



**Revitalizing Auto Communities
Environmental Response Trust**

Ms. Michelle Kaysen
U.S. Environmental Protection Agency, Region 5
Waste Management Division
77 West Jackson Blvd., DE-9J
Chicago, IL 60604-3590

January 15, 2016

RE: Fourth Quarter 2015 Progress Report
RCRA Corrective Action
Former GM Delco Plant 5, Kokomo, IN
USEPA ID No. IND000806844

Dear Ms. Kaysen:

In accordance with the Performance-based Administrative Order on Consent between the U.S. Environmental Protection Agency Region 5 (USEPA) and Revitalizing Auto Communities Environmental Response (RACER) Trust, please find the attached progress report for the fourth quarter of 2015. This progress report details activities that have been completed at the RACER Trust owned Former GM Delco Plant 5 in Kokomo, Indiana (Site) from October 1, 2015 through December 31, 2015.

Please let me know if you have any questions about the report.

Sincerely,

Robert W. Hare, P.E., CHMM
Cleanup Manager – (IL, IN, KS, MO, NJ, WI)

Attachment A – Fourth Quarter 2015 Progress Report

C: Glynda Oakes, IDEM Office of Land Quality (E-mail)
Howard County Health Department (CD)
Carey Stranahan, City of Kokomo (CD)
Kokomo Public Library (Public Information Repository) (CD)
Sarah Fisher, ARCADIS (CD)

ATTACHMENT A
FOURTH QUARTER 2015 PROGRESS REPORT
PERFORMANCE-BASED ADMINISTRATIVE ORDER ON CONSENT
RCRA CORRECTIVE ACTION
FORMER GM DELCO PLANT 5, KOKOMO, IN
OCTOBER 1, 2015 TO DECEMBER 31, 2015

WORK PERFORMED THIS QUARTER

- Finalized and submitted to United States Environmental Protection Agency (USEPA) on October 19, 2015, the Vapor Intrusion Conceptual Site Model.
- Finalized and submitted to USEPA on November 19, 2015, the 2016 Annual Environmental Action Budget Request for the project. USEPA approved the request via email on November 30, 2015.
- Continued to develop the Natural Attenuation Evaluation Memorandum which evaluates chlorinated VOC concentration trends, geochemical indicator parameters, and microbial populations in groundwater at the Site and identifies whether natural attenuation is a suitable component of the remedial approach for the Site.
- Evaluated the potential benefits of direct excavation and off-site disposal of TCE-impacted soils from the on-site source area as an Interim Measure.

DATA AVAILABLE DURING THIS QUARTER

- Analytical results from the September 2015 groundwater sampling event are included in the enclosed *Semi-Annual Data Report, Second Half 2015*.
- Analytical results from the soil and groundwater sampling associated with installation of the eight monitoring wells to evaluate pre-treatment conditions completed in August 2015 are included in the enclosed *Semi-Annual Data Report, Second Half 2015*.

PROBLEMS ENCOUNTERED

- None.

SUMMARY OF PROBLEM RESOLUTION

- NA

POTENTIAL PROBLEMS

- None.

ESTIMATED PERCENT COMPLETE AND INFORMATION SUMMARY FOR SELECTED ACTIVITIES

- Description of Current Conditions 100%
Summarized available information for the Site and identified seven Areas of Interest (AOIs), four of which require additional investigation. No ecological habitat was identified at or in the immediate vicinity of the Site. Due May 15, 2006 and submitted October 10, 2005.
- Public Participation Plan 100%
- Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) Work Plan 100%
Submitted December 15, 2005.
- RFI Phase I Implementation 100%
Objective was to characterize the hydrogeology, to evaluate potential off-site groundwater impacts and to characterize AOIs at the Site. Phase I included installation of 38 soil borings and 20 monitoring wells. Ninety-five soil, eight borehole water, and 23 groundwater samples were analyzed. Completed in October 2005.
- RFI Data Report (Phase I data) 100%
Major findings included identifying small, isolated zones with perched groundwater, and two continuous saturated sand units over the investigation area with shallow groundwater flow generally to the southeast. Trichloroethene (TCE) is primary chemical of concern, with source areas identified in AOIs 5 and 7. TCE groundwater impacts extend off-site, but are not present in borehole water samples collected approximately 800 feet from the Site. No potable water wells were identified in immediate vicinity of the Site. Currently, no unacceptable risks to human health have been identified. Submitted January 19, 2006.
- RFI Phase II Implementation 100%
Objective was to further characterize on- and off-site groundwater impacts and AOIs on Site. Phase II included installation of 29 soil borings and 20 monitoring wells. Seventy-five soil, two borehole water, and 20 groundwater samples were analyzed. Completed in March 2006.
- RFI Data Report (updated to include Phase II data) 100%
Major findings included more precise delineation of on- and off-site TCE groundwater impacts. Groundwater flow in the bedrock appears to be generally to the northeast. TCE distribution in bedrock groundwater indicates an upgradient source of TCE to the bedrock groundwater. Source area soil impacts were more precisely delineated at AOIs 5 and 7, and a possible additional source area was identified in the vicinity of the former south manufacturing building. Currently, no unacceptable risks to human health have been identified. Submitted May 26, 2006.
- RFI Phase III Implementation 100%
Objective was to further characterize on- and off-site groundwater impacts and AOIs on site. The initial RFI Phase III field work included installation of six soil borings and 13 monitoring wells. Fourteen soil, four borehole water, and 42 groundwater samples were submitted for analysis. An

additional six soil borings and four monitoring wells were installed, and 16 soil samples and four groundwater samples were collected as part of additional “step-out” activities (Phase IIIb) performed based on review of preliminary RFI Phase III soil and borehole water sample analytical data. Following review of the preliminary data from Phase IIIb, two additional monitoring wells were installed (Phase IIIc) to further characterize and delineate the extent of groundwater containing TCE in the S1 unit in the northwestern portion of the Site (MW-0623-S1), and in the S2 unit east of the Site along Lordeman Street (MW-0607-S2). Access was obtained to the adjacent former Midwest Plating property, where three monitoring wells were installed, and soil and groundwater samples were collected. Started on October 9, 2006 and completed in March 2007.

- RFI Data Report (updated to include Phase III data) 100%

Major findings included more precise delineation of on- and off-site groundwater impacts. Groundwater flow in the bedrock appears to generally be to the south. The source of the cis-1,2-dichloroethene (cis-1,2-DCE) in bedrock groundwater is uncertain. Additional characterization of the groundwater in the bedrock is necessary. There are relatively high concentrations of TCE and tetrachloroethene (PCE) in the soil at the former Midwest Plating property. More precise delineation of source area soil impacts is necessary at AOI 5 and the former south manufacturing building. Currently, no unacceptable risks to human health have been identified. Submitted June 1, 2007.

- RFI Soil Gas Sampling 100%

Objective is to allow for verifying the appropriateness of the groundwater vapor intrusion criteria that have been used to guide the RFI field investigation at the Site. A work plan addendum was submitted to USEPA on July 10, 2007. A conference call was held with USEPA to discuss the work plan, and the work plan was subsequently revised. USEPA’s comments were incorporated, and the work plan addendum was resubmitted to USEPA. Soil gas monitoring ports were installed in the residential area east of the Site on August 7, 2007, and soil gas samples were collected on August 13, 2007. Preliminary soil gas analytical results were submitted to USEPA on August 28, 2007, and a conference call was held to discuss those results on August 30, 2007. Additional soil gas sampling ports were installed on September 4, 2007, and additional soil gas samples were collected on September 17, 2007. The preliminary analytical results from the second sampling event were submitted to USEPA on September 27, 2007. USEPA provided comments on the preliminary data in a letter dated October 2, 2007. The comment letter and results were discussed during an October 16, 2007, conference call. Additional risk evaluation was completed and submitted to USEPA on October 30, 2007, and a conference call to discuss the additional information was held on November 28, 2007. General Motors Company’s (GM’s) response to USEPA’s October 2, 2007 comment letter was submitted to USEPA on December 3, 2007.

- Soil Gas Investigation Data Report 100%

The final soil gas investigation data report was submitted to USEPA on December 21, 2007.

- RFI Phase IV Implementation 100%

Objectives are to further characterize on-site soil impacts in the former south manufacturing building, to characterize the groundwater flow, and to delineate the horizontal and vertical extent of cis-1,2-DCE in the groundwater in the bedrock.

A total of 62 soil borings were advanced from August 29, 2007 to September 5, 2007 within and in the vicinity of the former north and south manufacturing buildings. These were field screened. Soil samples were collected based on field observations, and a total of 31 soil samples were submitted for laboratory analysis. An additional 26 soil borings were advanced from November 19, 2007 to November 20, 2007 to delineate TCE within, and in the vicinity of the north and south manufacturing buildings. A total of 60 soil samples were submitted for laboratory analysis. An additional 14 soil borings were advanced on January 15, 2008, to delineate TCE within, and in the vicinity of the north and south manufacturing buildings. A total of 15 soil samples were submitted for laboratory analysis. Based on review of these data, TCE is adequately delineated.

Installation of the pilot bedrock boring, packer testing, Flexible Liner Underground Technologies (FLUTe) hydraulic profiling, discrete low-flow vertical groundwater sampling, and isolated groundwater sampling was completed between August 20, 2007, and December 8, 2007. A preliminary report of the results from the pilot bedrock boring was submitted to USEPA on November 16, 2007. An updated report was submitted to USEPA on March 21, 2008. Three additional bedrock monitoring wells were installed in the upper transmissive zone from December 4, 2007 to December 15, 2007. Installation of the additional three deeper bedrock boreholes was completed from April 14, 2008, to May 1, 2008. FLUTe hydraulic profiling of the bedrock boreholes was completed from May 13, 2008, to May 15, 2008. The technical memo with the results of the profiling was submitted to USEPA on July 10, 2008. Discrete depth vertical groundwater sampling (packer sampling) of select intervals in the boreholes was completed in the third quarter 2008. An updated technical memo to summarize the data, and provide recommendations for future groundwater sampling was prepared and submitted to USEPA on October 20, 2008. A groundwater sampling event was completed in November 2008 that included collecting depth to water information across the entire monitoring well network, collecting samples from a subset of approximately 30 existing wells, and discrete depth vertical groundwater sampling (packer sampling) of select intervals in the boreholes; all to confirm the characterization of contaminated groundwater on and off site.

- RFI Supplemental Data Report (updated to include Phase IV soil data) 100%
Major findings included a more complete characterization of on-site soil impacts at AOIs 2 and 3 and the former north and south manufacturing buildings. In addition, the Phase IV soil results were evaluated relative to the determination included in the CA725 Report for the Former GM Delco Plant 5 Facility in Kokomo, Indiana, completed by ENVIRON in 2007, that all current human exposures to “contamination” at or from the Facility are under control, based on soil data collected prior to September 1, 2007. The evaluation of the Phase IV soil data indicated that results do not alter the conclusions presented in the CA725 Report or the “YE” determination for the CA725. Submitted June 27, 2008.

- Groundwater Evaluation 100%

A draft groundwater evaluation was prepared to report GM's evaluation of groundwater quality and flow data collected through February 2009. Submitted to USEPA on April 10, 2009. This evaluation will be included in the RFI Report. A meeting was held with USEPA on May 19, 2009 to discuss the evaluation and proposed additional investigation.

- Additional Groundwater Investigation 100%
Groundwater sampling completed June 17 through 19, 2009.

- Draft RFI Report 100%
(Submitted October 5, 2009)

A meeting was held with USEPA on October 27, 2009, to review the draft report. USEPA provided comments on the human health risk assessment on December 22, 2009. A call was held with USEPA on February 22, 2010, to discuss USEPA's comments on the RFI risk assessment. Based on that call, a revised RFI Report was submitted to USEPA for review on March 18, 2010.

- Final RFI Report 100%
The final RFI Report was submitted to USEPA on May 21, 2010.

- Human Health EI (CA725) Report 100%
(Submitted November 30, 2007)

Minor comments were received from USEPA on December 12, 2007, and revisions submitted on December 20, 2007. USEPA approved the determination on January 3, 2008.

- Groundwater Migration EI (CA750) 100%
(Submitted November 30, 2009)

A draft determination was submitted to USEPA on October 30, 2009, and was reviewed with USEPA via teleconference on November 12, 2009. The final determination was submitted to USEPA on November 30, 2009. USEPA approved the determination on December 22, 2009.

- Draft Corrective Measures Proposal 100%
(Originally due June 30, 2010, Revised due date of August 31, 2010, Submitted on August 30, 2010)

Motors Liquidation Company (MLC), formerly GM, requested an extension to submit the Corrective Measures Proposal (CMP) on June 22, 2010. USEPA agreed to extend the submittal date for the CMP to August 31, 2010. The draft CMP was submitted to USEPA on August 30, 2010. The draft CMP included proposed corrective measures to mitigate potentially significant future exposures that could result from historical site activities. The draft CMP also included documentation of groundwater modeling performed to support the identification of the area(s) where a groundwater use restriction should be pursued as part of final corrective measures. USEPA and MLC met on November 17, 2010, to discuss the draft CMP. Based on that meeting, MLC prepared and submitted additional information to USEPA on December 23, 2010. USEPA provided comments on the draft CMP on January 7, 2011. Based on the comments, additional evaluation was completed, and the results of that evaluation were submitted to USEPA. A conference call with USEPA was held on February 18, 2011, to discuss the comments and the

results of the additional evaluation. April 30, 2011 was the established due date for revised CMP that addresses USEPA comments.

- Final Corrective Measures Proposal 100%

- CMP Addendum 75%

USEPA reviewed the summary approach for the CMP addendum, and approved the budget reallocation for the addendum on June 25, 2013. USEPA and RACER Trust agreed that the CMP Addendum should not be submitted until the groundwater and/or soil treatment technology is understood.

- Semi-Annual Groundwater Monitoring 22%

The first of the semi-annual groundwater monitoring events was completed on October 28, 2010.

- Vapor Intrusion Conceptual Site Model 100%

A revised version of the Conceptual Site Model (CSM) was reviewed with USEPA on December 10, 2013. Out of the review, the USEPA and RACER Trust, formerly MLC, concluded that additional data are needed to finalize the CSM. As such, RACER Trust is developing an approach to further investigate the risk of vapor intrusion associated with Site-related groundwater impacts. RACER Trust also informed USEPA that the Trust will work with USEPA to address public health concerns within the soil gas focus area. Data from a further vapor intrusion investigation and indoor air testing program were shared with USEPA on March 31, 2014. USEPA concurred that the soil gas and indoor air impacts identified to the east of the Site are not related to RACER Trust. USEPA has referred the soil gas and potential vapor intrusion issue to the east of the Site to Indiana Department of Environmental Management (IDEM)/Superfund for further evaluation. Per a request by the USEPA, ARCADIS will convert the current CSM from a presentation format into a written document format for submittal into the record. The Vapor Intrusion Conceptual Site Model was finalized and submitted to USEPA on October 19, 2015.

- Monitored Natural Attenuation Evaluation 90%

An evaluation of MNA will be completed to determine if MNA could be incorporated into the final corrective measures for the Site. The MNA evaluation report will be submitted in the first quarter of 2016.

- Calcium Oxide Pilot Study 15%

A Work Plan for the pilot study was drafted and submitted to USEPA (June 30, 2015). An RFP was prepared and submitted to a selection of contractors (August 8, 2015). RACER Trust, USEPA, and Arcadis are in the process of evaluating the base scope proposals as well as an alternate approach for this effort.

SUMMARY OF CONTACTS WITH INTERESTED PARTIES

- The following documents were placed in the public information repository:
 - *Third Quarter 2015 Progress Report*, RCRA Corrective Action, Former GM Delco Plant 5, Kokomo, IN, USEPA ID No. IND000806844, October 14, 2015.

CHANGES IN PERSONNEL

- None.

PROJECTED WORK FOR NEXT REPORTING PERIOD

- Finalize and submit the *Natural Attenuation Evaluation Memorandum* which evaluates chlorinated VOC concentration trends, geochemical indicator parameters, and microbial populations in Site groundwater
- Finalize and submit the *Molar Ratio Analysis of Chlorinated Compounds* Memo which provides an analysis to better understand the potential for unidentified source areas to contribute to the CVOC plume and to better understand CVOC biodegradation pathways in groundwater at the site.
- Update the groundwater flow and transport model with the current soil and groundwater data.
- Prepare the *First Quarter 2016 Progress Report*.
- Continue to evaluate plans for the implementation of direct excavation and off-site disposal of TCE-impacted soils as an Interim Measure.
- Continue to support USEPA's preparation of the *Statement of Basis and Final Decision*, as needed.
- Prepare summaries of meetings, data reviews, or conference calls with USEPA, as appropriate.

Enclosure: Semi-Annual Data Report, Second Half 2015, Former GM Delco Plant 5, Kokomo, Indiana.