene (ppm)	MTBE (ppm)	Naphthalene (ppm)	TPH-GRO (ppm)	TPH-DRO (ppm)	TPH-ORO (ppm)	Lead (ppm)
MW-1	1-3	12/2/13	<0.0052	<0.0052	<0.0052	<0.01	<0.0052	<0.021	<0.52	19.9	317	NA
MW-2	1-3	12/3/13	<0.0046	<0.0046	<0.0046	<0.0093	<0.0046	<0.019	<0.46	131	735	NA
MW-3	1-3	12/3/13	<0.0053	<0.0053	<0.0053	<0.011	<0.0053	<0.021	2.3	287	878	NA
MW-7	0-3	12/2/13	<0.0052	<0.0052	<0.0052	<0.01	<0.0052	<0.021	<0.52	<18.4	<18.4	NA
MW-9	1-3	12/2/13	<0.0048	<0.0048	<0.0048	<0.0097	<0.0048	<0.019	<0.48	<18.8	<18.8	NA
MW-13	1-2	11/5/14	<0.0052	<0.0052	<0.0052	<0.01	<0.0052	<0.021	<0.52	<18.0	<18.0	NA
MW-16	2-3	11/5/14	0.081	<0.0054	<0.0054	<0.011	<0.0054	<0.022	2.6	34	148	NA
MW-C	1-2	6/5/15	1.6	0.65	2.5	1.5	<0.26	<1.0	79.7	169	<18.2	11.4
MW-D	2-3	6/3/15	<0.0049	<0.0049	<0.0049	<0.0098	<0.0049	<0.020	<0.49	<18.1	<18.1	12.4

Values are parts per million - ppm NA = Not Analyzed Depth of sample is feet below ground surface

Table 1b: Subsurface Soil Analytical Results

Soil Boring ID	Depth of Sample (feet bgs)	Date	Benzene (ppm)	Toluene (ppm)	Ethylbenzene (ppm)	Total Xylene (ppm)	MTBE (ppm)	Naphthalene (ppm)	TPH-GRO (ppm)	TPH-DRO (ppm)	TPH-ORO (ppm)	Lead (ppm)
MW-1	12-13	12/2/13	0.015	<0.005	<0.005	<0.01	<0.005	<0.02	<0.5	<19	21.1	NA
MW-1	13-14	12/2/13	7.1	7.6	15.3	54	<0.29	2.3	606	158	<20.3	NA
MW-2	9-10	12/3/13	<0.0045	<0.0045	<0.0045	<0.0091	<0.0045	<0.018	1.1	18.3	<18	NA
MW-2	14-14.5	12/3/13	0.16	<0.0065	0.017	<0.013	0.013	0.071	9.6	<22.2	<22.2	NA
MW-3	8-9	12/3/13	0.039	<0.0050	<0.0050	<0.0099	0.0081	<0.020	3	113	<18.6	NA
MW-3	13.5-14	12/3/13	0.94	0.0068	<0.33	0.015	0.059	0.059	202	111	<21.6	NA
MW-3	15-15.5	12/3/13	0.0086	<0.0045	<0.0045	<0.009	0.012	<0.018	0.670	<17.4	27	NA
MW-4	6-7	12/2/13	0.44	<0.0049	0.039	0.01	0.013	<0.02	154	46	<18.5	NA
MW-4	12-13	12/2/13	1	<0.3	0.86	<0.59	<0.3	2	436	37.8	<19.5	NA
MW-5	8.5-9.5	12/2/13	<0.0051	<0.0051	<0.0051	<0.01	<0.0051	<0.021	<0.51	<18.5	<18.5	NA
MW-6	6.5-7.5	12/2/13	0.06	<0.0051	0.081	<0.01	0.0066	0.045	4.8	<18.7	<18.7	NA
MW-6	7.5-8	12/2/13	0.57	<0.29	14.4	<0.58	<0.29	10.2	3,980	1,490	<19.8	NA
MW-7	9-10	12/2/13	2.7	3.6	0.17	0.44	<0.0053	<0.021	<26.5	<18.9	<18.9	NA
MW-7	13-15	12/2/13	113	611	221	901	<0.63	35.2	7,780	1,630	76.5	NA
MW-8	4-5	12/2/13	<0.0052	<0.0052	<0.0052	<0.01	<0.0052	<0.021	<0.52	<17.9	<17.9	NA
MW-8	9-10	12/2/13	<0.0047	<0.0047	<0.0047	<0.0095	<0.0047	<0.019	<0.47	<18.2	<18.2	NA
MW-9	11-12	12/2/13	0.51	0.15	0.038	0.034	<0.0048	<0.019	2.5	<19.4	<19.4	NA
MW-10	12-13	11/5/14	5.0	18.5	5.5	23.3	<0.26	<1.0	262.0	101.0	<18.4	NA
MW-10	13.5	11/5/14	63.6	518	136	582	<0.33	11.2	7,290	612	<21.0	NA
MW-11	4-5	6/4/15	<0.0051	<0.0051	<0.0051	<0.010	<0.0051	<0.021	<0.51	<18.7	<18.7	15.4
MW-11	13-14	11/5/14	3.9	7.6	0.92	3.8	<0.24	<0.96	46.3	<17.9	87.5	NA
MW-12	4-5	6/4/15	<0.0056	<0.0056	<0.0056	<0.011	<0.0056	<0.022	<0.56	<18.2	<18.2	11.2
MW-12	13.5-14.5	11/5/14	1.1	2.8	2.0	4.9	<0.0059	0.30	109	<18.2	<18.2	NA
MW-13	7-8	11/5/14	0.070	<0.0048	<0.0048	<0.0097	<0.0048	<0.019	0.8	<18.5	<18.5	NA
MW-14	5-6	11/5/14	0.038	<0.0046	<0.0046	<0.0092	<0.0046	<0.018	<0.46	<18.3	<18.3	NA
MW-15	8-9	11/5/14	0.0093	<0.0052	<0.0052	<0.010	0.012	<0.021	<0.52	<18.3	<18.3	NA
MW-15	9-10	11/5/14	9.7	8.7	5.6	16.3	0.059	0.220	243	50.4	<22.0	NA

Table 1b: Subsurface Soil Analytical Results

Soil Boring ID	Depth of Sample (feet bgs)	Date	Benzene (ppm)	Toluene (ppm)	Ethylbenzene (ppm)	Total Xylene (ppm)	MTBE (ppm)	Naphthalene (ppm)	TPH-GRO (ppm)	TPH-DRO (ppm)	TPH-ORO (ppm)	Lead (ppm)
MW-16	3-4	11/5/14	0.22	0.0063	<0.0051	<0.010	<0.0051	0.022	4.4	741	1720	NA
MW-16	14-15	11/5/14	10.2	0.33	4.6	10.4	<0.31	2.6	537	922	1500	NA
MW-A	13-14	6/5/15	3.1	2.7	0.62	2.5	<0.24	<0.94	23.8	37	<18.4	14.2
MW-A	15.5-16.5	6/5/15	57.1	455	166	693	<0.38	39.8	6,250	3780	<313	30.4
MW-B	4-5	6/4/15	<0.0055	<0.0055	<0.0055	<0.011	<0.0055	<0.022	<0.55	<18.5	<18.5	12.7
MW-B	13-14	6/4/15	1.4	0.11	0.093	0.14	<0.0064	<0.026	4.8	<20.0	<20.0	17.9
MW-C	8-9	6/5/15	3.4	6.5	1.7	3.2	<0.29	<1.1	64.8	28.5	<18.2	11.1
MW-D	4-5	6/3/15	<0.0052	<0.0052	<0.0052	<0.010	<0.0052	<0.021	<0.52	<18.1	<18.1	11.3
MW-D	8-9	6/3/15	<0.0052	<0.0052	<0.0052	<0.010	<0.0052	<0.021	<0.52	<19.1	<19.1	20.4
MW-E	7-8	6/5/15	0.58	<0.25	0.43	<0.50	<0.25	0.41	599	483	<266	12.2
MW-E	10-11	6/5/15	5.7	<0.30	15.9	<0.60	<0.30	4.7	1,180	155	<19.0	13.2
MW-F	5-6	6/5/15	<0.0053	<0.0053	<0.0053	<0.011	<0.0053	<0.021	<0.53	<18.1	<18.1	14.0
MW-F	11.5-12.5	6/5/15	<0.0067	<0.0067	<0.0067	<0.013	<0.0067	<0.0092	<0.67	38.2	<20.9	17.1

Table 1c: Historical Soil Data

Soil Boring ID	Depth of Sample (feet bgs)	Date	Benzene (ppm)	Toluene (ppm)	Ethyl-benzene (ppm)	Total Xylene (ppm)	MTBE (ppm)	Naph-thalene (ppm)	TPH-GRO (ppm)	TPH-DRO (ppm)	TPH-ORO (ppm)	Lead (ppm)	TEH as Diesel (ppm)	TEH as Waste Oil (ppm)
UST1-7'-Center	7'	1/15/03	<0.001	<0.001	<0.001	<0.001	<0.002	<0.33	6.0	NA	NA	NA	<5	19
UST1-7'-Downgrade Wall	7'	1/15/03	<0.001	<0.0001	<0.001	<0.001	<0.002	<0.33	<5	NA	NA	NA	<5	<5
DG-Wall	10-11'	9/28/06	0.012	0.018	0.004	0.014	<0.005	<0.001	0.5	<15	<15	15.7	NA	NA
10K-N-Est	10-11'	9/28/06	0.003	0.01	0.002	0.008	<0.005	<0.001	0.2	<15	<15	17.4	NA	NA
10K-N-Wst	10-11'	9/28/06	2.3	2.05	0.231	0.461	<.610	<0.122	<12.2	<43.6	<43.6	17.9	NA	NA
10K-S-Est	10-11'	9/28/06	0.017	0.019	0.001	0.005	<0.005	<0.001	0.2	<15	<15	14.3	NA	NA
10K-S-Wst	10-11'	9/28/06	0.004	0.012	0.002	0.009	0.018	<0.001	0.2	<15	<15	10.2	NA	NA
4K-Est	10-11'	9/28/06	0.139	0.058	0.021	0.108	0.007	0.022	9.2	<29.5	<29.5	13.1	NA	NA
4K-Wst	10-11'	9/28/06	2.18	1.07	0.747	0.839	<0.392	<0.078	<7.8	<29.7	<29.7	7.7	NA	NA
10K-N-North	10-11'	9/28/06	0.05	0.048	0.004	0.013	<0.004	<0.0008	0.3	<15	<15	11.8	NA	NA
4K-South	10-11'	9/28/06	0.004	0.01	0.002	0.007	0.004	<0.0008	0.4	<15	<15	11.4	NA	NA
P-1	2-3'	10/11/06	1.98	<0.083	2.85	6.36	<0.415	1.08	132	33.1	<15	14.8	NA	NA
P-2	2-3'	10/11/06	11.5	244	96.6	626	<7.82	45.5	5,410	194	<75	17.6	NA	NA
P-3	2-3'	10/11/06	1.85	0.54	11.3	12.3	<0.428	8.62	673	289	<150	18.9	NA	NA
PI-1	2-3'	10/12/06	28.4	333	100	577	<8.18	29.2	6,450	183	<75	17.8	NA	NA
PI-2	2-3'	10/12/06	0.516	<0.086	0.713	2.36	<0.429	<0.086	18.9	<15	<15	16.8	NA	NA
PI-3	2-3'	10/27/06	1.88	<0.082	2.5	0.678	<0.408	2.32	172	155	641	119	NA	NA
PI-3	8-9'	10/27/06	6.33	0.398	18.8	6.21	<0.779	17.8	1800	28.5	<15	18.9	NA	NA
PI-4	2-3'	10/27/06	0.913	<0.078	0.183	1.64	<0.389	<0.078	348	329	1,480	17.1	NA	NA
PI-4	8-10'	10/27/06	<0.084	<0.084	<0.084	<0.168	<0.419	<0.084	<8.4	<15	<15	12.9	NA	NA
PI-5	2-3'	10/27/06	0.173	<0.075	<0.074	<0.149	<0.372	<0.074	<7.4	<15	<15	16.1	NA	NA
PI-5	8-10'	10/27/06	4.6	<0.091	5.08	15.5	<0.455	0.936	105	<15	<15	9.6	NA	NA

From 5/16/03 and 12/8/06 Closure Reports Values are parts per million - ppm NA = Not Analyzed Depth of sample is feet below ground surface

TPH - Total Petroleum Hydrocarbor TEH - Total Extractable Hydrocarbons

Table 2: Groundwater Elevations for Site Wells

Well ID	Date	Well Elevation (TOC)	Well Depth (TOC)	Thickness of Product (Feet)	Depth to Groundwater (TOC)	Groundwater Elevation (TOC)	Notes
MW-1	12/13/13	101.29	13.99	NA	13.25	88.04	
	2/24/14			NA	11.50	89.79	
	3/26/14			NA	10.89	90.40	
	5/21/14			NA	10.69	90.60	
	6/26/14			NA	9.25	92.04	
	7/24/14			NA	9.99	91.30	
	8/28/14			NA	10.02	91.27	
	9/26/14			NA	10.32	90.97	
	11/17/14			NA	10.33	90.96	
	3/13/15			NA	11.03	90.26	
	3/19/15			NA	11.18	90.11	
	3/30/15			NA	10.98	90.44	
	4/9/15			NA	10.85	90.44	
	4/22/15			NA	10.11	91.18	
	5/1/15			NA	10.07	91.22	
	6/12/15			NA	8.92	92.37	
	6/19/15			NA	8.59	92.70	
	7/21/15			NA	9.28	92.01	
	8/4/15			NA	9.58	91.71	
	8/19/15			NA	10.33	90.96	
MW-3	12/13/13	101.16	13.90	NA	13.30	87.86	
	3/26/14			NA	9.62	91.54	
	5/21/14			NA	8.86	92.30	
	6/26/14			NA	6.78	94.38	
	7/24/14			NA	7.75	93.41	
	8/28/14			NA	7.81	93.35	
	9/26/14			NA	7.92	93.24	
	11/17/14			NA	8.00	93.16	
	3/13/15			NA	8.73	92.43	
	3/19/15			NA	8.55	92.61	
	3/30/15			NA	8.64	92.52	
	4/9/15			NA	8.63	92.53	
	4/22/15			NA	7.41	93.75	
	5/1/15			NA	7.60	93.56	
	6/12/15			NA	5.30	95.86	
	6/19/15			NA	5.64	95.52	
MW-4	12/13/13	100.68	12.20	NA	8.78	91.90	
	3/26/14			NA	8.89	91.79	
	5/21/14			NA	8.84	91.84	
	6/26/14			NA	7.28	93.40	
	7/24/14			NA	7.98	92.70	
	8/28/14			NA	9.20	91.48	
	9/26/14			NA	8.84	91.84	
	11/17/14			NA	8.86	91.82	
	3/13/15			NA	8.71	91.97	
	3/19/15			NA	8.92	91.92	
	3/30/15			NA	8.76	91.92	
	4/9/15			NA	9.88	90.80	
	4/22/15			NA	8.68	92.00	
	5/1/15			NA	8.71	91.97	
	6/12/15			NA	6.71	93.97	
	6/19/15			NA	7.23	93.45	

Table 2: Groundwater Elevations for Site Wells

Well ID	Date	Well Elevation (TOC)	Well Depth (TOC)	Thickness of Product (Feet)	Depth to Groundwater (TOC)	Groundwater Elevation (TOC)	Notes
MW-7	12/13/13	100.72	14.28	0.01	11.23	89.49	
	2/14/14			0.00	11.15	89.57	
	3/26/14			0.00	10.98	89.74	
	5/21/14			0.00	10.69	90.03	
	6/26/14			0.00	9.65	91.07	
	7/24/14			0.00	10.32	90.40	
	8/28/14			0.00	10.52	90.20	
	9/26/14			0.00	10.78	89.94	
	11/17/14			0.17	10.62	90.10	Removed 1/4 gallon of LNAPL
	3/13/15			0.24	11.15	89.57	Removed 0.1 gallon of LNAPL
	3/19/15			0.00	10.96	89.76	
	3/24/15			0.27	11.12	89.60	HVE conducted this day
	3/30/15			0.23	10.95	89.77	
	4/9/15			0.01	10.83	89.89	Removed 3/4 cup of LNAPL
	4/22/15			0.17	10.52	90.20	
	4/30/15			0.25	10.77	89.95	HVE conducted this day
	5/1/15			0.23	10.89	89.83	
	6/12/15			0.35	9.72	91.00	
	6/17/15			0.99	10.51	90.21	LNAPL sample collected
	6/19/15			0.00	9.82	90.90	
	7/21/15			0.06	9.48	91.24	Removed 3 gallons of water with very little LNAPL
	8/4/15			0.20	10.02	90.70	Removed 1/2 gallon of water with 5% LNAPL
	8/19/15			0.23	10.36	90.36	
MW-9	12/13/13	101.61	13.11	0.02	12.43	89.18	
	2/24/14			0.00	12.10	89.51	
	3/26/14			Trace	12.03	89.58	
	5/21/14			0.00	11.70	89.91	
	6/26/14			0.00	7.32	94.29	
	7/24/14			0.00	11.02	90.59	
	8/28/14			0.00	11.32	90.29	
	9/26/14			0.00	11.71	89.90	
	11/17/14			0.00	11.60	90.01	
	3/13/15			0.00	12.22	89.39	
	3/19/15			0.00	12.32	89.29	
	3/30/15			0.00	11.94	89.67	
	4/9/15			0.00	12.13	89.48	
	4/22/15			0.00	11.30	90.31	
	4/30/15			0.00	11.68	89.93	
	5/1/15			0.10	11.93	89.68	
	6/12/15			0.19	10.40	91.21	
	6/16/15			0.30	10.90	90.71	LNAPL sample collected
	6/19/15			0.00	10.64	90.97	
	7/21/15			Heavy Sheen	10.29	91.32	Removed 1.75 gallons of water with trace amounts of LNAPL
	8/4/15			0.08	10.78	90.83	Very little LNAPL recovered
	8/19/15			0.30	11.25	90.36	

Table 2: Groundwater Elevations for Site Wells

Well ID	Date	Well Elevation (TOC)	Well Depth (TOC)	Thickness of Product (Feet)	Depth to Groundwater (TOC)	Groundwater Elevation (TOC)	Notes
MW-10	11/12/14	101.85	14.10	0.70	12.35	89.50	Removed 3/4 gallon of LNAPL
	11/17/14			0.50	12.45	89.40	Removed 1 gal of LNAPL
	3/13/15			0.58	13.78	88.07	Removed 1/2 gal of LNAPL
	3/19/15			0.00	13.45	88.40	
	3/24/15			0.17	13.45	88.40	HVE conducted this day
	3/30/15			0.50	13.50	88.35	
	4/9/15			0.39	13.60	88.25	Removed 1/4 to 1/2 gal of LNAPL
	4/22/15			0.00	12.31	89.54	
	4/30/15			1.03	13.62	88.23	HVE conducted this day
	5/1/15			0.36	13.18	88.67	
	6/12/15			0.18	11.48	90.37	
	6/16/15			0.40	12.40	89.45	LNAPL sample collected
	6/19/15			0.00	11.82	90.03	
	7/21/15			0.04	11.32	90.53	Removed 0.15 gallon of LNAPL
	8/4/15			0.20	11.90	89.95	Very little LNAPL recovered
	8/19/15			0.15	12.15	89.70	
MW-11	6/12/15	104.90	19.30	0.00	13.91	90.99	
	6/19/15			0.00	14.29	90.61	
	7/21/15			0.00	13.87	91.03	
	8/4/15			0.00	14.29	90.61	
	8/19/15			0.11	14.66	90.24	
MW-12	6/12/15	105.08	19.80	0.00	13.68	91.40	
	6/19/15			0.00	14.45	90.63	
	7/21/15			0.00	14.22	90.86	
	8/4/15			0.00	14.56	90.52	
	8/19/15			0.00	14.99	90.09	
MW-13	6/12/15	100.49	14.08	0.00	9.09	91.40	
	6/19/15			0.00	9.41	91.08	
	7/21/15			0.00	9.15	91.34	
	8/4/15			0.00	9.59	90.90	
	8/19/15			0.00	9.89	90.60	
MW-15	11/12/14	100.44	9.95	NA	Dry	NA	
	11/17/14			NA	Dry	NA	
	3/13/15			NA	9.49	90.95	
	3/19/15			NA	9.26	91.18	
	3/30/15			NA	9.26	91.18	
	4/9/15			NA	9.03	91.41	
	4/22/15			NA	8.94	91.50	
	5/1/15			NA	9.17	91.27	
	6/12/15			NA	8.93	91.51	
	6/19/15			NA	9.12	91.32	

Table 2: Groundwater Elevations for Site Wells

Well ID	Date	Well Elevation (TOC)	Well Depth (TOC)	Thickness of Product (Feet)	Depth to Groundwater (TOC)	Groundwater Elevation (TOC)	Notes
MW-16	11/12/14	101.19	16.10	NA	14.40	86.79	
	11/17/14			NA	13.64	87.55	
	3/13/15			NA	11.89	89.30	
	3/19/15			NA	11.16	90.03	
	3/30/15			NA	11.39	89.80	
	4/9/15			NA	11.26	89.93	
	4/22/15			NA	10.09	91.10	
	5/1/15			NA	10.56	90.63	
	6/12/15			NA	8.91	92.28	
	6/19/15			NA	9.37	91.82	
	7/21/15			NA	8.96	92.23	
	8/4/15			NA	10.00	91.19	
	8/19/15			NA	10.78	90.41	
MW-A	6/12/15	102.37	21.60	0.00	12.98	89.39	
	6/19/15			0.00	13.95	88.42	
	7/21/15			0.00	12.85	89.52	
	8/4/15			0.00	13.79	88.58	
	8/19/15			0.00	13.52	88.85	
MW-B	6/12/15	101.22	20.20	0.00	18.60	82.62	
	6/19/15			0.00	10.49	90.73	
	7/21/15			0.02	10.02	91.20	Removed 4 gallons of water with very little LNAPL
	8/4/15			0.02	10.70	90.52	Very little LNAPL recovered
	8/19/15			0.00	11.50	89.72	
MW-C	6/12/15	100.93	17.10	0.00	9.35	91.58	
	6/19/15			0.00	9.60	91.33	
	7/21/15			0.00	9.53	91.40	
	8/4/15			0.00	9.79	91.14	
	8/19/15			0.00	10.19	90.74	
MW-D	6/12/15	104.01	18.60	0.00	12.95	91.06	
	6/19/15			0.00	13.61	90.40	
	7/21/15			0.00	12.89	91.12	
	8/4/15			0.00	12.82	91.19	
	8/19/15			0.00	12.98	91.03	
MW-E	6/12/15	101.12	17.20	0.00	7.82	93.30	
	6/19/15			0.00	8.98	92.14	
MW-F	6/12/15	98.95	15.30	0.00	12.33	86.62	
	6/19/15			0.00	10.15	88.80	
OW-N	8/4/15	NM	NM	0.10	10.25	NA	Very little LNAPL recovered
	8/19/15			0.01	10.34	NA	
OW-S	8/4/15	NM	NM	0.15	10.25	NA	Very little LNAPL recovered
	8/19/15			0.02	10.28	NA	

TOC = Top of Casing NA = Not Applicable NM = Not Measured

Table 3: Groundwater Analytical Results

Well #	Date	Benzene (ppm)	Toluene (ppm)	Ethylbenzene (ppm)	Total Xylenes (ppm)	Naphthalene (ppm)	MTBE (ppm)	TPH-GRO (ppm)	TPH-DRO (ppm)	TPH-ORO (ppm)	Lead (ppm)
MW-1	12/13/13	5.02	0.532	0.898	2.69	0.119	0.0053	28.9	NA	NA	NA
	11/17/14	1.72	0.0011	0.305	0.0038	<0.01	<0.001	2.01	1.2	<0.91	NA
	6/19/15	0.31	0.0762	0.022	0.0482	<0.1	<0.01	<5	<0.91	<0.91	<0.005
MW-3	12/13/13	0.228	0.0103	0.0305	<0.015	0.0793	0.264	<2.5	NA	NA	NA
	11/17/14	0.017	<0.001	0.0016	<0.003	<0.01	0.0204	0.875	1.8	<0.91	NA
	6/19/15	0.010	<0.001	<0.001	<0.003	<0.01	0.0021	<0.05	<0.91	<0.91	<0.005
MW-4	12/13/13	2.13	0.0117	0.195	0.0096	0.2270	0.505	<25	9.9	<1.0	NA
	11/17/14	0.522	0.0035	0.101	0.0031	0.0654	0.119	5.36	6.5	<0.91	NA
	6/19/15	0.528	<0.005	0.103	<0.015	0.2720	0.137	5.55	9.0	1.3000	0.0109
MW-7	12/13/13	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	NA
	11/17/14	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	NA
	6/19/15	16.0	80.6	7.04	30.6	<2.5	<0.25	246	199	<9.1	0.0077
MW-9	12/13/13	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	NA
	11/17/14	17.1	38.8	4.13	21.6	0.735	<0.5	<250	39.7	<0.91	NA
	6/19/15	13.0	69.6	11.9	58.6	2.75	<0.25	367	367	<9.1	<0.005
MW-10	11/17/14	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	NA
	6/19/15	22.9	98.8	52.1	244	10.9	<0.5	1,490	240	<9.1	0.0842
MW-11	6/19/15	18.6	53.6	5.07	21.8	<2.5	<0.25	242	29	<0.91	<0.005
MW-12	6/19/15	14.8	30.3	3.33	9.64	<1	<0.1	114	28.1	<0.91	0.0057
MW-13	6/19/15	12.2	12.8	2.09	8.17	<1	<0.1	73.1	8.3	<0.91	<0.005
MW-15	6/19/15	3.66	0.574	0.798	2.05	0.0444	<0.001	16.7	4.0	9.4	0.0054
MW-16	11/17/14	5.54	0.106	0.0972	0.402	<0.2	<0.02	<10.0	3.4	1.9	NA
	6/19/15	2.53	1.21	0.294	1.10	0.0564	0.0014	10.1	2.7	2.5	<0.005
MW-A	6/19/15	16.8	29.4	4.03	15	<0.5	<0.05	152	15	1.1	0.0218
MW-B	6/19/15	5.66	17.2	4.33	16.2	0.443	0.0133	70.4	10.8	2.3	0.0128
MW-C	6/19/15	16.8	46	4.86	19.9	0.611	0.133	81.3	20.8	1.3	0.0078
MW-D	6/19/15	12.8	28.8	3.31	14.9	<2	<0.2	148	11.8	<0.91	0.0074
MW-E	6/19/15	4.75	0.141	0.565	0.189	0.824	0.307	7.3	13.9	<0.91	0.0341
MW-F	6/19/15	0.0031	<0.001	0.0026	<0.003	<0.01	0.0153	<0.5	1.2	<0.91	0.0071

Most Recent Samplilng Event

NA = Not included in the analysis

Values are parts per million - ppm

APPENDIX A

SOIL BORING LOGS AND WELL CERTIFICATES

APEX ENVIROTECH, INC.

LOG OF BORING

MW-F

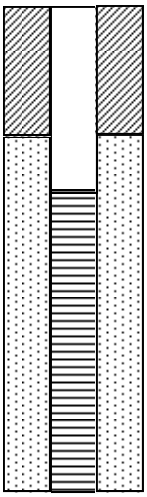
Zill Inc
3814 E 31st Street
Kansas City, MO

Date Completed	6/5/15	Bore Hole Dia. (in)	6”
Geologist	Patty Currier	Depth Drilled (ft)	16’
Drilling Company	Razek Environmental	Ini. Depth to Water (ft)	
Driller	Tony Poulter	Stc. Depth to Water (ft)	10.15’
Method	Continuous Core/Air Rotary		

Sample Legend: Sample location; Sleeve

Groundwater: Static; Initial

Depth in Feet	DESCRIPTION	USCS	GRAPHIC	Sample	% Recovery	PID
0	0-6” Asphalt				25%	0.0
	6”-1’ Fill, sand, gravel, moist, no odor.					
	1-2’ Grey silty clay, soft, moist, no odor, 2’ Chert fill stuck in liner.			1124 5-6’	100%	0.0
5	5-6’ Greenish grey silty clay, stiff, moist, no odor.					0.0
	6-8’ grey silty clay, wet, soft.					0.0
						0.0
	8-10’ Brown and grey mottled silty clay/ weathered shale, hard, moist, no odor, iron nodule at bottom.				100%	0.0
10	10-12.5’ Same as above with broken chert nodule layer at 12’.			1132 11.5-12.5’		0.0
	12.5-13’ Weathered shale, dry, hard, no odor.					0.0
15	Probe refusal at 13’					0.0
	13-15.5’ Limestone					
	15.5-16’ Shale					
	Terminated boring at 16’ and set a well.					
20						
25						
30						
35						
40						



Well Construction Information

WELL CONSTRUCTION

WELL CASING Material	PVC
WELL SCREEN Material	Slotted PVC
FILTER PACK Material	Sand
ANNULUS SEAL Material	Bentonite
GROUT Material	Surface Concrete

Riser
Screen
Sand
Bentonite

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APEX ENVIROTECH, INC.

LOG OF BORING

MW-E

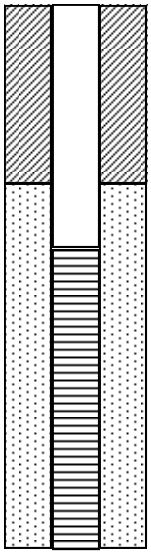
Zill Inc
3814 E 31st Street
Kansas City, MO

Date Completed	6/5/15	Bore Hole Dia. (in)	6”
Geologist	Patty Currier	Depth Drilled (ft)	18’
Drilling Company	Razek Environmental	Ini. Depth to Water (ft)	
Driller	Tony Poulter	Stc. Depth to Water (ft)	8.98’
Method	Continuous Core/Air Rotary		

Sample Legend: Sample location; Sleeve

Groundwater: Static; Initial

Depth in Feet	DESCRIPTION	USCS	GRAPHIC	Sample	% Recovery	PID
0	0-6” Concrete				25%	28
						35
	6”-5’ Dark grey silty clay, medium stiff, moist, pebbles, petrol odor.					0.0
						0.4
5	5-8.5’ Dark grey silty clay, medium stiff, moist, pebbles, petrol odor.					64.5
				1151 7-8’		19.8
	8.5-10.75’ Mottled grey and brown weathered shale, moist, very hard, slight petrol odor.					68.4
					50%	22.3
10	10.75-11’ Orangey silty clay, soft, wet, strong petrol odor.			1157 10-11’		18.6
						90.9
	Probe refusal at 11’				100%	
15	11-18’ Limestone					
	18’ Shale					
	Terminated boring at 18’ bgs					
20	Boring collapsed to 17.5’ and well was set here.					
25						
30						
35						
40						



Well Construction Information

WELL CONSTRUCTION

WELL CASING Material	PVC
WELL SCREEN Material	Slotted PVC
FILTER PACK Material	Sand
ANNULUS SEAL Material	Bentonite
GROUT Material	Surface Concrete

Riser
Screen
Sand
Bentonite

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APEX ENVIROTECH, INC.

LOG OF BORING

MW-D

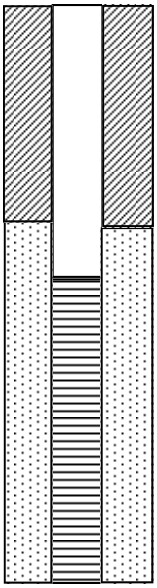
Zill Inc
3814 E 31st Street
Kansas City, MO

Date Completed	6/3/15	Bore Hole Dia. (in)	6”
Geologist	Patty Currier	Depth Drilled (ft)	19’
Drilling Company	Razek Environmental	Ini. Depth to Water (ft)	
Driller	Tony Poulter	Stc. Depth to Water (ft)	13.61’
Method	Continuous Core/Air Rotary		

Sample Legend: Sample location; Sleeve

Groundwater: Static; Initial

Depth in Feet	DESCRIPTION	USCS	GRAPHIC	Sample	% Recovery	PID
0	Grass					
	0-6” Silty clay, gravel, organics, moist.			1445 2-3’	100%	0.3
	6”-5’ Light brown silty clay, moist, medium stiff, no petrol odor.			1448 4-5’		0.1
						0.1
						0.1
5	5-7’ Medium brown silty clay, plastic, very hard, moist, no petrol odor.					0.0
						0.0
					100%	0.0
	7-10’ Olive green/grey clay; weathered shale. Stiff/hard, plastic, no petrol odor.			1505 5-9’ (interface)		0.0
						0.0
10	Probe refusal at 10’					0.0
	11’ Limestone					0.0
15						
20	19’ Shale					
	Terminated boring at 19’ bgs and set a well.					
25						
30						
35						
40						



Well Construction Information

WELL CONSTRUCTION

WELL CASING Material	PVC
WELL SCREEN Material	Slotted PVC
FILTER PACK Material	Sand
ANNULUS SEAL Material	Bentonite
GROUT Material	Surface Concrete

Riser
Screen
Sand
Bentonite

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APEX ENVIROTECH, INC.

LOG OF BORING

MW-C

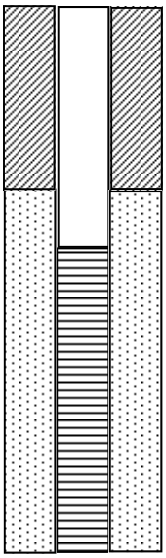
Zill Inc
3814 E 31st Street
Kansas City, MO

Date Completed	: 6/5/15	Bore Hole Dia. (in)	: 6”
Geologist	: Patty Currier	Depth Drilled (ft)	: 18’
Drilling Company	: Razek Environmental	Ini. Depth to Water (ft)	:
Driller	: Tony Poulter	Stc. Depth to Water (ft)	: 9.60’
Method	: Continuous Core/Air Rotary		

Sample Legend: Sample location; Sleeve

Groundwater: Static; Initial

Depth in Feet	DESCRIPTION	USCS	GRAPHIC	Sample	% Recovery	PID
0	0-6” Concrete				50%	26.2
	6”-1’ Fill, gravel, sand. Saturated, strong petrol odor, stained, soft.			1045 1-2’		48.3
						3.1
	1-5’ Brownish silty clay, medium stiff, moist, petrol odor.					73.8
5						30.8
	5-9’ Brown silty clay, stiff, moist, petrol odor.				100%	0.9
	8’ grading into weathered shale. Soft and saturated at bottom.			1055 8-9’		80.0
10	Probe refusal at 9’					
	14’ and 16’ Soft drilling					
15					50%	
	17’ Competent limestone					
	18’ Shale					
20	Terminate boring at 18’ bgs					
	Borehole collapsed to 17.5’ bgs and the well was set here					
25						
30						
35						
40						



Well Construction Information

WELL CONSTRUCTION

WELL CASING Material	PVC
WELL SCREEN Material	Slotted PVC
FILTER PACK Material	Sand
ANNULUS SEAL Material	Bentonite
GROUT Material	Surface Concrete

Riser
Screen
Sand
Bentonite

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APEX ENVIROTECH, INC.

LOG OF BORING

MW-B

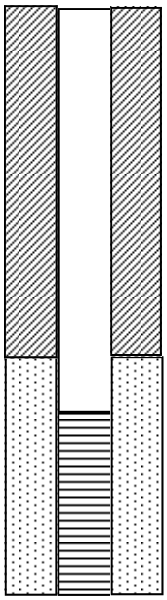
Zill Inc
3814 E 31st Street
Kansas City, MO

Date Completed	6/4/15	Bore Hole Dia. (in)	6”
Geologist	Patty Currier	Depth Drilled (ft)	20’
Drilling Company	Razek Environmental	Ini. Depth to Water (ft)	
Driller	Tony Poulter	Stc. Depth to Water (ft)	10.49’
Method	Continuous Core/Air Rotary		

Sample Legend: Sample location; Sleeve

Groundwater: Static; Initial

Depth in Feet	DESCRIPTION	USCS	GRAPHIC	Sample	% Recovery	PID
0	0-1’ Grass, fill, asphalt, gravel				75%	0.2
						0.0
	1-5’ Brown silty clay, medium stiff, moist, moist to wet at bottom, no odor			1520 4-5”		0.0
						0.0
5	5-7.5’ Brown silty clay, stiff, dry, no odor					0.0
					100%	0.0
						0.0
	7.5-14’ Reddish brown silty clay, stiff, moist to wet, no odor. Limestone at bottom, wet at bottom with strong odor.					0.0
						0.0
10						0.0
	Probe refusal at 14’					0.0
	14-20’Limestone			1534 13-14’	100%	36.2
15	16’ Petro odor					
	18’ Petro odor					
20	20’ Shale					
	Terminate boring at 20’ bgs and set a well here.					
25						
30						
35						
40						



Well Construction Information

WELL CONSTRUCTION

WELL CASING Material	PVC
WELL SCREEN Material	Slotted PVC
FILTER PACK Material	Sand
ANNULUS SEAL Material	Bentonite
GROUT Material	Surface Concrete

Riser
Screen
Sand
Bentonite

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APEX ENVIROTECH, INC.

LOG OF BORING

MW-A

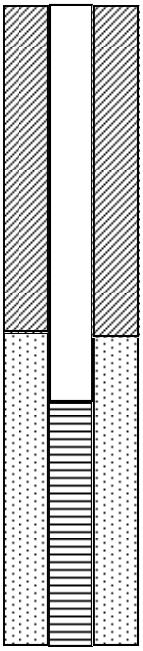
Zill Inc
3814 E 31st Street
Kansas City, MO

Date Completed	6/5/15	Bore Hole Dia. (in)	6”
Geologist	Patty Currier	Depth Drilled (ft)	22’
Drilling Company	Razek Environmental	Ini. Depth to Water (ft)	
Driller	Tony Poulter	Stc. Depth to Water (ft)	13.95’
Method	Continuous Core/Air Rotary		

Sample Legend: Sample location; Sleeve

Groundwater: Static; Initial

Depth in Feet	DESCRIPTION	USCS	GRAPHIC	Sample	% Recovery	PID
0	Grass				60%	0.1
	0-1’ Brown silty clay, soft, wet. 3” layer of sand and gravel at 1’					0.0
						0.2
	1-5’ Brown silty clay, soft and wet at top (1-3) then stiff and moist, no odor				100%	0.0
5						0.1
	5-10’ Brown silty clay, stiff and moist, slight odor at 8’					0.2
						0.5
						1.2
	10-12’ Reddish brown silty clay, very hard and moist, no odor					1.1
10						0.4
	12-15’ Grading into weathered shale			0825 13-14’		0.5
	12-14’ Very hard, moist, weathered shale				100%	0.7
	14-15’ very soft, wet, strong petro odor, weathered shale with weathered LS at bottom					5.8
						331
15				0830 15.5-16.5’		1409
	15-16.5’ Very weathered shale, soft, strong petro odor, saturated, sheen observed					1131
	Probe refusal at 16.5’					1453
	16.5-21’ Limestone					986
	Soft at 18’					
20	21-22’ Olive green shale					
	Terminate boring at 22’ bgs and install well here.				100%	
25						
30						
35						
40						



Well Construction Information

WELL CONSTRUCTION

WELL CASING Material	PVC
WELL SCREEN Material	Slotted PVC
FILTER PACK Material	Sand
ANNULUS SEAL Material	Bentonite
GROUT Material	Surface Concrete

Riser
Screen
Sand
Bentonite

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APEX ENVIROTECH, INC.

LOG OF BORING

MW-13

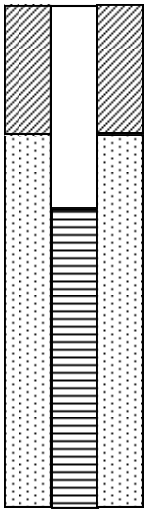
Zill Inc
3814 E 31st Street
Kansas City, MO

Date Completed	11/5/14\6/3/15	Bore Hole Dia. (in)	6”
Geologist	Patty Currier	Depth Drilled (ft)	16.5’
Drilling Company	Razek Environmental	Ini. Depth to Water (ft)	
Driller	Tony Poulter	Stc. Depth to Water (ft)	9.41’
Method	Continuous Core/Air Rotary		

Sample Legend: Sample location; Sleeve

Groundwater: Static; Initial

Depth in Feet	DESCRIPTION	USCS	GRAPHIC	Sample	% Recovery	PID
0	Asphalt at surface					1.2
	0-2’ Brown silty clay, soft, moist, slight petro odor			1108 1-2’	100%	2.3
	2-6’ Orange-brown silty clay, stiff, slightly moist, no petro odor					0.4
						0.4
5						2.0
	6-8’ Olive & gray mottled weathered shale, stiff, dry, no petro odor			1115 7-8’	100%	0.4
	Probe refusal at 8’ bgs					0.3
	8-8.5’ Weathered limestone & chert					1.2
10	8.5-16’ Limestone					
15	16-16.5’ Olive Green Shale					
	Terminate boring at 16.5’ bgs and set a well here.					
20						
25						
30						
35						
40						



Well Construction Information

WELL CONSTRUCTION

WELL CASING Material	PVC
WELL SCREEN Material	Slotted PVC
FILTER PACK Material	Sand
ANNULUS SEAL Material	Bentonite
GROUT Material	Surface Concrete

Riser
Screen
Sand
Bentonite

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APEX ENVIROTECH, INC.

LOG OF BORING

MW-12

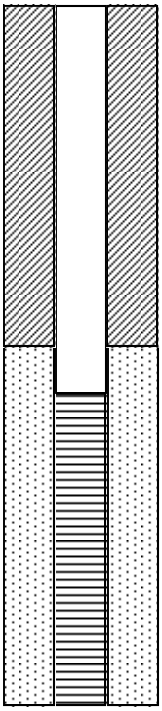
Zill Inc
3814 E 31st Street
Kansas City, MO

Date Completed	11/6/14\6/4/15	Bore Hole Dia. (in)	6”
Geologist	Patty Currier	Depth Drilled (ft)	23’
Drilling Company	Razek Environmental	Ini. Depth to Water (ft)	
Driller	Tony Poulter	Stc. Depth to Water (ft)	14.45’
Method	Continuous Core/Air Rotary		

Sample Legend: Sample location; Sleeve

Groundwater: Static; Initial

Depth in Feet	DESCRIPTION	USCS	GRAPHIC	Sample	% Recovery	PID
0	Grass at surface 0-8’ Brown silty clay, medium soft, moist, no petro odor			6/4 1100 4-5’	80%	0.0
5	8-13’ Brown silty clay, hard, moist, no petro odor				100%	
10	13-14’ Olive shale, very stiff, moist, petro odor at bottom Probe refusal at 14.5’ bgs 14-23’ Weathered limestone			0915 13.5-14.5’	100%	1142
15	16’ Petrol odor					
20	19.5’ Soft; petrol odor					
25	23’ Shale Terminate boring at 23’ bgs and install a well here.					
30						
35						
40						



Well Construction Information

WELL CONSTRUCTION

WELL CASING Material	PVC
WELL SCREEN Material	Slotted PVC
FILTER PACK Material	Sand
ANNULUS SEAL Material	Bentonite
GROUT Material	Surface Concrete

Riser
Screen
Sand
Bentonite

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APEX ENVIROTECH, INC.

LOG OF BORING

MW-11

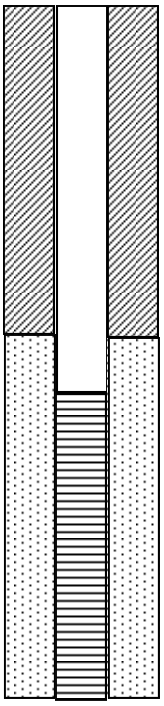
Zill Inc
3814 E 31st Street
Kansas City, MO

Date Completed	11/6/14\6/4/15	Bore Hole Dia. (in)	6’
Geologist	Patty Currier	Depth Drilled (ft)	23’
Drilling Company	Razek Environmental	Ini. Depth to Water (ft)	
Driller	Tony Poulter	Stc. Depth to Water (ft)	14.29’
Method	Continuous Core/Air Rotary		

Sample Legend: Sample location; Sleeve

Groundwater: Static; Initial

Depth in Feet	DESCRIPTION	USCS	GRAPHIC	Sample	% Recovery	PID
0	Grass at surface					0.0
	0-3’ Brown silty clay, medium stiff, moist, no petro odor					0.0
					80%	0.0
	3-6’ Brown silty clay, hard, dry, no petro odor			6/4 1240 4-5’		0.0
						1.0
5						6.6
	6-10’ Brown silty clay, hard to v hard at bottom, moist, no petro odor					5.5
						8.8
					100%	7.2
						0.0
						0.0
10	10-14’ Greenish weathered shale, v hard, moist, slight petroleum odor at bottom					4.7
	Probe refusal at 14’ bgs					0.6
	14-23’ Limestone				100%	4.2
	18.5’ Petrol odor			0847 13-14’		9.2
						66
15						
20	23’ Dark Olive Green Shale					
	Terminate boring at 23’ bgs and install a well here.					
25						
30						
35						
40						



Well Construction Information

WELL CONSTRUCTION

WELL CASING Material	PVC
WELL SCREEN Material	Slotted PVC
FILTER PACK Material	Sand
ANNULUS SEAL Material	Bentonite
GROUT Material	Surface Concrete

Riser
Screen
Sand
Bentonite

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MISSOURI DEPARTMENT OF NATURAL RESOURCES
GEOLOGICAL SURVEY PROGRAM

MONITORING WELL CERTIFICATION RECORD

OFFICE USE ONLY	DATE RECEIVED	
REFERENCE NO.		
C.R. NO.	CHECK NO.	
STATE WELL NUMBER	REVENUE NO.	
ENTERED Ph1 Ph2 Ph3	APPROVED BY	ROUTE

INFORMATION SUPPLIED BY PRIMARY CONTRACTOR OR DRILLING CONTRACTOR

NOTE: THIS FORM IS NOT TO BE USED FOR NESTED WELLS

OWNER NAME	CONTACT NAME	VARIANCE GRANTED BY DNR
Zill Inc	Imtiaz Moknijia	

OWNER ADDRESS	CITY	STATE	ZIP CODE	NUMBER
3816 E 31St Street	Kansas City	MO	64128	None

SITE NAME	WELL NUMBER	COUNTY
Inner City Oil	MW-11	Jackson

SITE ADDRESS	CITY	STATIC WATER LEVEL
3816 East 31st Street	Kansas City	14.29

SURFACE COMPLETION

TYPE: ☐ ABOVE GROUND ☑ FLUSH MOUNT

LENGTH AND DIAMETER OF SURFACE COMPLETION: LENGTH 1 FT. DIAMETER 8 IN.

DIAMETER AND DEPTH OF THE HOLE SURFACE COMPLETION WAS PLACED: DIAMETER 18 IN. LENGTH 2 FT.

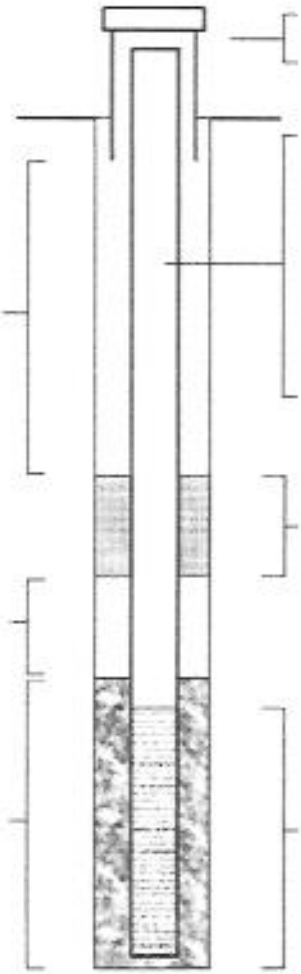
SURFACE COMPLETION GROUT: ☑ CONCRETE ☐ OTHER _____

LOCATION OF WELL (DMS FORMAT ONLY)
LAT. 39 . 04 . 11.28
LONG 94 . 32 . 18.59

SMALLEST ____ % LARGEST ____ %
SECTION ____ TOWNSHIP ____ NORTH
RANGE ____ ☐ EAST ☐ WEST

MONITORING FOR: (CHECK ALL THAT APPLY)
☐ RADIONUCLIDES ☑ PETROLEUM PRODUCTS ONLY
☐ EXPLOSIVES ☐ METALS ☐ VOC
☐ SVOCS ☐ PESTICIDES/HERBICIDES

PROPOSED USE OF WELL
☐ GAS MIGRATION WELL ☑ OBSERVATION
☐ EXTRACTION WELL ☐ OPEN HOLE
☐ PIEZOMETERS ☐ INJECTION WELL
☐ DIRECT PUSH



☐ LOCKING CAP
☐ WEEP HOLE

ELEVATION 0 FT.

ANNULAR SEAL
LENGTH 9 FT.
☐ SLURRY ☑ CHIPS
☐ PELLETS ☐ GRANULAR
☐ CEMENT/SLURRY
IF CEMENT/BENTONITE MIX:
BAGS OF CEMENT USED ____
% OF BENTONITE USED ____
WATER USED/BAG 5 GAL.

SECONDARY FILTER PACK
LENGTH N/A FT.

DEPTH TO TOP OF PRIMARY FILTER PACK 11 FT.

LENGTH OF PRIMARY FILTER PACK 12 FT.

SURFACE COMPLETION
☑ STEEL ☐ ALUMINUM ☐ PLASTIC

RISER
RISER PIPE DIAMETER 2 IN.
RISER PIPE LENGTH 13 FT.
DIAMETER OF DRILL HOLE 6 IN.
WEIGHT OR SDR# 40

MATERIAL
☐ STEEL ☑ THERMOPLASTIC (PVC)
☐ OTHER _____

BENTONITE SEAL
LENGTH 9
☑ CHIPS ☐ PELLETS ☐ GRANULAR
☐ SLURRY
☐ SATURATED ZONE ☐ HYDRATED

SCREEN
SCREEN DIAMETER 2 IN.
SCREEN LENGTH 10 FT.
DIAMETER OF DRILL HOLE 6 IN.
DEPTH TO TOP 13 FT.

SCREEN MATERIAL
☐ STEEL ☑ THERMOPLASTIC (PVC)
☐ OTHER _____

DEPTH TO	DEPTH FROM	FORMATION DESCRIPTION
0	10	Silty Clay
10	14	Weathered Shale
14	23	Limestone
23		Shale
TOTAL DEPTH:		23

FOR CASED WELLS, SUBMIT ADDITIONAL AS BUILT DIAGRAMS SHOWING WELL CONSTRUCTION DETAILS INCLUDING TYPE & SIZE OF ALL CASING, HOLE DIAMETER & GROUT USED.

SIGNATURE (PRIMARY CONTACTOR)	PERMIT NUMBER	DATE WELL DRILLING WAS COMPELTED
Patty Currier	004679M	06/04/2015

I HEREBY CERTIFY THAT THE MONITORING WELL HEREIN DESCRIBED WAS CONSTRUCTED IN ACCORDANCE WITH MISSOURI DEPARTMENT OF NATURAL RESOURCES REQUIREMENTS FOR THE CONSTRUCTION OF MONITORING WELLS. ☐ PUMP INSTALLED

SIGNATURE (WELL DRILLER)	PERMIT NUMBER	SIGNATURE (OF APPRENTICE)	APPRENTICE PERMIT NUMBER
Andy Paxton	002241M		

MO 780-1415 (07-11)

DISTRIBUTION: WHITE/DIVISION CANARY/CONTACTOR PINK/OWNER

RETURN WHITE COPY WITH APPROPRIATE FEE TO: MISSOURI DEPARTMENT OF NATURAL RESOURCES, DIVISION OF GEOLOGY AND LAND SURVEY, WELLHEAD PROTECTION SECTION, PO BOX 250, ROLLA, MO 65402 573-368-2165

MISSOURI DEPARTMENT OF NATURAL RESOURCES
GEOLOGICAL SURVEY PROGRAM

MONITORING WELL CERTIFICATION RECORD

OFFICE USE ONLY	DATE RECEIVED	
REFERENCE NO.		
C.R. NO.	CHECK NO.	
STATE WELL NUMBER	REVENUE NO.	
ENTERED Ph1 Ph2 Ph3	APPROVED BY	ROUTE

INFORMATION SUPPLIED BY PRIMARY CONTRACTOR OR DRILLING CONTRACTOR

NOTE: THIS FORM IS NOT TO BE USED FOR NESTED WELLS

OWNER NAME	CONTACT NAME	VARIANCE GRANTED BY DNR
Zill Inc	Imtiaz Moknijia	

OWNER ADDRESS	CITY	STATE	ZIP CODE	NUMBER
3816 E 31St Street	Kansas City	MO	64128	None

SITE NAME	WELL NUMBER	COUNTY
Inner City Oil	MW-12	Jackson

SITE ADDRESS	CITY	STATIC WATER LEVEL
3816 East 31st Street	Kansas City	14.45

SURFACE COMPLETION

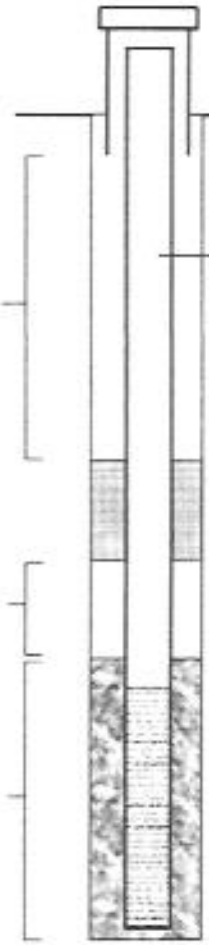
TYPE	LENGTH AND DIAMETER OF SURFACE COMPLETION	DIAMETER AND DEPTH OF THE HOLE SURFACE COMPLETION WAS PLACED	SURFACE COMPLETION GROUT
☐ ABOVE GROUND ☑ FLUSH MOUNT	LENGTH 1 FT. DIAMETER 8 IN.	DIAMETER 18 IN. LENGTH 2 FT.	☑ CONCRETE ☐ OTHER _____

LOCATION OF WELL (DMS FORMAT ONLY)
LAT. 39 . 04 . 10.92
LONG. 94 . 32 . 18.59

SMALLEST ____ ¼ ____ ¼ ____ ¼ LARGEST
SECTION ____ TOWNSHIP ____ NORTH
RANGE ____ ☐ EAST ☐ WEST

MONITORING FOR: (CHECK ALL THAT APPLY)
☐ RADIONUCLIDES ☑ PETROLEUM PRODUCTS ONLY
☐ EXPLOSIVES ☐ METALS ☐ VOC
☐ SVOCS ☐ PESTICIDES/HERBICIDES

PROPOSED USE OF WELL
☐ GAS MIGRATION WELL ☑ OBSERVATION
☐ EXTRACTION WELL ☐ OPEN HOLE
☐ PIEZOMETERS ☐ INJECTION WELL
☐ DIRECT PUSH



☐ LOCKING CAP
☐ WEEP HOLE

ELEVATION 0 FT.

ANNULAR SEAL
LENGTH 8.5 FT.
☐ SLURRY ☑ CHIPS
☐ PELLETS ☐ GRANULAR
☐ CEMENT/SLURRY
IF CEMENT/BENTONITE MIX:
BAGS OF CEMENT USED ____
% OF BENTONITE USED ____
WATER USED/BAG 5 GAL.

SECONDARY FILTER PACK
LENGTH N/A FT.

DEPTH TO TOP OF PRIMARY FILTER PACK 10.5 FT.

LENGTH OF PRIMARY FILTER PACK 12.5 FT.

SURFACE COMPLETION
☑ STEEL ☐ ALUMINUM ☐ PLASTIC

RISER
RISER PIPE DIAMETER 2 IN.
RISER PIPE LENGTH 13 FT.
DIAMETER OF DRILL HOLE 6 IN.
WEIGHT OR SDR# 40

MATERIAL
☐ STEEL ☑ THERMOPLASTIC (PVC)
☐ OTHER _____

BENTONITE SEAL
LENGTH 8.5
☑ CHIPS ☐ PELLETS ☐ GRANULAR
☐ SLURRY
☐ SATURATED ZONE ☐ HYDRATED

SCREEN
SCREEN DIAMETER 2 IN.
SCREEN LENGTH 10 FT.
DIAMETER OF DRILL HOLE 6 IN.
DEPTH TO TOP 13 FT.

SCREEN MATERIAL
☐ STEEL ☑ THERMOPLASTIC (PVC)
☐ OTHER _____

DEPTH TO	DEPTH FROM	FORMATION DESCRIPTION
0	13	Silty Clay
13	14	Weathered Shale
14	23	Limestone
23		Shale
TOTAL DEPTH:		23

FOR CASED WELLS, SUBMIT ADDITIONAL AS BUILT DIAGRAMS SHOWING WELL CONSTRUCTION DETAILS INCLUDING TYPE & SIZE OF ALL CASING, HOLE DIAMETER & GROUT USED.

SIGNATURE (PRIMARY CONTACTOR)	PERMIT NUMBER	DATE WELL DRILLING WAS COMPELTED
Patty Currier	004679M	06/04/2015

I HEREBY CERTIFY THAT THE MONITORING WELL HEREIN DESCRIBED WAS CONSTRUCTED IN ACCORDANCE WITH MISSOURI DEPARTMENT OF NATURAL RESOURCES REQUIREMENTS FOR THE CONSTRUCTION OF MONITORING WELLS. ☐ PUMP INSTALLED

SIGNATURE (WELL DRILLER)	PERMIT NUMBER	SIGNATURE (OF APPRENTICE)	APPRENTICE PERMIT NUMBER
	002241M		

MO 780-1415 (07-11)

DISTRIBUTION: WHITE/DIVISION CANARY/CONTACTOR PINK/OWNER
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MISSOURI DEPARTMENT OF NATURAL RESOURCES
GEOLOGICAL SURVEY PROGRAM

MONITORING WELL CERTIFICATION RECORD

OFFICE USE ONLY	DATE RECEIVED	
REFERENCE NO.		
C.R. NO.	CHECK NO.	
STATE WELL NUMBER	REVENUE NO.	
ENTERED Ph1 Ph2 Ph3	APPROVED BY	ROUTE

INFORMATION SUPPLIED BY PRIMARY CONTRACTOR OR DRILLING CONTRACTOR

NOTE: THIS FORM IS NOT TO BE USED FOR NESTED WELLS

OWNER NAME	CONTACT NAME	VARIANCE GRANTED BY DNR
Zill Inc	Imtiaz Moknijia	

OWNER ADDRESS	CITY	STATE	ZIP CODE	NUMBER
3816 E 31St Street	Kansas City	MO	64128	None

SITE NAME	WELL NUMBER	COUNTY
Inner City Oil	MW-13	Jackson

SITE ADDRESS	CITY	STATIC WATER LEVEL
3816 East 31st Street	Kansas City	9.41

SURFACE COMPLETION

TYPE: ☐ ABOVE GROUND ☑ FLUSH MOUNT

LENGTH AND DIAMETER OF SURFACE COMPLETION: LENGTH 1 FT. DIAMETER 8 IN.

DIAMETER AND DEPTH OF THE HOLE SURFACE COMPLETION WAS PLACED: DIAMETER 18 IN. LENGTH 1 FT.

SURFACE COMPLETION GROUT: ☑ CONCRETE ☐ OTHER _____

LOCATION OF WELL (DMMS FORMAT ONLY)

LAT. 39 - 4 - ~~11.27~~ 10.36

LONG 94 - 32 - 18.~~98~~ 39

SMALLEST ___ ¼ LARGEST ___ ¼ ___ ¼

SECTION ___ TOWNSHIP ___ NORTH

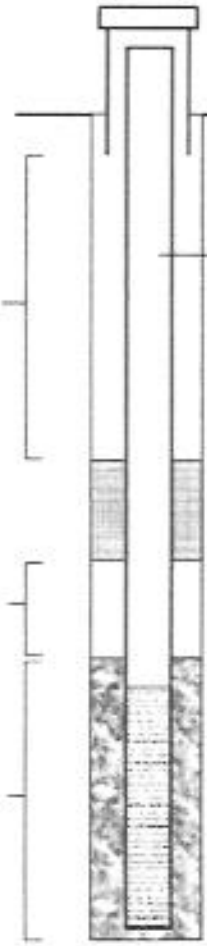
RANGE ___ ☐ EAST ☐ WEST

MONITORING FOR: (CHECK ALL THAT APPLY)

☐ RADIONUCLIDES ☑ PETROLEUM PRODUCTS ONLY
☐ EXPLOSIVES ☐ METALS ☐ VOC
☐ SVOCS ☐ PESTICIDES/HERBICIDES

PROPOSED USE OF WELL

☐ GAS MIGRATION WELL ☑ OBSERVATION
☐ EXTRACTION WELL ☐ OPEN HOLE
☐ PIEZOMETERS ☐ INJECTION WELL
☐ DIRECT PUSH



☐ LOCKING CAP
☐ WEEP HOLE

ELEVATION 0 FT.

ANNULAR SEAL
LENGTH 3 FT.
☐ SLURRY ☑ CHIPS
☐ PELLETS ☐ GRANULAR
☐ CEMENT/SLURRY
IF CEMENT/BENTONITE MIX:
BAGS OF CEMENT USED ___
% OF BENTONITE USED ___
WATER USED/BAG 5 GAL.

SECONDARY FILTER PACK
LENGTH N/A FT.

DEPTH TO TOP OF PRIMARY FILTER PACK 4 FT.

LENGTH OF PRIMARY FILTER PACK 12.67 FT.

SURFACE COMPLETION
☑ STEEL ☐ ALUMINUM ☐ PLASTIC

RISER
RISER PIPE DIAMETER 2 IN.
RISER PIPE LENGTH 6.67 FT
DIAMETER OF DRILL HOLE 6 IN.
WEIGHT OR SDR# 40

MATERIAL
☐ STEEL ☑ THERMOPLASTIC (PVC)
☐ OTHER _____

BENTONITE SEAL
LENGTH 3
☑ CHIPS ☐ PELLETS ☐ GRANULAR
☐ SLURRY
☐ SATURATED ZONE ☐ HYDRATED

SCREEN
SCREEN DIAMETER 2 IN.
SCREEN LENGTH 10 FT.
DIAMETER OF DRILL HOLE 6 IN.
DEPTH TO TOP 6.67 FT.

SCREEN MATERIAL
☐ STEEL ☑ THERMOPLASTIC (PVC)
☐ OTHER _____

DEPTH TO	DEPTH FROM	FORMATION DESCRIPTION
0	6	Silty Clay
6	8	Weathered Shale
8	8.5	Weathered LS
8.5	16	Limestone
16	16.67	Shale
TOTAL DEPTH:		16.67

FOR CASED WELLS, SUBMIT ADDITIONAL AS BUILT DIAGRAMS SHOWING WELL CONSTRUCTION DETAILS INCLUDING TYPE & SIZE OF ALL CASING, HOLE DIAMETER & GROUT USED.

SIGNATURE (PRIMARY CONTACTOR)	PERMIT NUMBER	DATE WELL DRILLING WAS COMPELTED
Patty Currier	004679M	06/03/2015

I HEREBY CERTIFY THAT THE MONITORING WELL HEREIN DESCRIBED WAS CONSTRUCTED IN ACCORDANCE WITH MISSOURI DEPARTMENT OF NATURAL RESOURCES REQUIREMENTS FOR THE CONSTRUCTION OF MONITORING WELLS. ☐ PUMP INSTALLED

SIGNATURE (WELL DRILLER)	PERMIT NUMBER	SIGNATURE (OF APPRENTICE)	APPRENTICE PERMIT NUMBER
	002241M		

MO 780-1415 (07-11)

DISTRIBUTION: WHITE/DIVISION CANARY/CONTACTOR PINK/OWNER

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MISSOURI DEPARTMENT OF NATURAL RESOURCES
GEOLOGICAL SURVEY PROGRAM

MONITORING WELL CERTIFICATION RECORD

OFFICE USE ONLY	DATE RECEIVED	
REFERENCE NO.		
C.R. NO.	CHECK NO.	
STATE WELL NUMBER	REVENUE NO.	
ENTERED Ph1 Ph2 Ph3	APPROVED BY	ROUTE

INFORMATION SUPPLIED BY PRIMARY CONTRACTOR OR DRILLING CONTRACTOR

NOTE: THIS FORM IS NOT TO BE USED FOR NESTED WELLS

OWNER NAME	CONTACT NAME	VARIANCE GRANTED BY DNR
Zill Inc	Imtiaz Moknijia	

OWNER ADDRESS	CITY	STATE	ZIP CODE	NUMBER
3816 E 31St Street	Kansas City	MO	64128	None

SITE NAME	WELL NUMBER	COUNTY
Inner City Oil	MW-A	Jackson

SITE ADDRESS	CITY	STATIC WATER LEVEL
3816 East 31st Street	Kansas City	13.95

SURFACE COMPLETION

TYPE: ☐ ABOVE GROUND ☑ FLUSH MOUNT

LENGTH AND DIAMETER OF SURFACE COMPLETION: LENGTH 1 FT. DIAMETER 8 IN.

DIAMETER AND DEPTH OF THE HOLE SURFACE COMPLETION WAS PLACED: DIAMETER 18 IN. LENGTH 2 FT.

SURFACE COMPLETION GROUT: ☑ CONCRETE ☐ OTHER _____

LOCATION OF WELL (DMMS FORMAT ONLY)
LAT. 39 . 04 . 11.79
LONG. 94 . 32 . 18.54

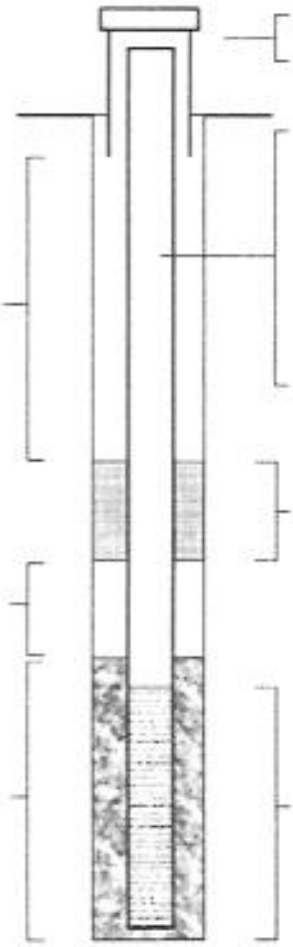
SMALLEST ___ ¼ ___ ¼ ___ ¼ LARGEST
SECTION ___ TOWNSHIP ___ NORTH
RANGE ___ ☐ EAST ☐ WEST

MONITORING FOR: (CHECK ALL THAT APPLY)
☐ RADIONUCLIDES ☑ PETROLEUM PRODUCTS ONLY
☐ EXPLOSIVES ☐ METALS ☐ VOC
☐ SVOCS ☐ PESTICIDES/HERBICIDES

PROPOSED USE OF WELL
☐ GAS MIGRATION WELL ☑ OBSERVATION
☐ EXTRACTION WELL ☐ OPEN HOLE
☐ PIEZOMETERS ☐ INJECTION WELL
☐ DIRECT PUSH

☐ LOCKING CAP
☐ WEEP HOLE

ELEVATION 0 FT.



SURFACE COMPLETION
☑ STEEL ☐ ALUMINUM ☐ PLASTIC

RISER
RISER PIPE DIAMETER 2 IN.
RISER PIPE LENGTH 15 FT.
DIAMETER OF DRILL HOLE 6 IN.
WEIGHT OR SDR# 40

MATERIAL
☐ STEEL ☑ THERMOPLASTIC (PVC)
☐ OTHER _____

ANNULAR SEAL
LENGTH 11 FT.
☐ SLURRY ☑ CHIPS
☐ PELLETS ☐ GRANULAR
☐ CEMENT/SLURRY
IF CEMENT/BENTONITE MIX:
BAGS OF CEMENT USED ___
% OF BENTONITE USED ___
WATER USED/BAG 5 GAL.

BENTONITE SEAL
LENGTH 11
☑ CHIPS ☐ PELLETS ☐ GRANULAR
☐ SLURRY
☐ SATURATED ZONE ☐ HYDRATED

SECONDARY FILTER PACK
LENGTH N/A FT.

SCREEN
SCREEN DIAMETER 2 IN.
SCREEN LENGTH 7 FT.
DIAMETER OF DRILL HOLE 6 IN.
DEPTH TO TOP 15 FT.

DEPTH TO TOP OF PRIMARY FILTER PACK 13 FT.

SCREEN MATERIAL
☐ STEEL ☑ THERMOPLASTIC (PVC)
☐ OTHER _____

LENGTH OF PRIMARY FILTER PACK 9 FT.

DEPTH TO	DEPTH FROM	FORMATION DESCRIPTION
0	12	Silty Clay
12	16.5	Weathered Shale
16.5	22	Limestone
22		Shale
TOTAL DEPTH:		22

FOR CASED WELLS, SUBMIT ADDITIONAL AS BUILT DIAGRAMS SHOWING WELL CONSTRUCTION DETAILS INCLUDING TYPE & SIZE OF ALL CASING, HOLE DIAMETER & GROUT USED.

SIGNATURE (PRIMARY CONTACTOR)	PERMIT NUMBER	DATE WELL DRILLING WAS COMPELTED
Patty Currier	004679M	06/05/2015

I HEREBY CERTIFY THAT THE MONITORING WELL HEREIN DESCRIBED WAS CONSTRUCTED IN ACCORDANCE WITH MISSOURI DEPARTMENT OF NATURAL RESOURCES REQUIREMENTS FOR THE CONSTRUCTION OF MONITORING WELLS. ☐ PUMP INSTALLED

SIGNATURE (WELL DRILLER)	PERMIT NUMBER	SIGNATURE (OF APPRENTICE)	APPRENTICE PERMIT NUMBER
	002241M		

MO 780-1415 (07-11)

DISTRIBUTION: WHITE/DIVISION CANARY/CONTACTOR PINK/OWNER
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MISSOURI DEPARTMENT OF NATURAL RESOURCES
GEOLOGICAL SURVEY PROGRAM

MONITORING WELL CERTIFICATION RECORD

OFFICE USE ONLY	DATE RECEIVED	
REFERENCE NO.		
C.R. NO.	CHECK NO.	
STATE WELL NUMBER	REVENUE NO.	
ENTERED Ph1 Ph2 Ph3	APPROVED BY	ROUTE

INFORMATION SUPPLIED BY PRIMARY CONTRACTOR OR DRILLING CONTRACTOR

NOTE: THIS FORM IS NOT TO BE USED FOR NESTED WELLS

OWNER NAME	CONTACT NAME	VARIANCE GRANTED BY DNR
Zill Inc	Imtiaz Moknijia	

OWNER ADDRESS	CITY	STATE	ZIP CODE	NUMBER
3816 E 31St Street	Kansas City	MO	64128	None

SITE NAME	WELL NUMBER	COUNTY
Inner City Oil	MW-B	Jackson

SITE ADDRESS	CITY	STATIC WATER LEVEL
3816 East 31st Street	Kansas City	10.49

SURFACE COMPLETION

TYPE: ☐ ABOVE GROUND ☑ FLUSH MOUNT

LENGTH AND DIAMETER OF SURFACE COMPLETION: LENGTH 1 FT. DIAMETER 8 IN.

DIAMETER AND DEPTH OF THE HOLE SURFACE COMPLETION WAS PLACED: DIAMETER 18 IN. LENGTH 2 FT.

SURFACE COMPLETION GROUT: ☑ CONCRETE ☐ OTHER _____

LOCATION OF WELL (DMS FORMAT ONLY)
LAT 39 . 04 . 11.30
LONG 94 . 32 . 17.91

SMALLEST ____ ¼ LARGEST ____ ¼ ____ ¼
SECTION ____ TOWNSHIP ____ NORTH
RANGE ____ ☐ EAST ☐ WEST

MONITORING FOR: (CHECK ALL THAT APPLY)
☐ RADIONUCLIDES ☑ PETROLEUM PRODUCTS ONLY
☐ EXPLOSIVES ☐ METALS ☐ VOC
☐ SVOCS ☐ PESTICIDES/HERBICIDES

PROPOSED USE OF WELL
☐ GAS MIGRATION WELL ☑ OBSERVATION
☐ EXTRACTION WELL ☐ OPEN HOLE
☐ PIEZOMETERS ☐ INJECTION WELL
☐ DIRECT PUSH

☐ LOCKING CAP
☐ WEEP HOLE

ELEVATION 0 FT.

ANNULAR SEAL
LENGTH 10 FT.
☐ SLURRY ☑ CHIPS
☐ PELLETS ☐ GRANULAR
☐ CEMENT/SLURRY
IF CEMENT/BENTONITE MIX:
BAGS OF CEMENT USED ____
% OF BENTONITE USED ____
WATER USED/BAG 5 GAL.

SECONDARY FILTER PACK
LENGTH N/A FT.

DEPTH TO TOP OF PRIMARY FILTER PACK 12 FT.

LENGTH OF PRIMARY FILTER PACK 8 FT.

SURFACE COMPLETION
☑ STEEL ☐ ALUMINUM ☐ PLASTIC

RISER
RISER PIPE DIAMETER 2 IN.
RISER PIPE LENGTH 14 FT.
DIAMETER OF DRILL HOLE 6 IN.
WEIGHT OR SDR# 40

MATERIAL
☐ STEEL ☑ THERMOPLASTIC (PVC)
☐ OTHER _____

BENTONITE SEAL
LENGTH 10
☑ CHIPS ☐ PELLETS ☐ GRANULAR
☐ SLURRY
☐ SATURATED ZONE ☐ HYDRATED

SCREEN
SCREEN DIAMETER 2 IN.
SCREEN LENGTH 6 FT.
DIAMETER OF DRILL HOLE 6 IN.
DEPTH TO TOP 14 FT.

SCREEN MATERIAL
☐ STEEL ☑ THERMOPLASTIC (PVC)
☐ OTHER _____

DEPTH TO	DEPTH FROM	FORMATION DESCRIPTION
0	1	Gravel, fill
1	14	Silty Clay
14	20	Limestone
20		Shale
TOTAL DEPTH:		20

FOR CASED WELLS, SUBMIT ADDITIONAL AS BUILT DIAGRAMS SHOWING WELL CONSTRUCTION DETAILS INCLUDING TYPE & SIZE OF ALL CASING, HOLE DIAMETER & GROUT USED.

SIGNATURE (PRIMARY CONTACTOR)	PERMIT NUMBER	DATE WELL DRILLING WAS COMPELTED
Patty Currier	004679M	06/04/2015

I HEREBY CERTIFY THAT THE MONITORING WELL HEREIN DESCRIBED WAS CONSTRUCTED IN ACCORDANCE WITH MISSOURI DEPARTMENT OF NATURAL RESOURCES REQUIREMENTS FOR THE CONSTRUCTION OF MONITORING WELLS. ☐ PUMP INSTALLED

SIGNATURE (WELL DRILLER)	PERMIT NUMBER	SIGNATURE (OF APPRENTICE)	APPRENTICE PERMIT NUMBER
	002241M		

MO 780-1415 (07-11)

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MISSOURI DEPARTMENT OF NATURAL RESOURCES
GEOLOGICAL SURVEY PROGRAM

MONITORING WELL CERTIFICATION RECORD

OFFICE USE ONLY	DATE RECEIVED	
REFERENCE NO.		
C.R. NO.	CHECK NO.	
STATE WELL NUMBER	REVENUE NO.	
ENTERED Ph1 Ph2 Ph3	APPROVED BY	ROUTE

INFORMATION SUPPLIED BY PRIMARY CONTRACTOR OR DRILLING CONTRACTOR

NOTE: THIS FORM IS NOT TO BE USED FOR NESTED WELLS

OWNER NAME	CONTACT NAME	VARIANCE GRANTED BY DNR
Zill Inc	Imtiaz Moknijia	

OWNER ADDRESS	CITY	STATE	ZIP CODE	NUMBER
3816 E 31St Street	Kansas City	MO	64128	None

SITE NAME	WELL NUMBER	COUNTY
Inner City Oil	MW-C	Jackson

SITE ADDRESS	CITY	STATIC WATER LEVEL
3816 East 31st Street	Kansas City	9.60

SURFACE COMPLETION

TYPE: ☐ ABOVE GROUND ☑ FLUSH MOUNT

LENGTH AND DIAMETER OF SURFACE COMPLETION: LENGTH 1 FT. DIAMETER 8 IN.

DIAMETER AND DEPTH OF THE HOLE SURFACE COMPLETION WAS PLACED: DIAMETER 18 IN. LENGTH 2 FT.

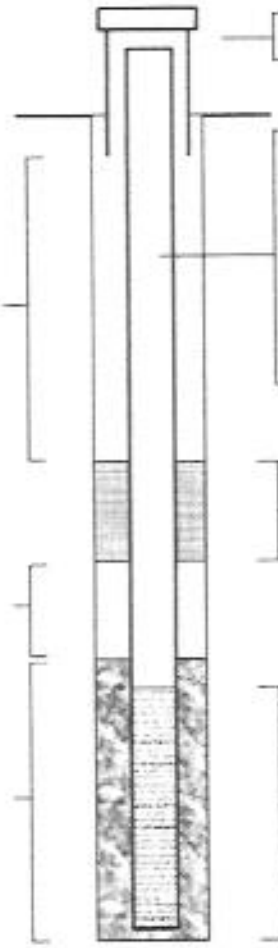
SURFACE COMPLETION GROUT: ☑ CONCRETE ☐ OTHER _____

LOCATION OF WELL (DM/S FORMAT ONLY)
LAT. 39 . 04 . 10.56
LONG. 94 . 32 . 17.89

SMALLEST ___ % LARGEST ___ %
SECTION ___ TOWNSHIP ___ NORTH
RANGE ___ ☐ EAST ☐ WEST

MONITORING FOR: (CHECK ALL THAT APPLY)
☐ RADIONUCLIDES ☑ PETROLEUM PRODUCTS ONLY
☐ EXPLOSIVES ☐ METALS ☐ VOC
☐ SVOCS ☐ PESTICIDES/HERBICIDES

PROPOSED USE OF WELL
☐ GAS MIGRATION WELL ☑ OBSERVATION
☐ EXTRACTION WELL ☐ OPEN HOLE
☐ PIEZOMETERS ☐ INJECTION WELL
☐ DIRECT PUSH



☐ LOCKING CAP
☐ WEEP HOLE

ELEVATION 0 FT.

ANNULAR SEAL
LENGTH 3 FT.
☐ SLURRY ☑ CHIPS
☐ PELLETS ☐ GRANULAR
☐ CEMENT/SLURRY
IF CEMENT/BENTONITE MIX:
BAGS OF CEMENT USED ___
% OF BENTONITE USED ___
WATER USED/BAG 5 GAL.

SECONDARY FILTER PACK
LENGTH N/A FT.

DEPTH TO TOP OF PRIMARY FILTER PACK 5 FT.

LENGTH OF PRIMARY FILTER PACK 12.5 FT.

SURFACE COMPLETION
☑ STEEL ☐ ALUMINUM ☐ PLASTIC

RISER
RISER PIPE DIAMETER 2 IN.
RISER PIPE LENGTH 7.5 FT.
DIAMETER OF DRILL HOLE 6 IN.
WEIGHT OR SDR# 40

MATERIAL
☐ STEEL ☑ THERMOPLASTIC (PVC)
☐ OTHER _____

BENTONITE SEAL
LENGTH 3
☑ CHIPS ☐ PELLETS ☐ GRANULAR
☐ SLURRY
☐ SATURATED ZONE ☐ HYDRATED

SCREEN
SCREEN DIAMETER 2 IN.
SCREEN LENGTH 10 FT.
DIAMETER OF DRILL HOLE 6 IN.
DEPTH TO TOP 7.5 FT.

SCREEN MATERIAL
☐ STEEL ☑ THERMOPLASTIC (PVC)
☐ OTHER _____

DEPTH TO	DEPTH FROM	FORMATION DESCRIPTION
0	1	Concrete, gravel
1	8	Silty Clay
8	17	Weathered Shale
17	17.5	Limestone
TOTAL DEPTH:		17.5

FOR CASED WELLS, SUBMIT ADDITIONAL AS BUILT DIAGRAMS SHOWING WELL CONSTRUCTION DETAILS INCLUDING TYPE & SIZE OF ALL CASING, HOLE DIAMETER & GROUT USED.

SIGNATURE (PRIMARY CONTACTOR)	PERMIT NUMBER	DATE WELL DRILLING WAS COMPELTED
Patty Currier	004679M	06/05/2015

I HEREBY CERTIFY THAT THE MONITORING WELL HEREIN DESCRIBED WAS CONSTRUCTED IN ACCORDANCE WITH MISSOURI DEPARTMENT OF NATURAL RESOURCES REQUIREMENTS FOR THE CONSTRUCTION OF MONITORING WELLS. ☐ PUMP INSTALLED

SIGNATURE (WELL DRILLER)	PERMIT NUMBER	SIGNATURE (OF APPRENTICE)	APPRENTICE PERMIT NUMBER
	002241M		

MO 780-1415 (07-11)

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MISSOURI DEPARTMENT OF NATURAL RESOURCES
GEOLOGICAL SURVEY PROGRAM

MONITORING WELL CERTIFICATION RECORD

OFFICE USE ONLY	DATE RECEIVED	
REFERENCE NO.		
C.R. NO.	CHECK NO.	
STATE WELL NUMBER	REVENUE NO.	
ENTERED Ph1 Ph2 Ph3	APPROVED BY	ROUTE

INFORMATION SUPPLIED BY PRIMARY CONTRACTOR OR DRILLING CONTRACTOR

NOTE: THIS FORM IS NOT TO BE USED FOR NESTED WELLS

OWNER NAME	CONTACT NAME	VARIANCE GRANTED BY DNR
Zill Inc	Imtiaz Moknijia	

OWNER ADDRESS	CITY	STATE	ZIP CODE	NUMBER
3816 E 31St Street	Kansas City	MO	64128	None

SITE NAME	WELL NUMBER	COUNTY
Inner City Oil	MW-D	Jackson

SITE ADDRESS	CITY	STATIC WATER LEVEL
3816 East 31st Street	Kansas City	13.61'

SURFACE COMPLETION

TYPE: ☐ ABOVE GROUND ☑ FLUSH MOUNT

LENGTH AND DIAMETER OF SURFACE COMPLETION: LENGTH 1 FT. DIAMETER 8 IN.

DIAMETER AND DEPTH OF THE HOLE SURFACE COMPLETION WAS PLACED: DIAMETER 18 IN. LENGTH 2 FT.

SURFACE COMPLETION GROUT: ☑ CONCRETE ☐ OTHER _____

LOCATION OF WELL (DMS FORMAT ONLY)
LAT. 39 . 04 . 10.61 .
LONG. 94 . 32 . 18.53

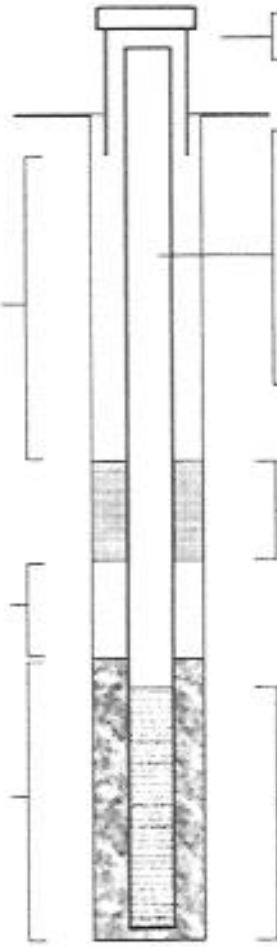
SMALLEST ____ ¼ ____ ¼ ____ ¼
SECTION ____ TOWNSHIP ____ NORTH
RANGE ____ ☐ EAST ☐ WEST

MONITORING FOR: (CHECK ALL THAT APPLY)
☐ RADIONUCLIDES ☑ PETROLEUM PRODUCTS ONLY
☐ EXPLOSIVES ☐ METALS ☐ VOC
☐ SVOCS ☐ PESTICIDES/HERBICIDES

PROPOSED USE OF WELL
☐ GAS MIGRATION WELL ☑ OBSERVATION
☐ EXTRACTION WELL ☐ OPEN HOLE
☐ PIEZOMETERS ☐ INJECTION WELL
☐ DIRECT PUSH

☐ LOCKING CAP
☐ WEEP HOLE

ELEVATION 0 FT.



SURFACE COMPLETION
☑ STEEL ☐ ALUMINUM ☐ PLASTIC

RISER
RISER PIPE DIAMETER 2 IN.
RISER PIPE LENGTH 9 FT.
DIAMETER OF DRILL HOLE 6 IN.
WEIGHT OR SDR# 40

MATERIAL
☐ STEEL ☑ THERMOPLASTIC (PVC)
☐ OTHER _____

ANNULAR SEAL
LENGTH 5 FT.
☐ SLURRY ☑ CHIPS
☐ PELLETS ☐ GRANULAR
☐ CEMENT/SLURRY
IF CEMENT/BENTONITE MIX:
BAGS OF CEMENT USED ____
% OF BENTONITE USED ____
WATER USED/BAG 5 GAL.

BENTONITE SEAL
LENGTH 5
☑ CHIPS ☐ PELLETS ☐ GRANULAR
☐ SLURRY
☐ SATURATED ZONE ☐ HYDRATED

SECONDARY FILTER PACK
LENGTH N/A FT.

SCREEN
SCREEN DIAMETER 2 IN.
SCREEN LENGTH 10 FT.
DIAMETER OF DRILL HOLE 6 IN.
DEPTH TO TOP 9 FT.

DEPTH TO TOP OF PRIMARY FILTER PACK 7 FT.

SCREEN MATERIAL
☐ STEEL ☑ THERMOPLASTIC (PVC)
☐ OTHER _____

LENGTH OF PRIMARY FILTER PACK 12 FT.

DEPTH TO	DEPTH FROM	FORMATION DESCRIPTION
0	7	Silty Clay
7	11	Weathered Shale
11	18.5	Limestone
18.5	19	Shale
TOTAL DEPTH:		19

FOR CASED WELLS, SUBMIT ADDITIONAL AS BUILT DIAGRAMS SHOWING WELL CONSTRUCTION DETAILS INCLUDING TYPE & SIZE OF ALL CASING, HOLE DIAMETER & GROUT USED.

SIGNATURE (PRIMARY CONTACTOR)	PERMIT NUMBER	DATE WELL DRILLING WAS COMPELTED
Patty Currier	004679M	06/03/2015

I HEREBY CERTIFY THAT THE MONITORING WELL HEREIN DESCRIBED WAS CONSTRUCTED IN ACCORDANCE WITH MISSOURI DEPARTMENT OF NATURAL RESOURCES REQUIREMENTS FOR THE CONSTRUCTION OF MONITORING WELLS. ☐ PUMP INSTALLED

SIGNATURE (WELL DRILLER)	PERMIT NUMBER	SIGNATURE (OF APPRENTICE)	APPRENTICE PERMIT NUMBER
	002241M		

MO 780-1415 (07-11)

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MISSOURI DEPARTMENT OF NATURAL RESOURCES
GEOLOGICAL SURVEY PROGRAM

MONITORING WELL CERTIFICATION RECORD

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ENTERED Ph1 Ph2 Ph3	APPROVED BY	ROUTE

INFORMATION SUPPLIED BY PRIMARY CONTRACTOR OR DRILLING CONTRACTOR

NOTE: THIS FORM IS NOT TO BE USED FOR NESTED WELLS

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Zill Inc	Imtiaz Moknijia	

OWNER ADDRESS	CITY	STATE	ZIP CODE	NUMBER
3816 E 31St Street	Kansas City	MO	64128	None

SITE NAME	WELL NUMBER	COUNTY
Inner City Oil	MW-E	Jackson

SITE ADDRESS	CITY	STATIC WATER LEVEL
3816 East 31st Street	Kansas City	8.98'

SURFACE COMPLETION

TYPE: ☐ ABOVE GROUND ☑ FLUSH MOUNT

LENGTH AND DIAMETER OF SURFACE COMPLETION: LENGTH 1 FT. DIAMETER 8 IN.

DIAMETER AND DEPTH OF THE HOLE SURFACE COMPLETION WAS PLACED: DIAMETER 18 IN. LENGTH 2 FT.

SURFACE COMPLETION GROUT: ☑ CONCRETE ☐ OTHER

LOCATION OF WELL (DMMS FORMAT ONLY): LAT. 39 - 04 . 10.38 LONG. 94 - 32 . 17.34

SMALLEST ___ ¼ LARGEST ___ ¼ ___ ¼

SECTION ___ TOWNSHIP ___ NORTH

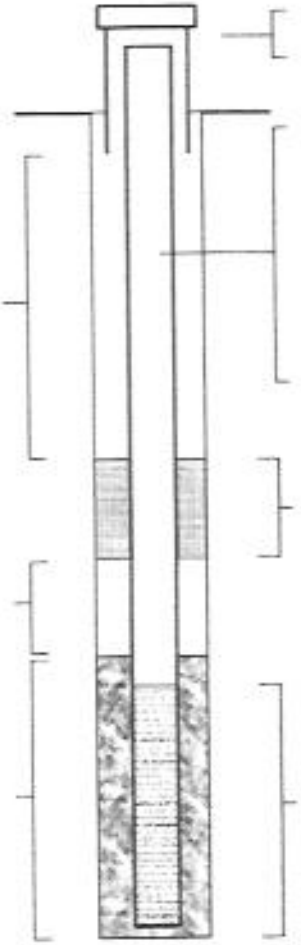
RANGE ___ ☐ EAST ☐ WEST

MONITORING FOR: (CHECK ALL THAT APPLY)
☐ RADIONUCLIDES ☑ PETROLEUM PRODUCTS ONLY
☐ EXPLOSIVES ☐ METALS ☐ VOC
☐ SVOCS ☐ PESTICIDES/HERBICIDES

PROPOSED USE OF WELL
☐ GAS MIGRATION WELL ☑ OBSERVATION
☐ EXTRACTION WELL ☐ OPEN HOLE
☐ PIEZOMETERS ☐ INJECTION WELL
☐ DIRECT PUSH

☐ LOCKING CAP
☐ WEEP HOLE

ELEVATION 0 FT.



SURFACE COMPLETION
☑ STEEL ☐ ALUMINUM ☐ PLASTIC

RISER
RISER PIPE DIAMETER 2 IN.
RISER PIPE LENGTH 7.5 FT.
DIAMETER OF DRILL HOLE 6 IN.
WEIGHT OR SDR# 40

MATERIAL
☐ STEEL ☑ THERMOPLASTIC (PVC)
☐ OTHER

ANNULAR SEAL
LENGTH 3 FT.
☐ SLURRY ☑ CHIPS
☐ PELLETS ☐ GRANULAR
☐ CEMENT/SLURRY
IF CEMENT/BENTONITE MIX:
BAGS OF CEMENT USED ___
% OF BENTONITE USED ___
WATER USED/BAG 5 GAL.

BENTONITE SEAL
LENGTH 3
☑ CHIPS ☐ PELLETS ☐ GRANULAR
☐ SLURRY
☐ SATURATED ZONE ☐ HYDRATED

SECONDARY FILTER PACK
LENGTH N/A FT.

SCREEN
SCREEN DIAMETER 2 IN.
SCREEN LENGTH 10 FT.
DIAMETER OF DRILL HOLE 6 IN.
DEPTH TO TOP 7.5 FT.

SCREEN MATERIAL
☐ STEEL ☑ THERMOPLASTIC (PVC)
☐ OTHER

DEPTH TO TOP OF PRIMARY FILTER PACK 5 FT.

LENGTH OF PRIMARY FILTER PACK 12.5 FT.

DEPTH TO	DEPTH FROM	FORMATION DESCRIPTION
0	0.5	Concrete
0.5	8.5	Silty Clay
8.5	11	Weathered Shale
11	17	Limestone
17	17.5	Shale
TOTAL DEPTH:		17.5

FOR CASED WELLS, SUBMIT ADDITIONAL AS BUILT DIAGRAMS SHOWING WELL CONSTRUCTION DETAILS INCLUDING TYPE & SIZE OF ALL CASING, HOLE DIAMETER & GROUT USED.

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Patty Currier	004679M	06/05/2015

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GEOLOGICAL SURVEY PROGRAM

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ENTERED Ph1 Ph2 Ph3	APPROVED BY	ROUTE

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OWNER ADDRESS	CITY	STATE	ZIP CODE	NUMBER
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SITE NAME	WELL NUMBER	COUNTY
Inner City Oil	MW-F	Jackson

SITE ADDRESS	CITY	STATIC WATER LEVEL
3816 East 31st Street	Kansas City	10.15'

SURFACE COMPLETION

TYPE: ☐ ABOVE GROUND ☑ FLUSH MOUNT

LENGTH AND DIAMETER OF SURFACE COMPLETION: LENGTH 1 FT. DIAMETER 8 IN.

DIAMETER AND DEPTH OF THE HOLE SURFACE COMPLETION WAS PLACED: DIAMETER 18 IN. LENGTH 2 FT.

SURFACE COMPLETION GROUT: ☑ CONCRETE ☐ OTHER _____

LOCATION OF WELL (DMS FORMAT ONLY)
LAT. 39 . 04 . 10.69
LONG. 94 . 32 . 16.660

SMALLEST ___ ¼ LARGEST ___ ¼ ___ ¼
SECTION ___ TOWNSHIP ___ NORTH
RANGE ___ ☐ EAST ☐ WEST

MONITORING FOR: (CHECK ALL THAT APPLY)
☐ RADIONUCLIDES ☑ PETROLEUM PRODUCTS ONLY
☐ EXPLOSIVES ☐ METALS ☐ VOC
☐ SVOCS ☐ PESTICIDES/HERBICIDES

PROPOSED USE OF WELL
☐ GAS MIGRATION WELL ☑ OBSERVATION
☐ EXTRACTION WELL ☐ OPEN HOLE
☐ PIEZOMETERS ☐ INJECTION WELL
☐ DIRECT PUSH

☐ LOCKING CAP
☐ WEEP HOLE

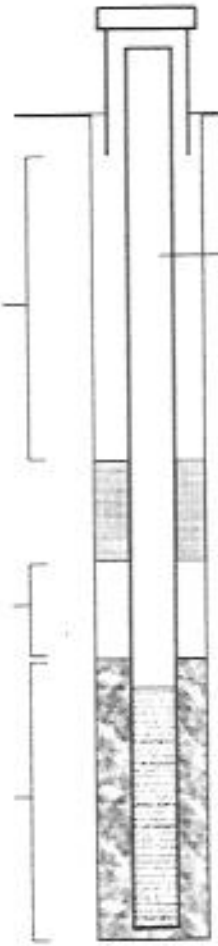
ELEVATION 0 FT.

ANNULAR SEAL
LENGTH 2 FT.
☐ SLURRY ☑ CHIPS
☐ PELLETS ☐ GRANULAR
☐ CEMENT/SLURRY
IF CEMENT/BENTONITE MIX:
BAGS OF CEMENT USED ___
% OF BENTONITE USED ___
WATER USED/BAG 5 GAL.

SECONDARY FILTER PACK
LENGTH N/A FT.

DEPTH TO TOP OF PRIMARY FILTER PACK 4 FT.

LENGTH OF PRIMARY FILTER PACK 12 FT.



SURFACE COMPLETION
☑ STEEL ☐ ALUMINUM ☐ PLASTIC

RISER
RISER PIPE DIAMETER 2 IN.
RISER PIPE LENGTH 6 FT.
DIAMETER OF DRILL HOLE 6 IN.
WEIGHT OR SDR# 40
MATERIAL
☐ STEEL ☑ THERMOPLASTIC (PVC)
☐ OTHER _____

BENTONITE SEAL
LENGTH 2
☑ CHIPS ☐ PELLETS ☐ GRANULAR
☐ SLURRY
☐ SATURATED ZONE ☐ HYDRATED

SCREEN
SCREEN DIAMETER 2 IN.
SCREEN LENGTH 10 FT.
DIAMETER OF DRILL HOLE 6 IN.
DEPTH TO TOP 6 FT.
SCREEN MATERIAL
☐ STEEL ☑ THERMOPLASTIC (PVC)
☐ OTHER _____

DEPTH TO	DEPTH FROM	FORMATION DESCRIPTION
0	1	Asphalt, fill, gravel
1	8	Silty Clay
8	13	Weathered Shale
13	15.5	Limestone
15.5	16	Shale
TOTAL DEPTH:		16

FOR CASED WELLS, SUBMIT ADDITIONAL AS BUILT DIAGRAMS SHOWING WELL CONSTRUCTION DETAILS INCLUDING TYPE & SIZE OF ALL CASING, HOLE DIAMETER & GROUT USED

SIGNATURE (PRIMARY CONTACTOR)	PERMIT NUMBER	DATE WELL DRILLING WAS COMPELTED
Patty Currier	004679M	06/09/2015

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APPENDIX B

ANALYTICAL RESULTS AND CHAIN OF CUSTODY

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

June 22, 2015

Patty Currier
Apex Envirotech, Inc.
1920 W 143rd Street, Suite 100
Overland Park, KS 66224

RE: Project: ZILL INC
Pace Project No.: 60195752

Dear Patty Currier:
Enclosed are the analytical results for sample(s) received by the laboratory on June 04, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Richard Mannz
richard.mannz@pacelabs.com
PM Lab Management

Enclosures

cc: Melissa Dowling, Apex Envirotech, Inc.

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9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

CERTIFICATIONS

Project:	ZILL INC
Pace Project No.:	60195752

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 13-012-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407
Utah Certification #: KS00021

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Lenexa, KS 66219
(913)599-5665

SAMPLE SUMMARY

Project: ZILL INC
Pace Project No.: 60195752

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60195752001	**MW-D 2-3**	Solid	06/03/15 14:45	06/04/15 17:45
60195752002	**MW-D 4-5**	Solid	06/03/15 14:48	06/04/15 17:45
60195752003	**MW-D 8-9**	Solid	06/03/15 15:05	06/04/15 17:45
60195752004	**MW-12 4-5**	Solid	06/04/15 11:00	06/04/15 17:45
60195752005	**MW-11 4-5**	Solid	06/04/15 12:40	06/04/15 17:45
60195752006	**MW-B 4-5**	Solid	06/04/15 15:20	06/04/15 17:45
60195752007	**MW-B 13-14**	Solid	06/04/15 15:34	06/04/15 17:45

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Lenexa, KS 66219
(913)599-5665

SAMPLE ANALYTE COUNT

Project: ZILL INC
Pace Project No.: 60195752

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60195752001	**MW-D 2-3**	EPA 6010	JGP	1
		EPA 8270	JMT	5
		EPA 5035A/8260	TJT	14
		ASTM D2974	DWC	1
60195752002	**MW-D 4-5**	EPA 6010	JGP	1
		EPA 8270	JMT	5
		EPA 5035A/8260	TJT	14
		ASTM D2974	DWC	1
60195752003	**MW-D 8-9**	EPA 6010	JGP	1
		EPA 8270	JMT	5
		EPA 5035A/8260	TJT	14
		ASTM D2974	DWC	1
60195752004	**MW-12 4-5**	EPA 6010	JGP	1
		EPA 8270	JMT	5
		EPA 5035A/8260	TJT	14
		ASTM D2974	DWC	1
60195752005	**MW-11 4-5**	EPA 6010	JGP	1
		EPA 8270	JMT	5
		EPA 5035A/8260	TJT	14
		ASTM D2974	DWC	1
60195752006	**MW-B 4-5**	EPA 6010	JGP	1
		EPA 8270	JMT	5
		EPA 5035A/8260	TJT	14
		ASTM D2974	DWC	1
60195752007	**MW-B 13-14**	EPA 6010	JGP	1
		EPA 8270	JMT	5
		EPA 5035A/8260	TJT	14
		ASTM D2974	DWC	1

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ANALYTICAL RESULTS

Project: ZILL INC
Pace Project No.: 60195752

Sample: MW-D 2-3 **Lab ID: 60195752001** Collected: 06/03/15 14:45 Received: 06/04/15 17:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP Red. Interference	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Lead	**12.4**	mg/kg	0.98	1	06/08/15 11:00	06/17/15 15:22	7439-92-1	
8270 MSSV DRO/ORO	Analytical Method: EPA 8270 Preparation Method: EPA 3546							
TPH-ORO	ND	mg/kg	18.1	1	06/08/15 00:00	06/09/15 13:20		
TPH-DRO	ND	mg/kg	18.1	1	06/08/15 00:00	06/09/15 13:20		
Surrogates								
Nitrobenzene-d5 (S)	84	%	44-115	1	06/08/15 00:00	06/09/15 13:20	4165-60-0	
2-Fluorobiphenyl (S)	87	%	57-117	1	06/08/15 00:00	06/09/15 13:20	321-60-8	
Terphenyl-d14 (S)	107	%	45-129	1	06/08/15 00:00	06/09/15 13:20	1718-51-0	
8260 MSV GRO and Oxygenates	Analytical Method: EPA 5035A/8260							
tert-Amylmethyl ether	ND	mg/kg	0.0049	1		06/08/15 11:55	994-05-8	
Benzene	ND	mg/kg	0.0049	1		06/08/15 11:55	71-43-2	
tert-Butyl Alcohol	ND	mg/kg	0.025	1		06/08/15 11:55	75-65-0	
Diisopropyl ether	ND	mg/kg	0.0049	1		06/08/15 11:55	108-20-3	
Ethylbenzene	ND	mg/kg	0.0049	1		06/08/15 11:55	100-41-4	
Ethyl-tert-butyl ether	ND	mg/kg	0.0049	1		06/08/15 11:55	637-92-3	
Methyl-tert-butyl ether	ND	mg/kg	0.0049	1		06/08/15 11:55	1634-04-4	
Naphthalene	ND	mg/kg	0.020	1		06/08/15 11:55	91-20-3	
Toluene	ND	mg/kg	0.0049	1		06/08/15 11:55	108-88-3	
TPH-GRO	ND	mg/kg	0.49	1		06/08/15 11:55		
Xylene (Total)	ND	mg/kg	0.0098	1		06/08/15 11:55	1330-20-7	
Surrogates								
Toluene-d8 (S)	99	%	82-137	1		06/08/15 11:55	2037-26-5	
4-Bromofluorobenzene (S)	100	%	82-119	1		06/08/15 11:55	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	81-142	1		06/08/15 11:55	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974							
Percent Moisture	**18.9**	%	0.50	1		06/08/15 00:00		

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Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: ZILL INC
Pace Project No.: 60195752

Sample: MW-D 4-5 **Lab ID: 60195752002** Collected: 06/03/15 14:48 Received: 06/04/15 17:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP Red. Interference	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Lead	**11.3**	mg/kg	1.0	1	06/08/15 11:00	06/17/15 15:25	7439-92-1	
8270 MSSV DRO/ORO	Analytical Method: EPA 8270 Preparation Method: EPA 3546							
TPH-ORO	ND	mg/kg	18.1	1	06/08/15 00:00	06/09/15 13:42		
TPH-DRO	ND	mg/kg	18.1	1	06/08/15 00:00	06/09/15 13:42		
Surrogates								
Nitrobenzene-d5 (S)	89	%	44-115	1	06/08/15 00:00	06/09/15 13:42	4165-60-0	
2-Fluorobiphenyl (S)	89	%	57-117	1	06/08/15 00:00	06/09/15 13:42	321-60-8	
Terphenyl-d14 (S)	94	%	45-129	1	06/08/15 00:00	06/09/15 13:42	1718-51-0	
8260 MSV GRO and Oxygenates	Analytical Method: EPA 5035A/8260							
tert-Amylmethyl ether	ND	mg/kg	0.0052	1		06/08/15 12:10	994-05-8	
Benzene	ND	mg/kg	0.0052	1		06/08/15 12:10	71-43-2	
tert-Butyl Alcohol	ND	mg/kg	0.026	1		06/08/15 12:10	75-65-0	
Diisopropyl ether	ND	mg/kg	0.0052	1		06/08/15 12:10	108-20-3	
Ethylbenzene	ND	mg/kg	0.0052	1		06/08/15 12:10	100-41-4	
Ethyl-tert-butyl ether	ND	mg/kg	0.0052	1		06/08/15 12:10	637-92-3	
Methyl-tert-butyl ether	ND	mg/kg	0.0052	1		06/08/15 12:10	1634-04-4	
Naphthalene	ND	mg/kg	0.021	1		06/08/15 12:10	91-20-3	
Toluene	ND	mg/kg	0.0052	1		06/08/15 12:10	108-88-3	
TPH-GRO	ND	mg/kg	0.52	1		06/08/15 12:10		
Xylene (Total)	ND	mg/kg	0.010	1		06/08/15 12:10	1330-20-7	
Surrogates								
Toluene-d8 (S)	98	%	82-137	1		06/08/15 12:10	2037-26-5	
4-Bromofluorobenzene (S)	100	%	82-119	1		06/08/15 12:10	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	81-142	1		06/08/15 12:10	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974							
Percent Moisture	**19.2**	%	0.50	1		06/08/15 00:00		

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ANALYTICAL RESULTS

Project: ZILL INC
Pace Project No.: 60195752

Sample: MW-D 8-9 **Lab ID: 60195752003** Collected: 06/03/15 15:05 Received: 06/04/15 17:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP Red. Interference	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Lead	**20.4**	mg/kg	1.0	1	06/08/15 11:00	06/17/15 15:29	7439-92-1	
8270 MSSV DRO/ORO	Analytical Method: EPA 8270 Preparation Method: EPA 3546							
TPH-ORO	ND	mg/kg	19.1	1	06/08/15 00:00	06/09/15 14:03		
TPH-DRO	ND	mg/kg	19.1	1	06/08/15 00:00	06/09/15 14:03		
Surrogates								
Nitrobenzene-d5 (S)	85	%	44-115	1	06/08/15 00:00	06/09/15 14:03	4165-60-0	
2-Fluorobiphenyl (S)	83	%	57-117	1	06/08/15 00:00	06/09/15 14:03	321-60-8	
Terphenyl-d14 (S)	95	%	45-129	1	06/08/15 00:00	06/09/15 14:03	1718-51-0	
8260 MSV GRO and Oxygenates	Analytical Method: EPA 5035A/8260							
tert-Amylmethyl ether	ND	mg/kg	0.0052	1		06/08/15 12:26	994-05-8	
Benzene	ND	mg/kg	0.0052	1		06/08/15 12:26	71-43-2	
tert-Butyl Alcohol	ND	mg/kg	0.026	1		06/08/15 12:26	75-65-0	
Diisopropyl ether	ND	mg/kg	0.0052	1		06/08/15 12:26	108-20-3	
Ethylbenzene	ND	mg/kg	0.0052	1		06/08/15 12:26	100-41-4	
Ethyl-tert-butyl ether	ND	mg/kg	0.0052	1		06/08/15 12:26	637-92-3	
Methyl-tert-butyl ether	ND	mg/kg	0.0052	1		06/08/15 12:26	1634-04-4	
Naphthalene	ND	mg/kg	0.021	1		06/08/15 12:26	91-20-3	
Toluene	ND	mg/kg	0.0052	1		06/08/15 12:26	108-88-3	
TPH-GRO	ND	mg/kg	0.52	1		06/08/15 12:26		
Xylene (Total)	ND	mg/kg	0.010	1		06/08/15 12:26	1330-20-7	
Surrogates								
Toluene-d8 (S)	98	%	82-137	1		06/08/15 12:26	2037-26-5	
4-Bromofluorobenzene (S)	101	%	82-119	1		06/08/15 12:26	460-00-4	
1,2-Dichloroethane-d4 (S)	109	%	81-142	1		06/08/15 12:26	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974							
Percent Moisture	**21.6**	%	0.50	1		06/08/15 00:00		

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ANALYTICAL RESULTS

Project: ZILL INC
Pace Project No.: 60195752

Sample: MW-12 4-5 **Lab ID: 60195752004** Collected: 06/04/15 11:00 Received: 06/04/15 17:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP Red. Interference	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Lead	**11.2**	mg/kg	0.90	1	06/08/15 11:00	06/17/15 15:33	7439-92-1	
8270 MSSV DRO/ORO	Analytical Method: EPA 8270 Preparation Method: EPA 3546							
TPH-ORO	ND	mg/kg	18.2	1	06/08/15 00:00	06/09/15 14:25		
TPH-DRO	ND	mg/kg	18.2	1	06/08/15 00:00	06/09/15 14:25		
Surrogates								
Nitrobenzene-d5 (S)	90	%	44-115	1	06/08/15 00:00	06/09/15 14:25	4165-60-0	
2-Fluorobiphenyl (S)	90	%	57-117	1	06/08/15 00:00	06/09/15 14:25	321-60-8	
Terphenyl-d14 (S)	99	%	45-129	1	06/08/15 00:00	06/09/15 14:25	1718-51-0	
8260 MSV GRO and Oxygenates	Analytical Method: EPA 5035A/8260							
tert-Amylmethyl ether	ND	mg/kg	0.0056	1		06/08/15 12:41	994-05-8	
Benzene	ND	mg/kg	0.0056	1		06/08/15 12:41	71-43-2	
tert-Butyl Alcohol	ND	mg/kg	0.028	1		06/08/15 12:41	75-65-0	
Diisopropyl ether	ND	mg/kg	0.0056	1		06/08/15 12:41	108-20-3	
Ethylbenzene	ND	mg/kg	0.0056	1		06/08/15 12:41	100-41-4	
Ethyl-tert-butyl ether	ND	mg/kg	0.0056	1		06/08/15 12:41	637-92-3	
Methyl-tert-butyl ether	ND	mg/kg	0.0056	1		06/08/15 12:41	1634-04-4	
Naphthalene	ND	mg/kg	0.022	1		06/08/15 12:41	91-20-3	
Toluene	ND	mg/kg	0.0056	1		06/08/15 12:41	108-88-3	
TPH-GRO	ND	mg/kg	0.56	1		06/08/15 12:41		
Xylene (Total)	ND	mg/kg	0.011	1		06/08/15 12:41	1330-20-7	
Surrogates								
Toluene-d8 (S)	97	%	82-137	1		06/08/15 12:41	2037-26-5	
4-Bromofluorobenzene (S)	101	%	82-119	1		06/08/15 12:41	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	81-142	1		06/08/15 12:41	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974							
Percent Moisture	**19.1**	%	0.50	1		06/08/15 00:00		

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ANALYTICAL RESULTS

Project: ZILL INC
Pace Project No.: 60195752

Sample: MW-11 4-5 **Lab ID: 60195752005** Collected: 06/04/15 12:40 Received: 06/04/15 17:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP Red. Interference	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Lead	**15.4**	mg/kg	1.3	1	06/08/15 11:00	06/17/15 15:37	7439-92-1	
8270 MSSV DRO/ORO	Analytical Method: EPA 8270 Preparation Method: EPA 3546							
TPH-ORO	ND	mg/kg	18.7	1	06/08/15 00:00	06/09/15 14:47		
TPH-DRO	ND	mg/kg	18.7	1	06/08/15 00:00	06/09/15 14:47		
Surrogates								
Nitrobenzene-d5 (S)	86	%	44-115	1	06/08/15 00:00	06/09/15 14:47	4165-60-0	
2-Fluorobiphenyl (S)	87	%	57-117	1	06/08/15 00:00	06/09/15 14:47	321-60-8	
Terphenyl-d14 (S)	101	%	45-129	1	06/08/15 00:00	06/09/15 14:47	1718-51-0	
8260 MSV GRO and Oxygenates	Analytical Method: EPA 5035A/8260							
tert-Amylmethyl ether	ND	mg/kg	0.0051	1		06/08/15 12:57	994-05-8	
Benzene	ND	mg/kg	0.0051	1		06/08/15 12:57	71-43-2	
tert-Butyl Alcohol	ND	mg/kg	0.026	1		06/08/15 12:57	75-65-0	
Diisopropyl ether	ND	mg/kg	0.0051	1		06/08/15 12:57	108-20-3	
Ethylbenzene	ND	mg/kg	0.0051	1		06/08/15 12:57	100-41-4	
Ethyl-tert-butyl ether	ND	mg/kg	0.0051	1		06/08/15 12:57	637-92-3	
Methyl-tert-butyl ether	ND	mg/kg	0.0051	1		06/08/15 12:57	1634-04-4	
Naphthalene	ND	mg/kg	0.021	1		06/08/15 12:57	91-20-3	
Toluene	ND	mg/kg	0.0051	1		06/08/15 12:57	108-88-3	
TPH-GRO	ND	mg/kg	0.51	1		06/08/15 12:57		
Xylene (Total)	ND	mg/kg	0.010	1		06/08/15 12:57	1330-20-7	
Surrogates								
Toluene-d8 (S)	98	%	82-137	1		06/08/15 12:57	2037-26-5	
4-Bromofluorobenzene (S)	99	%	82-119	1		06/08/15 12:57	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	81-142	1		06/08/15 12:57	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974							
Percent Moisture	**21.8**	%	0.50	1		06/08/15 00:00		

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ANALYTICAL RESULTS

Project: ZILL INC
Pace Project No.: 60195752

Sample: MW-B 4-5 **Lab ID: 60195752006** Collected: 06/04/15 15:20 Received: 06/04/15 17:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP Red. Interference	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Lead	**12.7**	mg/kg	1.1	1	06/08/15 11:00	06/17/15 15:40	7439-92-1	
8270 MSSV DRO/ORO	Analytical Method: EPA 8270 Preparation Method: EPA 3546							
TPH-ORO	ND	mg/kg	18.5	1	06/08/15 00:00	06/09/15 15:09		
TPH-DRO	ND	mg/kg	18.5	1	06/08/15 00:00	06/09/15 15:09		
Surrogates								
Nitrobenzene-d5 (S)	92	%	44-115	1	06/08/15 00:00	06/09/15 15:09	4165-60-0	
2-Fluorobiphenyl (S)	92	%	57-117	1	06/08/15 00:00	06/09/15 15:09	321-60-8	
Terphenyl-d14 (S)	107	%	45-129	1	06/08/15 00:00	06/09/15 15:09	1718-51-0	
8260 MSV GRO and Oxygenates	Analytical Method: EPA 5035A/8260							
tert-Amylmethyl ether	ND	mg/kg	0.0055	1		06/08/15 13:12	994-05-8	
Benzene	ND	mg/kg	0.0055	1		06/08/15 13:12	71-43-2	
tert-Butyl Alcohol	ND	mg/kg	0.028	1		06/08/15 13:12	75-65-0	
Diisopropyl ether	ND	mg/kg	0.0055	1		06/08/15 13:12	108-20-3	
Ethylbenzene	ND	mg/kg	0.0055	1		06/08/15 13:12	100-41-4	
Ethyl-tert-butyl ether	ND	mg/kg	0.0055	1		06/08/15 13:12	637-92-3	
Methyl-tert-butyl ether	ND	mg/kg	0.0055	1		06/08/15 13:12	1634-04-4	
Naphthalene	ND	mg/kg	0.022	1		06/08/15 13:12	91-20-3	
Toluene	ND	mg/kg	0.0055	1		06/08/15 13:12	108-88-3	
TPH-GRO	ND	mg/kg	0.55	1		06/08/15 13:12		
Xylene (Total)	ND	mg/kg	0.011	1		06/08/15 13:12	1330-20-7	
Surrogates								
Toluene-d8 (S)	97	%	82-137	1		06/08/15 13:12	2037-26-5	
4-Bromofluorobenzene (S)	100	%	82-119	1		06/08/15 13:12	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	81-142	1		06/08/15 13:12	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974							
Percent Moisture	**21.5**	%	0.50	1		06/08/15 00:00		

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ANALYTICAL RESULTS

Project: ZILL INC
Pace Project No.: 60195752

Sample: MW-B 13-14 **Lab ID: 60195752007** Collected: 06/04/15 15:34 Received: 06/04/15 17:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP Red. Interference	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Lead	**17.9**	mg/kg	2.1	2	06/08/15 11:00	06/17/15 15:51	7439-92-1	
8270 MSSV DRO/ORO	Analytical Method: EPA 8270 Preparation Method: EPA 3546							
TPH-ORO	ND	mg/kg	20.0	1	06/08/15 00:00	06/09/15 15:31		
TPH-DRO	ND	mg/kg	20.0	1	06/08/15 00:00	06/09/15 15:31		
Surrogates								
Nitrobenzene-d5 (S)	93	%	44-115	1	06/08/15 00:00	06/09/15 15:31	4165-60-0	
2-Fluorobiphenyl (S)	93	%	57-117	1	06/08/15 00:00	06/09/15 15:31	321-60-8	
Terphenyl-d14 (S)	107	%	45-129	1	06/08/15 00:00	06/09/15 15:31	1718-51-0	
8260 MSV GRO and Oxygenates	Analytical Method: EPA 5035A/8260							
tert-Amylmethyl ether	ND	mg/kg	0.0064	1		06/08/15 13:28	994-05-8	
Benzene	**1.4**	mg/kg	0.29	50		06/08/15 17:20	71-43-2	
tert-Butyl Alcohol	ND	mg/kg	0.032	1		06/08/15 13:28	75-65-0	
Diisopropyl ether	ND	mg/kg	0.0064	1		06/08/15 13:28	108-20-3	
Ethylbenzene	**0.093**	mg/kg	0.0064	1		06/08/15 13:28	100-41-4	
Ethyl-tert-butyl ether	ND	mg/kg	0.0064	1		06/08/15 13:28	637-92-3	
Methyl-tert-butyl ether	ND	mg/kg	0.0064	1		06/08/15 13:28	1634-04-4	
Naphthalene	ND	mg/kg	0.026	1		06/08/15 13:28	91-20-3	
Toluene	**0.11**	mg/kg	0.0064	1		06/08/15 13:28	108-88-3	
TPH-GRO	**4.8**	mg/kg	0.64	1		06/08/15 13:28		
Xylene (Total)	**0.14**	mg/kg	0.013	1		06/08/15 13:28	1330-20-7	
Surrogates								
Toluene-d8 (S)	97	%	82-137	1		06/08/15 13:28	2037-26-5	
4-Bromofluorobenzene (S)	99	%	82-119	1		06/08/15 13:28	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	81-142	1		06/08/15 13:28	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974							
Percent Moisture	**25.7**	%	0.50	1		06/08/15 00:00		

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QUALITY CONTROL DATA

Project: ZILL INC
Pace Project No.: 60195752

QC Batch: MPRP/32086 Analysis Method: EPA 6010
QC Batch Method: EPA 3050 Analysis Description: 6010 MET
Associated Lab Samples: 60195752001, 60195752002, 60195752003, 60195752004, 60195752005, 60195752006, 60195752007

METHOD BLANK: 1581352 Matrix: Solid
Associated Lab Samples: 60195752001, 60195752002, 60195752003, 60195752004, 60195752005, 60195752006, 60195752007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lead	mg/kg	ND	1.0	06/12/15 15:57	

LABORATORY CONTROL SAMPLE: 1581353

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lead	mg/kg	100	93.6	94	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1581354 1581355

Parameter	Units	60195669001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Lead	mg/kg	ND	159	166	141	153	88	92	75-125	8	20	

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QUALITY CONTROL DATA

Project: ZILL INC
Pace Project No.: 60195752

QC Batch: MSV/69917 Analysis Method: EPA 5035A/8260
QC Batch Method: EPA 5035A/8260 Analysis Description: 8260 MSV GRO and Oxygenates
Associated Lab Samples: 60195752001, 60195752002, 60195752003, 60195752004, 60195752005, 60195752006, 60195752007

METHOD BLANK: 1581457 Matrix: Solid
Associated Lab Samples: 60195752001, 60195752002, 60195752003, 60195752004, 60195752005, 60195752006, 60195752007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	mg/kg	ND	0.0050	06/08/15 11:39	
Diisopropyl ether	mg/kg	ND	0.0050	06/08/15 11:39	
Ethyl-tert-butyl ether	mg/kg	ND	0.0050	06/08/15 11:39	
Ethylbenzene	mg/kg	ND	0.0050	06/08/15 11:39	
Methyl-tert-butyl ether	mg/kg	ND	0.0050	06/08/15 11:39	
Naphthalene	mg/kg	ND	0.020	06/08/15 11:39	
tert-Amylmethyl ether	mg/kg	ND	0.0050	06/08/15 11:39	
tert-Butyl Alcohol	mg/kg	ND	0.025	06/08/15 11:39	
Toluene	mg/kg	ND	0.0050	06/08/15 11:39	
TPH-GRO	mg/kg	ND	0.50	06/08/15 11:39	
Xylene (Total)	mg/kg	ND	0.010	06/08/15 11:39	
1,2-Dichloroethane-d4 (S)	%	98	81-142	06/08/15 11:39	
4-Bromofluorobenzene (S)	%	100	82-119	06/08/15 11:39	
Toluene-d8 (S)	%	99	82-137	06/08/15 11:39	

LABORATORY CONTROL SAMPLE: 1581458

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	mg/kg	.1	0.097	97	76-120	
Diisopropyl ether	mg/kg	.1	0.097	97	66-120	
Ethyl-tert-butyl ether	mg/kg	.1	0.090	90	72-119	
Ethylbenzene	mg/kg	.1	0.093	93	70-129	
Methyl-tert-butyl ether	mg/kg	.1	0.091	91	72-116	
Naphthalene	mg/kg	.1	0.086	86	77-123	
tert-Amylmethyl ether	mg/kg	.1	0.087	87	78-114	
tert-Butyl Alcohol	mg/kg	.5	0.41	81	57-142	
Toluene	mg/kg	.1	0.093	93	73-125	
TPH-GRO	mg/kg	4	4.0	99	52-119	
Xylene (Total)	mg/kg	.3	0.28	93	71-128	
1,2-Dichloroethane-d4 (S)	%			98	81-142	
4-Bromofluorobenzene (S)	%			100	82-119	
Toluene-d8 (S)	%			101	82-137	

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QUALITY CONTROL DATA

Project: ZILL INC
Pace Project No.: 60195752

QC Batch: OEXT/49701 | Analysis Method: EPA 8270
QC Batch Method: EPA 3546 | Analysis Description: 8270 MSSV TPH ORO
Associated Lab Samples: 60195752001, 60195752002, 60195752003, 60195752004, 60195752005, 60195752006, 60195752007

METHOD BLANK: 1581225 | Matrix: Solid
Associated Lab Samples: 60195752001, 60195752002, 60195752003, 60195752004, 60195752005, 60195752006, 60195752007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH-DRO	mg/kg	ND	14.8	06/09/15 11:54	
TPH-ORO	mg/kg	ND	14.8	06/09/15 11:54	
2-Fluorobiphenyl (S)	%	93	57-117	06/09/15 11:54	
Nitrobenzene-d5 (S)	%	90	44-115	06/09/15 11:54	
Terphenyl-d14 (S)	%	110	45-129	06/09/15 11:54	

LABORATORY CONTROL SAMPLE: 1581226

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
TPH-DRO	mg/kg	332	295	89	46-139	
2-Fluorobiphenyl (S)	%			94	57-117	
Nitrobenzene-d5 (S)	%			90	44-115	
Terphenyl-d14 (S)	%			116	45-129	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1581227 1581228

Parameter	Units	60195752001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
TPH-DRO	mg/kg	ND	409	406	392	386	95	94	41-144	2	23	
2-Fluorobiphenyl (S)	%						92	89	57-117			
Nitrobenzene-d5 (S)	%						92	89	44-115			
Terphenyl-d14 (S)	%						99	91	45-129			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALITY CONTROL DATA

Project: ZILL INC
Pace Project No.: 60195752

QC Batch: PMST/10800
Analysis Method: ASTM D2974
QC Batch Method: ASTM D2974
Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 60195752001, 60195752002

METHOD BLANK: 1581199
Matrix: Solid
Associated Lab Samples: 60195752001, 60195752002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Percent Moisture	%	ND	0.50	06/08/15 00:00	

SAMPLE DUPLICATE: 1581200

Parameter	Units	60195711001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	20.2	19.9	1	20	

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QUALITY CONTROL DATA

Project: ZILL INC
Pace Project No.: 60195752

QC Batch: PMST/10801 Analysis Method: ASTM D2974
QC Batch Method: ASTM D2974 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 60195752003, 60195752004, 60195752005, 60195752006, 60195752007

METHOD BLANK: 1581202 Matrix: Solid
Associated Lab Samples: 60195752003, 60195752004, 60195752005, 60195752006, 60195752007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Percent Moisture	%	ND	0.50	06/08/15 00:00	

SAMPLE DUPLICATE: 1581203

Parameter	Units	60195752003 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	21.6	21.8	1	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALIFIERS

Project: ZILL INC
Pace Project No.: 60195752

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: MSV/69917

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: ZILL INC
Pace Project No.: 60195752

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60195752001	**MW-D 2-3**	EPA 3050	MPRP/32086	EPA 6010	ICP/23770
60195752002	**MW-D 4-5**	EPA 3050	MPRP/32086	EPA 6010	ICP/23770
60195752003	**MW-D 8-9**	EPA 3050	MPRP/32086	EPA 6010	ICP/23770
60195752004	**MW-12 4-5**	EPA 3050	MPRP/32086	EPA 6010	ICP/23770
60195752005	**MW-11 4-5**	EPA 3050	MPRP/32086	EPA 6010	ICP/23770
60195752006	**MW-B 4-5**	EPA 3050	MPRP/32086	EPA 6010	ICP/23770
60195752007	**MW-B 13-14**	EPA 3050	MPRP/32086	EPA 6010	ICP/23770
60195752001	**MW-D 2-3**	EPA 3546	OEXT/49701	EPA 8270	MSSV/16104
60195752002	**MW-D 4-5**	EPA 3546	OEXT/49701	EPA 8270	MSSV/16104
60195752003	**MW-D 8-9**	EPA 3546	OEXT/49701	EPA 8270	MSSV/16104
60195752004	**MW-12 4-5**	EPA 3546	OEXT/49701	EPA 8270	MSSV/16104
60195752005	**MW-11 4-5**	EPA 3546	OEXT/49701	EPA 8270	MSSV/16104
60195752006	**MW-B 4-5**	EPA 3546	OEXT/49701	EPA 8270	MSSV/16104
60195752007	**MW-B 13-14**	EPA 3546	OEXT/49701	EPA 8270	MSSV/16104
60195752001	**MW-D 2-3**	EPA 5035A/8260	MSV/69917		
60195752002	**MW-D 4-5**	EPA 5035A/8260	MSV/69917		
60195752003	**MW-D 8-9**	EPA 5035A/8260	MSV/69917		
60195752004	**MW-12 4-5**	EPA 5035A/8260	MSV/69917		
60195752005	**MW-11 4-5**	EPA 5035A/8260	MSV/69917		
60195752006	**MW-B 4-5**	EPA 5035A/8260	MSV/69917		
60195752007	**MW-B 13-14**	EPA 5035A/8260	MSV/69917		
60195752001	**MW-D 2-3**	ASTM D2974	PMST/10800		
60195752002	**MW-D 4-5**	ASTM D2974	PMST/10800		
60195752003	**MW-D 8-9**	ASTM D2974	PMST/10801		
60195752004	**MW-12 4-5**	ASTM D2974	PMST/10801		
60195752005	**MW-11 4-5**	ASTM D2974	PMST/10801		
60195752006	**MW-B 4-5**	ASTM D2974	PMST/10801		
60195752007	**MW-B 13-14**	ASTM D2974	PMST/10801		

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Sample Condition Upon Receipt

WO# : 60195752

60195752

Client Name: Apex

Optional
Proj Due Date:
Proj Name:

Courier: FedEx ☐ UPS ☐ VIA ☐ Clay ☐ PEX ☐ ECI ☐ Pace ☑ Other ☐ Client ☐

Tracking #: _____ Pace Shipping Label Used? Yes ☐ No ☑

Custody Seal on Cooler/Box Present: Yes ☐ No ☑ Seals intact: Yes ☐ No ☑

Packing Material: Bubble Wrap ☐ Bubble Bags ☑ Foam ☐ None ☐ Other ☐

Thermometer Used: CF +1.4 T-239 / CF -0.5 T-262 **Type of Ice:** Wet Blue None (circle one) ☐ Samples received on ice, cooling process has begun.

Cooler Temperature: 1-5

Temperature should be above freezing to 6°C

Date and initials of person examining contents: PV 6/5/15

Chain of Custody present:	☑Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☑Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☑Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	12.
Sample labels match COC:	☑Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: SL		13.
All containers needing preservation have been checked.	☐Yes ☐No ☑N/A	
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☑N/A	14.
Exceptions: VOA, Coliform, O&G, WI-DRO (water)	☐Yes ☑No	Initial when completed / Lot # of added preservative
Trip Blank present:	☐Yes ☐No ☑N/A	
Pace Trip Blank lot # (if purchased): _____		15.
Headspace in VOA vials (>6mm):	☐Yes ☐No ☑N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☑No ☐N/A	17. List State: MO

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: Richard Mangy Date: 6/5/2015

Rev. 8, 02March 2015

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 1

Section A Required Client Information:

Company:	Apex Envirotech, Inc.
Address:	1920 W 143rd Street, Suite 100
	Leawood, KS 66224
Email To:	PCurrier@apexenvirotech.com
Phone: 816-532-8202	Fax:
Requested Due Date/TAT:	STD

Section B Required Project Information:

Report To:	Patty Currier
Copy To:	
Purchase Order No.:	ZIL57
Project Name:	ZILL INC
Project Number:	ZIL57

Section C Invoice Information:

Attention:	
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Richard Mannz
Pace Profile #:	7067 Line 1

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☒ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: MO

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED Composite Start Date	Composite Start Time	Composite End/Grab Date	Composite End/Grab Time	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N): BTEX/MTBE/oxygenates	TPH-GRO	TPH-DRO/ORO	Lead	PAHs							Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 60195752
1	MW-D 2-3	SL	G			6/3/15	1445		5	1	WG	FU			X	WG	FU	X	X	X		1Dram	2DHCL	1BOB				N	Hold PAHs for WI DRO/ORO
2	MW-D 4-5	SL	G			↓	1448		↓		↓							↓	↓	↓		↓	↓	↓						
3	MW-D 8-9	SL	G			↓	1505																							
4	MW-12 4-5	SL	G		1100	6/4/15	1100		✓									✓	✓	✓										
5	MW-11 4-5	SL	G		↓	6/4/15	1240		↓									✓	✓	✓										
6	MW-B 4-5	↓	↓			↓	1520																							
7	MW-B 13-14						1534											✓	✓	✓		↓	↓	↓						
8																														
9																														
10																														
11																														
12																														

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Hold PAHs for BTEX/ORO	Patty Currier, Apex	6/4/15	1634	[signature]	6-4	1634				
		6/4/15		[signature]	6/4/15	1745	1-5	Y	Y/N	Y

SAMPLER NAME AND SIGNATURE		Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	Patty Currier				
SIGNATURE of SAMPLER:	Patty Currier	DATE Signed (MM/DD/YY): 6/4/15			

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-Feb-2007

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June 25, 2015

Patty Currier
Apex Envirotech, Inc.
1920 W 143rd Street, Suite 100
Overland Park, KS 66224

RE: Project: ZILL INC
Pace Project No.: 60195834

Dear Patty Currier:
Enclosed are the analytical results for sample(s) received by the laboratory on June 05, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Richard Mannz
richard.mannz@pacelabs.com
PM Lab Management

Enclosures

cc: Melissa Dowling, Apex Envirotech, Inc.

REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: ZILL INC
Pace Project No.: 60195834

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 13-012-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407
Utah Certification #: KS00021

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SAMPLE SUMMARY

Project: ZILL INC
Pace Project No.: 60195834

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60195834001	**MW-A 13-14**	Solid	06/05/15 08:25	06/05/15 16:30
60195834002	**MW-A 15.5-16.5**	Solid	06/05/15 08:30	06/05/15 16:30
60195834003	**MW-C 1-2**	Solid	06/05/15 10:45	06/05/15 16:30
60195834004	**MW-C 8-9**	Solid	06/05/15 10:55	06/05/15 16:30
60195834005	**MW-F 5-6**	Solid	06/05/15 11:24	06/05/15 16:30
60195834006	**MW-F 11.5-12.5**	Solid	06/05/15 11:32	06/05/15 16:30
60195834007	**MW-E 7-8**	Solid	06/05/15 11:51	06/05/15 16:30
60195834008	**MW-E 10-11**	Solid	06/05/15 11:57	06/05/15 16:30

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SAMPLE ANALYTE COUNT

Project: ZILL INC
Pace Project No.: 60195834

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60195834001	**MW-A 13-14**	EPA 6010	TDS	1
		EPA 8270	JMT	5
		EPA 5035A/8260	JKL	14
		ASTM D2974	DWC	1
60195834002	**MW-A 15.5-16.5**	EPA 6010	TDS	1
		EPA 8270 by SIM	NAW	18
		EPA 8270	JMT	5
		EPA 5035A/8260	JKL	14
		ASTM D2974	DWC	1
60195834003	**MW-C 1-2**	EPA 6010	TDS	1
		EPA 8270 by SIM	JMT, NAW	18
		EPA 8270	JMT	5
		EPA 5035A/8260	JKL	14
		ASTM D2974	DWC	1
60195834004	**MW-C 8-9**	EPA 6010	TDS	1
		EPA 8270	JMT	5
		EPA 5035A/8260	JKL	14
		ASTM D2974	DWC	1
60195834005	**MW-F 5-6**	EPA 6010	TDS	1
		EPA 8270	JMT	5
		EPA 5035A/8260	JKL	14
		ASTM D2974	DWC	1
60195834006	**MW-F 11.5-12.5**	EPA 6010	TDS	1
		EPA 8270 by SIM	JMT, NAW	18
		EPA 8270	JMT	5
		EPA 5035A/8260	JKL	14
		ASTM D2974	DWC	1
60195834007	**MW-E 7-8**	EPA 6010	TDS	1
		EPA 8270 by SIM	JMT, NAW	18
		EPA 8270	JMT	5
		EPA 5035A/8260	JKL	14
		ASTM D2974	DWC	1
60195834008	**MW-E 10-11**	EPA 6010	TDS	1
		EPA 8270	JMT	5
		EPA 5035A/8260	JKL	14
		ASTM D2974	DWC	1

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ANALYTICAL RESULTS

Project: ZILL INC
Pace Project No.: 60195834

Sample: MW-A 13-14 **Lab ID: 60195834001** Collected: 06/05/15 08:25 Received: 06/05/15 16:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP Red. Interference	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Lead	**14.2**	mg/kg	1.1	1	06/10/15 16:00	06/16/15 18:27	7439-92-1	
8270 MSSV DRO/ORO	Analytical Method: EPA 8270 Preparation Method: EPA 3546							
TPH-ORO	ND	mg/kg	18.4	1	06/12/15 00:00	06/15/15 12:50		
TPH-DRO	**37.0**	mg/kg	18.4	1	06/12/15 00:00	06/15/15 12:50		R1
Surrogates								
Nitrobenzene-d5 (S)	85	%	44-115	1	06/12/15 00:00	06/15/15 12:50	4165-60-0	
2-Fluorobiphenyl (S)	84	%	57-117	1	06/12/15 00:00	06/15/15 12:50	321-60-8	
Terphenyl-d14 (S)	86	%	45-129	1	06/12/15 00:00	06/15/15 12:50	1718-51-0	
8260 MSV GRO and Oxygenates	Analytical Method: EPA 5035A/8260							
tert-Amylmethyl ether	ND	mg/kg	0.24	50		06/08/15 17:30	994-05-8	
Benzene	**3.1**	mg/kg	0.24	50		06/08/15 17:30	71-43-2	
tert-Butyl Alcohol	ND	mg/kg	1.2	50		06/08/15 17:30	75-65-0	
Diisopropyl ether	ND	mg/kg	0.24	50		06/08/15 17:30	108-20-3	
Ethylbenzene	**0.62**	mg/kg	0.24	50		06/08/15 17:30	100-41-4	
Ethyl-tert-butyl ether	ND	mg/kg	0.24	50		06/08/15 17:30	637-92-3	
Methyl-tert-butyl ether	ND	mg/kg	0.24	50		06/08/15 17:30	1634-04-4	
Naphthalene	ND	mg/kg	0.94	50		06/08/15 17:30	91-20-3	
Toluene	**2.7**	mg/kg	0.24	50		06/08/15 17:30	108-88-3	
TPH-GRO	**23.8**	mg/kg	23.6	50		06/08/15 17:30		
Xylene (Total)	**2.5**	mg/kg	0.47	50		06/08/15 17:30	1330-20-7	
Surrogates								
Toluene-d8 (S)	102	%	82-137	50		06/08/15 17:30	2037-26-5	
4-Bromofluorobenzene (S)	100	%	82-119	50		06/08/15 17:30	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	81-142	50		06/08/15 17:30	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974							
Percent Moisture	**19.6**	%	0.50	1		06/08/15 00:00		

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ANALYTICAL RESULTS

Project: ZILL INC
Pace Project No.: 60195834

Sample: MW-A 15.5-16.5 **Lab ID: 60195834002** Collected: 06/05/15 08:30 Received: 06/05/15 16:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP Red. Interference	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Lead	**30.4**	mg/kg	1.1	1	06/10/15 16:00	06/16/15 18:29	7439-92-1	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546							
Acenaphthene	**0.18**	mg/kg	0.14	1	06/12/15 00:00	06/23/15 13:59	83-32-9	1e
Acenaphthylene	ND	mg/kg	0.14	1	06/12/15 00:00	06/23/15 13:59	208-96-8	1e
Anthracene	ND	mg/kg	0.14	1	06/12/15 00:00	06/23/15 13:59	120-12-7	1e
Benzo(a)anthracene	ND	mg/kg	0.14	1	06/12/15 00:00	06/23/15 13:59	56-55-3	1e
Benzo(a)pyrene	ND	mg/kg	0.14	1	06/12/15 00:00	06/23/15 13:59	50-32-8	1e
Benzo(b)fluoranthene	ND	mg/kg	0.14	1	06/12/15 00:00	06/23/15 13:59	205-99-2	1e
Benzo(g,h,i)perylene	ND	mg/kg	0.14	1	06/12/15 00:00	06/23/15 13:59	191-24-2	1e
Benzo(k)fluoranthene	ND	mg/kg	0.14	1	06/12/15 00:00	06/23/15 13:59	207-08-9	1e
Chrysene	ND	mg/kg	0.14	1	06/12/15 00:00	06/23/15 13:59	218-01-9	1e
Dibenz(a,h)anthracene	ND	mg/kg	0.14	1	06/12/15 00:00	06/23/15 13:59	53-70-3	1e
Fluoranthene	ND	mg/kg	0.14	1	06/12/15 00:00	06/23/15 13:59	206-44-0	1e
Fluorene	**0.22**	mg/kg	0.14	1	06/12/15 00:00	06/23/15 13:59	86-73-7	1e
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.14	1	06/12/15 00:00	06/23/15 13:59	193-39-5	1e
Naphthalene	**39.8**	mg/kg	0.69	5	06/12/15 00:00	06/23/15 14:22	91-20-3	1e
Phenanthrene	**0.37**	mg/kg	0.14	1	06/12/15 00:00	06/23/15 13:59	85-01-8	1e
Pyrene	ND	mg/kg	0.14	1	06/12/15 00:00	06/23/15 13:59	129-00-0	1e
Surrogates								
2-Fluorobiphenyl (S)	88	%	50-109	5	06/12/15 00:00	06/23/15 14:22	321-60-8	
Terphenyl-d14 (S)	100	%	49-116	5	06/12/15 00:00	06/23/15 14:22	1718-51-0	
8270 MSSV DRO/ORO	Analytical Method: EPA 8270 Preparation Method: EPA 3546							
TPH-ORO	ND	mg/kg	313	1	06/12/15 00:00	06/15/15 13:12		
TPH-DRO	**3780**	mg/kg	313	1	06/12/15 00:00	06/15/15 13:12		
Surrogates								
Nitrobenzene-d5 (S)	84	%	44-115	1	06/12/15 00:00	06/15/15 13:12	4165-60-0	
2-Fluorobiphenyl (S)	93	%	57-117	1	06/12/15 00:00	06/15/15 13:12	321-60-8	
Terphenyl-d14 (S)	108	%	45-129	1	06/12/15 00:00	06/15/15 13:12	1718-51-0	
8260 MSV GRO and Oxygenates	Analytical Method: EPA 5035A/8260							
tert-Amylmethyl ether	ND	mg/kg	0.38	50		06/08/15 17:45	994-05-8	
Benzene	**57.1**	mg/kg	38.2	5000		06/12/15 14:20	71-43-2	
tert-Butyl Alcohol	ND	mg/kg	1.9	50		06/08/15 17:45	75-65-0	
Diisopropyl ether	ND	mg/kg	0.38	50		06/08/15 17:45	108-20-3	
Ethylbenzene	**166**	mg/kg	38.2	5000		06/12/15 14:20	100-41-4	
Ethyl-tert-butyl ether	ND	mg/kg	0.38	50		06/08/15 17:45	637-92-3	
Methyl-tert-butyl ether	ND	mg/kg	0.38	50		06/08/15 17:45	1634-04-4	
Naphthalene	**22.1**	mg/kg	1.5	50		06/08/15 17:45	91-20-3	
Toluene	**455**	mg/kg	38.2	5000		06/12/15 14:20	108-88-3	
TPH-GRO	**6250**	mg/kg	3820	5000		06/12/15 14:20		
Xylene (Total)	**693**	mg/kg	76.3	5000		06/12/15 14:20	1330-20-7	
Surrogates								
Toluene-d8 (S)	113	%	82-137	50		06/08/15 17:45	2037-26-5	
4-Bromofluorobenzene (S)	116	%	82-119	50		06/08/15 17:45	460-00-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: ZILL INC
Pace Project No.: 60195834

Sample: MW-A 15.5-16.5 **Lab ID: 60195834002** Collected: 06/05/15 08:30 Received: 06/05/15 16:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV GRO and Oxygenates	Analytical Method: EPA 5035A/8260							
Surrogates								
1,2-Dichloroethane-d4 (S)	96	%	81-142	50		06/08/15 17:45	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974							
Percent Moisture	**34.1**	%	0.50	1		06/08/15 00:00		

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ANALYTICAL RESULTS

Project: ZILL INC
Pace Project No.: 60195834

Sample: MW-C 1-2 **Lab ID: 60195834003** Collected: 06/05/15 10:45 Received: 06/05/15 16:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP Red. Interference	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Lead	**11.4**	mg/kg	1.1	1	06/10/15 16:00	06/16/15 18:31	7439-92-1	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546							
Acenaphthene	ND	mg/kg	0.0080	1	06/12/15 00:00	06/23/15 12:22	83-32-9	1e
Acenaphthylene	ND	mg/kg	0.0080	1	06/12/15 00:00	06/23/15 12:22	208-96-8	1e
Anthracene	ND	mg/kg	0.0080	1	06/12/15 00:00	06/23/15 12:22	120-12-7	1e
Benzo(a)anthracene	ND	mg/kg	0.0080	1	06/12/15 00:00	06/23/15 12:22	56-55-3	1e
Benzo(a)pyrene	ND	mg/kg	0.0080	1	06/12/15 00:00	06/23/15 12:22	50-32-8	1e
Benzo(b)fluoranthene	ND	mg/kg	0.0080	1	06/12/15 00:00	06/23/15 12:22	205-99-2	1e
Benzo(g,h,i)perylene	ND	mg/kg	0.0080	1	06/12/15 00:00	06/23/15 12:22	191-24-2	1e
Benzo(k)fluoranthene	ND	mg/kg	0.0080	1	06/12/15 00:00	06/23/15 12:22	207-08-9	1e
Chrysene	ND	mg/kg	0.0080	1	06/12/15 00:00	06/23/15 12:22	218-01-9	1e
Dibenz(a,h)anthracene	ND	mg/kg	0.0080	1	06/12/15 00:00	06/23/15 12:22	53-70-3	1e
Fluoranthene	**0.021**	mg/kg	0.0080	1	06/12/15 00:00	06/23/15 12:22	206-44-0	1e
Fluorene	**0.011**	mg/kg	0.0080	1	06/12/15 00:00	06/23/15 12:22	86-73-7	1e
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.0080	1	06/12/15 00:00	06/23/15 12:22	193-39-5	1e
Naphthalene	**1.1**	mg/kg	0.0080	1	06/12/15 00:00	06/23/15 12:22	91-20-3	1e
Phenanthrene	**0.037**	mg/kg	0.0080	1	06/12/15 00:00	06/23/15 12:22	85-01-8	1e
Pyrene	**0.017**	mg/kg	0.0080	1	06/12/15 00:00	06/23/15 12:22	129-00-0	1e
Surrogates								
2-Fluorobiphenyl (S)	94	%	50-109	1	06/12/15 00:00	06/15/15 13:33	321-60-8	
Terphenyl-d14 (S)	103	%	49-116	1	06/12/15 00:00	06/15/15 13:33	1718-51-0	
8270 MSSV DRO/ORO	Analytical Method: EPA 8270 Preparation Method: EPA 3546							
TPH-ORO	ND	mg/kg	18.2	1	06/12/15 00:00	06/15/15 13:33		
TPH-DRO	**169**	mg/kg	18.2	1	06/12/15 00:00	06/15/15 13:33		
Surrogates								
Nitrobenzene-d5 (S)	58	%	44-115	1	06/12/15 00:00	06/15/15 13:33	4165-60-0	
2-Fluorobiphenyl (S)	94	%	57-117	1	06/12/15 00:00	06/15/15 13:33	321-60-8	
Terphenyl-d14 (S)	103	%	45-129	1	06/12/15 00:00	06/15/15 13:33	1718-51-0	
8260 MSV GRO and Oxygenates	Analytical Method: EPA 5035A/8260							
tert-Amylmethyl ether	ND	mg/kg	0.26	50		06/08/15 18:00	994-05-8	
Benzene	**1.6**	mg/kg	0.26	50		06/08/15 18:00	71-43-2	
tert-Butyl Alcohol	ND	mg/kg	1.3	50		06/08/15 18:00	75-65-0	
Diisopropyl ether	ND	mg/kg	0.26	50		06/08/15 18:00	108-20-3	
Ethylbenzene	**2.5**	mg/kg	0.26	50		06/08/15 18:00	100-41-4	
Ethyl-tert-butyl ether	ND	mg/kg	0.26	50		06/08/15 18:00	637-92-3	
Methyl-tert-butyl ether	ND	mg/kg	0.26	50		06/08/15 18:00	1634-04-4	
Naphthalene	ND	mg/kg	1.0	50		06/08/15 18:00	91-20-3	
Toluene	**0.65**	mg/kg	0.26	50		06/08/15 18:00	108-88-3	
TPH-GRO	**79.7**	mg/kg	26.0	50		06/08/15 18:00		
Xylene (Total)	**1.5**	mg/kg	0.52	50		06/08/15 18:00	1330-20-7	
Surrogates								
Toluene-d8 (S)	100	%	82-137	50		06/08/15 18:00	2037-26-5	
4-Bromofluorobenzene (S)	100	%	82-119	50		06/08/15 18:00	460-00-4	

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ANALYTICAL RESULTS

Project: ZILL INC
Pace Project No.: 60195834

Sample: MW-C 1-2 **Lab ID: 60195834003** Collected: 06/05/15 10:45 Received: 06/05/15 16:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV GRO and Oxygenates	Analytical Method: EPA 5035A/8260							
Surrogates								
1,2-Dichloroethane-d4 (S)	99	%	81-142	50		06/08/15 18:00	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974							
Percent Moisture	**18.0**	%	0.50	1		06/08/15 00:00		

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ANALYTICAL RESULTS

Project: ZILL INC
Pace Project No.: 60195834

Sample: MW-C 8-9 **Lab ID: 60195834004** Collected: 06/05/15 10:55 Received: 06/05/15 16:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP Red. Interference	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Lead	**11.1**	mg/kg	0.99	1	06/10/15 16:00	06/16/15 18:33	7439-92-1	
8270 MSSV DRO/ORO	Analytical Method: EPA 8270 Preparation Method: EPA 3546							
TPH-ORO	ND	mg/kg	18.2	1	06/12/15 00:00	06/15/15 13:55		
TPH-DRO	**28.5**	mg/kg	18.2	1	06/12/15 00:00	06/15/15 13:55		
Surrogates								
Nitrobenzene-d5 (S)	83	%	44-115	1	06/12/15 00:00	06/15/15 13:55	4165-60-0	
2-Fluorobiphenyl (S)	82	%	57-117	1	06/12/15 00:00	06/15/15 13:55	321-60-8	
Terphenyl-d14 (S)	88	%	45-129	1	06/12/15 00:00	06/15/15 13:55	1718-51-0	
8260 MSV GRO and Oxygenates	Analytical Method: EPA 5035A/8260							
tert-Amylmethyl ether	ND	mg/kg	0.29	50		06/08/15 18:16	994-05-8	
Benzene	**3.4**	mg/kg	0.29	50		06/08/15 18:16	71-43-2	
tert-Butyl Alcohol	ND	mg/kg	1.4	50		06/08/15 18:16	75-65-0	
Diisopropyl ether	ND	mg/kg	0.29	50		06/08/15 18:16	108-20-3	
Ethylbenzene	**1.7**	mg/kg	0.29	50		06/08/15 18:16	100-41-4	
Ethyl-tert-butyl ether	ND	mg/kg	0.29	50		06/08/15 18:16	637-92-3	
Methyl-tert-butyl ether	ND	mg/kg	0.29	50		06/08/15 18:16	1634-04-4	
Naphthalene	ND	mg/kg	1.1	50		06/08/15 18:16	91-20-3	
Toluene	**6.5**	mg/kg	0.29	50		06/08/15 18:16	108-88-3	
TPH-GRO	**64.8**	mg/kg	28.7	50		06/08/15 18:16		
Xylene (Total)	**3.2**	mg/kg	0.57	50		06/08/15 18:16	1330-20-7	
Surrogates								
Toluene-d8 (S)	103	%	82-137	50		06/08/15 18:16	2037-26-5	
4-Bromofluorobenzene (S)	102	%	82-119	50		06/08/15 18:16	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	81-142	50		06/08/15 18:16	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974							
Percent Moisture	**19.6**	%	0.50	1		06/08/15 00:00		

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ANALYTICAL RESULTS

Project: ZILL INC
Pace Project No.: 60195834

Sample: MW-F 5-6 **Lab ID: 60195834005** Collected: 06/05/15 11:24 Received: 06/05/15 16:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP Red. Interference	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Lead	**14.0**	mg/kg	0.84	1	06/10/15 16:00	06/16/15 18:36	7439-92-1	
8270 MSSV DRO/ORO	Analytical Method: EPA 8270 Preparation Method: EPA 3546							
TPH-ORO	ND	mg/kg	18.1	1	06/12/15 00:00	06/15/15 14:17		
TPH-DRO	ND	mg/kg	18.1	1	06/12/15 00:00	06/15/15 14:17		
Surrogates								
Nitrobenzene-d5 (S)	78	%	44-115	1	06/12/15 00:00	06/15/15 14:17	4165-60-0	
2-Fluorobiphenyl (S)	93	%	57-117	1	06/12/15 00:00	06/15/15 14:17	321-60-8	
Terphenyl-d14 (S)	109	%	45-129	1	06/12/15 00:00	06/15/15 14:17	1718-51-0	
8260 MSV GRO and Oxygenates	Analytical Method: EPA 5035A/8260							
tert-Amylmethyl ether	ND	mg/kg	0.0053	1		06/08/15 18:31	994-05-8	
Benzene	ND	mg/kg	0.0053	1		06/08/15 18:31	71-43-2	
tert-Butyl Alcohol	ND	mg/kg	0.027	1		06/08/15 18:31	75-65-0	
Diisopropyl ether	ND	mg/kg	0.0053	1		06/08/15 18:31	108-20-3	
Ethylbenzene	ND	mg/kg	0.0053	1		06/08/15 18:31	100-41-4	
Ethyl-tert-butyl ether	ND	mg/kg	0.0053	1		06/08/15 18:31	637-92-3	
Methyl-tert-butyl ether	ND	mg/kg	0.0053	1		06/08/15 18:31	1634-04-4	
Naphthalene	ND	mg/kg	0.021	1		06/08/15 18:31	91-20-3	
Toluene	ND	mg/kg	0.0053	1		06/08/15 18:31	108-88-3	
TPH-GRO	ND	mg/kg	0.53	1		06/08/15 18:31		
Xylene (Total)	ND	mg/kg	0.011	1		06/08/15 18:31	1330-20-7	
Surrogates								
Toluene-d8 (S)	102	%	82-137	1		06/08/15 18:31	2037-26-5	
4-Bromofluorobenzene (S)	99	%	82-119	1		06/08/15 18:31	460-00-4	
1,2-Dichloroethane-d4 (S)	110	%	81-142	1		06/08/15 18:31	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974							
Percent Moisture	**19.9**	%	0.50	1		06/08/15 00:00		

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ANALYTICAL RESULTS

Project: ZILL INC
Pace Project No.: 60195834

Sample: MW-F 11.5-12.5 **Lab ID: 60195834006** Collected: 06/05/15 11:32 Received: 06/05/15 16:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP Red. Interference	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Lead	**17.1**	mg/kg	1.2	1	06/10/15 16:00	06/16/15 18:38	7439-92-1	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546							
Acenaphthene	ND	mg/kg	0.0092	1	06/12/15 00:00	06/23/15 12:42	83-32-9	1e
Acenaphthylene	ND	mg/kg	0.0092	1	06/12/15 00:00	06/23/15 12:42	208-96-8	1e
Anthracene	ND	mg/kg	0.0092	1	06/12/15 00:00	06/23/15 12:42	120-12-7	1e
Benzo(a)anthracene	ND	mg/kg	0.0092	1	06/12/15 00:00	06/23/15 12:42	56-55-3	1e
Benzo(a)pyrene	ND	mg/kg	0.0092	1	06/12/15 00:00	06/23/15 12:42	50-32-8	1e
Benzo(b)fluoranthene	ND	mg/kg	0.0092	1	06/12/15 00:00	06/23/15 12:42	205-99-2	1e
Benzo(g,h,i)perylene	ND	mg/kg	0.0092	1	06/12/15 00:00	06/23/15 12:42	191-24-2	1e
Benzo(k)fluoranthene	ND	mg/kg	0.0092	1	06/12/15 00:00	06/23/15 12:42	207-08-9	1e
Chrysene	**0.011**	mg/kg	0.0092	1	06/12/15 00:00	06/23/15 12:42	218-01-9	1e
Dibenz(a,h)anthracene	ND	mg/kg	0.0092	1	06/12/15 00:00	06/23/15 12:42	53-70-3	1e
Fluoranthene	**0.028**	mg/kg	0.0092	1	06/12/15 00:00	06/23/15 12:42	206-44-0	1e
Fluorene	ND	mg/kg	0.0092	1	06/12/15 00:00	06/23/15 12:42	86-73-7	1e
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.0092	1	06/12/15 00:00	06/23/15 12:42	193-39-5	1e
Naphthalene	ND	mg/kg	0.0092	1	06/12/15 00:00	06/23/15 12:42	91-20-3	1e
Phenanthrene	**0.028**	mg/kg	0.0092	1	06/12/15 00:00	06/23/15 12:42	85-01-8	1e
Pyrene	**0.019**	mg/kg	0.0092	1	06/12/15 00:00	06/23/15 12:42	129-00-0	1e
Surrogates								
2-Fluorobiphenyl (S)	81	%	50-109	1	06/12/15 00:00	06/15/15 14:38	321-60-8	
Terphenyl-d14 (S)	94	%	49-116	1	06/12/15 00:00	06/15/15 14:38	1718-51-0	
8270 MSSV DRO/ORO	Analytical Method: EPA 8270 Preparation Method: EPA 3546							
TPH-ORO	ND	mg/kg	20.9	1	06/12/15 00:00	06/15/15 14:38		
TPH-DRO	**38.2**	mg/kg	20.9	1	06/12/15 00:00	06/15/15 14:38		
Surrogates								
Nitrobenzene-d5 (S)	75	%	44-115	1	06/12/15 00:00	06/15/15 14:38	4165-60-0	
2-Fluorobiphenyl (S)	81	%	57-117	1	06/12/15 00:00	06/15/15 14:38	321-60-8	
Terphenyl-d14 (S)	94	%	45-129	1	06/12/15 00:00	06/15/15 14:38	1718-51-0	
8260 MSV GRO and Oxygenates	Analytical Method: EPA 5035A/8260							
tert-Amylmethyl ether	ND	mg/kg	0.0067	1		06/08/15 18:47	994-05-8	
Benzene	ND	mg/kg	0.0067	1		06/08/15 18:47	71-43-2	
tert-Butyl Alcohol	ND	mg/kg	0.034	1		06/08/15 18:47	75-65-0	
Diisopropyl ether	ND	mg/kg	0.0067	1		06/08/15 18:47	108-20-3	
Ethylbenzene	ND	mg/kg	0.0067	1		06/08/15 18:47	100-41-4	
Ethyl-tert-butyl ether	ND	mg/kg	0.0067	1		06/08/15 18:47	637-92-3	
Methyl-tert-butyl ether	ND	mg/kg	0.0067	1		06/08/15 18:47	1634-04-4	
Naphthalene	ND	mg/kg	0.027	1		06/08/15 18:47	91-20-3	
Toluene	ND	mg/kg	0.0067	1		06/08/15 18:47	108-88-3	
TPH-GRO	ND	mg/kg	0.67	1		06/08/15 18:47		
Xylene (Total)	ND	mg/kg	0.013	1		06/08/15 18:47	1330-20-7	
Surrogates								
Toluene-d8 (S)	101	%	82-137	1		06/08/15 18:47	2037-26-5	
4-Bromofluorobenzene (S)	98	%	82-119	1		06/08/15 18:47	460-00-4	

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ANALYTICAL RESULTS

Project: ZILL INC
Pace Project No.: 60195834

Sample: MW-F 11.5-12.5 **Lab ID: 60195834006** Collected: 06/05/15 11:32 Received: 06/05/15 16:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV GRO and Oxygenates	Analytical Method: EPA 5035A/8260							
Surrogates								
1,2-Dichloroethane-d4 (S)	104	%	81-142	1		06/08/15 18:47	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974							
Percent Moisture	**28.9**	%	0.50	1		06/08/15 00:00		

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ANALYTICAL RESULTS

Project: ZILL INC
Pace Project No.: 60195834

Sample: MW-E 7-8 **Lab ID: 60195834007** Collected: 06/05/15 11:51 Received: 06/05/15 16:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP Red. Interference	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Lead	**12.2**	mg/kg	1.0	1	06/10/15 16:00	06/16/15 18:40	7439-92-1	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546							
Acenaphthene	ND	mg/kg	0.12	1	06/12/15 00:00	06/23/15 13:01	83-32-9	1e
Acenaphthylene	ND	mg/kg	0.12	1	06/12/15 00:00	06/23/15 13:01	208-96-8	1e
Anthracene	ND	mg/kg	0.12	1	06/12/15 00:00	06/23/15 13:01	120-12-7	1e
Benzo(a)anthracene	ND	mg/kg	0.12	1	06/12/15 00:00	06/23/15 13:01	56-55-3	1e
Benzo(a)pyrene	ND	mg/kg	0.12	1	06/12/15 00:00	06/23/15 13:01	50-32-8	1e
Benzo(b)fluoranthene	ND	mg/kg	0.12	1	06/12/15 00:00	06/23/15 13:01	205-99-2	1e
Benzo(g,h,i)perylene	ND	mg/kg	0.12	1	06/12/15 00:00	06/23/15 13:01	191-24-2	1e
Benzo(k)fluoranthene	ND	mg/kg	0.12	1	06/12/15 00:00	06/23/15 13:01	207-08-9	1e
Chrysene	ND	mg/kg	0.12	1	06/12/15 00:00	06/23/15 13:01	218-01-9	1e
Dibenz(a,h)anthracene	ND	mg/kg	0.12	1	06/12/15 00:00	06/23/15 13:01	53-70-3	1e
Fluoranthene	ND	mg/kg	0.12	1	06/12/15 00:00	06/23/15 13:01	206-44-0	1e
Fluorene	ND	mg/kg	0.12	1	06/12/15 00:00	06/23/15 13:01	86-73-7	1e
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.12	1	06/12/15 00:00	06/23/15 13:01	193-39-5	1e
Naphthalene	**0.41**	mg/kg	0.12	1	06/12/15 00:00	06/23/15 13:01	91-20-3	1e
Phenanthrene	ND	mg/kg	0.12	1	06/12/15 00:00	06/23/15 13:01	85-01-8	1e
Pyrene	ND	mg/kg	0.12	1	06/12/15 00:00	06/23/15 13:01	129-00-0	1e
Surrogates								
2-Fluorobiphenyl (S)	91	%	50-109	1	06/12/15 00:00	06/15/15 15:00	321-60-8	
Terphenyl-d14 (S)	102	%	49-116	1	06/12/15 00:00	06/15/15 15:00	1718-51-0	
8270 MSSV DRO/ORO	Analytical Method: EPA 8270 Preparation Method: EPA 3546							
TPH-ORO	ND	mg/kg	266	1	06/12/15 00:00	06/15/15 15:00		
TPH-DRO	**483**	mg/kg	266	1	06/12/15 00:00	06/15/15 15:00		
Surrogates								
Nitrobenzene-d5 (S)	87	%	44-115	1	06/12/15 00:00	06/15/15 15:00	4165-60-0	
2-Fluorobiphenyl (S)	91	%	57-117	1	06/12/15 00:00	06/15/15 15:00	321-60-8	
Terphenyl-d14 (S)	102	%	45-129	1	06/12/15 00:00	06/15/15 15:00	1718-51-0	
8260 MSV GRO and Oxygenates	Analytical Method: EPA 5035A/8260							
tert-Amylmethyl ether	ND	mg/kg	0.25	50		06/12/15 14:35	994-05-8	
Benzene	**0.58**	mg/kg	0.25	50		06/12/15 14:35	71-43-2	
tert-Butyl Alcohol	ND	mg/kg	1.2	50		06/12/15 14:35	75-65-0	
Diisopropyl ether	ND	mg/kg	0.25	50		06/12/15 14:35	108-20-3	
Ethylbenzene	**0.43**	mg/kg	0.25	50		06/12/15 14:35	100-41-4	
Ethyl-tert-butyl ether	ND	mg/kg	0.25	50		06/12/15 14:35	637-92-3	
Methyl-tert-butyl ether	ND	mg/kg	0.25	50		06/12/15 14:35	1634-04-4	
Naphthalene	ND	mg/kg	0.99	50		06/12/15 14:35	91-20-3	
Toluene	ND	mg/kg	0.25	50		06/12/15 14:35	108-88-3	
TPH-GRO	**599**	mg/kg	24.8	50		06/12/15 14:35		
Xylene (Total)	ND	mg/kg	0.50	50		06/12/15 14:35	1330-20-7	
Surrogates								
Toluene-d8 (S)	103	%	82-137	50		06/12/15 14:35	2037-26-5	
4-Bromofluorobenzene (S)	114	%	82-119	50		06/12/15 14:35	460-00-4	

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ANALYTICAL RESULTS

Project: ZILL INC
Pace Project No.: 60195834

Sample: MW-E 7-8 **Lab ID: 60195834007** Collected: 06/05/15 11:51 Received: 06/05/15 16:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV GRO and Oxygenates	Analytical Method: EPA 5035A/8260							
Surrogates								
1,2-Dichloroethane-d4 (S)	100	%	81-142	50		06/12/15 14:35	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974							
Percent Moisture	**18.2**	%	0.50	1		06/08/15 00:00		

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ANALYTICAL RESULTS

Project: ZILL INC
Pace Project No.: 60195834

Sample: MW-E 10-11 **Lab ID: 60195834008** Collected: 06/05/15 11:57 Received: 06/05/15 16:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP Red. Interference	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Lead	**13.2**	mg/kg	1.2	1	06/10/15 16:00	06/16/15 18:47	7439-92-1	
8270 MSSV DRO/ORO	Analytical Method: EPA 8270 Preparation Method: EPA 3546							
TPH-ORO	ND	mg/kg	19.0	1	06/12/15 00:00	06/15/15 15:22		
TPH-DRO	**155**	mg/kg	19.0	1	06/12/15 00:00	06/15/15 15:22		
Surrogates								
Nitrobenzene-d5 (S)	78	%	44-115	1	06/12/15 00:00	06/15/15 15:22	4165-60-0	
2-Fluorobiphenyl (S)	93	%	57-117	1	06/12/15 00:00	06/15/15 15:22	321-60-8	
Terphenyl-d14 (S)	109	%	45-129	1	06/12/15 00:00	06/15/15 15:22	1718-51-0	
8260 MSV GRO and Oxygenates	Analytical Method: EPA 5035A/8260							
tert-Amylmethyl ether	ND	mg/kg	0.30	50		06/08/15 19:17	994-05-8	
Benzene	**5.7**	mg/kg	0.30	50		06/08/15 19:17	71-43-2	
tert-Butyl Alcohol	ND	mg/kg	1.5	50		06/08/15 19:17	75-65-0	
Diisopropyl ether	ND	mg/kg	0.30	50		06/08/15 19:17	108-20-3	
Ethylbenzene	**15.9**	mg/kg	0.30	50		06/08/15 19:17	100-41-4	
Ethyl-tert-butyl ether	ND	mg/kg	0.30	50		06/08/15 19:17	637-92-3	
Methyl-tert-butyl ether	ND	mg/kg	0.30	50		06/08/15 19:17	1634-04-4	
Naphthalene	**4.7**	mg/kg	1.2	50		06/08/15 19:17	91-20-3	
Toluene	ND	mg/kg	0.30	50		06/08/15 19:17	108-88-3	
TPH-GRO	**1180**	mg/kg	300	500		06/12/15 14:51		
Xylene (Total)	ND	mg/kg	0.60	50		06/08/15 19:17	1330-20-7	
Surrogates								
Toluene-d8 (S)	108	%	82-137	50		06/08/15 19:17	2037-26-5	
4-Bromofluorobenzene (S)	108	%	82-119	50		06/08/15 19:17	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	81-142	50		06/08/15 19:17	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974							
Percent Moisture	**21.5**	%	0.50	1		06/08/15 00:00		

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QUALITY CONTROL DATA

Project: ZILL INC
Pace Project No.: 60195834

QC Batch: MPRP/32129 | Analysis Method: EPA 6010
QC Batch Method: EPA 3050 | Analysis Description: 6010 MET
Associated Lab Samples: 60195834001, 60195834002, 60195834003, 60195834004, 60195834005, 60195834006, 60195834007, 60195834008

METHOD BLANK: 1582976 | Matrix: Solid
Associated Lab Samples: 60195834001, 60195834002, 60195834003, 60195834004, 60195834005, 60195834006, 60195834007, 60195834008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lead	mg/kg	ND	1.0	06/16/15 18:22	

LABORATORY CONTROL SAMPLE: 1582977

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lead	mg/kg	100	97.6	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1582978 1582979

Parameter	Units	60195825005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Lead	mg/kg	ND	112	114	106	110	95	96	75-125	3	20	

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QUALITY CONTROL DATA

Project: ZILL INC
Pace Project No.: 60195834

QC Batch: MSV/69921 Analysis Method: EPA 5035A/8260
QC Batch Method: EPA 5035A/8260 Analysis Description: 8260 MSV GRO and Oxygenates
Associated Lab Samples: 60195834001, 60195834002, 60195834003, 60195834004, 60195834005, 60195834006, 60195834008

METHOD BLANK: 1581480 Matrix: Solid
Associated Lab Samples: 60195834001, 60195834002, 60195834003, 60195834004, 60195834005, 60195834006, 60195834008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	mg/kg	ND	0.0050	06/08/15 17:14	
Diisopropyl ether	mg/kg	ND	0.0050	06/08/15 17:14	
Ethyl-tert-butyl ether	mg/kg	ND	0.0050	06/08/15 17:14	
Ethylbenzene	mg/kg	ND	0.0050	06/08/15 17:14	
Methyl-tert-butyl ether	mg/kg	ND	0.0050	06/08/15 17:14	
Naphthalene	mg/kg	ND	0.020	06/08/15 17:14	
tert-Amylmethyl ether	mg/kg	ND	0.0050	06/08/15 17:14	
tert-Butyl Alcohol	mg/kg	ND	0.025	06/08/15 17:14	
Toluene	mg/kg	ND	0.0050	06/08/15 17:14	
TPH-GRO	mg/kg	ND	0.50	06/08/15 17:14	
Xylene (Total)	mg/kg	ND	0.010	06/08/15 17:14	
1,2-Dichloroethane-d4 (S)	%	99	81-142	06/08/15 17:14	
4-Bromofluorobenzene (S)	%	99	82-119	06/08/15 17:14	
Toluene-d8 (S)	%	101	82-137	06/08/15 17:14	

LABORATORY CONTROL SAMPLE: 1581481

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	mg/kg	.1	0.11	107	76-120	
Diisopropyl ether	mg/kg	.1	0.10	103	66-120	
Ethyl-tert-butyl ether	mg/kg	.1	0.093	93	72-119	
Ethylbenzene	mg/kg	.1	0.11	105	70-129	
Methyl-tert-butyl ether	mg/kg	.1	0.10	103	72-116	
Naphthalene	mg/kg	.1	0.091	91	77-123	
tert-Amylmethyl ether	mg/kg	.1	0.093	93	78-114	
tert-Butyl Alcohol	mg/kg	.5	0.57	113	57-142	
Toluene	mg/kg	.1	0.11	107	73-125	
TPH-GRO	mg/kg	4	4.3	106	52-119	
Xylene (Total)	mg/kg	.3	0.32	107	71-128	
1,2-Dichloroethane-d4 (S)	%			100	81-142	
4-Bromofluorobenzene (S)	%			101	82-119	
Toluene-d8 (S)	%			103	82-137	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1581482 1581483

Parameter	Units	60195792001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	mg/kg	ND	.13	.13	0.11	0.12	87	94	23-143	8	30	

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QUALITY CONTROL DATA

Project: ZILL INC
Pace Project No.: 60195834

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1581482 1581483

Parameter	Units	60195792001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Diisopropyl ether	mg/kg	ND	.13	.13	0.11	0.12	85	94	14-138	10	43	
Ethyl-tert-butyl ether	mg/kg	ND	.13	.13	0.10	0.11	80	87	17-140	9	43	
Ethylbenzene	mg/kg	ND	.13	.13	0.099	0.11	78	84	10-161	7	30	
Methyl-tert-butyl ether	mg/kg	ND	.13	.13	0.11	0.12	86	96	8-142	10	37	
Naphthalene	mg/kg	ND	.13	.13	0.072	0.078	50	55	10-181	8	32	
tert-Amylmethyl ether	mg/kg	ND	.13	.13	0.10	0.11	80	87	7-153	8	45	
tert-Butyl Alcohol	mg/kg	ND	.64	.64	0.74	0.68	117	106	13-147	9	65	
Toluene	mg/kg	ND	.13	.13	0.10	0.11	82	88	14-153	7	33	
Xylene (Total)	mg/kg	ND	.39	.39	0.30	0.32	78	84	10-168	8	64	
1,2-Dichloroethane-d4 (S)	%						96	97	81-142			
4-Bromofluorobenzene (S)	%						98	99	82-119			
Toluene-d8 (S)	%						101	102	82-137			

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QUALITY CONTROL DATA

Project: ZILL INC
Pace Project No.: 60195834

QC Batch: MSV/70032 Analysis Method: EPA 5035A/8260
QC Batch Method: EPA 5035A/8260 Analysis Description: 8260 MSV GRO and Oxygenates
Associated Lab Samples: 60195834002, 60195834007, 60195834008

METHOD BLANK: 1584384 Matrix: Solid
Associated Lab Samples: 60195834002, 60195834007, 60195834008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	mg/kg	ND	0.0050	06/12/15 12:02	
Diisopropyl ether	mg/kg	ND	0.0050	06/12/15 12:02	
Ethyl-tert-butyl ether	mg/kg	ND	0.0050	06/12/15 12:02	
Ethylbenzene	mg/kg	ND	0.0050	06/12/15 12:02	
Methyl-tert-butyl ether	mg/kg	ND	0.0050	06/12/15 12:02	
Naphthalene	mg/kg	ND	0.020	06/12/15 12:02	
tert-Amylmethyl ether	mg/kg	ND	0.0050	06/12/15 12:02	
tert-Butyl Alcohol	mg/kg	ND	0.025	06/12/15 12:02	
Toluene	mg/kg	ND	0.0050	06/12/15 12:02	
TPH-GRO	mg/kg	ND	0.50	06/12/15 12:02	
Xylene (Total)	mg/kg	ND	0.010	06/12/15 12:02	
1,2-Dichloroethane-d4 (S)	%	101	81-142	06/12/15 12:02	
4-Bromofluorobenzene (S)	%	97	82-119	06/12/15 12:02	
Toluene-d8 (S)	%	100	82-137	06/12/15 12:02	

LABORATORY CONTROL SAMPLE: 1584385

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	mg/kg	.1	0.095	95	76-120	
Diisopropyl ether	mg/kg	.1	0.097	97	66-120	
Ethyl-tert-butyl ether	mg/kg	.1	0.085	85	72-119	
Ethylbenzene	mg/kg	.1	0.096	96	70-129	
Methyl-tert-butyl ether	mg/kg	.1	0.094	94	72-116	
Naphthalene	mg/kg	.1	0.086	86	77-123	
tert-Amylmethyl ether	mg/kg	.1	0.080	80	78-114	
tert-Butyl Alcohol	mg/kg	.5	0.52	104	57-142	
Toluene	mg/kg	.1	0.094	94	73-125	
TPH-GRO	mg/kg	4	3.5	89	52-119	
Xylene (Total)	mg/kg	.3	0.30	99	71-128	
1,2-Dichloroethane-d4 (S)	%			102	81-142	
4-Bromofluorobenzene (S)	%			102	82-119	
Toluene-d8 (S)	%			100	82-137	

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QUALITY CONTROL DATA

Project: ZILL INC
Pace Project No.: 60195834

QC Batch: OEXT/49893 | Analysis Method: EPA 8270 by SIM
QC Batch Method: EPA 3546 | Analysis Description: 8270/3546 MSSV PAH by SIM
Associated Lab Samples: 60195834002, 60195834003, 60195834006, 60195834007

METHOD BLANK: 1589966 | Matrix: Solid
Associated Lab Samples: 60195834002, 60195834003, 60195834006, 60195834007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Acenaphthene	mg/kg	ND	0.0066	06/23/15 13:21	
Acenaphthylene	mg/kg	ND	0.0066	06/23/15 13:21	
Anthracene	mg/kg	ND	0.0066	06/23/15 13:21	
Benzo(a)anthracene	mg/kg	ND	0.0066	06/23/15 13:21	
Benzo(a)pyrene	mg/kg	ND	0.0066	06/23/15 13:21	
Benzo(b)fluoranthene	mg/kg	ND	0.0066	06/23/15 13:21	
Benzo(g,h,i)perylene	mg/kg	ND	0.0066	06/23/15 13:21	
Benzo(k)fluoranthene	mg/kg	ND	0.0066	06/23/15 13:21	
Chrysene	mg/kg	ND	0.0066	06/23/15 13:21	
Dibenz(a,h)anthracene	mg/kg	ND	0.0066	06/23/15 13:21	
Fluoranthene	mg/kg	ND	0.0066	06/23/15 13:21	
Fluorene	mg/kg	ND	0.0066	06/23/15 13:21	
Indeno(1,2,3-cd)pyrene	mg/kg	ND	0.0066	06/23/15 13:21	
Naphthalene	mg/kg	ND	0.0066	06/23/15 13:21	
Phenanthrene	mg/kg	ND	0.0066	06/23/15 13:21	
Pyrene	mg/kg	ND	0.0066	06/23/15 13:21	
2-Fluorobiphenyl (S)	%	95	50-109	06/15/15 08:50	
Terphenyl-d14 (S)	%	108	49-116	06/15/15 08:50	

LABORATORY CONTROL SAMPLE: 1589967

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Acenaphthene	mg/kg	.033	0.033	98	68-109	
Acenaphthylene	mg/kg	.033	0.032	96	64-112	
Anthracene	mg/kg	.033	0.033	98	60-110	
Benzo(a)anthracene	mg/kg	.033	0.034	102	66-114	
Benzo(a)pyrene	mg/kg	.033	0.032	96	58-113	
Benzo(b)fluoranthene	mg/kg	.033	0.032	97	61-121	
Benzo(g,h,i)perylene	mg/kg	.033	0.033	99	50-116	
Benzo(k)fluoranthene	mg/kg	.033	0.035	104	56-120	
Chrysene	mg/kg	.033	0.028	84	63-114	
Dibenz(a,h)anthracene	mg/kg	.033	0.034	101	55-116	
Fluoranthene	mg/kg	.033	0.034	103	58-118	
Fluorene	mg/kg	.033	0.033	99	66-116	
Indeno(1,2,3-cd)pyrene	mg/kg	.033	0.033	99	53-115	
Naphthalene	mg/kg	.033	0.032	97	70-111	
Phenanthrene	mg/kg	.033	0.034	102	62-113	
Pyrene	mg/kg	.033	0.034	101	60-120	
2-Fluorobiphenyl (S)	%			89	50-109	
Terphenyl-d14 (S)	%			95	49-116	

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REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: ZILL INC
Pace Project No.: 60195834

QC Batch: OEXT/49773 | Analysis Method: EPA 8270
QC Batch Method: EPA 3546 | Analysis Description: 8270 MSSV TPH ORO
Associated Lab Samples: 60195834001, 60195834002, 60195834003, 60195834004, 60195834005, 60195834006, 60195834007, 60195834008

METHOD BLANK: 1584342 | Matrix: Solid
Associated Lab Samples: 60195834001, 60195834002, 60195834003, 60195834004, 60195834005, 60195834006, 60195834007, 60195834008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH-DRO	mg/kg	ND	14.8	06/15/15 08:50	
TPH-ORO	mg/kg	ND	14.8	06/15/15 08:50	
2-Fluorobiphenyl (S)	%	95	57-117	06/15/15 08:50	
Nitrobenzene-d5 (S)	%	90	44-115	06/15/15 08:50	
Terphenyl-d14 (S)	%	108	45-129	06/15/15 08:50	

LABORATORY CONTROL SAMPLE: 1584343

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
TPH-DRO	mg/kg	330	344	104	46-139	
2-Fluorobiphenyl (S)	%			96	57-117	
Nitrobenzene-d5 (S)	%			101	44-115	
Terphenyl-d14 (S)	%			122	45-129	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1584344 1584345

Parameter	Units	60195834001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
TPH-DRO	mg/kg	37.0	411	411	529	410	120	91	41-144	25	23	R1
2-Fluorobiphenyl (S)	%						87	86	57-117			
Nitrobenzene-d5 (S)	%						90	86	44-115			
Terphenyl-d14 (S)	%						89	89	45-129			

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QUALITY CONTROL DATA

Project: ZILL INC
Pace Project No.: 60195834

QC Batch: PMST/10805 Analysis Method: ASTM D2974
QC Batch Method: ASTM D2974 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 60195834001, 60195834002, 60195834003, 60195834004, 60195834005, 60195834006, 60195834007, 60195834008

METHOD BLANK: 1581625 Matrix: Solid
Associated Lab Samples: 60195834001, 60195834002, 60195834003, 60195834004, 60195834005, 60195834006, 60195834007, 60195834008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Percent Moisture	%	ND	0.50	06/08/15 00:00	

SAMPLE DUPLICATE: 1581626

Parameter	Units	60195834001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	19.6	19.8	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: ZILL INC
Pace Project No.: 60195834

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: MSV/70032

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: OEXT/49893

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

1e A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

R1 RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: ZILL INC
Pace Project No.: 60195834

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60195834001	**MW-A 13-14**	EPA 3050	MPRP/32129	EPA 6010	ICP/23802
60195834002	**MW-A 15.5-16.5**	EPA 3050	MPRP/32129	EPA 6010	ICP/23802
60195834003	**MW-C 1-2**	EPA 3050	MPRP/32129	EPA 6010	ICP/23802
60195834004	**MW-C 8-9**	EPA 3050	MPRP/32129	EPA 6010	ICP/23802
60195834005	**MW-F 5-6**	EPA 3050	MPRP/32129	EPA 6010	ICP/23802
60195834006	**MW-F 11.5-12.5**	EPA 3050	MPRP/32129	EPA 6010	ICP/23802
60195834007	**MW-E 7-8**	EPA 3050	MPRP/32129	EPA 6010	ICP/23802
60195834008	**MW-E 10-11**	EPA 3050	MPRP/32129	EPA 6010	ICP/23802
60195834002	**MW-A 15.5-16.5**	EPA 3546	OEXT/49893	EPA 8270 by SIM	MSSV/16159
60195834003	**MW-C 1-2**	EPA 3546	OEXT/49893	EPA 8270 by SIM	MSSV/16159
60195834006	**MW-F 11.5-12.5**	EPA 3546	OEXT/49893	EPA 8270 by SIM	MSSV/16159
60195834007	**MW-E 7-8**	EPA 3546	OEXT/49893	EPA 8270 by SIM	MSSV/16159
60195834001	**MW-A 13-14**	EPA 3546	OEXT/49773	EPA 8270	MSSV/16122
60195834002	**MW-A 15.5-16.5**	EPA 3546	OEXT/49773	EPA 8270	MSSV/16122
60195834003	**MW-C 1-2**	EPA 3546	OEXT/49773	EPA 8270	MSSV/16122
60195834004	**MW-C 8-9**	EPA 3546	OEXT/49773	EPA 8270	MSSV/16122
60195834005	**MW-F 5-6**	EPA 3546	OEXT/49773	EPA 8270	MSSV/16122
60195834006	**MW-F 11.5-12.5**	EPA 3546	OEXT/49773	EPA 8270	MSSV/16122
60195834007	**MW-E 7-8**	EPA 3546	OEXT/49773	EPA 8270	MSSV/16122
60195834008	**MW-E 10-11**	EPA 3546	OEXT/49773	EPA 8270	MSSV/16122
60195834001	**MW-A 13-14**	EPA 5035A/8260	MSV/69921		
60195834002	**MW-A 15.5-16.5**	EPA 5035A/8260	MSV/69921		
60195834002	**MW-A 15.5-16.5**	EPA 5035A/8260	MSV/70032		
60195834003	**MW-C 1-2**	EPA 5035A/8260	MSV/69921		
60195834004	**MW-C 8-9**	EPA 5035A/8260	MSV/69921		
60195834005	**MW-F 5-6**	EPA 5035A/8260	MSV/69921		
60195834006	**MW-F 11.5-12.5**	EPA 5035A/8260	MSV/69921		
60195834007	**MW-E 7-8**	EPA 5035A/8260	MSV/70032		
60195834008	**MW-E 10-11**	EPA 5035A/8260	MSV/69921		
60195834008	**MW-E 10-11**	EPA 5035A/8260	MSV/70032		
60195834001	**MW-A 13-14**	ASTM D2974	PMST/10805		
60195834002	**MW-A 15.5-16.5**	ASTM D2974	PMST/10805		
60195834003	**MW-C 1-2**	ASTM D2974	PMST/10805		
60195834004	**MW-C 8-9**	ASTM D2974	PMST/10805		
60195834005	**MW-F 5-6**	ASTM D2974	PMST/10805		
60195834006	**MW-F 11.5-12.5**	ASTM D2974	PMST/10805		
60195834007	**MW-E 7-8**	ASTM D2974	PMST/10805		
60195834008	**MW-E 10-11**	ASTM D2974	PMST/10805		

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Sample Condition Upon Receipt

WO# : 60195834

60195834

Client Name: Apex

Optional
Proj Due Date:
Proj Name:

Courier: FedEx ☐ UPS ☐ VIA ☐ Clay ☐ PEX ☐ ECI ☐ Pace ☒ Other ☐ Client ☐

Tracking #: _____ Pace Shipping Label Used? Yes ☐ No ☐

Custody Seal on Cooler/Box Present: Yes ☐ No ☒ Seals intact: Yes ☐ No ☒

Packing Material: Bubble Wrap ☐ Bubble Bags ☒ Foam ☒ None ☐ Other ☐

Thermometer Used: CF +1.4 T-239 / CF -0.5 T-262 **Type of Ice:** Wet Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 2.2

Temperature should be above freezing to 6°C

Date and initials of person examining contents: JB 6/2

Chain of Custody present:	☒Yes	☐No	☐N/A	1.
Chain of Custody filled out:	☒Yes	☐No	☐N/A	2.
Chain of Custody relinquished:	☒Yes	☐No	☐N/A	3.
Sampler name & signature on COC:	☒Yes	☐No	☐N/A	4.
Samples arrived within holding time:	☒Yes	☐No	☐N/A	5.
Short Hold Time analyses (<72hr):	☐Yes	☒No	☐N/A	6.
Rush Turn Around Time requested:	☐Yes	☒No	☐N/A	7.
Sufficient volume:	☒Yes	☐No	☐N/A	8.
Correct containers used:	☒Yes	☐No	☐N/A	
Pace containers used:	☒Yes	☐No	☐N/A	9.
Containers intact:	☒Yes	☐No	☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes	☐No	☒N/A	11.
Filtered volume received for dissolved tests?	☐Yes	☐No	☒N/A	12.
Sample labels match COC:	☒Yes	☐No	☐N/A	
Includes date/time/ID/analyses Matrix: SL				13.
All containers needing preservation have been checked.	☐Yes	☐No	☒N/A	
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes	☐No	☒N/A	14.
Exceptions: VOA, Coliform, O&G, WI-DRO (water)	☒Yes	☐No		Initial when completed / Lot # of added preservative
Trip Blank present:	☐Yes	☒No	☐N/A	
Pace Trip Blank lot # (if purchased): _____				15.
Headspace in VOA vials (>6mm):	☐Yes	☐No	☒N/A	16.
Project sampled in USDA Regulated Area:	☐Yes	☒No	☐N/A	17. List State: MO

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: Richard Mahoney Date: 6/8/2015

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 1

Section A Required Client Information:

Company:	Apex Envirotech, Inc.
Address:	1920 W 143rd Street, Suite 100
	Leawood, KS 66224
Email To:	PCurrier@apexenvirotech.com
Phone: 816-532-8202	Fax:
Requested Due Date/TAT:	STD

Section B Required Project Information:

Report To:	Patty Currier
Copy To:	
Purchase Order No.:	
Project Name:	GILL INC
Project Number:	21L57

Section C Invoice Information:

Attention:	
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Richard Mannz
Pace Profile #:	7067 Line 1

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☒ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: MO

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED Composite Start Date	Composite Start Time	Composite End/Grab Date	Composite End/Grab Time	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N): BTEX, MTBE, oxygenates, 624	8260/624	Lead	Dates	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. (6019583-4, ~~6019575-2~~)
1	MW-A 13-14	SL	G			6/5/15	0825		5									X	X	X	X	N	② 1694M 964M BP3M W6PM 001
2	MW-A 15.5-16.5	↓	↓			↓	0830		↓									↓	↓	↓	↓		002
3	MW-C 1-2	↓	↓			6/5/15	1045		↓									↓	↓	↓	↓		003
4	MW-C 8-9	↓	↓			↓	1055		↓									↓	↓	↓	↓		004
5	MW-F 5-6	↓	↓			↓	1124		↓									↓	↓	↓	↓		005
6	MW-F 11.5-12.5	↓	↓			↓	1132		↓									↓	↓	↓	↓		006
7	MW-E 7-8	↓	↓			↓	1151		↓									↓	↓	↓	↓		007
8	MW-E 10-11	↓	↓			↓	1157		↓									↓	↓	↓	↓		008
9																							
10																							
11																							
12																							

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Hold PAHs for Deford	Patty Currier, Apex	6/5/15	1252	[signature]	6/5	1252				
				[signature]	6/5	1630	2.2	Y	N	Y

SAMPLER NAME AND SIGNATURE		Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	Patty Currier				
SIGNATURE of SAMPLER: Patty Currier	DATE Signed (MM/DD/YY): 6/5/15				

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-Feb-2007

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(913)599-5665

July 10, 2015

Patty Currier
Apex Envirotech, Inc.
1920 W 143rd Street, Suite 100
Overland Park, KS 66224

RE: Project: INNER-CITY OIL/ ZIL 57
Pace Project No.: 60196826

Dear Patty Currier:
Enclosed are the analytical results for sample(s) received by the laboratory on June 19, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Richard Mannz
richard.mannz@pacelabs.com
PM Lab Management

Enclosures

cc: Melissa Dowling, Apex Envirotech, Inc.

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CERTIFICATIONS

Project: INNER-CITY OIL/ ZIL 57
Pace Project No.: 60196826

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 13-012-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407
Utah Certification #: KS00021

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SAMPLE SUMMARY

Project: INNER-CITY OIL/ ZIL 57
Pace Project No.: 60196826

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60196826001	**MW 1**	Water	06/19/15 13:15	06/19/15 16:00
60196826002	**MW 3**	Water	06/19/15 14:10	06/19/15 16:00
60196826003	**MW 4**	Water	06/19/15 14:20	06/19/15 16:00
60196826004	**MW 7**	Water	06/19/15 13:50	06/19/15 16:00
60196826005	**MW 9**	Water	06/19/15 12:10	06/19/15 16:00
60196826006	**MW 10**	Water	06/19/15 12:50	06/19/15 16:00
60196826007	**MW 11**	Water	06/19/15 12:25	06/19/15 16:00
60196826008	**MW 12**	Water	06/19/15 12:35	06/19/15 16:00
60196826009	**MW 13**	Water	06/19/15 13:45	06/19/15 16:00
60196826010	**MW 15**	Water	06/19/15 12:00	06/19/15 16:00
60196826011	**MW 16**	Water	06/19/15 13:25	06/19/15 16:00
60196826012	**MW A**	Water	06/19/15 11:40	06/19/15 16:00
60196826013	**MW B**	Water	06/19/15 13:40	06/19/15 16:00
60196826014	**MW C**	Water	06/19/15 14:40	06/19/15 16:00
60196826015	**MW D**	Water	06/19/15 13:00	06/19/15 16:00
60196826016	**MW E**	Water	06/19/15 14:30	06/19/15 16:00
60196826017	**MW F**	Water	06/19/15 14:45	06/19/15 16:00
60196826018	**TRIP BLANKS**	Water	06/19/15 08:00	06/19/15 16:00

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SAMPLE ANALYTE COUNT

Project: INNER-CITY OIL/ ZIL 57
Pace Project No.: 60196826

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60196826001	**MW 1**	EPA 6010	ZBM	1
		EPA 8270	JMT	5
		EPA 8260	JTK	19
60196826002	**MW 3**	EPA 6010	ZBM	1
		EPA 8270	JMT	5
		EPA 8260	JTK	19
60196826003	**MW 4**	EPA 6010	ZBM	1
		EPA 8270	JMT	5
		EPA 8260	JTK	19
60196826004	**MW 7**	EPA 6010	ZBM	1
		EPA 8270	JMT	5
		EPA 8270C by SIM	NAW	18
		EPA 8260	JKL, JTK	19
60196826005	**MW 9**	EPA 6010	ZBM	1
		EPA 8270	JMT	5
		EPA 8270C by SIM	NAW	18
		EPA 8260	JKL, JTK	19
60196826006	**MW 10**	EPA 6010	ZBM	1
		EPA 8270	JMT	5
		EPA 8270C by SIM	NAW	18
		EPA 8260	JKL, JTK	19
60196826007	**MW 11**	EPA 6010	ZBM	1
		EPA 8270	JMT	5
		EPA 8270C by SIM	NAW	18
		EPA 8260	JTK	19
60196826008	**MW 12**	EPA 6010	ZBM	1
		EPA 8270	JMT	5
		EPA 8260	JTK	19
60196826009	**MW 13**	EPA 6010	ZBM	1
		EPA 8270	JMT	5
		EPA 8260	JTK	19
60196826010	**MW 15**	EPA 6010	ZBM	1
		EPA 8270	JMT	5
		EPA 8270C by SIM	JMT, NAW	18
		EPA 8260	JKL, JTK	19
60196826011	**MW 16**	EPA 6010	ZBM	1
		EPA 8270	JMT	5

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SAMPLE ANALYTE COUNT

Project: INNER-CITY OIL/ ZIL 57
Pace Project No.: 60196826

Lab ID	Sample ID	Method	Analysts	Analytes Reported
		EPA 8260	JKL, JTK	19
60196826012	**MW A**	EPA 6010	ZBM	1
		EPA 8270	JMT	5
		EPA 8260	JTK	19
60196826013	**MW B**	EPA 6010	ZBM	1
		EPA 8270	JMT	5
		EPA 8260	JKL, JTK	19
60196826014	**MW C**	EPA 6010	ZBM	1
		EPA 8270	JMT	5
		EPA 8260	JKL, JTK	19
60196826015	**MW D**	EPA 6010	ZBM	1
		EPA 8270	JMT	5
		EPA 8260	JTK	19
60196826016	**MW E**	EPA 6010	ZBM	1
		EPA 8270	JMT	5
		EPA 8260	JKL, JTK	19
60196826017	**MW F**	EPA 6010	ZBM	1
		EPA 8270	JMT	5
		EPA 8260	JTK	19
60196826018	**TRIP BLANKS**	EPA 8260	JKL	19

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ANALYTICAL RESULTS

Project: INNER-CITY OIL/ ZIL 57
Pace Project No.: 60196826

Sample: MW 1 **Lab ID: 60196826001** Collected: 06/19/15 13:15 Received: 06/19/15 16:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Lead	ND	ug/L	5.0	1	07/06/15 10:30	07/06/15 16:57	7439-92-1	
8270 MSSV DRO/ORO	Analytical Method: EPA 8270 Preparation Method: EPA 3510C							
TPH-ORO	ND	mg/L	0.91	1	06/26/15 00:00	06/29/15 09:24		1e
TPH-DRO	ND	mg/L	0.91	1	06/26/15 00:00	06/29/15 09:24		1e
Surrogates								
Nitrobenzene-d5 (S)	68	%	24-116	1	06/26/15 00:00	06/29/15 09:24	4165-60-0	
2-Fluorobiphenyl (S)	67	%	40-109	1	06/26/15 00:00	06/29/15 09:24	321-60-8	
Terphenyl-d14 (S)	84	%	43-123	1	06/26/15 00:00	06/29/15 09:24	1718-51-0	
8260 MSV GRO and Oxygenates	Analytical Method: EPA 8260							
tert-Amylmethyl ether	ND	ug/L	10.0	10		06/24/15 17:03	994-05-8	L3
Benzene	**314**	ug/L	10.0	10		06/24/15 17:03	71-43-2	
tert-Butyl Alcohol	ND	ug/L	100	10		06/24/15 17:03	75-65-0	
1,2-Dibromoethane (EDB)	ND	ug/L	10.0	10		06/24/15 17:03	106-93-4	
1,2-Dichloroethane	ND	ug/L	10.0	10		06/24/15 17:03	107-06-2	
Diisopropyl ether	ND	ug/L	10.0	10		06/24/15 17:03	108-20-3	
Ethylbenzene	**21.7**	ug/L	10.0	10		06/24/15 17:03	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	10		06/24/15 17:03	637-92-3	L3
Methyl-tert-butyl ether	ND	ug/L	10.0	10		06/24/15 17:03	1634-04-4	
Naphthalene	ND	ug/L	100	10		06/24/15 17:03	91-20-3	
Toluene	**76.2**	ug/L	10.0	10		06/24/15 17:03	108-88-3	
TPH-GRO	ND	ug/L	5000	10		06/24/15 17:03		
Xylene (Total)	**48.2**	ug/L	30.0	10		06/24/15 17:03	1330-20-7	
m&p-Xylene	**33.9**	ug/L	20.0	10		06/24/15 17:03	179601-23-1	
o-Xylene	**14.4**	ug/L	10.0	10		06/24/15 17:03	95-47-6	
Surrogates								
Toluene-d8 (S)	101	%	80-120	10		06/24/15 17:03	2037-26-5	
4-Bromofluorobenzene (S)	100	%	80-120	10		06/24/15 17:03	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	82-119	10		06/24/15 17:03	17060-07-0	
Preservation pH	**12.0**		0.10	10		06/24/15 17:03		

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ANALYTICAL RESULTS

Project: INNER-CITY OIL/ ZIL 57
Pace Project No.: 60196826

Sample: MW 3 **Lab ID: 60196826002** Collected: 06/19/15 14:10 Received: 06/19/15 16:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Lead	ND	ug/L	5.0	1	07/06/15 10:30	07/06/15 17:04	7439-92-1	
8270 MSSV DRO/ORO	Analytical Method: EPA 8270 Preparation Method: EPA 3510C							
TPH-ORO	ND	mg/L	0.91	1	06/26/15 00:00	06/29/15 09:46		1e
TPH-DRO	ND	mg/L	0.91	1	06/26/15 00:00	06/29/15 09:46		1e
Surrogates								
Nitrobenzene-d5 (S)	70	%	24-116	1	06/26/15 00:00	06/29/15 09:46	4165-60-0	
2-Fluorobiphenyl (S)	71	%	40-109	1	06/26/15 00:00	06/29/15 09:46	321-60-8	
Terphenyl-d14 (S)	90	%	43-123	1	06/26/15 00:00	06/29/15 09:46	1718-51-0	
8260 MSV GRO and Oxygenates	Analytical Method: EPA 8260							
tert-Amylmethyl ether	ND	ug/L	1.0	1		06/24/15 17:18	994-05-8	L3
Benzene	**10.1**	ug/L	1.0	1		06/24/15 17:18	71-43-2	
tert-Butyl Alcohol	ND	ug/L	10.0	1		06/24/15 17:18	75-65-0	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		06/24/15 17:18	106-93-4	
1,2-Dichloroethane	ND	ug/L	1.0	1		06/24/15 17:18	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	1		06/24/15 17:18	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		06/24/15 17:18	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	1.0	1		06/24/15 17:18	637-92-3	L3
Methyl-tert-butyl ether	**2.1**	ug/L	1.0	1		06/24/15 17:18	1634-04-4	
Naphthalene	ND	ug/L	10.0	1		06/24/15 17:18	91-20-3	
Toluene	ND	ug/L	1.0	1		06/24/15 17:18	108-88-3	
TPH-GRO	ND	ug/L	500	1		06/24/15 17:18		
Xylene (Total)	ND	ug/L	3.0	1		06/24/15 17:18	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		06/24/15 17:18	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		06/24/15 17:18	95-47-6	
Surrogates								
Toluene-d8 (S)	99	%	80-120	1		06/24/15 17:18	2037-26-5	
4-Bromofluorobenzene (S)	100	%	80-120	1		06/24/15 17:18	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	82-119	1		06/24/15 17:18	17060-07-0	
Preservation pH	**12.0**		0.10	1		06/24/15 17:18		

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ANALYTICAL RESULTS

Project: INNER-CITY OIL/ ZIL 57
Pace Project No.: 60196826

Sample: MW 4 **Lab ID: 60196826003** Collected: 06/19/15 14:20 Received: 06/19/15 16:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Lead	**10.9**	ug/L	5.0	1	07/06/15 10:30	07/06/15 17:07	7439-92-1	
8270 MSSV DRO/ORO	Analytical Method: EPA 8270 Preparation Method: EPA 3510C							
TPH-ORO	**1.3**	mg/L	0.91	1	06/26/15 00:00	06/29/15 10:07		1e
TPH-DRO	**9.0**	mg/L	0.91	1	06/26/15 00:00	06/29/15 10:07		1e
Surrogates								
Nitrobenzene-d5 (S)	65	%	24-116	1	06/26/15 00:00	06/29/15 10:07	4165-60-0	
2-Fluorobiphenyl (S)	67	%	40-109	1	06/26/15 00:00	06/29/15 10:07	321-60-8	
Terphenyl-d14 (S)	81	%	43-123	1	06/26/15 00:00	06/29/15 10:07	1718-51-0	
8260 MSV GRO and Oxygenates	Analytical Method: EPA 8260							
tert-Amylmethyl ether	ND	ug/L	5.0	5		06/24/15 17:33	994-05-8	L3
Benzene	**528**	ug/L	5.0	5		06/24/15 17:33	71-43-2	
tert-Butyl Alcohol	ND	ug/L	50.0	5		06/24/15 17:33	75-65-0	
1,2-Dibromoethane (EDB)	ND	ug/L	5.0	5		06/24/15 17:33	106-93-4	
1,2-Dichloroethane	ND	ug/L	5.0	5		06/24/15 17:33	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	5		06/24/15 17:33	108-20-3	
Ethylbenzene	**103**	ug/L	5.0	5		06/24/15 17:33	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	5.0	5		06/24/15 17:33	637-92-3	L3
Methyl-tert-butyl ether	**137**	ug/L	5.0	5		06/24/15 17:33	1634-04-4	
Naphthalene	**272**	ug/L	50.0	5		06/24/15 17:33	91-20-3	
Toluene	ND	ug/L	5.0	5		06/24/15 17:33	108-88-3	
TPH-GRO	**5550**	ug/L	2500	5		06/24/15 17:33		
Xylene (Total)	ND	ug/L	15.0	5		06/24/15 17:33	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	5		06/24/15 17:33	179601-23-1	
o-Xylene	ND	ug/L	5.0	5		06/24/15 17:33	95-47-6	
Surrogates								
Toluene-d8 (S)	100	%	80-120	5		06/24/15 17:33	2037-26-5	
4-Bromofluorobenzene (S)	99	%	80-120	5		06/24/15 17:33	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	82-119	5		06/24/15 17:33	17060-07-0	
Preservation pH	**12.0**		0.10	5		06/24/15 17:33		

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ANALYTICAL RESULTS

Project: INNER-CITY OIL/ ZIL 57
Pace Project No.: 60196826

Sample: MW 7 **Lab ID: 60196826004** Collected: 06/19/15 13:50 Received: 06/19/15 16:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Lead	**7.7**	ug/L	5.0	1	07/06/15 10:30	07/06/15 17:09	7439-92-1	
8270 MSSV DRO/ORO	Analytical Method: EPA 8270 Preparation Method: EPA 3510C							
TPH-ORO	ND	mg/L	9.1	10	06/26/15 00:00	06/29/15 16:15		1e
TPH-DRO	**199**	mg/L	9.1	10	06/26/15 00:00	06/29/15 16:15		1e
Surrogates								
Nitrobenzene-d5 (S)	0	%	24-116	10	06/26/15 00:00	06/29/15 16:15	4165-60-0	S4
2-Fluorobiphenyl (S)	0	%	40-109	10	06/26/15 00:00	06/29/15 16:15	321-60-8	S4
Terphenyl-d14 (S)	0	%	43-123	10	06/26/15 00:00	06/29/15 16:15	1718-51-0	S4
8270 MSSV PAH by SIM	Analytical Method: EPA 8270C by SIM Preparation Method: EPA 3510C							
Acenaphthene	**6.6**	ug/L	0.091	1	06/26/15 00:00	07/01/15 19:33	83-32-9	1e
Acenaphthylene	**3.1**	ug/L	0.091	1	06/26/15 00:00	07/01/15 19:33	208-96-8	1e,IO
Anthracene	**3.9**	ug/L	0.091	1	06/26/15 00:00	07/01/15 19:33	120-12-7	1e
Benzo(a)anthracene	**1.1**	ug/L	0.091	1	06/26/15 00:00	07/01/15 19:33	56-55-3	1e
Benzo(a)pyrene	**0.73**	ug/L	0.091	1	06/26/15 00:00	07/01/15 19:33	50-32-8	1e
Benzo(b)fluoranthene	**1.2**	ug/L	0.091	1	06/26/15 00:00	07/01/15 19:33	205-99-2	1e
Benzo(g,h,i)perylene	**0.92**	ug/L	0.091	1	06/26/15 00:00	07/01/15 19:33	191-24-2	1e
Benzo(k)fluoranthene	**0.77**	ug/L	0.091	1	06/26/15 00:00	07/01/15 19:33	207-08-9	1e
Chrysene	**1.6**	ug/L	0.091	1	06/26/15 00:00	07/01/15 19:33	218-01-9	1e
Dibenz(a,h)anthracene	**0.25**	ug/L	0.091	1	06/26/15 00:00	07/01/15 19:33	53-70-3	1e
Fluoranthene	**6.9**	ug/L	0.091	1	06/26/15 00:00	07/01/15 19:33	206-44-0	1e,B
Fluorene	**10.6**	ug/L	0.091	1	06/26/15 00:00	07/01/15 19:33	86-73-7	1e
Indeno(1,2,3-cd)pyrene	**0.51**	ug/L	0.091	1	06/26/15 00:00	07/01/15 19:33	193-39-5	1e
Naphthalene	**3170**	ug/L	227	500	06/26/15 00:00	07/08/15 20:33	91-20-3	1e
Phenanthrene	**17.0**	ug/L	0.45	1	06/26/15 00:00	07/01/15 19:33	85-01-8	1e,B
Pyrene	**4.5**	ug/L	0.091	1	06/26/15 00:00	07/01/15 19:33	129-00-0	1e
Surrogates								
2-Fluorobiphenyl (S)	79	%	58-115	50	06/26/15 00:00	07/01/15 19:54	321-60-8	IO
Terphenyl-d14 (S)	97	%	53-127	50	06/26/15 00:00	07/01/15 19:54	1718-51-0	
8260 MSV GRO and Oxygenates	Analytical Method: EPA 8260							
tert-Amylmethyl ether	ND	ug/L	250	250		06/24/15 17:49	994-05-8	L3
Benzene	**16000**	ug/L	250	250		06/24/15 17:49	71-43-2	
tert-Butyl Alcohol	ND	ug/L	2500	250		06/24/15 17:49	75-65-0	
1,2-Dibromoethane (EDB)	ND	ug/L	250	250		06/24/15 17:49	106-93-4	
1,2-Dichloroethane	ND	ug/L	250	250		06/24/15 17:49	107-06-2	
Diisopropyl ether	ND	ug/L	250	250		06/24/15 17:49	108-20-3	
Ethylbenzene	**7040**	ug/L	250	250		06/24/15 17:49	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	250	250		06/24/15 17:49	637-92-3	L3
Methyl-tert-butyl ether	ND	ug/L	250	250		06/24/15 17:49	1634-04-4	
Naphthalene	ND	ug/L	2500	250		06/24/15 17:49	91-20-3	
Toluene	**80600**	ug/L	1000	1000		06/26/15 17:45	108-88-3	
TPH-GRO	**246000**	ug/L	125000	250		06/24/15 17:49		
Xylene (Total)	**30600**	ug/L	750	250		06/24/15 17:49	1330-20-7	
m&p-Xylene	**21500**	ug/L	500	250		06/24/15 17:49	179601-23-1	

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ANALYTICAL RESULTS

Project: INNER-CITY OIL/ ZIL 57
Pace Project No.: 60196826

Sample: MW 7 **Lab ID: 60196826004** Collected: 06/19/15 13:50 Received: 06/19/15 16:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV GRO and Oxygenates	Analytical Method: EPA 8260							
o-Xylene	**9020**	ug/L	250	250		06/24/15 17:49	95-47-6	
Surrogates								
Toluene-d8 (S)	101	%	80-120	250		06/24/15 17:49	2037-26-5	
4-Bromofluorobenzene (S)	98	%	80-120	250		06/24/15 17:49	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	82-119	250		06/24/15 17:49	17060-07-0	
Preservation pH	**8.0**		0.10	250		06/24/15 17:49		pH

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ANALYTICAL RESULTS

Project: INNER-CITY OIL/ ZIL 57
Pace Project No.: 60196826

Sample: MW 9 **Lab ID: 60196826005** Collected: 06/19/15 12:10 Received: 06/19/15 16:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Lead	ND	ug/L	5.0	1	07/06/15 10:30	07/06/15 17:16	7439-92-1	
8270 MSSV DRO/ORO	Analytical Method: EPA 8270 Preparation Method: EPA 3510C							
TPH-ORO	ND	mg/L	9.1	10	06/26/15 00:00	06/29/15 16:37		1e
TPH-DRO	**367**	mg/L	9.1	10	06/26/15 00:00	06/29/15 16:37		1e
Surrogates								
Nitrobenzene-d5 (S)	0	%	24-116	10	06/26/15 00:00	06/29/15 16:37	4165-60-0	S4
2-Fluorobiphenyl (S)	0	%	40-109	10	06/26/15 00:00	06/29/15 16:37	321-60-8	S4
Terphenyl-d14 (S)	0	%	43-123	10	06/26/15 00:00	06/29/15 16:37	1718-51-0	S4
8270 MSSV PAH by SIM	Analytical Method: EPA 8270C by SIM Preparation Method: EPA 3510C							
Acenaphthene	**7.2**	ug/L	0.091	1	06/26/15 00:00	07/01/15 20:15	83-32-9	1e
Acenaphthylene	**3.6**	ug/L	0.091	1	06/26/15 00:00	07/01/15 20:15	208-96-8	1e,IO
Anthracene	**8.2**	ug/L	0.091	1	06/26/15 00:00	07/01/15 20:15	120-12-7	1e
Benzo(a)anthracene	**1.4**	ug/L	0.091	1	06/26/15 00:00	07/01/15 20:15	56-55-3	1e
Benzo(a)pyrene	**0.94**	ug/L	0.091	1	06/26/15 00:00	07/01/15 20:15	50-32-8	1e
Benzo(b)fluoranthene	**0.69**	ug/L	0.091	1	06/26/15 00:00	07/01/15 20:15	205-99-2	1e
Benzo(g,h,i)perylene	**1.1**	ug/L	0.091	1	06/26/15 00:00	07/01/15 20:15	191-24-2	1e
Benzo(k)fluoranthene	**0.22**	ug/L	0.091	1	06/26/15 00:00	07/01/15 20:15	207-08-9	1e
Chrysene	**1.4**	ug/L	0.091	1	06/26/15 00:00	07/01/15 20:15	218-01-9	1e
Dibenz(a,h)anthracene	**0.17**	ug/L	0.091	1	06/26/15 00:00	07/01/15 20:15	53-70-3	1e
Fluoranthene	**6.3**	ug/L	0.091	1	06/26/15 00:00	07/01/15 20:15	206-44-0	1e,B
Fluorene	**13.7**	ug/L	0.091	1	06/26/15 00:00	07/01/15 20:15	86-73-7	1e
Indeno(1,2,3-cd)pyrene	**0.25**	ug/L	0.091	1	06/26/15 00:00	07/01/15 20:15	193-39-5	1e
Naphthalene	**5590**	ug/L	227	500	06/26/15 00:00	07/09/15 14:40	91-20-3	1e
Phenanthrene	**28.3**	ug/L	22.7	50	06/26/15 00:00	07/01/15 20:35	85-01-8	1e,B
Pyrene	**7.3**	ug/L	0.091	1	06/26/15 00:00	07/01/15 20:15	129-00-0	1e
Surrogates								
2-Fluorobiphenyl (S)	82	%	58-115	50	06/26/15 00:00	07/01/15 20:35	321-60-8	IO
Terphenyl-d14 (S)	101	%	53-127	50	06/26/15 00:00	07/01/15 20:35	1718-51-0	
8260 MSV GRO and Oxygenates	Analytical Method: EPA 8260							
tert-Amylmethyl ether	ND	ug/L	250	250		06/24/15 18:04	994-05-8	L3
Benzene	**13000**	ug/L	250	250		06/24/15 18:04	71-43-2	
tert-Butyl Alcohol	ND	ug/L	2500	250		06/24/15 18:04	75-65-0	
1,2-Dibromoethane (EDB)	ND	ug/L	250	250		06/24/15 18:04	106-93-4	
1,2-Dichloroethane	ND	ug/L	250	250		06/24/15 18:04	107-06-2	
Diisopropyl ether	ND	ug/L	250	250		06/24/15 18:04	108-20-3	
Ethylbenzene	**11900**	ug/L	250	250		06/24/15 18:04	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	250	250		06/24/15 18:04	637-92-3	L3
Methyl-tert-butyl ether	ND	ug/L	250	250		06/24/15 18:04	1634-04-4	
Naphthalene	**2750**	ug/L	2500	250		06/24/15 18:04	91-20-3	
Toluene	**69600**	ug/L	1000	1000		06/26/15 18:00	108-88-3	
TPH-GRO	**367000**	ug/L	125000	250		06/24/15 18:04		
Xylene (Total)	**58600**	ug/L	750	250		06/24/15 18:04	1330-20-7	
m&p-Xylene	**40900**	ug/L	500	250		06/24/15 18:04	179601-23-1	

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ANALYTICAL RESULTS

Project: INNER-CITY OIL/ ZIL 57
Pace Project No.: 60196826

Sample: MW 9 **Lab ID: 60196826005** Collected: 06/19/15 12:10 Received: 06/19/15 16:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV GRO and Oxygenates	Analytical Method: EPA 8260							
o-Xylene	**17600**	ug/L	250	250		06/24/15 18:04	95-47-6	
Surrogates								
Toluene-d8 (S)	102	%	80-120	250		06/24/15 18:04	2037-26-5	
4-Bromofluorobenzene (S)	99	%	80-120	250		06/24/15 18:04	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	82-119	250		06/24/15 18:04	17060-07-0	
Preservation pH	**8.0**		0.10	250		06/24/15 18:04		pH

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ANALYTICAL RESULTS

Project: INNER-CITY OIL/ ZIL 57
Pace Project No.: 60196826

Sample: MW 10 **Lab ID: 60196826006** Collected: 06/19/15 12:50 Received: 06/19/15 16:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Lead	**84.2**	ug/L	5.0	1	07/06/15 10:30	07/06/15 17:18	7439-92-1	
8270 MSSV DRO/ORO	Analytical Method: EPA 8270 Preparation Method: EPA 3510C							
TPH-ORO	ND	mg/L	9.1	10	06/26/15 00:00	06/29/15 11:12		1e
TPH-DRO	**240**	mg/L	9.1	10	06/26/15 00:00	06/29/15 11:12		1e
Surrogates								
Nitrobenzene-d5 (S)	0	%	24-116	10	06/26/15 00:00	06/29/15 11:12	4165-60-0	S4
2-Fluorobiphenyl (S)	0	%	40-109	10	06/26/15 00:00	06/29/15 11:12	321-60-8	S4
Terphenyl-d14 (S)	0	%	43-123	10	06/26/15 00:00	06/29/15 11:12	1718-51-0	S4
8270 MSSV PAH by SIM	Analytical Method: EPA 8270C by SIM Preparation Method: EPA 3510C							
Acenaphthene	**6.7**	ug/L	0.091	1	06/26/15 00:00	07/01/15 20:56	83-32-9	1e
Acenaphthylene	**3.2**	ug/L	0.091	1	06/26/15 00:00	07/01/15 20:56	208-96-8	1e,IO
Anthracene	**4.2**	ug/L	0.091	1	06/26/15 00:00	07/01/15 20:56	120-12-7	1e
Benzo(a)anthracene	**0.86**	ug/L	0.091	1	06/26/15 00:00	07/01/15 20:56	56-55-3	1e
Benzo(a)pyrene	**0.47**	ug/L	0.091	1	06/26/15 00:00	07/01/15 20:56	50-32-8	1e
Benzo(b)fluoranthene	**0.52**	ug/L	0.091	1	06/26/15 00:00	07/01/15 20:56	205-99-2	1e
Benzo(g,h,i)perylene	**0.64**	ug/L	0.091	1	06/26/15 00:00	07/01/15 20:56	191-24-2	1e
Benzo(k)fluoranthene	**0.21**	ug/L	0.091	1	06/26/15 00:00	07/01/15 20:56	207-08-9	1e
Chrysene	**0.86**	ug/L	0.091	1	06/26/15 00:00	07/01/15 20:56	218-01-9	1e
Dibenz(a,h)anthracene	**0.12**	ug/L	0.091	1	06/26/15 00:00	07/01/15 20:56	53-70-3	1e
Fluoranthene	**3.7**	ug/L	0.091	1	06/26/15 00:00	07/01/15 20:56	206-44-0	1e,B
Fluorene	**11.6**	ug/L	0.091	1	06/26/15 00:00	07/01/15 20:56	86-73-7	1e
Indeno(1,2,3-cd)pyrene	**0.20**	ug/L	0.091	1	06/26/15 00:00	07/01/15 20:56	193-39-5	1e
Naphthalene	**3050**	ug/L	227	500	06/26/15 00:00	07/09/15 15:22	91-20-3	1e
Phenanthrene	**14.9**	ug/L	9.1	20	06/26/15 00:00	07/09/15 15:01	85-01-8	1e,B
Pyrene	**4.0**	ug/L	0.091	1	06/26/15 00:00	07/01/15 20:56	129-00-0	1e
Surrogates								
2-Fluorobiphenyl (S)	9	%	58-115	20	06/26/15 00:00	07/09/15 15:01	321-60-8	S1
Terphenyl-d14 (S)	9	%	53-127	20	06/26/15 00:00	07/09/15 15:01	1718-51-0	S1
8260 MSV GRO and Oxygenates	Analytical Method: EPA 8260							
tert-Amylmethyl ether	ND	ug/L	500	500		06/24/15 18:19	994-05-8	L3
Benzene	**22900**	ug/L	500	500		06/24/15 18:19	71-43-2	
tert-Butyl Alcohol	ND	ug/L	5000	500		06/24/15 18:19	75-65-0	
1,2-Dibromoethane (EDB)	ND	ug/L	500	500		06/24/15 18:19	106-93-4	
1,2-Dichloroethane	ND	ug/L	500	500		06/24/15 18:19	107-06-2	
Diisopropyl ether	ND	ug/L	500	500		06/24/15 18:19	108-20-3	
Ethylbenzene	**52100**	ug/L	500	500		06/24/15 18:19	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	500	500		06/24/15 18:19	637-92-3	L3
Methyl-tert-butyl ether	ND	ug/L	500	500		06/24/15 18:19	1634-04-4	
Naphthalene	**10900**	ug/L	5000	500		06/24/15 18:19	91-20-3	
Toluene	**98800**	ug/L	2500	2500		06/26/15 18:16	108-88-3	
TPH-GRO	**1490000**	ug/L	250000	500		06/24/15 18:19		
Xylene (Total)	**244000**	ug/L	1500	500		06/24/15 18:19	1330-20-7	
m&p-Xylene	**172000**	ug/L	1000	500		06/24/15 18:19	179601-23-1	

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ANALYTICAL RESULTS

Project: INNER-CITY OIL/ ZIL 57
Pace Project No.: 60196826

Sample: MW 10 **Lab ID: 60196826006** Collected: 06/19/15 12:50 Received: 06/19/15 16:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV GRO and Oxygenates	Analytical Method: EPA 8260							
o-Xylene	**72400**	ug/L	500	500		06/24/15 18:19	95-47-6	
Surrogates								
Toluene-d8 (S)	100	%	80-120	500		06/24/15 18:19	2037-26-5	
4-Bromofluorobenzene (S)	97	%	80-120	500		06/24/15 18:19	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	82-119	500		06/24/15 18:19	17060-07-0	
Preservation pH	**3.0**		0.10	500		06/24/15 18:19		pH

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ANALYTICAL RESULTS

Project: INNER-CITY OIL/ ZIL 57
Pace Project No.: 60196826

Sample: MW 11 **Lab ID: 60196826007** Collected: 06/19/15 12:25 Received: 06/19/15 16:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Lead	ND	ug/L	5.0	1	07/06/15 10:30	07/06/15 17:21	7439-92-1	
8270 MSSV DRO/ORO	Analytical Method: EPA 8270 Preparation Method: EPA 3510C							
TPH-ORO	ND	mg/L	0.91	1	06/26/15 00:00	06/29/15 11:34		1e
TPH-DRO	**29.0**	mg/L	0.91	1	06/26/15 00:00	06/29/15 11:34		1e
Surrogates								
Nitrobenzene-d5 (S)	119	%	24-116	1	06/26/15 00:00	06/29/15 11:34	4165-60-0	S0
2-Fluorobiphenyl (S)	71	%	40-109	1	06/26/15 00:00	06/29/15 11:34	321-60-8	
Terphenyl-d14 (S)	89	%	43-123	1	06/26/15 00:00	06/29/15 11:34	1718-51-0	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270C by SIM Preparation Method: EPA 3510C							
Acenaphthene	**0.32**	ug/L	0.091	1	06/26/15 00:00	07/01/15 21:37	83-32-9	1e,B
Acenaphthylene	**0.12**	ug/L	0.091	1	06/26/15 00:00	07/01/15 21:37	208-96-8	1e
Anthracene	**0.11**	ug/L	0.091	1	06/26/15 00:00	07/01/15 21:37	120-12-7	1e,B
Benzo(a)anthracene	ND	ug/L	0.091	1	06/26/15 00:00	07/01/15 21:37	56-55-3	1e
Benzo(a)pyrene	ND	ug/L	0.091	1	06/26/15 00:00	07/01/15 21:37	50-32-8	1e
Benzo(b)fluoranthene	ND	ug/L	0.091	1	06/26/15 00:00	07/01/15 21:37	205-99-2	1e
Benzo(g,h,i)perylene	ND	ug/L	0.091	1	06/26/15 00:00	07/01/15 21:37	191-24-2	1e
Benzo(k)fluoranthene	ND	ug/L	0.091	1	06/26/15 00:00	07/01/15 21:37	207-08-9	1e
Chrysene	ND	ug/L	0.091	1	06/26/15 00:00	07/01/15 21:37	218-01-9	1e
Dibenz(a,h)anthracene	ND	ug/L	0.091	1	06/26/15 00:00	07/01/15 21:37	53-70-3	1e
Fluoranthene	**0.48**	ug/L	0.091	1	06/26/15 00:00	07/01/15 21:37	206-44-0	1e,B
Fluorene	**0.46**	ug/L	0.091	1	06/26/15 00:00	07/01/15 21:37	86-73-7	1e,B
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.091	1	06/26/15 00:00	07/01/15 21:37	193-39-5	1e
Naphthalene	**303**	ug/L	22.7	50	06/26/15 00:00	07/01/15 21:58	91-20-3	1e
Phenanthrene	**1.5**	ug/L	0.45	1	06/26/15 00:00	07/01/15 21:37	85-01-8	1e,B
Pyrene	**0.21**	ug/L	0.091	1	06/26/15 00:00	07/01/15 21:37	129-00-0	1e,B
Surrogates								
2-Fluorobiphenyl (S)	76	%	58-115	50	06/26/15 00:00	07/01/15 21:58	321-60-8	
Terphenyl-d14 (S)	95	%	53-127	50	06/26/15 00:00	07/01/15 21:58	1718-51-0	
8260 MSV GRO and Oxygenates	Analytical Method: EPA 8260							
tert-Amylmethyl ether	ND	ug/L	250	250		06/29/15 15:41	994-05-8	L3
Benzene	**18600**	ug/L	250	250		06/29/15 15:41	71-43-2	
tert-Butyl Alcohol	ND	ug/L	2500	250		06/29/15 15:41	75-65-0	
1,2-Dibromoethane (EDB)	ND	ug/L	250	250		06/29/15 15:41	106-93-4	
1,2-Dichloroethane	ND	ug/L	250	250		06/29/15 15:41	107-06-2	
Diisopropyl ether	ND	ug/L	250	250		06/29/15 15:41	108-20-3	
Ethylbenzene	**5070**	ug/L	250	250		06/29/15 15:41	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	250	250		06/29/15 15:41	637-92-3	L3
Methyl-tert-butyl ether	ND	ug/L	250	250		06/29/15 15:41	1634-04-4	L1
Naphthalene	ND	ug/L	2500	250		06/29/15 15:41	91-20-3	
Toluene	**53600**	ug/L	250	250		06/29/15 15:41	108-88-3	E
TPH-GRO	**242000**	ug/L	125000	250		06/29/15 15:41		
Xylene (Total)	**21800**	ug/L	750	250		06/29/15 15:41	1330-20-7	
m&p-Xylene	**14800**	ug/L	500	250		06/29/15 15:41	179601-23-1	

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ANALYTICAL RESULTS

Project: INNER-CITY OIL/ ZIL 57
Pace Project No.: 60196826

Sample: MW 11 **Lab ID: 60196826007** Collected: 06/19/15 12:25 Received: 06/19/15 16:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV GRO and Oxygenates	Analytical Method: EPA 8260							
o-Xylene	**7010**	ug/L	250	250		06/29/15 15:41	95-47-6	
Surrogates								
Toluene-d8 (S)	99	%	80-120	250		06/29/15 15:41	2037-26-5	P2
4-Bromofluorobenzene (S)	104	%	80-120	250		06/29/15 15:41	460-00-4	
1,2-Dichloroethane-d4 (S)	92	%	82-119	250		06/29/15 15:41	17060-07-0	
Preservation pH	**6.0**		0.10	250		06/29/15 15:41		pH

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ANALYTICAL RESULTS

Project: INNER-CITY OIL/ ZIL 57
Pace Project No.: 60196826

Sample: MW 12 **Lab ID: 60196826008** Collected: 06/19/15 12:35 Received: 06/19/15 16:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Lead	**5.7**	ug/L	5.0	1	07/06/15 10:30	07/06/15 17:23	7439-92-1	
8270 MSSV DRO/ORO	Analytical Method: EPA 8270 Preparation Method: EPA 3510C							
TPH-ORO	ND	mg/L	0.91	1	06/26/15 00:00	06/29/15 11:55		1e
TPH-DRO	**28.1**	mg/L	0.91	1	06/26/15 00:00	06/29/15 11:55		1e
Surrogates								
Nitrobenzene-d5 (S)	128	%	24-116	1	06/26/15 00:00	06/29/15 11:55	4165-60-0	S0
2-Fluorobiphenyl (S)	72	%	40-109	1	06/26/15 00:00	06/29/15 11:55	321-60-8	
Terphenyl-d14 (S)	89	%	43-123	1	06/26/15 00:00	06/29/15 11:55	1718-51-0	
8260 MSV GRO and Oxygenates	Analytical Method: EPA 8260							
tert-Amylmethyl ether	ND	ug/L	100	100		06/26/15 14:27	994-05-8	L3
Benzene	**14800**	ug/L	100	100		06/26/15 14:27	71-43-2	
tert-Butyl Alcohol	ND	ug/L	1000	100		06/26/15 14:27	75-65-0	
1,2-Dibromoethane (EDB)	ND	ug/L	100	100		06/26/15 14:27	106-93-4	
1,2-Dichloroethane	ND	ug/L	100	100		06/26/15 14:27	107-06-2	
Diisopropyl ether	ND	ug/L	100	100		06/26/15 14:27	108-20-3	
Ethylbenzene	**3330**	ug/L	100	100		06/26/15 14:27	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	100	100		06/26/15 14:27	637-92-3	L3
Methyl-tert-butyl ether	ND	ug/L	100	100		06/26/15 14:27	1634-04-4	
Naphthalene	ND	ug/L	1000	100		06/26/15 14:27	91-20-3	
Toluene	**30300**	ug/L	500	500		06/29/15 15:56	108-88-3	
TPH-GRO	**114000**	ug/L	50000	100		06/26/15 14:27		
Xylene (Total)	**9640**	ug/L	300	100		06/26/15 14:27	1330-20-7	
m&p-Xylene	**6810**	ug/L	200	100		06/26/15 14:27	179601-23-1	
o-Xylene	**2830**	ug/L	100	100		06/26/15 14:27	95-47-6	
Surrogates								
Toluene-d8 (S)	100	%	80-120	100		06/26/15 14:27	2037-26-5	
4-Bromofluorobenzene (S)	103	%	80-120	100		06/26/15 14:27	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	82-119	100		06/26/15 14:27	17060-07-0	
Preservation pH	**12.0**		0.10	100		06/26/15 14:27		

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ANALYTICAL RESULTS

Project: INNER-CITY OIL/ ZIL 57
Pace Project No.: 60196826

Sample: MW 13 **Lab ID: 60196826009** Collected: 06/19/15 13:45 Received: 06/19/15 16:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Lead	ND	ug/L	5.0	1	07/06/15 10:30	07/06/15 17:25	7439-92-1	
8270 MSSV DRO/ORO	Analytical Method: EPA 8270 Preparation Method: EPA 3510C							
TPH-ORO	ND	mg/L	0.91	1	06/26/15 00:00	06/29/15 12:17		1e
TPH-DRO	**8.3**	mg/L	0.91	1	06/26/15 00:00	06/29/15 12:17		1e
Surrogates								
Nitrobenzene-d5 (S)	69	%	24-116	1	06/26/15 00:00	06/29/15 12:17	4165-60-0	
2-Fluorobiphenyl (S)	69	%	40-109	1	06/26/15 00:00	06/29/15 12:17	321-60-8	
Terphenyl-d14 (S)	100	%	43-123	1	06/26/15 00:00	06/29/15 12:17	1718-51-0	
8260 MSV GRO and Oxygenates	Analytical Method: EPA 8260							
tert-Amylmethyl ether	**562**	ug/L	100	100		06/26/15 14:43	994-05-8	L1
Benzene	**12200**	ug/L	100	100		06/26/15 14:43	71-43-2	
tert-Butyl Alcohol	**1950**	ug/L	1000	100		06/26/15 14:43	75-65-0	
1,2-Dibromoethane (EDB)	ND	ug/L	100	100		06/26/15 14:43	106-93-4	
1,2-Dichloroethane	**283**	ug/L	100	100		06/26/15 14:43	107-06-2	
Diisopropyl ether	ND	ug/L	100	100		06/26/15 14:43	108-20-3	
Ethylbenzene	**2090**	ug/L	100	100		06/26/15 14:43	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	100	100		06/26/15 14:43	637-92-3	L3
Methyl-tert-butyl ether	**143**	ug/L	100	100		06/26/15 14:43	1634-04-4	
Naphthalene	ND	ug/L	1000	100		06/26/15 14:43	91-20-3	
Toluene	**12800**	ug/L	100	100		06/26/15 14:43	108-88-3	
TPH-GRO	**73100**	ug/L	50000	100		06/26/15 14:43		
Xylene (Total)	**8170**	ug/L	300	100		06/26/15 14:43	1330-20-7	
m&p-Xylene	**5800**	ug/L	200	100		06/26/15 14:43	179601-23-1	
o-Xylene	**2370**	ug/L	100	100		06/26/15 14:43	95-47-6	
Surrogates								
Toluene-d8 (S)	102	%	80-120	100		06/26/15 14:43	2037-26-5	
4-Bromofluorobenzene (S)	104	%	80-120	100		06/26/15 14:43	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	82-119	100		06/26/15 14:43	17060-07-0	
Preservation pH	**12.0**		0.10	100		06/26/15 14:43		

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ANALYTICAL RESULTS

Project: INNER-CITY OIL/ ZIL 57
Pace Project No.: 60196826

Sample: MW 15 **Lab ID: 60196826010** Collected: 06/19/15 12:00 Received: 06/19/15 16:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Lead	**5.4**	ug/L	5.0	1	07/06/15 10:30	07/06/15 17:28	7439-92-1	
8270 MSSV DRO/ORO	Analytical Method: EPA 8270 Preparation Method: EPA 3510C							
TPH-ORO	**9.4**	mg/L	0.91	1	06/26/15 00:00	06/29/15 12:38		1e
TPH-DRO	**4.0**	mg/L	0.91	1	06/26/15 00:00	06/29/15 12:38		1e
Surrogates								
Nitrobenzene-d5 (S)	56	%	24-116	1	06/26/15 00:00	06/29/15 12:38	4165-60-0	
2-Fluorobiphenyl (S)	58	%	40-109	1	06/26/15 00:00	06/29/15 12:38	321-60-8	
Terphenyl-d14 (S)	81	%	43-123	1	06/26/15 00:00	06/29/15 12:38	1718-51-0	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270C by SIM Preparation Method: EPA 3510C							
Acenaphthene	ND	ug/L	0.45	5	06/26/15 00:00	07/09/15 15:42	83-32-9	1e
Acenaphthylene	ND	ug/L	0.45	5	06/26/15 00:00	07/09/15 15:42	208-96-8	1e
Anthracene	ND	ug/L	0.45	5	06/26/15 00:00	07/09/15 15:42	120-12-7	1e
Benzo(a)anthracene	ND	ug/L	0.45	5	06/26/15 00:00	07/09/15 15:42	56-55-3	1e
Benzo(a)pyrene	ND	ug/L	0.45	5	06/26/15 00:00	07/09/15 15:42	50-32-8	1e
Benzo(b)fluoranthene	**0.55**	ug/L	0.45	5	06/26/15 00:00	07/09/15 15:42	205-99-2	1e
Benzo(g,h,i)perylene	ND	ug/L	0.45	5	06/26/15 00:00	07/09/15 15:42	191-24-2	1e
Benzo(k)fluoranthene	ND	ug/L	0.45	5	06/26/15 00:00	07/09/15 15:42	207-08-9	1e
Chrysene	**0.57**	ug/L	0.45	5	06/26/15 00:00	07/09/15 15:42	218-01-9	1e
Dibenz(a,h)anthracene	ND	ug/L	0.45	5	06/26/15 00:00	07/09/15 15:42	53-70-3	1e
Fluoranthene	**1.3**	ug/L	0.45	5	06/26/15 00:00	07/09/15 15:42	206-44-0	1e,B
Fluorene	ND	ug/L	0.45	5	06/26/15 00:00	07/09/15 15:42	86-73-7	1e
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.45	5	06/26/15 00:00	07/09/15 15:42	193-39-5	1e
Naphthalene	**28.4**	ug/L	2.3	5	06/26/15 00:00	07/09/15 15:42	91-20-3	1e,D4
Phenanthrene	ND	ug/L	2.3	5	06/26/15 00:00	07/09/15 15:42	85-01-8	1e
Pyrene	**0.70**	ug/L	0.45	5	06/26/15 00:00	07/09/15 15:42	129-00-0	1e,B
Surrogates								
2-Fluorobiphenyl (S)	58	%	58-115	1	06/26/15 00:00	06/29/15 12:38	321-60-8	
Terphenyl-d14 (S)	81	%	53-127	1	06/26/15 00:00	06/29/15 12:38	1718-51-0	
8260 MSV GRO and Oxygenates	Analytical Method: EPA 8260							
tert-Amylmethyl ether	ND	ug/L	1.0	1		06/25/15 00:35	994-05-8	
Benzene	**3660**	ug/L	20.0	20		06/26/15 14:58	71-43-2	
tert-Butyl Alcohol	**87.7**	ug/L	10.0	1		06/25/15 00:35	75-65-0	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		06/25/15 00:35	106-93-4	
1,2-Dichloroethane	ND	ug/L	1.0	1		06/25/15 00:35	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	1		06/25/15 00:35	108-20-3	
Ethylbenzene	**798**	ug/L	20.0	20		06/26/15 14:58	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	1.0	1		06/25/15 00:35	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		06/25/15 00:35	1634-04-4	
Naphthalene	**44.4**	ug/L	10.0	1		06/25/15 00:35	91-20-3	
Toluene	**574**	ug/L	20.0	20		06/26/15 14:58	108-88-3	
TPH-GRO	**16700**	ug/L	500	1		06/25/15 00:35		
Xylene (Total)	**2050**	ug/L	60.0	20		06/26/15 14:58	1330-20-7	
m&p-Xylene	**1750**	ug/L	40.0	20		06/26/15 14:58	179601-23-1	

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ANALYTICAL RESULTS

Project: INNER-CITY OIL/ ZIL 57
Pace Project No.: 60196826

Sample: MW 15 **Lab ID: 60196826010** Collected: 06/19/15 12:00 Received: 06/19/15 16:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV GRO and Oxygenates	Analytical Method: EPA 8260							
o-Xylene	**305**	ug/L	20.0	20		06/26/15 14:58	95-47-6	
Surrogates								
Toluene-d8 (S)	102	%	80-120	1		06/25/15 00:35	2037-26-5	
4-Bromofluorobenzene (S)	106	%	80-120	1		06/25/15 00:35	460-00-4	
1,2-Dichloroethane-d4 (S)	108	%	82-119	1		06/25/15 00:35	17060-07-0	
Preservation pH	**10.0**		0.10	1		06/25/15 00:35		

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ANALYTICAL RESULTS

Project: INNER-CITY OIL/ ZIL 57
Pace Project No.: 60196826

Sample: MW 16 **Lab ID: 60196826011** Collected: 06/19/15 13:25 Received: 06/19/15 16:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Lead	ND	ug/L	5.0	1	07/06/15 10:30	07/06/15 17:30	7439-92-1	
8270 MSSV DRO/ORO	Analytical Method: EPA 8270 Preparation Method: EPA 3510C							
TPH-ORO	**2.5**	mg/L	0.91	1	06/26/15 00:00	06/29/15 13:00		1e
TPH-DRO	**2.7**	mg/L	0.91	1	06/26/15 00:00	06/29/15 13:00		1e
Surrogates								
Nitrobenzene-d5 (S)	74	%	24-116	1	06/26/15 00:00	06/29/15 13:00	4165-60-0	
2-Fluorobiphenyl (S)	70	%	40-109	1	06/26/15 00:00	06/29/15 13:00	321-60-8	
Terphenyl-d14 (S)	88	%	43-123	1	06/26/15 00:00	06/29/15 13:00	1718-51-0	
8260 MSV GRO and Oxygenates	Analytical Method: EPA 8260							
tert-Amylmethyl ether	ND	ug/L	1.0	1		06/25/15 00:50	994-05-8	
Benzene	**2530**	ug/L	20.0	20		06/26/15 15:13	71-43-2	
tert-Butyl Alcohol	**72.6**	ug/L	10.0	1		06/25/15 00:50	75-65-0	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		06/25/15 00:50	106-93-4	
1,2-Dichloroethane	ND	ug/L	1.0	1		06/25/15 00:50	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	1		06/25/15 00:50	108-20-3	
Ethylbenzene	**294**	ug/L	20.0	20		06/26/15 15:13	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	1.0	1		06/25/15 00:50	637-92-3	
Methyl-tert-butyl ether	**1.4**	ug/L	1.0	1		06/25/15 00:50	1634-04-4	
Naphthalene	**56.4**	ug/L	10.0	1		06/25/15 00:50	91-20-3	
Toluene	**1210**	ug/L	20.0	20		06/26/15 15:13	108-88-3	
TPH-GRO	**10100**	ug/L	500	1		06/25/15 00:50		
Xylene (Total)	**1100**	ug/L	60.0	20		06/26/15 15:13	1330-20-7	
m&p-Xylene	**790**	ug/L	40.0	20		06/26/15 15:13	179601-23-1	
o-Xylene	**305**	ug/L	20.0	20		06/26/15 15:13	95-47-6	
Surrogates								
Toluene-d8 (S)	101	%	80-120	1		06/25/15 00:50	2037-26-5	
4-Bromofluorobenzene (S)	103	%	80-120	1		06/25/15 00:50	460-00-4	
1,2-Dichloroethane-d4 (S)	113	%	82-119	1		06/25/15 00:50	17060-07-0	
Preservation pH	**10.0**		0.10	1		06/25/15 00:50		

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ANALYTICAL RESULTS

Project: INNER-CITY OIL/ ZIL 57
Pace Project No.: 60196826

Sample: MW A **Lab ID: 60196826012** Collected: 06/19/15 11:40 Received: 06/19/15 16:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Lead	**21.8**	ug/L	5.0	1	07/06/15 10:30	07/06/15 17:32	7439-92-1	
8270 MSSV DRO/ORO	Analytical Method: EPA 8270 Preparation Method: EPA 3510C							
TPH-ORO	**1.1**	mg/L	0.91	1	06/26/15 00:00	06/29/15 13:22		1e
TPH-DRO	**15.0**	mg/L	0.91	1	06/26/15 00:00	06/29/15 13:22		1e
Surrogates								
Nitrobenzene-d5 (S)	68	%	24-116	1	06/26/15 00:00	06/29/15 13:22	4165-60-0	
2-Fluorobiphenyl (S)	65	%	40-109	1	06/26/15 00:00	06/29/15 13:22	321-60-8	
Terphenyl-d14 (S)	82	%	43-123	1	06/26/15 00:00	06/29/15 13:22	1718-51-0	
8260 MSV GRO and Oxygenates	Analytical Method: EPA 8260							
tert-Amylmethyl ether	ND	ug/L	50.0	50		06/26/15 15:28	994-05-8	L3
Benzene	**16800**	ug/L	50.0	50		06/26/15 15:28	71-43-2	E
tert-Butyl Alcohol	ND	ug/L	500	50		06/26/15 15:28	75-65-0	
1,2-Dibromoethane (EDB)	ND	ug/L	50.0	50		06/26/15 15:28	106-93-4	
1,2-Dichloroethane	ND	ug/L	50.0	50		06/26/15 15:28	107-06-2	
Diisopropyl ether	ND	ug/L	50.0	50		06/26/15 15:28	108-20-3	
Ethylbenzene	**4030**	ug/L	50.0	50		06/26/15 15:28	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	50.0	50		06/26/15 15:28	637-92-3	L3
Methyl-tert-butyl ether	ND	ug/L	50.0	50		06/26/15 15:28	1634-04-4	
Naphthalene	ND	ug/L	500	50		06/26/15 15:28	91-20-3	
Toluene	**29400**	ug/L	50.0	50		06/26/15 15:28	108-88-3	E
TPH-GRO	**152000**	ug/L	25000	50		06/26/15 15:28		
Xylene (Total)	**15000**	ug/L	150	50		06/26/15 15:28	1330-20-7	
m&p-Xylene	**10400**	ug/L	100	50		06/26/15 15:28	179601-23-1	
o-Xylene	**4520**	ug/L	50.0	50		06/26/15 15:28	95-47-6	
Surrogates								
Toluene-d8 (S)	100	%	80-120	50		06/26/15 15:28	2037-26-5	P2
4-Bromofluorobenzene (S)	103	%	80-120	50		06/26/15 15:28	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	82-119	50		06/26/15 15:28	17060-07-0	
Preservation pH	**12.0**		0.10	50		06/26/15 15:28		

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ANALYTICAL RESULTS

Project: INNER-CITY OIL/ ZIL 57
Pace Project No.: 60196826

Sample: MW B **Lab ID: 60196826013** Collected: 06/19/15 13:40 Received: 06/19/15 16:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Lead	**12.8**	ug/L	5.0	1	07/06/15 10:30	07/06/15 17:34	7439-92-1	
8270 MSSV DRO/ORO	Analytical Method: EPA 8270 Preparation Method: EPA 3510C							
TPH-ORO	**2.3**	mg/L	0.91	1	06/26/15 00:00	06/29/15 13:43		1e
TPH-DRO	**10.8**	mg/L	0.91	1	06/26/15 00:00	06/29/15 13:43		1e
Surrogates								
Nitrobenzene-d5 (S)	71	%	24-116	1	06/26/15 00:00	06/29/15 13:43	4165-60-0	
2-Fluorobiphenyl (S)	68	%	40-109	1	06/26/15 00:00	06/29/15 13:43	321-60-8	
Terphenyl-d14 (S)	88	%	43-123	1	06/26/15 00:00	06/29/15 13:43	1718-51-0	
8260 MSV GRO and Oxygenates	Analytical Method: EPA 8260							
tert-Amylmethyl ether	ND	ug/L	5.0	5		06/25/15 01:05	994-05-8	
Benzene	**5660**	ug/L	100	100		06/26/15 15:43	71-43-2	
tert-Butyl Alcohol	ND	ug/L	50.0	5		06/25/15 01:05	75-65-0	
1,2-Dibromoethane (EDB)	ND	ug/L	5.0	5		06/25/15 01:05	106-93-4	
1,2-Dichloroethane	ND	ug/L	5.0	5		06/25/15 01:05	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	5		06/25/15 01:05	108-20-3	
Ethylbenzene	**4330**	ug/L	100	100		06/26/15 15:43	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	5.0	5		06/25/15 01:05	637-92-3	
Methyl-tert-butyl ether	**13.3**	ug/L	5.0	5		06/25/15 01:05	1634-04-4	
Naphthalene	**443**	ug/L	50.0	5		06/25/15 01:05	91-20-3	
Toluene	**17200**	ug/L	100	100		06/26/15 15:43	108-88-3	
TPH-GRO	**70400**	ug/L	2500	5		06/25/15 01:05		
Xylene (Total)	**16200**	ug/L	300	100		06/26/15 15:43	1330-20-7	
m&p-Xylene	**11700**	ug/L	200	100		06/26/15 15:43	179601-23-1	
o-Xylene	**4510**	ug/L	100	100		06/26/15 15:43	95-47-6	
Surrogates								
Toluene-d8 (S)	101	%	80-120	5		06/25/15 01:05	2037-26-5	
4-Bromofluorobenzene (S)	107	%	80-120	5		06/25/15 01:05	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	82-119	5		06/25/15 01:05	17060-07-0	
Preservation pH	**10.0**		0.10	5		06/25/15 01:05		

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ANALYTICAL RESULTS

Project: INNER-CITY OIL/ ZIL 57
Pace Project No.: 60196826

Sample: MW C **Lab ID: 60196826014** Collected: 06/19/15 14:40 Received: 06/19/15 16:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Lead	**7.5**	ug/L	5.0	1	07/06/15 10:30	07/06/15 17:37	7439-92-1	
8270 MSSV DRO/ORO	Analytical Method: EPA 8270 Preparation Method: EPA 3510C							
TPH-ORO	**1.3**	mg/L	0.91	1	06/26/15 00:00	06/29/15 14:05		1e
TPH-DRO	**20.8**	mg/L	0.91	1	06/26/15 00:00	06/29/15 14:05		1e
Surrogates								
Nitrobenzene-d5 (S)	76	%	24-116	1	06/26/15 00:00	06/29/15 14:05	4165-60-0	
2-Fluorobiphenyl (S)	70	%	40-109	1	06/26/15 00:00	06/29/15 14:05	321-60-8	
Terphenyl-d14 (S)	93	%	43-123	1	06/26/15 00:00	06/29/15 14:05	1718-51-0	
8260 MSV GRO and Oxygenates	Analytical Method: EPA 8260							
tert-Amylmethyl ether	**11.5**	ug/L	5.0	5		06/25/15 01:21	994-05-8	
Benzene	**16800**	ug/L	100	100		06/26/15 15:58	71-43-2	
tert-Butyl Alcohol	**585**	ug/L	50.0	5		06/25/15 01:21	75-65-0	
1,2-Dibromoethane (EDB)	ND	ug/L	5.0	5		06/25/15 01:21	106-93-4	
1,2-Dichloroethane	ND	ug/L	5.0	5		06/25/15 01:21	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	5		06/25/15 01:21	108-20-3	
Ethylbenzene	**4860**	ug/L	100	100		06/26/15 15:58	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	5.0	5		06/25/15 01:21	637-92-3	
Methyl-tert-butyl ether	**133**	ug/L	5.0	5		06/25/15 01:21	1634-04-4	
Naphthalene	**611**	ug/L	50.0	5		06/25/15 01:21	91-20-3	
Toluene	**46000**	ug/L	500	500		06/29/15 16:11	108-88-3	
TPH-GRO	**81300**	ug/L	2500	5		06/25/15 01:21		
Xylene (Total)	**19900**	ug/L	300	100		06/26/15 15:58	1330-20-7	
m&p-Xylene	**13600**	ug/L	200	100		06/26/15 15:58	179601-23-1	
o-Xylene	**6270**	ug/L	100	100		06/26/15 15:58	95-47-6	
Surrogates								
Toluene-d8 (S)	102	%	80-120	5		06/25/15 01:21	2037-26-5	
4-Bromofluorobenzene (S)	103	%	80-120	5		06/25/15 01:21	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	82-119	5		06/25/15 01:21	17060-07-0	
Preservation pH	**10.0**		0.10	5		06/25/15 01:21		

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ANALYTICAL RESULTS

Project: INNER-CITY OIL/ ZIL 57
Pace Project No.: 60196826

Sample: MW D **Lab ID: 60196826015** Collected: 06/19/15 13:00 Received: 06/19/15 16:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Lead	**7.4**	ug/L	5.0	1	07/06/15 10:30	07/06/15 17:43	7439-92-1	
8270 MSSV DRO/ORO	Analytical Method: EPA 8270 Preparation Method: EPA 3510C							
TPH-ORO	ND	mg/L	0.91	1	06/26/15 00:00	06/29/15 14:27		1e
TPH-DRO	**11.8**	mg/L	0.91	1	06/26/15 00:00	06/29/15 14:27		1e
Surrogates								
Nitrobenzene-d5 (S)	62	%	24-116	1	06/26/15 00:00	06/29/15 14:27	4165-60-0	
2-Fluorobiphenyl (S)	59	%	40-109	1	06/26/15 00:00	06/29/15 14:27	321-60-8	
Terphenyl-d14 (S)	76	%	43-123	1	06/26/15 00:00	06/29/15 14:27	1718-51-0	
8260 MSV GRO and Oxygenates	Analytical Method: EPA 8260							
tert-Amylmethyl ether	ND	ug/L	200	200		06/26/15 16:13	994-05-8	L3
Benzene	**12800**	ug/L	200	200		06/26/15 16:13	71-43-2	
tert-Butyl Alcohol	ND	ug/L	2000	200		06/26/15 16:13	75-65-0	
1,2-Dibromoethane (EDB)	ND	ug/L	200	200		06/26/15 16:13	106-93-4	
1,2-Dichloroethane	ND	ug/L	200	200		06/26/15 16:13	107-06-2	
Diisopropyl ether	ND	ug/L	200	200		06/26/15 16:13	108-20-3	
Ethylbenzene	**3310**	ug/L	200	200		06/26/15 16:13	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	200	200		06/26/15 16:13	637-92-3	L3
Methyl-tert-butyl ether	ND	ug/L	200	200		06/26/15 16:13	1634-04-4	
Naphthalene	ND	ug/L	2000	200		06/26/15 16:13	91-20-3	
Toluene	**28800**	ug/L	200	200		06/26/15 16:13	108-88-3	
TPH-GRO	**148000**	ug/L	100000	200		06/26/15 16:13		
Xylene (Total)	**14900**	ug/L	600	200		06/26/15 16:13	1330-20-7	
m&p-Xylene	**10100**	ug/L	400	200		06/26/15 16:13	179601-23-1	
o-Xylene	**4850**	ug/L	200	200		06/26/15 16:13	95-47-6	
Surrogates								
Toluene-d8 (S)	100	%	80-120	200		06/26/15 16:13	2037-26-5	
4-Bromofluorobenzene (S)	104	%	80-120	200		06/26/15 16:13	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	82-119	200		06/26/15 16:13	17060-07-0	
Preservation pH	**12.0**		0.10	200		06/26/15 16:13		

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ANALYTICAL RESULTS

Project: INNER-CITY OIL/ ZIL 57
Pace Project No.: 60196826

Sample: MW E **Lab ID: 60196826016** Collected: 06/19/15 14:30 Received: 06/19/15 16:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Lead	**34.1**	ug/L	5.0	1	07/06/15 10:30	07/06/15 17:46	7439-92-1	
8270 MSSV DRO/ORO	Analytical Method: EPA 8270 Preparation Method: EPA 3510C							
TPH-ORO	ND	mg/L	0.91	1	06/26/15 00:00	06/29/15 14:48		1e
TPH-DRO	**13.9**	mg/L	0.91	1	06/26/15 00:00	06/29/15 14:48		1e
Surrogates								
Nitrobenzene-d5 (S)	66	%	24-116	1	06/26/15 00:00	06/29/15 14:48	4165-60-0	
2-Fluorobiphenyl (S)	65	%	40-109	1	06/26/15 00:00	06/29/15 14:48	321-60-8	
Terphenyl-d14 (S)	88	%	43-123	1	06/26/15 00:00	06/29/15 14:48	1718-51-0	
8260 MSV GRO and Oxygenates	Analytical Method: EPA 8260							
tert-Amylmethyl ether	**7.7**	ug/L	5.0	5		06/25/15 01:52	994-05-8	
Benzene	**4750**	ug/L	50.0	50		06/29/15 16:26	71-43-2	
tert-Butyl Alcohol	**1540**	ug/L	50.0	5		06/25/15 01:52	75-65-0	
1,2-Dibromoethane (EDB)	ND	ug/L	5.0	5		06/25/15 01:52	106-93-4	
1,2-Dichloroethane	ND	ug/L	5.0	5		06/25/15 01:52	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	5		06/25/15 01:52	108-20-3	
Ethylbenzene	**565**	ug/L	5.0	5		06/25/15 01:52	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	5.0	5		06/25/15 01:52	637-92-3	
Methyl-tert-butyl ether	**307**	ug/L	5.0	5		06/25/15 01:52	1634-04-4	
Naphthalene	**824**	ug/L	50.0	5		06/25/15 01:52	91-20-3	
Toluene	**141**	ug/L	5.0	5		06/25/15 01:52	108-88-3	
TPH-GRO	**7300**	ug/L	2500	5		06/25/15 01:52		
Xylene (Total)	**189**	ug/L	15.0	5		06/25/15 01:52	1330-20-7	
m&p-Xylene	**151**	ug/L	10.0	5		06/25/15 01:52	179601-23-1	
o-Xylene	**37.4**	ug/L	5.0	5		06/25/15 01:52	95-47-6	
Surrogates								
Toluene-d8 (S)	102	%	80-120	5		06/25/15 01:52	2037-26-5	
4-Bromofluorobenzene (S)	100	%	80-120	5		06/25/15 01:52	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	82-119	5		06/25/15 01:52	17060-07-0	
Preservation pH	**10.0**		0.10	5		06/25/15 01:52		

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ANALYTICAL RESULTS

Project: INNER-CITY OIL/ ZIL 57
Pace Project No.: 60196826

Sample: MW F **Lab ID: 60196826017** Collected: 06/19/15 14:45 Received: 06/19/15 16:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Lead	**7.1**	ug/L	5.0	1	07/06/15 10:30	07/06/15 17:48	7439-92-1	
8270 MSSV DRO/ORO	Analytical Method: EPA 8270 Preparation Method: EPA 3510C							
TPH-ORO	ND	mg/L	0.91	1	06/26/15 00:00	06/29/15 15:10		1e
TPH-DRO	**1.2**	mg/L	0.91	1	06/26/15 00:00	06/29/15 15:10		1e
Surrogates								
Nitrobenzene-d5 (S)	75	%	24-116	1	06/26/15 00:00	06/29/15 15:10	4165-60-0	
2-Fluorobiphenyl (S)	72	%	40-109	1	06/26/15 00:00	06/29/15 15:10	321-60-8	
Terphenyl-d14 (S)	101	%	43-123	1	06/26/15 00:00	06/29/15 15:10	1718-51-0	
8260 MSV GRO and Oxygenates	Analytical Method: EPA 8260							
tert-Amylmethyl ether	ND	ug/L	1.0	1		06/26/15 16:43	994-05-8	L3
Benzene	**3.1**	ug/L	1.0	1		06/26/15 16:43	71-43-2	
tert-Butyl Alcohol	ND	ug/L	10.0	1		06/26/15 16:43	75-65-0	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		06/26/15 16:43	106-93-4	
1,2-Dichloroethane	ND	ug/L	1.0	1		06/26/15 16:43	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	1		06/26/15 16:43	108-20-3	
Ethylbenzene	**2.6**	ug/L	1.0	1		06/26/15 16:43	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	1.0	1		06/26/15 16:43	637-92-3	L3
Methyl-tert-butyl ether	**15.3**	ug/L	1.0	1		06/26/15 16:43	1634-04-4	
Naphthalene	ND	ug/L	10.0	1		06/26/15 16:43	91-20-3	
Toluene	ND	ug/L	1.0	1		06/26/15 16:43	108-88-3	
TPH-GRO	ND	ug/L	500	1		06/26/15 16:43		
Xylene (Total)	ND	ug/L	3.0	1		06/26/15 16:43	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		06/26/15 16:43	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		06/26/15 16:43	95-47-6	
Surrogates								
Toluene-d8 (S)	99	%	80-120	1		06/26/15 16:43	2037-26-5	
4-Bromofluorobenzene (S)	106	%	80-120	1		06/26/15 16:43	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	82-119	1		06/26/15 16:43	17060-07-0	
Preservation pH	**12.0**		0.10	1		06/26/15 16:43		

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ANALYTICAL RESULTS

Project: INNER-CITY OIL/ ZIL 57
Pace Project No.: 60196826

Sample: TRIP BLANKS **Lab ID: 60196826018** Collected: 06/19/15 08:00 Received: 06/19/15 16:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV GRO and Oxygenates	Analytical Method: EPA 8260							
tert-Amylmethyl ether	ND	ug/L	1.0	1		06/25/15 00:04	994-05-8	
Benzene	ND	ug/L	1.0	1		06/25/15 00:04	71-43-2	
tert-Butyl Alcohol	ND	ug/L	10.0	1		06/25/15 00:04	75-65-0	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		06/25/15 00:04	106-93-4	
1,2-Dichloroethane	ND	ug/L	1.0	1		06/25/15 00:04	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	1		06/25/15 00:04	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		06/25/15 00:04	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	1.0	1		06/25/15 00:04	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		06/25/15 00:04	1634-04-4	
Naphthalene	ND	ug/L	10.0	1		06/25/15 00:04	91-20-3	
Toluene	ND	ug/L	1.0	1		06/25/15 00:04	108-88-3	
TPH-GRO	ND	ug/L	500	1		06/25/15 00:04		
Xylene (Total)	ND	ug/L	3.0	1		06/25/15 00:04	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		06/25/15 00:04	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		06/25/15 00:04	95-47-6	
Surrogates								
Toluene-d8 (S)	103	%	80-120	1		06/25/15 00:04	2037-26-5	
4-Bromofluorobenzene (S)	101	%	80-120	1		06/25/15 00:04	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	82-119	1		06/25/15 00:04	17060-07-0	
Preservation pH	**10.0**		0.10	1		06/25/15 00:04		

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QUALITY CONTROL DATA

Project: INNER-CITY OIL/ ZIL 57
Pace Project No.: 60196826

QC Batch: MPRP/32404 — Analysis Method: EPA 6010
QC Batch Method: EPA 3010 — Analysis Description: 6010 MET
Associated Lab Samples: 60196826001, 60196826002, 60196826003, 60196826004, 60196826005, 60196826006, 60196826007, 60196826008, 60196826009, 60196826010, 60196826011, 60196826012, 60196826013, 60196826014, 60196826015, 60196826016, 60196826017

METHOD BLANK: 1596067 — Matrix: Water
Associated Lab Samples: 60196826001, 60196826002, 60196826003, 60196826004, 60196826005, 60196826006, 60196826007, 60196826008, 60196826009, 60196826010, 60196826011, 60196826012, 60196826013, 60196826014, 60196826015, 60196826016, 60196826017

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lead	ug/L	ND	5.0	07/06/15 16:53	

LABORATORY CONTROL SAMPLE: 1596068

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lead	ug/L	1000	1100	110	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1596069 1596070

Parameter	Units	60196826001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Lead	ug/L	ND	1000	1000	1010	1010	101	101	75-125	0	20	

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QUALITY CONTROL DATA

Project: INNER-CITY OIL/ ZIL 57
Pace Project No.: 60196826

QC Batch: MSV/70264 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV MO GRO Oxygenates
Associated Lab Samples: 60196826001, 60196826002, 60196826003, 60196826004, 60196826005, 60196826006

METHOD BLANK: 1591027 Matrix: Water
Associated Lab Samples: 60196826001, 60196826002, 60196826003, 60196826004, 60196826005, 60196826006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	06/24/15 13:31	
1,2-Dichloroethane	ug/L	ND	1.0	06/24/15 13:31	
Benzene	ug/L	ND	1.0	06/24/15 13:31	
Diisopropyl ether	ug/L	ND	1.0	06/24/15 13:31	
Ethyl-tert-butyl ether	ug/L	ND	1.0	06/24/15 13:31	
Ethylbenzene	ug/L	ND	1.0	06/24/15 13:31	
m&p-Xylene	ug/L	ND	2.0	06/24/15 13:31	
Methyl-tert-butyl ether	ug/L	ND	1.0	06/24/15 13:31	
Naphthalene	ug/L	ND	10.0	06/24/15 13:31	
o-Xylene	ug/L	ND	1.0	06/24/15 13:31	
tert-Amylmethyl ether	ug/L	ND	1.0	06/24/15 13:31	
tert-Butyl Alcohol	ug/L	ND	10.0	06/24/15 13:31	
Toluene	ug/L	ND	1.0	06/24/15 13:31	
TPH-GRO	ug/L	ND	500	06/24/15 13:31	
Xylene (Total)	ug/L	ND	3.0	06/24/15 13:31	
1,2-Dichloroethane-d4 (S)	%	101	82-119	06/24/15 13:31	
4-Bromofluorobenzene (S)	%	99	80-120	06/24/15 13:31	
Toluene-d8 (S)	%	99	80-120	06/24/15 13:31	

LABORATORY CONTROL SAMPLE: 1591028

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	20	21.9	110	80-120	
1,2-Dichloroethane	ug/L	20	20.2	101	81-120	
Benzene	ug/L	20	20.3	102	80-120	
Diisopropyl ether	ug/L	20	22.2	111	71-126	
Ethyl-tert-butyl ether	ug/L	20	26.7	133	79-121	L0
Ethylbenzene	ug/L	20	21.5	108	80-120	
m&p-Xylene	ug/L	40	43.6	109	80-120	
Methyl-tert-butyl ether	ug/L	20	23.9	119	74-120	
Naphthalene	ug/L	20	21.2	106	73-128	
o-Xylene	ug/L	20	22.9	114	80-120	
tert-Amylmethyl ether	ug/L	20	27.1	135	80-120	L0
tert-Butyl Alcohol	ug/L	100	104	104	65-131	
Toluene	ug/L	20	20.2	101	80-120	
TPH-GRO	ug/L	4000	3390	85	53-122	
Xylene (Total)	ug/L	60	66.4	111	80-120	
1,2-Dichloroethane-d4 (S)	%			103	82-119	
4-Bromofluorobenzene (S)	%			96	80-120	
Toluene-d8 (S)	%			99	80-120	

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QUALITY CONTROL DATA

Project: INNER-CITY OIL/ ZIL 57
Pace Project No.: 60196826

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1591029 1591030

Parameter	Units	60196667011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L		20	20	55.9	44.4	276	218	81-116	23	13	M1,R1
1,2-Dichloroethane	ug/L		20	20	49.7	39.0	249	195	79-121	24	12	M1,R1
Benzene	ug/L	8.4	20	20	63.1	51.8	274	217	46-155	20	13	M1,R1
Diisopropyl ether	ug/L	ND	20	20	57.0	45.9	283	228	61-136	22	44	M1
Ethyl-tert-butyl ether	ug/L	ND	20	20	70.3	56.2	351	281	60-142	22	45	M0
Ethylbenzene	ug/L	ND	20	20	58.3	46.1	291	230	51-148	23	14	M1,R1
m&p-Xylene	ug/L		40	40	114	92.2	284	230	62-140	21	15	M1,R1
Methyl-tert-butyl ether	ug/L	ND	20	20	62.2	49.5	309	246	41-156	23	17	M1,R1
Naphthalene	ug/L	ND	20	20	51.7	44.9	231	198	41-148	14	33	M1
o-Xylene	ug/L		20	20	59.6	48.4	297	241	40-162	21	15	M1,R1
tert-Amylmethyl ether	ug/L	ND	20	20	72.6	58.4	363	292	66-136	22	22	M0
tert-Butyl Alcohol	ug/L	ND	100	100	218	180	218	180	47-141	19	38	M1
Toluene	ug/L	ND	20	20	53.7	42.3	267	210	47-149	24	16	M1,R1
Xylene (Total)	ug/L	ND	60	60	174	141	290	234	39-158	21	15	MS,RS
1,2-Dichloroethane-d4 (S)	%						99	98	82-119			
4-Bromofluorobenzene (S)	%						98	100	80-120			
Toluene-d8 (S)	%						98	99	80-120			
Preservation pH		12.0			12.0	12.0				0		

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QUALITY CONTROL DATA

Project: INNER-CITY OIL/ ZIL 57
Pace Project No.: 60196826

QC Batch: MSV/70275 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV MO GRO Oxygenates
Associated Lab Samples: 60196826010, 60196826011, 60196826013, 60196826014, 60196826016, 60196826017, 60196826018

METHOD BLANK: 1591129 Matrix: Water
Associated Lab Samples: 60196826010, 60196826011, 60196826013, 60196826014, 60196826016, 60196826017, 60196826018

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	06/24/15 23:48	
1,2-Dichloroethane	ug/L	ND	1.0	06/24/15 23:48	
Benzene	ug/L	ND	1.0	06/24/15 23:48	
Diisopropyl ether	ug/L	ND	1.0	06/24/15 23:48	
Ethyl-tert-butyl ether	ug/L	ND	1.0	06/24/15 23:48	
Ethylbenzene	ug/L	ND	1.0	06/24/15 23:48	
m&p-Xylene	ug/L	ND	2.0	06/24/15 23:48	
Methyl-tert-butyl ether	ug/L	ND	1.0	06/24/15 23:48	
Naphthalene	ug/L	ND	10.0	06/24/15 23:48	
o-Xylene	ug/L	ND	1.0	06/24/15 23:48	
tert-Amylmethyl ether	ug/L	ND	1.0	06/24/15 23:48	
tert-Butyl Alcohol	ug/L	ND	10.0	06/24/15 23:48	
Toluene	ug/L	ND	1.0	06/24/15 23:48	
TPH-GRO	ug/L	ND	500	06/24/15 23:48	
Xylene (Total)	ug/L	ND	3.0	06/24/15 23:48	
1,2-Dichloroethane-d4 (S)	%	94	82-119	06/24/15 23:48	
4-Bromofluorobenzene (S)	%	102	80-120	06/24/15 23:48	
Toluene-d8 (S)	%	103	80-120	06/24/15 23:48	

LABORATORY CONTROL SAMPLE: 1591130

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	20	19.4	97	80-120	
1,2-Dichloroethane	ug/L	20	17.4	87	81-120	
Benzene	ug/L	20	19.1	95	80-120	
Diisopropyl ether	ug/L	20	16.1	80	71-126	
Ethyl-tert-butyl ether	ug/L	20	16.8	84	79-121	
Ethylbenzene	ug/L	20	20.0	100	80-120	
m&p-Xylene	ug/L	40	40.9	102	80-120	
Methyl-tert-butyl ether	ug/L	20	19.8	99	74-120	
Naphthalene	ug/L	20	22.2	111	73-128	
o-Xylene	ug/L	20	20.4	102	80-120	
tert-Amylmethyl ether	ug/L	20	18.3	92	80-120	
tert-Butyl Alcohol	ug/L	100	97.7	98	65-131	
Toluene	ug/L	20	20.1	101	80-120	
TPH-GRO	ug/L	4000	2830	71	53-122	
Xylene (Total)	ug/L	60	61.3	102	80-120	
1,2-Dichloroethane-d4 (S)	%			93	82-119	
4-Bromofluorobenzene (S)	%			100	80-120	
Toluene-d8 (S)	%			104	80-120	

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QUALITY CONTROL DATA

Project: INNER-CITY OIL/ ZIL 57
Pace Project No.: 60196826

QC Batch: MSV/70308 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV MO GRO Oxygenates
Associated Lab Samples: 60196826004, 60196826005, 60196826006

METHOD BLANK: 1592300 Matrix: Water
Associated Lab Samples: 60196826004, 60196826005, 60196826006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Toluene	ug/L	ND	1.0	06/26/15 12:54	
1,2-Dichloroethane-d4 (S)	%	93	82-119	06/26/15 12:54	
4-Bromofluorobenzene (S)	%	100	80-120	06/26/15 12:54	
Toluene-d8 (S)	%	104	80-120	06/26/15 12:54	

LABORATORY CONTROL SAMPLE: 1592301

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Toluene	ug/L	20	21.0	105	80-120	
1,2-Dichloroethane-d4 (S)	%			95	82-119	
4-Bromofluorobenzene (S)	%			99	80-120	
Toluene-d8 (S)	%			105	80-120	

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QUALITY CONTROL DATA

Project: INNER-CITY OIL/ ZIL 57
Pace Project No.: 60196826

QC Batch: MSV/70329 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV MO GRO Oxygenates
Associated Lab Samples: 60196826008, 60196826009, 60196826010, 60196826011, 60196826012, 60196826013, 60196826014, 60196826015, 60196826016, 60196826017

METHOD BLANK: 1592627 Matrix: Water
Associated Lab Samples: 60196826008, 60196826009, 60196826010, 60196826011, 60196826012, 60196826013, 60196826014, 60196826015, 60196826016, 60196826017

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	06/26/15 13:57	
1,2-Dichloroethane	ug/L	ND	1.0	06/26/15 13:57	
Benzene	ug/L	ND	1.0	06/26/15 13:57	
Diisopropyl ether	ug/L	ND	1.0	06/26/15 13:57	
Ethyl-tert-butyl ether	ug/L	ND	1.0	06/26/15 13:57	
Ethylbenzene	ug/L	ND	1.0	06/26/15 13:57	
m&p-Xylene	ug/L	ND	2.0	06/26/15 13:57	
Methyl-tert-butyl ether	ug/L	ND	1.0	06/26/15 13:57	
Naphthalene	ug/L	ND	10.0	06/26/15 13:57	
o-Xylene	ug/L	ND	1.0	06/26/15 13:57	
tert-Amylmethyl ether	ug/L	ND	1.0	06/26/15 13:57	
tert-Butyl Alcohol	ug/L	ND	10.0	06/26/15 13:57	
Toluene	ug/L	ND	1.0	06/26/15 13:57	
TPH-GRO	ug/L	ND	500	06/26/15 13:57	
Xylene (Total)	ug/L	ND	3.0	06/26/15 13:57	
1,2-Dichloroethane-d4 (S)	%	98	82-119	06/26/15 13:57	
4-Bromofluorobenzene (S)	%	104	80-120	06/26/15 13:57	
Toluene-d8 (S)	%	99	80-120	06/26/15 13:57	

LABORATORY CONTROL SAMPLE: 1592628

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	20	20.4	102	80-120	
1,2-Dichloroethane	ug/L	20	19.4	97	81-120	
Benzene	ug/L	20	20.4	102	80-120	
Diisopropyl ether	ug/L	20	22.0	110	71-126	
Ethyl-tert-butyl ether	ug/L	20	24.7	123	79-121	L0
Ethylbenzene	ug/L	20	21.1	106	80-120	
m&p-Xylene	ug/L	40	42.7	107	80-120	
Methyl-tert-butyl ether	ug/L	20	21.7	108	74-120	
Naphthalene	ug/L	20	18.0	90	73-128	
o-Xylene	ug/L	20	22.2	111	80-120	
tert-Amylmethyl ether	ug/L	20	25.0	125	80-120	L0
tert-Butyl Alcohol	ug/L	100	92.9	93	65-131	
Toluene	ug/L	20	20.2	101	80-120	
TPH-GRO	ug/L	4000	4050	101	53-122	
Xylene (Total)	ug/L	60	64.9	108	80-120	
1,2-Dichloroethane-d4 (S)	%			102	82-119	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: INNER-CITY OIL/ ZIL 57
Pace Project No.: 60196826

LABORATORY CONTROL SAMPLE: 1592628

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
4-Bromofluorobenzene (S)	%			101	80-120	
Toluene-d8 (S)	%			101	80-120	

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QUALITY CONTROL DATA

Project: INNER-CITY OIL/ ZIL 57
Pace Project No.: 60196826

QC Batch: MSV/70354 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV MO GRO Oxygenates
Associated Lab Samples: 60196826007, 60196826008, 60196826014, 60196826016

METHOD BLANK: 1593588 Matrix: Water
Associated Lab Samples: 60196826007, 60196826008, 60196826014, 60196826016

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	06/29/15 12:55	
1,2-Dichloroethane	ug/L	ND	1.0	06/29/15 12:55	
Benzene	ug/L	ND	1.0	06/29/15 12:55	
Diisopropyl ether	ug/L	ND	1.0	06/29/15 12:55	
Ethyl-tert-butyl ether	ug/L	ND	1.0	06/29/15 12:55	
Ethylbenzene	ug/L	ND	1.0	06/29/15 12:55	
m&p-Xylene	ug/L	ND	2.0	06/29/15 12:55	
Methyl-tert-butyl ether	ug/L	ND	1.0	06/29/15 12:55	
Naphthalene	ug/L	ND	10.0	06/29/15 12:55	
o-Xylene	ug/L	ND	1.0	06/29/15 12:55	
tert-Amylmethyl ether	ug/L	ND	1.0	06/29/15 12:55	
tert-Butyl Alcohol	ug/L	ND	10.0	06/29/15 12:55	
Toluene	ug/L	ND	1.0	06/29/15 12:55	
TPH-GRO	ug/L	ND	500	06/29/15 12:55	
Xylene (Total)	ug/L	ND	3.0	06/29/15 12:55	
1,2-Dichloroethane-d4 (S)	%	103	82-119	06/29/15 12:55	
4-Bromofluorobenzene (S)	%	107	80-120	06/29/15 12:55	
Toluene-d8 (S)	%	98	80-120	06/29/15 12:55	

LABORATORY CONTROL SAMPLE: 1593589

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	20	21.0	105	80-120	
1,2-Dichloroethane	ug/L	20	20.9	104	81-120	
Benzene	ug/L	20	21.6	108	80-120	
Diisopropyl ether	ug/L	20	24.7	124	71-126	
Ethyl-tert-butyl ether	ug/L	20	26.8	134	79-121	L0
Ethylbenzene	ug/L	20	21.8	109	80-120	
m&p-Xylene	ug/L	40	43.8	109	80-120	
Methyl-tert-butyl ether	ug/L	20	24.5	122	74-120	L0
Naphthalene	ug/L	20	19.8	99	73-128	
o-Xylene	ug/L	20	21.8	109	80-120	
tert-Amylmethyl ether	ug/L	20	27.2	136	80-120	L0
tert-Butyl Alcohol	ug/L	100	114	114	65-131	
Toluene	ug/L	20	20.3	102	80-120	
TPH-GRO	ug/L	4000	3900	97	53-122	
Xylene (Total)	ug/L	60	65.6	109	80-120	
1,2-Dichloroethane-d4 (S)	%			102	82-119	
4-Bromofluorobenzene (S)	%			104	80-120	
Toluene-d8 (S)	%			96	80-120	

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QUALITY CONTROL DATA

Project: INNER-CITY OIL/ ZIL 57
Pace Project No.: 60196826

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1593590 1593591

Parameter	Units	60197340002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	ND	20	20	15.5	15.8	77	78	81-116	2	13	M1
1,2-Dichloroethane	ug/L	ND	20	20	14.9	15.6	74	77	79-121	4	12	M1
Benzene	ug/L	ND	20	20	16.4	16.8	81	83	46-155	3	13	
Diisopropyl ether	ug/L	ND	20	20	16.8	17.4	84	87	61-136	3	44	
Ethyl-tert-butyl ether	ug/L	ND	20	20	19.8	20.3	99	102	60-142	2	45	
Ethylbenzene	ug/L	ND	20	20	16.1	16.2	80	80	51-148	0	14	
m&p-Xylene	ug/L	ND	40	40	31.8	32.3	79	80	62-140	2	15	
Methyl-tert-butyl ether	ug/L	0.22 mg/L	20	20	239	240	60	64	41-156	0	17	
Naphthalene	ug/L	ND	20	20	14.4	15.4	51	56	41-148	7	33	
o-Xylene	ug/L	ND	20	20	16.5	16.8	82	84	40-162	2	15	
tert-Amylmethyl ether	ug/L	ND	20	20	20.3	20.9	102	104	66-136	3	22	
tert-Butyl Alcohol	ug/L	0.067 mg/L	100	100	130	135	62	68	47-141	4	38	
Toluene	ug/L	ND	20	20	15.3	15.7	76	78	47-149	2	16	
Xylene (Total)	ug/L	ND	60	60	48.3	49.1	80	82	39-158	2	15	
1,2-Dichloroethane-d4 (S)	%						101	101	82-119			
4-Bromofluorobenzene (S)	%						100	102	80-120			
Toluene-d8 (S)	%						98	98	80-120			
Preservation pH		1.0			1.0	1.0				0		

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QUALITY CONTROL DATA

Project: INNER-CITY OIL/ ZIL 57
Pace Project No.: 60196826

QC Batch: OEXT/49943 Analysis Method: EPA 8270
QC Batch Method: EPA 3510C Analysis Description: 8270 MSSV TPH ORO
Associated Lab Samples: 60196826001, 60196826002, 60196826003, 60196826004, 60196826005, 60196826006, 60196826007, 60196826008, 60196826009, 60196826010, 60196826011, 60196826012, 60196826013, 60196826014, 60196826015, 60196826016, 60196826017

METHOD BLANK: 1591960 Matrix: Water
Associated Lab Samples: 60196826001, 60196826002, 60196826003, 60196826004, 60196826005, 60196826006, 60196826007, 60196826008, 60196826009, 60196826010, 60196826011, 60196826012, 60196826013, 60196826014, 60196826015, 60196826016, 60196826017

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH-DRO	mg/L	ND	1.0	06/29/15 08:41	
TPH-ORO	mg/L	ND	1.0	06/29/15 08:41	
2-Fluorobiphenyl (S)	%	65	40-109	06/29/15 08:41	
Nitrobenzene-d5 (S)	%	64	24-116	06/29/15 08:41	
Terphenyl-d14 (S)	%	86	43-123	06/29/15 08:41	

LABORATORY CONTROL SAMPLE: 1591961

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
TPH-DRO	mg/L	100	78.4	78	70-130	
2-Fluorobiphenyl (S)	%			79	40-109	
Nitrobenzene-d5 (S)	%			91	24-116	
Terphenyl-d14 (S)	%			84	43-123	

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QUALITY CONTROL DATA

Project: INNER-CITY OIL/ ZIL 57
Pace Project No.: 60196826

QC Batch: OEXT/50016 Analysis Method: EPA 8270C by SIM
QC Batch Method: EPA 3510C Analysis Description: 8270 Water PAH by SIM MSSV
Associated Lab Samples: 60196826004, 60196826005, 60196826006, 60196826007, 60196826010

METHOD BLANK: 1594624 Matrix: Water
Associated Lab Samples: 60196826004, 60196826005, 60196826006, 60196826007, 60196826010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Acenaphthene	ug/L	0.16	0.10	07/08/15 20:13	
Acenaphthylene	ug/L	ND	0.10	07/08/15 20:13	
Anthracene	ug/L	0.13	0.10	07/08/15 20:13	
Benzo(a)anthracene	ug/L	ND	0.10	07/08/15 20:13	
Benzo(a)pyrene	ug/L	ND	0.10	07/08/15 20:13	
Benzo(b)fluoranthene	ug/L	ND	0.10	07/08/15 20:13	
Benzo(g,h,i)perylene	ug/L	ND	0.10	07/08/15 20:13	
Benzo(k)fluoranthene	ug/L	ND	0.10	07/08/15 20:13	
Chrysene	ug/L	ND	0.10	07/08/15 20:13	
Dibenz(a,h)anthracene	ug/L	ND	0.10	07/08/15 20:13	
Fluoranthene	ug/L	0.72	0.10	07/08/15 20:13	
Fluorene	ug/L	0.22	0.10	07/08/15 20:13	
Indeno(1,2,3-cd)pyrene	ug/L	ND	0.10	07/08/15 20:13	
Naphthalene	ug/L	ND	0.50	07/08/15 20:13	
Phenanthrene	ug/L	1.8	0.50	07/08/15 20:13	
Pyrene	ug/L	0.35	0.10	07/08/15 20:13	
2-Fluorobiphenyl (S)	%	65	58-115	06/29/15 08:41	
Terphenyl-d14 (S)	%	86	53-127	06/29/15 08:41	

LABORATORY CONTROL SAMPLE: 1594625

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Acenaphthene	ug/L	10	7.8	78	47-114	
Acenaphthylene	ug/L	10	7.9	79	48-118	
Anthracene	ug/L	10	7.9	79	49-118	
Benzo(a)anthracene	ug/L	10	8.9	89	51-120	
Benzo(a)pyrene	ug/L	10	8.4	84	51-120	
Benzo(b)fluoranthene	ug/L	10	8.5	85	42-126	
Benzo(g,h,i)perylene	ug/L	10	8.9	89	35-117	
Benzo(k)fluoranthene	ug/L	10	9.4	94	51-119	
Chrysene	ug/L	10	7.7	77	52-111	
Dibenz(a,h)anthracene	ug/L	10	8.0	80	29-121	
Fluoranthene	ug/L	10	9.2	92	54-123	
Fluorene	ug/L	10	7.8	78	49-119	
Indeno(1,2,3-cd)pyrene	ug/L	10	8.4	84	35-117	
Naphthalene	ug/L	10	8.0	80	47-113	
Phenanthrene	ug/L	10	9.2	92	45-112	
Pyrene	ug/L	10	10.6	106	44-120	
2-Fluorobiphenyl (S)	%			76	58-115	
Terphenyl-d14 (S)	%			96	53-127	

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QUALIFIERS

Project: INNER-CITY OIL/ ZIL 57
Pace Project No.: 60196826

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: MSV/70264

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/70275

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: OEXT/49943

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/70308

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/70329

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: OEXT/50016

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

1e	A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.
B	Analyte was detected in the associated method blank.
D4	Sample was diluted due to the presence of high levels of target analytes.
E	Analyte concentration exceeded the calibration range. The reported result is estimated.
IO	The internal standard response was outside the laboratory acceptance limits confirmed by reanalysis. The results reported are from the most QC compliant analysis.
L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.

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QUALIFIERS

Project: INNER-CITY OIL/ ZIL 57
Pace Project No.: 60196826

ANALYTE QUALIFIERS

L1	Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.
L3	Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
MS	Analyte recovery in the matrix spike was outside QC limits for one or more of the constituent analytes used in the calculated result.
P2	Re-extraction or re-analysis could not be performed due to insufficient sample amount.
R1	RPD value was outside control limits.
RS	The RPD value in one of the constituent analytes was outside the control limits.
S0	Surrogate recovery outside laboratory control limits.
S1	Surrogate recovery outside laboratory control limits (confirmed by re-analysis).
S4	Surrogate recovery not evaluated against control limits due to sample dilution.
pH	Post-analysis pH measurement indicates insufficient VOA sample preservation.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: INNER-CITY OIL/ ZIL 57
Pace Project No.: 60196826

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60196826001	**MW 1**	EPA 3010	MPRP/32404	EPA 6010	ICP/23986
60196826002	**MW 3**	EPA 3010	MPRP/32404	EPA 6010	ICP/23986
60196826003	**MW 4**	EPA 3010	MPRP/32404	EPA 6010	ICP/23986
60196826004	**MW 7**	EPA 3010	MPRP/32404	EPA 6010	ICP/23986
60196826005	**MW 9**	EPA 3010	MPRP/32404	EPA 6010	ICP/23986
60196826006	**MW 10**	EPA 3010	MPRP/32404	EPA 6010	ICP/23986
60196826007	**MW 11**	EPA 3010	MPRP/32404	EPA 6010	ICP/23986
60196826008	**MW 12**	EPA 3010	MPRP/32404	EPA 6010	ICP/23986
60196826009	**MW 13**	EPA 3010	MPRP/32404	EPA 6010	ICP/23986
60196826010	**MW 15**	EPA 3010	MPRP/32404	EPA 6010	ICP/23986
60196826011	**MW 16**	EPA 3010	MPRP/32404	EPA 6010	ICP/23986
60196826012	**MW A**	EPA 3010	MPRP/32404	EPA 6010	ICP/23986
60196826013	**MW B**	EPA 3010	MPRP/32404	EPA 6010	ICP/23986
60196826014	**MW C**	EPA 3010	MPRP/32404	EPA 6010	ICP/23986
60196826015	**MW D**	EPA 3010	MPRP/32404	EPA 6010	ICP/23986
60196826016	**MW E**	EPA 3010	MPRP/32404	EPA 6010	ICP/23986
60196826017	**MW F**	EPA 3010	MPRP/32404	EPA 6010	ICP/23986
60196826001	**MW 1**	EPA 3510C	OEXT/49943	EPA 8270	MSSV/16177
60196826002	**MW 3**	EPA 3510C	OEXT/49943	EPA 8270	MSSV/16177
60196826003	**MW 4**	EPA 3510C	OEXT/49943	EPA 8270	MSSV/16177
60196826004	**MW 7**	EPA 3510C	OEXT/49943	EPA 8270	MSSV/16177
60196826005	**MW 9**	EPA 3510C	OEXT/49943	EPA 8270	MSSV/16177
60196826006	**MW 10**	EPA 3510C	OEXT/49943	EPA 8270	MSSV/16177
60196826007	**MW 11**	EPA 3510C	OEXT/49943	EPA 8270	MSSV/16177
60196826008	**MW 12**	EPA 3510C	OEXT/49943	EPA 8270	MSSV/16177
60196826009	**MW 13**	EPA 3510C	OEXT/49943	EPA 8270	MSSV/16177
60196826010	**MW 15**	EPA 3510C	OEXT/49943	EPA 8270	MSSV/16177
60196826011	**MW 16**	EPA 3510C	OEXT/49943	EPA 8270	MSSV/16177
60196826012	**MW A**	EPA 3510C	OEXT/49943	EPA 8270	MSSV/16177
60196826013	**MW B**	EPA 3510C	OEXT/49943	EPA 8270	MSSV/16177
60196826014	**MW C**	EPA 3510C	OEXT/49943	EPA 8270	MSSV/16177
60196826015	**MW D**	EPA 3510C	OEXT/49943	EPA 8270	MSSV/16177
60196826016	**MW E**	EPA 3510C	OEXT/49943	EPA 8270	MSSV/16177
60196826017	**MW F**	EPA 3510C	OEXT/49943	EPA 8270	MSSV/16177
60196826004	**MW 7**	EPA 3510C	OEXT/50016	EPA 8270C by SIM	MSSV/16195
60196826005	**MW 9**	EPA 3510C	OEXT/50016	EPA 8270C by SIM	MSSV/16195
60196826006	**MW 10**	EPA 3510C	OEXT/50016	EPA 8270C by SIM	MSSV/16195
60196826007	**MW 11**	EPA 3510C	OEXT/50016	EPA 8270C by SIM	MSSV/16195
60196826010	**MW 15**	EPA 3510C	OEXT/50016	EPA 8270C by SIM	MSSV/16195
60196826001	**MW 1**	EPA 8260	MSV/70264		
60196826002	**MW 3**	EPA 8260	MSV/70264		
60196826003	**MW 4**	EPA 8260	MSV/70264		
60196826004	**MW 7**	EPA 8260	MSV/70264		
60196826004	**MW 7**	EPA 8260	MSV/70308		
60196826005	**MW 9**	EPA 8260	MSV/70264		
60196826005	**MW 9**	EPA 8260	MSV/70308		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: INNER-CITY OIL/ ZIL 57
Pace Project No.: 60196826

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60196826006	**MW 10**	EPA 8260	MSV/70264		
60196826006	**MW 10**	EPA 8260	MSV/70308		
60196826007	**MW 11**	EPA 8260	MSV/70354		
60196826008	**MW 12**	EPA 8260	MSV/70329		
60196826008	**MW 12**	EPA 8260	MSV/70354		
60196826009	**MW 13**	EPA 8260	MSV/70329		
60196826010	**MW 15**	EPA 8260	MSV/70275		
60196826010	**MW 15**	EPA 8260	MSV/70329		
60196826011	**MW 16**	EPA 8260	MSV/70275		
60196826011	**MW 16**	EPA 8260	MSV/70329		
60196826012	**MW A**	EPA 8260	MSV/70329		
60196826013	**MW B**	EPA 8260	MSV/70275		
60196826013	**MW B**	EPA 8260	MSV/70329		
60196826014	**MW C**	EPA 8260	MSV/70275		
60196826014	**MW C**	EPA 8260	MSV/70329		
60196826014	**MW C**	EPA 8260	MSV/70354		
60196826015	**MW D**	EPA 8260	MSV/70329		
60196826016	**MW E**	EPA 8260	MSV/70275		
60196826016	**MW E**	EPA 8260	MSV/70329		
60196826016	**MW E**	EPA 8260	MSV/70354		
60196826017	**MW F**	EPA 8260	MSV/70275		
60196826017	**MW F**	EPA 8260	MSV/70329		
60196826018	**TRIP BLANKS**	EPA 8260	MSV/70275		

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Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt

WO#: 60196826

60196826

Client Name: Apex Envirotech

Optional
Proj Due Date:
Proj Name:

Courier: FedEx ☐ UPS ☐ VIA ☐ Clay ☐ PEX ☐ ECI ☐ Pace ☒ Other ☐ Client ☐

Tracking #: _____ Pace Shipping Label Used? Yes ☐ No ☐

Custody Seal on Cooler/Box Present: Yes ☐ No ☒ Seals intact: Yes ☐ No ☒

Packing Material: Bubble Wrap ☐ Bubble Bags ☒ Foam ☒ None ☐ Other ☐

Thermometer Used: CF +1.4 T-239 / CF -0.5 T-262 **Type of Ice:** Wet Blue None (circle one) ☐ Samples received on ice, cooling process has begun.

Cooler Temperature: 5.2 4.8

Date and initials of person examining contents: JR 6/19

Temperature should be above freezing to 6°C

Chain of Custody present:	☒Yes	☐No	☐N/A	1. Some of the samples have a strong
Chain of Custody filled out:	☒Yes	☐No	☐N/A	2. gas/oil odor
Chain of Custody relinquished:	☒Yes	☐No	☐N/A	3.
Sampler name & signature on COC:	☒Yes	☐No	☐N/A	4.
Samples arrived within holding time:	☒Yes	☐No	☐N/A	5.
Short Hold Time analyses (<72hr):	☐Yes	☒No	☐N/A	6.
Rush Turn Around Time requested:	☐Yes	☒No	☐N/A	7.
Sufficient volume:	☒Yes	☐No	☐N/A	8.
Correct containers used:	☒Yes	☐No	☐N/A	
Pace containers used:	☒Yes	☐No	☐N/A	9.
Containers intact:	☒Yes	☐No	☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes	☐No	☒N/A	11.
Filtered volume received for dissolved tests?	☐Yes	☐No	☒N/A	12.
Sample labels match COC:	☒Yes	☐No	☐N/A	
Includes date/time/ID/analyses Matrix: WT				13.
All containers needing preservation have been checked.	☒Yes	☐No	☐N/A	MW-10 BP3N initial pH 6.0 added 2.5 mL Final pH 2.0
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes	☒No	☐N/A	14.
Exceptions: VOA, Coliform, O&G, WI-DRO (water)	☒Yes	☐No		Initial when completed / Lot # of added preservative
Trip Blank present:	☒Yes	☐No	☐N/A	
Pace Trip Blank lot # (if purchased): 6/16/15				15.
Headspace in VOA vials (>6mm):	☒Yes	☐No	☐N/A	1 of 2 DG9A TB
				16.
Project sampled in USDA Regulated Area:	☐Yes	☐No	☒N/A	17. List State:

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: Lead requested on 07/01/2015 by Patty Currier RHM.

Project Manager Review: Richard Manning Date: 6/22/2015

Pace Analytical
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

MO

Page: 1 of 2

Section A Required Client Information:

Company:	Apex Envirotech, Inc.
Address:	1920 W 143rd Street, Suite 100
	Leawood, KS 66224
Email To:	
Phone: 816-532-8202	Fax:
Requested Due Date/TAT:	STANDARD

Section B Required Project Information:

Report To:	
Copy To:	
Purchase Order No.:	
Project Name:	Inner-City Oil / Zil 57
Project Number:	

Section C Invoice Information:

Attention:	
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Richard Mannz
Pace Profile #:	7067

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: MO

Section D Required Client Information

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID (2.0)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N): 8260 BTEX, M, N Oxygenates	8260 GRO	8270 DRO/ORO	8270 PAH	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW 1 (1)BN (2)AG4U (3)VG4R	WT	G			6/19	1315		6									X	X	X	X	N	60196826 *Hold for DRO analysis 001
2	MW 3						1410																*.099 ug/L RL-J Flag 002
3	MW 4						1420																003
4	MW 7						1350																004
5	MW 9						1340																005
6	MW 10						1250																006
7	MW 11						1235																007
8	MW 12						1235																008
9	MW 13						1245																009
10	MW 15						1200																010
11	MW 16						1325																011
12	MW A						1140																012

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
		6/19	1500		6-19	1500				
					6/19	1600	5.2	Y	N	Y
							4.0	Y	N	Y

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jim Binofia

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 06/19/15

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-Feb-2007

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

MO

Page: 2 of 2

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Address:	1920 W 143rd Street, Suite 100
	Leawood, KS 66224
Email To:	
Phone: 816-532-8202	Fax:
Requested Due Date/TAT:	standard

Section B Required Project Information:

Report To:	
Copy To:	
Purchase Order No.:	
Project Name:	Inner-City Oil / Zil 57
Project Number:	

Section C Invoice Information:

Attention:	
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Richard Mannz
Pace Profile #:	7067

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: MO

Section D Required Client Information

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED Composite Start Date	Composite Start Time	Composite End/Grab Date	Composite End/Grab Time	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	8260 BTEX, M, N Oxygenates	8260 GRO	8270 DRO/ORO	8270 PAH*	Residual Chlorine (Y/N)	Pace Project No./Lab I.D.
1	MW B BP3N (2)AG4U (3)DG9Q	WT	G			6/19	1340		6										X	X	X	X	N	*Hold for DRO analysis 013
2	MW C						1440																	*.099 ug/L RL-J Flag 014
3	MW D						1300																	015
4	MW E						1430																	016
5	MW F						1445																	017
6																								~~018~~
7	TRIP BANKS (2)DG9A TB																							018 ~~019~~
8																								
9																								
10																								
11																								
12																								

hold + call

60196862

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
	[signature]	6/19	1500	[signature]	6-19	1500
				[signature]	6/19	1600

SAMPLE CONDITIONS	Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	5.2	Y	N	Y
	4.8	Y	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Tim Bradford

SIGNATURE of SAMPLER: [signature]

DATE Signed (MM/DD/YY): 06/19/15

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-Feb-2007

APPENDIX C

HISTORICAL SANBORN MAPS

Zill
3816 E 31st St
Kansas City, MO 64128

Inquiry Number: 4266124.7
April 16, 2015

Certified Sanborn® Map Report

6 Armstrong Road, 4th Floor
Shelton, Connecticut 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

4/16/15

Site Name:	**Client Name:**
Zill	Apex Envirotech, Inc
3816 E 31st St	3 Warrior Circle
Kansas City, MO 64128	Smithville, MO 64089
EDR Inquiry # 4266124.7	Contact: Patty Currier

The Sanborn Library has been searched by EDR and maps covering the target property location as provided by Apex Envirotech, Inc were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn.

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Site Name:	Zill
Address:	3816 E 31st St
City, State, Zip:	Kansas City, MO 64128
Cross Street:	
P.O. #	NA
Project:	Zill
Certification #	66ED-470C-BCBA

Maps Provided:

1963
1951
1950
1940
1917
1909

Sanborn® Library search results
Certification # 66ED-470C-BCBA

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ✔ Library of Congress
- ✔ University Publications of America
- ✔ EDR Private Collection

The Sanborn Library LLC Since 1866™

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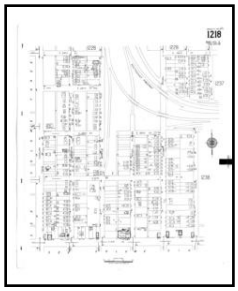
Sanborn Sheet Thumbnails

This Certified Sanborn Map Report is based upon the following Sanborn Fire Insurance map sheets.

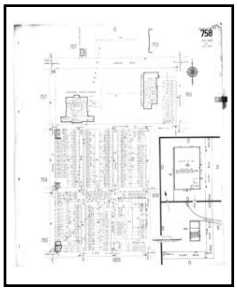
1963 Source Sheets

Volume 3, Sheet 414



Volume 5 12, Sheet 1218

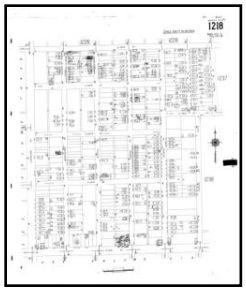
Volume 6 7 8, Sheet 753



Volume 6 7 8, Sheet 758

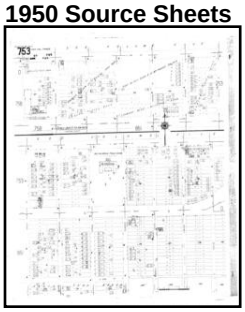
1951 Source Sheets

Volume 3, Sheet 414



Volume 5, Sheet 1218

1950 Source Sheets



Volume 6, Sheet 753

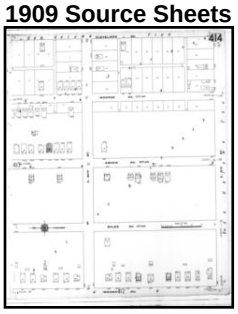
1940 Source Sheets

Volume 5, Sheet 1218

1917 Source Sheets

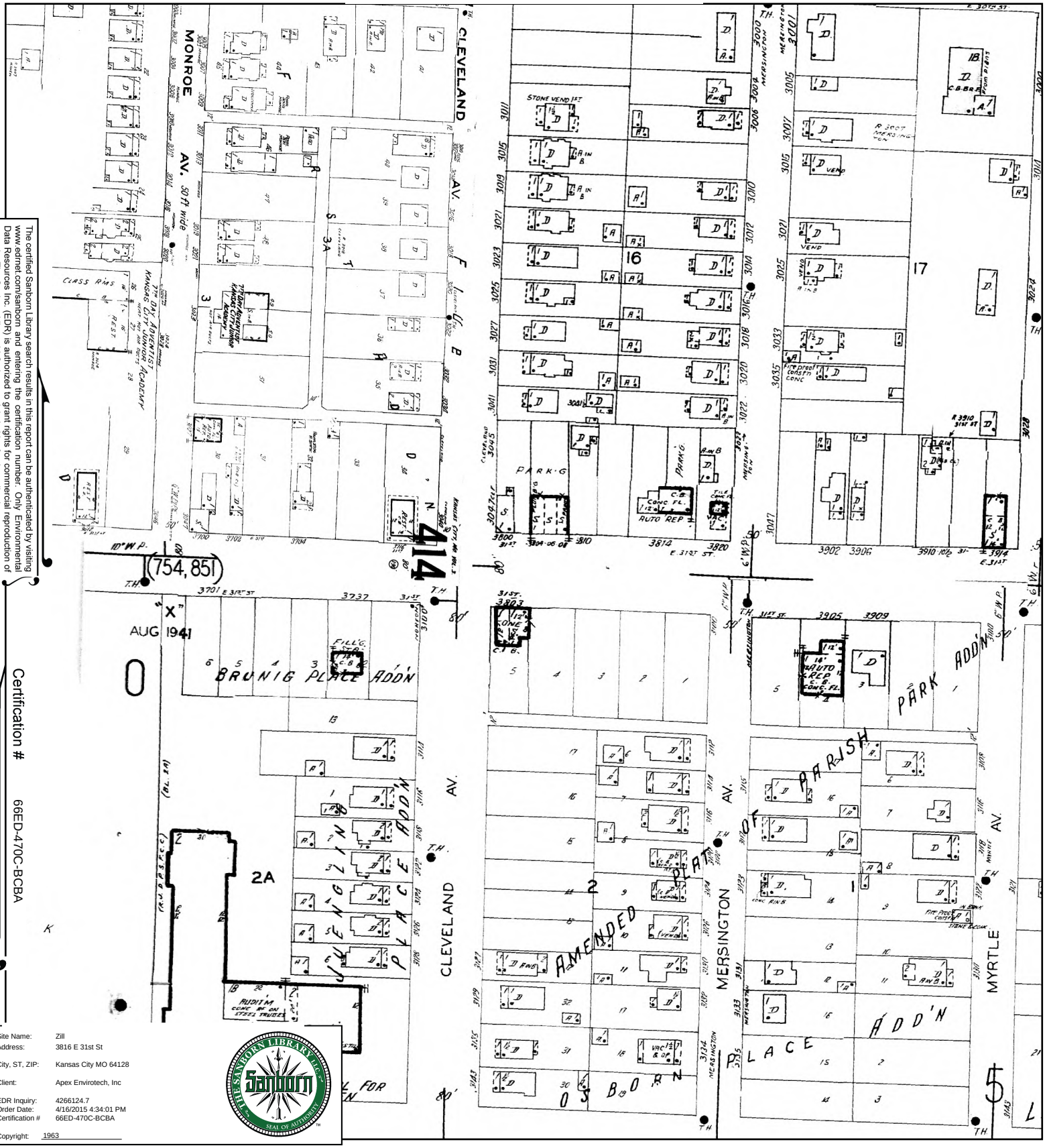
Volume 6, Sheet 753

1909 Source Sheets



Volume 3, Sheet 414

1963 Certified Sanborn Map



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Certification # 66ED-470C-BCBA

Site Name:	Zill
Address:	3816 E 31st St
City, ST, ZIP:	Kansas City MO 64128
Client:	Apex Envirotech, Inc
EDR Inquiry:	4266124.7
Order Date:	4/16/2015 4:34:01 PM
Certification #	66ED-470C-BCBA
Copyright:	1963

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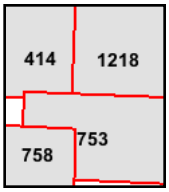
Outlined areas indicate map sheets within the collection.

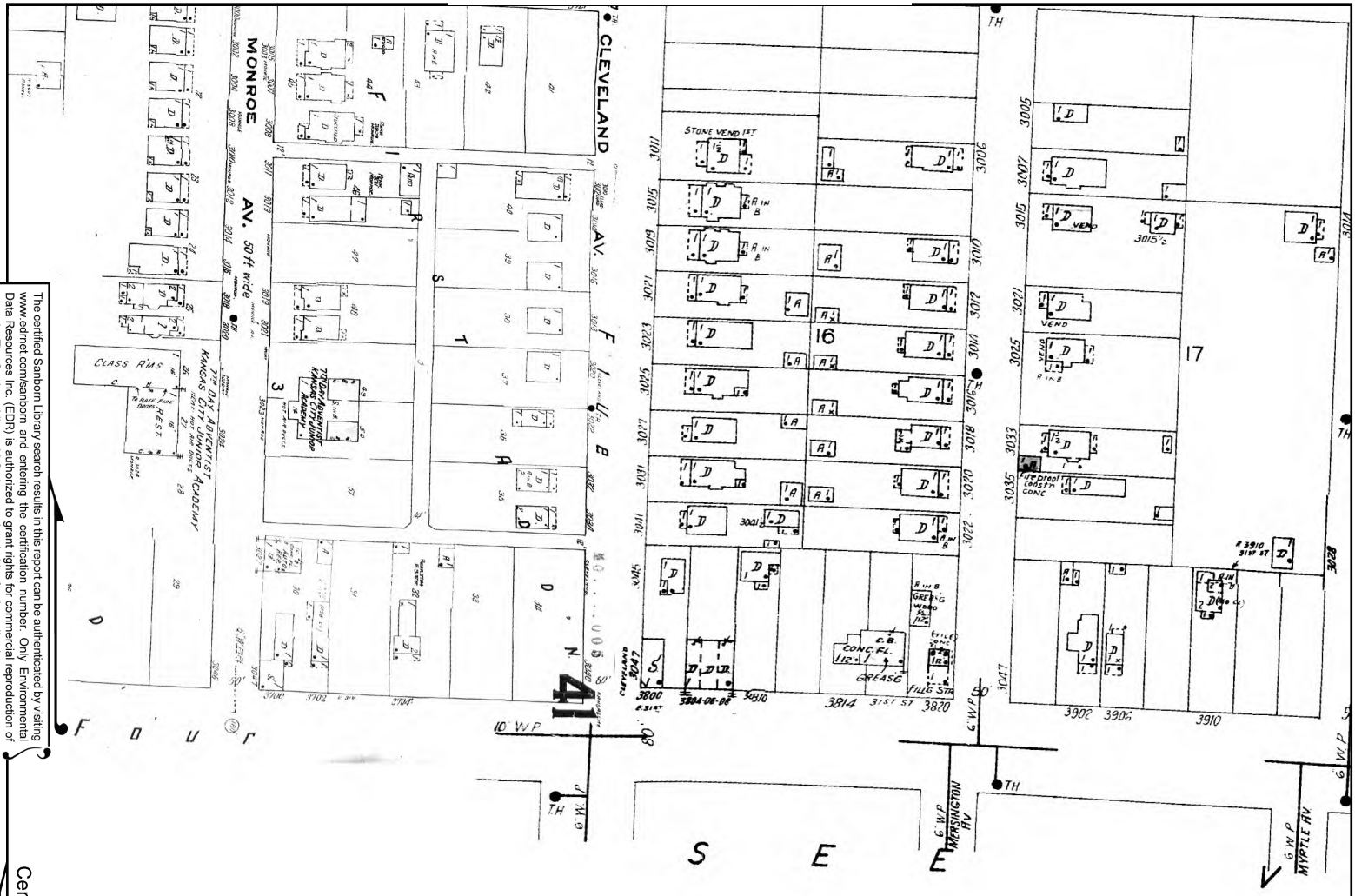
0 Feet 150 300 600



Volume 3, Sheet 414
Volume 5 12, Sheet 1218
Volume 6 7 8, Sheet 753
Volume 6 7 8, Sheet 758

N

1951 Certified Sanborn Map



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Certification # 66ED-470C-BCBA

Site Name:	Zill
Address:	3816 E 31st St
City, ST, ZIP:	Kansas City MO 64128
Client:	Apex Envirotech, Inc
EDR Inquiry:	4266124.7
Order Date:	4/16/2015 4:34:01 PM
Certification #	66ED-470C-BCBA
Copyright:	1951

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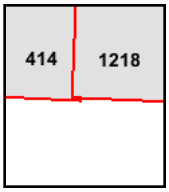

Volume 3, Sheet 414
Volume 5, Sheet 1218

0 Feet 150 300 600

N

1950 Certified Sanborn Map

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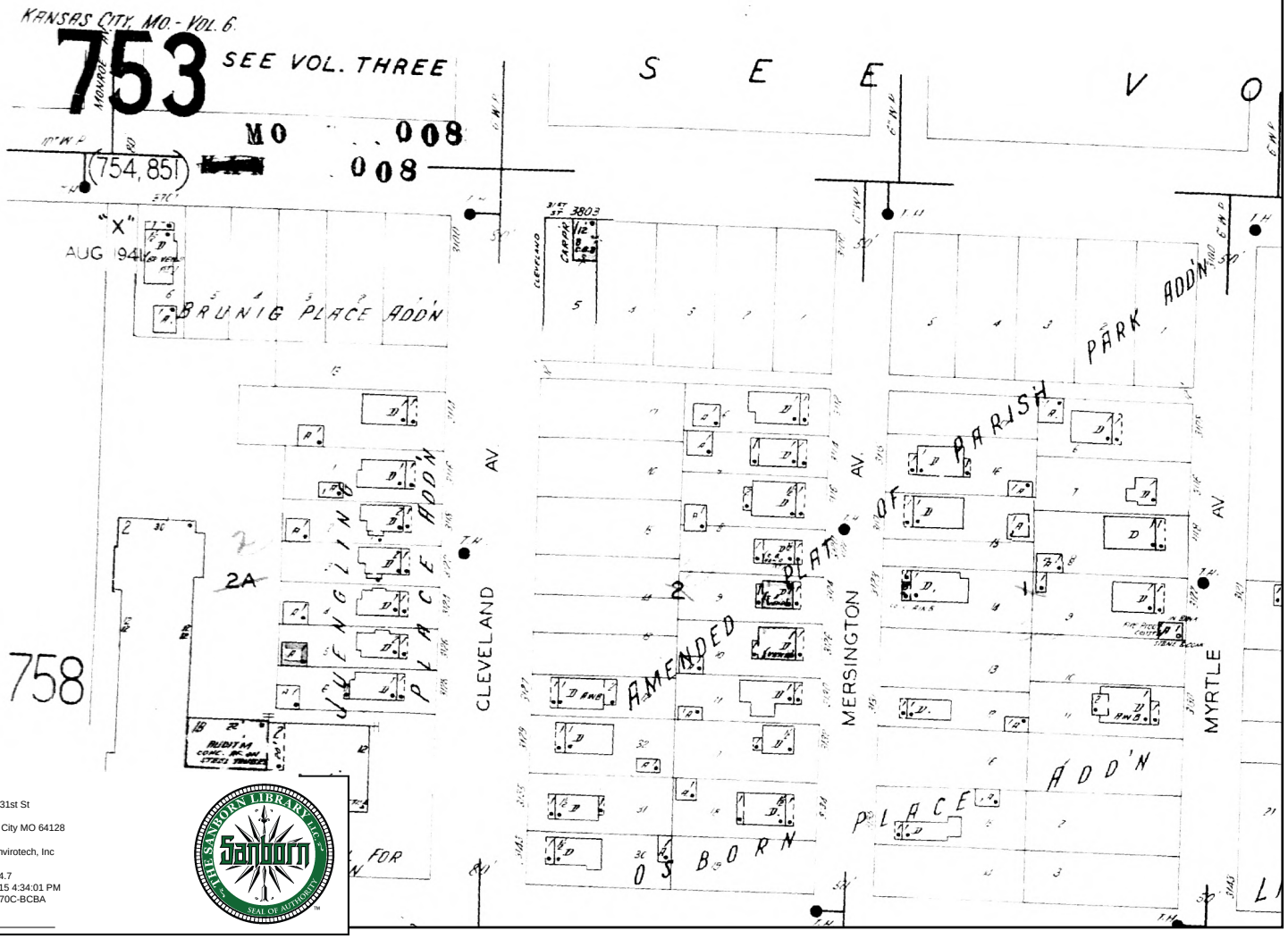
Certification # 66ED-470C-BCBA



Site Name:	Zill
Address:	3816 E 31st St
City, ST, ZIP:	Kansas City MO 64128
Client:	Apex Envirotech, Inc
EDR Inquiry:	4266124.7
Order Date:	4/16/2015 4:34:01 PM
Certification #	66ED-470C-BCBA
Copyright:	1950

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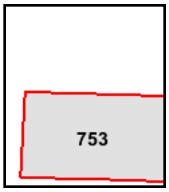
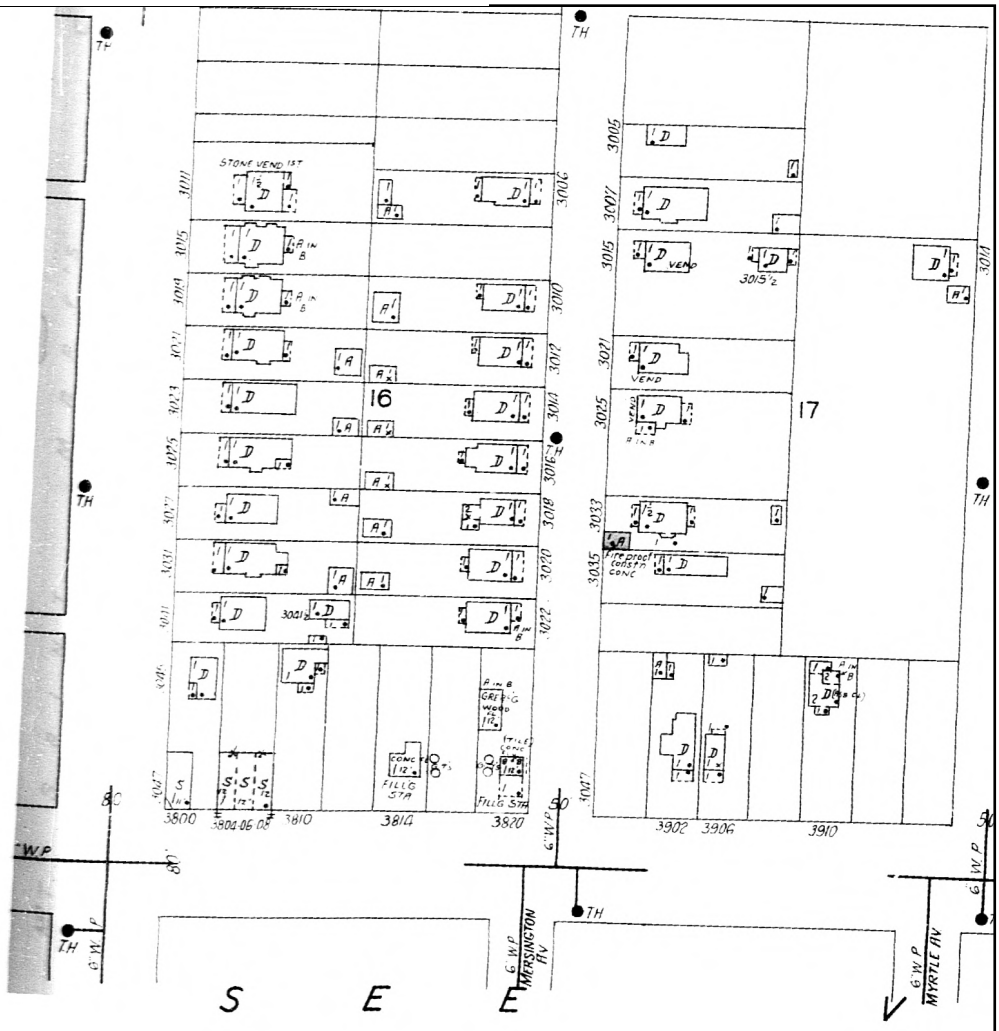


Volume 6, Sheet 753

N

1940 Certified Sanborn Map



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Certification # 66ED-470C-BCBA

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Address:	3816 E 31st St
City, ST, ZIP:	Kansas City MO 64128
Client:	Apex Envirotech, Inc
EDR Inquiry:	4266124.7
Order Date:	4/16/2015 4:34:01 PM
Certification #	66ED-470C-BCBA
Copyright:	1940

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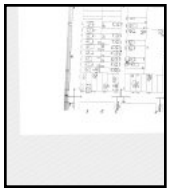
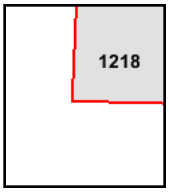
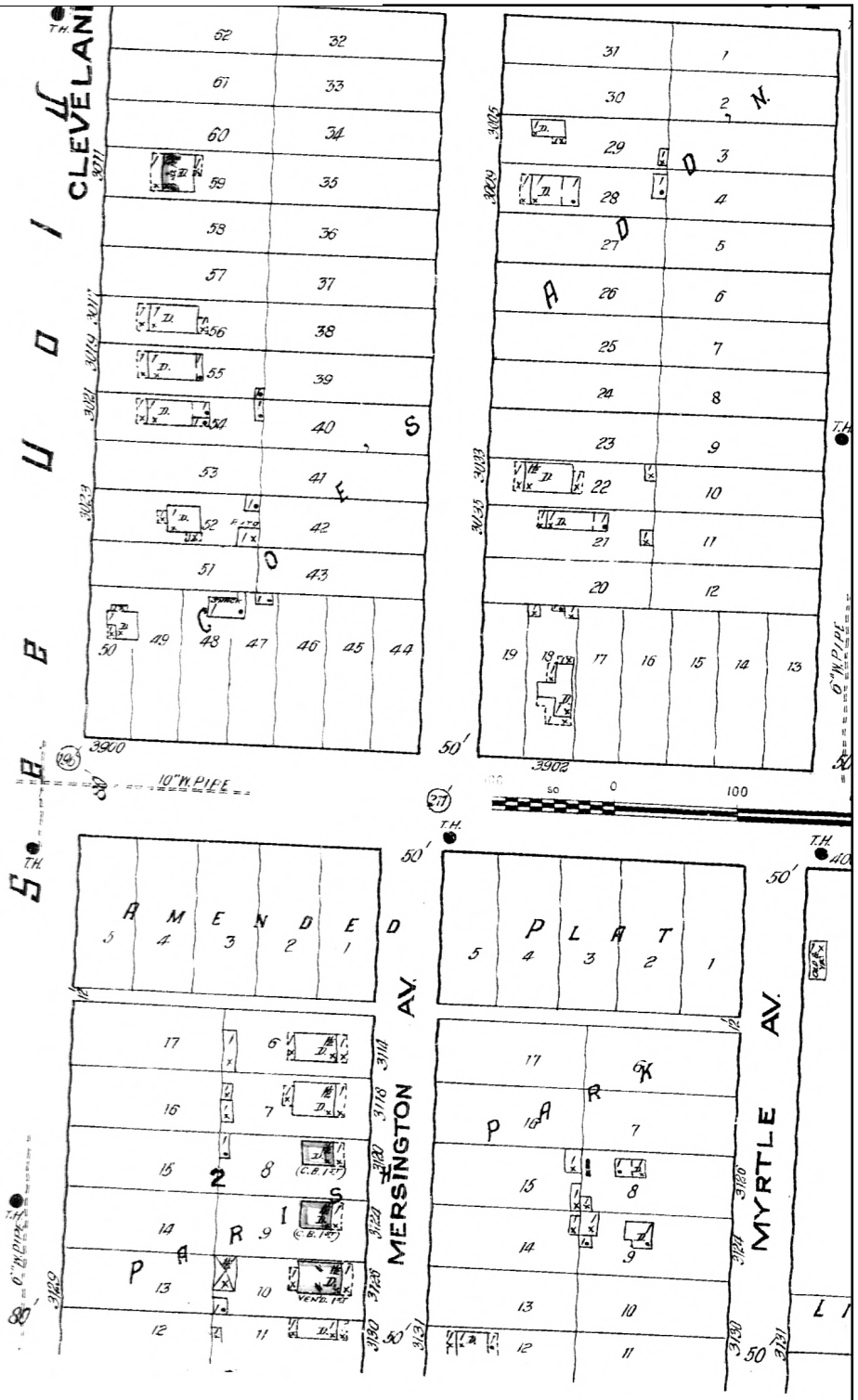




Volume 5, Sheet 1218

N

1917 Certified Sanborn Map



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Certification # 66ED-470C-BCBA

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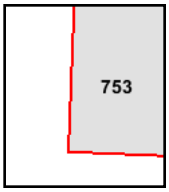
Address:	3816 E 31st St
City, ST, ZIP:	Kansas City MO 64128
Client:	Apex Envirotech, Inc
EDR Inquiry:	4266124.7
Order Date:	4/16/2015 4:34:01 PM
Certification #	66ED-470C-BCBA
Copyright:	1917

This Certified Sanborn Map combines the following sheets.
Outlined areas indicate map sheets within the collection.

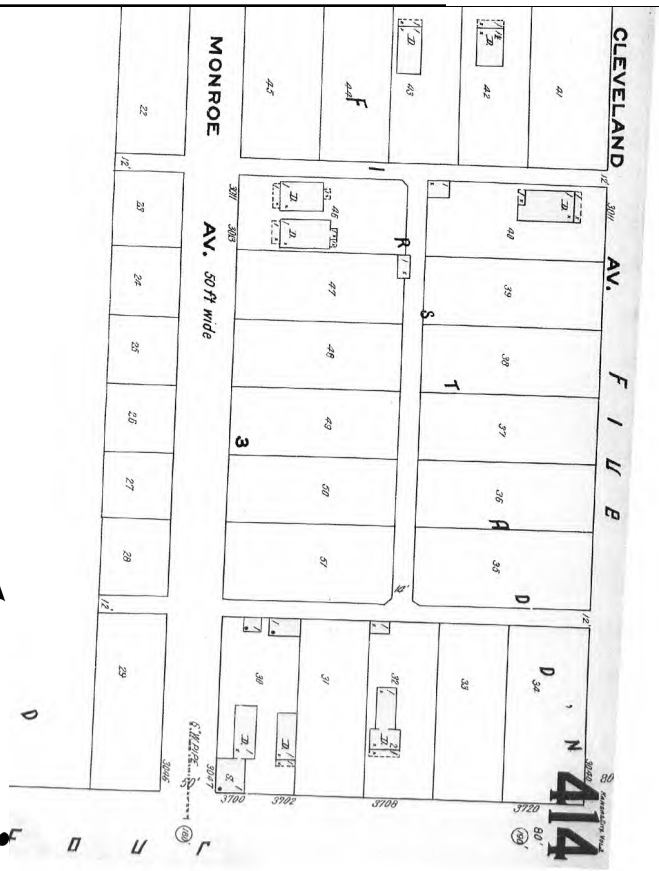


Volume 6, Sheet 753

0 Feet 150 300 600

N

1909 Certified Sanborn Map



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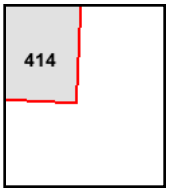
Certification # 66ED-470C-BCBA

Site Name:	Zill
Address:	3816 E 31st St
City, ST, ZIP:	Kansas City MO 64128
Client:	Apex Envirotech, Inc
EDR Inquiry:	4266124.7
Order Date:	4/16/2015 4:34:01 PM
Certification #	66ED-470C-BCBA
Copyright:	1909

This Certified Sanborn Map combines the following sheets.
Outlined areas indicate map sheets within the collection.



Volume 3, Sheet 414

0 Feet 150 300 600

N

APPENDIX D

HVE READINGS & RESULTS

Vac Truck Event Date 3/24/15

Dupree Testing Services (DTS)

MW-10 Initial LNAPL Thickness = 0.17'' Initial GW Depth = 13.45 'bgs

Time	Stinger Depth	Line Vac Pressure	Site Tube Observations	Line PID	Truck Vac Pressure	Truck Stack PID
1000	13.5	24	LNAPL Flow	648	23	975
1015	13.5	24	Light LNAPL Flow	686	23	850
1030	13.5	24	Light LNAPL Flow	991	22	850
1100	13.5	23	Light LNAPL Flow	958	22	950
1200	13.5	24	Air Only	1133	22	984
1300	13.5	22	Air Only	2380	22	1050
1400	13.5	22	Air Only	1490	22	1260
1500	13.5	22	Light LNAPL Flow	1115	22	1250
1600	13.5	22	Light LNAPL Flow	13530	22	1450

Final FP Thickness = 0.0 Final GW Depth = 13.58' bgs

MW-7 Initial LNAPL Thickness = 0.27' Initial GW Depth = 11.12 'bgs

Time	Stinger Depth	Line Vac Pressure	Site Tube Observations	Line PID	Truck Vac Pressure	Truck Stack PID
1000	11.5	25	LNAPL Flow	890	23	975
1015	11.5	22	Light LNAPL Flow	1402	23	850
1030	11.5	22	Light LNAPL Flow	1521	22	850
1100	11.5	21	Light LNAPL Flow	1401	22	950
1200	11.5	22	Air Only	1055	22	984
1300	11.5	22	Light LNAPL Flow	1780	22	1050
1400	11.5	22	Light LNAPL Flow	1685	22	1260
1500	11.5	22	Light LNAPL Flow	1980	22	1250
1600	11.5	22	Light LNAPL Flow	2120	22	1450

Final FP Thickness = 0.23' Final GW Depth = 11.38' bgs

Total of approximately 800 gallons of liquid removed from MW-7 & MW-10

ECOVAC SERVICES
The World Leader in Mobile Dual-Phase/Multi-Phase Extraction and
Patented SURFAC®/ISCO-EFR®/COSOLV® Technologies
Treatability Studies / Research & Development

May 11, 2015

Ms. Patty Currier
Apex Envirotech, Inc.
1920 W 143rd Street, Suite 100
Leawood, Kansas 66224
pcurrier@apexenvirotech.com

Subject: Enhanced Fluid Recovery (EFR®) Results
Event No. 1
Zill Inc. (On Site)
8316 East 31st Street
Kansas City, Missouri

Dear Ms. Currier:

Please find attached the data summary for the initial EFR® event conducted at the subject site on April 30, 2015. The following summarizes the results of this EFR® event.

DESCRIPTION

The EFR® process is best described as a mobile version of dual-phase or multi-phase extraction (DPE/MPE), but with a much higher vacuum and radius of influence. An EcoVac vacuum truck with two rotary vein vacuum pumps rated as high as 100 horsepower, 29 inches mercury vacuum, and 880 CFM "open air" flow was utilized during this event. EFR® simultaneously removes vapors, free product, dissolved-phase hydrocarbons, and groundwater from the subsurface. EFR® dewaters and exposes the smear zone to the effects of "high rate" soil vapor extraction. Importantly, EFR® also enhances biodegradation by introducing oxygen to the vadose and saturated zones.

SUMMARY OF RESULTS

Event No. 1 (April 30, 2015)

Separate-phase hydrocarbons (SPH) were detected in two of the gauged monitor wells (MW-7 – 0.25 feet and MW-10 – 1.03 feet) prior to conducting this EFR® event. EFR® was conducted for eight hours at three extraction points, consisting of MW-7, MW-9, and MW-10. SPH was detected in MW-7 (0.12 feet), MW-9 (0.01 feet), and MW-10 (0.02 feet) following extraction.

A calculated total of 1,625 pounds of petroleum hydrocarbons (approximately 250 equivalent gallons of gasoline) was removed during this EFR® event. Hydrocarbon removal rates ranged from 92 to greater than 220 pounds per hour throughout the event.

Vapor concentrations were measured by a TLV Sniffer and calibrated to a hexane standard. Samples were collected into Tedlar® bags from a sampling port in the vacuum truck stack. Vapor concentrations ranged from 80,000 to >100,000 parts per million by volume (PPM_V) during this EFR® event. Vapor flows were measured by a Dwyer Thermal Anemometer Model 470 (factory calibrated) and collected from the stack sampling port. Vapor flow rates ranged from 123 to 137 cubic feet per minute (CFM).

In-well vacuums recorded during this EFR® event are detailed in the EFR® Field Data Sheet and summarized below:

Extraction Well	In-Well Vacuum
MW-7	14 to 15 inches of mercury
MW-9	4 to 5 inches of mercury
MW-10	1 inch of mercury

Approximately 370 gallons of liquid were extracted during this EFR® event and transported to the Johnson County Landfill (Shawnee, Kansas) for disposal. SPH was not detected in the vacuum truck tank following completion of the event.

Thank you for this opportunity to team with Apex Envirotech in serving the environmental needs of your clients. We look forward to working with you again in the future to provide innovative and cost effective environmental solutions at this and other sites.

Sincerely,

EcoVac Services

Matthew C. Wittich

EFR® FIELD DATA SHEET

Client: Apex Envirotech	Facility Name: Zill Inc. (On Site)	Event #: 1
Facility Address: 3816 East 31st Street, Kansas City, Missouri	Technician: K. Free	Date: 4/30/15

Extraction Well(s)	Time hh:mm	Extraction Well-head Vacuum (in. Hg)									Vacuum Truck Exhaust				
Start Time:	6:45	Inlet	MW-7	MW-9	MW-10						Concentration PPM	Offgas Velocity FT/MIN	Flow Rate CFM	Removal Rate LBS/HR	Interval Removal LBS
MW-7,9,10	7:00	21	15	5	1						100,000	2,700	132	220	55
"	7:15	21	15	5	1						100,000	2,700	132	220	55
"	7:30	21	15	5	1						100,000	2,500	123	204	51
"	7:45	21	15	5	1						100,000	2,500	123	204	51
"	8:15	21	15	5	1						100,000	2,800	137	228	114
"	8:45	21	15	5	1						100,000	2,600	127	212	106
"	9:15	21	15	5	1						100,000	2,700	132	220	110
"	9:45	21	15	5	1						100,000	2,700	132	220	110
"	10:45	21	15	4	1						100,000	2,500	123	204	204
"	11:45	21	14	4	1						100,000	2,500	123	204	204
"	12:45	21	14	4	1						100,000	2,700	132	220	220
"	13:45	21	14	4	1						90,000	2,500	123	183	183
"	14:45	21	14	4	1						80,000	2,500	123	163	163

Well Gauging Data:			Before EFR® Event			After EFR® Event			Corr. DTW
Well No.	Diam.	TD (ft)	DTS (ft)	DTW (ft)	SPH (ft)	DTS (ft)	DTW (ft)	SPH (ft)	Change (ft)
MW-7	2"		10.52	10.77	0.25	10.88	11.00	0.12	-0.34
MW-9	2"		-	11.68	0.00	12.29	12.30	0.01	-0.62
MW-10	2"		12.59	13.62	1.03	13.46	13.48	0.02	-0.72

Vacuum Truck Information		Well ID	Breather Port	Stinger Depth	**Recovery/Disposal Information**		
Subcontractor:	AllVac	MW-7	0 (closed)	14'	Hydrocarbons Removed (vapor):	1,625	pounds
Truck Operator:	K. Free	MW-9	0 (closed)	13'	Hydrocarbons Removed (liquid):	0.0	gallons
Truck No.:	148	MW-10	0 (closed)	14'	Total Hydrocarbons Removed:	250	equiv. gallon
Vacuum Pumps:	Becker				Molecular Weight Utilized:	105	g/mole
Pump Type:	Twin LC-44s				Disposal Facility:	Johnson County Landfill	
Tank Capacity (gal.):	2,894				Manifest Number:		
Stack I.D. (inches)	3.0				Total Liquids Removed:	370	gallons

ECOVAC SERVICES ENVIRONMENTAL REMEDIATION

www.ecovacservices.com

859-266-5053

Pump Information	
Time:	6:45 to 14:45
# Pumps:	2
RPMs:	900

Notes:

APPENDIX E

DISPOSAL DOCUMENTATION

REPRINTED
Ticket# 1321844
Operator ACOLEMAN

JOHNSON COUNTY LANDFILL
PO BOX 3249
SHAWNEE KS 66203

Date: 6/10/15
In: 12:24 PM
Out: 12:26 PM

Origin: KANSAS CITY-JAC

PO#: NA

Auth#: 150189
Manifest: NA

Cust# 56-0000792
APEX ENVIROTECH INC
11244 PYRITES WAY
GOLD RIVER CA 95670

Vehl: APEX-0001
Cont:

Tare:
Tare:

MS

Comment: ZILL PROJECT

Material	Gross Wgt	Tare Wgt	Net Wgt	Qty	Amount
SW-CONTAMINATED SOIL	15840 LB M	12860 LB M	2980 LB	7.00 EA	385.00

Total- 385.00

Amount Paid 00.00
Change Due 00.00

Driver Signature_____ Driver Printed Name_____
Weight Codes: M=Manual, T=Stored Tare, 1/2 = Scale

COPY ***COPY*** ***COPY***

REPRINT

* I N V O I C E *

JOHNSON COUNTY LANDFILL
913-631-3300 OR TOLL FREE 800-631-3301
www.deffenbaughinc.com

Invoice Date
3/31/15

Invoice #
56192

Account Number
56- 792 1

Service Address:
APEX ENVIROTECH INC
JCLF
SHAWNEE KS 66217

Date	Description	Qty	Rate	Total
3/18/15	LIQUIDS - SPECIAL WAST TKT# 1277492	7.02	72.000	505.44
3/18/15	ZILL INC TKT# 1277492			
3/18/15	LIQUIDS - SPECIAL WAST TKT# 1277492	7.02-	72.000	505.44-
3/18/15	ZILL INC TKT# 1277492			
3/18/15	LIQUIDS - SPECIAL WAST TKT# 1279642	7.02	72.000	505.44
3/18/15	ZILL INC (OTY-127749 TKT# 1279642			
~~3/23/15~~	~~CONTAMINATED SOIL DRUM TKT# 1279838~~	~~5.00~~	~~55.000~~	~~275.00~~
~~3/23/15~~	~~SHAMROCK #3 TKT# 1279838~~			
3/24/15	LIQUIDS - SPECIAL WAST TKT# 1281062	3.79	72.000	272.88
3/24/15	ZILL INC TKT# 1281062			

SEE MANIFEST

115.2 ER WELLS
157.68 SITE WELLS

Total Invoice: 1,053.32

Current	31-60	61-90	91+ days	Account Balance
1352.72	1053.32	.00	.00	1581.04

Please detach here & include with your payment. THANK YOU

JOHNSON COUNTY LANDFILL
PO BOX 3249
913-631-8181
SHAWNEE KS 66203-0249

Invoice Date: 3/31/15
Invoice #: 56192
Account Number: 56- 792 1

Amount Due: $1,581.04

Total Enclosed $ _____

Remit to:
JOHNSON COUNTY LANDFILL
PO BOX 3249

SHAWNEE KS 66203-0249

APEX ENVIROTECH INC
JCLF
11244 PYRITES WAY
GOLD RIVER CA 95670

~(00~(sp10h12vsb104T

5600007921005619201053326

~(10U~(sp10hsb4099T

REPRINTED
Ticket# 1281062
Operator TLWHITE

JOHNSON COUNTY LANDFILL
PO BOX 3249
SHAWNEE KS 66203

Date: 3/24/15
In: 5:39 PM
Out: 5:49 PM

Origin: KANSAS CITY-JAC

PO#: NA

Auth#: 150201
Manifest: LWDR2015-009

Label# 56-0000792
ARPN ENVIROTECH INC
11244 PYRITES WAY
GOLD RIVER CA 95670

Vehl: DTS-6888/VAC TRUCK
Cont:

Tare:
Tare:

Comment: ZILL INC

1900 GALLONS

Material	Gross Wgt	Tare Wgt	Net Wgt	Qty	Amount
SW LIQUID SPECIAL WA	32960 LB 1	25380 LB 1	7580 LB	3.79 TN	272.88
800G	FROM ER WELLS		3191.6	1.6	115.2
1100G	FROM SITE WELLS		4388.4	2.19	157.68

Total- 272.88

Driver Signature_____ Driver Printed Name_____

Weight Codes: M=Manual, T=Stored Tare, 1/2 = Scale

SYSTEM GENERATED
Ticket# 1301795
Operator TLWHITE

JOHNSON COUNTY LANDFILL
PO BOX 3249
SHAWNEE KS 66203

Date: 4/30/15
In: 3:42 PM
Out: 4:07 PM

Origin: KANSAS CITY-CLA
PO#: NA
Auth#: 150201
Manifest: LWDR2015-009

Cust# 56-0000792
APEX ENVIROTECH INC
11244 PYRITES WAY
GOLD RIVER CA 95670

Vehl: AVS-0148
Cont:

Tare:
Tare:

Comment: APEX ENVIROTECH

Material	Gross Wgt	Tare Wgt	Net Wgt	Qty	Amount
SW-LIQUID SPECIAL WA	36440 LB 1	33220 LB 1	3220 LB	1.61 TN	115.92

Total- 115.92

Amount Paid 00.00
Change Due 00.00

Driver Signature_____ Driver Printed Name_____
Weight Codes: M=Manual, T=Stored Tare, 1/2 = Scale

COPY ***COPY*** ***COPY***

SPECIAL WASTE MANIFEST DISPOSAL TICKET

JOHNSON COUNTY LANDFILL
17955 HOLLIDAY DRIVE
SHAWNEE, KS 66217
DISPOSAL SITE

SCALE TICKET #: 1301795
STATE AUTH #: 15-0201
DATE: 4/30/15
MANIFEST #: LWDR2015-009

TRANSPORTER: All Use Services
P.O. #:
GENERATOR: Apex Envirotech
WORK ORDER #:
GENERATOR SIGNATURE:
BILL ACCOUNT:
ACCT#:
BILL ADDRESS: 105 Westpointe Dr. Suite 610 Woodstock, GA
PHONE#: (770) 593-1001
WASTE DESCRIPTION: Ground Water
TONNAGE 1.61
DRIVER SIGNATURE:
TRUCK NO. 148
ACCEPTED BY: TW
BOX NO.

NOTE * ALL MANIFEST COPIES TO BE DISTRIBUTED AT DISPOSAL SITE

REPRINT

* I N V O I C E *

JOHNSON COUNTY LANDFILL
913-631-3300 OR TOLL FREE 800-631-3301
www.deffenbaughinc.com

Invoice Date
4/30/15

Invoice #
56350

Account Number
56- 792 1

Service Address:
APEX ENVIROTECH INC
JCLF
SHAWNEE KS 66217

Date	Description		Qty	Rate	Total
FROM ER WELLS	~~4/29/15 LIQUIDS - SPECIAL WAST~~	~~TKT# 1301066~~	~~8.76~~	~~72.000~~	~~630.72~~
	~~4/29/15 APEX ENVIROTECH~~	~~TKT# 1301066~~			
	~~4/30/15 LIQUIDS - SW BY DRUM~~	~~TKT# 1301501~~	~~2.00~~	~~55.000~~	~~110.00~~
	~~4/30/15 ZILL INC~~	~~TKT# 1301501~~			
	4/30/15 LIQUIDS - SPECIAL WAST	TKT# 1301795	1.61	72.000	115.92
	4/30/15 APEX ENVIROTECH	TKT# 1301795			

Total Invoice: 856.64

Current	31-60	61-90	91+ days	Account Balance
1352.72	1053.32	.00	.00	1581.04

Please detach here & include with your payment.

THANK YOU

JOHNSON COUNTY LANDFILL
PO BOX 3249
913-631-8181
SHAWNEE KS 66203-0249

Invoice Date: 4/30/15
Invoice #: 56350
Account Number: 56- 792 1

Amount Due: $1,581.04

Total Enclosed $ _____

Remit to:
JOHNSON COUNTY LANDFILL
PO BOX 3249

SHAWNEE KS 66203-0249

APEX ENVIROTECH INC
JCLF
11244 PYRITES WAY
GOLD RIVER CA 95670

~(0O~(sp10h12vsb104T

~(10U~(sp10hsb4099T

5600007921005635000856643