

CITY OF FAIRVIEW PARK  
ORDINANCE NO. 16-29  
REQUESTED BY: MAYOR EILEEN ANN PATTON  
SPONSORED BY: COUNCILWOMAN CLEARY

AN ORDINANCE AUTHORIZING THE MAYOR TO ENTER INTO A CONTRACT WITH THE CHEMTRON CORPORATION TO PROVIDE FURTHER TESTING AND EVALUATION OF THE GROUND SURROUNDING THE PREVIOUSLY REMOVED UNDERGROUND STORAGE TANKS (THE SITE) AND DECLARING AN EMERGENCY

WHEREAS, Bureau of Underground Storage Tank Regulations (BUSTR), has determined that additional testing and monitoring is required at “the Site.”

WHEREAS, the City has previously spent Nine Thousand Nine Hundred Thirty Dollars (\$9,930.00) with the Chemtron Corporation for the “Tier One Investigation”

WHEREAS, BUSTR has reviewed the results of the “Tier One Investigation” and is requiring additional testing and monitoring that will cost Nine Thousand Seven Hundred and Thirteen Dollars (\$9,713.00) (See Exhibit “A” attached).

WHEREAS, the total of the “Tier One Investigation” will exceed \$15,000.00, thereby requiring City Council approval.

**NOW, THEREFORE, BE IT ORDAINED BY THE COUNCIL OF THE CITY OF FAIRVIEW PARK, COUNTY OF CUYAHOGA AND STATE OF OHIO:**

SECTION 1. The Mayor is hereby authorized to enter into a contract with the Chemtron Corporation for the additional testing and monitoring. The amount of Nine Thousand Seven Hundred and Thirteen Dollars (\$9,713.00) is hereby approved for this additional testing and monitoring.

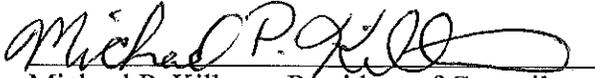
SECTION 2. That the cost of this testing and monitoring shall be paid out of the Capital Projects Fund (811).

SECTION 3. It is found and determined that all formal actions of this Council concerning and relating to the adoption of this ordinance were adopted in an open meeting of this Council, and that all deliberations of this Council and any of its committees that resulted in such formal action were in meetings open to the public in compliance with all legal requirements.

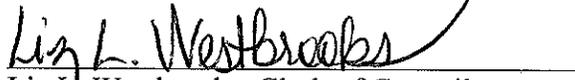
SECTION 4. That this ordinance is hereby declared to be an emergency measure necessary for the preservation of the public peace, health, safety and welfare and in order to comply with the dictates of BUSTR, and provided it receives the affirmative vote of a majority plus one of the members elected to Council, it shall take effect and be in force immediately upon its passage and approval by the Mayor, otherwise from and after the earliest period allowed by law.

PASSED: 07.25.16  
APPROVED: 07.26.16

1<sup>st</sup> reading: 07.25.16  
2<sup>nd</sup> reading: Suspended  
3<sup>rd</sup> reading: Suspended

  
Michael P. Kilbane, President of Council

  
Eileen Ann Patton, Mayor

  
Liz L. Westbrooks, Clerk of Council



# CITY OF FAIRVIEW PARK

Ordinance 16-29 | Exhibit A | Page 1 of 100

20777 Lorain Road  
Fairview Park, Ohio 44126-2018

– Established in 1910 –

Eileen Ann Patton, Mayor

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May 17, 2016

Mr. Charles Zepp  
Environmental Specialist  
Bureau of Underground Storage Tank Regulations  
8895 East Main Street  
Reynoldsburg OH 43068

Dear Mr. Zepp:

I have enclosed a copy of the Tier 1 Source Investigation performed at the City of Fairview Park, Ohio. Three fuel tanks were removed last year and this investigation was performed as required.

Please let me know if additional information is required or if you have any questions.

Best regards,

Bridget Hinkel  
Administrative Assistant  
440-356-4411



**Department of Commerce**

Division of State Fire Marshal  
Bureau of Underground Storage  
Tank Regulations (BUSTR)

**TIER 1 INVESTIGATION FORM 2012**

REPORT DATE: April 26, 2016

FACILITY ID#: 18004452

**OWNER/OPERATOR AND FACILITY DATA**

**UST OWNER INFORMATION:**

COMPANY: City of Fairview Park  
 ADDRESS: 20777 Lorain Road  
 CITY, STATE: Fairview Park, Ohio  
 ZIP: 44126  
 CONTACT PERSON: Ken Pierson  
 CONTACT PHONE: (440) 356-4409

**FACILITY INFORMATION:**

COMPANY: City of Fairview Park  
 ADDRESS: 20777 Lorain Road  
 CITY, ZIP: Fairview Park, 44126  
 COUNTY: Cuyahoga  
 LAT/LONG (decimal): 41.44570°N -81.84973°W  
 RELEASE #: 18004452-N00002

**UST OPERATOR INFORMATION:**

COMPANY: City of Fairview Park  
 ADDRESS: 20777 Lorain Road  
 CITY, STATE: Fairview Park, Ohio  
 ZIP: 44126  
 CONTACT PERSON: Ken Pierson  
 CONTACT PHONE: (440) 356-4409

**PROPERTY OWNER INFORMATION:**

COMPANY: City of Fairview Park  
 ADDRESS: 20777 Lorain Road  
 CITY, STATE: Fairview Park, Ohio  
 ZIP: 44126  
 CONTACT PERSON: Ken Pierson  
 CONTACT PHONE: (440) 356-4409

**UNDERGROUND STORAGE TANK (UST) SYSTEM DATA**

TANK #	DATE INSTALLED	CAPACITY	PRODUCT	CONST. MATERIAL	TANK STATUS*	DATE REMOVED
T0001	UNK	2000	gasoline	Steel	R	7/29/2015
T0002	UNK	2000	diesel	Steel	R	7/29/2015
T0003	UNK	2000	gasoline	Steel	R	7/29/2015

STATUS: CIP = Closed-in-Place, CIS = Change-in-Service, CIU = Currently-In-Use, R = Removed, RE = Replaced, OOS<90 = Out-of-Service < 90 days, OOS>90 = Out-of-Service > 90 days, OOS>12 = Out-of-Service > 12 months

**SITE HISTORY AND VISUAL SITE EVALUATION**

Describe the property, surrounding area, the date the release occurred, etc.

The Site contained 3 USTs, each with a capacity of 2,000 gallons. The contents were gasoline and diesel fuel. The USTs had some residual product in them prior to removal. The USTs were cleaned with a vacuum truck and removed from the ground. Dispensers were also removed. The USTs were removed and taken off site for destruction after being rendered useless on the site. The UST residuals were transported for disposal and Chemtron Corp. in Avon, Ohio. Sampling for the closure was completed by Chemtron Corp. Sampling was conducted on side walls and stockpile for the closure activities. Stockpiled material was replaced back into the excavation. For this Tier 1 Investigation, three borings were installed. Boring 1 was placed east of the former UST pit in an assumed downgradient location. Boring 2 was placed immediately adjacent to the western edge of the former UST pit. Geoprobe refusal was encountered in Borings 1 and 2 at approximately 12 feet when weathered shale was encountered. Boring 3 was installed south of a concrete AST pad located on top of the former UST pit. Boring 3 was intended to be placed into the former UST pit. After 6' it was decided that the location was not within the former UST pit. Boring 4 was installed approximately 2 feet

north of the concrete AST pad. Boring 4 was installed within the former UST pit to 12 feet below the ground surface. Boring 4 was converted into a monitoring well. Groundwater was not encountered in Borings 1, 2 or 3.

**TIER 1 SOURCE INVESTIGATION**

POTENTIAL RELEASE SOURCE(S):

<input type="checkbox"/> Tank	<input checked="" type="checkbox"/> Piping	<input type="checkbox"/> Dispenser	<input type="checkbox"/> Submersible Pump
<input type="checkbox"/> Delivery Problem	<input type="checkbox"/> Unknown	<input type="checkbox"/> Other	<input type="checkbox"/> N/A

List specific sources:

POTENTIAL CAUSE OF RELEASE:

<input type="checkbox"/> Spill	<input type="checkbox"/> Overfill	<input type="checkbox"/> Corrosion	<input type="checkbox"/> Install Problem	<input type="checkbox"/> N/A
<input checked="" type="checkbox"/> Physical / Mechanical Damage or Failure		<input type="checkbox"/> Unknown	<input type="checkbox"/> Other	

List specific causes:

CHEMICALS OF CONCERN:

BTEX, MTBE, PAH, TPH C10-C20 and TPH C6-C12

**SUBSURFACE INVESTIGATION:**

Previously installed soil borings and date installed:

None.

Previously installed monitoring wells and date installed:

None.



**FIELD SCREENING**

Instrument used: Mini-Rae 2000

**Methodology:**

Samples split in glass jars and polyethylene bags. Bags allowed to equilibrate to approximately 70 degrees F. Bags then pierced with tip of PID and highest headspace reading was recorded for each sample.

**Calibration procedure:**

MiniRae is calibrated prior to each fieldwork activity, by background zero gas and 100 ppm isobutylene gas.

SB/MW#	B1	B2	B3**	B/MW4				
Depth	PID/FID (ppm)							
0-2'	4.4	52.1	-	25.1				
2-4'	54	4.8	-	51.8				
4-6'	124	146	-	190				
6-8'	3.4	32.5		15.0				
8-10'	5.7	4.7		27.8				
10-12'	4.0	4.0		142				
12-14'								
14-16'								
16-18'								
18-20'								
20-22'								
22-24'								
24-26'								
26-28'								
28-30'								
30-32'								
32-34'								
34-36'								
36-38'								
38-40'								
40-42'								
42-44'								
44-46'								
46-48'								
48-50'								
GW Depth				2'				

\*\*Boring B-3 was installed in an attempt to find the southern limit of the former UST tank pit. Once it was determined that the boring was placed outside of the former tank pit, the boring was stopped and moved to a new location. Soil samples were not collected from boring B-3.

*NOTE: The intervals of samples submitted for analysis should be indicated in bold*

**SOIL CLASSIFICATION**

Select one of the following:

- SOIL CLASS 1 (USCS soil symbols GW, GP, GM, GC, SW, SP, SM)
- SOIL CLASS 2 (USCS soil symbols SC, ML, CL, OL, MH)
- SOIL CLASS 3 (USCS soil symbols CH, OH, PT)

**LABORATORY DATA**

LABORATORY NAME: Summit Environmental Technologies, Inc.

ADDRESS: 3310 Win Street, Cuyahoga Falls, Ohio 44223

PHONE #: 330-253-8211

ACCREDITATION (List at least one): Ohio VAP

Date samples received by lab: Soil – 3-23-2016. Water – 3-25-2016.

Temperature of cooler: 5.8° F

Date samples analyzed by lab: 3/24/16 (VOC soil); 3/25/16 (TPH GRO soil); 4/3/16 (TPH DRO soil); 4/4/16 (PAH soil); 4/6/16 (PAH water); 4/12/16 (VOC water)

Test methods: BTEX/MTBE (8260); PAH (8270); TPH (8015)

**IMMEDIATE CORRECTIVE ACTIONS**

- |                          |                                     |  |
|--------------------------|-------------------------------------|--|
| YES                      | NO                                  |  |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Free product is currently present          |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Free product has been present historically |

*If yes to either of the above, please complete the following:*

Location(s) of free product: \_\_\_\_\_

Amount recovered to date: \_\_\_\_\_

- |                          |                                     |   |
|--------------------------|-------------------------------------|---|
| YES                      | NO                                  |   |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | A remediation system is currently in use at the site                                  |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | A remediation system has previously been used at the site but is not currently in use |

If yes to either of the above, describe the remediation system and provide background information:

**OFF-SITE ACCESS**

- YES    NO
- Off-site access is required to delineate chemicals of concern
- Off-site access has been denied (Provide documentation and indicate denied parcels on all figures)

If yes to either of the above, explain:

**DELINEATION**

- YES    NO
- Chemicals of concern in soil have been defined to delineation levels in all directions
- Chemicals of concern in groundwater have been defined to delineation levels in all directions

*NOTE: Delineation levels are presented in Ohio Administrative Code (OAC) 1301:7-9-13(J)(1)*

If no to either of the above, explain:

Groundwater was only encountered in the former tank pit. Groundwater was not encountered in the borings outside of the former tank pit. Soil sample results were below delineation levels in each of the three boring installed as part of this investigation.

**GROUNDWATER DETERMINATION**

Select one of the following::

- Water in the saturated zone was not evaluated and is therefore assumed to be groundwater
- Water in the saturated zone was evaluated and meets the criteria to be considered groundwater
- Water in the saturated zone was evaluated and does not meet the criteria to be considered groundwater

*NOTE: If the saturated zone is not considered groundwater, documentation must be provided*

Depth to the saturated zone:     < 15'     15' – 30'     31' – 50'     > 50'

General direction of flow in the saturated zone:    Assumed to be east towards Coe Creek.

**DRINKING WATER DETERMINATION**

**GROUNDWATER IS CONSIDERED DRINKING WATER IF ANY OF THE FOLLOWING APPLY:**

- YES    NO
- The UST site or surrounding area is located within a Drinking Water Source Protection Area as defined by Ohio Administrative Code 1301:7-9-13(C)(5)
- The UST site is located within a Sensitive Area as defined by OAC 1301:7-9-09
- An existing drinking water source, including any completed in saturated zones other than that being

evaluated at the site, has been identified within the surrounding area pursuant to OAC 1301:7-9-13(I)(1)(b)

- A surface water body is located within three hundred feet of the UST system

If yes to any of the above, explain:

Coe Creek is located approximately 300 feet east of the former UST system.

**GROUNDWATER IS CONSIDERED NON-DRINKING WATER IF NONE OF THE ABOVE CONDITIONS APPLY AND ANY OF THE FOLLOWING CONDITIONS APPLY:**

YES	NO	NOT EVALUATED	
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Groundwater in the upper saturated zone yields less than three gallons per minute
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Groundwater in the upper saturated zone has a background level of total dissolved solids of three thousand milligrams per liter or greater
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	The site is located in an area where an urban setting designation pursuant to Chapter 3746 of the Revised Code and rules adopted there under has been approved by the director of the Ohio Environmental Protection Agency, and the owner and operator verifies that the urban setting designation remains protective of the potable use pathway in accordance with OAC 3745-300-10(D)(3)(b)
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	The site is <i>less than five acres</i> in area <u>and</u> no potable wells are located within 300 feet <i>of the site</i> (based on a physical survey) <u>and</u> an ordinance requires a mandatory tie-in to a municipal water system for all properties in the surrounding area
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	The site is <i>less than five acres</i> in area <u>and</u> no potable wells are located within 300 feet <i>of the site</i> (based on a physical survey) <u>and</u> an ordinance prohibits the installation of potable water wells at all properties within the surrounding area
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	The site is <i>less than five acres</i> in area <u>and</u> no potable wells are located within 300 feet <i>of the site</i> (based on a physical survey) <u>and</u> 100 percent of the properties within 300 feet <i>of the site</i> are either connected to a municipal water source or one is available
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	The site is <i>greater than five acres</i> in area <u>and</u> no potable wells are located within 300 feet <i>of the UST system</i> (based on a physical survey) <u>and</u> an ordinance requires a mandatory tie-in to a municipal water system for all properties in the surrounding area
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	The site is <i>greater than five acres</i> in area <u>and</u> no potable wells are located within 300 feet <i>of the UST system</i> (based on a physical survey) <u>and</u> an ordinance prohibits the installation of potable water wells at all properties within the surrounding area
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	The site is <i>greater than five acres</i> in area <u>and</u> no potable wells are located within 300 feet <i>of the UST system</i> (based on a physical survey) <u>and</u> 100 percent of the properties within 300 feet <i>of the UST system</i> are either connected to a municipal water source or one is available

If yes to any of the above, explain below and provide documentation:

**DRINKING WATER DETERMINATION CONCLUSION:**

- Groundwater is considered drinking water  
 Groundwater is not considered drinking water

### CONTAMINANT CONCENTRATIONS IN SOIL

CHEMICAL OF CONCERN	ACTION LEVEL (ppm)	MAXIMUM			HISTORICAL MAXIMUM*		
		Location ID	Depth	Conc. (ppm)**	Location ID	Depth	Conc. (ppm)**
BENZENE	1.04	B-2	10-12'	0.0108	PW-01	2'	1.3
TOLUENE	61.3	B-2	4-6'	<0.0582	PW-02	4'	230
ETHYLBENZENE	199	B-2	4-6'	0.00791	PW-01	2'	110
TOTAL XYLENES	15.7	B-1	4-6'	0.0114	PW-01	2'	1000
MTBE	1,240	B-1	10-12'	0.0378	SP06	0.5'	<0.230
BENZO (a) ANTHRACENE	11	B-4	0.5-2'	<3.19	B-4	0.5-2'	<3.19
BENZO (a) PYRENE	1.1	B-2	10-12'	<0.572	B-2	10-12'	<0.572
BENZO (b) FLUORANTHENE	11	B-4	0.5-2'	<4.34	B-4	0.5-2'	<4.34
BENZO (k) FLUORANTHENE	110	B-4	0.5-2'	<4.34	B-4	0.5-2'	<4.34
CHRYSENE	1,100	B-4	0.5-2'	<4.34	B-4	0.5-2'	<4.34
DIBENZ (a,h) ANTHRACENE	1.1	B-2	10-12'	<0.572	SP06	0.5	0.110
INDENO (1,2,3-cd) PYRENE	11	B-4	0.5-2'	<1.45	B-4	0.5-2'	<1.45
NAPHTHALENE	54	B-4	0.5-2'	<4.34	SP06	0.5'	210
TPH (C6-C12)	1,000	B-1	4-6'	656	PW-01	2'	6,900
TPH (C10-C20)	2,000	B-1	4-6'	<11.6	PW-01	2'	19,000
TPH (C20-C34)					PW-01	2'	<1,200
OTHER (List below, add rows as needed):							

\* For this release, including closure or site check results. Only complete if soil data has been replaced via an IRA, a RAP, or confirmatory sampling.

\*\* Soil results are to be reported on a dry weight basis. Where concentrations are less than detection limits, indicate the detection limit (e.g. < 0.005).

### CONTAMINANT CONCENTRATIONS IN GROUNDWATER

CHEMICAL OF CONCERN	ACTION LEVEL (ppm)	HISTORICAL MAXIMUM*		CURRENT MAXIMUM	
		MW #	Conc. (ppm)**	MW #	Conc. (ppm)**
BENZENE	0.005	MW-4 3-29	0.159	MW-4 3-29	0.159
TOLUENE	1	MW-4 3-29	0.323	MW-4 3-29	0.323
ETHYLBENZENE	0.7	MW-4 3-29	0.0976	MW-4 3-29	0.0976
TOTAL XYLENES	10	MW-4 3-29	0.360	MW-4 3-29	0.360
MTBE	0.04	MW-4 3-29	0.016	MW-4 3-29	0.016
BENZO (a) ANTHRACENE	0.00026	MW-4 3-29	<0.0005	MW-4 3-29	<0.0005
BENZO (a) PYRENE	0.0002	MW-4 3-29	<0.00025	MW-4 3-29	<0.00025
BENZO (b) FLUORANTHENE	0.00017	MW-4 3-29	<0.00025	MW-4 3-29	<0.00025
BENZO (k) FLUORANTHENE	0.0017	MW-4 3-29	<0.00025	MW-4 3-29	<0.00025
CHRYSENE	0.047	MW-4 3-29	<0.0005	MW-4 3-29	<0.0005
DIBENZ (a,h) ANTHRACENE	0.0002	MW-4 3-29	<0.0005	MW-4 3-29	<0.0005
INDENO (1,2,3-cd) PYRENE	0.00022	MW-4 3-29	<0.0005	MW-4 3-29	<0.0005
NAPHTHALENE	0.14	MW-4 3-29	0.04942	MW-4 3-29	0.04942
OTHER (List below, add rows as needed):					

Dr. Mo Osman, the Summit Environmental Technologies manager, stated that the detection limits for the PAH could not be measured below BUSTR Action Levels because "a smaller sample was extracted due to the fact that the sample being soapy and has sediment."

\* For this release, including closure or site check results.

\*\* Where concentrations are less than detection limits, indicate the detection limit (e.g. < 0.005).

**TIER 1 DECISIONS**

Select one of the following:

- The concentrations of all chemical(s) of concern (COCs) are at or below action levels determined in accordance with paragraph (1)(2)(f) of OAC 1301:7-9-13 for all applicable pathways, and no further action is requested.
- The concentrations of COCs are above applicable action level(s) determined in accordance with paragraph (1)(2)(f) of OAC 1301:7-9-13, and the following COCs and pathways require further evaluation:

SOIL		GROUNDWATER	
Chemical of Concern	Pathways	Chemical of Concern	Pathways
Benzene*	Delineation	Benzene	Ground Water Ingestion
Toluene*	Delineation		
Total Xylenes*	Delineation		
Naphthalene*	Delineation		
TPH C6-C12*	TPH Delineation		
TPH C10-C20*	TPH Delineation		

\*The exceedances for Chemicals of Concern in the soil were identified during closure activities.

Indicate which of the following options the owner/operator plans on conducting:

- INTERIM RESPONSE ACTION
- TIER 2 EVALUATION
- REMEDIAL ACTION PLAN

<b>MISCELLANEOUS DATA</b>
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**THE FOLLOWING ITEMS MUST BE ATTACHED:**

**ADDITIONAL INFORMATION WHICH IS REQUIRED BY OAC 1301:7-9-13 OR ADDITIONAL INFORMATION WHICH CLARIFIES THE INVESTIGATION ACTIVITIES SHALL BE SUBMITTED AS APPENDICES TO THIS REPORT.**

**TABLES:**

TABLE 1 SOIL CONCENTRATIONS COMPARED TO ACTION & DELINEATION LEVELS  
 TABLE 2 GROUNDWATER CONCENTRATIONS COMPARED TO ACTION & DELINEATION LEVELS  
 TABLE 3 MONITORING WELL GAUGING DATA

**FIGURES:**

FIGURE 1 TOPOGRAPHIC MAP  
 FIGURE 2 SITE MAP  
 FIGURE 3 SITE MAP WITH SOIL BORING LOCATIONS, SOIL CONCENTRATIONS AND SAMPLE DEPTH  
 FIGURE 4 SITE MAP WITH MONITORING WELLS AND GROUNDWATER CONCENTRATIONS  
 FIGURE 5 GROUNDWATER CONTOUR MAP

**APPENDIX:**

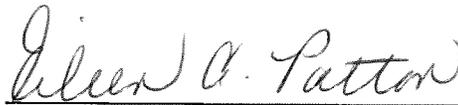
APPENDIX A SOIL BORING LOGS  
 APPENDIX B MONITORING WELL CONSTRUCTION DIAGRAMS  
 APPENDIX C MONITORING WELL DEVELOPMENT & SAMPLING FORMS  
 APPENDIX D SOIL CLASSIFICATION FORM  
 APPENDIX E LABORATORY ANALYTICAL REPORT  
 APPENDIX F LABORATORY SUMMARY FORM  
 APPENDIX G CHAIN OF CUSTODY  
 APPENDIX H DRINKING WATER EVALUATION SUPPORTING DOCUMENTATION  
 APPENDIX I PHOTOGRAPHS

**FORM PREPARED BY:**

NAME: William Mello  
 COMPANY: Emerald Environmental, Inc. (EEI)  
 STREET ADDRESS: 1621 St. Clair Avenue  
 CITY, STATE, ZIP: Kent, Ohio 44240  
 PHONE #: 330-677-0785  
 EMAIL: wmello@emerald-environmental.com

The Tier 1 Investigation Form **must** be signed by the UST owner/operator. The owner/operator is responsible for ensuring all data is accurate, and the form is legible and complete.

OWNER / OPERATOR SIGNATURE:



PRINT NAME:

Eileen A. Patton

DATE:

5/17/16

## CHEMICALS OF CONCERN AND RECOMMENDED LABORATORY METHODS

**Analytical Group 1:** Light distillate products including unleaded gasoline, leaded gasoline and aviation gasoline

**Analytical Group 2:** Middle distillate products including diesel, light fuel oils, stoddard solvents, mineral spirits, kerosene, and jet fuels

**Analytical Group 3:** Heavy petroleum distillate products - including, but not limited to, lubricating and hydraulic oils

**Analytical Group 4:** Used oil

**Analytical Group 5:** Unknown petroleum products or petroleum products other than those listed in analytical groups 1, 2, 3 and 4. Additional chemical(s) of concern and analytical methods must be selected, as appropriate, based on reasonably available information related to the product stored, including additives, impurities and degradation products. In addition, chemical(s) of concern should be selected based on their toxicity, mobility, and persistence in the environment. The owners and operators shall consult with the fire marshal for the appropriate chemical(s) of concern for products not in analytical group 1, 2, 3 and 4.

Analytical Group Number		1	2	3	4	5	Analytical Methods
		Light Distillates	Middle Distillates	Heavy Distillates	Used Oil	Unknowns & Others	
Chemical							
Aromatics	Benzene	x	x		x		8021/8260
	Toluene	x	x		x		
	Ethylbenzene	x	x		x		
	o, m and p-Xylenes	x	x		x		
Additives	Methyl tertiary-butyl ether (MTBE)	x			x		
Polynuclear Aromatics	Benzo(a)anthracene		x	x	x		8270/8310
	Benzo(a)pyrene		x	x	x		
	Benzo(b)fluoranthene		x	x	x		
	Benzo(k)fluoranthene		x	x	x		
	Chrysene		x	x	x		
	Dibenz(a,h)anthracene		x	x	x		
	Indeno(1,2,3-c,d)pyrene		x	x	x		
Naphthalene		x	x	x			
Chlorinated Hydrocarbons	Volatile Organic Hydrocarbons				x		8260
Total Petroleum Hydrocarbons *1	TPH (C6 – C12)	x			x		8015
	TPH (C10 – C20)		x		x		
	TPH (C20 – C34)			x	x		
	Varies based on UST contents			x	x	*2	

\*1 TPH analysis is not required for groundwater samples.

\*2 Additional chemical(s) of concern and analytical methods must be selected, as appropriate, based on reasonably available information related to the product stored, including additives, impurities and degradation products. In addition, chemical(s) of concern should be selected based on their toxicity, mobility, and persistence in the environment. The owners and operators shall consult with the fire marshal for the appropriate chemical(s) of concern for products not in analytical group 1, 2, 3 and 4.



## **Tables**

**Table 1A - Soil Analytical Results BTEX & MTBE**

City of Fairview Park  
 20777 Lorain Road  
 Fairview Park, Cuyahoga County, Ohio

Sample	Depth (ft)	Sampling Date	Benzene mg/kg	Toluene mg/kg	Ethylbenzene mg/kg	Xylenes mg/kg	MTBE mg/kg
B-1	(4-6)	3/22/2016	<0.00568	<0.00568	<0.00568	0.0114	<0.00568
B-1	(10-12)	3/22/2016	<0.00573	<0.00573	<0.00573	<0.0115	0.0378
B-2	(4-6)	3/22/2016	0.0108	<0.00568	0.00791	<0.0114	<0.00568
B-2	(10-12)	3/22/2016	<0.00582	<0.00582	<0.00582	<0.0116	0.0190
B-4	(0.5-2)	3/22/2016	<0.00528	<0.00528	<0.00528	<0.0106	<0.00528
<b>Action Levels - Soil Direct Contact</b>			<b>9.80</b>	<b>590.00</b>	<b>1500.00</b>	<b>660.00</b>	<b>5300.00</b>
<b>Action Levels - Soil to Indoor Air</b>			<b>1.04</b>	<b>61.30</b>	<b>199.00</b>	<b>15.70</b>	<b>1240.00</b>
<b>Action Levels - Soil to Outdoor Air</b>			<b>32.70</b>	<b>1930.00</b>	<b>6280.00</b>	<b>494.00</b>	<b>39300.00</b>
<b>Action Levels - Soil to DW Leaching</b>			<b>0.149</b>	<b>49.10</b>	<b>45.50</b>	<b>469.00</b>	<b>0.470</b>
<b>Delineation Levels</b>			<b>1.04</b>	<b>61.30</b>	<b>199.00</b>	<b>15.70</b>	<b>1240.00</b>

**Bold = Above Action Levels**

\* = Above Delineation Levels

All Action Levels are for Soil Class 1, <15 Feet, and Residential Parameters

**Table 1B - Soil Analytical Results PAH/TPH**

City of Fairview Park  
20777 Lorain Road

Fairview Park, Cuyahoga County, Ohio

Sample	Depth (ft)	Sampling Date	Benzo(a) anthracene mg/kg	Benzo(a) pyrene mg/kg	Benzo(b) fluoranthene mg/kg	Benzo (k) fluoranthene mg/kg	Chrysene mg/kg	Dibenz (a,h) anthracene mg/kg	Indeno(1,2,3-c,d) pyrene mg/kg	Naphthalene mg/kg	TPH (C6-C12) mg/kg	TPH (C10-C20) mg/kg
B-1	(4-6)	3/22/2016	<0.623	<0.566	<0.849	<0.849	<0.849	<0.566	<0.283	<0.849	<11.4	656
B-1	(10-12)	3/22/2016	<0.568	<0.568	<0.460	<0.852	<0.852	<0.568	<0.284	<0.852	<11.5	<37.9
B-2	(4-6)	3/22/2016	<0.624	<0.568	<0.851	<0.851	<0.851	<0.568	<0.284	2.30	<11.4	215
B-2	(10-12)	3/22/2016	<0.629	<0.572	<0.858	<0.858	<0.858	<0.572	<0.286	<0.858	<11.6	<38.2
B-4	(0.5-2)	3/22/2016	<3.19	<0.967	<4.34	<4.34	<4.34	<0.967	<1.45	<4.34	<10.6	<387
<b>Action Levels - Soil Direct Contact</b>												
			11.00	1.10	11.00	110.00	1100.00	1.10	11.00	54.00	2000.00	2000.00
<b>Action Levels - Soil to Indoor Air</b>												
			476000.00	245000.00	165000.00	>1E <sup>+</sup> +6	>1E <sup>+</sup> +6	>1E <sup>+</sup> +6	>1E <sup>+</sup> +6	5400.00	2000.00	2000.00
<b>Action Levels - Soil to Outdoor Air</b>												
			>1E <sup>+</sup> +6	>1E <sup>+</sup> +6	>1E <sup>+</sup> +6	>1E <sup>+</sup> +6	>1E <sup>+</sup> +6	>1E <sup>+</sup> +6	>1E <sup>+</sup> +6	1710.00	2000.00	2000.00
<b>Action Levels - Soil to Non-DW Leaching</b>												
			>1E <sup>+</sup> +6	>1E <sup>+</sup> +6	>1E <sup>+</sup> +6	>1E <sup>+</sup> +6	>1E <sup>+</sup> +6	>1E <sup>+</sup> +6	>1E <sup>+</sup> +6	632.00	2000.00	2000.00
<b>Delineation Levels</b>												
			11.00	61.30	199.00	15.70	1240.00	15.70	1240.00	15.70	2000.00	2000.00

**Bold = Above Action Levels**

\* = Above Delineation Levels

All Action Levels are for Soil Class 1, <15 Feet, and Residential Parameters

**Table 2A - Water Analytical Results - BTEX & MTBE**  
 City of Fairview Park  
 20777 Lorain Road  
 Fairview Park, Cuyahoga County, Ohio

Sample	Sampling Date	Benzene mg/kg	Toluene mg/kg	Ethylbenzene mg/kg	Xylenes mg/kg	MTBE mg/kg
MW- 4 3-29	3/29/2016	0.159	0.324	0.098	0.306	0.0160
<b>Action Levels - GW to Indoor Air</b>		<b>4.28</b>	<b>155.00</b>	<b>381.00</b>	<b>41.30</b>	<b>12400.00</b>
<b>Action Levels - GW to Outdoor Air</b>		<b>818.00</b>	<b>32500.00</b>	<b>82700.00</b>	<b>8560.00</b>	<b>758000.00</b>
<b>Delineation Levels</b>		<b>0.428</b>	<b>15.50</b>	<b>38.10</b>	<b>10.00</b>	<b>1240.00</b>
<b>Drinking Water Ingestion Levels</b>		<b>0.005</b>	<b>1</b>	<b>0.70</b>	<b>10</b>	<b>0.04</b>

**Bold = Above Action Levels**

**\* = Above Delineation Levels**

All Action Levels are for Soil Class 1, <15 Feet, and Residential Parameters

**Table 2B - Water Analytical Results PAH**

City of Fairview Park  
20777 Lorain Road

Fairview Park, Cuyahoga County, Ohio Ohio

Sample	Sampling Date	Benzo(a) anthracene mg/kg	Benzo(a) pyrene mg/kg	Benzo(b) fluoranthene mg/kg	Benzo(k) fluoranthene mg/kg	Chrysene mg/kg	Dibenz (a,h) anthracene mg/kg	Indeno(1,2,3-c,d) pyrene mg/kg	Naphthalene mg/kg
MW - 4 3-29	3/29/2016	<0.0005	<0.00025	<0.00025	<0.00025	<0.0005	<0.0005	<0.0005	0.04942
Action Levels - GW to Indoor Air		667.00	127.00	67.20	23800.00	7150.00	353.00	2020.00	22.20
Action Levels - GW to Outdoor Air		24800.00	7680.00	2020.00	>1E <sup>+</sup> +6	212000.00	78400	123000	1200
Groundwater Ingestion		0.00026	0.00020	0.00017	0.00170	0.04700	0.00020	0.00022	0.14
Delineation Levels		66.7	12.70	6.72	2380.00	715.00	35.30	202.00	2.22

All Action Levels are for Soil Class 1, <15 Feet, and Residential Parameters

Dr. Mo Osman, the Summit Environmental Technologies manager, stated that the detection limits for all of the PAH could not be measured below BUSTR Action Levels because "a smaller sample was extracted due to the fact that the sample being soapy and has sediment."

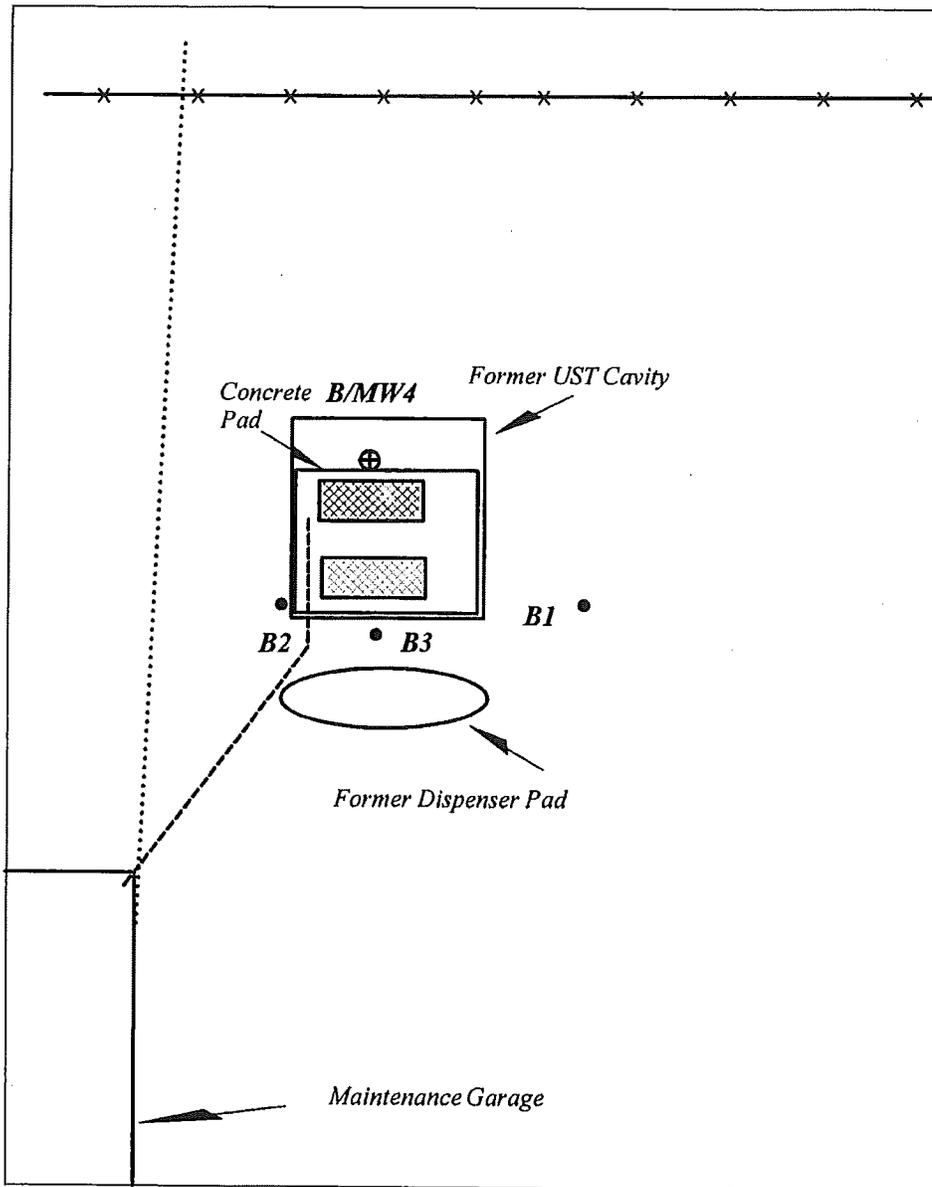


## Figures



<b>Figure 1</b>	<b>Site Location Map</b>	
Project Name:	Tier I Source Investigation	
Site Location:	20777 Lorain Road	
	Lorain, Cuyahoga County, Ohio	
EEl Project #:	16-3731	Prepared By: WEM - 3/16





- Gasoline and Diesel ASTs
- Overhead power line
- Underground power line
- B/MW5** Monitoring Well
- B8** Boring
- Fence Line

Figure 2:	Site Map
Project Name:	Tier 1 Source Investigation
Location:	20777 Lorain Road
	Fairview Park, Cuyahoga County, Ohio
EEl Project #:	16-3731
Prepared By:	WM/April 2016



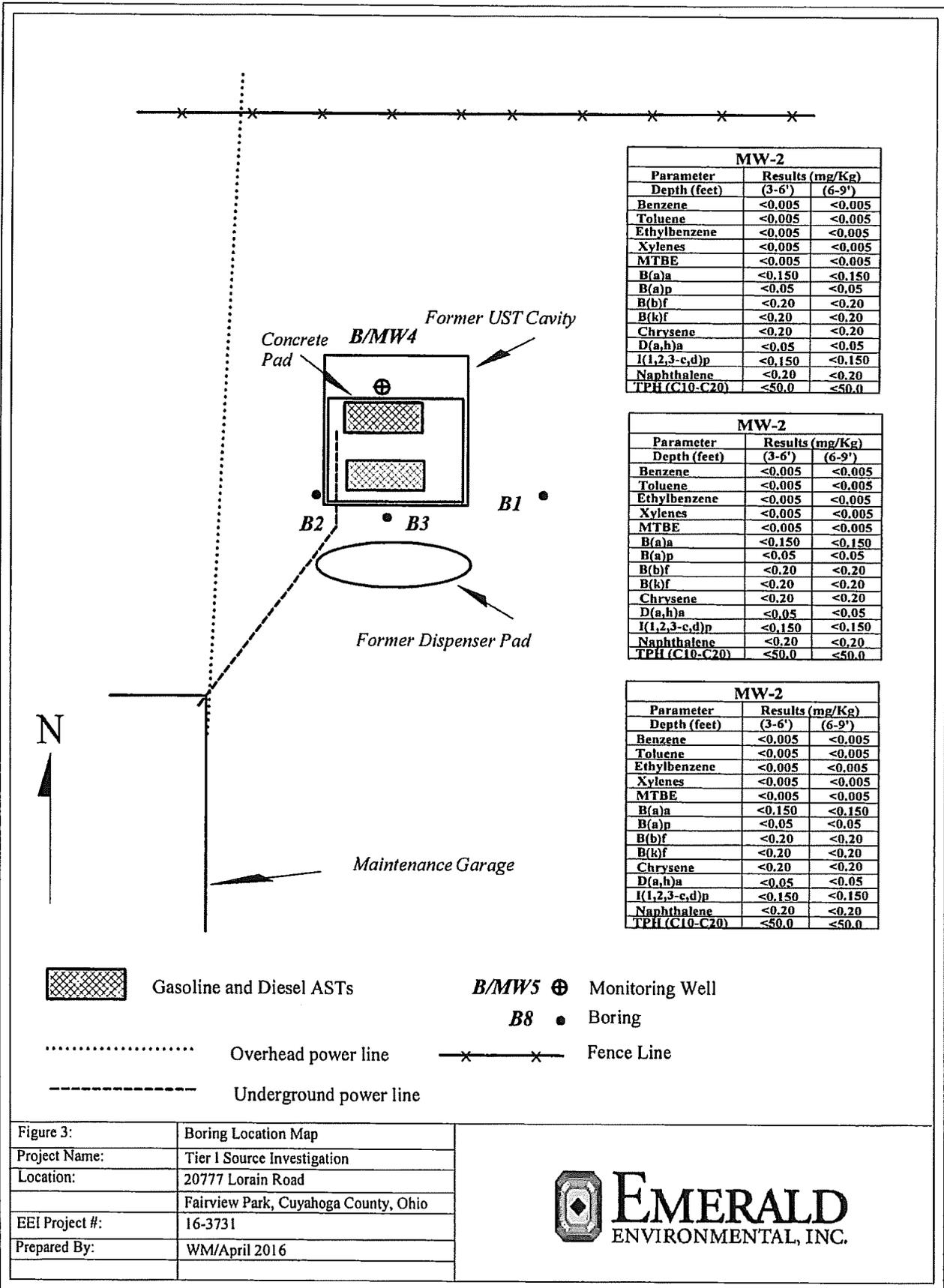


Figure 3:	Boring Location Map
Project Name:	Tier I Source Investigation
Location:	20777 Lorain Road
	Fairview Park, Cuyahoga County, Ohio
EI Project #:	16-3731
Prepared By:	WM/April 2016



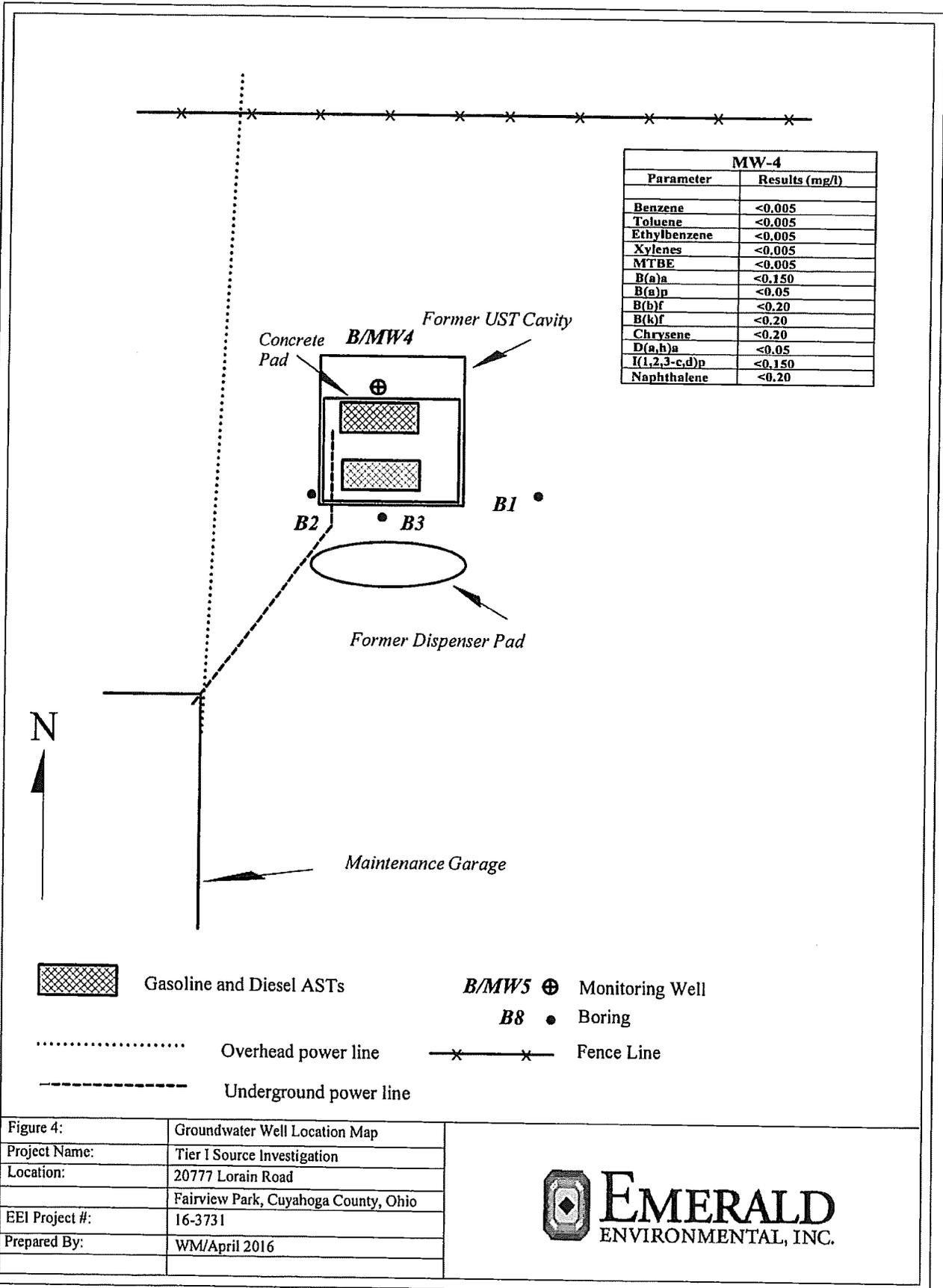


Figure 4:	Groundwater Well Location Map
Project Name:	Tier I Source Investigation
Location:	20777 Lorain Road
	Fairview Park, Cuyahoga County, Ohio
EEL Project #:	16-3731
Prepared By:	WM/April 2016





## **Appendix A**



# EMERALD ENVIRONMENTAL, INC.

## LOG OF BORING B-1

(Page 1 of 1)

Tier I Source Investigation  
 City of Fairview Park  
 20777 Lorain Road  
 Fairview Park, Cuyahoga County, Ohio  
 EEI Project #16-3731

Date Started : 3/22/2016  
 Date Completed : 3/22/2016  
 Hole Diameter : 2"  
 Drilling Method : Direct Push  
 Sampling Method : Acetate Lined Tubes

Drilling Company : EEI  
 Drill Rig Operator : MB  
 Logged By : WM

Depth in Feet	Depth in Meters	USCS	GRAPHIC	DESCRIPTION	Samples	Laboratory Analysis	PID	Recovery %	Water Level
0	0			ASPHALT					
		SM		Moist, brown, silty SAND (SM), trace gravel [Fill]	1	NO	4.4	50	
2									
		CL		Moist, brown with gray mottling, lean CLAY (CL), trace sand, trace gravel [Glacial Till]	2	NO	54	100	
1									
4					3	YES	124	100	
6									
2					4	NO	3.4	100	
8									
					5	NO	5.7	100	
10	3								
					6	YES	4.0	100	
12									
				Refusal at 12' - Weathered Shale bedrock in spoon. Boring backfilled w/ bentonite grout upon completion. Groundwater not encountered.					
4									
14									

04-04-2016 I:\Emerald 2016\Reports\EEI\Phase I\Boring B-1 Fairview Park bor



# EMERALD ENVIRONMENTAL, INC.

## LOG OF BORING B-2

(Page 1 of 1)

Tier I Source Investigation City of Fairview Park 20777 Lorain Road Fairview Park, Cuyahoga County, Ohio EEI Project #16-3731	Date Started : 3/22/2016	Drilling Company : EEI
	Date Completed : 3/22/2016	Drill Rig Operator : MB
	Hole Diameter : 2"	Logged By : WM
	Drilling Method : Direct Push	
	Sampling Method : Acetate Lined Tubes	

Depth in Feet	Depth in Meters	USCS	GRAPHIC	DESCRIPTION	Samples	Laboratory Analysis	PID	Recovery %	Water Level
0	0			ASPHALT					
		SM		Moist, brown, silty SAND (SM), trace gravel [Fill]	1	NO	52.1	50	
				Moist, brown with gray mottling, lean CLAY (CL), trace sand, trace gravel [Glacial Till]	2	NO	4.8	100	
					3	YES	146	100	
		CL			4	NO	32.5	100	
					5	NO	4.7	100	
					6	YES	4.0	100	
12				Refusal at 12' - Weathered Shale bedrock in spoon. Boring backfilled w/ bentonite grout upon completion. Groundwater not encountered.					
14									

04-04-2016 I:\Emerald 2016\Reports\EEI\Phase II\Boring B-1 Fairview Park.bor



# EMERALD ENVIRONMENTAL, INC.

## LOG OF BORING B-3

(Page 1 of 1)

Tier I Source Investigation  
City of Fairview Park  
20777 Lorain Road

Date Started : 3/22/2016  
Date Completed : 3/22/2016  
Hole Diameter : 2"  
Drilling Method : Direct Push  
Sampling Method : Acetate Lined Tubes

Drilling Company : EEI  
Drill Rig Operator : MB  
Logged By : WM

Fairview Park, Cuyahoga County, Ohio  
EEI Project #16-3731

Depth in Feet	Depth in Meters	USCS	GRAPHIC	DESCRIPTION	Samples	Laboratory Analysis	PID	Recovery %	Water Level
0	0			ASPHALT					
		SM		Moist, brown, silty SAND (SM), trace gravel [Fill]	1	NO	-	50	
2				Moist, brown with gray mottling, lean CLAY (CL), trace sand, trace gravel [Glacial Till]	2	NO	-	100	
4		CL			3	NO	-	100	
6				End of boring at 6'. Boring backfilled w/ bentonite grout upon completion. Groundwater not encountered. Boring was placed in this location in an attempt to find the southern limit of the former UST tank pit. Once it was determined that the boring was placed outside of the former tank pit, the boring was stopped and moved to a new location.					
8	2								

04-04-2016 I:\Emerald 2016\Reports\EEI\Phase II\Boring B-3 Fairview Park.bor

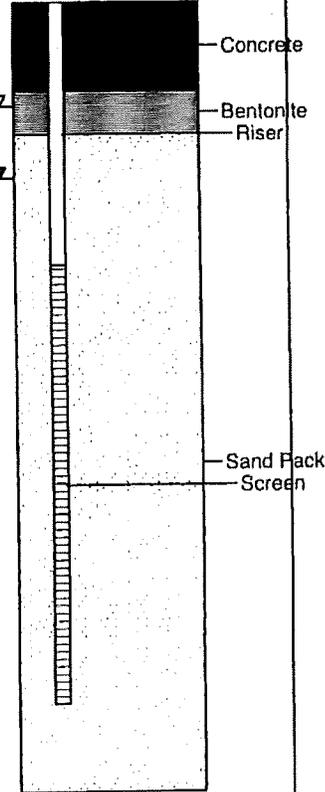


LOG OF BORING B-4/MW-4

(Page 1 of 1)

Tier I Source Investigation City of Fairview Park 20777 Lorain Road Fairview Park, Cuyahoga County, Ohio EEI Project #16-3731	Date Started : 3/22/2016	Drilling Company : EEI
	Date Completed : 3/25/2016	Drill Rig Operator : MB
	Hole Diameter : 6"	Logged By : WM
	Drilling Method : Direct Push/HSA	
	Sampling Method : Acetate Lined Tubes	

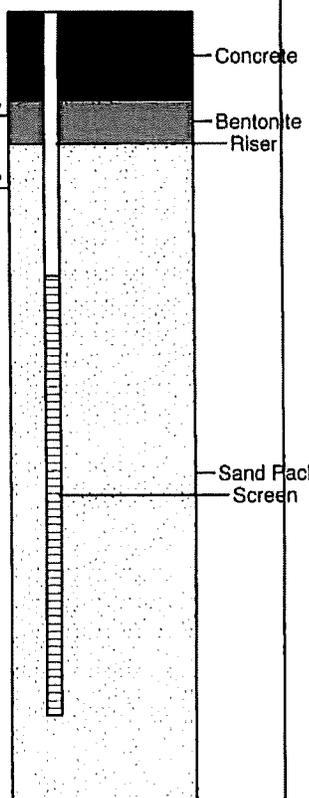
Depth in Feet	Depth in Meters	USCS	GRAPHIC	DESCRIPTION	Samples	Laboratory Analysis	PID	Recovery %	Monitoring Well Construction (2" PVC)
0	0			ASPHALT					
		ML		Moist, brown, silty SAND, trace gravel [Fill]					
		CL		Moist, brown with gray mottling, lean CLAY (CL), trace sand, trace gravel [Fill]	1	YES	25.1	1.5	
2				Wet, GRAVEL (GM), trace sand, trace silt (pea gravel backfill)	2	NO	51.8	50	
4					3	NO	190	50	
6		GM			4	NO	15.0	50	
8					5	NO	27.8	50	
10		CL		Moist, brown, lean (CLAY (CL), trace sand, trace gravel	6	NO	142	66	
12				Refusal @ 12' HSA used to install monitoring well after geoprobe sampling was completed.					
14									



04-04-2016 I:\Emerald 2016\Reports\EEI\Phase II\Monitoring Well B-4 Fairview Park bor



## **Appendix B**

 <b>EMERALD</b> ENVIRONMENTAL, INC.		LOG OF BORING B-4/MW-4 (Page 1 of 1)							
Tier I Source Investigation City of Fairview Park 20777 Lorain Road Fairview Park, Cuyahoga County, Ohio EEI Project #16-3731		Date Started : 3/22/2016 Date Completed : 3/25/2016 Hole Diameter : 6" Drilling Method : Direct Push/HSA Sampling Method : Acetate Lined Tubes	Drilling Company : EEI Drill Rig Operator : MB Logged By : WM						
Depth in Feet	Depth in Meters	USCS	GRAPHIC	DESCRIPTION	Samples	Laboratory Analysis	PID	Recovery %	Monitoring Well Construction (2" PVC)
0	0			ASPHALT					
		ML		Moist, brown, silty SAND, trace gravel [Fill]					
		CL		Moist, brown with gray mottling, lean CLAY (CL), trace sand, trace gravel [Fill]	1	YES	25.1	1.5	
2				Wet, GRAVEL (GM), trace sand, trace silt (pea gravel backfill)	2	NO	51.8	50	
4					3	NO	190	50	
6		GM			4	NO	15.0	50	
8					5	NO	27.8	50	
10	3	CL		Moist, brown, lean (CLAY (CL), trace sand, trace gravel	6	NO	142	66	
12				Refusal @ 12' HSA used to install monitoring well after geoprobe sampling was completed.					
14	4								

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## **Appendix C**

Emerald Environmental, Inc. - Monitor Well Sampling Form

Site Name: City of Fairview Park Project Number: 16-3731	Sampled By: WM Date: 3/29/2016
---	-----------------------------------

Well ID	Purge Data										Sampling Data			Observations (Color, Turbidity, Odors, Sheen)			
	Casing Diameter	Well Depth	Static Water Level	Feet of Water in Well	Three Well Volumes*	Actual Purge Volume	Start Purge Time	End Purge Time	Total Purge Time	Rate (GPM)	Purge Method	SWL (after purge)	pH		Spec. Cond.	Temp. C°	D.O.
B-4	2"	8'	1.19'	6.81	3.3	7		1030			HB		10.24	7.59	9.4		Fast recovery
													10.62	7.16	9.5		
													10.33	9.87	9.5		
													10.23	10.15	9.6		
													10.52	10.31	9.6		
													10.57	10.30	9.7		
B-4	2"	8'	1.15'	6.85	3.3	4		1330					9.93	10.74	9.5		Fast recovery
													10.43	10.68	9.7		
													10.55	10.65	9.7		
													10.66	10.63	9.8		
													10.61	10.53	9.9		Sampled at 1400 hours.

\* Three Well Volumes = 3 x Feet of Water in Well x 0.042 (1-inch), 0.163 (2-inch) or 0.653 (4-inch)  
 Denote any necessary comments, conditions or repairs needed to wells in the space provided below:  
 HB = Hand Bailer





## **Appendix D**



**Department of Commerce**

Division of State Fire Marshal  
Bureau of Underground Storage  
Tank Regulations (BUSTR)

**SOIL CLASSIFICATION FORM 2012**

REPORT DATE: \_\_\_\_\_ FACILITY ID#: 18004452

Major Divisions		Letter Symbol	Typical Description	Soil Class	
<b>Coarse Grained Soils</b>  More than 50% of material is retained on #200 Sieve	Gravel and Gravelly Soils  More than 50% of Coarse Fraction Retained on No. 4 Sieve	Clean Gravels (Little or No Fines)	GW Well-Graded Gravels, Gravel-Sand Mixtures, Little or No Fines	Class 1	
		Gravels with Fines (Appreciable Amount of Fines)	GP Poorly-Graded Gravels, Gravel-Sand Mixtures, Little or No Fines		
	Sand and Sandy Soils  More than 50% of Coarse Fraction Passes thru No. 4 Sieve	Clean Sand (Little or No Fines)	GM Silty Gravels, Gravel-Sand-Silt Mixtures		
		Sands with Fines (Appreciable Amount of Fines)	GC Clayey Gravels, Gravel-Sand-Clay Mixtures		
	<b>Fine Grained Soils</b>  More than 50% of material passes thru #200 Sieve	Silts and Clays  Liquid Limit < 50	Clean Sand (Little or No Fines)		SW Well-Graded Sands, Gravelly Sands, Little or No Fines
			Sands with Fines (Appreciable Amount of Fines)		SP Poorly-Graded Sands, Gravelly Sands, Little or No Fines
			Sands with Fines (Appreciable Amount of Fines)		SM Silty-Sands, Sand-Silt Mixtures
		Silts and Clays  Liquid Limit > 50	ML Inorganic Silt and Very Fine Sands, Rock Flour, Silty or Clayey Fine Sand or Clayey Silts with Slight Plasticity		CL Inorganic Clays of Low to Medium Plasticity, Gravelly Clays, Sandy Clays, Silty Clays, Lean Clays
OL Organic Silts and Organic Silty Clays of Low Plasticity	MH Inorganic Silts, Micaceous or Diatomaceous Fine Sand or Silty Soil				
CH Inorganic Clays of High Plasticity, Fat Clays					
Highly Organic Soils		OH Organic Clays of Medium to Plasticity, Organic Silts	Class 3		
		PT Peat, Humus, Swamp Soil with High Organic Contents			

<b>PATHWAY:</b>	Soil to Indoor Air	GW to Indoor Air	Soil to DW Leaching	Soil to Non-DW Leaching
<b>SYMBOL:</b>	CL	CL	CL	CL

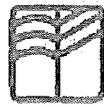
SITE ADDRESS: \_\_\_\_\_

I certify that I have inspected the soils at the above location and am qualified to make the determinations presented:

SIGNATURE:   
 PRINT NAME: William Mello DATE: 5-4-2016  
 TITLE/COMPANY: Environmental Scientist/ Emerald Environmental



## **Appendix E**



**SUMMIT**  
ENVIRONMENTAL TECHNOLOGIES, INC  
Analytical Laboratories

Summit Environmental Technologies, Inc.  
3310 Win St.  
Cuyahoga Falls, Ohio 44223  
TEL: (330) 253-8211 FAX: (330) 253-4489  
Website: <http://www.settek.com>

April 11, 2016

William Mello  
Emerald Environmental  
1621 St. Clair Ave.  
Kent, OH 44240  
TEL: 330-677-0785  
FAX: 330-677-1567

RE: City Of Fairview Park

Dear William Mello:

Order No.: 16031567

Summit Environmental Technologies, Inc. received 5 sample(s) on 3/23/2016 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative.

Quality control data is within laboratory defined or method specified acceptance limits except where noted.

If you have any questions regarding these tests results, please feel free to call the laboratory.

Sincerely,

Bachar Najm  
Project Manager  
3310 Win St.  
Cuyahoga Falls, Ohio 44223

Alabama 41600, Arkansas 88-0735, California 07256CA, Colorado, Connecticut PH-0105, Delaware, Florida NELAC E87688, Georgia E87688 and 943, Idaho OH00923, Illinois 200061 and Reg.5, Indiana C-OH-13, Kansas E-10347, Kentucky (Underground Storage Tank) 3, Kentucky 90146, Louisiana 04061 and LA12004, Maine 2012015, Maryland 339, Massachusetts M-OPH923, Minnesota 409711, Montana CERT0099, New Hampshire 2996, New Jersey OH006, New York 11777, North Carolina 39705 and 631, Ohio Drinking Water 4170, Ohio VAP CL0052, Oklahoma 9940, Oregon OH200001, Rhode Island LA000317, South Carolina 92016001, Texas T104704466-11-5, Region 8 8TMS-L, USDA/APHIS P330-11-00244, Utah OH009232011-1, Vermont VT-87688, Virginia 00440 and 1581, Washington C891, West Virginia 248 and 9957C and E87688, Wisconsin 399013010



**SUMMIT**  
ENVIRONMENTAL TECHNOLOGIES, INC.  
Analytical Laboratories

Summit Environmental Technologies, Inc.  
3310 Win St.  
Cuyahoga Falls, Ohio 44223  
TEL: (330) 253-8211 FAX: (330) 253-4489  
Website: <http://www.settek.com>

## Case Narrative

WO#: 16031567  
Date: 4/11/2016

**CLIENT:** Emerald Environmental  
**Project:** City Of Fairview Park

This report in its entirety consists of the documents listed below. All documents contain the Summit Environmental Technologies, Inc., Work Order Number assigned to this report.

Paginated Report including Cover Letter, Case Narrative, Analytical Results, Applicable Quality Control Summary Reports, and copies of the Chain of Custody Documents are supplied with this sample set.

Concentrations reported with a J-Flag in the Qualifier Field are values below the Limit of Quantitation (LOQ) but greater than the established Method Detection Limit (MDL).

Method numbers, unless specified as SM (Standard Methods) or ASTM, are EPA methods.

Estimated uncertainty values are available upon request.

Analysis performed by DBM, VRM, or SFG were performed at Summit Labs 2704 Eatonton Highway Haddock, GA 31033

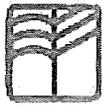
All results for Solid Samples are reported on an "as received" or "wet weight" basis unless indicated as "dry weight" using the "-dry" designation on the reporting units.

Summit Environmental Technologies, Inc., holds the accreditations/certifications listed at the bottom of the cover letter that may or may not pertain to this report.

The information contained in this analytical report is the sole property of Summit Environmental Technologies, Inc. and that of the customer. It cannot be reproduced in any form without the consent of Summit Environmental Technologies, Inc. or the customer for which this report was issued. The results contained in this report are only representative of the samples received. Conditions can vary at different times and at different sampling conditions. Summit Environmental Technologies, Inc. is not responsible for use or interpretation of the data included herein.

This report is believed to meet all of the requirements of NELAC or the accrediting / certifying agency. Any comments or problems with the analytical events associated with this report are noted below.

Report Revised April 18, 2016



**SUMMIT**  
ENVIRONMENTAL TECHNOLOGIES, INC.  
Analytical Laboratories

Summit Environmental Technologies, Inc.  
3310 Win St.  
Cuyahoga Falls, Ohio 44223  
TEL: (330) 253-8211 FAX: (330) 253-4489  
Website: <http://www.settek.com>

## Case Narrative

WO#: 16031567

Date: 4/11/2016

**CLIENT:** Emerald Environmental

**Project:** City Of Fairview Park

Sample 16031567-005 requested to lowest calibration point for select PAH compounds. acs

Prep Comments for SVPrep\_DRO\_S(3550), Sample 16031567-005A: Due to strong organic smell and color analyst opted to use less than full procedural aliquot for extraction

Prep Comments for SVPrep\_BNA\_BN-S(3550), Sample 16031567-005A: Due to strong organic smell and color analyst opted to use less than full procedural aliquot for extraction

Analytical Comments for voc-MSTR\_S(8260), Sample 16031567-001amsd, Batch ID R51467 : MS and/or MSD have compounds outside accepted recovery limits-possibly due to matrix effect. LCS/LCSD are within accepted limits.

Analytical Comments for voc-MSTR\_S(8260), Sample 16031567-001ams, Batch ID R51467 : MS and/or MSD have compounds outside accepted recovery limits-possibly due to matrix effect. LCS/LCSD are within accepted limits.

Analytical Comments for voc-MSTR\_S(8260), Sample 16031567-001a, Batch ID R51467 : Sample exhibited outlying recovery for Surrogate: 4-Bromofluorobenzene - likely due to matrix.

Analytical Comments for voc-MSTR\_S(8260), Sample 50PPB ICAL MM/gs, Batch ID R51467 : The VOC CCV (Batch R51467) exhibited outlying recoveries for select compounds; The method exhibited control as demonstrated by method-specified SPCCs and CCCs meeting Acceptance Criteria.

Prep Comments for SVPrep\_DRO\_S(3550), Sample 16031567-005A: Due to strong organic smell and color analyst opted to use less than full procedural aliquot for extraction

Analytical Comments for TPH-V-GRO\_S(8015B), Sample 16031567-001AMSD, Batch ID R51520 : MS and/or MSD have compounds outside accepted recovery limits-possibly due to matrix effect. LCS/LCSD are within accepted limits.

Analytical Comments for TPH-V-GRO\_S(8015B), Sample 16031567-001AMS, Batch ID R51520 : MS and/or MSD have compounds outside accepted recovery limits-possibly due to matrix effect. LCS/LCSD are within accepted limits.

Prep Comments for SVPrep\_BNA\_BN-S(3550), Sample 16031567-005A: Due to strong organic smell and color analyst opted to use less than full procedural aliquot for extraction

Analytical Comments for svoc-MSTR\_NPW(8270), Sample MB-19614, Batch ID 19614 : Several target detects, no detects in samples

Analytical Comments for svoc-MSTR\_NPW(8270), Sample MB-19614, Batch ID 19614 : The SVOC Method Blank (Batch 19614) exhibited hits for select analytes; All reported samples were ND for these analytes.

Analytical Comments for svoc-MSTR\_NPW(8270), Sample 50 ug/mL DFTPP M, Batch ID R51890 : 4.3% Breakdown

Analytical Comments for TPH-sv-DRO\_NPW(8015), Sample LCSD-19457, Batch ID 19457 : The TPH LCS and LCSD (Batch 19457) exhibited high RPD; Both the LCS and LCSD exhibited recoveries

Revision v2

Page 3 of 25



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Website: <http://www.settek.com>

## Case Narrative

WO#: 16031567  
Date: 4/11/2016

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**CLIENT:** Emerald Environmental  
**Project:** City Of Fairview Park

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within control limits.

Analytical Comments for TPH-SV-DRO\_S(8015), Sample 16031567-001A, Batch ID 19468 : Sample exhibited marginally high surrogate recovery.

Analytical Comments for svoc-MSTR\_S(8270), Sample 16031567-005A, Batch ID 19456 : Sample quantified to lowest calibration point for Benzo(a)pyrene and Dibenz(a,h)anthracene.



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## Qualifiers and Acronyms

WO#: 16031567  
Date: 4/11/2016

These commonly used Qualifiers and Acronyms may or may not be present in this report.

### Qualifiers

U	The compound was analyzed for but was not detected.
J	The reported value is greater than the Method Detection Limit but less than the Reporting Limit.
H	The hold time for sample preparation and/or analysis was exceeded.
D	The result is reported from a dilution.
E	The result exceeded the linear range of the calibration or is estimated due to interference.
MC	The result is below the Minimum Compound Limit
*	The result exceeds the Regulatory Limit or Maximum Contamination Limit.
m	Manual integration was used to determine the area response.
N	The result is presumptive based on a Mass Spectral library search assuming a 1:1 response.
P	The second column confirmation exceeded 25% difference.
C	The result has been confirmed by GC/MS.
X	The result was not confirmed when GC/MS Analysis was performed.
B/MB+	The analyte was detected in the associated blank.
G	The ICB or CCB contained reportable amounts of analyte.
QC-/+	The CCV recovery failed low (-) or high (+).
R/QDR	The RPD was outside of accepted recovery limits.
QL-/+	The LCS or LCSD recovery failed low (-) or high (+).
QLR	The LCS/LCSD RPD was outside of accepted recovery limits.
QM-/+	The MS or MSD recovery failed low (-) or high (+).
QMR	The MS/MSD RPD was outside of accepted recovery limits.
QV-/+	The ICV recovery failed low (-) or high (+).
S	The spike result was outside of accepted recovery limits.
Z	Deviation; A deviation from the method was performed; Please refer to the Case Narrative for additional information

### Acronyms

ND	Not Detected	RL	Reporting Limit
QC	Quality Control	MDL	Method Detection Limit
MB	Method Blank	LOD	Level of Detection
LCS	Laboratory Control Sample	LOQ	Level of Quantitation
LCSD	Laboratory Control Sample Duplicate	PQL	Practical Quantitation Limit
QCS	Quality Control Sample	CRQL	Contract Required Quantitation Limit
DUP	Duplicate	PL	Permit Limit
MS	Matrix Spike	RegLvl	Regulatory Limit
MSD	Matrix Spike Duplicate	MCL	Maximum Contamination Limit
RPD	Relative Percent Different	MinCL	Minimum Compound Limit
ICV	Initial Calibration Verification	RA	Reanalysis
ICB	Initial Calibration Blank	RE	Reextraction
CCV	Continuing Calibration Verification	TIC	Tentatively Identified Compound
CCB	Continuing Calibration Blank	RT	Retention Time
RLC	Reporting Limit Check	CF	Calibration Factor
DF	Dilution Factor	RF	Response Factor

This list of Qualifiers and Acronyms reflects the most commonly utilized Qualifiers and Acronyms for reporting. Please refer to the Analytical Notes in the Case Narrative for any Qualifiers or Acronyms that do not appear in this list or for additional information regarding the use of these Qualifiers on reported data.



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**Workorder  
 Sample Summary**

WO#: 16031567  
 18-Apr-16

**CLIENT:** Emerald Environmental  
**Project:** City Of Fairview Park

Lab SampleID	Client Sample ID	Tag No	Date Collected	Date Received	Matrix
16031567-001	FP B-1 4-6'		3/22/2016 10:40:00 AM	3/23/2016 1:30:00 PM	Solid
16031567-002	FP B-1 10-12'		3/22/2016 11:50:00 AM	3/23/2016 1:30:00 PM	Solid
16031567-003	FP B-2 4-6'		3/22/2016 2:10:00 PM	3/23/2016 1:30:00 PM	Solid
16031567-004	FP B-2 10-12'		3/22/2016 3:10:00 PM	3/23/2016 1:30:00 PM	Solid
16031567-005	FP B-4 0.5-2'		3/22/2016 5:10:00 PM	3/23/2016 1:30:00 PM	Solid

# DATES REPORT

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WO#: 16031567  
 18-Apr-16

**Client:** Emerald Environmental  
**Project:** City Of Fairview Park

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	Leachate Date	Prep Date	Analysis Date
16031567-001A	FP B-1 4-6'	3/22/2016 10:40:00 AM	Solid	Percent Moisture (2540)		3/23/2016 9:30:00 AM	3/28/2016 11:30:00 AM
				Semivolatile Organic Compounds by C (SW8270C)			4/1/2016 7:52:00 PM
				TPH - Diesel Range Organics (8015)		3/23/2016 2:40:56 PM	4/3/2016 3:45:00 AM
				TPH - Gasoline Range Organics (8015)			3/25/2016 12:44:00 PM
				VOC by GC/MS (8260)			3/24/2016 5:07:00 PM
16031567-002A	FP B-1 10-12'	3/22/2016 11:50:00 AM		Percent Moisture (2540)		3/23/2016 9:30:00 AM	3/28/2016 11:30:00 AM
				Semivolatile Organic Compounds by C (SW8270C)			4/1/2016 8:23:00 PM
				TPH - Diesel Range Organics (8015)		3/23/2016 2:40:56 PM	4/3/2016 4:15:00 AM
				TPH - Gasoline Range Organics (8015)			3/25/2016 1:16:00 PM
				VOC by GC/MS (8260)			3/24/2016 5:42:00 PM
16031567-003A	FP B-2 4-6'	3/22/2016 2:10:00 PM		Percent Moisture (2540)		3/23/2016 9:30:00 AM	3/28/2016 11:30:00 AM
				Semivolatile Organic Compounds by C (SW8270C)			4/1/2016 8:54:00 PM
				TPH - Diesel Range Organics (8015)		3/23/2016 2:40:56 PM	4/3/2016 4:45:00 AM
				TPH - Gasoline Range Organics (8015)			3/25/2016 1:48:00 PM
				VOC by GC/MS (8260)			3/24/2016 6:16:00 PM
16031567-004A	FP B-2 10-12'	3/22/2016 3:10:00 PM		Percent Moisture (2540)		3/23/2016 9:30:00 AM	3/28/2016 11:30:00 AM
				Semivolatile Organic Compounds by C (SW8270C)			4/4/2016 2:42:00 PM
				TPH - Diesel Range Organics (8015)		3/23/2016 2:40:56 PM	4/3/2016 5:15:00 AM
				TPH - Gasoline Range Organics (8015)			3/25/2016 2:19:00 PM
				VOC by GC/MS (8260)			3/24/2016 6:50:00 PM
16031567-005A	FP B-4 0.5-2'	3/22/2016 5:10:00 PM		Percent Moisture (2540)		3/23/2016 9:30:00 AM	3/28/2016 11:30:00 AM

Revision v2  
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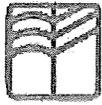
Summit Environmental Technologies, Inc.  
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# DATES REPORT

WO#: 16031567  
 18-Apr-16

**Client:** Emerald Environmental  
**Project:** City Of Fairview Park

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	Leachate Date	Prep Date	Analysis Date
16031567-005A	FP B-4-0.5-2'	3/22/2016 5:10:00 PM	Solid	Semivolatile Organic Compounds by C (SW8270C)	3/23/2016 9:30:00 AM	3/23/2016 9:30:00 AM	4/4/2016 3:13:00 PM
				Semivolatile Organic Compounds by C (SW8270C)	3/23/2016 9:30:00 AM	3/23/2016 9:30:00 AM	4/4/2016 3:13:00 PM
				TPH - Diesel Range Organics (8015)	3/23/2016 2:40:56 PM	3/23/2016 2:40:56 PM	4/3/2016 5:45:00 AM
				TPH - Gasoline Range Organics (8015)			3/25/2016 2:51:00 PM
				VOC by GC/MS (8260)			3/24/2016 7:25:00 PM



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**Analytical Report**

(consolidated)

WO#: 16031567

Date Reported: 4/11/2016

**CLIENT:** Emerald Environmental **Collection Date:** 3/22/2016 10:40:00 AM  
**Project:** City Of Fairview Park  
**Lab ID:** 16031567-001 **Matrix:** SOLID  
**Client Sample ID** FP B-1 4-6'

**Analyses** **Result** **RL** **Qual** **Units** **DF** **Date Analyzed**

**PAHS (SW8270C)** **SW8270C** **SW3550C** **Analyst: CxA**  
**SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS (SW8270C)**

Acenaphthene	ND	0.849		mg/Kg-dry	5	4/1/2016 7:52:00 PM
Acenaphthylene	ND	0.849		mg/Kg-dry	5	4/1/2016 7:52:00 PM
Anthracene	ND	0.849	m	mg/Kg-dry	5	4/1/2016 7:52:00 PM
Benzo(a)anthracene	ND	0.623		mg/Kg-dry	5	4/1/2016 7:52:00 PM
Benzo(a)pyrene	ND	0.566		mg/Kg-dry	5	4/1/2016 7:52:00 PM
Benzo(g,h,i)perylene	ND	0.849		mg/Kg-dry	5	4/1/2016 7:52:00 PM
Benzo(k)fluoranthene	ND	0.849		mg/Kg-dry	5	4/1/2016 7:52:00 PM
Benzo(b)fluoranthene	ND	0.849		mg/Kg-dry	5	4/1/2016 7:52:00 PM
Chrysene	ND	0.849		mg/Kg-dry	5	4/1/2016 7:52:00 PM
Dibenzo (a,h) anthracene	ND	0.566		mg/Kg-dry	5	4/1/2016 7:52:00 PM
Fluoranthene	ND	0.849		mg/Kg-dry	5	4/1/2016 7:52:00 PM
Fluorene	ND	0.849		mg/Kg-dry	5	4/1/2016 7:52:00 PM
Indeno(1,2,3-cd)pyrene	ND	0.283		mg/Kg-dry	5	4/1/2016 7:52:00 PM
Naphthalene	ND	0.849		mg/Kg-dry	5	4/1/2016 7:52:00 PM
Phenanthrene	1.05	0.849		mg/Kg-dry	5	4/1/2016 7:52:00 PM
Pyrene	ND	0.849		mg/Kg-dry	5	4/1/2016 7:52:00 PM

**TPH-DRO-SOLID** **SW8015B** **SW3550C** **Analyst: ESH**  
**TPH - DIESEL RANGE ORGANICS (8015)**

TPH-(C10-C20)	656	37.8		mg/Kg-dry	2	4/3/2016 3:45:00 AM
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**TPH-C6-C12)-SOLID** **SW8015B** **Analyst: JCR**  
**TPH - GASOLINE RANGE ORGANICS (8015)**

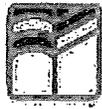
TPH-GRO	ND	11.41+QM-QM		mg/Kg-dry	1	3/25/2016 12:44:00 PM
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**BTEX+MTBE (SW8260)** **SW8260B** **Analyst: MES**  
**VOC BY GC/MS (8260)**

Benzene	ND	0.00568	QM-	mg/Kg-dry	1	3/24/2016 5:07:00 PM
Ethylbenzene	ND	0.00568		mg/Kg-dry	1	3/24/2016 5:07:00 PM
m,p-Xylene	ND	0.0114		mg/Kg-dry	1	3/24/2016 5:07:00 PM
Methyl tert-butyl ether (MTBE)	ND	0.00568		mg/Kg-dry	1	3/24/2016 5:07:00 PM
o-Xylene	ND	0.00568		mg/Kg-dry	1	3/24/2016 5:07:00 PM
Toluene	ND	0.00568		mg/Kg-dry	1	3/24/2016 5:07:00 PM

**Qualifiers:**  
\* Value exceeds Maximum Contaminant Level.  
H Holding times for preparation or analysis exceeded  
MC Value is below Minimum Compound Limit  
ND Not Detected at the Reporting Limit  
P Second column confirmation exceeds  
R RPD outside accepted recovery limits  
U Samples with CalcVal < MDL

E Value above quantitation range  
M Manual Integration used to determine area response  
N Tentatively identified compounds  
O RSD is greater than RSDlimit  
PL Permit Limit  
RL Reporting Detection Limit



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**Analytical Report**

(consolidated)

WO#: 16031567

Date Reported: 4/11/2016

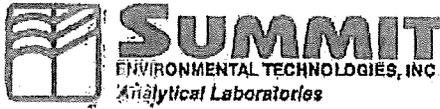
**CLIENT:** Emerald Environmental **Collection Date:** 3/22/2016 10:40:00 AM  
**Project:** City Of Fairview Park  
**Lab ID:** 16031567-001 **Matrix:** SOLID  
**Client Sample ID:** FP B-1 4-6'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>PERCENT MOISTURE (2540)</b>					<b>A2540B</b>	Analyst: DHC
Percent Moisture	12.0			%	1	3/28/2016 11:30:00 AM

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- H Holding times for preparation or analysis exceeded
- MC Value is below Minimum Compound Limit.
- ND Not Detected at the Reporting Limit
- P Second column confirmation exceeds
- R RPD outside accepted recovery limits
- U Samples with CalcVal < MDL

- E Value above quantitation range
- M Manual Integration used to determine area response
- N Tentatively identified compounds
- O RSD is greater than RSDlimit
- PL Permit Limit
- RL Reporting Detection Limit



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# Analytical Report

(consolidated)

WO#: 16031567

Date Reported: 4/11/2016

**CLIENT:** Emerald Environmental **Collection Date:** 3/22/2016 11:50:00 AM  
**Project:** City Of Fairview Park  
**Lab ID:** 16031567-002 **Matrix:** SOLID  
**Client Sample ID** FP B-1 10-12'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>PAHS (SW8270C)</b>						
<b>SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS (SW8270C)</b>						
					<b>SW8270C</b>	<b>SW3550C</b> Analyst: CxA
Acenaphthene	ND	0.852		mg/Kg-dry	5	4/1/2016 8:23:00 PM
Acenaphthylene	ND	0.852		mg/Kg-dry	5	4/1/2016 8:23:00 PM
Anthracene	ND	0.852		mg/Kg-dry	5	4/1/2016 8:23:00 PM
Benzo(a)anthracene	ND	0.624		mg/Kg-dry	5	4/1/2016 8:23:00 PM
Benzo(a)pyrene	ND	0.568		mg/Kg-dry	5	4/1/2016 8:23:00 PM
Benzo(g,h,i)perylene	ND	0.852		mg/Kg-dry	5	4/1/2016 8:23:00 PM
Benzo(k)fluoranthene	ND	0.852		mg/Kg-dry	5	4/1/2016 8:23:00 PM
Benzo(b)fluoranthene	ND	0.852		mg/Kg-dry	5	4/1/2016 8:23:00 PM
Chrysene	ND	0.852		mg/Kg-dry	5	4/1/2016 8:23:00 PM
Dibenzo (a,h) anthracene	ND	0.568		mg/Kg-dry	5	4/1/2016 8:23:00 PM
Fluoranthene	ND	0.852		mg/Kg-dry	5	4/1/2016 8:23:00 PM
Fluorene	ND	0.852		mg/Kg-dry	5	4/1/2016 8:23:00 PM
Indeno(1,2,3-cd)pyrene	ND	0.284		mg/Kg-dry	5	4/1/2016 8:23:00 PM
Naphthalene	ND	0.852		mg/Kg-dry	5	4/1/2016 8:23:00 PM
Phenanthrene	ND	0.852		mg/Kg-dry	5	4/1/2016 8:23:00 PM
Pyrene	ND	0.852		mg/Kg-dry	5	4/1/2016 8:23:00 PM
<b>TPH-DRO-SOLID</b>						
<b>TPH - DIESEL RANGE ORGANICS (8015)</b>						
					<b>SW8015B</b>	<b>SW3550C</b> Analyst: ESH
TPH-(C10-C20)	ND	37.9		mg/Kg-dry	2	4/3/2016 4:15:00 AM
<b>TPH-C6-C12)-SOLID</b>						
<b>TPH - GASOLINE RANGE ORGANICS (8015)</b>						
					<b>SW8015B</b>	Analyst: JCR
TPH-GRO	ND	11.5		mg/Kg-dry	1	3/25/2016 1:16:00 PM
<b>BTEX+MTBE (SW8260)</b>						
<b>VOC BY GC/MS (8260)</b>						
					<b>SW8260B</b>	Analyst: MES
Benzene	ND	0.00573		mg/Kg-dry	1	3/24/2016 5:42:00 PM
Ethylbenzene	ND	0.00573		mg/Kg-dry	1	3/24/2016 5:42:00 PM
m,p-Xylene	ND	0.0115		mg/Kg-dry	1	3/24/2016 5:42:00 PM
Methyl tert-butyl ether (MTBE)	0.0378	0.00573		mg/Kg-dry	1	3/24/2016 5:42:00 PM
o-Xylene	ND	0.00573		mg/Kg-dry	1	3/24/2016 5:42:00 PM
Toluene	ND	0.00573		mg/Kg-dry	1	3/24/2016 5:42:00 PM

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- H Holding times for preparation or analysis exceeded
- MC Value is below Minimum Compound Limit
- ND Not Detected at the Reporting Limit
- P Second column confirmation exceeds
- R RPD outside accepted recovery limits
- U Samples with CalcVal < MDL

- E Value above quantitation range
- M Manual Integration used to determine area response
- N Tentatively identified compounds
- O RSD is greater than RSDlimit
- PL Permit Limit
- RL Reporting Detection Limit



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**Analytical Report**

(consolidated)

WO#: 16031567

Date Reported: 4/11/2016

**CLIENT:** Emerald Environmental  
**Project:** City Of Fairview Park  
**Lab ID:** 16031567-002  
**Client Sample ID** FP B-1 10-12'

**Collection Date:** 3/22/2016 11:50:00 AM

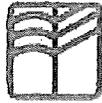
**Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>PERCENT MOISTURE (2540)</b>					<b>A2540B</b>	Analyst: DHC
Percent Moisture	12.8			%	1	3/28/2016 11:30:00 AM

**Qualifiers:**

- Value exceeds Maximum Contaminant Level.
- H Holding times for preparation or analysis exceeded
- MC Value is below Minimum Compound Limit
- ND Not Detected at the Reporting Limit
- P Second column confirmation exceeds
- R RPD outside accepted recovery limits
- U Samples with CalcVal < MDL

- E Value above quantitation range
- M Manual Integration used to determine area response
- N Tentatively identified compounds
- O RSD is greater than RSDlimit
- PL Permit Limit
- RL Reporting Detection Limit



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**Analytical Report**

(consolidated)

WO#: 16031567

Date Reported: 4/11/2016

**CLIENT:** Emerald Environmental **Collection Date:** 3/22/2016 2:10:00 PM  
**Project:** City Of Fairview Park  
**Lab ID:** 16031567-003 **Matrix:** SOLID  
**Client Sample ID** FP B-2 4-6'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**PAHS (SW8270C)** **SW8270C** **SW3550C** **Analyst: CxA**  
**SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS (SW8270C)**

Acenaphthene	ND	0.851		mg/Kg-dry	5	4/1/2016 8:54:00 PM
Acenaphthylene	ND	0.851		mg/Kg-dry	5	4/1/2016 8:54:00 PM
Anthracene	ND	0.851		mg/Kg-dry	5	4/1/2016 8:54:00 PM
Benzo(a)anthracene	ND	0.624		mg/Kg-dry	5	4/1/2016 8:54:00 PM
Benzo(a)pyrene	ND	0.568		mg/Kg-dry	5	4/1/2016 8:54:00 PM
Benzo(g,h,i)perylene	ND	0.851		mg/Kg-dry	5	4/1/2016 8:54:00 PM
Benzo(k)fluoranthene	ND	0.851		mg/Kg-dry	5	4/1/2016 8:54:00 PM
Benzo(b)fluoranthene	ND	0.851		mg/Kg-dry	5	4/1/2016 8:54:00 PM
Chrysene	ND	0.851		mg/Kg-dry	5	4/1/2016 8:54:00 PM
Dibenzo (a,h) anthracene	ND	0.568		mg/Kg-dry	5	4/1/2016 8:54:00 PM
Fluoranthene	ND	0.851		mg/Kg-dry	5	4/1/2016 8:54:00 PM
Fluorene	ND	0.851		mg/Kg-dry	5	4/1/2016 8:54:00 PM
Indeno(1,2,3-cd)pyrene	ND	0.284		mg/Kg-dry	5	4/1/2016 8:54:00 PM
Naphthalene	2.30	0.851		mg/Kg-dry	5	4/1/2016 8:54:00 PM
Phenanthrene	ND	0.851		mg/Kg-dry	5	4/1/2016 8:54:00 PM
Pyrene	ND	0.851		mg/Kg-dry	5	4/1/2016 8:54:00 PM

**TPH-DRO-SOLID** **SW8015B** **SW3550C** **Analyst: ESH**  
**TPH - DIESEL RANGE ORGANICS (8015)**

TPH-(C10-C20)	215	37.9		mg/Kg-dry	2	4/3/2016 4:45:00 AM
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**TPH-C6-C12)-SOLID** **SW8015B** **Analyst: JCR**  
**TPH - GASOLINE RANGE ORGANICS (8015)**

TPH-GRO	ND	11.4		mg/Kg-dry	1	3/25/2016 1:48:00 PM
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**BTEX+MTBE (SW8260)** **SW8260B** **Analyst: MES**  
**VOC BY GC/MS (8260)**

Benzene	0.0108	0.00568		mg/Kg-dry	1	3/24/2016 6:16:00 PM
Ethylbenzene	0.00791	0.00568		mg/Kg-dry	1	3/24/2016 6:16:00 PM
m,p-Xylene	ND	0.0114		mg/Kg-dry	1	3/24/2016 6:16:00 PM
Methyl tert-butyl ether (MTBE)	ND	0.00568		mg/Kg-dry	1	3/24/2016 6:16:00 PM
o-Xylene	ND	0.00568		mg/Kg-dry	1	3/24/2016 6:16:00 PM
Toluene	ND	0.00568		mg/Kg-dry	1	3/24/2016 6:16:00 PM

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level
- H Holding times for preparation or analysis exceeded
- MC Value is below Minimum Compound Limit
- ND Not Detected at the Reporting Limit
- P Second column confirmation exceeds
- R RPD outside accepted recovery limits
- U Samples with CalcVal < MDL

- E Value above quantitation range
- M Manual Integration used to determine area response
- N Tentatively identified compounds
- O RSD is greater than RSDlimit
- PL Permit Limit
- RL Reporting Detection Limit



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 TEL: (330) 253-8211 FAX: (330) 253-4489  
 Website: <http://www.settek.com>

**Analytical Report**

(consolidated)

WO#: 16031567

Date Reported: 4/11/2016

**CLIENT:** Emerald Environmental  
**Project:** City Of Fairview Park  
**Lab ID:** 16031567-003  
**Client Sample ID** FP B-2 4-6'

**Collection Date:** 3/22/2016 2:10:00 PM

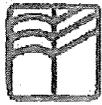
**Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>PERCENT MOISTURE (2540)</b>					<b>A2540B</b>	Analyst: DHC
Percent Moisture	11.9			%	1	3/28/2016 11:30:00 AM

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- H Holding times for preparation or analysis exceeded
- MC Value is below Minimum Compound Limit
- ND Not Detected at the Reporting Limit
- P Second column confirmation exceeds
- R RPD outside accepted recovery limits
- U Samples with CalcVal < MDL

- E Value above quantitation range
- M Manual Integration used to determine area response
- N Tentatively identified compounds
- O RSD is greater than RSDlimit
- PL Permit Limit
- RL Reporting Detection Limit



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**Analytical Report**

(consolidated)

WO#: 16031567

Date Reported: 4/11/2016

**CLIENT:** Emerald Environmental **Collection Date:** 3/22/2016 3:10:00 PM  
**Project:** City Of Fairview Park  
**Lab ID:** 16031567-004 **Matrix:** SOLID  
**Client Sample ID** FP B-2 10-12'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>PAHS (SW8270C)</b>					<b>SW8270C</b>	<b>Analyst: CxA</b>
<b>SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS (SW8270C)</b>						
Acenaphthene	ND	0.858		mg/Kg-dry	5	4/4/2016 2:42:00 PM
Acenaphthylene	ND	0.858		mg/Kg-dry	5	4/4/2016 2:42:00 PM
Anthracene	ND	0.858		mg/Kg-dry	5	4/4/2016 2:42:00 PM
Benzo(a)anthracene	ND	0.629		mg/Kg-dry	5	4/4/2016 2:42:00 PM
Benzo(a)pyrene	ND	0.572		mg/Kg-dry	5	4/4/2016 2:42:00 PM
Benzo(g,h,i)perylene	ND	0.858		mg/Kg-dry	5	4/4/2016 2:42:00 PM
Benzo(k)fluoranthene	ND	0.858		mg/Kg-dry	5	4/4/2016 2:42:00 PM
Benzo(b)fluoranthene	ND	0.858		mg/Kg-dry	5	4/4/2016 2:42:00 PM
Chrysene	ND	0.858		mg/Kg-dry	5	4/4/2016 2:42:00 PM
Dibenzo (a,h) anthracene	ND	0.572		mg/Kg-dry	5	4/4/2016 2:42:00 PM
Fluoranthene	ND	0.858		mg/Kg-dry	5	4/4/2016 2:42:00 PM
Fluorene	ND	0.858		mg/Kg-dry	5	4/4/2016 2:42:00 PM
Indeno(1,2,3-cd)pyrene	ND	0.286		mg/Kg-dry	5	4/4/2016 2:42:00 PM
Naphthalene	ND	0.858		mg/Kg-dry	5	4/4/2016 2:42:00 PM
Phenanthrene	ND	0.858		mg/Kg-dry	5	4/4/2016 2:42:00 PM
Pyrene	ND	0.858		mg/Kg-dry	5	4/4/2016 2:42:00 PM
<b>TPH-DRO-SOLID</b>					<b>SW8015B</b>	<b>Analyst: ESH</b>
<b>TPH - DIESEL RANGE ORGANICS (8015)</b>						
TPH-(C10-C20)	ND	38.2		mg/Kg-dry	2	4/3/2016 5:15:00 AM
<b>TPH-C6-C12)-SOLID</b>					<b>SW8015B</b>	<b>Analyst: JCR</b>
<b>TPH - GASOLINE RANGE ORGANICS (8015)</b>						
TPH-GRO	ND	11.6		mg/Kg-dry	1	3/25/2016 2:19:00 PM
<b>BTEX+MTBE (SW8260)</b>					<b>SW8260B</b>	<b>Analyst: MES</b>
<b>VOC BY GC/MS (8260)</b>						
Benzene	ND	0.00582		mg/Kg-dry	1	3/24/2016 6:50:00 PM
Ethylbenzene	ND	0.00582		mg/Kg-dry	1	3/24/2016 6:50:00 PM
m,p-Xylene	ND	0.0116		mg/Kg-dry	1	3/24/2016 6:50:00 PM
Methyl tert-butyl ether (MTBE)	0.0190	0.00582		mg/Kg-dry	1	3/24/2016 6:50:00 PM
o-Xylene	ND	0.00582		mg/Kg-dry	1	3/24/2016 6:50:00 PM
Toluene	ND	0.00582		mg/Kg-dry	1	3/24/2016 6:50:00 PM

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level
- H Holding times for preparation or analysis exceeded
- MC Value is below Minimum Compound Limit
- ND Not Detected at the Reporting Limit
- P Second column confirmation exceeds
- R RPD outside accepted recovery limits
- U Samples with CalcVal < MDL

- E Value above quantitation range
- M Manual Integration used to determine area response
- N Tentatively identified compounds
- O RSD is greater than RSDlimit
- PL Permit Limit
- RL Reporting Detection Limit



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**Analytical Report**

(consolidated)

WO#: 16031567

Date Reported: 4/11/2016

**CLIENT:** Emerald Environmental  
**Project:** City Of Fairview Park  
**Lab ID:** 16031567-004  
**Client Sample ID** FP B-2 10-12'

**Collection Date:** 3/22/2016 3:10:00 PM

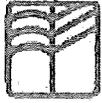
**Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>PERCENT MOISTURE (2540)</b>					<b>A2540B</b>	Analyst: DHC
Percent Moisture	14.0			%	1	3/28/2016 11:30:00 AM

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- H Holding times for preparation or analysis exceeded
- MC Value is below Minimum Compound Limit.
- ND Not Detected at the Reporting Limit
- P Second column confirmation exceeds
- R RPD outside accepted recovery limits
- U Samples with CalcVal < MDL

- E Value above quantitation range
- M Manual Integration used to determine area response
- N Tentatively identified compounds
- O RSD is greater than RSDlimit
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**Analytical Report**

(consolidated)

WO#: 16031567

Date Reported: 4/11/2016

**CLIENT:** Emerald Environmental  
**Project:** City Of Fairview Park  
**Lab ID:** 16031567-005  
**Client Sample ID** FP B-4 0.5-2'

**Collection Date:** 3/22/2016 5:10:00 PM

**Matrix:** SOLID

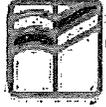
Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>PAHS (SW8270C)</b>						
<b>SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS (SW8270C)</b>						
					<b>SW8270C</b>	<b>SW3550C</b> Analyst: CxA
Acenaphthene	ND	4.34		mg/Kg-dry	5	4/4/2016 3:13:00 PM
Acenaphthylene	ND	4.34		mg/Kg-dry	5	4/4/2016 3:13:00 PM
Anthracene	ND	4.34		mg/Kg-dry	5	4/4/2016 3:13:00 PM
Benzo(a)anthracene	ND	3.19		mg/Kg-dry	5	4/4/2016 3:13:00 PM
Benzo(a)pyrene	ND	0.0967	m	mg/Kg-dry	5	4/4/2016 3:13:00 PM
Benzo(g,h,i)perylene	ND	4.34		mg/Kg-dry	5	4/4/2016 3:13:00 PM
Benzo(k)fluoranthene	ND	4.34		mg/Kg-dry	5	4/4/2016 3:13:00 PM
Benzo(b)fluoranthene	ND	4.34		mg/Kg-dry	5	4/4/2016 3:13:00 PM
Chrysene	ND	4.34		mg/Kg-dry	5	4/4/2016 3:13:00 PM
Dibenzo (a,h) anthracene	ND	0.0967		mg/Kg-dry	5	4/4/2016 3:13:00 PM
Fluoranthene	ND	4.34		mg/Kg-dry	5	4/4/2016 3:13:00 PM
Fluorene	ND	4.34		mg/Kg-dry	5	4/4/2016 3:13:00 PM
Indeno(1,2,3-cd)pyrene	ND	1.45		mg/Kg-dry	5	4/4/2016 3:13:00 PM
Naphthalene	ND	4.34		mg/Kg-dry	5	4/4/2016 3:13:00 PM
Phenanthrene	ND	4.34		mg/Kg-dry	5	4/4/2016 3:13:00 PM
Pyrene	ND	4.34		mg/Kg-dry	5	4/4/2016 3:13:00 PM
<b>TPH-DRO-SOLID</b>						
<b>TPH - DIESEL RANGE ORGANICS (8015)</b>						
					<b>SW8015B</b>	<b>SW3550C</b> Analyst: ESH
TPH-(C10-C20)	ND	387		mg/Kg-dry	4	4/3/2016 5:45:00 AM
<b>TPH-C6-C12)-SOLID</b>						
<b>TPH - GASOLINE RANGE ORGANICS (8015)</b>						
					<b>SW8015B</b>	Analyst: JCR
TPH-GRO	ND	10.6		mg/Kg-dry	1	3/25/2016 2:51:00 PM
<b>BTEX+MTBE (SW8260)</b>						
<b>VOC BY GC/MS (8260)</b>						
					<b>SW8260B</b>	Analyst: MES
Benzene	ND	0.00528		mg/Kg-dry	1	3/24/2016 7:25:00 PM
Ethylbenzene	ND	0.00528		mg/Kg-dry	1	3/24/2016 7:25:00 PM
m,p-Xylene	ND	0.0106		mg/Kg-dry	1	3/24/2016 7:25:00 PM
Methyl tert-butyl ether (MTBE)	ND	0.00528		mg/Kg-dry	1	3/24/2016 7:25:00 PM
o-Xylene	ND	0.00528		mg/Kg-dry	1	3/24/2016 7:25:00 PM
Toluene	ND	0.00528		mg/Kg-dry	1	3/24/2016 7:25:00 PM

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level
- H Holding times for preparation or analysis exceeded
- MC Value is below Minimum Compound Limit.
- ND Not Detected at the Reporting Limit
- P Second column confirmation exceeds
- R RPD outside accepted recovery limits
- U Samples with CalcVal < MDL

- E Value above quantitation range
- M Manual Integration used to determine area response
- N Tentatively identified compounds
- O RSD is greater than RSDlimit
- PL Permit Limit
- RL Reporting Detection Limit

Revision v2



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## Analytical Report

(consolidated)

WO#: 16031567

Date Reported: 4/11/2016

**CLIENT:** Emerald Environmental  
**Project:** City Of Fairview Park  
**Lab ID:** 16031567-005  
**Client Sample ID** FP B-4 0.5-2'

**Collection Date:** 3/22/2016 5:10:00 PM

**Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>PERCENT MOISTURE (2540)</b>					<b>A2540B</b>	Analyst: DHC
Percent Moisture	5.31			%	1	3/28/2016 11:30:00 AM

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level
- H Holding times for preparation or analysis exceeded
- MC Value is below Minimum Compound Limit
- ND Not Detected at the Reporting Limit
- P Second column confirmation exceeds
- R RPD outside accepted recovery limits
- U Samples with CalcVal < MDL

- E Value above quantitation range
- M Manual Integration used to determine area response
- N Tentatively identified compounds
- O RSD is greater than RSDlimit
- PL Permit Limit
- RL Reporting Detection Limit

# QC SUMMARY REPORT

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 Cuyahoga Falls, Ohio 44223  
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 Website: <http://www.settek.com>



WO#: 16031567  
 18-Apr-16

**Client:** Emerald Environmental  
**Project:** City Of Fairview Park  
**BatchID:** 19456

**Sample ID:** MB-19456 **SampType:** MBLK **TestCode:** svoc-MSTR\_ **Units:** mg/Kg **Prep Date:** 3/23/2016 **RunNo:** 51846  
**Client ID:** PBS **Batch ID:** 19456 **TestNo:** SW8270C **SW3550C** **Analysis Date:** 4/1/2016 **SeqNo:** 819454

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	ND	0.150									
Acenaphthylene	ND	0.150									
Anthracene	ND	0.150									
Benzo(a)anthracene	ND	0.110									
Benzo(a)pyrene	ND	0.100									
Benzo(g,h,i)perylene	ND	0.150									
Benzo(k)fluoranthene	ND	0.150									
Benzo(b)fluoranthene	ND	0.150									
Chrysene	ND	0.150									
Dibenzo (a,h) anthracene	ND	0.100									
Fluoranthene	ND	0.150									
Fluorene	ND	0.150									
Indeno(1,2,3-cd)pyrene	ND	0.0500									
Naphthalene	ND	0.150									
Phenanthrene	ND	0.150									
Pyrene	ND	0.150									

**Sample ID:** LCS-19456 **SampType:** LCS **TestCode:** svoc-MSTR\_ **Units:** mg/Kg **Prep Date:** 3/23/2016 **RunNo:** 51846  
**Client ID:** LCSS **Batch ID:** 19456 **TestNo:** SW8270C **SW3550C** **Analysis Date:** 4/1/2016 **SeqNo:** 819469

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	0.545	0.150	0.6680	0	81.6	30	120				

**Qualifiers:**  
 \* Value exceeds Maximum Contaminant Level.  
 H Holding times for preparation or analysis exceeded  
 MC Value is below Minimum Compound Limit.  
 P Second column confirmation exceeds  
 B Analyte detected in the associated Method Blank  
 J Analyte detected below quantitation limits  
 ND Not Detected at the Reporting Limit  
 PL Permit Limit  
 E Value above quantitation range  
 M Manual Integration used to determine  
 O RSD is greater than RSDlimit  
 R RPD outside accepted recovery limits

# QC SUMMARY REPORT

Summit Environmental Technologies, Inc.  
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WO#: 16031567  
 18-Apr-16

**Client:** Emerald Environmental      **BatchID:** 19456  
**Project:** City Of Fairview Park

Sample ID	LCS-19456	SampType:	LCS	TestCode:	svoc-MSTR_	Units:	mg/Kg	Prep Date:	3/23/2016	RunNo:	51846		
Client ID:	LCSS	Batch ID:	19456	TestNo:	SW8270C	SW3550C		Analysis Date:	4/1/2016	SeqNo:	819469		
Analyte		Result	0.630	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Pyrene			0.630	0.150	0.6680	0	94.4	5	161				

Sample ID	LCSD-19456	SampType:	LCSD	TestCode:	svoc-MSTR_	Units:	mg/Kg	Prep Date:	3/23/2016	RunNo:	51846		
Client ID:	LCSS02	Batch ID:	19456	TestNo:	SW8270C	SW3550C		Analysis Date:	4/1/2016	SeqNo:	819470		
Analyte		Result	0.494	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene			0.589	0.150	0.6680	0	74.0	30	120	0.5453	9.81	30	
Pyrene							88.1	5	161	0.6303	6.84	30	

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- H Holding times for preparation or analysis exceeded
- MC Value is below Minimum Compound Limit.
- P Second column confirmation exceeds
- B Analyte detected in the associated Method Blank
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- PL Permit Limit
- E Value above quantitation range
- M Manual Integration used to determine
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits

# QC SUMMARY REPORT

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WO#: 16031567  
 18-Apr-16

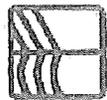
**Client:** Emerald Environmental  
**Project:** City Of Fairview Park  
**Batch ID:** R51467

Sample ID	Ics 20ppb abs032	SampType: LCS	TestCode: voc-MSTR_S(	Units: mg/Kg	Prep Date:	RunNo: 51467					
Client ID:	LCSS	Batch ID: R51467	TestNo: SW8260B		Analysis Date: 3/24/2016	SeqNo: 812548					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	0.0203	0.00500	0.0200	0	101	74	134				
Toluene	0.0215	0.00500	0.0200	0	108	65	136				

Sample ID	Icsd 20ppb abs03	SampType: LCSD	TestCode: voc-MSTR_S(	Units: mg/Kg	Prep Date:	RunNo: 51467					
Client ID:	LCSS02	Batch ID: R51467	TestNo: SW8260B		Analysis Date: 3/24/2016	SeqNo: 812549					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	0.0211	0.00500	0.0200	0	105	74	134	0.0203	3.92	30	
Toluene	0.0231	0.00500	0.0200	0	116	65	136	0.0215	7.08	30	

Sample ID	mbik	SampType: MBLK	TestCode: voc-MSTR_S(	Units: mg/Kg	Prep Date:	RunNo: 51467					
Client ID:	PBS	Batch ID: R51467	TestNo: SW8260B		Analysis Date: 3/24/2016	SeqNo: 812551					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.00500									
Ethylbenzene	ND	0.00500									
m,p-Xylene	ND	0.0100									
Methyl tert-butyl ether (MTBE)	ND	0.00500									
Toluene	ND	0.00500									

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	M	Manual Integration used to determine	Revision v2
MC	Value is below Minimum Compound Limit.	ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit	Page 21 of 25
P	Second column confirmation exceeds	PL	Permit Limit	R	RPD outside accepted recovery limits	



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 Website: <http://www.setek.com>

# QC SUMMARY REPORT

WO#: 16031567  
 18-Apr-16

**Client:** Emerald Environmental  
**Project:** City Of Fairview Park  
**BatchID:** R51467

Sample ID	16031567-001ams	SampType:	MS	TestCode:	voc-MSTR_S(	Units:	mg/Kg-dry	Prep Date:	RunNo:	51467	
Client ID:	FP B-1 4-6'	Batch ID:	R51467	TesIno:	SW8260B			Analysis Date:	SeqNo:	812566	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	0.0170	0.00568	0.0227	0	74.8	75	137				S
Toluene	0.0167	0.00568	0.0227	0	73.7	62	141				

Sample ID	16031567-001amsd	SampType:	MSD	TestCode:	voc-MSTR_S(	Units:	mg/Kg-dry	Prep Date:	RunNo:	51467	
Client ID:	FP B-1 4-6'	Batch ID:	R51467	TesIno:	SW8260B			Analysis Date:	SeqNo:	812567	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	0.0176	0.00568	0.0227	0	77.6	75	137	0.0170	3.67	30	
Toluene	0.0175	0.00568	0.0227	0	77.2	62	141	0.0167	4.64	30	

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- H Holding times for preparation or analysis exceeded
- MC Value is below Minimum Compound Limit.
- P Second column confirmation exceeds
- B Analyte detected in the associated Method Blank
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- PL Permit Limit
- E Value above quantitation range
- M Manual Integration used to determine
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits

# QC SUMMARY REPORT

**SUMMIT**  
 ENVIRONMENTAL TECHNOLOGIES, INC.  
 Analytical Laboratories/CS

Summit Environmental Technologies, Inc.  
 3310 Win St.  
 Cuyahoga Falls, Ohio 44223  
 TEL: (330) 253-8211 FAX: (330) 253-4489  
 Website: <http://www.settek.com>

WO#: 16031567  
 18-Apr-16

**Client:** Emerald Environmental  
**Project:** City Of Fairview Park  
**BatchID:** R51520

Sample ID	LCS ABS032116 10	SampType:	LCS	TestCode:	TPH-V-GRO_	Units:	mg/Kg	Prep Date:	RunNo:	51520	
Client ID:	LCSS	Batch ID:	R51520	TestNo:	SW8015B			Analysis Date:	SeqNo:	813440	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-GRO	0.912	0.100	1.00	0	91.2	65	124				

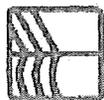
Sample ID	LCSD ABS032116 1	SampType:	LCSD	TestCode:	TPH-V-GRO_	Units:	mg/Kg	Prep Date:	RunNo:	51520	
Client ID:	LCSS02	Batch ID:	R51520	TestNo:	SW8015B			Analysis Date:	SeqNo:	813441	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-GRO	0.903	0.100	1.00	0	90.3	65	124	0.912	0.980		33

Sample ID	MBLK	SampType:	MBLK	TestCode:	TPH-V-GRO_	Units:	mg/Kg	Prep Date:	RunNo:	51520	
Client ID:	PBS	Batch ID:	R51520	TestNo:	SW8015B			Analysis Date:	SeqNo:	813442	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-GRO	ND	0.100									

Sample ID	16031567-001AMS	SampType:	MS	TestCode:	TPH-V-GRO_	Units:	mg/Kg-dry	Prep Date:	RunNo:	51520	
Client ID:	FP B-1 4-6'	Batch ID:	R51520	TestNo:	SW8015B			Analysis Date:	SeqNo:	813465	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-GRO	5.14	0.114	1.14	3.39	155	35	122				SQMR

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- H Holding times for preparation or analysis exceeded
- MC Value is below Minimum Compound Limit.
- P Second column confirmation exceeds
- B Analyte detected in the associated Method Blank
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- PL Permit Limit
- E Value above quantitation range
- M Manual Integration used to determine
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits



**SUMMIT**  
 ENVIRONMENTAL TECHNOLOGIES, INC  
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Summit Environmental Technologies, Inc.  
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 Website: <http://www.setek.com>

# QC SUMMARY REPORT

WO#: 16031567  
 18-Apr-16

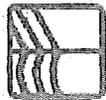
**Client:** Emerald Environmental  
**Project:** City Of Fairview Park  
**BatchID:** R51520

Sample ID	16031567-001AMS	SampleType:	MS	TestCode:	TPH-V-GRO_	Units:	mg/Kg-dry	Prep Date:	RunNo:	51520			
Client ID:	FP B-1 4-6'	Batch ID:	R51520	TestNo:	SW8015B			Analysis Date:	SeqNo:	813465			
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID	16031567-001AMSD	SampleType:	MSD	TestCode:	TPH-V-GRO_	Units:	mg/Kg-dry	Prep Date:	RunNo:	51520			
Client ID:	FP B-1 4-6'	Batch ID:	R51520	TestNo:	SW8015B			Analysis Date:	SeqNo:	813466			
Analyte		Result	2.26	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-GRO				0.114	1.14	3.39	-99.0	35	122	5.14	77.9	33	RS

**Qualifiers:**

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	M	Manual Integration used to determine
MC	Value is below Minimum Compound Limit.	ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit	R	RPD outside accepted recovery limits



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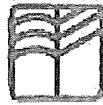
# QC SUMMARY REPORT

WO#: 16031567  
 18-Apr-16

**Client:** Emerald Environmental  
**Project:** City Of Fairview Park  
**BatchID:** R51549

Sample ID	MB-R51549	SampType:	MBLK	TestCode:	PctMoist_S(2	Units:	%	Prep Date:		RunNo:	51549		
Client ID:	PBS	Batch ID:	R51549	TestNo:	A2540B			Analysis Date:	3/28/2016	SeqNo:	814146		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture		0.00820											

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	MC	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits <th>M</th> <td>Manual Integration used to determine </td>	M	Manual Integration used to determine
		Value is below Minimum Compound Limit.	ND	Net Detected at the Reporting Limit <th>O</th> <td>RSD is greater than RSDlimit </td>	O	RSD is greater than RSDlimit
		Second column confirmation exceeds	PL	Permit Limit <th>R</th> <td>RPD outside accepted recovery limits </td>	R	RPD outside accepted recovery limits



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April 09, 2016

William Mello  
Emerald Environmental  
1621 St. Clair Ave.  
Kent, OH 44240  
TEL: 330-677-0785  
FAX: 330-677-1567

RE: Fairview Park

Dear William Mello:

Order No.: 16031985

Summit Environmental Technologies, Inc. received 1 sample(s) on 3/30/2016 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative.

Quality control data is within laboratory defined or method specified acceptance limits except where noted.

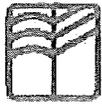
If you have any questions regarding these tests results, please feel free to call the laboratory.

Sincerely,

A handwritten signature in black ink, appearing to read "Bachar Najm", with a long horizontal flourish extending to the right.

Bachar Najm  
Project Manager  
3310 Win St.  
Cuyahoga Falls, Ohio 44223

Alabama 41600, Arkansas 88-0735, California 07256CA, Colorado, Connecticut PH-0105, Delaware, Florida NELAC E87688, Georgia E87688 and 943, Idaho OH00923, Illinois 200061 and Reg.5, Indiana C-OH-13, Kansas E-10347, Kentucky (Underground Storage Tank) 3, Kentucky 90146, Louisiana 04061 and LA12004, Maine 2012015, Maryland 339, Massachusetts M-OPH923, Minnesota 409711, Montana CERT0099, New Hampshire 2996, New Jersey OH006, New York 11777, North Carolina 39705 and 631, Ohio Drinking Water 4170, Ohio VAP CL0052, Oklahoma 9940, Oregon OH200001, Rhode Island LA000317, South Carolina 92016001, Texas T104704466-11-5, Region 8 8TMS-L, USDA/APHIS P330-11-00244, Utah OH009232011-1, Vermont VT-87688, Virginia 00440 and 1581, Washington C891, West Virginia 248 and 9957C and E87688, Wisconsin 399013010



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Website: <http://www.setek.com>

## Case Narrative

WO#: 16031985  
Date: 4/9/2016

**CLIENT:** Emerald Environmental  
**Project:** Fairview Park

This report in its entirety consists of the documents listed below. All documents contain the Summit Environmental Technologies, Inc., Work Order Number assigned to this report.

Paginated Report including Cover Letter, Case Narrative, Analytical Results, Applicable Quality Control Summary Reports, and copies of the Chain of Custody Documents are supplied with this sample set.

Concentrations reported with a J-Flag in the Qualifier Field are values below the Limit of Quantitation (LOQ) but greater than the established Method Detection Limit (MDL).

Method numbers, unless specified as SM (Standard Methods) or ASTM, are EPA methods.

Estimated uncertainty values are available upon request.

Analysis performed by DBM, VRM, or SFG were performed at Summit Labs 2704 Eatonton Highway Haddock, GA 31033

All results for Solid Samples are reported on an "as received" or "wet weight" basis unless indicated as "dry weight" using the "-dry" designation on the reporting units.

Summit Environmental Technologies, Inc., holds the accreditations/certifications listed at the bottom of the cover letter that may or may not pertain to this report.

The information contained in this analytical report is the sole property of Summit Environmental Technologies, Inc. and that of the customer. It cannot be reproduced in any form without the consent of Summit Environmental Technologies, Inc. or the customer for which this report was issued. The results contained in this report are only representative of the samples received. Conditions can vary at different times and at different sampling conditions. Summit Environmental Technologies, Inc. is not responsible for use or interpretation of the data included herein.

This report is believed to meet all of the requirements of NELAC or the accrediting / certifying agency. Any comments or problems with the analytical events associated with this report are noted below. Analytical Comments for voc-MSTR\_NPW(8260), Sample CCV 50PPB MM/GS0, Batch ID R51781 : The VOC CCV (Batch R51781) exhibited outlying recoveries for select compounds; The method



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## Case Narrative

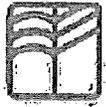
WO#: 16031985  
Date: 4/9/2016

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**CLIENT:** Emerald Environmental  
**Project:** Fairview Park

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exhibited control as demonstrated by method-specified SPCCs and CCCs meeting Acceptance Criteria. Prep Comments for SVPrep\_BNABase\_NPW(3510), Sample 16031985-001A: Matrix caused excessive emulsion to form, Sample is a soapy solution



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## Qualifiers and Acronyms

WO#: 16031985  
Date: 4/9/2016

These commonly used Qualifiers and Acronyms may or may not be present in this report.

### Qualifiers

U	The compound was analyzed for but was not detected.
J	The reported value is greater than the Method Detection Limit but less than the Reporting Limit.
H	The hold time for sample preparation and/or analysis was exceeded.
D	The result is reported from a dilution.
E	The result exceeded the linear range of the calibration or is estimated due to interference.
MC	The result is below the Minimum Compound Limit.
*	The result exceeds the Regulatory Limit or Maximum Contamination Limit.
m	Manual integration was used to determine the area response.
N	The result is presumptive based on a Mass Spectral library search assuming a 1:1 response.
P	The second column confirmation exceeded 25% difference.
C	The result has been confirmed by GC/MS.
X	The result was not confirmed when GC/MS Analysis was performed.
B/MB+	The analyte was detected in the associated blank.
G	The ICB or CCB contained reportable amounts of analyte.
QC-/+	The CCV recovery failed low (-) or high (+).
R/QDR	The RPD was outside of accepted recovery limits.
QL-/+	The LCS or LCSD recovery failed low (-) or high (+).
QLR	The LCS/LCSD RPD was outside of accepted recovery limits.
QM-/+	The MS or MSD recovery failed low (-) or high (+).
QMR	The MS/MSD RPD was outside of accepted recovery limits.
QV-/+	The ICV recovery failed low (-) or high (+).
S	The spike result was outside of accepted recovery limits.
Z	Deviation; A deviation from the method was performed; Please refer to the Case Narrative for additional information

### Acronyms

ND	Not Detected	RL	Reporting Limit
QC	Quality Control	MDL	Method Detection Limit
MB	Method Blank	LOD	Level of Detection
LCS	Laboratory Control Sample	LOQ	Level of Quantitation
LCSD	Laboratory Control Sample Duplicate	PQL	Practical Quantitation Limit
QCS	Quality Control Sample	CRQL	Contract Required Quantitation Limit
DUP	Duplicate	PL	Permit Limit
MS	Matrix Spike	RegLvl	Regulatory Limit
MSD	Matrix Spike Duplicate	MCL	Maximum Contamination Limit
RPD	Relative Percent Different	MinCL	Minimum Compound Limit
ICV	Initial Calibration Verification	RA	Reanalysis
ICB	Initial Calibration Blank	RE	Reextraction
CCV	Continuing Calibration Verification	TIC	Tentatively Identified Compound
CCB	Continuing Calibration Blank	RT	Retention Time
RLC	Reporting Limit Check	CF	Calibration Factor
DF	Dilution Factor	RF	Response Factor

This list of Qualifiers and Acronyms reflects the most commonly utilized Qualifiers and Acronyms for reporting. Please refer to the Analytical Notes in the Case Narrative for any Qualifiers or Acronyms that do not appear in this list or for additional information regarding the use of these Qualifiers on reported data.



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Website: <http://www.settek.com>

## Workorder Sample Summary

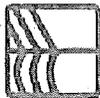
WO#: 16031985  
09-Apr-16

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**CLIENT:** Emerald Environmental  
**Project:** Fairview Park

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Lab SampleID	Client Sample ID	Tag No	Date Collected	Date Received	Matrix
16031985-001	FP MW-4 3-29		3/29/2016 2:00:00 PM	3/30/2016 12:35:00 PM	Liquid



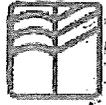
**SUMMIT**  
 ENVIRONMENTAL TECHNOLOGIES, INC.  
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# DATES REPORT

WO#: 16031985  
 09-Apr-16

**Client:** Emerald Environmental  
**Project:** Fairview Park

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	Leachate Date	Prep Date	Analysis Date
16031985-001A	FP MW-4 3-29	3/29/2016 2:00:00 PM	Liquid	SVOC by GC/MS (SW8270C) VOC by GC/MS (8260)		4/1/2016 1:00:00 PM	4/6/2016 3:08:00 PM
							4/1/2016 2:38:00 AM



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**Analytical Report**

(consolidated)

WO#: 16031985

Date Reported: 4/9/2016

CLIENT: Emerald Environmental  
 Project: Fairview Park  
 Lab ID: 16031985-001  
 Client Sample ID FP MW-4 3-29

Collection Date: 3/29/2016 2:00:00 PM

Matrix: LIQUID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**PAHS BY SW846: 8270C**

**SVOC BY GC/MS (SW8270C)**

SW8270C SW3510C Analyst: CxA

Acenaphthene	ND	0.0005000		mg/L	1	4/6/2016 3:08:00 PM
Acenaphthylene	ND	0.0005000		mg/L	1	4/6/2016 3:08:00 PM
Anthracene	ND	0.0005000		mg/L	1	4/6/2016 3:08:00 PM
Benzo(a)anthracene	ND	0.0005000		mg/L	1	4/6/2016 3:08:00 PM
Benzo(a)pyrene	ND	0.0002500		mg/L	1	4/6/2016 3:08:00 PM
Benzo(g,h,i)perylene	ND	0.0005000		mg/L	1	4/6/2016 3:08:00 PM
Benzo(k)fluoranthene	ND	0.0002500		mg/L	1	4/6/2016 3:08:00 PM
Benzo(b)fluoranthene	ND	0.0002500		mg/L	1	4/6/2016 3:08:00 PM
Chrysene	ND	0.0005000		mg/L	1	4/6/2016 3:08:00 PM
Dibenzo (a,h) anthracene	ND	0.0005000		mg/L	1	4/6/2016 3:08:00 PM
Fluoranthene	ND	0.0005000		mg/L	1	4/6/2016 3:08:00 PM
Fluorene	ND	0.0005000		mg/L	1	4/6/2016 3:08:00 PM
Indeno(1,2,3-cd)pyrene	ND	0.0005000		mg/L	1	4/6/2016 3:08:00 PM
Naphthalene	0.04942	0.002500		mg/L	1	4/6/2016 3:08:00 PM
Phenanthrene	ND	0.0005000		mg/L	1	4/6/2016 3:08:00 PM
Pyrene	ND	0.0005000		mg/L	1	4/6/2016 3:08:00 PM
Surr: Nitrobenzene-d5	52.7	11 - 110		%REC	1	4/6/2016 3:08:00 PM
Surr: 2-Fluorobiphenyl	60.3	10 - 110		%REC	1	4/6/2016 3:08:00 PM
Surr: p-Terphenyl-d14	64.8	14 - 135		%REC	1	4/6/2016 3:08:00 PM

**BTEX+MTBE BY SW846: 8260B**

**VOC BY GC/MS (8260)**

SW8260B Analyst: MES

Benzene	0.159	0.00500		mg/L	1	4/1/2016 2:38:00 AM
Ethylbenzene	0.0976	0.00500		mg/L	1	4/1/2016 2:38:00 AM
m,p-Xylene	0.189	0.0100		mg/L	1	4/1/2016 2:38:00 AM
MTBE	0.0160	0.00500		mg/L	1	4/1/2016 2:38:00 AM
o-Xylene	0.117	0.00500		mg/L	1	4/1/2016 2:38:00 AM
Toluene	0.323	0.00500		mg/L	1	4/1/2016 2:38:00 AM
Surr: 4-Bromofluorobenzene	97.4	70 - 130		%REC	1	4/1/2016 2:38:00 AM
Surr: Dibromofluoromethane	93.6	70 - 130		%REC	1	4/1/2016 2:38:00 AM
Surr: Toluene-d8	99.3	70 - 130		%REC	1	4/1/2016 2:38:00 AM

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level
- H Holding times for preparation or analysis exceeded
- MC Value is below Minimum Compound Limit
- ND Not Detected at the Reporting Limit
- P Second column confirmation exceeds
- R RPD outside accepted recovery limits
- U Samples with CalcVal < MDL
- E Value above quantitation range
- M Manual Integration used to determine area response
- N Tentatively identified compounds
- O RSD is greater than RSDlimit
- PL Permit Limit
- RL Reporting Detection Limit

Original

# QC SUMMARY REPORT

Summit Environmental Technologies, Inc.  
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 Cuyahoga Falls, Ohio 44223  
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 Website: <http://www.setek.com>



WO#: 16031985  
 09-Apr-16

**Client:** Emerald Environmental  
**Project:** Fairview Park  
**Batch ID:** 19646

Sample ID	MB-19646	SampType:	MBLK	TestCode:	svoc-MSTR_	Units:	mg/L	Prep Date:	4/1/2016	RunNo:	51970
Client ID:	PBW	Batch ID:	19646	TestNo:	SW8270C	SW3510C		Analysis Date:	4/6/2016	SeqNo:	821786
Analyte	Result	PQL	SPK value	SPK RefVal	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Acenaphthene	ND	0.004000									
Acenaphthylene	ND	0.004000									
Anthracene	ND	0.004000									
Benzo(a)anthracene	ND	0.0001800									
Benzo(a)pyrene	ND	0.0001000									
Benzo(g,h,i)perylene	ND	0.0001100									
Benzo(k)fluoranthene	ND	0.0001000									
Benzo(b)fluoranthene	ND	0.0001000									
Chrysene	ND	0.004000									
Dibenzo (a,h) anthracene	ND	0.0001000									
Fluoranthene	ND	0.004000									
Fluorene	ND	0.004000									
Indeno(1,2,3-cd)pyrene	ND	0.0001000									
Naphthalene	ND	0.004000									
Phenanthrene	ND	0.004000									
Pyrene	ND	0.004000									
Surr: Nitrobenzene-d5	0.03751		0.05000		75.0		11		110		
Surr: 2-Fluorobiphenyl	0.03154		0.05000		63.1		10		110		
Surr: p-Terphenyl-d14	0.04370		0.05000		87.4		14		145		

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	M	Manual Integration used to determine
	MC	Value is below Minimum Compound Limit.	ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
	P	Second column confirmation exceeds	PL	Permit Limit	R	RPD outside accepted recovery limits

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WO#: 16031985  
 09-Apr-16

**Client:** Emerald Environmental  
**Project:** Fairview Park  
**BatchID:** 19646

Sample ID	LCS-19646	SampType:	LCS	TestCode:	svoc-MSTR_	Units:	mg/L	Prep Date:	4/1/2016	RunNo:	51970	
Client ID:	LCSW	Batch ID:	19646	TestNo:	SW8270C	SW3510C		Analysis Date:	4/6/2016	SeqNo:	821787	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene		0.01559	0.004000	0.02000	0	78.0	10	122				
Pyrene		0.01811	0.004000	0.02000	0	90.6	10	161				
Surr: Nitrobenzene-d5		0.03405		0.05000		68.1	11	110				
Surr: 2-Fluorobiphenyl		0.03182		0.05000		63.6	10	110				
Surr: p-Terphenyl-d14		0.03859		0.05000		77.2	14	135				

Sample ID	16031972-001AMS	SampType:	MS	TestCode:	svoc-MSTR_	Units:	mg/L	Prep Date:	4/1/2016	RunNo:	51970	
Client ID:	BatchQC	Batch ID:	19646	TestNo:	SW8270C	SW3510C		Analysis Date:	4/6/2016	SeqNo:	822290	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene		0.04120	0.01143	0.05714	0	72.1	10	122				
Pyrene		0.04957	0.01143	0.05714	0	86.8	10	161				
Surr: Nitrobenzene-d5		0.09400		0.1429		65.8	11	110				
Surr: 2-Fluorobiphenyl		0.09360		0.1429		65.5	10	110				
Surr: p-Terphenyl-d14		0.09700		0.1429		67.9	14	135				

Sample ID	16031972-001AMS	SampType:	MSD	TestCode:	svoc-MSTR_	Units:	mg/L	Prep Date:	4/1/2016	RunNo:	51970	
Client ID:	BatchQC	Batch ID:	19646	TestNo:	SW8270C	SW3510C		Analysis Date:	4/6/2016	SeqNo:	822291	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene		0.04120	0.01143	0.05714	0	72.1	10	122				
Pyrene		0.04957	0.01143	0.05714	0	86.8	10	161				
Surr: Nitrobenzene-d5		0.09400		0.1429		65.8	11	110				
Surr: 2-Fluorobiphenyl		0.09360		0.1429		65.5	10	110				
Surr: p-Terphenyl-d14		0.09700		0.1429		67.9	14	135				

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- H Holding times for preparation or analysis exceeded
- MC Value is below Minimum Compound Limit.
- P Second column confirmation exceeds
- B Analyte detected in the associated Method Blank
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- PL Permit Limit
- E Value above quantitation range
- M Manual Integration used to determine
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits

# QC SUMMARY REPORT

Summit Environmental Technologies, Inc.  
 3310 Win St.  
 Cuyahoga Falls, Ohio 44223  
 TEL: (330) 233-8211 FAX: (330) 233-4489  
 Website: <http://www.setek.com>



WO#: 16031985  
 09-Apr-16

**Client:** Emerald Environmental  
**Project:** Fairview Park  
**Batch ID:** 19646

Sample ID	16031972-001AMSD	Batch ID:	19646	TestCode:	svoc-MSTR_	Units:	mg/L	Prep Date:	4/1/2016	RunNo:	51970
Client ID:	BatchQC	Batch ID:	19646	TestNo:	SW8270C	SW3510C		Analysis Date:	4/6/2016	SeqNo:	822291
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	0.03423	0.01143	0.05714	0	59.9	10	122	0.04120	18.5	30	
Pyrene	0.03931	0.01143	0.05714	0	68.8	10	161	0.04957	23.1	30	
Surr: Nitrobenzene-d5	0.07914		0.1429		55.4	11	110		0	0	
Surr: 2-Fluorobiphenyl	0.07786		0.1429		54.5	10	110		0	0	
Surr: p-Terphenyl-d14	0.07023		0.1429		49.2	14	135		0	0	

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level
- H Holding times for preparation or analysis exceeded
- MC Value is below Minimum Compound Limit
- P Second column confirmation exceeds
- B Analyte detected in the associated Method Blank
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- PL Permit Limit
- E Value above quantitation range
- M Manual integration used to determine
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits

# QC SUMMARY REPORT

Summit Environmental Technologies, Inc.  
 3310 Win St.  
 Cuyahoga Falls, Ohio 44223  
 TEL: (330) 233-8211 FAX: (330) 253-4489  
 Website: <http://www.setek.com>



WO#: 16031985  
 09-Apr-16

**Client:** Emerald Environmental  
**Project:** Fairview Park  
**Batch ID:** R51781

**Sample ID:** LCS 20PPB ABS032 **Sample Type:** LCS **Test Code:** voc-MSTR\_N **Units:** mg/L **Prep Date:** RunNo: 51781  
**Client ID:** LCSW **Batch ID:** R51781 **Test No:** SW8260B **Analysis Date:** 3/31/2016 **SeqNo:** 818056

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	0.0208	0.00500	0.0200	0	104	75	137				
Toluene	0.0219	0.00500	0.0200	0	109	62	141				
Surr: 4-Bromofluorobenzene	50.0		50.00		99.9	70	130				
Surr: Dibromofluoromethane	47.7		50.00		95.4	70	130				
Surr: Toluene-d8	50.3		50.00		101	70	130				

**Sample ID:** LCSD 20PPB ABS03 **Sample Type:** LCSD **Test Code:** voc-MSTR\_N **Units:** mg/L **Prep Date:** RunNo: 51781  
**Client ID:** LCSS02 **Batch ID:** R51781 **Test No:** SW8260B **Analysis Date:** 3/31/2016 **SeqNo:** 818057

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	0.0204	0.00500	0.0200	0	102	75	137	0.0208	2.23	30	
Toluene	0.0214	0.00500	0.0200	0	107	62	141	0.0219	2.31	30	
Surr: 4-Bromofluorobenzene	49.1		50.00		98.1	70	130		0	0	
Surr: Dibromofluoromethane	47.3		50.00		94.6	70	130		0	0	
Surr: Toluene-d8	50.4		50.00		101	70	130		0	0	

**Sample ID:** MBLK **Sample Type:** MBLK **Test Code:** voc-MSTR\_N **Units:** mg/L **Prep Date:** RunNo: 51781  
**Client ID:** PBW **Batch ID:** R51781 **Test No:** SW8260B **Analysis Date:** 4/1/2016 **SeqNo:** 818059

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	0.0204	0.00500	0.0200	0	102	75	137	0.0208	2.23	30	
Toluene	0.0214	0.00500	0.0200	0	107	62	141	0.0219	2.31	30	
Surr: 4-Bromofluorobenzene	49.1		50.00		98.1	70	130		0	0	
Surr: Dibromofluoromethane	47.3		50.00		94.6	70	130		0	0	
Surr: Toluene-d8	50.4		50.00		101	70	130		0	0	

**Qualifiers:**  
 \* Value exceeds Maximum Contaminant Level.  
 H Holding times for preparation or analysis exceeded  
 MC Value is below Minimum Compound Limit  
 P Second column confirmation exceeds  
 B Analyte detected in the associated Method Blank  
 J Analyte detected below quantitation limits  
 ND Not Detected at the Reporting Limit  
 PL Permit Limit  
 E Value above quantitation range  
 M Manual Integration used to determine  
 O RSD is greater than RSDlimit  
 R RPD outside accepted recovery limits

# QC SUMMARY REPORT

Summit Environmental Technologies, Inc.  
 3310 Win. St.  
 Cuyahoga Falls, Ohio 44223  
 TEL: (330) 253-8211 FAX: (330) 253-4489  
 Website: <http://www.settek.com>



WO#: 16031985  
 09-Apr-16

**Client:** Emerald Environmental  
**Project:** Fairview Park  
**Batch ID:** R51781

Sample ID	MBLK	SampType	MBLK	TestCode	voc-MSTR_N	Units	mg/L	Prep Date:	RunNo:	51781	
Client ID:	PBW	Batch ID:	R51781	TestNo:	SW8260B			Analysis Date:	SeqNo:	818059	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.00500									
Ethylbenzene	ND	0.00500									
m,p-Xylene	ND	0.0100									
MTBE	ND	0.00500									
o-Xylene	ND	0.00500									
Toluene	ND	0.00500									
Surr: 4-Bromofluorobenzene	46.9	50.00	93.8	70	130						
Surr: Dibromofluoromethane	46.0	50.00	91.9	70	130						
Surr: Toluene-d8	49.9	50.00	99.8	70	130						

Sample ID	16032009-001AMS	SampType:	MS	TestCode:	voc-MSTR_N	Units:	mg/L	Prep Date:	RunNo:	51781	
Client ID:	BatchQC	Batch ID:	R51781	TestNo:	SW8260B			Analysis Date:	SeqNo:	818074	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	0.0334	0.00500	0.0200	0.0205	64.5	58	131				
Toluene	0.0190	0.00500	0.0200	0.00205	84.8	42	148				
Surr: 4-Bromofluorobenzene	49.7	50.00	99.5	70	130						QMR
Surr: Dibromofluoromethane	47.9	50.00	95.9	70	130						
Surr: Toluene-d8	49.6	50.00	99.1	70	130						

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- H Holding times for preparation or analysis exceeded
- MC Value is below Minimum Compound Limit.
- P Second column confirmation exceeds
- B Analyte detected in the associated Method Blank
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- PL Permit Limit
- E Value above quantitation range
- M Manual Integration used to determine
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits

# QC SUMMARY REPORT

Summit Environmental Technologies, Inc.  
 3310 Win St.  
 Cuyahoga Falls, Ohio 44223  
 TEL: (330) 253-8211 FAX: (330) 253-4489  
 Website: <http://www.settek.com>



WO#: 16031985  
 09-Apr-16

**Client:** Emerald Environmental  
**Project:** Fairview Park  
**BatchID:** R51781

Sample ID	16032009-001AMSD	Samp Type:	MSD	TestCode:	voc-MSTR_N	Units:	mg/L	Prep Date:	RunNo:	51781		
Client ID:	BatchQC	Batch ID:	R51781	TestNo:	SW8260B			Analysis Date:	SeqNo:	818075		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene		0.0249	0.00500	0.0200	0.0205	22.0	58	131	0.0334	29.1	30	S
Toluene		0.0112	0.00500	0.0200	0.0205	45.7	42	148	0.0190	51.7	30	R
Surr: 4-Bromofluorobenzene		48.3		50.00		96.6	70	130		0	25	
Surr: Dibromofluoromethane		47.8		50.00		95.6	70	130		0	25	
Surr: Toluene-d8		50.0		50.00		100	70	130		0	25	

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- H Holding times for preparation or analysis exceeded
- MC Value is below Minimum Compound Limit.
- P Second column confirmation exceeds
- B Analyte detected in the associated Method Blank
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- PL Permit Limit
- E Value above quantitation range
- M Manual Integration used to determine
- O RSD is greater than RSD limit
- R RPD outside accepted recovery limits



## **Appendix F**



**Department of Commerce**

Division of State Fire Marshal  
Bureau of Underground Storage Tank Regulations (BUSTR)

## LABORATORY ANALYSIS QA/QC SUMMARY FORM

(To be included with each laboratory chemical analysis report)

REPORT DATE: April 11, 2016 FACILITY ID#: \_\_\_\_\_

### SAMPLE RECEIPT

Was the chain of custody present for all samples?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sampler name included?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sampler signature included?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample date included?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample time included?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
List the preservation method(s):	Ice		
List the cooler temperature upon receipt:	4.0 °F <input type="checkbox"/>	°C <input checked="" type="checkbox"/>	
Was headspace present in any sample vials?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	NA <input type="checkbox"/>
Were the soil sample containers filled?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>
Were sample containers tightly sealed?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Were the correct laboratory containers used?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	

### SAMPLE ANALYSIS

Were all analysis performed using SW-846 & ASTM methods? If not, identify the other methods used:	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Were dates of sample extraction provided?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Were the matrix spike results within the control limit range established by the USEPA?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Were surrogate recoveries within the control limit range established by the USEPA?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Were control samples used to establish appropriate control limits for precision and bias?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Were instrument blanks, calibration standards, and method blanks submitted and analyzed?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Were matrix spike samples analyzed and either matrix spike duplicates or matrix duplicate samples analyzed?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Were the following QC samples used for each analytical batch:		
Lab control samples	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Method blanks	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Matrix spikes	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Matrix spike duplicates or matrix duplicates	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Were there any problems noted with surrogate recovery, % recovery, or % RSD? If so, list sample IDs:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Were there any data qualifiers noted by the lab? If so, list sample IDs: .	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

### LAB CERTIFICATION

Is the laboratory affiliated with the sampling company?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Check lab certification that applies:	<input checked="" type="checkbox"/> Ohio EPA DDGW <input checked="" type="checkbox"/> Ohio EPA VAP <input checked="" type="checkbox"/> NELAP <input checked="" type="checkbox"/> A2LA <input type="checkbox"/> Other (list):	

### COMPLETED BY

Print Name of Lab Representative and Title:	Signature	Date
Bashar Najim, Project Manager		4-11-16



**Department of Commerce**

Division of State Fire Marshal  
Bureau of Underground Storage Tank Regulations (DUSTR)

## LABORATORY ANALYSIS QA/QC SUMMARY FORM

(To be included with each laboratory chemical analysis report)

REPORT DATE: April 7, 2016

FACILITY ID#: \_\_\_\_\_

### SAMPLE RECEIPT

Was the chain of custody present for all samples?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sampler name included?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sampler signature included?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample date included?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample time included?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
List the preservation method(s):	Ice		
List the cooler temperature upon receipt:	5.8 °F <input type="checkbox"/> °C <input checked="" type="checkbox"/>		
Was headspace present in any sample vials?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>
Were the soil sample containers filled?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	NA <input type="checkbox"/>
Were sample containers tightly sealed?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Were the correct laboratory containers used?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	

### SAMPLE ANALYSIS

Were all analysis performed using SW-846 & ASTM methods? If not, identify the other methods used:	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Were dates of sample extraction provided?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Were the matrix spike results within the control limit range established by the USEPA?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Were surrogate recoveries within the control limit range established by the USEPA?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Were control samples used to establish appropriate control limits for precision and bias?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Were instrument blanks, calibration standards, and method blanks submitted and analyzed?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Were matrix spike samples analyzed and either matrix spike duplicates or matrix duplicate samples analyzed?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Were the following QC samples used for each analytical batch:			
Lab control samples	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Method blanks	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Matrix spikes	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Matrix spike duplicates or matrix duplicates	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Were there any problems noted with surrogate recovery, % recovery, or % RSD? If so, list sample IDs:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Were there any data qualifiers noted by the lab? If so, list sample IDs:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	

### LAB CERTIFICATION

Is the laboratory affiliated with the sampling company?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Check lab certification that applies:	<input checked="" type="checkbox"/> Ohio EPA DDGW	<input checked="" type="checkbox"/> Ohio EPA VAP	<input checked="" type="checkbox"/> NELAP <input checked="" type="checkbox"/> A2LA
	<input type="checkbox"/> Other (list): _____		

### COMPLETED BY

Print Name of Lab Representative and Title:  Bashar Najm, Project Manager	Signature  	Date  4/7/16
---	-------------------	--------------------



## **Appendix G**

# Analysis Request/Chain of Custody

Summit Environmental Technologies, Inc.

3310 Win Street  
Cuyahoga Falls, Ohio 44223  
Tel: 330.253.8211 Fax: 330.253.4489



Page 1 of 1 SET No.

<b>Company Name (Please Print)</b> Emerald Environmental 1621 St. Clair Ave. Kent, OH 44240 Client Phone No. 330-677-0885 Client Fax No. 330-677-1567 Client Email <a href="mailto:info@emerald-env.com">info@emerald-env.com</a> Contact Person William Mellor Sample Identification #		<b>Project Name</b> City of Fairview Park Project Address 20777 Lorain Rd. Fairview Park, OH Report by William Mellor PO# 110-3731 Quote No. Check if Ohio VAP samples <input checked="" type="checkbox"/>	
<b>Matrix</b> S-Sludge, A-Air, D-Dinking Water Composite		<b>Preparative</b> Number of Containers PH C10-C20 PH C6-C12 PH 8270 BTEX+MTBE 8260	

Sample ID	Date Collected	Time Collected	Matrix	Preparative	Number of Containers	PH C10-C20	PH C6-C12	PH 8270	BTEX+MTBE 8260
FP B-1 4-6'	3-22-16	1040	S	-	2	✓	✓	✓	✓
FP B-1 10-12'	3-22-16	1150	S	-	2	✓	✓	✓	✓
FP B-2 4-6'	3-22-16	1410	S	-	2	✓	✓	✓	✓
FP B-2 10-12'	3-22-16	1510	S	-	2	✓	✓	✓	✓
FP B-4 0.5-2'	3-22-16	1710	S	-	2	✓	✓	✓	✓
16031567-001 005 BTL									

<b>Requested by:</b> [Signature] Date: 3-23-16 Time: 1:30	<b>Received by:</b> [Signature] Date: 3-22-16 Time: 2:20
<b>Received in lab by:</b> [Signature] Date: 3/23/16 Time: 1:30	Rush Requested By: _____ Date: _____ Must be approved by lab manager

Notes/Comments: BUSTER standards - Dry wt. results

White and yellow pages should accompany samples to the laboratory. The client retains the pink page.

124196

# Summit Environmental Technologies, Inc. Analysis Request/Chain of Custody

3310 Win Street  
Cuyahoga Falls, Ohio 44223  
Tel: 330.253.8211 Fax: 330.253.4489



Page 1 of 1 SET No. \_\_\_\_\_

**Analytical Parameters and Methods**

Company Name (Please Print) Emerald Environmental	Project Name Fairview Park	Matrix S=Solid, L=Liquid, O=Oil SI=Sludge, A=Air, DW=Drinking Water	Number of Containers 8260 ATX+ MTRC	Preservative PAH 8270
Company Address 1621 St. Clair Ave. Kent, OH 44240	Project Address 20777 Lorain Rd. Fairview Park, OH	Composite		
Client Phone No. 330-677-0785	Report to William Mello	Grb		
Client Fax No. 330-677-1501	PO# 16-3731	Time Collected		
Client Email wme@emerald-env.com	Quote No.	Date Collected		
Contact Person William Mello	Check if Ohio VAP samples <input checked="" type="checkbox"/>			
Sampled by William Mello				

# \_\_\_\_\_ Sample Identification

Time Collected: 3-29-14 1400

Received by: [Signature] Date: 3-27-14 Time: 1335

Received in lab by: [Signature] Date: 3-20-14 Time: 1617

Must be approved by lab manager

Notes/Comments: BUSTER Standards

124198

White and yellow pages should accompany samples to the laboratory. The client retains the pink page.

16031985-001  
140



## **Appendix H**



**The Site is located approximately 300 feet west of Coe Creek.**

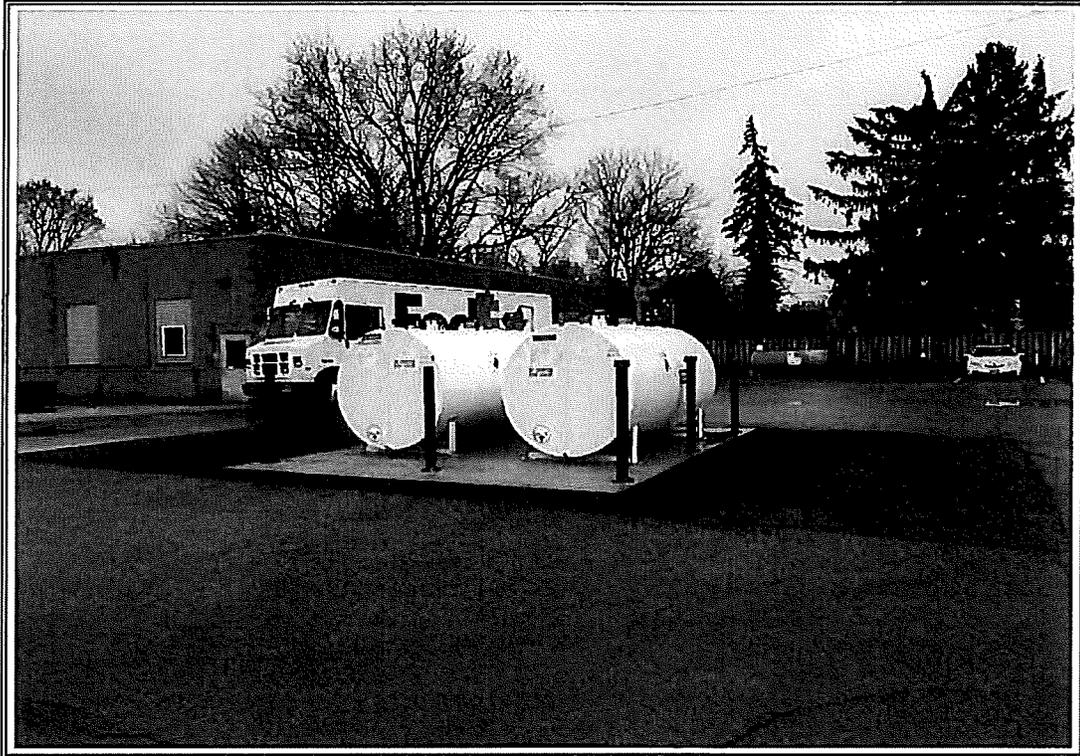


## **Appendix I**

**EMERALD ENVIRONMENTAL, INC.**

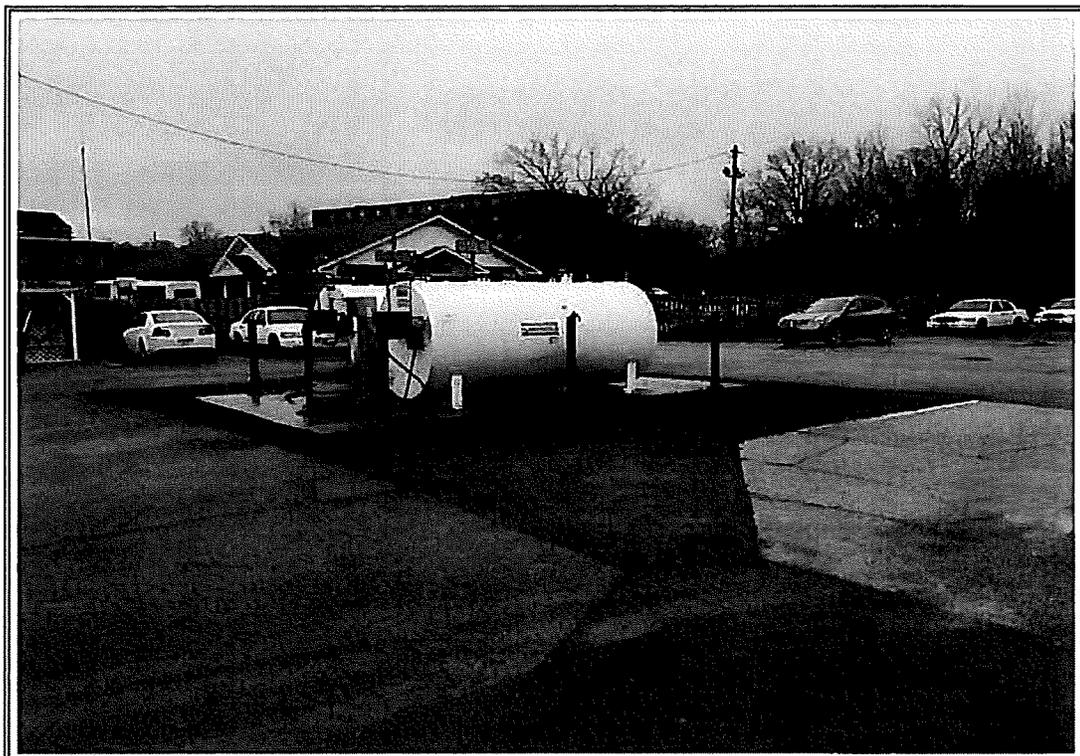
Phase I Environmental Site Assessment  
20777 Lorain Road, Fairview Park, Ohio

Project Number 16-3731  
May 2016



**Photograph No. 1**

View of the former UST area looking southwest.



**Photograph No. 2**

View of the former UST location looking northeast.



**Department of Commerce**

Division of State Fire Marshal  
Bureau of Underground Storage Tank Regulations (BUSTR)

## LABORATORY ANALYSIS QA/QC SUMMARY FORM

*(To be included with each laboratory chemical analysis report)*

REPORT DATE: April 11, 2016 FACILITY ID#: \_\_\_\_\_

### SAMPLE RECEIPT

Was the chain of custody present for all samples?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Sampler name included?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Sampler signature included?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Sample date included?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Sample time included?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
List the preservation method(s):	Ice			
List the cooler temperature upon receipt:	4.0 °F <input type="checkbox"/>	°C <input checked="" type="checkbox"/>		
Was headspace present in any sample vials?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	NA <input type="checkbox"/>	
Were the soil sample containers filled?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	NA <input checked="" type="checkbox"/>	
Were sample containers tightly sealed?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Were the correct laboratory containers used?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		

### SAMPLE ANALYSIS

Were all analysis performed using SW-846 & ASTM methods? If not, identify the other methods used:	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Were dates of sample extraction provided?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Were the matrix spike results within the control limit range established by the USEPA?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Were surrogate recoveries within the control limit range established by the USEPA?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Were control samples used to establish appropriate control limits for precision and bias?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Were instrument blanks, calibration standards, and method blanks submitted and analyzed?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Were matrix spike samples analyzed and either matrix spike duplicates or matrix duplicate samples analyzed?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Were the following QC samples used for each analytical batch:				
Lab control samples	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Method blanks	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Matrix spikes	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Matrix spike duplicates or matrix duplicates	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Were there any problems noted with surrogate recovery, % recovery, or % RSD? If so, list sample IDs:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		
Were there any data qualifiers noted by the lab? If so, list sample IDs: .	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		

### LAB CERTIFICATION

Is the laboratory affiliated with the sampling company?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		
Check lab certification that applies:	<input checked="" type="checkbox"/> Ohio EPA DDGW	<input checked="" type="checkbox"/> Ohio EPA VAP	<input checked="" type="checkbox"/> NELAP	<input checked="" type="checkbox"/> A2LA
	<input type="checkbox"/> Other (list):			

### COMPLETED BY

Print Name of Lab Representative and Title:  Bashar Najim, Project Manager	Signature  	Date  4-11-16
--	-------------------	---------------------



## **Appendix G**



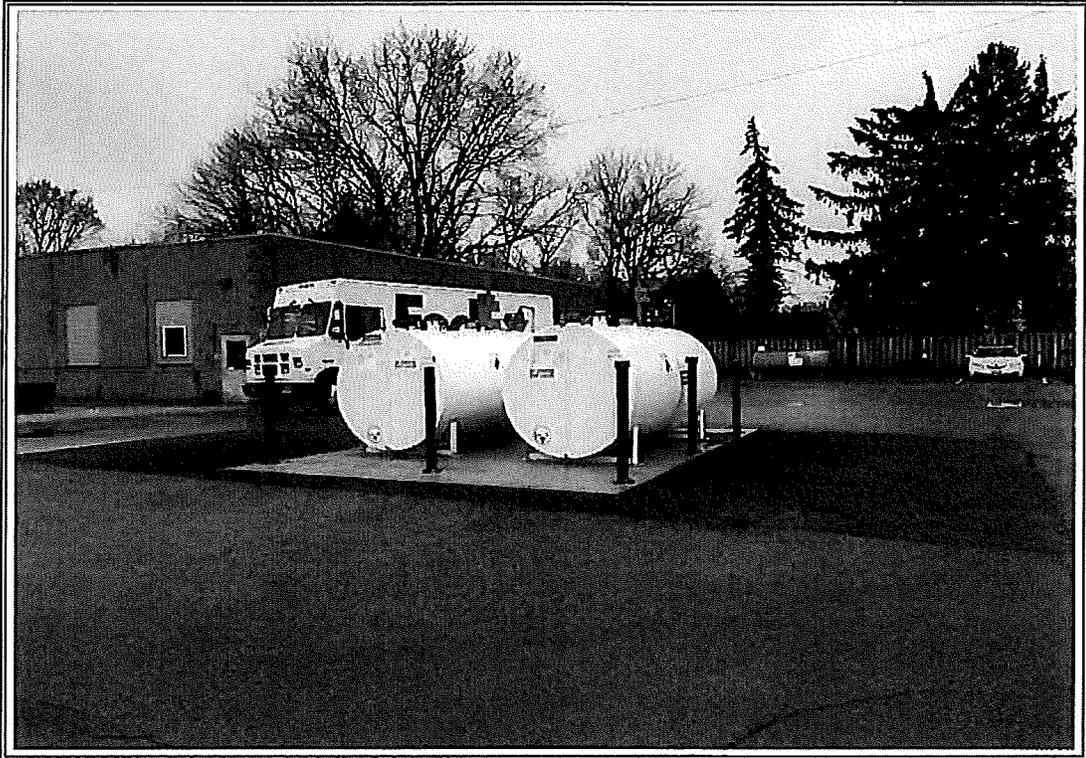


**The Site is located approximately 300 feet west of Coe Creek.**

**EMERALD ENVIRONMENTAL, INC.**

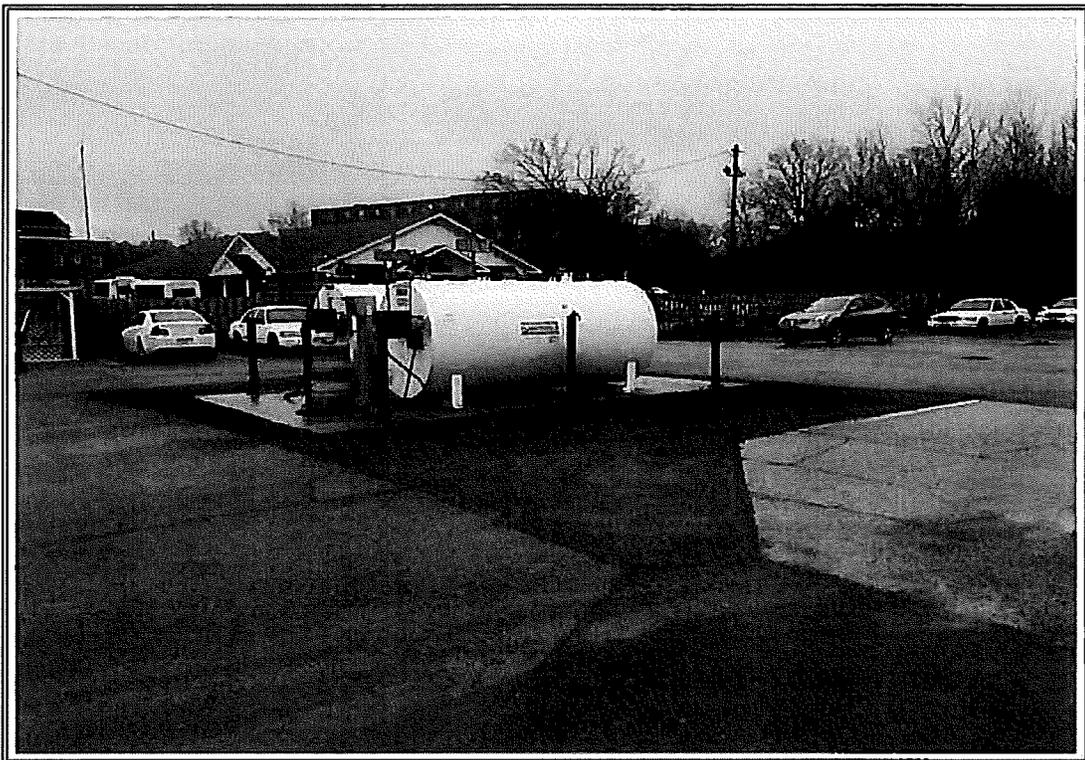
Phase I Environmental Site Assessment  
20777 Lorain Road, Fairview Park, Ohio

Project Number 16-3731  
May 2016



**Photograph No. 1**

View of the former UST area looking southwest.



**Photograph No. 2**

View of the former UST location looking northeast.



## Department of Commerce

Division of State Fire Marshal  
John R. Kasich, Governor  
Jacqueline T. Williams, Director

November 30, 2015

KEN PIERSON  
CITY OF FAIRVIEW PARK  
20777 LORAIN RD  
FAIRVIEW PARK, OHIO 44126

SITE: CITY OF FAIRVIEW PARK  
20777 LORAIN RD  
FAIRVIEW PARK OH  
CUYAHOGA COUNTY  
RELEASE #18004452-N00002

RE: TIER 1 SOURCE INVESTIGATION REQUIRED

Dear Mr. Pierson:

The Bureau of Underground Storage Tank Regulations (BUSTR) has reviewed your report titled "Closure Assessment" dated September 15, 2015. BUSTR has determined that soil contamination exists in excess of the action levels applicable to this site. You are required to perform a Tier 1 Source Investigation as prescribed in Ohio Administrative Code 1301:7-9-13(H), effective July 1, 2012, and explained in BUSTR's *Technical Guidance Manual (2012)*. These documents describe the activities that must be performed during the tier evaluation and the information that is to be submitted to BUSTR. Please note that the Tier 1 Evaluation or the Tier 1 Notification report was due on or before November 12, 2015.

You may be also eligible to receive reimbursement for the costs of corrective action from the Petroleum Underground Storage Tank Release Compensation Board. Please contact that office at 614-752-8963 for more information.

Publications that may help you to understand the requirements for compliance with BUSTR's rules and regulations may be found on the Internet at <http://www.com.ohio.gov/fire/> or by calling our office.

Thank you for your cooperation. If you have any questions, please contact me at (614) 752-7093.

Sincerely,

Charles E. Zepp  
Environmental Specialist

xc: Site File



## Department of Commerce

Division of State Fire Marshal  
John R. Kasich, Governor  
Jacqueline T. Williams, Director

June 06, 2016

BRIDGET HINKEL  
CITY OF FAIRVIEW PARK  
20777 LORAIN RD  
FAIRVIEW PARK, OHIO 44126

SITE: CITY OF FAIRVIEW PARK  
20777 LORAIN RD  
FAIRVIEW PARK OH  
CUYAHOGA COUNTY  
RELEASE #18004452-N00002

RE: ADDITIONAL INFORMATION REQUESTED

Dear Ms. Hinkel:

The Bureau of Underground Storage Tank Regulations (BUSTR) has reviewed your report titled "Tier 1 Source Investigation Required Revisions" dated May 31, 2016. Based on our review, BUSTR requests the following:

1. It will be necessary to install a minimum of two additional monitoring wells to further evaluate the extent of groundwater contamination and to determine the groundwater flow gradient.
2. Two additional soil borings must be installed in the area around closure sample PW-1 to further evaluate the source area.
3. An additional soil boring must be installed east of closure sample PE-2 to define soil contamination back to delineation levels.

Please be advised that the transfer of the property will not extinguish your liability to perform the required corrective actions. Publications that may help you to understand the requirements for compliance with BUSTR's rules and regulations may be found on the Internet at <http://www.com.ohio.gov/fire/> or by calling our office.

Please submit this information to BUSTR on or before September 25, 2016.

Thank you for your cooperation. If you have any questions, please contact me at (614) 752-7093.

Sincerely,

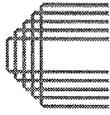
Charles E. Zepp  
Environmental Specialist

xc: Site File  
Bill Mello, Emerald Environmental

RECEIVED

JUN 10 2016

CITY OF FAIRVIEW PARK



**CHEMTRON**

Chemtron Corp.  
33565 Pin Oak Parkway  
Avon Lake, Ohio 44012

**PROJECT PROPOSAL**

June 30, 2016

**Client:** City of Fairview Park  
**Project Description:** BUSTR Tier I Source Investigation Phase II

City of Fairview Park  
20777 Lorain Road  
Fairview Park, OH 44126

Proposal No: CH21620CS

**1.0 INTRODUCTION**

The following proposal was developed to provide the Bureau of Underground Storage Tank Regulations (“BUSTR”) with additional information as requested in the BUSTR letter to the City of Fairview Park dated June 6, 2016. The additional information requested is based on a Tier I Sour Investigation dated May 31, 2016. These activities are associated with the release of petroleum hydrocarbons from Underground Storage Tanks (“USTs”) at the City of Fairview Park property located at 20777 Lorain Road, Fairview Park, Cuyahoga County, Ohio (hereinafter “the Site or the Property”). The proposed services will be performed for the client, City of Fairview Park (“Client”) by the consultant, Chemtron Corp., Inc. (“CHEMTRON CORP.” or “Consultant”). CHEMTRON CORP. proposes to provide the services described herein in accordance with the attached General Terms and Conditions, dated July 1, 1998. Said services will be provided pursuant to the fee structure herein.

**2.1 SITE HISTORY**

After reviewing the May 31, 2016 Tier I Source Investigation submitted to BUSTR, Charles Zepp with BUSTR requested the following additional information.

1. It will be necessary to install a minimum of two additional monitoring wells to further evaluate the extent of groundwater contamination and to determine the groundwater flow gradient.
2. Two additional soil borings must be installed in the area around closure sample PW-1 to further evaluate the source area.
3. An additional soil boring must be installed east of closure sample PE-2 to define soil contamination back to delineation levels.



### 3.1 SCOPE OF SERVICES

After reviewing the May 31, 2016 Tier I Source Investigation submitted to BUSTR, Charles Zepp with BUSTR requested the following additional information. Therefore, the City of Fairview Park is required to install additional borings and monitoring wells as prescribed in Ohio Administrative Code 1301:7-9-13, effective July 1, 2012. The assessment activities shall be conducted according to the Technical Guidance Manual for Closure, Corrective Action, and Petroleum Soil Rules effective *after* July 1, 2012. The work scope provided is designed to meet the minimum Tier I requirements of the new OAC Rule as well as provide sufficient subsurface data to address any necessary future remedial action. The Client has requested that CHEMTRON CORP. provide environmental consulting services related to the BUSTR request for additional information.

The purpose of the Tier 1 Source Investigation is to ensure adequate investigation of the source areas regardless of the land and ground water use determination. The Tier 1 Source Investigation requires the owner/operator to complete all of the following:

- (1) Define the vertical and horizontal extent of the COCs in soil and ground water to the established action levels for the site
- (2) Determine the potential drinking water use at the site and surrounding area
- (3) Determine appropriate action levels based on the potential drinking water use for the UST site.

The work scope will include the items listed below.

#### 3.1 TASK A: Installation of New Borings/Monitoring Wells

Installation of a maximum of three (3) soil borings as identified in the BUSTR request for additional information to a maximum of 25 feet below the ground surface. One boring will be installed near closure sample PW-1. Two additional borings will be installed near closure sample PE-2. The borings will be extended to the groundwater interface, or top of bedrock, whichever occurs first. The sampling where possible, will be performed via direct push technology using a Geoprobe® soil core sampling apparatus or through the use of a hollow stem auger (HSA) rig and split spoon sampling. Samples will be collected from each approximate 1.5 to 2-foot interval and will be screened in the field for volatile organic vapors with a calibrated PID. Two (2) of the borings will be converted into monitoring wells.

Based on PID scans, visual contamination and/or the occurrence of the water table, a maximum of two (2) soil samples per monitoring well/soil boring will be submitted for laboratory analysis.

If groundwater is encountered, 2-inch PVC wells will be installed in two of the borings. Upon completion of the drilling activity, the groundwater monitoring wells will be in place for a minimum of 24 hours to allow ground water to stabilize current water table levels. These wells will then be gauged, developed and sampled.

During the drilling, the on-site field geologist will make sure that all sample collection, containment, handling, storage, decontamination, and shipment procedures conforms to procedures and protocols accepted by the BUSTR and the Ohio Environmental Protection Agency. Detailed field records will be maintained to describe each sample, collection methods, and observations during the sample collection activities, and field screening results. Sample chain-of-custody documentation will be maintained in strict compliance with industry-standard requirements.

If the top of bedrock is encountered before encountering groundwater, rock coring may be required. Rock coring will require the use of a drill rig capable of drilling through rock. In this situation, CHEMTRON CORP. will contact the Client and a separate proposal will be completed.

Groundwater is anticipated to be encountered within 25 feet of the ground surface. If groundwater is not encountered within 25 feet of the ground surface, additional costs may be incurred. In this situation, CHEMTRON CORP. will contact the Client and a separate proposal will be completed.

#### *3.4 TASK B: LABORATORY TESTING*

It is anticipated that a total of six (6) soil samples will be obtained from the three borings and shipped to an independent laboratory for testing. The soil samples will be analyzed for benzene, toluene, ethyl benzene, and xylenes (“BTEX”), methyl tertiary butyl ether (or “MTBE”) using U.S. EPA Method 8260; PAH using U.S. EPA Method 8270; TPH compounds using U.S. EPA Method 8015; total petroleum hydrocarbons (TPH) C6-C12 range using U.S. EPA Method 8015; and TPH C10-C2 range using U.S. EPA Method 8015.

A total of two (2) ground water samples will be collected and analyzed . The ground water samples will be analyzed for BTEX and MTBE using U.S. EPA methods 8260; and PAH using U.S. EPA method 8270.

#### *3.5 TASK C: DATA ANALYSIS AND REPORT GENERATION*

Upon completion of the site assessment drilling and laboratory testing, CHEMTRON CORP. will begin the process of data analysis and report writing. The results of the data collection activities will be summarized into a Tier I Source Investigation report that incorporates all existing site data into the 2012 BUSTR format. The report will briefly outline previous investigations and document appropriate results, conclusions and recommendations to the Client (and the BUSTR, as necessary).

#### *3.6 TASK D: WASTE DISPOSAL*

Approximately two (2), 55-gallons drums of waste will be generated during drilling and groundwater sampling activities. The drums will contain soil cuttings from the soil boring and water from developing the monitoring wells. Chemtron will remove and properly dispose of the contents of the drums.

#### 4.1 FEE STRUCTURE

The project scope will be completed utilizing the unit rates listed below.

##### Site Assessment Drilling

- |                                    |                 |
|------------------------------------|-----------------|
| • Geologist                        | \$75.00/hour    |
| • Field Instrumentation (PID)      | \$125.00/day    |
| • Direct push (geo-probe drilling) | \$1,950.00/day  |
| • Monitoring Well Installation     | \$1,405.00/each |

##### Ground Water Sampling – New Wells

- |                   |                   |
|-------------------|-------------------|
| • Staff Geologist | \$75.00/hour      |
| • Surveying       | \$315.00 lump sum |

##### Laboratory Testing

- |                               |                 |
|-------------------------------|-----------------|
| • Staff Geologist             | \$75.00/hour    |
| • Project Manager             | \$94.00/hour    |
| • BTEX and MTBE Analysis      | \$80.00/sample  |
| • PAH Analysis                | \$155.00/sample |
| • TPH C6-C12 Analysis (soil)  | \$55.00/sample  |
| • TPH C10-C20 Analysis (soil) | \$75.00/sample  |

##### Data Analysis and Report Generation

- |                   |              |
|-------------------|--------------|
| • Staff Geologist | \$75.00/hour |
| • Project Manager | \$94.00/hour |

##### Waste Disposal

- |                       |              |
|-----------------------|--------------|
| • Reconditioned Drums | \$50.00/each |
|-----------------------|--------------|

#### 5.1 PROJECT ESTIMATE AND SCHEDULE

The estimated cost to complete the above-defined work scope of installing three (3) new soil borings; converting two of those soil borings into monitoring wells; collecting and testing six (6) soils samples and two (2) groundwater samples is **\$9,713.00**. The specific cost breakdown is provided below.

- Task A: Installation of new borings/monitoring wells/groundwater sampling \$5,280.00 (2 field days)
- Task B: Laboratory Testing (soil) \$2,398.00  
Laboratory Testing (water) \$ 517.00
- Task C: Data Analysis and Report Generation \$1,418.00
- Task D: Waste Disposal (55-gallon drums) \$100.00

The project estimate includes two (2) days of on-site field time, the analysis of three (3) soil and two (2) ground water samples for the above-mentioned parameters. The above analytical cost is based on a standard five (5) to seven (7) business day turnaround. The Client will be billed only for actual quantities expended during the project. The project shall be initiated upon your authorization to proceed.

*Based on the most recent site data, soil contamination is present in the subsurface above BUSTR action levels. As a result, BUSTR has requested a Tier I Source Investigation. Therefore, following the necessary Tier I data collection, the site most probably may have to complete additional source investigation activities or delineation activities and may have to enter the BUSTR Tier II category. The intent of CHEMTRON CORP.'s Tier I and potential Tier II efforts is to collect information that focuses on assessing the site risk to procure a no further action ("NFA") from the BUSTR without costly active remediation.*

**6.0 ACCEPTANCE**

This proposal will serve as the contract for the services described herein. If you accept these services for the terms described above and in the attached General Terms and Conditions, please sign and return one copy to CHEMTRON CORP. and retain the other copy for your records. CHEMTRON CORP. appreciates this opportunity to provide you environmental support services. Should you have any questions or comments regarding the proposed scope of services, schedule, costs, or contractual terms and conditions, please contact me. We look forward to working with you on this project.

I have read and understand this document in its entirety and agree to all terms and conditions contained herein. Issuance of a purchase order by Client and/or the initiation of services by Consultant pursuant to this proposal constitute acceptance of all terms and conditions contained herein.

**City of Fairview Park**

BY:

\_\_\_\_\_  
Signature

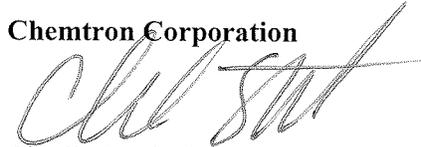
\_\_\_\_\_  
Date

\_\_\_\_\_  
Name

\_\_\_\_\_  
Purchase Order Number

Respectfully Submitted,

**Chemtron Corporation**



Charlie Stitchick  
Project Manager

Attachment

## **GENERAL TERMS AND CONDITIONS**

July 1, 1998

### **Standard of Performance / Warranty**

Chemtron Corp., Incorporated (the "Consultant") agrees to perform its services, as defined in the Scope of Services (the "Services"), in accordance with the standards for such professional services which prevail in the industry during the term of this Proposal, with attached General Terms and Conditions (the "Agreement"). No other warranty or representation of the Consultant, express or implied, including but not limited to warranties of fitness for a particular purpose or merchantability, is included in this Agreement or is intended in any proposal, contract, report or other communication between the Consultant and the client (the "Client"). The Consultant accepts no legal responsibility for the purpose for which the Client uses test results, unless otherwise stated by the Consultant in writing, and then only for such stated purpose.

### **Job Site Information and Documents**

The Client will furnish to the Consultant all documents and information known to the Client which relate to the identity, location, quantity, nature of characteristics of any hazardous or toxic substances or waste, or pollutant or contaminant, which is now or has been at any time in the past at, on or under the location(s) where Services are to be performed (the "Job Site") by the Consultant for the Client. In addition, the Client will furnish or cause to be furnished such other reports, data, studies, plans, specifications, documents and other information on surface or subsurface conditions at the Job Site in the possession of the Client which may be necessary or useful to the Consultant in the conduct of the Services. The Consultant is entitled to rely upon documents and information provided by the Client in conducting the Services, and the Consultant assumes no responsibility or liability for the accuracy or completeness of such documents or information, or for any effect upon the Services which is in any way caused by or related to the inaccuracy or incomplete nature of any such documents or information. The Consultant has no duty to make any independent inquiry regarding any information about the Job Site unless the parties specifically express such a duty in writing.

### **Access to Job Site**

The Client hereby grants to or will obtain for the Consultant, its officers, employees, agents and subcontractors, if any, the right, authority, and permission to enter, to remain upon and to exit the Job Site at the convenience of the Consultant, at any hour of the day or night during the term of this Agreement, for the purpose of performing the Services and for matters incidental thereto.

### **Job Site Activities**

The Consultant is responsible only for its activities and those of its employees on the Job Site. The Consultant will not control and has no duty to control the operations of others on the Job Site. The Consultant has no responsibility for general Job Site safety. In addition, it is understood and agreed that the Consultant is not, and has no responsibility as, a handler, generator, operator, owner, treater, storer, transporter or disposer of hazardous or toxic substances or waste, or pollutants or contaminants, found at the Job Site.

**Confidentiality**

The Consultant shall treat as confidential and proprietary and shall not disclose to others during or subsequent to the term of the Agreement, except as is necessary to perform its obligations pursuant to this Agreement or as may be required by law, court or administrative order, any information (including but not limited to any data, results, reports, records, documents, work product and other descriptive materials, and documents and information furnished to the Consultant by the Client) concerning the Services, without in each instance securing the prior written consent of the Client. This section shall not prevent the Consultant from disclosing to others or using in any manner information which:

- (a) Has been published and has become part of the public domain;
- (b) Has been furnished or made known to the Consultant by third parties (other than those acting, or who have acted directly or indirectly for or on behalf of the Consultant) as a matter of legal right without restriction on its disclose; or
- (c) Was in the possession of the Consultant prior to the disclosure thereof by the Client.

**Indemnification**

To the fullest extent permitted by law, the Client shall indemnify, defend and hold harmless the Consultant and its officers, directors, successors, subsidiaries, employees, agents and subcontractors, or otherwise related entities and individuals, if any (collectively, the "Indemnified Parties"), from and against all liability, claims, threatened claims, suits, threatened suits, damages, losses and expenses, whether direct, indirect, incidental or consequential, including but not limited to attorney's fees, court and arbitration costs (collectively, "Losses") arising out of or resulting from: (i) the performance by the Indemnified parties of the Services or activities in connection with Services; (ii) the actual or alleged or threatened discharge, disposal, release or escape of hazardous or toxic substances or wastes, or pollutants or contaminants; (iii) personal injury, illness, death and/or property damage in connection with the Consultant's performance of the Services; and (iv) any act (s), omission(s) or work of others.

**Limited Liability and Remedy**

- (a) The Consultant shall not be liable to the Client, or to anyone who may claim any right due to his relationship with the Client, or any other third-party, for any act(s) or omission(s) in the performance of the Services, including without limitation: (i) the failure to discover any existing hazardous or toxic substances or waste, or pollutants or contaminants; or (ii) the failure to discover hazardous or toxic substances or wastes, or pollutants or contaminants which migrate beneath the Job Site subsequent to the completion of the Services. The Consultant will not be responsible for any interpretations or recommendations generated or made by others, which are based, in whole or in part, on the Consultant's data, interpretations or recommendations.
- (b) Except as provided in subsection (c) below, in no event shall the Consultant be liable for damages of any nature, whether direct, indirect, incidental or consequential, including but not limited to any damages resulting from or relating to any error, omission, or inaccuracy in the performance of the Services or in any report of the results of the Services, or resulting from the presence of any hazardous or toxic substances, waste, pollutants or contaminant, at, on or under the Job Site any time before, during or after the term of this Agreement.
- (c) The Consultant's sole responsibility and liability, and the Client's exclusive remedy, for any breach of the Agreement is limited to the return of the compensation paid to the Consultant by the Client hereunder, without interest.

**Independent Contractor**

The Consultant is an independent contractor retained to perform the Services, and is not an employee, partner, or joint venture of the Client. The Consultant is not authorized to sign or create any obligations or responsibility, express or implied, on behalf of or in the name of the Client in any manner whatsoever, without the express prior written consent of the Client.

**Personnel Services / Assignment**

This Agreement is a personal services contract, and it is expressly agreed that the rights and interest of the Client and the Consultant may not be sold, transferred, assigned, pledged or hypothecated. The Agreement shall inure to the benefit of and be binding upon the parties hereto only. The parties do not intend that this Agreement should benefit any third party, and it is expressly agreed that the Consultant shall not be liable to any third party for any matter whatsoever arising out of or related to the Consultant's performance of any duty to the Client hereunder.

**Subcontract Services / Suppliers**

The Consultant reserves the right to subcontract for services, laboratory analyses, and supplies as deemed appropriate for completion of services under this agreement. It is expressly agreed that the Consultant shall not be liable to the client for damages of any nature, whether direct, indirect, or consequential, including but not limited to any damages resulting from or relating to any error, omission, inaccuracy, or delay of a subcontractor to the Consultant. Turnaround times for laboratory analyses may vary depending upon the actual number of samples to be analyzed, the specific analyses to be performed and the current workload of a subcontract laboratory. We will make every reasonable effort to provide subcontract services and supplies in a timely manner. In the event that this deadline becomes unattainable, we will contact you at our earliest indication.

**Entire Agreement**

This Agreement constitutes the entire agreement between the parties and supersedes any prior agreements or understandings, oral or written, expressed or implied (including, without limitation, any bid, proposal or information contained in promotional literature), between the parties with respect to the subject matter hereof. Paragraph captions, table of contents, index, titles, headings, and running headlines contained in this Agreement or any general terms or conditions, do not affect, limit or cast light on the interpretation of the provisions to which they refer.

**Amendments and Waivers**

This Agreement shall not be amended or modified in any respect except by a written instrument signed by the parties hereto. No waiver of any breach or condition of this Agreement shall be deemed to be a waiver of any subsequent breach or condition of a like or different nature.

**Governing Law**

This Agreement shall be governed by and construed according to the laws of the State of Ohio.

**Consent to Jurisdiction and Venue**

Any judicial proceeding brought with respect to this Agreement must be brought in a court of competent jurisdiction in Summit County, Ohio, and by execution and delivery of this Agreement, each party (i) accepts generally and unconditionally, the exclusive jurisdiction of such courts and any related appellate court, and irrevocably agrees to be bound by any judgment rendered thereby in connection with this Agreement and (ii) irrevocably waives any objection it may now or hereafter have as to the venue of any such suit, action or proceeding brought in such a court or that such court is an inconvenient forum.

**Invalid or Unenforceable Provision**

If any one or more of the provisions of this Agreement shall for any reason be held to be invalid or unenforceable in any respect by a court of competent jurisdiction, such invalidity or unenforceability shall not affect any other provisions hereof, and this Agreement shall be construed as if the invalid and unenforceable provisions were omitted.

**Counterparts**

This Agreement may be executed in one or more counterparts, each of which will be deemed to be an original.

**Standard Schedule of Charges**

In the event that charges listed herein conflict with the Project Proposal, the prices indicated in the Project Proposal will govern.

Our services are invoiced within the following ranges of category rates:

Certified Industrial Hygienist (CIH):	\$188.00/hr.
Certified Professional Geologist (CPG):	\$188.00/hr.
Professional Geologist (PG):	\$ 119.00/hr.
Industrial Hygienist/Environmental Geologist:	\$ 82.00/hr.
Environmental Technician/Field Hygienist:	\$ 69.00/hr.
Clerical Support:	\$ 38.00/hr.

All time including travel hours spent on the project by professional, technical, and clerical personnel will be invoiced. Unless otherwise stated, any cost estimate presented in our proposal is for budgetary purposes only and is not a fixed lump-sum bid. It is apparent that the budgeting estimate presented in our proposal is for budgetary purposes and is not a fixed lump-sum bid. Client will be invoiced for actual services or supplies expended, in accordance with unit prices set forth in this Agreement. All rates are subject to revision upon thirty (30) days notice to the Client.

**Reimbursable Expenses**

Expenses, not described in the Scope of Services, incurred by the Consultant in the performance of its Services shall be billed at a multiple of ONE 15/100 (1.15) times the amounts expended by the Consultant.

**Rush Charges**

Typically an additional charge is assessed for the laboratory analysis which must be analyzed on a "rush" basis. Specific charges for certain rush analyses vary depending upon the type of analysis and the desired turnaround time.

**Analysis of Blanks and Duplicates**

Most laboratory analytical procedures require the concurrent analysis of certain blank and duplicate samples. Blanks and duplicates submitted by you for analysis or taken during the course of our activities relating to this project will be charged at the same rate as the associated samples. In the event that field blanks are not submitted, and the analytical method requires them for proper quantification, laboratory blanks will be analyzed and charged at the corresponding sample rate.

**Payment Terms**

Invoices are due and payable upon receipt or within 15 days of the date of invoice, whichever is first. The Consultant reserves the right to assess a late charge of the lesser of 1.5% per month or the maximum rate allowed by law on unpaid balances. The Client agrees to pay reasonable attorney's fees, legal costs and other collection costs incurred by the Consultant in pursuit of past due payments. If payment remains past due 30 days from the date the invoice is sent, then the Consultant shall have the right to terminate this Agreement, and all reasonable demobilization and other termination costs will be paid by the Client.

**Progress Billing**

Consultant may elect to prepare progress billings on a monthly basis during the course of projects. Such invoices are payable in accordance with Payment Terms section herein.



# CITY OF FAIRVIEW PARK

20777 Lorain Road  
Fairview Park, Ohio 44126-2018  
- *Established in 1910* -

**Eileen Ann Patton, Mayor**

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## MEMORANDUM

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**TO: Council President Kilbane and Members of City Council**

**FROM: Shawn Leininger, AICP  
Director of Public Service & Development**

**RE: Emergency Legislation – Chemtron Corporation Contract**

**DATE: July 12, 2016**

---

The Administration of the City of Fairview Park is requesting suspension of the rules requiring three readings and passage of the following legislation with one reading on Monday, July 25, 2016, as an emergency:

Ordinance 16-\_\_ Authorizing the Mayor to enter into a contract with the Chemtron Corporation to provide further testing and evaluation of the ground surrounding the previously removed underground storage tanks (the “site”) and declaring an emergency.

Earlier this year the City contracted with the Chemtron Corporation to complete a Tier 1 Investigation of former underground storage tank site. The contracted price for this initial investigation was \$9,930. Following review of the Tier 1 Investigation results, the State of Ohio Bureau of Underground Storage Tank Regulations (BUSTR) requested additional testing and monitoring be performed. This additional testing will be proposed to cost an additional \$9,713, exceeding the \$15,000 threshold requiring City Council approval. Further this additional testing and monitoring is required to be submitted to BUSTR on or before September 25, 2016. As a result, the Administration respectfully requests passage on first read.

cc: Eileen Patton, Mayor  
Liz Westbrooks, City Council Clerk  
William McGinty, Law Director  
Greg Cingle, Finance Director