

US EPA ARCHIVE DOCUMENT

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*Transmitted via Electronic Mail*

Mr. Chris Black  
U.S. Environmental Protection Agency – Region 5  
Land and Chemicals Division  
77 W. Jackson Blvd. DE-97  
Chicago, IL 60604-3590

ENVIRONMENT

Subject:  
Second Quarter 2013 Progress Report (No. 8)  
Revitalizing Auto Communities Environmental Response (RACER) Trust  
Buick City Site, Flint, Michigan

Date:  
July 15, 2013

Contact:  
Micki M. Maki, P.E.

Dear Mr. Black:

Phone:  
248.994.2271

On behalf of Revitalizing Auto Communities Environmental Response (RACER) Trust, ARCADIS is submitting this Second Quarter 2013 Progress Report (No. 8) in accordance with Section VI (18b) of the RACER Trust's Administrative Order on Consent (Consent Order), Docket Number RCRA-05-2011-0024 for the Buick City Site located in Flint, Michigan (the Site), which was effective on September 29, 2011.

Email:  
[Micki Maki@arcadis-us.com](mailto:Micki.Maki@arcadis-us.com)

Our ref:  
B0064410.2013

Please note that in accordance with General Motors Corporation's Administrative Order on Consent Number R8H-5-00-02 for the North American Operations [NAO] Flint Operations Site (also known as Buick City) Quarterly Progress Reports No. 1 through 46 were submitted to the United States Environmental Protection Agency (EPA) documenting Site activities from January 1, 2000 through June 30, 2011.

This Second Quarter 2013 Progress Report (No. 8) covers the period of April 1, 2013 through June 30, 2013.

The following briefly summarizes the work performed and data collected, problems encountered, project schedule, and estimated percent complete for a list of activities.

## 1. Data Collected This Quarter

The samples collected as part of Site investigation or monitoring activities during this quarter are discussed below. This data will be presented to the EPA in the 2013 Annual CMI Report, except as noted below.

### 1.1 Storm Sewer Water Samples

In April, May and June ARCADIS conducted the "NPDES Plus" Monitoring Program (NPMP) sampling program. In April the sampling was completed as described in the 2011 Annual Corrective Measures Implementation (CMI) Report; however the program was modified in May following bulkheading activities as described below.

On May 3, 2013 the bulkheading activities were completed at the Buick City Site along storm sewer Outfalls 002, 003, 005, and 007. At Outfalls 002, 005, and 007 bulkheads/plugs were installed at the last on Site manholes (2-18, 5-12-1, 5-13, and 7-1, respectively), eliminating the Sites contribution to those outfalls. Therefore, these locations will no longer be sampled during the NPMP monthly sampling event. The NPMP currently consists of collecting monthly samples from the following Site storm sewers as access allowed: MP001, MP003, MP006, MP009, MP010, MP011, and MP013. Also, the June NPMP event was performed on July 2 due to multiple rain events during the last two weeks in June.

As required per Part 1, Section A 2 in the current National Pollution Discharge Elimination System (NPDES) Permit No. MI0001597, weekly composite samples were collected from Monitoring Point 003A, except as follows. Following a detection of PCBs in the April 16<sup>th</sup> sample, maintenance and cleaning of the Outfall 003/004 System was implemented. During the period from April 16<sup>th</sup> to May 24<sup>th</sup> weekly sampling was suspended due to rain events and the system maintenance activities; however, four samples were collected during this time period to confirm that the PCBs were no longer being detected. Normal weekly sampling resumed on May 24<sup>th</sup>. This data will be included in the 2013 Yearly Pollutant Minimization Plan (PMP) for PCBs report, which will be submitted to the MDEQ as required in the NPDES permit.

### 1.2 Soil Samples

In April and May, ARCADIS collected soil samples as part of the Waste Management Unit (WMU) #3, AOI 83/84-3 Lead Soil Investigation and the Factory 31 Basement Investigation to delineate exceedances and/or area of impact. A total of 19 soil

samples were collected from 10 soil boring locations and submitted for laboratory analysis of volatile organic compounds (VOCs), semi volatile toxic organics (SVOCs), metals, and/or PCBs. This data will be included in the LNAPL remedy selection memos.

In June, ARCADIS collected soil samples as part of the Northern Parcel Investigation to delineate exceedances of criteria. Soil samples were collected from 12 soil boring locations and submitted for laboratory analysis of manganese. This data will be submitted in a brief memo report.

### **1.3 LNAPL Samples**

In May, ARCADIS collected four LNAPL samples as part of the LNAPL Investigation plan. The LNAPL samples were submitted for laboratory analysis of VOCs, SVOCs, metals, and/or PCBs. This data will be included in the LNAPL remedy selection memos.

### **1.4 Groundwater Samples**

In May, ARCADIS collected four groundwater samples as part of the Waste Management Unit (WMU) #3 investigation. The groundwater samples were submitted for laboratory analysis of VOCs. This data will be submitted in a brief memo report.

In June, 46 monitoring wells were sampled as part of the annual groundwater sampling event. The groundwater samples were submitted for laboratory analysis of VOCs, metals, and/or PCBs.

In June, eight monitoring wells were sampled to provide a current snapshot of select dissolved phase plumes at the Site. The groundwater samples were submitted for laboratory analysis of VOCs, SVOCs, metals, and/or PCBs.

### **1.5 AOI 09-B System Samples**

In April, May, and June ARCADIS collected samples from the AOI 09-B Multiphase Extraction (MPE) system as required by the City of Flint Sanitary Use Permit #2-02-RBC001. In accordance with the permit four grab samples and one composite sample are collected from the system effluent line on a monthly basis. The composite sample is submitted for laboratory analysis of ammonia-nitrogen, BOD, total phosphorous, total suspended solids, metals, SVOCs, and PCBs and the grab

samples were submitted for laboratory analysis of hexane extractable material (HEM), amenable cyanide, and VOCs plus xylenes. This data is submitted to the City of Flint on a monthly basis in the AOI 09-B Monthly Discharge Report.

In April, May and June additional system samples were collected to monitor system performance. Grab samples were collected from the carbon influent, carbon midfluent, and system influent sample ports. Samples from these three locations are submitted on a monthly basis for laboratory analysis of BTEX, VOCs, xylenes, and/or gasoline range organics.

In April, during system startup activities, an additional 14 grab samples were collected at various process locations for treatment process verification. These samples were submitted for laboratory analysis of ammonia-nitrogen, BOD, total phosphorous, total suspended solids, metals, SVOCs, HEM, amendable cyanide, VOCs, xylenes, BTEX, gasoline range organics, and/or PCBs.

In April, May, and June ARCADIS collected air samples from the AOI 09-B Multiphase Extraction (MPE) system as required by the Michigan Department of Environmental Quality (MDEQ) Permit # 165-11. Samples were collected from the Thermal Oxidizer influent piping. The samples were collected on a weekly basis from April 16, 2013 to May 17, 2013 for the startup period. A sample was collected on June 11, 2012 to begin the monthly sampling frequency as the weekly samples were within criteria of the permit.

## **2. Work Performed This Quarter**

Attachments 1, 2, and 3 present the monthly Site progress reports for April, May, and June which document the work performed this quarter.

## **3. Problems Encountered**

During the AOI 09-B MPE system startup, four Non-Compliance Advisories were issued in relation to the City of Flint Sanitary Use Permit #2-02-RBC001. The violations were due to: discharge criteria exceedances (ethylbenzene, xylenes, and zinc); hold time exceedances; and an event not completed on time. These issues were discussed with the City of Flint compliance officer and adjustments have been made to address these issues.

On June 24, 2013, a power surge to the AOI 09-B MPE system damaged some electrical components and shut down the system. The system was down for 3 days

before the components could be replaced. The system was restarted on June 27, 2013 upon completion of the replacement.

#### **4. Project Schedule – Near-Term Milestone Activities Anticipated During the Next Quarter**

A projected field work schedule for the third and fourth quarter is included in Attachment 4.

##### **4.1 Routine Work**

*Task 1 Outfall 003/004 Oil Removal Systems*

- Continue OMM inspections of system.

*Task 6 Maintain Booms on Outfalls*

- Continue to perform inspections and maintenance (as necessary) of Outfalls 002, 003, 004, and 005. Dispose of waste as necessary.
- Continue to performed inspections of Oil Interceptor #2.

*Task 8 NPDES PLUS Monitoring*

- Perform NPMP monitoring in July, August, and September.

*Task 10 Maintain Select Surface Covers*

- Perform quarterly inspection of surface cover.

*Task 12 Agency Coordination/Negotiation, Reporting, Project Management*

- Continue to participate in regulatory agency calls.
- Prepare Quarterly Report for submittal to EPA.

*Task 13 Outfall 002/005 Oil Minimization & Investigation*

- Continue quarterly P-trap inspections.

*Task 15 LNAPL Recovery OM&M Followed by Secondary LNAPL Remediation*

- Continue OM&M phase of AOI 09-B LNAPL remediation system.

## 4.2 Non-Routine Work

### Task 2 *LNAPL Investigation*

- Perform transmissivity testing at the Northend of the Site, if appropriate locations are identified.
- Complete NSZD testing at the Northend of the Site.
- Complete additional LNAPL investigation for plumes located at the Northend of the Site.
- Complete evaluation of Site data to aid in selecting methods and locations for additional LNAPL pilot testing.

### Task 3 *LNAPL Recovery Bench and Field-Scale Testing*

- Begin pilot testing activities at one or more LNAPL plumes.
- Conduct respirometry testing.

### Task 7 *Enhanced Groundwater Monitoring*

- Complete sampling of select additional wells to characterize the current conditions of the dissolved phase plumes associated with the Site LNAPL plumes.

### Task 9 *RCRA Closures, Well Abandonment, Restrictive Covenants, Resolve UST Issues*

- Coordinate with the EPA and MDEQ to transfer open LUST issues to RCRA Corrective Action.

### Task 10 *Maintain Select Surface Covers*

- Dispose of the AOI 09-B soil pile.
- Install additional surface cover as required.

### Task 11 *Lead Soil Removal*

- Begin lead soil removal activities.

### Task 13 *Outfall 002/005 Oil Minimization & Investigation*

- Complete bulkhead activities at select locations.

- Complete evaluation of possible re-routing options for Outfall 004 and 003 storm sewer.
- Investigate additional bulkheading location options.

## 5. Estimated Percent Complete

### *Task 1 Outfall 003/004 Oil Removal Systems*

- Outfall 003/004 Oil removal System OM&M - Ongoing

### *Task 2 LNAPL Investigation*

- LNAPL LIF Investigations – 100%
- Southend Natural Source Zone Depletion Study – 100%
- Southend Transmissivity Testing – 100%
- Northend Natural Source Zone Depletion Study – 50%
- Northend Transmissivity Testing – 15%
- Additional LNAPL Investigation – 65%

### *Task 3 LNAPL Recovery Bench and Field-Scale Testing*

- LNAPL Bench Scale Testing – 100%
- LNAPL Pilot Scale Testing – 33%

### *Task 7 Enhanced Groundwater Monitoring*

- Groundwater Monitoring – Ongoing

### *Task 8 NPDES PLUS Monitoring*

- NPDES PLUS Monitoring – Ongoing

### *Task 9 RCRA Closures, Well Abandonment, Restrictive Covenants, Resolve UST Issues*

- Northend RCRA WMU Closures – 90%
- Southend RCRA WMU Closures – 90%
- Northend Restrictive Covenant – 0%



- Southend Restrictive Covenant – 90%
- Monitoring Well Abandonments – 5%
- UST Issue Resolution – 10%

*Task 10 Maintain Select Surface Covers*

- Maintain Select Surface Covers – Ongoing
- Installation of Additional Surface Cover – Southend – 50%

*Task 11 Lead Soil Removal*

- Lead Soil Removal – 25%
- Northern Parcel Investigation – 90%

*Task 12 Agency Coordination/Negotiation, Reporting, Project Management*

- RFI Phase I Report - 100%
- RFI Phase II Report - 100%
- Human Health Exposure Control EI Report - 100%
- CA 750 Report - 100%
- Revised Corrective Measures Proposal (CMP), May 1, 2008 – 100%
- Revised CMP Addendum No. 1 – 100%
- Southend Corrective Measures Implementation (CMI) Work Plan – 100%
- Revised CMP Addendum No. 2 – Northend and Site-wide Groundwater - 100%
- Revised CMP Addendum No. 2-1 – Response to EPA Comments - 100%
- 2012 CMI Annual Report – 100%

*Task 13 Outfall 002/005 Oil Minimization & Investigation*

- Outfall 002 Storm Sewer Evaluation - 100%
- Outfall 003 Storm Sewer Evaluation – 40%
- Outfall 004 Re-route into Outfall 013 Evaluation - 35%
- Outfall 005 Storm Sewer Evaluation – 100%

- Outfall 002 Final Measure Implementation– 90%
  - Began Outfall 002 Bulkheading on 2/26/13.
- Outfall 003 Final Measure Implementation – 25%
  - Began Outfall 003 Bulkheading at select locations on 2/26/13.
- Outfall 005 Final Measure Implementation – 90%
  - Began Outfall 005 Bulkheading on 2/26/13.
- Outfall 007 Final Measure Implementation – 90%
  - Began Outfall 007 Bulkheading on 2/26/13.

*Task 14 Address 15 Areas of Subsurface LNAPL*

- Address 15 Areas of LNAPL – 7%
  - AOI 09-B System Design, Permitting, and Construction – 100%

*Task 15 LNAPL Recovery OM&M Followed by Secondary LNAPL Remediation*

- LNAPL Recovery OM&M – 8%
- Secondary LNAPL Remediation – 0%

**6. Budget Status**

- 2013 Budget – The 2013 Budget Request has been approved by the EPA.



If you have any questions, please call me.

Sincerely,  
ARCADIS

Micki Maki, P.E.  
Project Manager

Copies:

Peter Quackenbush, Michigan Department of Environmental Quality, (via email)  
William Yocum, Michigan Department of Environmental Quality (via email)  
Flint Public Library  
Grant Trigger, RACER Trust (via email)  
Dave Favero, RACER Trust (via email)

Attachments:

Attachment 1 – April 2013 Project Update - RACER Buick City Site  
Attachment 2 – May 2013 Project Update - RACER Buick City Site  
Attachment 3 – June 2013 Project Update - RACER Buick City Site  
Attachment 4 – RACER Buick City Field Schedule – Third and Fourth Quarter



**Attachment 1**

April 2013 Project Update



ARCADIS G&M of Michigan, LLC  
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**MEMO**

To:  
Chris Black, USEPA

Copies:  
Grant Trigger, RACER  
Dave Favero, RACER  
Christi Kiker, ARCADIS

From:  
Micki M. Maki

Date:  
May 15, 2013

ARCADIS Project No.:  
B0064410.2013

Subject:  
April 2013 Project Update - RACER Buick City Site, Flint, Michigan

---

On behalf of Revitalizing Auto Communities Environmental Response (RACER) Trust, ARCADIS is submitting this April 2013 Project Update to provide a brief summary of work performed at the Buick City Site (the Site) from April 1, 2013 through April 30, 2013.

**Task 1 - Outfall 003/004 Oil Removal Systems**

Routine Work

- Continued operations, maintenance, and monitoring (OMM) activities on the 003/004 system. Inspections are being performed once per week to ensure that the system is running properly and to determine if any system modifications are warranted to optimize system performance.
- Performed HDPE pipe maintenance to address blockage.

Non - Routine Work

- No work performed.

**Task 2 - LNAPL Investigation**

Routine Work

- No work performed.

Non - Routine Work

- Developed seven monitoring wells in preparation for the Northend transmissivity testing. Additional transmissivity testing may be completed, if sufficient LNAPL is present during summer gauging activities.
- Completed the Northend transmissivity testing.
- Completed the LNAPL Investigation Work Plan #2 and submitted to the EPA for approval.
- Completed the scope of work presented in the Factory 83/84 Investigation Work Plan including installing boring/wells installation to delineate LNAPL; collecting soil samples to delineate lead at AOI 83/84-3; and completing shallow borings in the Former Factory 31 Basement to investigate the claim regarding buried drums. Additional delineation activities are planned to be completed in May.
- Completed the LNAPL investigation soil borings presented in the LNAPL Investigation Work Plan #1.

**Task 3 - LNAPL Recovery Bench and Field-Scale Testing**

Routine Work

- No work performed.

Non - Routine Work

- Continued reviewing data for Northend AOI's and developed next step and technology/remedy options.
- LNAPL samples were collected and shipped to TEA, Inc. for treatment testing.

**Task 4 - Operate Fact. 10 LNAPL/GW System**

- Task Completed.

**Task 5 - Operate Fact. 36 LNAPL/GW System**

- Task Completed.

**Task 6 - Maintain Booms on Outfalls**

Routine Work

- Performed inspections and maintenance (as necessary) of Outfalls 002, 003, 004, and 005. Disposed of waste as necessary.

- Performed inspections of Oil Interceptor #2.

Non - Routine Work

- No work performed.

**Task 7 - Enhanced Groundwater Monitoring**

Routine Work

- No work performed.

Non - Routine Work

- Began planning and coordination of Annual groundwater event. The event will be conducted in June 2013.

**Task 8 - NPDES PLUS Monitoring**

Routine Work

- Completed the monthly NPDES Plus Monitoring event for April.

Non - Routine Work

- Continued evaluation of the GSI pathway and prepared a sampling plan to determine whether the pathway is applicable.

**Task 9 - RCRA Closures, Well Abandonment, Restrictive Covenants, Resolve UST Issues**

Routine Work

- No work performed.

Non - Routine Work

- Continued to address Waste Management Unit closure.
- Coordinated payment of the annual Hazardous Waste User fee.

**Task 10 – Maintain Select Surface Covers**

Routine Work

- No work performed.

Non - Routine Work

- Contracted Select Surface Cover subcontractor and coordinated cover installation event.
- Collected and submitted the AOI 09-A soil pile waste characterization samples for analysis.

**Task 11 - Lead Soil Removal**

Routine Work

- No work performed.

Non - Routine Work

- Completed the next phase of delineation field work for the Northern Parcel investigation of inhalation criteria exceedances for manganese. Additional delineation work is planned to be completed in May.
- Completed the draft AOI 09-A Soil Removal RFP.

**Task 12 - Agency Coordination/Negotiation, Reporting, Project Management**

Routine Work

- Prepared the Monthly EPA update memo.

Non - Routine Work

- Completed and submitted the EPA Quarterly Report.
- Revised the site specific Health and Safety Plan (HASP) for changed conditions at the Site.
- Completed Budget Amendment #1.

**Task 13 - Outfall 002/005 Oil Minimization & Investigation**

Routine Work

- Not Applicable.

Non - Routine Work

- Continue engineering evaluation of drainage areas and existing sewer pipe capacities for re-routing the Outfall 004 storm sewer at the upgradient Site property boundary into the Outfall 013 storm sewer.
- Attempted to complete bulkheading construction activities at Outfall storm sewers 002, 003, 005, and 007. The completion was rescheduled due to rainfall and increased flow through the sewer mains.

**Task 14 - Address 15 Areas of Subsurface LNAPL**

Routine Work

- Not Applicable.

Non - Routine Work

- Not Applicable.



**Task 15 - LNAPL Recovery OM&M Followed by Secondary LNAPL Remediation**

Routine Work

- Not Applicable.

Non - Routine Work

- Performed startup of the AOI 09-B MPE treatment system.



**Attachment 2**

May 2013 Project Update



ARCADIS G&M of Michigan, LLC  
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**MEMO**

To:  
Chris Black, USEPA

Copies:  
Grant Trigger, RACER  
Dave Favero, RACER  
Christi Kiker, ARCADIS

From:  
Micki M. Maki

Date:  
June 18, 2013

ARCADIS Project No.:  
B0064410.2013

Subject:  
May 2013 Project Update - RACER Buick City Site, Flint, Michigan

---

On behalf of Revitalizing Auto Communities Environmental Response (RACER) Trust, ARCADIS is submitting this May 2013 Project Update to provide a brief summary of work performed at the Buick City Site (the Site) from May 1, 2013 through May 31, 2013.

**Task 1 - Outfall 003/004 Oil Removal Systems**

Routine Work

- Continued operations, maintenance, and monitoring (OMM) activities on the 003/004 system. Inspections are being performed once per week to ensure that the system is running properly and to determine if any system modifications are warranted to optimize system performance.

Non - Routine Work

- Planned and coordinated annual maintenance and clean out of BaySeparator and oil water separator (OWS).
- Completed annual clean out of BaySeparator and OWS.
- Completed waste characterization sampling and laboratory analysis.

**Task 2 - LNAPL Investigation**Routine Work

- No work performed.

Non - Routine Work

- Planned and coordinated Natural Source Zone Depletion study event scheduled to take place in June.
- Completed transmissivity test waste characterization, inspection/documentation, and removal.
- Completed analysis of transmissivity test data.
- Developed, gauged, and collected LNAPL samples from select wells.
- Completed proposed delineation investigations at the AOI 36-1 Mineral Seal/Hydraulic Oil plume and Factory 83/84.
- Completed development at monitoring wells to be sampled as part of the dissolved phase evaluation
- Drafting LNAPL Evaluation and Remedy Selection memos.

**Task 3 - LNAPL Recovery Bench and Field-Scale Testing**Routine Work

- No work performed.

Non - Routine Work

- No work performed.

**Task 4 - Operate Fact. 10 LNAPL/GW System**

- Task Completed.

**Task 5 - Operate Fact. 36 LNAPL/GW System**

- Task Completed.

**Task 6 - Maintain Booms on Outfalls**Routine Work

- Performed inspections and maintenance (as necessary) of Outfalls 002, 003, 004, and 005. Disposed of waste as necessary.
- Performed inspections of Oil Interceptor #2.

Non - Routine Work

- No work performed.

**Task 7 - Enhanced Groundwater Monitoring**Routine Work

- No work performed.

Non - Routine Work

- Continued planning and coordination of annual groundwater event. The event will be conducted in June 2013.
- Coordinated and completed development of wells that were added to annual groundwater sampling program.
- Submitted work plan to CSX for upcoming well abandonment, development, and sampling.
- Abandoned and re-installed two damaged monitoring wells located on CSX property.

**Task 8 - NPDES PLUS Monitoring**Routine Work

- Completed the monthly NPDES Plus Monitoring event for April.

Non - Routine Work

- Assessed revised NPMP sampling per bulkheading and removal of Outfalls 002, 005, and 007 from monthly sampling event.

**Task 9 - RCRA Closures, Well Abandonment, Restrictive Covenants, Resolve UST Issues**Routine Work

- Completed delineation investigations at Waste Management Unit (WMU) #3.

Non - Routine Work

- Coordinated upcoming surveying event.

**Task 10 – Maintain Select Surface Covers**

Routine Work

- No work performed.

Non - Routine Work

- Completed Select Surface Cover installation at locations between Leith Street and Hamilton Ave.
- Received and reviewed analytical data for AOI 09-A soil pile waste characterization.

**Task 11 - Lead Soil Removal**

Routine Work

- No work performed.

Non - Routine Work

- Completed additional delineation work at the Northern Parcel.
- Prepared the waste characterization profiles for the AOI 09-A soil removal.
- Completed Bid Walk for AOI 09-A soil removal.

**Task 12 - Agency Coordination/Negotiation, Reporting, Project Management**

Routine Work

- Prepared the Monthly EPA update memo.

Non - Routine Work

- Prepared for and attended EPA meeting in Chicago, IL.

**Task 13 - Outfall 002/005 Oil Minimization & Investigation**

Routine Work

- Not Applicable.

Non - Routine Work

- Continued engineering evaluation of drainage areas and existing sewer pipe capacities for re-routing the Outfall 004 storm sewer at the upgradient Site property boundary into the Outfall 013 storm sewer.
- Prepared and attended meeting with City of Flint regarding rerouting of Outfall 004.

- Completed bulk heading construction activities at Outfall storm sewers 002, 003, 005, and 007

**Task 14 - Address 15 Areas of Subsurface LNAPL**

Routine Work

- Not Applicable.

Non - Routine Work

- Not Applicable.

**Task 15 - LNAPL Recovery OM&M Followed by Secondary LNAPL Remediation**

Routine Work

- Performed operations, maintenance, and monitoring (OMM) activities on the AOI-09B system.

Non - Routine Work

- Not Applicable.



**Attachment 3**

June 2013 Project Update





ARCADIS G&M of Michigan, LLC  
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**MEMO**

To:  
Chris Black, USEPA

Copies:  
Grant Trigger, RACER  
Dave Favero, RACER  
Christi Kiker, ARCADIS

From:  
Micki M. Maki

Date:  
July 15, 2013

ARCADIS Project No.:  
B0064410.2013

Subject:  
June 2013 Project Update - RACER Buick City Site, Flint, Michigan

---

On behalf of Revitalizing Auto Communities Environmental Response (RACER) Trust, ARCADIS is submitting this June 2013 Project Update to provide a brief summary of work performed at the Buick City Site (the Site) from June 1, 2013 through June 30, 2013.

**Task 1 - Outfall 003/004 Oil Removal Systems**

Routine Work

- Continued operations, maintenance, and monitoring (OMM) activities on the 003/004 system. Inspections are being performed once per week to ensure that the system is running properly and to determine if any system modifications are warranted to optimize system performance.

Non - Routine Work

- Reviewed waste characterization data and planned for disposal of waste generated from the maintenance and clean out of BaySeparator and oil water separator (OWS).
- Completed segregation of the oil/sediment from water and collected additional characterization samples. Based on discussions with the EPA and results of the waste characterization sampling approximately 5,000 gallons of oil and sediment were shipped to Port Arthur, Texas for disposal. Approximately 15,500 gallons of segregated water was

sampled and did not detect PCBs. The water was disposed of at the EQ facility in Belleville, MI.

### **Task 2 - LNAPL Investigation**

#### Routine Work

- No work performed.

#### Non - Routine Work

- Installed carbon traps on the Northend of Buick City for the Natural Source Zone Depletion study.
- Drafted Evaluation and Remedy Recommendation memos and figures for AOI 12-A, B, and C, AOI 36-1, AOI 86-1, AOI 05-1/05-5, and AOI 10-1/10-4.

### **Task 3 - LNAPL Recovery Bench and Field-Scale Testing**

#### Routine Work

- No work performed.

#### Non - Routine Work

- No work performed.

### **Task 4 - Operate Fact. 10 LNAPL/GW System**

- Task Completed.

### **Task 5 - Operate Fact. 36 LNAPL/GW System**

- Task Completed.

### **Task 6 - Maintain Booms on Outfalls**

#### Routine Work

- Performed inspections and maintenance (as necessary) of Outfalls 002, 003, 004, and 005. Disposed of waste as necessary.
  - As a result of the Bulkheading work previously performed at the site, Observations of sheen and product at Outfall 002 have dramatically decreased. Recent observations have noted that oxidized oil is very minimal and the amount of emulsified oil has steadily declined since bulkheading activities were completed.
- Performed inspections of Oil Interceptor #2.

Non - Routine Work

- No work performed.

**Task 7 - Enhanced Groundwater Monitoring**

Routine Work

- Completed planning and coordination of annual groundwater event.
- Completed annual groundwater sampling event.

Non - Routine Work

- Completed monitoring well installation, development and well abandonment.

**Task 8 - NPDES PLUS Monitoring**

Routine Work

- Completed the monthly NPDES Plus Monitoring event for June.

Non - Routine Work

- Evaluated manholes downgradient of Outfall 002 bulkhead for possible sampling locations as requested by the EPA.

**Task 9 - RCRA Closures, Well Abandonment, Restrictive Covenants, Resolve UST Issues**

Routine Work

- No work performed.

Non - Routine Work

- Disposed of waste generated from the WMU #3 investigation.

**Task 10 – Maintain Select Surface Covers**

Routine Work

- Performed quarterly inspection of select surface covers.

Non - Routine Work

- No work performed.

**Task 11 - Lead Soil Removal**

Routine Work

- No work performed.

Non - Routine Work

- Completed bid walk for AOI 09-A soil removal Request for Proposal.
- Received and reviewed bids for AOI 09-A soil removal.
- Completed delineation activities at the Northern Parcel and compiled analytical data.

**Task 12 - Agency Coordination/Negotiation, Reporting, Project Management**

Routine Work

- Prepared the Monthly EPA update memo.

Non - Routine Work

- Coordinated and prepared for EPA meeting in July.
- Prepared for and attended public meetings for the Buick City Site.

**Task 13 - Outfall 002/005 Oil Minimization & Investigation**

Routine Work

- Not Applicable.

Non - Routine Work

- Continued engineering evaluation of drainage areas and existing sewer pipe capacities for re-routing the Outfall 004 storm sewer at the upgradient Site property boundary into the Outfall 013 storm sewer.
- Installed flow monitors in Outfall 004 and Outfall 013 to collect data for the rerouting design.
- Initiated additional boom study activities along the Outfall 003 storm sewer.
- Complete video camera recording of Outfall 003 storm sewer sections to identify additional bulkheading locations and areas of infiltration.

**Task 14 - Address 15 Areas of Subsurface LNAPL**

Routine Work

- Not Applicable.

Non - Routine Work

- Not Applicable.

**Task 15 - LNAPL Recovery OM&M Followed by Secondary LNAPL Remediation**

Routine Work

- Performed operations, maintenance, and monitoring (OMM) activities on the AOI-09B system. Free product and groundwater removal is summarized below.
  - Removal as follows:

Substance	June Removal	Total Removal
Free Product (measured)	~43 gallons	103 gallons
Groundwater Discharge (Measured)	158,501 gallons	261,346 gallons

- Performed OMM activities on the Outfall 002 passive recovery trench.

Non - Routine Work

- Not Applicable.



**Attachment 4**

RACER Buick City Field Schedule  
2013 Third and Fourth Quarter

### RACER Buick City 2013 Field Schedule Third and Fourth Quarters

ID	Task Name	Duration	Start	Finish	Jul 7, '13							Aug 4, '13							Sep 1, '13							Sep 29, '13							Oct 27, '13							Nov 24, '13							Dec 22, '13						
					W	S	T	M	F	T	S	W	S	T	M	F	T	S	W	S	T	M	F	T	S	W	S	T	M	F	T	S	W	S	T	M																	
1	REMEDIATION ACTIVITIES - Third and Fourth Quarter	132 days?	Mon 7/1/13	Tue 12/31/13	[Yellow bar]																																																
2	<b>Task 1 - Outfall 003/004 Oil Removal Systems</b>	131 days	Mon 4/1/13	Mon 9/30/13	[Yellow bar]																																																
3	<b>Subtask 01 - Weekly Inspections</b>	132 days	Mon 7/1/13	Tue 12/31/13	[Green hatched bar]																																																
4	<b>Subtask 03 - Maintenance Event</b>	8 days	Mon 12/2/13	Wed 12/11/13	[Yellow bar]																																																
5	003/004 Maintenance Event	8 days	Mon 12/2/13	Wed 12/11/13	[Yellow bar]																																																
6	<b>Task 2 - LNAPL Investigation</b>	121 days	Mon 1/14/13	Sun 6/30/13	[Yellow bar]																																																
7	<b>Subtask 04 - Natural Source Zone Depletion Study (Northend)</b>	12 days	Mon 7/1/13	Tue 7/16/13	[Blue hatched bar]																																																
8	One Time Field Event	12 days	Mon 7/1/13	Tue 7/16/13	[Blue hatched bar]																																																
9	<b>Subtask 05 - LNAPL Transmissivity Evaluation (Northend)</b>	17 days	Mon 4/1/13	Tue 4/23/13	[Blue hatched bar]																																																
10	Well Development - Phase 2 Wells	3 days	Mon 7/15/13	Wed 7/17/13	[Blue hatched bar]																																																
11	Transmissivity Testing - Phase 2	7 days	Mon 8/12/13	Tue 8/20/13	[Blue hatched bar]																																																
12	<b>Subtask 06- Miscellaneous LNAPL Evaluation/Testing</b>	55 days	Mon 7/22/13	Fri 10/4/13	[Yellow bar]																																																
13	Respirometry Testing	5 days	Mon 8/19/13	Fri 8/23/13	[Yellow bar]																																																
14	Soil boring/well installation Investigation	10 days	Mon 7/22/13	Fri 8/2/13	[Yellow bar]																																																
15	Soil boring/well installation Investigation	10 days	Mon 8/19/13	Fri 8/30/13	[Yellow bar]																																																
16	Soil boring/well installation Investigation	10 days	Mon 9/23/13	Fri 10/4/13	[Yellow bar]																																																
17	<b>Task 3 - Benchscale/pilot testing</b>	131 days	Mon 4/1/13	Mon 9/30/13	[Yellow bar]																																																
18	Pilot testing for first 5 priority AOI's (if necessary)	27 days	Mon 8/12/13	Tue 9/17/13	[Blue hatched bar]																																																
19	Pilot testing for second 5 priority AOI's (if necessary)	30 days	Mon 9/9/13	Fri 10/18/13	[Blue hatched bar]																																																
20	Pilot testing for third 5 priority AOI's (if necessary)	43 days	Mon 10/14/13	Wed 12/11/13	[Blue hatched bar]																																																
21	<b>Task 6 - Maintain Booms on Outfalls</b>	132 days	Mon 7/1/13	Tue 12/31/13	[Yellow bar]																																																
22	<b>Subtask 00 - Oil Interceptor #2 Inspection and Waste Removal</b>	132 days	Mon 7/1/13	Tue 12/31/13	[Yellow bar]																																																
23	<b>Subtask 01 - Outfall Boom Inspections and Maintenance - 2 hours per day</b>	132 days	Mon 7/1/13	Tue 12/31/13	[Yellow bar]																																																
24	<b>Task 7 - Enhanced Groundwater Sampling</b>	12 days	Mon 9/16/13	Tue 10/1/13	[Blue hatched bar]																																																
25	Additional Sampling Event	12 days	Mon 9/16/13	Tue 10/1/13	[Blue hatched bar]																																																
26	<b>Task 8 - NPDES PLUS Monitoring</b>	115 days	Tue 7/2/13	Mon 12/9/13	[Yellow bar]																																																
27	July NPMP Sampling Event	1 day	Tue 7/2/13	Tue 7/2/13	[Yellow dot]																																																
28	August NPMP Sampling Event	1 day	Tue 8/6/13	Tue 8/6/13	[Yellow dot]																																																
29	September NPMP Sampling Event	1 day	Tue 9/3/13	Tue 9/3/13	[Yellow dot]																																																
30	October NPMP Sampling Event	1 day	Tue 10/8/13	Tue 10/8/13	[Yellow dot]																																																
31	November NPMP Sampling Event	1 day	Tue 11/5/13	Tue 11/5/13	[Yellow dot]																																																
32	December NPMP Sampling Event	1 day	Mon 12/9/13	Mon 12/9/13	[Yellow dot]																																																
33	<b>Task 9 - RCRA Closures, Well Abandonment, Restrictive covenants, Resolve UST Issues</b>	1 day?	Mon 7/1/13	Mon 7/1/13	[Yellow bar]																																																
34	<b>Task 10 - Maintain Select Surface Covers</b>	81 days	Mon 8/26/13	Mon 12/16/13	[Yellow bar]																																																
35	<b>Subtask 00 - Surface Cover Inspections</b>	70 days	Tue 9/10/13	Mon 12/16/13	[Yellow bar]																																																
36	3rd Quarter Inspection	1 day	Tue 9/10/13	Tue 9/10/13	[Yellow dot]																																																
37	4th Quarter Inspection	1 day	Mon 12/16/13	Mon 12/16/13	[Yellow dot]																																																
38	<b>Subtask 01 - Surface Cover Implementation</b>	5 days	Mon 8/26/13	Fri 8/30/13	[Yellow bar]																																																
39	Surface cover installation - Phase 2	5 days	Mon 8/26/13	Fri 8/30/13	[Yellow bar]																																																
40	<b>Task 11 - AOI 09-A Soil Removal</b>	45 days	Mon 7/1/13	Fri 8/30/13	[Yellow bar]																																																
41	<b>Subtask 01 - Soil Removal</b>	45 days	Mon 7/1/13	Fri 8/30/13	[Yellow bar]																																																
42	Planning	15 days	Mon 7/1/13	Fri 7/19/13	[Red hatched bar]																																																
43	AOI 09-A Soil Removal	20 days	Mon 8/5/13	Fri 8/30/13	[Red hatched bar]																																																
44	<b>Task 13 - Outfall 002/005 Oil Minimization &amp; Investigation</b>	100 days	Mon 5/6/13	Fri 9/20/13	[Yellow bar]																																																
45	<b>Subtask 01 - Outfall Bulkhead Design</b>	34 days	Mon 5/6/13	Thu 6/20/13	[Yellow bar]																																																
46	Additional Bulkhead Investigations	15 days	Mon 7/15/13	Fri 8/2/13	[Green hatched bar]																																																
47	Outfall 004 Reroute Investigation	60 days	Mon 7/1/13	Fri 9/20/13	[Green hatched bar]																																																
48	Outfall 003 Boom Study	45 days	Mon 7/1/13	Fri 8/30/13	[Green hatched bar]																																																
49	<b>Subtask 03 - Outfall 002 &amp; 005 Bulkhead implementation</b>	3 days	Mon 9/9/13	Wed 9/11/13	[Yellow bar]																																																
50	Bulkhead Implementation	3 days	Mon 9/9/13	Wed 9/11/13	[Yellow bar]																																																
51	<b>Task 15 - LNAPL Recovery OM&amp;M Followed by Secondary LNAPL Remediation</b>	132 days	Mon 7/1/13	Tue 12/31/13	[Yellow bar]																																																
52	Outfall 002 Passive Recovery Trench	132 days	Mon 7/1/13	Tue 12/31/13	[Yellow bar]																																																
53	AOI 09-B NAPL Recovery O&M	132 days	Mon 7/1/13	Tue 12/31/13	[Yellow bar]																																																

Routine Task
Non-Routine Task
Drilling Events
Construction Events