



**CONESTOGA-ROVERS
& ASSOCIATES**

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February 5, 2008

Reference No. 012559

Ms. Laura C. Price
Voluntary Cleanup Unit/Remedial Section
Bureau of Environmental Remediation
Kansas Department of Health & Environment
1000 SW Jackson Street, Suite 410
Topeka, Kansas 66612-1367

Dear Ms. Price:

Re: Work Plan Addendum – TMW-130 Area LNAPL Investigation
Former General Motors Fairfax I Plant Site
Kansas City, Kansas

On behalf of General Motors (GM), Conestoga-Rovers & Associates (CRA) has prepared this addendum to the June 2007 "LNAPL Investigation Work Plan - TMW-130 Area" report for the Former General Motors Fairfax I Plant (Site) in Kansas City, Kansas.

Part II of the June 2007 Work Plan focused on addressing the presence and distribution of light non-aqueous phase liquid (LNAPL) in the vicinity of monitoring well TMW-130. As such, the work completed in this stage has been focused on determining the presence of a separate phase of petroleum hydrocarbons in soil and in groundwater.

Current Status

In October 2007, CRA supervised the completion of 24 soil borings in the TMW-130 area. Of these, eight were completed as temporary monitoring wells. The locations were surveyed by a professional land surveyor and are depicted on the attached Figure 1. The borings were continuously sampled and soil conditions (physical characteristics, photoionization detector (PID) readings, and visual oil/petroleum impacts) were logged by a CRA geologist. Review of the boring logs indicates that the geology consists of silts and clayey soils in the upper 7 to approximately 16 feet at each boring location. This layer is underlain by fine-grained sand. Boring logs will be provided to the Kansas Department of Health and Environment (KDHE) in the forthcoming Remedial Action Plan (RAP), tentatively scheduled to be submitted in March 2008.

Several rounds of fluid level measurements were recorded in the eight new temporary wells and existing temporary well TMW-130 between October 23, 2007 and December 3, 2007 (Table 1). The results indicate that the depth to water or depth to LNAPL ranged from approximately 20.5 to 23.5 feet below grade, which falls within the fine-grained sand layer. Five of the eight temporary wells (TMW-130, -139, -140, -141, and -142) had measurable in-well

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light excites two- or three-ring aromatic compounds, or polycyclic aromatic hydrocarbons (PAHs), in the soil adjacent to the sapphire window, causing them to fluoresce. The relative response of the sensor depends on the specific analyte being measured because of the varying ratios of PAHs in each LNAPL type. The induced fluorescence from the PAHs is returned over a second fiber to the surface where it is quantified using a detector system. The peak wavelength and intensity provide information about petroleum product type or potential interferences. The intensity of the fluorescence is used as an indicator of the relative presence of LNAPL.¹

CRA has contracted Matrix Environmental LLC to perform a site investigation using their ultraviolet optical screening tool (UVOST) system to investigate the presence of LNAPL at the TMW-130 LNAPL area of the former GM Fairfax project site. Approximately 20 to 30 test borings using the LIF tipped drill will be completed within the approximate extent of observed LNAPL around the TMW-130 area. The borings will be completed in the gridded area as depicted on Figure 2, to delineate the extent of LNAPL laterally and vertically. The final number of LIF data points will depend on the conditions encountered over the three scheduled drilling days.

Conclusion

Upon completion of the LIF investigation, GM will evaluate the data collected previously in the TMW-130 LNAPL area along with the newer LIF data to better understand Site conditions. Based upon these evaluations GM will proceed with preparation of a Remedial Action Plan (RAP) to address the LNAPL in the TMW-130 area. The RAP will contain detailed results of previous work and supporting documentation for the activities described in this work plan addendum. The RAP will also address the potential need for dissolved phase sampling at existing or at additional proposed monitoring wells.

Tentative Schedule

<i>February 5-7, 2008</i>	On-site LIF Investigation
<i>February, 2008</i>	Data Evaluation, Remedial Alternative Review and Selection
<i>March 14, 2008</i>	RAP Submittal to KDHE

¹ For more information, refer to <http://www.clu-in.org/char/technologies/lif.cfm>.



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Should you have any questions on the above, please do not hesitate to contact Ken Richards on behalf of GM at 248-753-5912 or me at 773-380-9933.

Yours truly,

CONESTOGA-ROVERS & ASSOCIATES

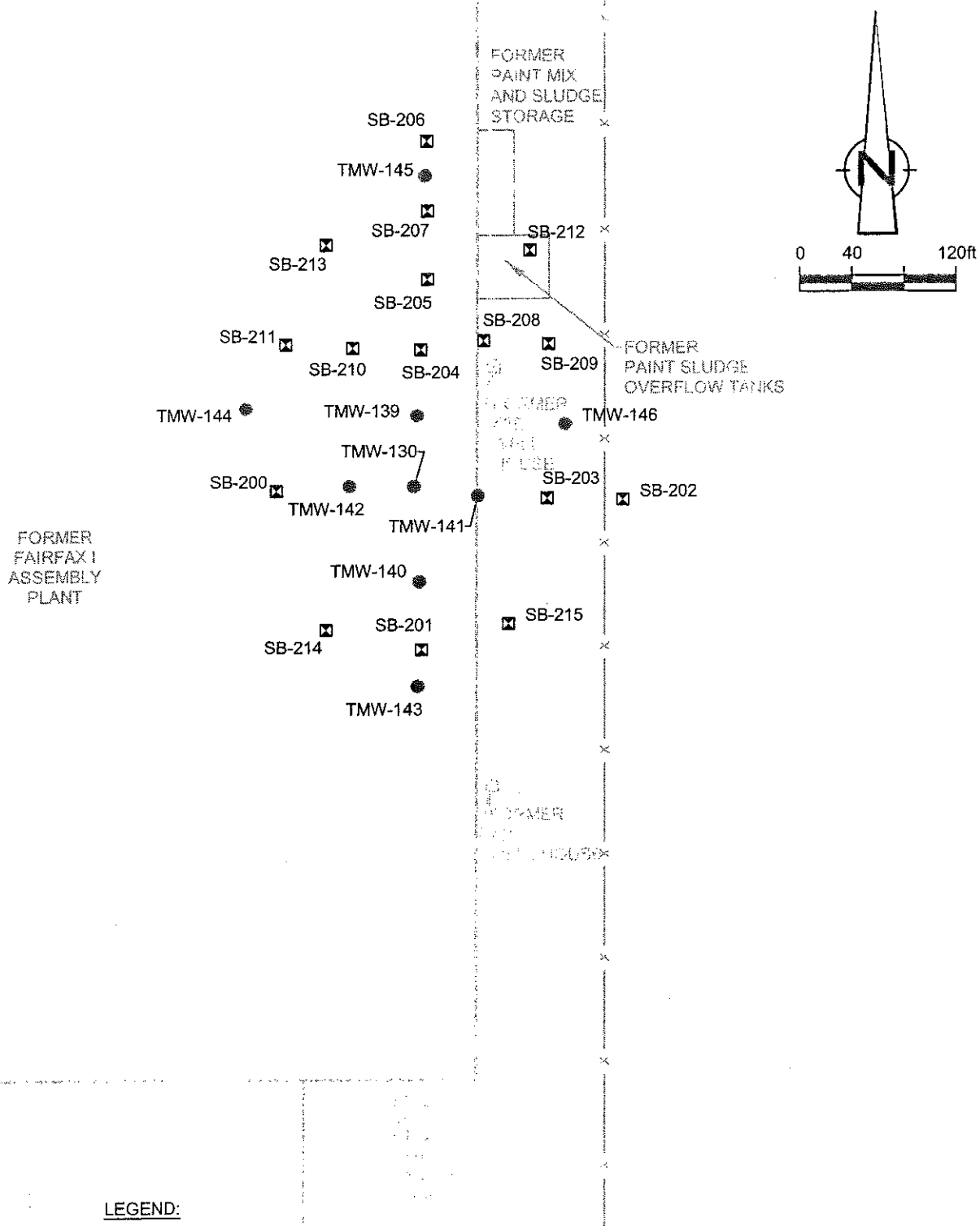
Phil Harvey

Phil Harvey

PH/ko/13

Encl.

cc: Ken Richards, PhD



LEGEND:

- TMW-130 ● TEMPORARY MONITORING WELL LOCATION AND IDENTIFIER
- SB-201 ☒ SOIL BORING LOCATION AND IDENTIFIER

figure 1

TMW-130 LNAPL INVESTIGATION AREA
FORMER FAIRFAX I PLANT
Kansas City, Kansas



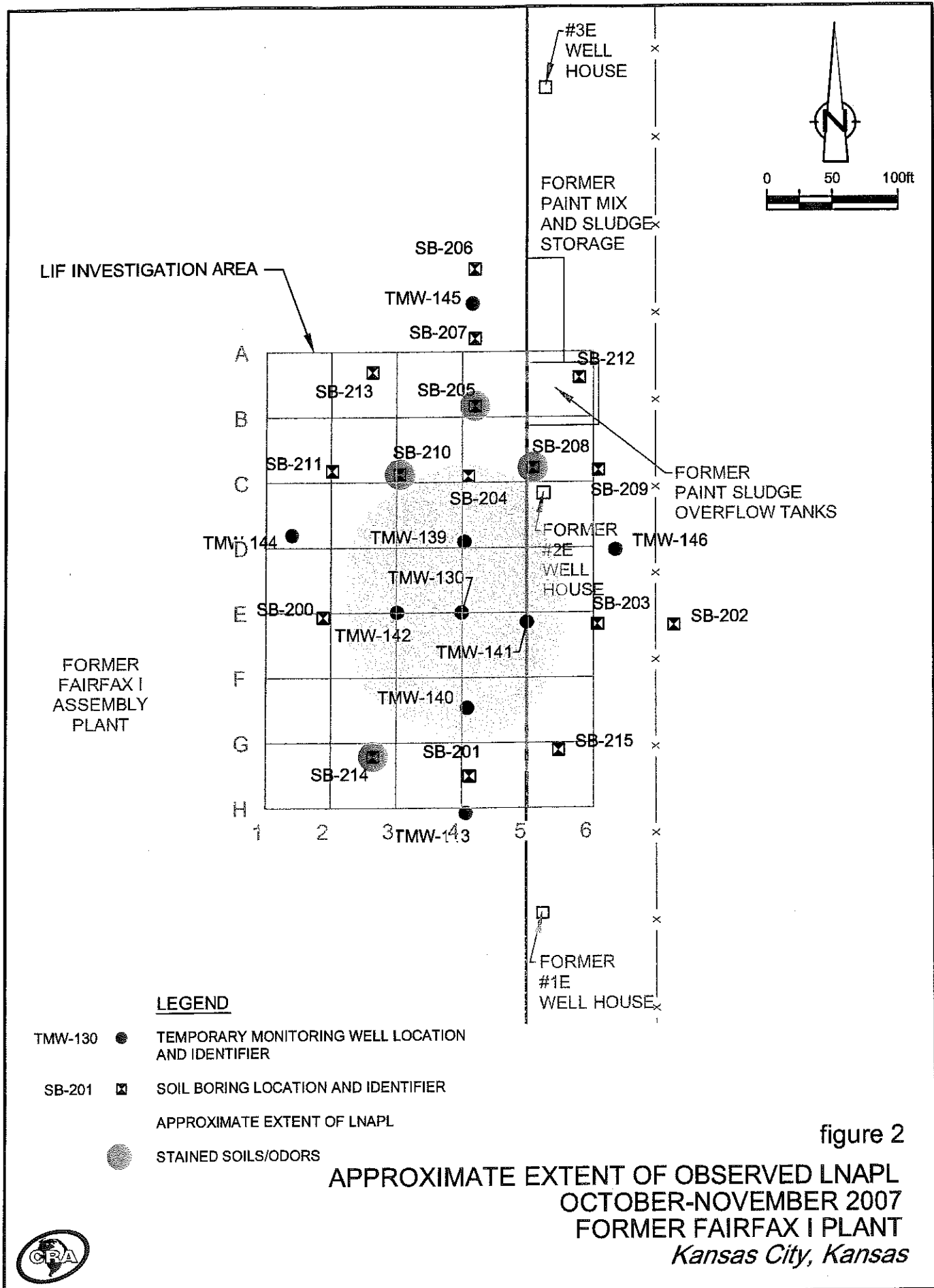


figure 2

TABLE 1

FLUID LEVEL GAUGING
FORMER FAIRFAX I PLANT
KANSAS CITY, KANSAS

Well ID	Top of Casing Elevation (ft AMSL) ¹	10/23/2007			11/1/2007			11/7/2007		
		Depth to Water (ft BTOC) ²	Depth to LNAPL ³ (ft BTOC)	Groundwater Elevation (ft AMSL)	Depth to Water (ft BTOC)	Depth to LNAPL (ft BTOC)	Groundwater Elevation (ft AMSL)	Depth to Water (ft BTOC)	Depth to LNAPL (ft BTOC)	Groundwater Elevation (ft AMSL)
TMW-130	744.86	23.17	23.14	721.69	22.49	trace	722.37	22.78	22.76	722.08
TMW-139	745.63	23.94	--	721.69	23.30	trace	722.33	23.61	--	722.02
TMW-140	745.13	23.65	23.60	721.48	23.72	22.79	721.41	24.09	23.04	721.04
TMW-141	745.39	23.80	--	721.59	23.09	trace	722.30	23.38	sheen	722.01
TMW-142	744.93	23.30	--	721.63	22.60	trace	722.33	23.79	22.86	721.14
TMW-143	745.28	^{4.00}	--	--	23.04	--	722.24	23.31	--	721.97
TMW-144	745.08	NI	--	--	22.71	--	722.37	23.10	--	721.98
TMW-145	745.36	NI	--	--	22.95	--	722.41	23.39	--	721.97
TMW-146	744.93	NI	--	--	22.63	--	722.30	22.94	--	721.99

TABLE 1

FLUID LEVEL GAUGING
FORMER FAIRFAX I PLANT
KANSAS CITY, KANSAS

Well ID	Top of Casing Elevation (ft AMSL) ¹	11/13/2007			11/20/2007			11/29/2007		
		Depth to	Groundwater	Elevation (ft AMSL)	Depth to	Groundwater	Elevation (ft AMSL)	Depth to	Groundwater	Elevation (ft AMSL)
		Water (ft BTOC)	LNAPL (ft BTOC)		Water (ft BTOC)	LNAPL (ft BTOC)		Water (ft BTOC)	LNAPL (ft BTOC)	
TMW-130	744.86	23.21	23.19	721.65	23.78	23.77	721.08	25.54	--	719.32
TMW-139	745.63	24.06	24.05	721.57	24.70	24.64	720.93	25.49	25.40	720.14
TMW-140	745.13	24.45	23.43	720.68	25.32	23.95	719.81	26.52	24.68	718.61
TMW-141	745.39	23.81	23.77	721.58	24.41	24.33	720.98	26.10	25.01	719.29
TMW-142	744.93	24.16	23.26	720.77	24.15	23.88	720.78	24.78	24.71	720.15
TMW-143	745.28	23.64	--	721.64	24.25	--	721.03	24.96	--	720.32
TMW-144	745.08	23.50	--	721.58	24.12	--	720.96	25.90	--	719.18
TMW-145	745.36	23.83	--	721.53	24.50	--	720.86	25.33	--	720.03
TMW-146	744.93	23.36	--	721.57	23.94	--	720.99	24.71	--	720.22

TABLE 1

FLUID LEVEL GAUGING
FORMER FAIRFAX I PLANT
KANSAS CITY, KANSAS

Well ID	Top of Casing Elevation (ft AMSL) ¹	12/3/2007		
		Depth to Water (ft BIOC)	Depth to LNAPL (ft BIOC)	Groundwater Elevation (ft AMSL)
TMW-130	744.86	24.80	24.79	720.06
TMW-139	745.63	25.68	--	719.95
TMW-140	745.13	25.45	25.06	719.68
TMW-141	745.39	25.47	25.36	719.92
TMW-142	744.93	24.97	24.95	719.96
TMW-143	745.28	25.21	--	720.07
TMW-144	745.08	25.16	--	719.92
TMW-145	745.36	25.55	--	719.81
TMW-146	744.93	24.97	--	719.96

¹ AMSL - above mean sea level² BIOC - below top of casing³ LNAPL - light non-aqueous phase liquid⁴ NI - not installed at this time