

January 15, 2018

Reference No. 012607 Distributed via E mail

Mr. Greg Rudloff U.S. Environmental Protection Agency, Region 5 Land and Chemicals Division 77 West Jackson Blvd., LU 9J Chicago, Illinois 60604 3590

Dear Mr. Rudloff:

Re: 2nd 2017 Semi Annual Progress Report Performance Based Administrative Order on Consent Docket Number RCRA 05 2011 0025 13000 Eckles Road Site, Livonia, Michigan USEPA ID No. MID 005 356 621

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 Trust (RACER), please find the attached progress report for the 2nd half of 2017 (July 1, 2017 through December 31, 2017).

Please contact Grant Trigger or Jeff Crum (regarding AOI 31 vapor intrusion pathway monitoring matters), or Dave Favero or myself (regarding system operation and Area 1 groundwater matters) if you would like to discuss further. Thank you.

Sincerely,

GHD

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Christopher J. Meincke, P.E.

CJM/23/ds/Det. Attachment A: 1st Semi Annual 2017 Progress Report

cc: Grant Trigger, RACER Dave Favero, RACER Richard Conforti, MDEQ Jeff Crum, Hamp, Mathews & Associates Livonia Civic Center Library





ATTACHMENT A 2nd SEMI-ANNUAL 2017 PROGRESS REPORT PERFORMANCE-BASED ADMINISTRATIVE ORDER ON CONSENT 13000 ECKLES ROAD SITE, LIVONIA, MICHIGAN JULY 1, 2017 TO DECEMBER 31, 2017

1. Description of Work Completed

- Continued operation of the Area 1 French Drain Collection Trench and Groundwater Treatment system. The Groundwater Treatment System was shut down for 3 weeks in October/November 2017 due an air compressor cooler failure and for the last week of December to allow the targeted injections to disperse in groundwater in the vicinity of the French drain collection trench. The Great Lakes Water Authority (GLWA) has been updated on shutdowns. During the second half of 2017 the system has collected and treated 2,189,389 gallons of groundwater. Monthly discharge totals are presented in Table 1.
- Submitted the 1st Semi-Annual 2017 Progress Report dated July 14, 2017 to USEPA.
- Collected groundwater samples from AOI 31 Groundwater Monitoring Plan (GMP) monitoring wells and four newly installed monitoring wells July 18, 2017 through July 21, 2017.
- Collected groundwater samples from select AOI 31 monitoring wells to evaluate the potential presence of perfluorinated compounds (PFCs) in groundwater impacted from former fire training operations on July 21, 2017.
- Collected soil vapor samples from AOI 31 soil gas probes in July 2017.
- Submitted an Area 1 Permeable Reactive Gate Evaluation Report to USEPA on September 19, 2017.
- Completed a conference call with USEPA to discuss the Area 1 Permeable Reactive Gate Evaluation on September 29, 2017.
- Completed a meeting/conference call with USEPA to discuss Corrective Action O&M activities, Area 1 Remediation activities, AOI 31 Vapor Intrusion (VI) Pathway sampling strategy, and the 2018 scope and budget request on October 18, 2017.
- Submitted a Request to Install Monitoring Wells and Perform Targeted In-Situ Chemical Reduction (ISCR) Injections to USEPA dated October 26, 2017.
- Decommissioned and backfilled former wastewater treatment plant pits located adjacent to the existing groundwater treatment plant. The pits were emptied and cleaned prior to demolition, which included breaking the concrete floors and sidewalls. A solution of approximately 2,400 gallons of water and 6,000 pounds of sodium sulfide were applied to



each of the two former wastewater treatment pits prior to backfilling with imported crushed concrete.

- Received comments from USEPA on the Area 1 Permeable Reactive Gate Evaluation on November 7, 2017.
- Submitted 2018 Annual Environmental Budget Request to USEPA on November 10, 2017 and received USEPA approval on November 16, 2017
- Submitted a memorandum on December 11, 2017 to USEPA providing additional information in response to the USEPA comments on the Area 1 Permeable Reactive Gate Evaluation.
- Collected soil vapor samples from Home 1 and Home 8 in December 2017.
- Conducted a vapor mitigation system performance evaluation at 37780 Grantland Street (Home 7) December 5, 2017.
- Collected groundwater samples from Area 1 monitoring wells on December 4, 2017 as part of the approved GMP activities. AOI 31 groundwater samples were collected in July 2017 as part of the VI Monitoring Work Plan activities.
- Continued evaluation of potential cost savings to decrease OM&M costs associated with the Area 1 Groundwater Collection and Treatment System, including monitoring the influent for reductions in chromium and nickel concentrations as a result of the targeted or full scale ISCR injections.

2. Data Collected

- AOI 31 Groundwater samples and soil vapor samples were collected as part of the proposed Long-Term VI Pathway Sampling Scope of Work proposed to USEPA in an email dated June 20, 2017. The sample results were reviewed with USEPA in a conference call October 18, 2017 and will be submitted to USEPA under separate cover.
- Groundwater sample results associated with the Area 1 GMP sampling event from Area 1 monitoring wells are included on Figure 1 and in Table 2.

3. Problems Encountered

 Off-site Area 1 monitoring well MW-OS-6D was not able to be located during the annual GMP Sampling Event in December 2017 due to winter weather and stored materials in the vicinity of the monitoring well. The status of the monitoring well will be confirmed in 2018 once field conditions allow for a thorough search and evaluation.



4. Estimated Percent Complete and Information Summary for Selected Activities

• O&M of the Groundwater Pump & Treat System (GWTP, Barrier Wall, Cover) 30%

Continued operation of the Area 1 French Drain Collection Trench and Groundwater Treatment system. Submitted appropriate discharge reports as per the Special Discharge Permit. (Percent complete estimated as 8 years complete of 27 years estimated in the May 2010 RCES.)

Long-Term Groundwater Monitoring On-going

Long-Term Groundwater Monitoring Plan proposed 5 years of monitoring to verify continued stability/reduction in off-Site/boundary concentrations (anticipated completion 2006 through 2010). Sampling activities are currently planned to continue pending USEPA approval to cease monitoring.

•	Maintenance of the AOI 39 Dust Control Plan	100%
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Restrictive Covenants

Prepared a revised Declaration of Restrictive Covenant (DRC) and Termination Agreement for the existing 2007 DRC and submitted to USEPA on June 25, 2015. Recorded final DRC and Termination Agreement on August 26, 2015.

Vapor Intrusion Investigation

Vapor Intrusion Investigation has been completed and subsequent mitigation has been implemented at one residence, and a VI pathway sampling plan downgradient of previously investigated homes has been approved and is being implemented. See AOI 31 below for additional activities.

Installation of Vapor Mitigation System 100%

Installation completed and system operational September 2012.

O&M and Performance Monitoring of Vapor Mitigation System
On-going

System performance monitoring is being implemented at pre-scheduled time periods, though some delay in the schedule occurred due to home foreclosure and achieving contact with new homeowners. Latest system performance monitoring completed December 2017.

Pilot Tests - Alternative Chemicals & Target In-Situ Treatment Injection 100%

Objective was to design, implement, and evaluate a pilot test to use alternative chemicals in the wastewater treatment process that could reduce treatment system operating time and/or operating costs. Also, design and implement an in-situ stabilization treatment in Area 1 that could also reduce treatment system operating time and long-term monitoring duration.

75%

100%

100%



The Area 1 field pilot test was conducted in November and December 2010. Based on an evaluation of the pilot test results, additional pilot study injection and monitoring activities were recommended to determine if full-scale on-site implementation would significantly reduce dissolved concentrations of chromium and nickel and allow for the groundwater treatment plant activities to be reduced or eliminated.

The groundwater treatment plant optimization activities have not been conducted due to health and safety concerns associated with handling, storing, and mixing the proposed replacement chemicals.

Additional cost and remedial alternative evaluations were performed in 2013. Additional Area 1 Characterization activities have been implemented. A laboratory treatability study was performed using site groundwater to evaluate the effectiveness of utilizing a permeable reactive barrier wall (PRB) with zero valent iron (ZVI) to treat Area 1 groundwater if the existing groundwater collection and treatment system operations are ceased. Groundwater modeling activities were also performed to evaluate the optimal location and number of PRBs and the effects on groundwater flow inside and outside of the Area 1 Barrier Wall.

An additional field pilot test injection was completed in November 2013 and monitoring activities were completed through October 2014 with an additional Pilot Injections in the northern portion of the Area 1 chromium and nickel-impacted groundwater plume proposed in the 2015 Annual EA Budget Request.

Additional expanded pilot study injections were completed in May through June of 2015 including the injection of sodium sulfide, sodium dithionite, or a combination of the two in 83 injections points in the northern portion of the Area 1 chromium and nickel-impacted groundwater plume. Groundwater monitoring concluded in December 2015. An Area 1 ISCR Pilot Study Summary Report was submitted in January 2016.

Groundwater Treatment System Decommissioning & Removal
0%

Anticipated to be completed in 2037 per May 2010 RCES but could be complete in 2018 or 2019 if the implemented ISCR is successful.

Completion Report & Well Abandonment
0%

Anticipated to be completed in 2037 per May 2010 RCES.

• AOI 31

A Long-Term VI Pathway Monitoring Work Plan was approved which included a minimum two years of semi-annual soil vapor and groundwater sample collection to evaluate groundwater plume stability, downgradient extent of the groundwater and soil vapor TCE plume, and spatial and temporal variability in TCE soil vapor concentrations. The first semi-annual event was conducted in June 2016. Based on the results of the first event, additional groundwater delineation activities (Phase I Geoprobe[®]) were completed during the 1st Quarter of 2017 to

20%



further delineate TCE and TCA groundwater plumes and concentrations to determine if modifications are needed to the VI pathway monitoring plan, or if response actions are needed to mitigate potential unacceptable VI risk. Additional permanent monitoring wells and soil vapor probes were installed in June 2017 and were sampled in July 2017. Home 1 and Home 8 subslab soil vapor probes were resampled in December 2017. A summary report will be developed during the 1st half of 2018.

• Area 1 Remedial Implementation

90%

A request to perform Targeted Area 1 ISCR Injections was submitted to USEPA in April 2016 and approved by USEPA on May 18, 2016. Targeted injections were implemented in August 2016. An Area 1 Full Scale ISCR Work Plan was submitted to USEPA in April 2016 and approved by USEPA on May 18, 2016. Implementation of the work plan activities began September 2016. ISCR injections were completed in November 2016. Performance groundwater monitoring following the ISCR injections was completed in January 2017 and April/May 2017.

An Area 1 Permeable Reactive Gate Evaluation report was submitted to USEPA in September 2017 proposing to install a permeable reactive gate (PRG) along a portion of the eastern alignment of the Area 1 Barrier Wall, to allow groundwater to exit the area surrounded by the barrier wall while being passively treated.

Follow-up targeted injections were conducted in December 2017 along the south and southern eastern alignments of the Area 1 Barrier Wall (in the vicinity of French drain collection trench and proposed PRG location, where injections had not previously been conducted.

5. Summary of Contacts with Interested Parties

- Coordination with redevelopment activities continues as necessary.
- Residents are updated on a one-on-one basis to maintain privacy of VI pathway risk evaluations at their homes.

6. Changes in Personnel

None



7. Projected Work for Next Reporting Period (January 2018 through June 2018)

- Conduct a semi-annual soil vapor and groundwater sampling event according to USEPA approved Long-Term Vapor Intrusion Pathway Monitoring Work Plan or as otherwise approved by USEPA.
- Prepare a 2017 summary report of the Vapor Intrusion Pathway investigations for submittal to USEPA.
- Install a vapor mitigation system at Home 8.
- Continue operation of the Area 1 French Drain Collection Trench and Groundwater Treatment system.
- Collect groundwater samples from select Area 1 monitoring wells to evaluate ISCR injection performance and characterize groundwater upgradient of the proposed PRG location.
- Continue evaluation of potential cost savings to decrease OM&M costs associated with the Area 1 Groundwater Collection and Treatment System including evaluating results of the full scale ISCR.
- Develop PRG Installation Work Plan and design documents.
- Evaluate potential remedial technologies and strategies for off-site AOI 31 groundwater impacts.
- Continue support of redevelopment activities.
- Prepare summaries of meetings, data reviews, or conference calls with USEPA, as appropriate.

• Prepare the 2nd 2017 Semi-Annual Progress Report.

Attachments:Figure 1 – Area 1 GMP Groundwater Sample ResultsTable 1 – Summary of Monthly Groundwater Treatment Plant Discharge VolumeTable 2 – Area 1 GMP Groundwater Sample Results



TABLE 1

SUMMARY OF MONTHLY GROUNDWATER TREATMENT PLANT DISCHARGE AREA 1 - FORMER PLATING AREA ECKLES ROAD SITE LIVONIA, MICHIGAN

Monthly GWTP Discharge Volume (Gallons)

MonthJuly 2017471,170August 2017407,751September 2017425,703October 2017198,155November 2017486,819December 2017199,791

Total July 2017 to December 2017 Discharge

2,189,389

Analytical Results of Groundwater Samples 2017 Groundwater Monitoring Plan Sampling - Area 1 Eckles Road Site Livonia, Michigan

Area: Sample Location: Sample Identification: Sample Date: Sample Type:	MDEQ Generic Groundv Cleanup Criteria ⁽¹⁾ Residential Drinking Water	vater Area 01 HA-14 GW-12607-120417-DS-005 12/4/2017	Area 01 HA-16 GW-12607-120417-DS-006 12/4/2017	Area 01 MW-OS-4D GW-12607-120417-DS-003 12/4/2017	Area 01 MW-OS-4S GW-12607-120417-DS-004 12/4/2017	Area 01 MW-OS-5D GW-12607-120417-DS-002 12/4/2017	Area 01 MW-OS-7D GW-12607-120417-DS-009 12/4/2017	Area 01 MW-OS-8D GW-12607-120417-DS-00 12/4/2017
Parameters Metals	Units							
Chromium	mg/L 0.1	0.005 U						
Chromium III (trivalent)	mg/L 0.1	0.010 U						
Chromium VI (hexavalent)	mg/L 0.1	0.0050 U						
Nickel	mg/L 0.1	0.47	300	150	32	0.011 J	0.028	0.0089 J

Notes: U - Not detected at the associated reporting limit.

J - Estimated concentration.

B - Result detected in associated method blank.
(1) Groundwater - MDEQ Generic cleanup criteria for residential and nonresidential category, administrative rule R 299.44 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended

Table 2

Analytical Results of Groundwater Samples 2017 Groundwater Monitoring Plan Sampling - Area 1 Eckles Road Site Livonia, Michigan

Area: Sample Location: Sample Identification: Sample Date: Sample Type:		Area 01 OW-24 GW-12607-120417-DS-007 12/4/2017	Area 01 OW-24 GW-12607-120417-DS-008 12/4/2017 Duplicate		
Parameters Metals	Units				
Chromium	mg/L	3.2 B	3.7 B		
Chromium III (trivalent)	mg/L	3.2	3.7		
Chromium VI (hexavalent)	mg/L	0.014	0.013		
Nickel	mg/L	0.24	0.24		

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