

June 8, 2012

Reference No. 012559

Ms. Pamela Green
Kansas Department of Health and Environment
Bureau of Environmental Remediation
Curtis State Office Building
1000 SW Jackson St., Suite 410
Topeka, Kansas 66612-1367

Dear Ms. Green:

Re: Supplemental Investigations Site-Wide Data Summary
Former Fairfax I Plant, KDHE ID C4-105-00021
Kansas City, Kansas

Conestoga-Rovers & Associates (CRA), on behalf of the Revitalizing Auto Communities Environmental Response Trust (RACER), is submitting this letter to the Kansas Department of Health and Environment (KDHE) to present data collected during the Supplemental Site-Wide Investigation at the former Fairfax I Plant (Site). These investigations were completed at the Site from April 9 to May 11, 2012. A report detailing these activities and results will be submitted to the KDHE in late June or early July 2012.

This letter provides a summary of the soil and groundwater data collected at the Site in accordance with the "Revised Work Plan for Supplemental Site-Wide Investigations" (CRA, March 2012) (Work Plan).

As outlined in the 2012 Work Plan, field activities were conducted generally in five areas (the S-8 Area, SB-110 Area, TMW-127 Area, MW-103A Area, and TMW-130 Area) from April 9, 2012 through May 11, 2012. Activities completed consisted of the following tasks:

- The S-8 Area investigation included the advancement of four soil borings (SB-147N, SB-147S, SB-147E, and SB-147W) and the installation of three temporary monitoring wells (TMW-147E, TMW-148, and TMW-149). Four soil and three groundwater samples were collected for analysis of target compound list volatile organic compounds (TCL VOCs).
- The SB-110 Area investigation included the advancement of six soil borings (SB-118A, SB-118B, SB-119A, SB-119B, SB-119C, and SB-120A) and the installation of three temporary monitoring wells (TMW-150, TMW-151, and TMW-152). Soil and groundwater samples were submitted for analysis of TCL VOCs. The far western soil boring was attempted at different locations four times with a geoprobe rig and five times with an auger drill rig. Each time the soil boring met refusal. Consequently, the far western soil boring was not completed, and no sample was collected.
- The TMW-127 Area investigation included the advancement of three soil borings which were completed as temporary monitoring wells TMW-153, TMW-154, and TMW-155, and the installation of one deep monitoring well (MW-156). Three soil samples and five groundwater samples (from the four new wells plus existing well TMW-127) were collected for analysis of TCL VOCs.

June 8, 2012

Reference No. 012559

2

- The MW-103A Area investigation included the advancement of five soil borings. Soil borings SB-48 and SB-49 were advanced and two soil samples were collected for the analysis of waste profiling parameters. Soil borings SB-50 and SB-51 were advanced and two soil samples were collected for analysis of TCL VOCs. Temporary monitoring well TMW-157 was installed, and a soil sample and a groundwater sample were collected for analysis of TCL VOCs. A groundwater sample was collected from existing monitoring well MW-103A for analysis of nutrient and microbial counts.
- The TMW-130 Area investigation included the advancement of one soil boring (SB-305) and the collection of a soil sample for the analysis of waste profiling parameters. In addition, two soil borings (SB-306 and SB-307) were advanced and two soil samples were collected in Shelby tubes for the analysis of grain size, porosity, and Atterberg Limits. Five groundwater samples were collected from temporary monitoring wells TMW-130, TMW-139, TMW-140, TMW-141, and TMW-142 for analysis of surfactants, nutrient, and microbial counts.
- A soil boring was advanced and two soil samples were collected at a location representative of background for analysis of total organic carbon.
- A second round of groundwater samples was collected from newly installed monitoring wells in each area of concern for TCL VOC analysis.

Soil boring locations are presented on Figure 1, and monitoring well locations are presented on Figure 2. Analytical data for soil are presented in Tables 1, 2, 3, and 4. Analytical data for groundwater are presented in Tables 5, 6, 7, and 8. Water levels were collected on May 8, 2012. Groundwater elevation data are presented in Table 9, and groundwater elevation contours are presented on Figure 3. Waste profiling data are presented in Table 10. Surfactant data are presented in Table 11. Geotechnical (Shelby tube) data are provided in Attachment A. Total organic carbon results are provided in Attachment B. Nutrient and microbial count data are not available at this time and will be provided at a later date.

If you have any questions, please do not hesitate to contact me at (785) 783-8982.

Yours truly,

CONESTOGA-ROVERS & ASSOCIATES

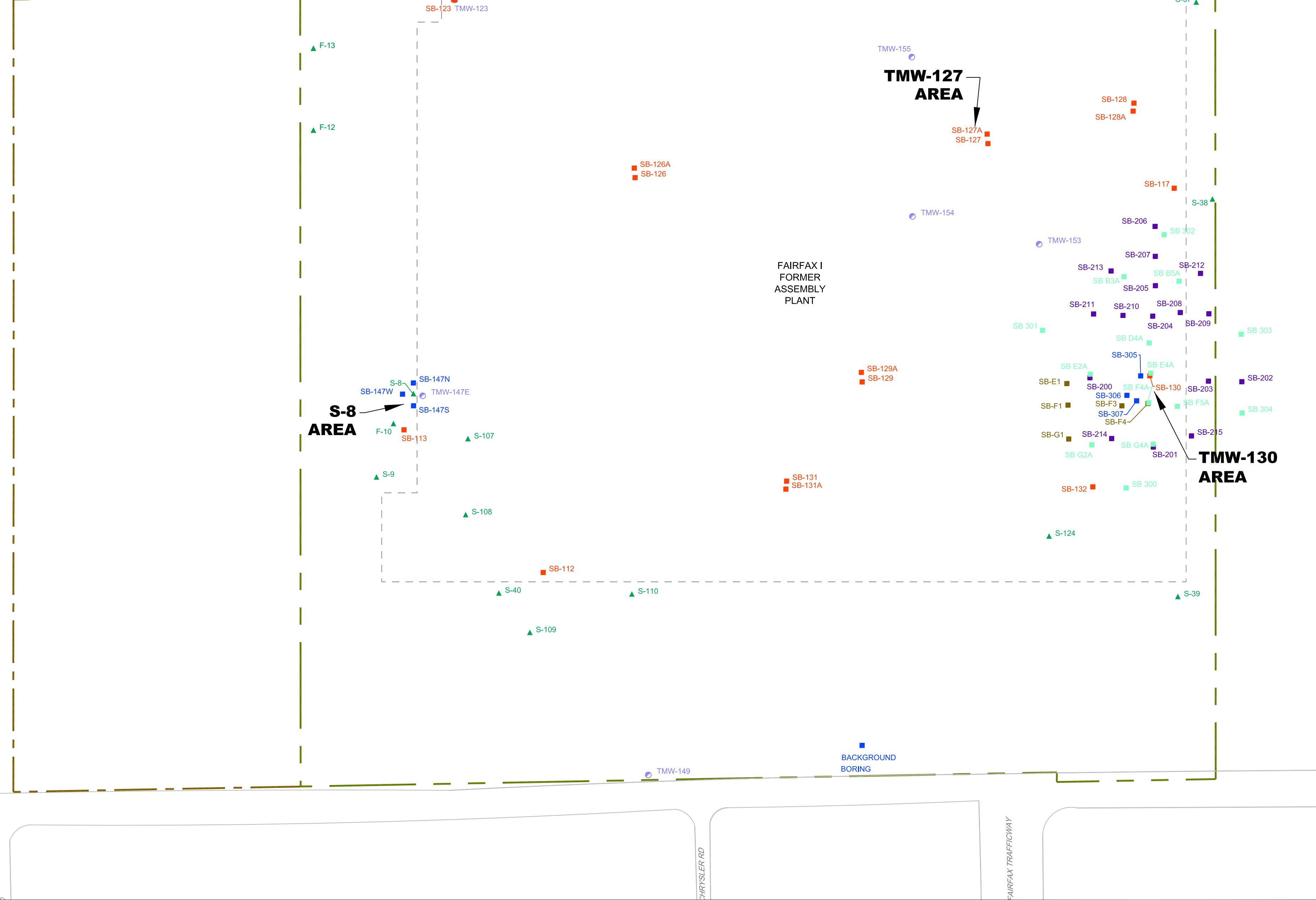
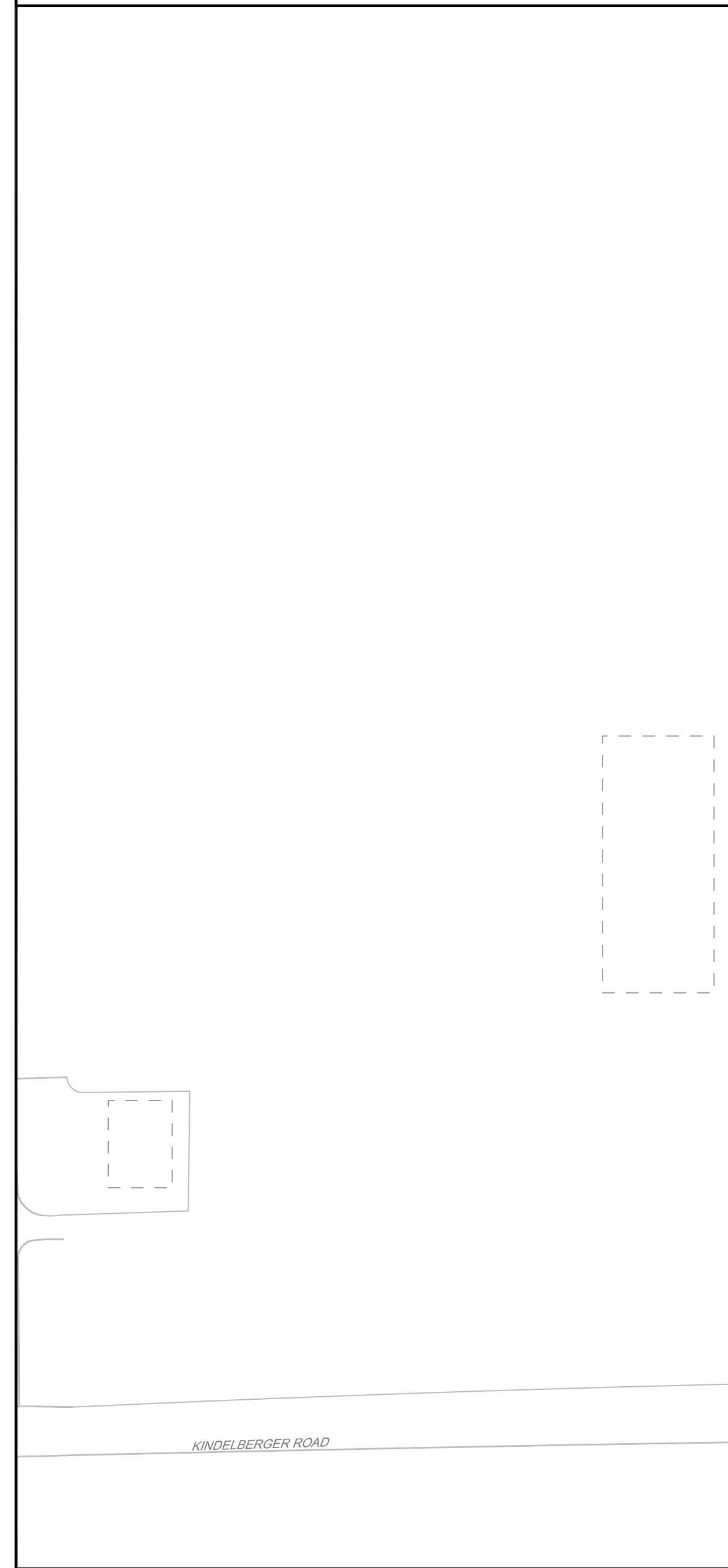


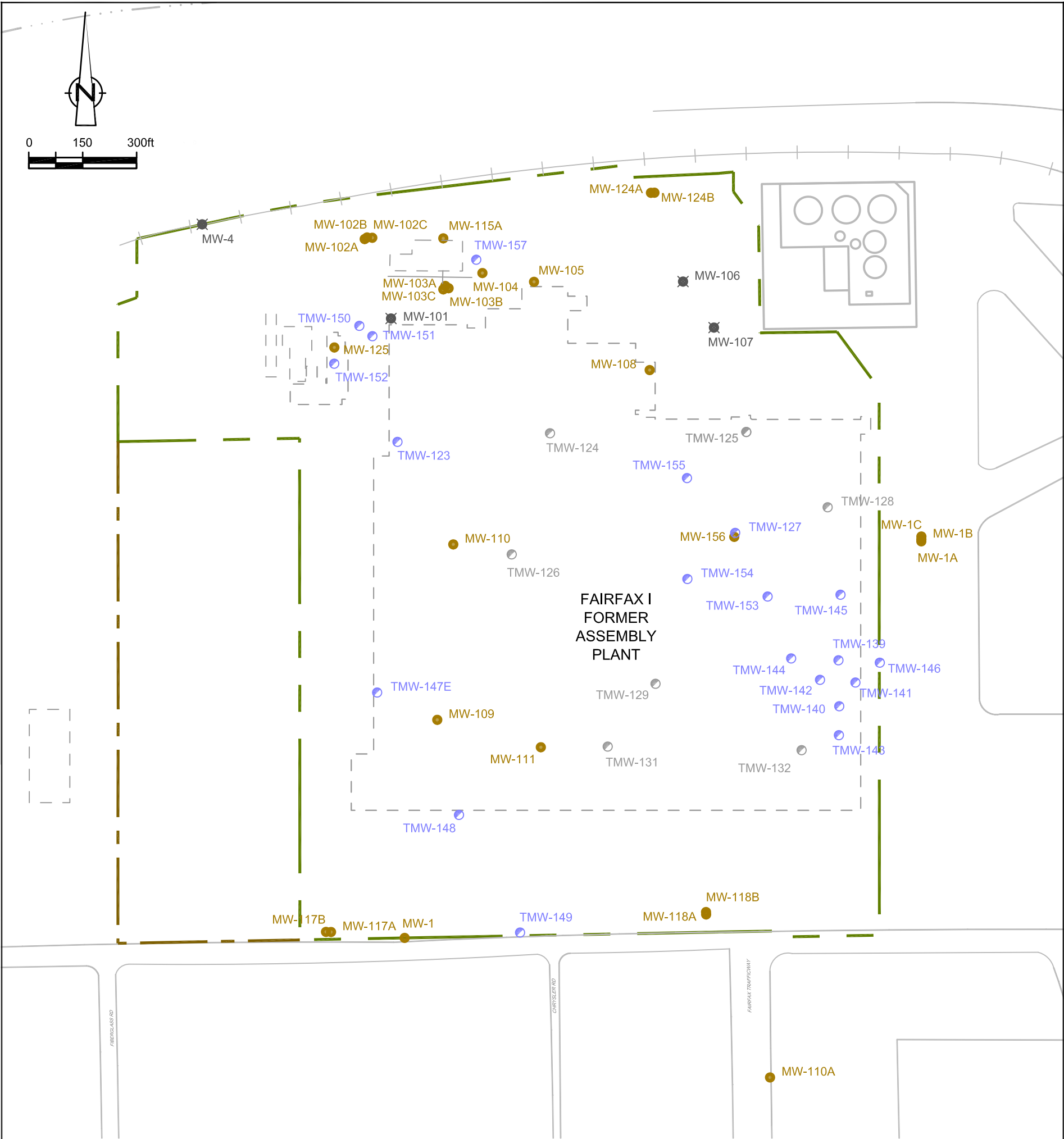
Travis Kogl

TK/lg/2

Attachments

cc: Robert Hare, RACER Trust
Phil Harvey, CRA

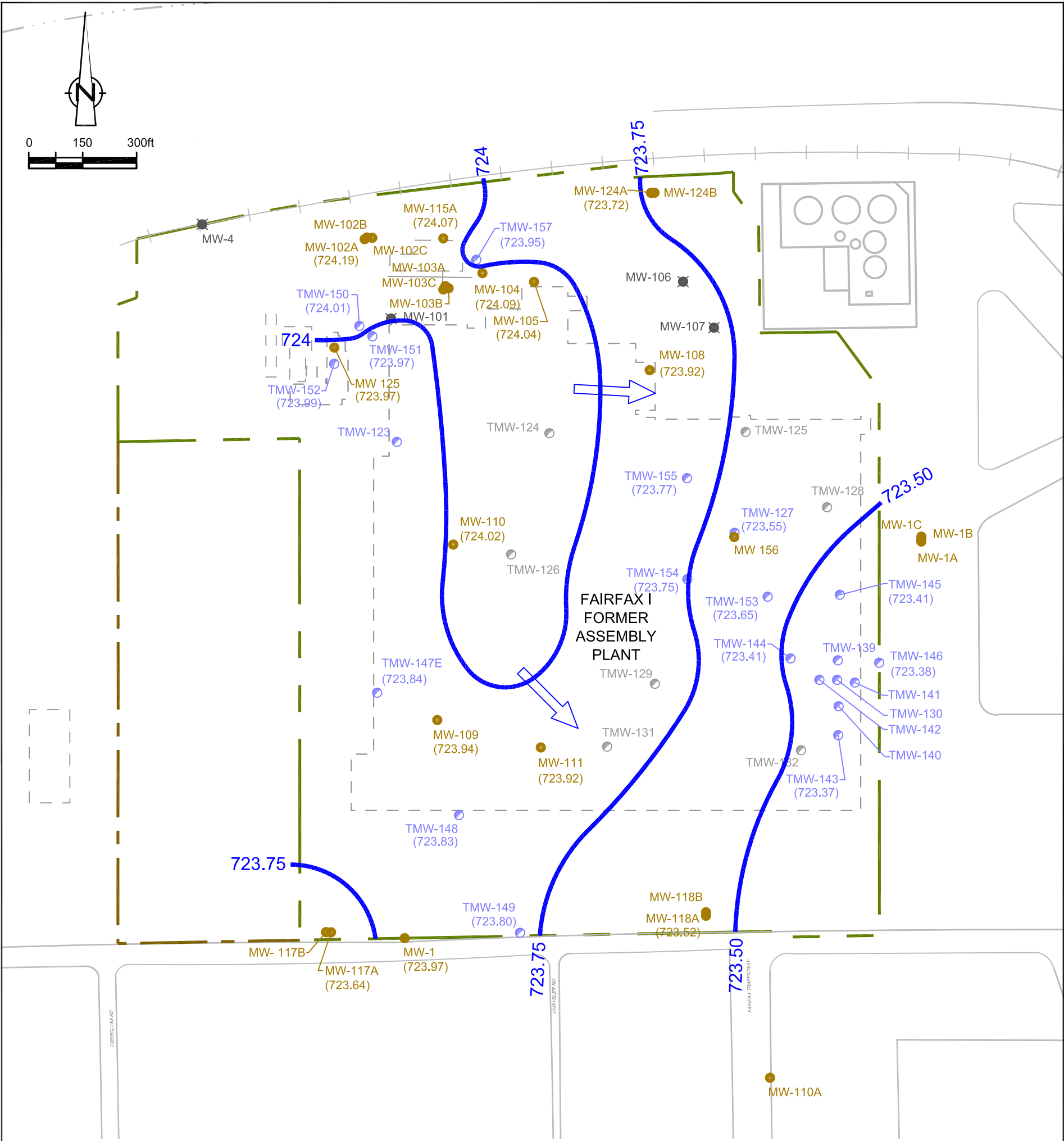
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- LEGEND:**
- FORMER FAIRFAX I PROPERTY BOUNDARY (PROPERTY ID 1289-1)
 - TRACT 2 PARCEL BOUNDARY (PROPERTY ID 1289-2)
 - FORMER BUILDING STRUCTURE
 - FORMER FENCE LINE
 - FORMER RAILROAD TRACKS
 - MW-102A ● MONITORING WELL LOCATION AND IDENTIFIER
 - TMW-130 ● TEMPORARY MONITORING WELL LOCATION AND IDENTIFIER
 - MW-4 ● FORMER MONITORING WELL LOCATION AND IDENTIFIER
 - TMW-124 ● FORMER TEMPORARY MONITORING WELL LOCATION AND IDENTIFIER

figure 2
MONITORING WELL LOCATIONS
FORMER FAIRFAX I SITE
Kansas City, Kansas





LEGEND:

- FORMER FAIRFAX I PROPERTY BOUNDARY (PROPERTY ID 1289-1)
- TRACT 2 PARCEL BOUNDARY (PROPERTY ID 1289-2)
- FORMER BUILDING STRUCTURE
- FORMER FENCE LINE
- FORMER RAILROAD TRACKS
- MW-102A ● MONITORING WELL LOCATION AND IDENTIFIER
- TMW-130 ● TEMPORARY MONITORING WELL LOCATION AND IDENTIFIER
- MW-4 ● FORMER MONITORING WELL LOCATION AND IDENTIFIER
- TMW-124 ● FORMER TEMPORARY MONITORING WELL LOCATION AND IDENTIFIER

figure 3
MONITORING WELL LOCATIONS
MAY 8, 2012
FORMER FAIRFAX I SITE
Kansas City, Kansas



TABLE 1

**SUMMARY OF SOIL DETECTED ANALYTICAL DATA
S-8 AREA
FORMER FAIRFAX I SITE
KANSAS CITY, KANSAS**

<i>Location Name:</i>						<i>SB-147N</i>	<i>SB-147S</i>	<i>SB-147W</i>	<i>TMW-147E</i>
<i>Sample Name:</i>						<i>TMW 147N 18-20</i>	<i>TMW 147S 18-20</i>	<i>TMW 147W 18-20</i>	<i>TMW 147E 18-20</i>
<i>Sample Date:</i>						<i>4/9/2012</i>	<i>4/9/2012</i>	<i>4/9/2012</i>	<i>4/9/2012</i>
<i>Depth:</i>						<i>18-20 ft BGS</i>	<i>18-20 ft BGS</i>	<i>18-20 ft BGS</i>	<i>18-20 ft BGS</i>
		<i>KDHE Tier 2 Risk-Based Criteria</i>							
		<i>Non-Residential</i>		<i>Residential</i>					
	<i>Units</i>	<i>Soil Pathway</i>	<i>Soil to GW</i>	<i>Soil Pathway</i>	<i>Soil to GW</i>				
		<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>				
<i>Volatile Organic Compounds</i>									
1,2-Dichloroethene (total)	mg/kg	NC	NC	NC	NC	0.121	ND(0.0048)	ND(0.0053)	0.201
2-Butanone (Methyl ethyl ketone) (MEK)	mg/kg	101000	57.8	26000	24.2	0.0055 J	ND(0.0096)	ND(0.0106)	0.0111 J
Acetone	mg/kg	406000	204	50300	51.6	0.011 J	ND(0.0192)	ND(0.0211)	0.0381
cis-1,2-Dichloroethene	mg/kg	194	0.855	115	0.855	0.101	ND(0.0024)	ND(0.0026)	0.163
Tetrachloroethene	mg/kg	16.5	0.121	7.54	0.121	ND(0.0056)	0.0035 J	0.0043 J	ND(0.0056)
trans-1,2-Dichloroethene	mg/kg	333	1.22	202	1.22	0.0195	ND(0.0024)	ND(0.0026)	0.0372
Trichloroethene	mg/kg	69.8	0.0842	41	0.0842	0.0015 J	ND(0.0048)	ND(0.0053)	0.0064

Notes:

ND () - Not present at or above the associated value

J - Estimated concentration

UJ - Estimated reporting limit

NC - No Criteria

-- : Not Analyzed

mg/kg - milligrams per kilogram

ft BGS - feet below ground surface

Boxed values exceed criteria

Risk Based Standards for Kansas, RSK Manual- 5th version, Kansas Department of Health and Environment, October 2010, Appendix A

TABLE 2

SUMMARY OF SOIL DETECTED ANALYTICAL DATA
SB-110 AREA
FORMER FAIRFAX I SITE
KANSAS CITY, KANSAS

<i>Location Name:</i>						<i>SB-118A</i>	<i>SB-118B</i>	<i>SB-119A</i>	<i>SB-119B</i>	<i>SB-119C</i>	<i>SB-120A</i>
<i>Sample Name:</i>						<i>SB 118A 6-8</i>	<i>SB 118B 8-10</i>	<i>SB 119A 18-20</i>	<i>SB 119B 18-20</i>	<i>SB 119C 18-20</i>	<i>SB 120A 18-20</i>
<i>Sample Date:</i>						<i>4/10/2012</i>	<i>4/11/2012</i>	<i>4/16/2012</i>	<i>4/17/2012</i>	<i>4/10/2012</i>	<i>4/9/2012</i>
<i>Depth:</i>						<i>6-8 ft BGS</i>	<i>8-10 ft BGS</i>	<i>18-20 ft BGS</i>	<i>18-20 ft BGS</i>	<i>18-20 ft BGS</i>	<i>18-20 ft BGS</i>
		<i>KDHE Tier 2 Risk-Based Criteria</i>									
		<i>Non-Residential</i>		<i>Residential</i>							
	<i>Units</i>	<i>Soil Pathway</i>	<i>Soil to GW</i>	<i>Soil Pathway</i>	<i>Soil to GW</i>						
		<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>						
<i>Volatile Organic Compounds</i>											
1,2,4-Trimethylbenzene	mg/kg	126	2.21	54	1.07	ND(0.0048)	0.0224	ND(0.0048)	ND(0.0066)	ND(0.0083)	ND(0.0061)
1,2-Dichloroethene (total)	mg/kg	NC	NC	NC	NC	ND(0.0048)	0.0024 J	ND(0.0048)	0.0278	ND(0.0083)	ND(0.0061)
1,3,5-Trimethylbenzene	mg/kg	530	11.1	243	5.51	ND(0.0048)	0.003 J	ND(0.0048)	ND(0.0066)	ND(0.0083)	ND(0.0061)
2-Butanone (Methyl ethyl ketone) (MEK)	mg/kg	101000	57.8	26000	24.2	0.0073 J	ND(0.0113)	ND(0.0097)	0.0049 J	0.0107 J	0.015
2-Phenylbutane (sec-Butylbenzene)	mg/kg	654	20.2	276	8.27	0.0026 J	0.0059	ND(0.0048)	ND(0.0066)	ND(0.0083)	ND(0.0061)
Acetone	mg/kg	406000	204	50300	51.6	0.0225 J	ND(0.0225)	ND(0.0193)	0.0054 J	0.0274 J	0.0576
Chloroform (Trichloromethane)	mg/kg	7.14	0.85	4.22	0.85	ND(0.0048)	ND(0.0056)	0.0011 J	0.0015 J	ND(0.0083)	ND(0.0061)
cis-1,2-Dichloroethene	mg/kg	194	0.855	115	0.855	ND(0.0024)	0.0024 J	ND(0.0024)	0.0278	ND(0.0042)	ND(0.0031)
Cymene (p-Isopropyltoluene)	mg/kg	NC	NC	NC	NC	ND(0.0048)	0.0027 J	ND(0.0048)	ND(0.0066)	ND(0.0083)	ND(0.0061)
Isopropyl benzene	mg/kg	5680	140	2540	65.1	0.00099 J	ND(0.0056)	ND(0.0048)	ND(0.0066)	ND(0.0083)	ND(0.0061)
Naphthalene	mg/kg	64.7	0.659	30.5	0.349	0.0026 J	0.0027 J	ND(0.0097)	ND(0.0132)	ND(0.0166)	ND(0.0123)
N-Butylbenzene	mg/kg	687	23.6	285	10.2	0.0017 J	0.0076	ND(0.0048)	ND(0.0066)	ND(0.0083)	ND(0.0061)
N-Propylbenzene	mg/kg	14300	320	4070	110	ND(0.0048)	0.0033 J	ND(0.0048)	ND(0.0066)	ND(0.0083)	ND(0.0061)
Tetrachloroethene	mg/kg	16.5	0.121	7.54	0.121	ND(0.0048)	0.0998	0.0013 J	ND(0.0066)	ND(0.0083)	0.0075
Trichloroethene	mg/kg	69.8	0.0842	41	0.0842	ND(0.0048)	0.0044 J	ND(0.0048)	ND(0.0066)	ND(0.0083)	ND(0.0061)

Notes:

ND () - Not present at or above the associated value

J - Estimated concentration

UJ - Estimated reporting limit

NC - No Criteria

-- : Not Analyzed

mg/kg - milligrams per kilogram

ft BGS - feet below ground surface

Boxed values exceed criteria

Risk Based Standards for Kansas, RSK Manual- 5th version, Kansas Department of Health and Environment, October 2010, Appendix A

TABLE 3

**SUMMARY OF SOIL DETECTED ANALYTICAL DATA
MW-103A AREA
FORMER FAIRFAX I SITE
KANSAS CITY, KANSAS**

<i>Location Name:</i>						<i>SB-50</i>	<i>SB-51</i>	<i>TMW-157</i>
<i>Sample Name:</i>						<i>SB 50 18-20</i>	<i>SB 51 18-20</i>	<i>TMW 157 18-20</i>
<i>Sample Date:</i>						<i>4/11/2012</i>	<i>4/11/2012</i>	<i>4/10/2012</i>
<i>Depth:</i>						<i>18-20 ft BGS</i>	<i>18-20 ft BGS</i>	<i>18-20 ft BGS</i>
		<i>KDHE Tier 2 Risk-Based Criteria</i>						
		<i>Non-Residential</i>		<i>Residential</i>				
	<i>Units</i>	<i>Soil Pathway</i>	<i>Soil to GW</i>	<i>Soil Pathway</i>	<i>Soil to GW</i>			
		<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>			
<i>Volatile Organic Compounds</i>								
2-Butanone (Methyl ethyl ketone) (MEK)	mg/kg	101000	57.8	26000	24.2	ND(0.0117)	0.0106 J	0.0105 J
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	mg/kg	34800	27.2	4450	6.69	ND(0.0117)	ND(0.01)	0.0033 J
Acetone	mg/kg	406000	204	50300	51.6	ND(0.0234)	0.0426 J	0.0319 J

ND () - Not present at or above the associated value

J - Estimated concentration

UJ - Estimated reporting limit

NC - No Criteria

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ft BGS - feet below ground surface

Boxed values exceed criteria

Risk Based Standards for Kansas, RSK Manual- 5th version, Kansas Department of Health and Environment, October 2010, Appendix A

TABLE 4

SUMMARY OF SOIL DETECTED ANALYTICAL DATA
TMW-127 AREA
FORMER FAIRFAX I SITE
KANSAS CITY, KANSAS

<i>Location Name:</i>						<i>TMW-153</i>	<i>TMW-154</i>	<i>TMW-155</i>
<i>Sample Name:</i>						<i>TMW 153 18-20</i>	<i>TMW 154 16-18</i>	<i>TMW 155 18-20</i>
<i>Sample Date:</i>						<i>4/11/2012</i>	<i>4/11/2012</i>	<i>4/11/2012</i>
<i>Depth:</i>						<i>18-20 ft BGS</i>	<i>16-18 ft BGS</i>	<i>18-20 ft BGS</i>
		<i>KDHE Tier 2 Risk-Based Criteria</i>						
		<i>Non-Residential</i>		<i>Residential</i>				
	<i>Units</i>	<i>Soil Pathway</i>	<i>Soil to GW</i>	<i>Soil Pathway</i>	<i>Soil to GW</i>			
		<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>			
<i>Volatile Organic Compounds</i>								
1,2-Dichloroethene (total)	mg/kg	NC	NC	NC	NC	ND(0.0051)	ND(0.006)	0.0183
2-Butanone (Methyl ethyl ketone) (MEK)	mg/kg	101000	57.8	26000	24.2	ND(0.0101)	0.0239 J	ND(0.0102)
Acetone	mg/kg	406000	204	50300	51.6	ND(0.0202)	0.108 J	ND(0.0203)
cis-1,2-Dichloroethene	mg/kg	194	0.855	115	0.855	ND(0.0025)	ND(0.003)	0.0171
trans-1,2-Dichloroethene	mg/kg	333	1.22	202	1.22	ND(0.0025)	ND(0.003)	0.0012 J
Trichloroethene	mg/kg	69.8	0.0842	41	0.0842	ND(0.0051)	ND(0.006)	0.0442

Notes:

ND () - Not present at or above the associated value

J - Estimated concentration

UJ - Estimated reporting limit

NC - No Criteria

-- : Not Analyzed

mg/kg - milligrams per kilogram

ft BGS - feet below ground surface

Boxed values exceed criteria

Risk Based Standards for Kansas, RSK Manual- 5th version, Kansas Department of Health and Environment, October 2010, Appendix A

TABLE 5

SUMMARY OF GROUNDWATER DETECTED ANALYTICAL DATA
S-8 AREA
FORMER FAIRFAX I SITE
KANSAS CITY, KANSAS

Location Name:				TMW-147E	TMW-147E	TMW-148	TMW-148
Sample Name:				GW-042712-JH-20	GW-051012-NL-09	GW-042612-JH-09	GW-051012-NL-08
Sample Date:				4/27/2012	5/10/2012	4/26/2012	5/10/2012
Sample Type:							
		KDHE Tier 2 Risk-Based Criteria					
		Non-Residential	Residential				
		Groundwater	Groundwater				
		Pathway	Pathway				
	Units	a	b				
Volatile Organic Compounds							
1,1-Dichloroethene	mg/L	0.007	0.007	0.00041 J	0.00013 J	ND(0.001)	ND(0.001)
1,2,4-Trimethylbenzene	mg/L	0.0174	0.00844	ND(0.001)	ND(0.001)	ND(0.001)	0.00026 J
1,2-Dichloroethene (total)	mg/L	NC	NC	0.177	0.209	0.0028	0.0007 J
2-Butanone (Methyl ethyl ketone) (MEK)	mg/L	11.8	4.92	ND(0.01)	ND(0.01)	ND(0.01)	0.0027 J
Acetone	mg/L	45.5	11.5	ND(0.01)	ND(0.01)	ND(0.01)	0.0067 J
cis-1,2-Dichloroethene	mg/L	0.07	0.07	0.168 ^{ab}	0.197 ^{ab}	0.0027	0.0007 J
Ethylbenzene	mg/L	0.7	0.7	ND(0.001)	ND(0.001)	ND(0.001)	0.00016 J
Tetrachloroethene	mg/L	0.005	0.005	0.0527 ^{ab}	0.034 ^{ab}	0.00089 J	0.0008 J
Toluene	mg/L	1	1	ND(0.001)	ND(0.001)	0.00016 J	0.00015 J
trans-1,2-Dichloroethene	mg/L	0.1	0.1	0.009	0.0121	0.00013 J	ND(0.001)
Trichloroethene	mg/L	0.005	0.005	0.0347 ^{ab}	0.0275 ^{ab}	0.0035	0.0025
Vinyl chloride	mg/L	0.002	0.002	0.00046 J	0.00084 J	ND(0.001)	ND(0.001)

TABLE 5

SUMMARY OF GROUNDWATER DETECTED ANALYTICAL DATA
S-8 AREA
FORMER FAIRFAX I SITE
KANSAS CITY, KANSAS

<i>Location Name:</i>				TMW-149	TMW-149	TMW-149
<i>Sample Name:</i>				GW-042612-JH-01	GW-051012-NL-07	GW-051012-NL-FD
<i>Sample Date:</i>				4/26/2012	5/10/2012	5/10/2012
<i>Sample Type:</i>						Duplicate
		<i>KDHE Tier 2 Risk-Based Criteria</i>				
		<i>Non-Residential</i>	<i>Residential</i>			
		<i>Groundwater</i>	<i>Groundwater</i>			
		<i>Pathway</i>	<i>Pathway</i>			
		<i>a</i>	<i>b</i>			
<i>Units</i>						
<i>Volatile Organic Compounds</i>						
1,1-Dichloroethene	mg/L	0.007	0.007	ND(0.001)	ND(0.001)	ND(0.001)
1,2,4-Trimethylbenzene	mg/L	0.0174	0.00844	ND(0.001)	ND(0.001)	ND(0.001)
1,2-Dichloroethene (total)	mg/L	NC	NC	0.001	0.00094 J	0.001
2-Butanone (Methyl ethyl ketone) (MEK)	mg/L	11.8	4.92	ND(0.01)	ND(0.01)	ND(0.01)
Acetone	mg/L	45.5	11.5	ND(0.01)	ND(0.01)	ND(0.01)
cis-1,2-Dichloroethene	mg/L	0.07	0.07	0.001	0.00094 J	0.001
Ethylbenzene	mg/L	0.7	0.7	ND(0.001)	ND(0.001)	ND(0.001)
Tetrachloroethene	mg/L	0.005	0.005	ND(0.001)	ND(0.001)	ND(0.001)
Toluene	mg/L	1	1	ND(0.001)	ND(0.001)	ND(0.001)
trans-1,2-Dichloroethene	mg/L	0.1	0.1	ND(0.001)	ND(0.001)	ND(0.001)
Trichloroethene	mg/L	0.005	0.005	0.00029 J	0.00024 J	0.00014 J
Vinyl chloride	mg/L	0.002	0.002	ND(0.001)	ND(0.001)	0.00011 J

Notes:

ND () - Not present at or above the associated value

J - Estimated concentration

UJ - Estimated reporting limit

NC - No Criteria

--: Not Analyzed

Boxed values exceed criteria

mg/L - milligrams per liter

Risk Based Standards for Kansas, RSK Manual- 5th Version, Kansas Department of Health and Environment, October 2010, Appendix A

TABLE 6

SUMMARY OF GROUNDWATER DETECTED ANALYTICAL DATA
 SB-110 AREA
 FORMER FAIRFAX I SITE
 KANSAS CITY, KANSAS

Location Name:

Sample Name:

Sample Date:

Sample Type:

		<i>KDHE Tier 2 Risk-Based Criteria</i>		MW-125 GW-042712-JH-19 4/27/2012	TMW-150 GW-042712-JH-13 4/27/2012	TMW-150 GW-042712-JH-15 4/27/2012 Duplicate	TMW-150 GW-050912-NL-06 5/9/2012
		<i>Non-Residential Groundwater Pathway a</i>	<i>Residential Groundwater Pathway b</i>				
<i>Volatile Organic Compounds</i>							
1,2-Dichloroethene (total)	mg/L	NC	NC	0.00059 J	0.0114	0.0119	0.0105
Benzene	mg/L	0.005	0.005	ND(0.001)	0.00012 J	0.00012 J	0.00012 J
cis-1,2-Dichloroethene	mg/L	0.07	0.07	ND(0.001)	0.0097	0.0102	0.0089
Tetrachloroethene	mg/L	0.005	0.005	0.00043 J	0.00049 J	0.00047 J	0.0013
trans-1,2-Dichloroethene	mg/L	0.1	0.1	ND(0.001)	0.0017	0.0017	0.0016
Trichloroethene	mg/L	0.005	0.005	0.00032 J	0.0201 ^{ab}	0.0205 ^{ab}	0.0203 ^{ab}
Trichlorofluoromethane (CFC-11)	mg/L	1.9	1.09	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
Vinyl chloride	mg/L	0.002	0.002	ND(0.001)	0.00027 J	0.00027 J	0.00032 J

TABLE 6

SUMMARY OF GROUNDWATER DETECTED ANALYTICAL DATA
SB-110 AREA
FORMER FAIRFAX I SITE
KANSAS CITY, KANSAS

Location Name:		TMW-151		TMW-151	TMW-152	TMW-152	
Sample Name:		GW-042712-JH-17		GW-051012-NL-10	GW-042612-JH-07	GW-051012-NL-11	
Sample Date:		4/27/2012		5/10/2012	4/26/2012	5/10/2012	
Sample Type:		KDHE Tier 2 Risk-Based Criteria					
Units	Non-Residential		Residential				
	Groundwater		Groundwater				
	Pathway		Pathway				
	a		b				
Volatile Organic Compounds							
1,2-Dichloroethene (total)	mg/L	NC	NC	0.0374	0.0333	0.00036 J	0.00055 J
Benzene	mg/L	0.005	0.005	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
cis-1,2-Dichloroethene	mg/L	0.07	0.07	0.0343	0.0305	ND(0.001)	0.00055 J
Tetrachloroethene	mg/L	0.005	0.005	0.0011	0.0013	0.0049	0.0048
trans-1,2-Dichloroethene	mg/L	0.1	0.1	0.0031	0.0028	ND(0.001)	ND(0.001)
Trichloroethene	mg/L	0.005	0.005	0.0099 ^{ab}	0.0089 ^{ab}	0.0013	0.0011
Trichlorofluoromethane (CFC-11)	mg/L	1.9	1.09	ND(0.001)	ND(0.001)	0.0014	0.0018
Vinyl chloride	mg/L	0.002	0.002	0.00013 J	ND(0.001)	ND(0.001)	ND(0.001)

Notes:

ND () - Not present at or above the associated value

J - Estimated concentration

UJ - Estimated reporting limit

NC - No Criteria

--: Not Analyzed

Boxed values exceed criteria

mg/L - milligrams per liter

Risk Based Standards for Kansas, RSK Manual- 5th Version, Kansas Department of Health and Environment, October 2010, Appendix A

TABLE 7

SUMMARY OF GROUNDWATER DETECTED ANALYTICAL DATA
TMW-127 AREA
FORMER FAIRFAX I SITE
KANSAS CITY, KANSAS

*Location Name:**Sample Name:**Sample Date:**Sample Type:*

MW-156
GW-042612-JH-14
4/26/2012

MW-156
GW-050912-NL-03
5/9/2012

TMW-127
GW-042712-JH-18
4/27/2012

TMW-153
GW-042612-JH-16
4/26/2012

TMW-153
GW-050912-NL-04
5/9/2012

KDHE Tier 2 Risk-Based Criteria

*Non-Residential
Groundwater
Pathway
a*

*Residential
Groundwater
Pathway
b*

Units

Volatile Organic Compounds

1,1-Dichloroethane	mg/L	0.0461	0.025	0.00034 J	0.00037 J	ND(0.001)	ND(0.001)	ND(0.001)
1,1-Dichloroethene	mg/L	0.007	0.007	ND(0.001)	ND(0.001)	0.00042 J	ND(0.001)	ND(0.001)
1,2-Dichloroethene (total)	mg/L	NC	NC	0.113	0.0526	0.366	0.0275	0.0206
Acetone	mg/L	45.5	11.5	ND(0.01)	ND(0.01)	ND(0.01)	ND(0.01)	ND(0.01)
Benzene	mg/L	0.005	0.005	0.00032 J	0.0003 J	0.00012 J	ND(0.001)	ND(0.001)
cis-1,2-Dichloroethene	mg/L	0.07	0.07	0.0999 ^{ab}	0.0379	0.354 ^{ab}	0.0263	0.0197
Cymene (p-Isopropyltoluene)	mg/L	NC	NC	ND(0.001)	0.0005 J	ND(0.001)	ND(0.001)	ND(0.001)
Methyl tert butyl ether (MTBE)	mg/L	0.262	0.133	ND(0.001)	0.0002 J	ND(0.001)	ND(0.001)	ND(0.001)
Toluene	mg/L	1	1	0.00011 J	0.00025 J	0.0005 J	ND(0.001)	ND(0.001)
trans-1,2-Dichloroethene	mg/L	0.1	0.1	0.0135	0.0147	0.012	0.0012	0.00097 J
Trichloroethene	mg/L	0.005	0.005	0.00062 J	0.00054 J	0.00029 J	0.0016	0.0013
Vinyl chloride	mg/L	0.002	0.002	0.264 ^{ab}	0.385 ^{ab}	0.0059 ^{ab}	0.00023 J	0.00037 J

TABLE 7

SUMMARY OF GROUNDWATER DETECTED ANALYTICAL DATA
TMW-127 AREA
FORMER FAIRFAX I SITE
KANSAS CITY, KANSAS

Location Name:

Sample Name:

Sample Date:

Sample Type:

TMW-154
 GW-042612-JH-03
 4/26/2012

TMW-154
 GW-050912-NL-01
 5/9/2012

TMW-155
 GW-042612-JH-11
 4/26/2012

TMW-155
 GW-050912-NL-02
 5/9/2012

KDHE Tier 2 Risk-Based Criteria

Non-Residential
Groundwater
Pathway
a

Residential
Groundwater
Pathway
b

Units

Volatile Organic Compounds

1,1-Dichloroethane	mg/L	0.0461	0.025	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
1,1-Dichloroethene	mg/L	0.007	0.007	ND(0.001)	ND(0.001)	0.0013	0.0011
1,2-Dichloroethene (total)	mg/L	NC	NC	0.0064	0.007	0.803	0.735
Acetone	mg/L	45.5	11.5	ND(0.01)	0.0096 J	ND(0.01)	0.0037 J
Benzene	mg/L	0.005	0.005	ND(0.001)	ND(0.001)	0.00012 J	0.00011 J
cis-1,2-Dichloroethene	mg/L	0.07	0.07	0.0057	0.0061	0.77 ^{ab}	0.709 ^{ab}
Cymene (p-Isopropyltoluene)	mg/L	NC	NC	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
Methyl tert butyl ether (MTBE)	mg/L	0.262	0.133	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
Toluene	mg/L	1	1	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
trans-1,2-Dichloroethene	mg/L	0.1	0.1	0.00078 J	0.00089 J	0.0339	0.0354
Trichloroethene	mg/L	0.005	0.005	ND(0.001)	ND(0.001)	0.3 ^{ab}	0.283 ^{ab}
Vinyl chloride	mg/L	0.002	0.002	ND(0.001)	ND(0.001)	0.0053 ^{ab}	0.0059 ^{ab}

Notes:

ND () - Not present at or above the associated value

J - Estimated concentration

UJ - Estimated reporting limit

NC - No Criteria

--: Not Analyzed

Boxed values exceed criteria

mg/L - milligrams per liter

Risk Based Standards for Kansas, RSK Manual- 5th Version, Kansas Department of
 Health and Environment, October 2010, Appendix A

TABLE 8

SUMMARY OF GROUNDWATER DETECTED ANALYTICAL DATA
MW-103A AREA
FORMER FAIRFAX I SITE
KANSAS CITY, KANSAS

*Location Name:**Sample Name:**Sample Date:**Sample Type:*

TMW-157
GW-042612-JH-05
4/26/2012

TMW-157
GW-050912-NL-05
5/9/2012

	<i>Units</i>	<i>KDHE Tier 2 Risk-Based Criteria</i>			
		<i>Non-Residential</i>	<i>Residential</i>		
		<i>Groundwater</i>	<i>Groundwater</i>		
		<i>Pathway</i>	<i>Pathway</i>		
		<i>a</i>	<i>b</i>		
<i>Volatile Organic Compounds</i>					
1,2-Dichloroethene (total)	mg/L	NC	NC	0.00014 J	0.00028 J
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	mg/L	4.17	1.02	ND(0.01)	0.00054 J
Acetone	mg/L	45.5	11.5	ND(0.01)	0.0045 J
cis-1,2-Dichloroethene	mg/L	0.07	0.07	ND(0.001)	0.00028 J

Notes:

ND () - Not present at or above the associated value

J - Estimated concentration

UJ - Estimated reporting limit

NC - No Criteria

--: Not Analyzed

Boxed values exceed criteria

mg/L - milligrams per liter

Risk Based Standards for Kansas, RSK Manual- 5th Version, Kansas Department of Health and Environment, October 2010, Appendix A

**SUMMARY OF GROUNDWATER ELEVATIONS
FAIRFAX I SITE
KANSAS CITY, KANSAS**

<i>Monitoring Well</i>	<i>Top of Casing Elevation (ft AMSL) ¹</i>	<i>May 2012</i>	
		<i>Depth to Water (ft BTOC) ²</i>	<i>Groundwater Elevation (ft AMSL)</i>
MW-1	746.43	22.46	723.97
MW-102A	748.82	24.63	724.19
MW-102B	749.15	24.92	724.23
MW-102C	749.20	24.92	724.28
MW-103A	747.71	NM ³	--
MW-103B	746.30	22.16	724.14
MW-103C	745.90	21.74	724.16
MW-104	746.51	22.42	724.09
MW-105	746.70	22.66	724.04
MW-108	747.17	23.25	723.92
MW-109	746.11	22.17	723.94
MW-110	745.79	21.77	724.02
MW-110A	743.89	NM	--
MW-111	745.96	22.04	723.92
MW-115A	748.07	24.00	724.07
MW-117A	743.72	20.08	723.64
MW-117B	743.75	20.09	723.66
MW-118A	747.02	23.50	723.52
MW-118B	746.86	23.43	723.43
MW-124A	747.22	23.50	723.72
MW-124B	747.15	23.43	723.72
MW-125	745.34	21.51	723.83
TMW-123	745.16	23.11	722.05
TMW-127	746.02	22.47	723.55
TMW-139	745.63	22.25	723.38
TMW-143	745.28	21.91	723.37
TMW-144	745.08	21.67	723.41
TMW-145	745.36	21.95	723.41
TMW-146	744.93	21.55	723.38
TMW-147	744.11	20.27	723.84
TMW-148	745.85	22.02	723.83
TMW-149	745.96	22.16	723.80
TMW-150	746.26	22.25	724.01
TMW-151	744.79	20.82	723.97
TMW-152	744.02	20.03	723.99
TMW 153	745.82	22.17	723.65
TMW 154	745.41	21.66	723.75
TMW 155	746.27	22.50	723.77
MW 156	746.88	23.22	723.66
TMW-157	747.37	23.42	723.95

¹ ft AMSL - feet above mean sea level² ft BTOC - feet below top of casing³ NM - Not measured

**SUMMARY OF WASTE CHARACTERIZATION ANALYTICAL DATA
FORMER FAIRFAX I SITE
KANSAS CITY, KANSAS**

Location Name:	SB-48	SB-49	SB-305
Sample Name:	SB48 13-15	SB49 13-15	SB305 4-6
Sample Date:	4/11/2012	4/11/2012	4/11/2012
Depth:	(13-15) ft BGS	(13-15) ft BGS	(4-6) ft BGS
	Units		

TCLP - Volatile Organic Compounds

1,1-Dichloroethene	ug/L	ND(0.05)	ND(0.5)	ND(0.05)
1,2-Dichloroethane	ug/L	ND(0.05)	ND(0.5)	ND(0.05)
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	ND(1)	ND(10)	ND(1)
Benzene	ug/L	ND(0.05)	ND(0.5)	ND(0.05)
Carbon tetrachloride	ug/L	ND(0.05)	ND(0.5)	ND(0.05)
Chlorobenzene	ug/L	ND(0.05)	ND(0.5)	ND(0.05)
Chloroform (Trichloromethane)	ug/L	ND(0.2)	ND(2)	ND(0.2)
Tetrachloroethene	ug/L	ND(0.05)	ND(0.5)	ND(0.05)
Trichloroethene	ug/L	ND(0.05)	ND(0.5)	ND(0.05)
Vinyl chloride	ug/L	ND(0.1)	ND(1)	ND(0.1)

TCLP - Semi-Volatile Organic Compounds

1,4-Dichlorobenzene	ug/L	ND(0.1)	ND(0.1)	ND(0.1)
2,4,5-Trichlorophenol	ug/L	ND(0.5)	ND(0.5)	ND(0.5)
2,4,6-Trichlorophenol	ug/L	ND(0.1)	ND(0.1)	ND(0.1)
2,4-Dinitrotoluene	ug/L	ND(0.1)	ND(0.1)	ND(0.1)
2-Methylphenol	ug/L	0.0592 J	ND(0.1)	ND(0.1)
3&4-Methylphenol	ug/L	ND(0.2)	ND(0.2)	ND(0.2)
Hexachlorobenzene	ug/L	ND(0.1)	ND(0.1)	ND(0.1)
Hexachlorobutadiene	ug/L	ND(0.1)	ND(0.1)	ND(0.1)
Hexachloroethane	ug/L	ND(0.1)	ND(0.1)	ND(0.1)
Nitrobenzene	ug/L	ND(0.1)	ND(0.1)	ND(0.1)
Pentachlorophenol	ug/L	ND(0.5)	ND(0.5)	ND(0.5)
Pyridine	ug/L	ND(0.1)	ND(0.1)	ND(0.1)

TCLP - Metals

Arsenic	mg/L	ND(0.50)	ND(0.50)	ND(0.50)
Barium	mg/L	1.4 J	1.7 J	1.3 J
Cadmium	mg/L	0.0065 J	0.0054 J	0.0049 J
Chromium	mg/L	ND(0.10)	ND(0.10)	ND(0.10)
Lead	mg/L	ND(0.50)	ND(0.50)	ND(0.50)
Mercury	ug/L	ND(0.002)	ND(0.002)	ND(0.002)
Selenium	mg/L	ND(0.50)	ND(0.50)	ND(0.50)
Silver	mg/L	ND(0.10)	ND(0.10)	ND(0.10)

PCBs

Aroclor-1016 (PCB-1016)	ug/kg	ND(0.0395)	ND(0.0428)	ND(0.0417)
Aroclor-1221 (PCB-1221)	ug/kg	ND(0.0789)	ND(0.0855)	ND(0.0835)
Aroclor-1232 (PCB-1232)	ug/kg	ND(0.0395)	ND(0.0428)	ND(0.0417)

**SUMMARY OF WASTE CHARACTERIZATION ANALYTICAL DATA
FORMER FAIRFAX I SITE
KANSAS CITY, KANSAS**

<i>Location Name:</i>		<i>SB-48</i>	<i>SB-49</i>	<i>SB-305</i>
<i>Sample Name:</i>		<i>SB48 13-15</i>	<i>SB49 13-15</i>	<i>SB305 4-6</i>
<i>Sample Date:</i>		<i>4/11/2012</i>	<i>4/11/2012</i>	<i>4/11/2012</i>
<i>Depth:</i>		<i>(13-15) ft BGS</i>	<i>(13-15) ft BGS</i>	<i>(4-6) ft BGS</i>
	<i>Units</i>			
PCBs				
Aroclor-1242 (PCB-1242)	ug/kg	ND(0.0395)	ND(0.0428)	ND(0.0417)
Aroclor-1248 (PCB-1248)	ug/kg	ND(0.0395)	ND(0.0428)	ND(0.0417)
Aroclor-1254 (PCB-1254)	ug/kg	ND(0.0395)	ND(0.0428)	ND(0.0417)
Aroclor-1260 (PCB-1260)	ug/kg	ND(0.0395)	ND(0.0428)	ND(0.0417)
TCLP - Pesticides				
(PCB 209) Decachlorobiphenyl	mg/L	0.00144	0.0012	0.00129
Chlordane	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Endrin	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
gamma-BHC (lindane)	mg/L	ND(0.0005)	ND(0.0005)	ND(0.0005)
Heptachlor	mg/L	ND(0.0005)	ND(0.0005)	ND(0.0005)
Heptachlor epoxide	mg/L	ND(0.0005)	ND(0.0005)	ND(0.0005)
Methoxychlor	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Tetrachloro-m-xylene	mg/L	0.00112	0.00106	0.00116
Toxaphene	mg/L	ND(0.02)	ND(0.02)	ND(0.02)
TCPL - Herbicides				
2,4,5-TP (Silvex)	mg/L	ND(0.02)	ND(0.02)	ND(0.02)
2,4-Dichlorophenoxyacetic acid (2,4-D)	mg/L	ND(0.02)	ND(0.02)	ND(0.02)
General Chemistry				
Flash point (closed cup)	Deg F	ND	ND	ND
Free liquid	none	ND	ND	ND
Percent moisture	%	18.3	24.3	22.2
pH (@ 25C)	s.u.	8.0	7.4	8.1
Reactive cyanide	mg/kg	ND(0.025)	ND(0.025)	ND(0.025)
Reactive sulfide	mg/kg	ND(100)	ND(100)	ND(100)

Notes:

TCLP - Analytical method used Toxicity Characteristic Leaching Procedure

ND () - Not present at or above the associated value

J - Estimated concentration

UJ - Estimated reporting limit

mg/kg - milligrams per kilogram

ug/kg - micrograms per kilogram

mg/L - milligrams per liter

ug/L - micrograms per liter

ft BGS - feet below ground surface

TABLE 11

**GROUNDWATER ANALYTICAL DATA - SURFACTANTS
FORMER FAIRFAX I SITE
KANSAS CITY, KANSAS**

<i>Location Name:</i>		<i>TMW-130</i>	<i>TMW-139</i>	<i>TMW-140</i>	<i>TMW-141</i>	<i>TMW-142</i>
<i>Sample Name:</i>		<i>GW-042612-JH-08</i>	<i>GW-042612-JH-10</i>	<i>GW-042612-JH-02</i>	<i>GW-042612-JH-06</i>	<i>GW-042612-JH-04</i>
<i>Sample Date:</i>		<i>4/26/2012</i>	<i>4/26/2012</i>	<i>4/26/2012</i>	<i>4/26/2012</i>	<i>4/26/2012</i>
	<i>Units</i>					
<i>Parameter</i>						
Surfactants	mg/L	0.36	1.0	0.57	0.80	0.38

Notes:
mg/L - milligrams per liter

ATTACHMENT A

GEOTECHNICAL ANALYTICAL DATA

May 24, 2012

Phil Harvey
Conestoga-Rovers & Associates
8615 W. Bryn Mawr
Chicago, IL 60631

RE: Project: FAIRFAX I
Pace Project No.: 60119881

Dear Phil Harvey:

Enclosed are the analytical results for sample(s) received by the laboratory on April 19, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Some analyses have been subcontracted outside of the Pace Network. The subcontracted laboratory report has been attached.

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

Sincerely,



Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: Travis Kogl, Conestoga-Rovers & Associates



REPORT OF LABORATORY ANALYSIS

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Page 1 of 3

SAMPLE SUMMARY

Project: FAIRFAX I

Pace Project No.: 60119881

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60119881001	SB-306 18-20	Solid	04/19/12 09:00	04/19/12 11:40
60119881002	SB-307 18-20	Solid	04/19/12 10:00	04/19/12 11:40

REPORT OF LABORATORY ANALYSIS

Page 2 of 3

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PROJECT NARRATIVE

Project:

Pace Project No.:

Method:

Description:

Client:

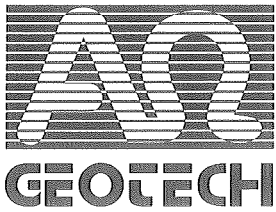
Date:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

Page 3 of 3

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May 23, 2012

Ms. Angie Brown
Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, Kansas 66219

Fax # (913) 599-1759 (7 Pages)

GM Fairfax, #60119881, SUB-6285; (A-OG Project #12-219T)

Dear Ms. Brown:

We have completed our laboratory testing services for your above-referenced project.

The detailed results of these tests are enclosed. As you directed, these testing services were provided in accordance with test methods that you specified.

If you have any questions regarding this information or require any further testing, please contact me at your convenience. We enjoy doing business with you.

Sincerely,
ALPHA-OMEGA GEOTECH, INC.

A handwritten signature in black ink, reading 'Thomas J. Burdick', with a stylized flourish at the end.

Thomas J. Burdick
Laboratory Manager

Enclosures

Alpha-Omega Geotech, Inc.
1701 State Avenue
Kansas City, Kansas 66102
Phone (913) 371-0000
Fax (913) 371-6710
www.aogeotech.com

Chain of Custody

12-219T



Workorder: 60119881

Workorder Name: GM FAIRFAX

Results Requested 5/3/2012

Report/Invoice To

Subcontract To

Angie Brown
Pace Analytical Kansas
9608 Loiret Blvd.
Lenexa, KS 66219
Phone (913)599-5665
Email: Angie.Brown@pacelabs.com

P.O. SUB-6285

Preserved Containers

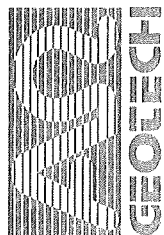
Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Grain Size/Hydrometer ASTM D422	Atterberg Limits ASTM D4318	Porosity as Dry Bulk Density/Moisture & Specific Gravity	LAB USE ONLY
1	SB-306 (18-20)	4/19/2012 09:00	60119881001	Solid	X	X	X	
2	SB-307 (18-20)	4/19/2012 10:00	60119881002	Solid	X	X	X	
3								
4								
5								

Comments

Transfers	Released By	Date/Time	Received By	Date/Time
1	<i>[Signature]</i>	4/25/12 0905	<i>Norman L. L. L.</i>	4/25/12
2				
3				

Cooler Temperature on Receipt	°C	Custody Seal	Y or N	Received on Ice	Y or N	Samples Intact	Y or N

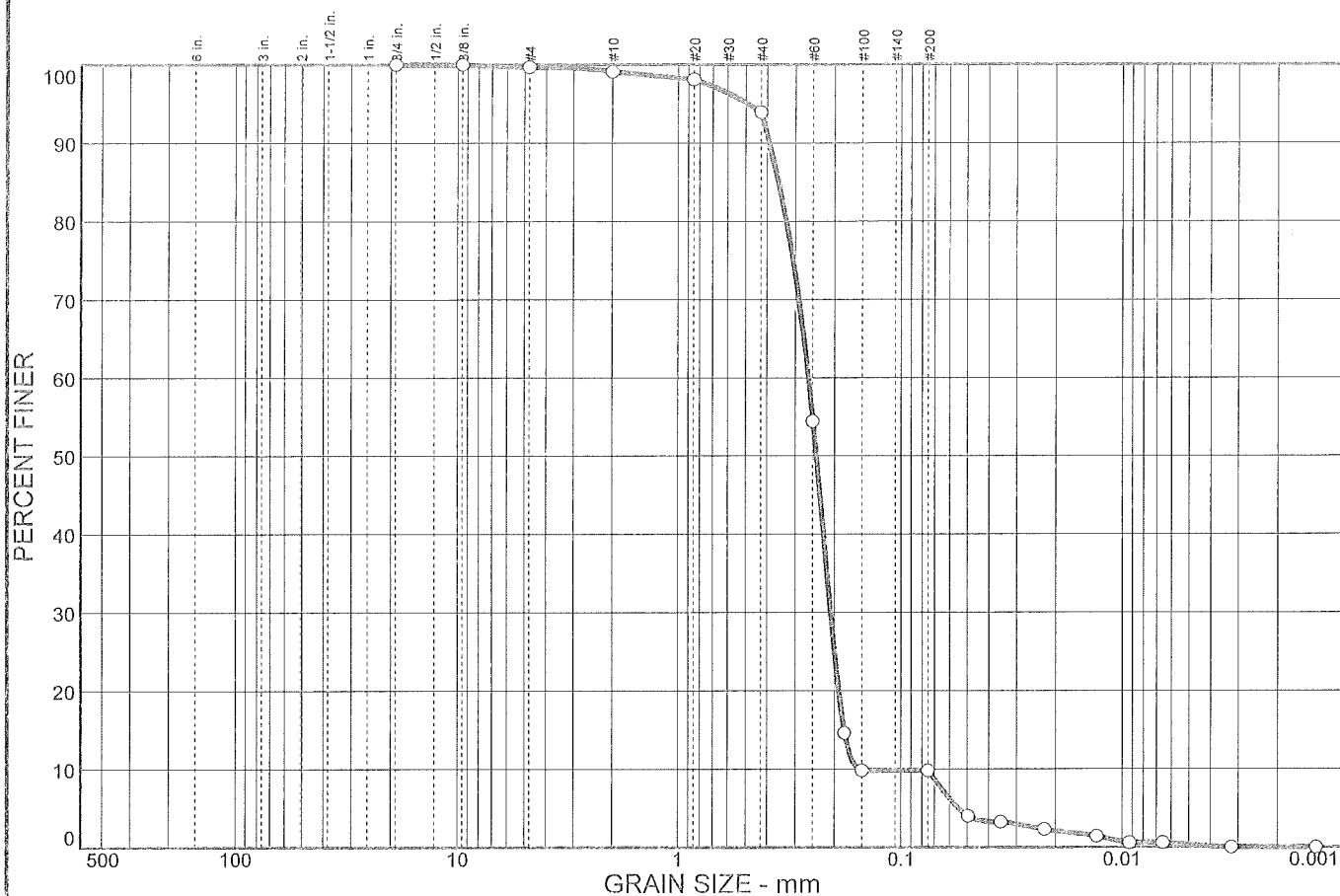
Website: www.aogeootech.com



05/14/12

Pace Package 6 of 12

ASTM D422



% COBBLES	% GRAVEL		% SAND			% FINES	
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT	CLAY
0.0	0.0	0.3	0.6	5.2	84.1	9.5	0.3

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.75 in.	100.0		
.375 in.	100.0		
#4	99.7		
#10	99.1		
#20	98.1		
#40	93.9		
#60	54.4		
#80	14.6		
#100	9.8		
#200	9.8		

Material Description
Poorly graded sand with silt

Atterberg Limits
 PL= NP LL= NV PI= NP

Coefficients
 D₈₅= 0.357 D₆₀= 0.262 D₅₀= 0.242
 D₃₀= 0.209 D₁₅= 0.181 D₁₀= 0.156
 C_u= 1.68 C_c= 1.07

Classification
 USCS= SP-SM AASHTO=

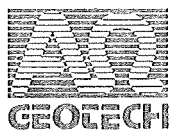
Remarks

* (no specification provided)

Sample No.: SB-306
Location:

Source of Sample:

Date: 4/30/2012
Elev./Depth: 18' - 20'



**Alpha-Omega
Geotech, Inc.**

Client: Pace Analytical
Project: GM Fairfax, #60119881, SUB-6285

Project No: 12-219T

Figure 1 of 1

Alpha-Omega Geotech, Inc.

1701 State Avenue
Kansas City, KS 66102
(913) 371-0000 FAX: (913) 371-6710

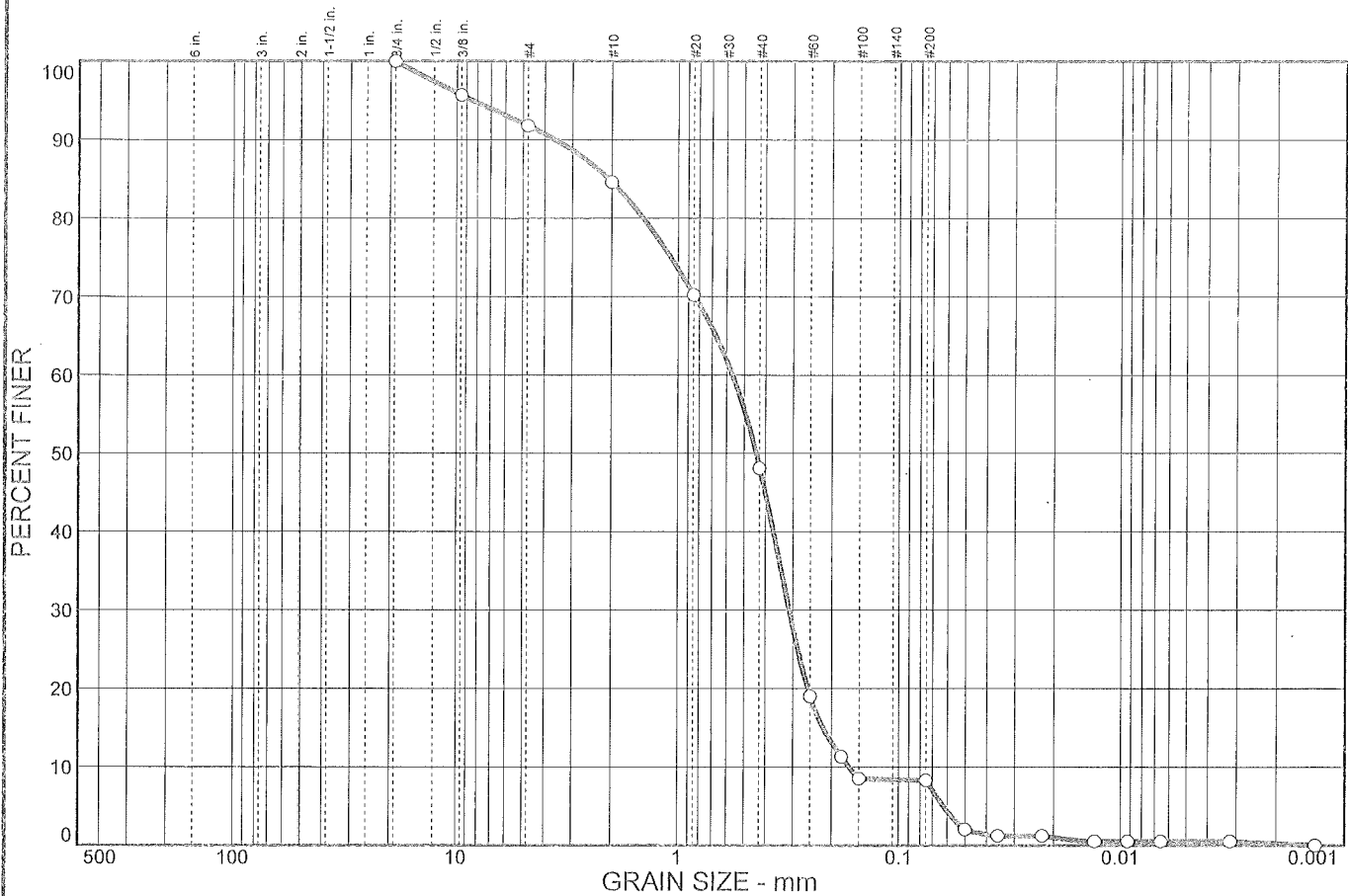
SPECIFIC GRAVITY OF SOLIDS ASTM D854

Project Name: GM Fairfax, #60119881, SUB-6285 Project No.: 12-219T
Sample Number: SB-307 Date: 5/10/2012
Soil Description: Poorly graded sand with silt Depth: 18' - 20'
Tested by: T.B.

Specimen Number:	1			
Flask Number:	E			
Temp, water + soil, T, Celcius	20°			
Dish No.	#30			
Dish + Dry Soil, g	358.83			
Dish, g	253.97			
Dry Soil, g (Ws)	104.86			
Flask + water at T, g (Wbw)	664.35			
Ws + Wbw, g	769.21			
Flask + water + immersed soil, g (Wbwe)	729.73			
Displaced water, Ws + Wbw - Wbwe	39.48			
Correction Factor, K	1.0000			
(WsK) / (Ws + Wbw - Wbwe) = Gs	2.66			

Remarks: Test performed on material passing the #4 sieve.

ASTM D422



% COBBLES	% GRAVEL		% SAND			% FINES	
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT	CLAY
0.0	0.0	8.2	7.2	36.5	39.8	7.8	0.5

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.75 in.	100.0		
.375 in.	95.7		
#4	91.8		
#10	84.6		
#20	70.2		
#40	48.1		
#60	19.0		
#80	11.3		
#100	8.5		
#200	8.3		

* (no specification provided)

Material Description
 Poorly graded sand with silt

Atterberg Limits
 PL= NP LL= NV PI= NP

Coefficients
 D₈₅= 2.07 D₆₀= 0.566 D₅₀= 0.441
 D₃₀= 0.312 D₁₅= 0.219 D₁₀= 0.167
 C_u= 3.39 C_c= 1.03

Classification
 USCS= SP-SM AASHTO=

Remarks

Sample No.: SB-307
Location:

Source of Sample:

Date: 4/30/2012
Elev./Depth: 18' - 20'



**Alpha-Omega
Geotech, Inc.**

Client: Pace Analytical
Project: GM Fairfax, #60119881, SUB-6285

Project No: 12-219T

Figure 1 of 1

Alpha-Omega Geotech, Inc.

1701 State Avenue
Kansas City, KS 66102
(913) 371-0000 FAX: (913) 371-6710

SPECIFIC GRAVITY OF SOLIDS ASTM D854

Project Name: GM Fairfax, #60119881, SUB-6285 Project No.: 12-219T
Sample Number: SB-306 Date: 5/10/2012
Soil Description: Poorly graded sand with silt Depth: 18' - 20'
Tested by: T.B.

Specimen Number:	1			
Flask Number:	F			
Temp, water + soil, T, Celcius	20°			
Dish No.	#16			
Dish + Dry Soil, g	344.06			
Dish, g	254.42			
Dry Soil, g (Ws)	89.64			
Flask + water at T, g (Wbw)	661.64			
Ws + Wbw, g	751.28			
Flask + water + immersed soil, g (Wbwe)	717.52			
Displaced water, Ws + Wbw - Wbwe	33.76			
Correction Factor, K	1.0000			
$(WsK) / (Ws + Wbw - Wbwe) = Gs$	2.66			

Remarks: Test performed on material passing the #4 sieve.

5892-3



Sample Condition Upon Receipt

Client Name: Conestoga - Rovers ? Associates Project # 6069881

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☒ Client ☐ Commercial ☐ Pace ☐ Other

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

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

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

Thermometer Used: T-192 / T-194

Type of Ice: Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature: 31.3

Temperature should be above freezing to 6°C

Comments:

Date and Initials of person examining contents: 4/19

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

Client Notification/ Resolution:

Copy COC to Client?

Y / N

Field Data Required?

Y / N

Person Contacted: _____

Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____

Date: 4/21

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

ATTACHMENT B

TOTAL ORGANIC CARBON DATA