



**QUARTERLY TECHNICAL PROGRESS REPORT  
OCTOBER 2012 – DECEMBER 2012  
RCRA CORRECTIVE ACTION  
IND 980 700 801**

**2915 DR. MARTIN LUTHER KING JR. BOULEVARD, ANDERSON, IN  
REVITALIZING AUTO COMMUNITIES ENVIRONMENTAL  
RESPONSE TRUST**

**Prepared For:  
Indiana Department of Environmental Management**

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## 1.0 INTRODUCTION

Conestoga-Rovers and Associates (CRA), on behalf of the Revitalizing Auto Communities Environmental Response (RACER) Trust, has prepared this Quarterly Technical Progress Report for the RACER Trust facility located at 2915 Dr. Martin Luther King Junior Boulevard in Anderson, Indiana (Facility or Site).

This Quarterly Technical Progress Report has been prepared to summarize activities related to the Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI), Interim Measures (IM) activities, and Corrective Measures (CM) at the Facility for the period of October through December 2012.

## **2.0 SUMMARY OF RFI, INTERIM MEASURES, AND CORRECTIVE MEASURES ACTIVITIES**

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### **2.1 RCRA FACILITY INVESTIGATION/ENVIRONMENTAL INDICATORS DETERMINATION**

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RFI activities conducted during this reporting period included the completion of the Soil and Perched Groundwater Delineation Work Plan (CRA, June 25, 2012) in October 2012. The objective of the Work Plan implementation was to delineate the extent of impacts identified during investigations conducted at the former Bay M26/M27 location, the former 310 Plater Pit, at areas of visibly impacted soil identified beneath the former main manufacturing building floor slab, and during general soil screening conducted beneath the northern portion of the former main manufacturing building.

The Soil and Perched Groundwater Delineation Work Plan was initiated in July 2012 at which time two permanent monitoring wells (MW90-12 and MW91-12) were installed in the Unit 1 perched groundwater zone near the former Bay M26/M27 to facilitate the collection of representative groundwater samples for select total and dissolved metals analyses. However, due to unseasonably dry conditions, groundwater did not recharge in the monitoring wells at a sufficient volume to facilitate well development or groundwater sampling until October 2012. MW90-12 and MW91-12 were developed on October 23, 2012. Development consisted of the removal of two well volumes at MW90-12 and the removal of five well volumes at MW91-12 when the monitoring wells were purged dry as a result of significantly low recharge rates. Monitoring wells were sampled using low flow sampling techniques between October 24, and October 26, 2012. Prior to sampling, monitoring wells were purged and field parameters including conductivity, dissolved oxygen, oxygen reduction potential, pH, temperature, and turbidity were recorded. Samples collected were placed directly into pre-cleaned bottles provided by the laboratory. Samples for dissolved metals analysis were field filtered through a 0.45 micron filter in the field. A summary of the analytical results is provided in Section 3.0.

The RFI activities are considered 95-percent completed.

### **2.2 INTERIM MEASURES**

Interim Measures conducted during this reporting period include Site-wide hydraulic monitoring, semi-annual groundwater sampling, and fall surface water sampling in accordance with the Site-Wide Groundwater Monitoring Plan (AECOM, 2010) and

subsequent recommendations made in the 2011 Annual Groundwater Monitoring Report (AECOM, 2012). These IM activities were conducted between October 8 and October 19, 2012. The field and laboratory analytical results will be provided to IDEM in the 2012 Annual Groundwater Monitoring Report.

Interim measures are ongoing.

### **2.3        CORRECTIVE MEASURES**

No corrective measures activities were conducted during this reporting period.

With the exception of submittal of the draft Corrective Measures Proposal (CRA, March 2008), the corrective measures activities have not commenced and are considered 0-percent complete.

### **3.0 SUMMARY OF FINDINGS**

#### **3.1 RCRA FACILITY INVESTIGATION/ENVIRONMENTAL INDICATORS DETERMINATION**

The remaining field work to complete implementation of the Soil and Perched Groundwater Delineation Work Plan was completed between October 23, and October 26, 2012 with the development and sampling of monitoring wells MW90-12 and MW91-12. Samples were collected and submitted for chemical analysis of select total and dissolved metals (arsenic, copper, chromium, hexavalent chromium, lead, nickel, zinc) and total and amenable cyanide. Total and hexavalent chromium were detected above the Site-specific residential non-potable groundwater use criteria at MW90-12 and MW91-12. No parameters were detected in groundwater above the Site-specific construction worker groundwater contact criteria. A summary of the groundwater analytical results is provided in Table 1 with the cited criteria for comparative reference.

#### **3.2 INTERIM MEASURES**

Interim groundwater and surface water monitoring and reporting is ongoing. The results of the routine Site-wide monitoring activities conducted in October 2012 will be submitted with the 2012 Annual Groundwater Monitoring Report due to IDEM on January 31, 2013.

#### **3.3 CORRECTIVE MEASURES**

No corrective measures activities were conducted during this reporting period.

#### **4.0 SUMMARY OF CHANGES TO RFI, INTERIM AND/OR CORRECTIVE MEASURES**

There were no changes to the RFI, Interim Measures and/or Corrective Measures during the reporting period.

**5.0 SUMMARY OF CONTACTS WITH REPRESENTATIVES OF LOCAL COMMUNITY, PUBLIC INTEREST GROUPS, OR STATE GOVERNMENT**

There were no contacts with representatives of the community or public interest groups during this reporting period.

## 6.0 SUMMARY OF PROBLEMS OR POTENTIAL PROBLEMS

Initial implementation of the Soil and Perched Groundwater Delineation Work Plan was conducted between July 2 and July 6, 2012. Due to unseasonably dry weather conditions, groundwater had not recharged in the two monitoring wells (MW90-12 and MW91-12) installed near the former Bay M26/M27 area at a sufficient volume to facilitate well development or groundwater sampling. As such, completion of the Work Plan implementation was delayed until October 2012.

## 7.0 ACTIONS TAKEN TO RECTIFY PROBLEMS

CRA conducted routine visits to the Site to monitor for groundwater recovery in monitoring wells MW90-12 and MW91-12 in the vicinity of the former Bay M26/M27 area. Once the wells had sufficient groundwater recovery, wells were developed and sampled between October 23 and October 26, 2012.

## 8.0 CHANGES IN PERSONNEL

In 2011, ENVIRON revised the RFI on behalf of RACER Trust to address IDEM's October 2009 comments on toxicity. Based on IDEM's review of the revised RFI, additional edits are necessary to make the changes transparent and provide appropriate references. Further, revisions to the RFI are necessary to address IDEM's comment on vapor intrusion through use of the default attenuation factor. CRA will assume the lead Risk Assessment role from ENVIRON in January 2013.

## 9.0 PROJECTED WORK FOR JANUARY THROUGH MARCH 2013

Projected work for January through March 2013 includes the following:

- Preparation and submittal of 2012 Annual Groundwater Monitoring Report
- Preparation and submittal of Environmental Restrictive Covenants for Lot 1 and Plant 9
- Preparation and submittal of the revised Risk Assessment and revisions to the Final RFI Report to address IDEM's October 2009 comments
- Completion of Wastewater Treatment Plant (WWTP) Source Area Soil Investigation
- Investigation of the vertical extent of chromium and cyanide impacted perched groundwater.

## 10.0 REPORTS AND DATA

The Quarterly Technical Progress Report, July 2012 through September 2012, was submitted to IDEM on October 30, 2012.

An update of the RCRA Corrective Action activities completed at the Facility is presented in Project Fact Sheet 14 (January 2013) submitted with this Quarterly Technical Progress Report as Appendix A.

**GROUNDWATER ANALYTICAL RESULTS  
QUARTERLY TECHNICAL PROGRESS REPORT  
OCTOBER 2012 - DECEMBER 2012  
2915 DR. MARTIN LUTHER KING JR. BOULEVARD,  
ANDERSON, INDIANA**

<i>Sample Location:</i>	<i>MW90-12</i>	<i>MW90-12</i>	<i>MW91-12</i>	<i>MW91-12</i>
<i>Sample ID:</i>	<i>GW-102412-SM-001</i>	<i>GW-102612-SM-001</i>	<i>GW-102612-SM-002</i>	<i>GW-102612-SM-003</i>
<i>Sample Date:</i>	<i>10/24/2012</i>	<i>10/26/2012</i>	<i>10/26/2012</i>	<i>10/26/2012</i> <i>(Duplicate)</i>

<i>Parameters:</i>	<i>Units</i>	Site-Specific Construction Worker Groundwater Contact Criteria	Site-Specific Residential Non-Potable GW Use Criteria				
		a	b				
<i>Metals</i>							
Arsenic	mg/L	-	-	0.0047 J	-	0.0032 J	0.01 U
Arsenic (dissolved)	mg/L	-	-	-	0.0056 J	0.01 U	0.01 U
Chromium	mg/L	28.50	0.60	<b>3.5<sup>u</sup></b>	-	<b>0.74<sup>u</sup></b>	<b>0.83<sup>u</sup></b>
Chromium (dissolved)	mg/L	28.50	0.60	-	<b>4.1<sup>u</sup></b>	<b>0.8<sup>u</sup></b>	<b>0.81<sup>u</sup></b>
Chromium VI (hexavalent)	mg/L	28.50	0.60	-	<b>4.0<sup>u</sup></b>	<b>1.1<sup>u</sup></b>	<b>0.95<sup>u</sup></b>
Copper	mg/L	12300.00	132.00	0.082	-	0.0067 J	0.0048 J
Copper (dissolved)	mg/L	12300.00	132.00	-	0.067	0.0062 J	0.025 U
Lead	mg/L	74.00	-	0.0027 J	-	0.003 U	0.003 U
Lead (dissolved)	mg/L	74.00	-	-	0.002 J	0.003 U	0.003 U
Nickel	mg/L	2380.00	37.10	0.045	-	0.021 J	0.02 J
Nickel (dissolved)	mg/L	2380.00	37.10	-	0.033 J	0.024 J	0.022 J
Zinc	mg/L	110000.00	1070.00	0.015 J	-	0.05 U	0.05 U
Zinc (dissolved)	mg/L	110000.00	1070.00	-	0.012 J	0.05 U	0.05 U
<i>General Chemistry</i>							
Cyanide (amenable)	mg/L	6160.00	66.00	1.3	-	0.010 U	0.010 U
Cyanide (total)	mg/L	6160.00	66.00	19	-	0.016	0.035

Notes:

J - Estimated concentration.  
U - Not present at or above the associated value.  
- - Not analyzed.

APPENDIX A

PROJECT FACT SHEET 14 - JANUARY 2013



# Revitalizing Auto Communities Environmental Response Trust

Project Fact Sheet 14 | January 2013 | [www.racertrust.org](http://www.racertrust.org)

## RCRA CORRECTIVE ACTION REVITALIZING AUTO COMMUNITIES ENVIRONMENTAL RESPONSE TRUST

2915 Dr. Martin Luther King Jr. Boulevard (Formerly Pendleton Ave.) Anderson, Indiana

### INTRODUCTION

The Revitalizing Auto Communities Environmental Response (RACER) Trust has prepared this Project Fact Sheet to update the local community about environmental activities being conducted at the facility located at 2915 Dr. Martin Luther King Jr. Boulevard (formerly Pendleton Avenue), Anderson, Indiana (Site). These activities are conducted under the oversight of the Indiana Department of Environmental Management (IDEM) and in accordance with an Agreed Order issued for the Site.

The Corrective Action process includes a Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) of the soil and groundwater conditions at the Site. Based upon an evaluation of the results obtained during these investigations, appropriate corrective measures will be proposed and implemented.

### SITE BACKGROUND

The Site is located on the southwest side of Anderson in Madison County, Indiana. Formerly, the facility comprised approximately 3,000,000 square feet of manufacturing area situated on 234 acres. GM operations at the Site began in 1929. Additional plant buildings were constructed and the plants were expanded several times between 1937 and 1989. Demolition of the plant commenced in 2007. Demolition of the main plant buildings and restoration activities were completed in 2009.

As a result of General Motors Corporation's (GMC's) 2009 bankruptcy, certain operating assets of GMC were sold on July 10, 2009 to a newly formed company known as General Motors LLC. Existing non-continuing assets, including the Site, became the property of Motors Liquidation Company (MLC), in its capacity as debtor-in-possession in the bankruptcy case. In October 2010, the United States Government announced that MLC had agreed to resolve its liabilities at 89 sites relating to liabilities under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), RCRA, and the Clean Air Act through an environmental response trust fund. On March 31, 2011, the RACER Trust became effective and will conduct, manage, and fund cleanup at the 89 sites formerly owned by MLC, including the Site.



### PROJECT FACT SHEET

Key documents that have been submitted to U.S. EPA and IDEM and are available for review in the public repository.

The following documents have been submitted since 2006:

- Interim Measure Work Plan - Production Well Abandonment, July 27, 2006
- Response to IDEM's Comments on Final RFI Report, April 5, 2007
- Revised Final RFI Report and Response to IDEM's Comments, September 27, 2007
- Production Well Abandonment Memo, November 16, 2007
- Corrective Measures Plan, March 31, 2008
- Site-Wide Groundwater Monitoring Plan, March 31, 2008
- Notification to IDEM of a new potential contaminant source area, September 5, 2008
- Progress Reports from 1998 to present
- Annual Groundwater Monitoring Reports for 2006 to 2011
- Vapor Intrusion Study Work Plan, July 2010
- Residential Vapor Intrusion Assessment Work Plan, September 1, 2011
- Investigation Work Plan, September 2, 2011
- Vapor Intrusion Study Work Plan Implementation – Technical Memorandum, November 3, 2011
- Residential Vapor Intrusion Assessment Technical Memorandum, March 7, 2012
- Supplemental RFI Results Technical Memorandum, March 7, 2012
- Soil and Perched Groundwater Delineation Work Plan, June 26, 2012
- Waste Water Treatment Plant Source Area Investigation Work Plan, January 4, 2013

## RCRA CORRECTIVE ACTION

The RACER Trust is currently conducting Corrective Action activities at the Site. Corrective Action activities are required for all facilities that applied for a permit to store hazardous waste and include an evaluation of whether plant waste management operations have impacted the environment. The program includes a RFI that is designed to identify and address any significant risks to human health or the environment resulting from the release of hazardous waste or hazardous constituents to environmental media such as soil or groundwater. The scope of the RFI and required cleanup work has been and will continue to be reviewed with IDEM. The activities will be conducted according to standards that are protective of human health and the environment.

The Corrective Action process uses Environmental Indicators (EIs) to evaluate and report on current site conditions related to potential current human exposure and potential groundwater migration. Under the RCRA program, U.S. EPA's top priority is to make sure that these two Environmental Indicators are satisfied at a given site. MLC submitted reports to IDEM for the two Environmental Indicators to demonstrate that current human exposure and migration of contaminated groundwater are under control. Groundwater monitoring to verify plume stability is ongoing.

## RCRA FACILITY INVESTIGATION

RFI activities have been completed at the Site. The purpose of an RFI is to investigate any areas of the Site that may need further action and to determine what additional steps might be appropriate. The results of these investigations were documented in reports that have been submitted to IDEM and copies are available for review in the information repository at the local library. MLC has provided responses to IDEM comments on the Final RFI Report, the latest of which were provided to IDEM in January 2010 agreeing to conduct a vapor intrusion study at the Site.

This Study was conducted in February and March 2011, the results of which demonstrate that there is no current unacceptable risk due to vapor intrusion on Site.

Due to new Areas of Interest identified during building demolition activities, additional investigations of soil and groundwater quality were conducted in 2011 and 2012. Further investigation is scheduled for Winter 2013.

## COMPLETED INTERIM MEASURES

Interim Measures (IM) were conducted in the South Court Area in July 2005 to address concentrations of trichloroethene (TCE) in a small area of soil and shallow groundwater that were significantly higher than in the surrounding area.

Soil was excavated to the depth of the perched water table at approximately 8 feet below ground and disposed off-site. Hydrogen-Releasing Compound® (HRC) was mixed into soil at the bottom of the excavation, to enhance degradation of TCE in groundwater. Following placement of the HRC®, the excavation was backfilled and the pavement replaced.

Interim measures were also conducted in 2007 to plug and abandon five former groundwater production wells at the facility. This work was performed according to Indiana Department of Natural Resources guidelines.

The RACER Trust continues to complete interim Site-wide groundwater monitoring in accordance with the Site-wide Groundwater Monitoring Plan.

## CORRECTIVE MEASURES

A draft Corrective Measures Proposal was submitted to IDEM in March 2008. A revised corrective measures proposal will be prepared as necessary to address the results of activities completed since the time of the initial proposal.

## UPCOMING ACTIVITIES

Investigation of recently identified AOIs is ongoing. Routine groundwater and surface water monitoring and reporting is ongoing. Design of additional Interim and Corrective Measures, as necessary, will be conducted following receipt and review of soil and groundwater investigation data.

## PUBLIC PARTICIPATION

An information repository has been established where current project related documents are available for public review. The information repository is located at:

**Anderson Public Library**  
111 East 12th Street  
Anderson, IN 46016  
Tel: (765) 641-2450

Project Fact Sheets will be issued periodically during the implementation of the Corrective Action program to keep the community informed of ongoing activities at the Site.

## CONTACT INFORMATION

### IDEM

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Toll free: (800) 451-6027

### RACER Trust

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