

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:
Third Quarter 2013 Progress Report (No. 9)
Revitalizing Auto Communities Environmental Response (RACER) Trust
Buick City Site, Flint, Michigan

Date:
October 16, 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 Third Quarter 2013 Progress Report (No. 9) 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 Third Quarter 2013 Progress Report (No. 9) covers the period of July 1, 2013 through September 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 July, August, and September, ARCADIS conducted the "NPDES Plus" Monitoring Program (NPMP) sampling program. The NPMP consists of collecting monthly samples from the following Site storm sewers as access allowed: MP001, MP003, MP006, MP009, MP010, MP011, and MP013. This data will be included in the annual CMI Report.

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. 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 September, ARCADIS collected soil samples as part of the LNAPL area investigations to delineate and characterize the impacts in soil. A total of 97 soil samples were collected from 31 soil boring locations and submitted for laboratory analysis of volatile organic compounds (VOCs), semi volatile organic compounds (SVOCs), metals, and/or PCBs. This data will be included in the LNAPL remedy selection memos.

In September, ARCADIS collected soil samples as part of the Northern Parcel Investigation to investigate two former hydraulic lifts. Soil samples were collected from six soil boring locations and submitted for laboratory analysis of VOCs, SVOC, PCBs and selected metals. This data will be submitted in a brief memo report.

In September, ARCADIS also collected soil samples as part of the AOI 09-A Soil Removal event. A total of 73 soil samples were collected and submitted to Merit Laboratories located in East Lansing, Michigan for analysis of lead or polynuclear aromatics. Two samples were collected of the backfill material and analyzed for the CSX Backfill requirements.

1.3 LNAPL Samples

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

1.4 Groundwater Samples

In September 2013, groundwater samples from 10 monitoring wells were collected and analyzed at select monitoring wells to confirm results of the June 2013 sampling event. The groundwater samples were submitted for laboratory analysis of VOCs, cyanide and select metals. This data will be included in the annual CMI Report.

1.5 AOI 09-B System Samples

In July, August, and September, 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 July, August, and September, 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 July, August, and September, ARCADIS collected monthly 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. This data is submitted to the MDEQ on a monthly basis in the AOI 09-B Monthly Air Report.

2. Work Performed This Quarter

Attachments 1, 2, and 3 present the monthly Site progress reports for July, August, and September which document the work performed this quarter.

3. Problems Encountered

No problems encountered.

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

A projected field work schedule for the fourth quarter of 2013 and first quarter of 2014 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 October, November, and December.

Task 10 Maintain Select Surface Covers

- Perform quarterly/bi-annual 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.
- Continue OM&M phase of Outfall 002 passive recovery trench.

4.2 Non-Routine Work

Task 2 LNAPL Investigation

- Complete additional investigation of LNAPL plumes and impacts.
- 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

- Propose pilot testing activities to EPA for approval.
- Conduct respirometry testing on samples collected from AOI 02-B.

Task 7 Enhanced Groundwater Monitoring

- Complete data evaluation for the June annual groundwater sampling event as well as the June and September 2013 sampling event from 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

- Complete remedy recommendations for waste management units (WMU) #3, #7, and #10.

Task 13 Outfall 002/005 Oil Minimization & Investigation

- Complete additional bulkhead activities at select locations.
- Complete evaluation of possible re-routing options for Outfall 004 and 003 storm sewer.

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 – 90%
- Northend Transmissivity Testing – 75%
- Additional LNAPL Investigation – 75%

Task 3 LNAPL Recovery Bench and Field-Scale Testing

- LNAPL Bench Scale Testing – 25%
- 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 – 100%

Task 11 Lead Soil Removal

- Lead Soil Removal – 90%

- 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 - 40%
- Outfall 005 Storm Sewer Evaluation – 100%
- Outfall 002 Final Measure Implementation– 90%
- Outfall 003 Final Measure Implementation – 25%
- Outfall 005 Final Measure Implementation – 90%
- Outfall 007 Final Measure Implementation – 100%

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 – 20%
- Secondary LNAPL Remediation – 0%

6. Budget Status

- 2013 Budget – The 2013 Budget Request has been approved by the EPA.
- 2013 Budget Amendments No.1 and 2 - Budget Amendments No. 1 and 2 have been approved by the EPA.
- 2013 Budget Amendment No. 3 – Budget Amendment No. 3 is currently being drafted for submittal to the EPA.
- 2014 Budget – The 2014 Budget request is being drafted for submittal to 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 – July 2013 Project Update - RACER Buick City Site
Attachment 2 – August 2013 Project Update - RACER Buick City Site
Attachment 3 – September 2013 Project Update - RACER Buick City Site
Attachment 4 – RACER Buick City Field Schedule – 4th Quarter 2013 and 1st Quarter 2014



Attachment 1

July 2013 Project Update



ARCADIS G&M of Michigan, LLC
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Michigan 48116
Tel 810 229 8594
Fax 810 229 8837

MEMO

To:
Chris Black, USEPA

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

From:
Micki M. Maki

Date:
August 17, 2013

ARCADIS Project No.:
B0064410.2013

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

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

- Completed decontamination, waste disposal, and demobilization activities associated with the Outfall 003/004 system maintenance event.

Task 2 - LNAPL Investigation

Routine Work

- No work performed.

Non - Routine Work

- Removed carbon traps from the Northend of Buick City for the Natural Source Zone Depletion study and shipped to Colorado State University for analysis.
- Planned and coordinated the upcoming LNAPL transmissivity event planned for August.
- 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. Completed a senior level review of AOI 05-1/05-5 recommendation memo.

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

- Reviewed data collected from 2013 annual groundwater sampling event.
- Distributed laboratory analytical data from the 2013 annual groundwater sampling event to parties in accordance with existing access agreements.

Non - Routine Work

- Developed cost estimates for an additional limited groundwater sampling event planned for September.

Task 8 - NPDES PLUS Monitoring

Routine Work

- Completed the monthly NPDES Plus Monitoring event for July.

Non - Routine Work

- No work performed.

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

Routine Work

- No work performed.

Non - Routine Work

- No work performed.

Task 10 – Maintain Select Surface Covers

Routine Work

- No work performed.

Non - Routine Work

- No work performed.

Task 11 - Lead Soil Removal

Routine Work

- No work performed.

Non - Routine Work

- Coordinated Subcontractor selection for the AOI 09-A soil removal with RACER.
- Revised Drafted Northern Parcel memo to incorporate delineation data..

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

Routine Work

- Prepared the Monthly EPA update memo and the quarterly progress report.

Non - Routine Work

- Prepared for and attended a meeting with the EPA in Chicago.

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.
- Reviewed data from flow monitors in Outfall 004 and Outfall 013 for the rerouting design.
- Continued boom study activities along the Outfall 003 storm sewer.
- Reviewed the video camera recordings 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

- Began preparing 761.61(c) application for PCB waste disposal and remedy determinations.

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, vapor phase mass, and groundwater removal is summarized below.

Substance	June Removal	Total Removal
Free Product (measured)	~20.7 gallons	124.5 gallons
Vapor Phase Mass (Normalized)	463 pounds	1,446 pounds
Groundwater Discharge (Measured)	74,354 gallons	335,700 gallons

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

Non - Routine Work

- Not Applicable.



Attachment 2

August 2013 Project Update



ARCADIS G&M of Michigan, LLC
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Tel 810 229 8594
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MEMO

To:
Chris Black, USEPA

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

From:
Micki Maki

Date:
September 19, 2013

ARCADIS Project No.:
B0064410.2013

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

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

- No work performed.

Task 2 - LNAPL Investigation

Routine Work

- No work performed.

Non - Routine Work

- Coordinated, scheduled, and prepared to complete field work presented in LNAPL Investigation Work Plan #3 and #4.
- Completed utility clearance for LNAPL investigation field work.
- Continued development of Evaluation and Remedy Recommendation 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.
 - 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

- No work performed.

Non - Routine Work

- Coordinated and prepared for the additional September groundwater event.

Task 8 - NPDES PLUS Monitoring

Routine Work

- Completed the monthly NPDES Plus Monitoring event for August.

Non - Routine Work

- No work performed.

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

Routine Work

- Began updating Waste Management Unit #3 investigation memo.

Non - Routine Work

- No work performed.

Task 10 – Maintain Select Surface Covers

Routine Work

- Prepared for quarterly inspection of select surface covers.

Non - Routine Work

- Prepared for upcoming select surface cover installation.

Task 11 - Lead Soil Removal

Routine Work

- No work performed.

Non - Routine Work

- Coordinated and prepared for AOI 09-A soil excavation construction event.

- Provided requested information regarding the Northern Parcel.

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

Routine Work

- Prepared the Monthly EPA update memo.

Non - Routine Work

- Prepared for and attended a meeting with the EPA in Chicago.

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.
- Completed flow monitoring study for rerouting design.
- Continued boom study activities along the Outfall 003 storm sewer.

Task 14 - Address 15 Areas of Subsurface LNAPL

Routine Work

- Not Applicable.

Non - Routine Work

- Drafted the 761.61(c) application for PCB waste disposal and remedy determinations.

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

Routine Work

- Performed OMM activities on the AOI-09B system. Free product and groundwater removal is summarized below.
 - Removal as follows:

Substance	August Removal	Total Removal
Free Product (Measured)	~5.4 gallons	129.9 gallons
Vapor Phase Mass (Estimated)	99 pounds	1545 pounds
Groundwater Discharge (Measured)	116,596 gallons	452,296 gallons

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

Non - Routine Work

- Not Applicable.



Attachment 3

September 2013 Project Update



ARCADIS G&M of Michigan, LLC
10559 Citation Drive
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MEMO

To:
Chris Black, USEPA

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

From:
Micki Maki

Date:
October 14, 2013

ARCADIS Project No.:
B0064410.2013

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

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

- Completed a line jetting event to eliminate blockages in HDPE piping.

Task 2 - LNAPL Investigation

Routine Work

- No work performed.

Non - Routine Work

- Prepared draft Factory 31 basement memo and figures.
- Prepared draft 83/84 Lead Soil investigation memo.
- Coordinated and conducted LNAPL investigation activities for work plan #3.
- Coordinated and conducted LNAPL investigation activities for work plan #4.
- Continued development of Evaluation and Remedy Recommendation memos.

Task 3 - LNAPL Recovery Bench and Field-Scale TestingRoutine Work

- No work performed.

Non - Routine Work

- Investigated potential pilot test technologies.

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 OutfallsRoutine 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

- No work performed.

Non - Routine Work

- Conducted the additional September groundwater event.

Task 8 - NPDES PLUS Monitoring

Routine Work

- Completed the monthly NPDES Plus Monitoring event for September.

Non - Routine Work

- Developed draft upgradient contribution memo.

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

Routine Work

- No work performed.

Non - Routine Work

- Prepared draft WMU #3 memo.

Task 10 – Maintain Select Surface Covers

Routine Work

- Prepared for quarterly inspection of select surface covers.

Non - Routine Work

- Completed the Select Surface Cover Installation at AOI 09-A and 09-B.

Task 11 - Lead Soil Removal

Routine Work

- No work performed.

Non - Routine Work

- Began AOI 09-A soil excavation construction event.
- Completed former hydraulic lift investigation at the Northern Parcel.
- Provided requested information regarding the Northern Parcel.

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

Routine Work

- Prepared the Monthly EPA update memo.

Non - Routine Work

- Prepared for and attended a meeting with the EPA in Chicago.
- Prepared the 2014 Draft Budget and Schedule.

Task 13 - Outfall 002/005 Oil Minimization & Investigation

Routine Work

- Not Applicable.

Non - Routine Work

- Continue flow monitoring study for Outfall 004 rerouting design.
- Continued boom study activities along the Outfall 003 storm sewer.

Task 14 - Address 15 Areas of Subsurface LNAPL

Routine Work

- Not Applicable.

Non - Routine Work

- Begin estimating costs for design and implementation of remedy selections.

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	September Removal	Total Removal
Free Product (Measured)	~2 gallons	132 gallons
Vapor Phase Mass (Estimated)	110 pounds	1,700 pounds
Groundwater Discharge (Measured)	85,658.34 gallons	567,513.21 gallons

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

Non - Routine Work

- Not Applicable.



Attachment 4

RACER Buick City Field Schedule
4th Quarter 2013 and
1st Quarter 2014

RACER Buick City 2013 Field Schedule Fourth Quarter 2013 and First Quarter 2014

ID	Task Name	Duration	Start	Finish	Sep 29, '13	Oct 13, '13	Oct 27, '13	Nov 10, '13	Nov 24, '13	Dec 8, '13	Dec 22, '13	Jan 5, '14	Jan 19, '14	Feb 2, '14	Feb 16, '14	Mar 2, '14	Mar 16, '14							
					S	T	M	F	T	S	W	S	T	M	F	T	S	W	S	T	M	F	T	S
1	REMEDIATION ACTIVITIES - Second and Third Quarter	130 days	Tue 10/1/13	Mon 3/31/14	[Yellow bar]																			
2	Task 1 - Outfall 003/004 Oil Removal Systems	130 days	Tue 10/1/13	Mon 3/31/14	[Yellow bar]																			
3	Subtask 01 - Weekly Inspections	130 days	Tue 10/1/13	Mon 3/31/14	[Yellow bar]																			
4	Subtask 03 - Maintenance Event	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	[Blue grid bar]																			
6	Task 2 - LNAPL Investigation	18 days	Mon 10/14/13	Wed 11/6/13	[Yellow bar]																			
7	Subtask 05 - LNAPL Transmissivity Evaluation (Northend)	3 days	Mon 11/4/13	Wed 11/6/13	[Yellow bar]																			
8	Transmissivity Testing	3 days	Mon 11/4/13	Wed 11/6/13	[Blue grid bar]																			
9	Subtask 06- Miscellaneous LNAPL Evaluation/Testing	18 days	Mon 10/14/13	Wed 11/6/13	[Yellow bar]																			
10	Respirometry Testing	3 days	Mon 11/4/13	Wed 11/6/13	[Yellow bar]																			
11	Soil boring/well installation - Work Plan #4	14 days	Mon 10/14/13	Thu 10/31/13	[Green hatched bar]																			
12	Task 3 - Benchscale/pilot testing	75 days	Mon 12/2/13	Fri 3/14/14	[Yellow bar]																			
13	Pilot testing for first 5 priority AOI's (if necessary)	10 days	Mon 12/2/13	Fri 12/13/13	[Yellow bar]																			
14	Pilot testing for second 5 priority AOI's (if necessary)	20 days	Mon 2/17/14	Fri 3/14/14	[Blue grid bar]																			
15	Task 6 - Maintain Booms on Outfalls	130 days	Tue 10/1/13	Mon 3/31/14	[Yellow bar]																			
16	Subtask 00 - Oil Interceptor #2 Inspection and Waste Removal	130 days	Tue 10/1/13	Mon 3/31/14	[Yellow bar]																			
17	Subtask 01 - Outfall Boom Inspections and Maintenance - 2 hours per day	130 days	Tue 10/1/13	Mon 3/31/14	[Yellow bar]																			
18	Task 8 - NPDES PLUS Monitoring	106 days	Mon 10/7/13	Mon 3/3/14	[Yellow bar]																			
19	October NPMP Sampling Event	1 day	Mon 10/7/13	Mon 10/7/13	[Yellow dot]																			
20	November NPMP Sampling Event	1 day	Mon 11/4/13	Mon 11/4/13	[Yellow dot]																			
21	December NPMP Sampling Event	1 day	Mon 12/2/13	Mon 12/2/13	[Yellow dot]																			
22	January NPMP Sampling Event	1 day	Mon 1/6/14	Mon 1/6/14	[Yellow dot]																			
23	February NPMP Sampling Event	1 day	Mon 2/3/14	Mon 2/3/14	[Yellow dot]																			
24	March NPMP Sampling Event	1 day	Mon 3/3/14	Mon 3/3/14	[Yellow dot]																			
25	Task 10 - Maintain Select Surface Covers	1 day	Mon 12/16/13	Mon 12/16/13	[Yellow bar]																			
26	Subtask 00 - Surface Cover Inspections	1 day	Mon 12/16/13	Mon 12/16/13	[Yellow bar]																			
27	Inspection	1 day	Mon 12/16/13	Mon 12/16/13	[Yellow dot]																			
28	Task 13 - Outfall 002/005 Oil Minimization & Investigation	170 days	Mon 5/6/13	Fri 12/27/13	[Yellow bar]																			
29	Subtask 01 - Outfall Bulkhead Design (Southend)	34 days	Mon 5/6/13	Thu 6/20/13	[Yellow bar]																			
30	Outfall 004 Reroute Investigation	23 days	Tue 10/1/13	Thu 10/31/13	[Red double bar]																			
31	Subtask 03 - Outfall 002 & 005 Bulkhead implementation	35 days	Mon 11/11/13	Fri 12/27/13	[Yellow bar]																			
32	Bulkhead Implementation	35 days	Mon 11/11/13	Fri 12/27/13	[Red double bar]																			
33	Task 15 - LNAPL Recovery OM&M Followed by Secondary LNAPL Remediation	130 days	Tue 10/1/13	Mon 3/31/14	[Yellow bar]																			
34	Outfall 002 Passive Recovery Trench	130 days	Tue 10/1/13	Mon 3/31/14	[Yellow bar]																			
35	AOI 09-B NAPL Recovery O&M - 2013	59 days	Tue 10/1/13	Fri 12/20/13	[Yellow bar] 0%																			
36	AOI 09-B NAPL Recovery O&M - 2013	21 days	Mon 3/3/14	Mon 3/31/14	[Yellow bar]																			

Routine Task
Non-Routine Task
Drilling Events
Construction Events