



MEMORANDUM

TO: Peter Ramanauskas/EPA

REF. NO.: 017322

CC: Dave Favero/RACER

FROM: Thomas Kinney/mc/22 *TKK*

DATE: November 21, 2013

RE: **Sampling and Analysis Plan and
Monitoring Well Abandonment Plan
PCC-Validation
Pontiac, Michigan**

1.0 INTRODUCTION

Conestoga-Rovers & Associates (CRA) is providing this memorandum on behalf of Revitalizing Auto Communities Environmental Response (RACER) Trust to provide a list of existing monitoring wells (MW) to be utilized for future monitoring and a list of MWs to be abandoned at the PCC-Validation (Site) located in Pontiac, Michigan. The decision to monitor or abandon applicable MWs at the Site was discussed by the United States Environmental Protection Agency (U.S. EPA), RACER and CRA during a conference call on October 24, 2013. The Scope of Work includes the MWs and rationale for continued use and abandonment.

2.0 SCOPE OF WORK

MWs to be Sampled/Sampling and Analysis Plan (SAP)

To continue monitoring the VOC/LNAPL plumes on-Site, 19 MWs will be monitored following methods described in the approved SAP/QAPP. Several of the MWs are utilized for multiple reasons and are repeated in the bullets below. MWs to be retained for sampling are identified on Table 1 and shown on Figure 1.

- MWs (MW2-07, MW80-12, MW81-12, MW92S/I-13 and MW93I-13,) are located in the northwest corner of the Site or northwest of the Site. The MWs will be retained to confirm off-Site impacts of volatile organic compounds (VOCs) are stable and not migrating.
- MWs (MW74-08 and MW91-12) are located in the southern half of the Site and will be retained to monitor VOC concentrations within the southern VOC plume.
- MWs (MW33-07, MW38-07, MW68-08, MW82-12, MW87-12, MW88-12 and MW90-12) are located in the southern half of the Site and will be retained to document the southern VOC plume is stable and not migrating.
- MWs (MW82-12 and MW83-12) are located along the western property boundary of the Site and will be retained to document impacted groundwater is not migrating off-Site via storm sewer corridors.
- MWs (MW69-08, MW84-12, and MW86-12) are located within the LNAPL plume located in the northern portion of Former Plant 3. The MWs will be retained to monitor LNAPL levels.
- MWs (MW68-08, MW74-08, MW85-12, MW87-12 and MW88-12) are located around the LNAPL plume located in the northern portion of Former Plant 3. The MWs will be retained to document the LNAPL is stable and not migrating. The wells are also being monitored to assess the southern VOC plume as described previously.

MWs to be Abandoned

Based on the results of investigations summarized in the Environmental Indicator (EI) CA725, EI CA750 and the Corrective Measures Proposal (CMP); CRA has discerned that 23 MWs can be properly and safely abandoned. These MWs (MW4-07, MW7-07, MW10-07, MW11-07, MW13-07, MW15-07, MW17-07, MW19-07, MW20-07, MW21-07, MW27-07, MW28-07, MW34-07, MW35-07, MW37-07, MW40-07, MW43-07, MW48-07, MW63-08, MW64-08, MW78-08, MW79-12, and MW89-12) are either up-gradient from the volatile organic compound/light non-aqueous phase liquid (VOC/LNAPL) plumes, not localized to the plumes, or do not provide sufficient data to further investigate the plumes on-Site.

Monitoring wells will be properly abandoned via pressure grouting the wells to the surface (as per ASTM D 5299-92). The flush mounted well covers will not be removed. MWs to be abandoned are identified on Table 2 and shown on Figure 1.

3.0 PROPOSED SCHEDULE**Task:**

Abandonment of Monitoring Wells
Annual Groundwater Monitoring
Annual Groundwater Monitoring

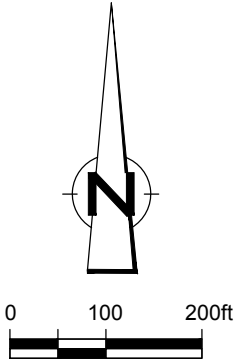
Approximate Timeline

Within 30 days of approval from the EPA
Second Quarter 2014
Second Quarter 2015

FIGURES



No	Revision	Date	Initial



LEGEND

- MW28-07 COMPLETED MONITORING WELL LOCATION
- APPROXIMATE SITE BOUNDARY
- EXISTING STRUCTURE
- FORMER SITE STRUCTURE
- M.H. MANHOLE
- C.B. CATCH BASIN
- 945 GROUNDWATER CONTOUR
- IDENTIFIES EXTENT OF ON-SITE AND OFF-SITE EXCEEDANCES
- PROPOSED MONITORING WELL LOCATION TO ABANDON
- PROPOSED MONITORING WELL LOCATION TO USE IN SAMPLING PLAN AND/OR LNAPL MONITORING

NOTE: GROUNDWATER CONTOURS REPRESENT UPPER WATER BEARING UNIT, BASED ON WELLS MEASURED OCTOBER, 2012

DRAFT

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.



Approved

DRAWING STATUS

Status	Date	Initial

PROPOSED WELLS FOR MONITORING AND/OR ABANDONMENT

PCC-VALIDATION

PONTIAC, MICHIGAN



CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager: T.K.	Reviewed By: M.C.	Date: NOVEMBER 2013
Scale: 1:200	Project N°: 017322-T02	Report N°: PRES010
		Drawing N°: 1

TABLES

TABLE 1

**MONITORING WELLS TO BE SAMPLED
PCC VALIDATION CENTER
PONTIAC, MICHIGAN**

Well ID	Date Installed	Screened Top (ft bgs)	Bottom (ft bgs)	Sampling Parameters	Rationale for Continuing Use
MW2-07	10/12/2007	12	25	VOCs	Delineation well to confirm off-Site VOCs northwest of the Site are stable and not migrating.
MW33-07	12/4/2007	10.5	20.5	VOCs	Delineation well to confirm VOCs in the southern portion of the Site are stable and not migrating.
MW38-07	12/4/2007	9.5	14.5	VOCs	Delineation well to confirm VOCs in the southern portion of the Site are stable and not migrating.
MW68-08	3/12/2008	9	19	VOCs	Delineation well to confirm VOCs in the southern portion of the Site are stable and not migrating. Also, will confirm LNAPL in the southern portion of the Site is stable and not migrating.
MW69-08	3/13/2008	10	20	None if LNAPL present	Measure LNAPL thickness (if LNAPL present)
MW74-08	3/14/2008	8	16	VOCs	Delineation well to confirm VOCs in the southern portion of the Site are stable and not migrating. Also, will confirm LNAPL in the southern portion of the Site is stable and not migrating.
MW80-12	8/28/2012	7	12	VOCs	Delineation well to confirm off-Site VOCs northwest of the Site are stable and not migrating.
MW81-12	8/28/2012	14	19	VOCs	Delineation well to confirm off-Site VOCs northwest of the Site are stable and not migrating.
MW82-12	8/23/2012	2.5	7.5	VOCs	Delineation well to confirm VOCs in the southern portion of the Site are stable and not migrating. Also, will monitor the storm sewer and GSI at the property boundary.
MW83-12	8/23/2012	6	11	VOCs	Monitoring well will monitor the storm sewer and GSI at the property boundary.
MW84-12	8/28/2012	5	20	None if LNAPL present	Measure LNAPL thickness (if LNAPL present)
MW85-12	8/23/2012	5	10	VOCs	Delineation well to confirm VOCs in the southern portion of the Site are stable and not migrating. Also, will confirm LNAPL in the southern portion of the Site is stable and not migrating.
MW86-12	8/24/2012	8	18	None if LNAPL present	Measure LNAPL thickness (if LNAPL present)
MW87-12	8/23/2012	4	9	VOCs	Delineation well to confirm VOCs in the southern portion of the Site are stable and not migrating. Also, will confirm LNAPL in the southern portion of the Site is stable and not migrating.
MW88-12	8/20/2012	15.5	20.5	VOCs	Delineation well to confirm VOCs in the southern portion of the Site are stable and not migrating. Also, will confirm LNAPL in the southern portion of the Site is stable and not migrating.
MW90-12	12/3/2012	10	15	VOCs	Delineation well to confirm VOCs in the southern portion of the Site are stable and not migrating.
MW91-12	12/3/2012	16.5	21.5	VOCs	Confirm VOC concentrations in southern portion of the Site
MW92S-13	1/24/2013	4.8	9.8	VOCs	Delineation well to confirm off-Site VOCs northwest of the Site are stable and not migrating
MW92I-13	1/24/2013	12	17	VOCs	Delineation well to confirm off-Site VOCs northwest of the Site are stable and not migrating
MW93I-13	7/26/2013	12	17	VOCs	Delineation well to confirm off-Site VOCs northwest of the Site are stable and not migrating

Notes:

ft AMSL - Feet Above Mean Sea Level.

ft bgs - Feet below ground surface.

MW - Monitoring well.

TABLE 2

**MONITORING WELLS TO BE ABANDONED
PCC VALIDATION CENTER
PONTIAC, MICHIGAN**

Well ID	Date Installed	Screened		Sampling Parameters	Rationale for Abandonment
		Top (ft bgs)	Bottom (ft bgs)		
MW4-07	10/11/2007	5.5	15.5	N/A	Groundwater in the area did not exceed applicable criteria
MW7-07	10/12/2007	10	15	N/A	Groundwater in the area did not exceed applicable criteria
MW10-07	10/15/2007	3.5	13.5	N/A	Groundwater in the area did not exceed applicable criteria
MW11-07	10/16/2007	7	12	N/A	Groundwater in the area did not exceed applicable criteria
MW13-07	10/18/2007	7	14	N/A	Groundwater in the area did not exceed applicable criteria
MW15-07	10/16/2007	9	14	N/A	Groundwater in the area did not exceed applicable criteria
MW17-07	10/16/2007	3	10	N/A	Groundwater in the area did not exceed applicable criteria
MW19-07	10/17/2007	8	13	N/A	Groundwater in the area did not exceed applicable criteria
MW20-07	10/17/2007	6.5	13	N/A	Groundwater in the area did not exceed applicable criteria
MW21-07	12/4/2007	10.5	20.5	N/A	Groundwater in the area did not exceed applicable criteria
MW27-07	12/7/2007	3	13	N/A	Groundwater in the area did not exceed applicable criteria
MW28-07	10/18/2007	10	20	N/A	Groundwater in the area did not exceed applicable criteria
MW34-07	12/4/2007	11	16	N/A	Groundwater in the area did not exceed applicable criteria
MW35-07	12/4/2007	6	11	N/A	Groundwater in the area did not exceed applicable criteria
MW37-07	12/4/2007	12.5	25.5	N/A	Groundwater in the area did not exceed applicable criteria
MW40-07	12/6/2007	11	16	N/A	Groundwater in the area did not exceed applicable criteria
MW43-07	12/6/2007	7	15	N/A	Groundwater in the area did not exceed applicable criteria
MW48-07	10/9/2007	5	15	N/A	Groundwater in the area did not exceed applicable criteria
MW63-08	3/10/2008	9.5	15.5	N/A	Groundwater in the area did not exceed applicable criteria
MW64-08	3/10/2008	9.5	14.5	N/A	Groundwater in the area did not exceed applicable criteria
MW78-08	3/11/2008	8	13	N/A	Groundwater in the area did not exceed applicable criteria
MW79-12	8/22/2012	25	30	N/A	Groundwater in the area did not exceed applicable criteria
MW89-12	12/3/2012	6	11	N/A	Groundwater in the area did not exceed applicable criteria

Notes:

ft AMSL - Feet Above Mean Sea Level.

ft bgs - Feet below ground surface.

MW - Monitoring well.

N/A - Not applicable

VOC - Volatile Organic Compound