

September 7, 2006

Reference No. 012559-53

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

Dear Ms. Price:

Re: Addendum to Supplemental Confirmation Sampling Work Plan
Voluntary Cleanup Investigation
Former GM Fairfax I Plant Site
Kansas City, Kansas

This letter is in response to Kansas Department of Health & Environment (KDHE) letter of August 8, 2006 (KDHE correspondence) to General Motors Corporation (GM). In this letter, KDHE requested the following:

- Collection of additional soil and groundwater samples at the former GM Fairfax I Assembly Plant building;
- Collection of additional soil and groundwater samples on the Tract 2 parcel.
- Additional soil delineation and the installation of a monitoring well in the vicinity of soil boring SB-110; and
- Installation of a monitoring well cluster northeast of MW-105.

In response to the KDHE request that a supplemental investigation be conducted, GM has agreed to perform the above requested investigative activities.

The Addendum to the Supplemental Confirmation Sampling Work Plan (work plan) is divided into the four tasks as listed below. A summary of the proposed tasks is also provided in Table 1.

1.0 TASK DESCRIPTIONS

Task 1 – Former Fairfax I Assembly Plant Building Investigation

A total of ten (10) soil borings will be advanced at the location of the former assembly plant building to approximately 35 feet below ground surface (ft bgs). Soil samples will be collected from these soil boring locations and analyzed for target compound list volatile organic compounds (TCL-VOCs), TCL semivolatile organic compounds (TCL-SVOCs), and target analyte list metals (TAL-Metals). A temporary monitoring well, screened from approximately 25 to 35 ft bgs, will be installed in each soil boring. Following installation, the temporary

monitoring wells will be developed. Groundwater samples will be collected from the temporary monitoring wells and analyzed for TCL-VOCs, TCL-SVOCs, and TAL-Metals (total analysis only).

Field protocols are provided in Section 2. Proposed soil boring/temporary monitoring well locations are provided on Figure 1.

Task 2 – Tract 2 Investigation

A total of six (6) soil borings will be advanced on the Tract 2 parcel to approximately 35 ft bgs. Soil samples will be collected from these soil boring locations and analyzed for TCL-VOCs, TCL-SVOCs, and TAL-Metals. A temporary monitoring well, screened from approximately 25 to 35 ft bgs, will be installed in each soil boring. Following installation, the temporary monitoring wells will be developed. Groundwater samples will be collected from the temporary monitoring wells and analyzed for TCL-VOCs, TCL-SVOCs, and TAL-Metals.

Field protocols are provided in Section 2. Proposed soil boring/temporary monitoring well locations are provided on Figure 1.

Task 3 – SB-110 Investigation

KDHE correspondence requested additional tetrachloroethene (PCE) delineation to the north and east of soil boring SB-110. During the December 2004 soil boring activities, soil boring SB-109 was advanced to the north of SB-110. The PCE concentration in the 10-12 foot sample interval at SB-109 was less than the laboratory detection limit (0.0065 milligrams per kilogram (mg/kg)). In a conversation between Phil Harvey (CRA) and Laura Price (KDHE) on September 1, 2006, the KDHE agreed that the PCE concentration at SB-109 provides sufficient delineation of PCE north of SB-110. Additional PCE delineation in soil to the north of SB-110 is not planned at this time. PCE analytical results from SB-109 were provided to the KDHE in CRA correspondence dated April 2005.

One (1) soil boring will be advanced east of soil borings SB-110 and SB-119 to approximately 12 ft bgs. A soil sample will be collected from approximately 10-12 ft bgs and analyzed for PCE.

One (1) temporary monitoring well will be installed to approximately 35 ft bgs in the vicinity of soil boring SB-110. The temporary well will be screened from approximately 25 to 35 ft bgs. Following installation, the temporary monitoring well will be developed. A groundwater sample will be collected from the temporary monitoring well and analyzed for PCE.

Field protocols are provided in Section 2. Proposed soil boring and monitoring well locations in the vicinity of SB-110 are provided on Figure 2.

Task 4 – Groundwater Investigation near MW-105

A monitoring well cluster will be installed northeast (downgradient¹) of monitoring well MW-105 to approximately 35 ft bgs and 60 ft bgs respectively. The shallow monitoring well will be screened from approximately 25 to 35 ft bgs and the intermediate well will be screened from approximately 50 to 60 ft bgs, similar as completed in recent studies at the Site. Following installation, the newly installed monitoring wells will be developed. Groundwater samples will be collected from each of the newly installed monitoring wells and analyzed for TCL-VOCs.

Field protocols are provided in Section 2. The proposed nested monitoring well location is provided on Figure 1.

2.0 FIELD PROTOCOLS

A CRA geologist will direct drilling, direct push, and sampling procedures, evaluate the geologic data, and oversee installation and development of the temporary and permanent monitoring wells.

2.1 SOIL AND GROUNDWATER SAMPLING

The soil and groundwater sampling portion of investigation work will be conducted in accordance with the protocols detailed in GM's Pre-Design Investigations Work Plan prepared by CRA and submitted to the KDHE in August 2001. The KDHE provided comment on the August 2001 Pre-Design Investigations Work Plan in correspondence dated July 23, 2002. The soil sample collection interval will be determined by a combination of photo-ionization detector (PID) headspace readings or visual observations.

All soil and groundwater samples will be placed on ice and shipped to Severn Trent Laboratories (STL) under standard chain-of-custody procedures.

**2.2 PERMANENT AND TEMPORARY
MONITORING WELL INSTALLATION AND CONSTRUCTION****Permanent Monitoring Wells**

Monitoring wells will be installed using a hollow stem auger (HSA) drill rig with 4.25-inch inside diameter augers.

Monitoring wells will be constructed of nominal 2-inch diameter, polyvinyl chloride (PVC) screens (No. 10-slot), and nominal 2-inch diameter schedule 40 PVC riser pipe. The monitoring wells will be installed through the hollow stem of the augers. During monitoring well

¹ Based on groundwater flow towards the Missouri River

construction, the riser pipe will be capped temporarily to prevent the entrance of foreign materials into the well.

Silica sand will be placed in the annulus between the augers and the riser pipe to a height of at least 2 vertical feet above the top of the well screen as the augers are withdrawn from the borehole. If bridging of the silica sand occurs, the bridged material will be broken mechanically prior to proceeding with the addition of more silica sand.

A bentonite chip or pellet seal measuring a minimum of 2 vertical feet will be installed above the silica sand, using a tremie pipe if necessary. In lieu of chips or pellets, pure bentonite slurry may be used for the seal. If chips or pellets are used, sufficient time will be allowed for the bentonite seal to hydrate prior to grouting the remaining annulus.

The remainder of the annulus will be filled with a cement bentonite mixture to within 2 feet of the ground surface. Once the grout has set, the remaining portion of the unfilled annulus will be filled with concrete. An above ground protective steel casing will be installed at each location. Monitoring wells will be secured using a lock on the protective casing. The well casing will be capped with either a screw on cap or with an expandable locking cap.

Temporary Monitoring Wells

Temporary monitoring wells will be installed using a HSA drill rig with between 2.5 and 4.25-inch inside diameter augers. The temporary wells will be constructed of nominal 2-inch diameter, PVC screens (No. 10-slot), and nominal 2-inch diameter schedule 40 PVC riser pipe. The temporary wells will be installed through the hollow stem of the augers. During construction, the riser pipe will be capped temporarily to prevent the entrance of foreign materials into the well.

The subsurface soils will be allowed to collapse within the borehole to near grade surface. Bentonite will be used to complete the well to grade.

The PVC riser at each temporary monitoring well location will be completed above grade. The well casing will be capped with either a screw on cap or with an expandable locking cap. The temporary monitoring wells will be abandoned after the required groundwater samples are obtained from these locations.

2.3 MONITORING WELL DEVELOPMENT

The newly installed wells (permanent and temporary) will be developed to minimize the presence of fine grained, suspended sediment and to ensure optimum communication between the well and the screened formation. Development will consist of surging and pumping the well.

During monitoring well development the temperature, pH, and conductivity of the groundwater will be monitored to confirm stabilization of groundwater within the screened formation. These stabilization parameters will be monitored at selected intervals throughout development depending upon the anticipated volume of water to be removed from each well. In general, these parameters are measured every 2 to 4 well volumes in high yielding wells. However, in lower yielding monitoring wells, stabilization parameters will be monitored for every well volume removed.

Monitoring well development will continue until the turbidity has been minimized and three consecutive and consistent readings of pH, conductivity, and temperature are obtained. In the event that this cannot be achieved, well development will continue until turbidity is minimized or until a maximum of ten well volumes have been removed.

2.4 SURVEYING

The horizontal locations of the proposed soil boring, temporary monitoring well, and permanent monitoring well locations will be surveyed and referenced to the GM Plant Grid Coordinate System. The top of casing elevations of the newly installed permanent monitoring wells will also be surveyed.

3.0 SUMMARY

Ten (10) soil borings, including temporary monitoring wells, will be advanced at the location of the former Assembly Plant building to determine VOCs, SVOCs, and TAL Metals concentrations in the soil and groundwater.

Six (6) soil borings, including temporary monitoring wells, will be advanced on the Tract 2 parcel to determine VOCs, SVOCs, and TAL Metals concentrations in the soil and groundwater.

One (1) soil boring will be advanced east of soil borings SB-110 and SB-119, and one (1) permanent monitoring well will be installed in the vicinity of soil boring SB-110. The purpose of these activities is to delineate PCE impact in soil and to determine the PCE concentrations within the groundwater in the vicinity of SB-110.

A permanent monitoring well cluster (shallow and intermediate) will be installed northeast (downgradient²) of MW-105 to determine VOCs concentrations in the groundwater. Both of these wells will be sampled for VOCs to verify that contaminated groundwater is not migrating off Site at above KDHE RSK standards.

² Based on groundwater flow towards the Missouri River

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The work plan will be implemented within 2 weeks of your concurrence with the proposed activities. The proposed activities are scheduled to be completed by the end of 2006. Upon completion of the proposed activities a letter report, summarizing the studies completed as part of this work plan will be submitted to the KDHE.

If you have any questions regarding this submittal, please do not hesitate to call me.

Yours truly,

CONESTOGA-ROVERS & ASSOCIATES

Phil Harvey

PH/ko/2
Attachments

c.c.: Ken Richards, GM
Kevin Brown, GM

TABLE 1

TASK SUMMARY
ADDENDUM TO SUPPLEMENTAL CONFIRMATION SAMPLING WORK PLAN
FORMER GM FAIRFAX I PLANT SITE
KANSAS CITY, KANSAS

Task	Location	Proposed Activities	Laboratory Analyses
Task 1	Former Fairfax I Assembly Plant Building Investigation	<i>Advance 10 HSA soil borings to 35' bgs.</i> <i>Install 10 temporary monitoring wells (2-inch)</i> <i>Develop 10 temporary monitoring wells</i> <i>Survey 10 temporary monitoring well locations (horizontal)</i> <i>Collect groundwater samples from 10 temporary monitoring wells</i>	<i>10 soil samples for VOCs, SVOCs, & TAL Metals (total analysis only)</i> <i>10 groundwater samples for VOCs, SVOCs, & TAL Metals (total analysis only)</i>
Task 2	Tract 2 Investigation	<i>Advance 6 soil borings to approximately 35 feet bgs. Install 6 temporary monitoring wells (2-inch)</i> <i>Develop 6 temporary monitoring wells</i> <i>Survey 6 temporary monitoring wells (horizontal)</i> <i>Collect groundwater samples from 6 temporary monitoring wells</i>	<i>6 soil samples for VOCs, SVOCs, & TAL Metals (total analysis only)</i> <i>6 groundwater samples for VOCs, SVOCs, & TAL Metals (total analysis only)</i>
Task 3	SB-110 Investigation	<i>Advance 1 soil boring to 12 feet bgs, east of SB-110</i> <i>Install 1 temporary monitoring well (2-inch) to 35 feet bgs near SB-110.</i> <i>Develop 1 temporary monitoring well near SB-110</i> <i>Survey 1 soil boring (horizontal) and 1 temporary monitoring well location (horizontal)</i> <i>Collect groundwater sample from temporary monitoring well near SB-110.</i>	<i>1 soil sample for PCE</i> <i>1 groundwater sample for PCE</i>
Task 4	Groundwater Investigation near MW-105	<i>Install 2 monitoring wells (2-inch) to 35' bgs and 60' bgs respectively</i> <i>Develop 2 monitoring wells</i> <i>Survey 2 monitoring wells (vertical and horizontal)</i> <i>Collect groundwater samples from 2 monitoring wells</i>	<i>2 groundwater samples for VOCs</i>