



**CONESTOGA-ROVERS
& ASSOCIATES**

14496 Sheldon Road, Suite #200
Plymouth, Michigan 48170
Telephone: (734) 453-5123 Fax: (734) 453-5201
www.CRAworld.com

DRAFT MEMORANDUM

TO:	Peter Ramanauskas/EPA	REF. NO.:	017322
FROM:	Thomas Kinney/TK/ds/30/Det.	DATE:	September 17, 2014
CC:	Dave Favero/RACER		
RE:	July 2014 Annual Groundwater Sampling Event Data Package PCC-Validation Pontiac, Michigan		

1.0 Introduction

Conestoga-Rovers & Associates (CRA) is providing this draft data package memorandum on behalf of Revitalizing Auto Communities Environmental Response (RACER) Trust to provide details to the July 29 through July 31, 2014 annual groundwater sampling event. The sampling event was completed in accordance with the July 25, 2014 Sampling and Analysis Plan (SAP).

The SAP identified 24 monitoring wells to be sampled following methods described in the approved SAP/QAPP. Monitoring wells to be sampled, reason for sampling and the parameters to be analyzed for each well are identified on Table 1.

2.0 Annual Groundwater Sampling Event

Twenty of the 24 planned monitoring wells were sampled on July 29 through July 31, 2014, 2014. Two of the monitoring wells (MW69-08 and MW84-12) had LNAPL (as anticipated) and were not sampled. Two wells (MW48-07 and MW88-12) were not able to be located. The monitoring wells were sampled following methods described in the approved SAP/QAPP. One additional parameter, 1,4-dioxane, was reported for monitoring well, MW74-08. This parameter was requested from the laboratory after reviewing the VOC results and observing the presence of 1,1,1-trichloroethane in the MW74-08 sample.

3.0 Results

Table 2 summarizes the groundwater volatile organic compound (VOC) analytical results from the July 2014 annual sampling event. Figure 1 summarizes the VOC analytical results from the July 2014 and historical events for these select wells. In general, the VOC concentrations have continued to attenuate at the Site. The 1,4-dioxane analysis from the sample collected from MW74-08 did not detect any 1,4-dioxane above either the method detection limit of 36 micrograms per liter or the reporting limit of 120 micrograms per liter. A more detailed analysis will be provided once the analytical data has been validated.

Encl: Figure 1 – Groundwater VOC Results
Table 1 – Monitoring Wells to be Sampled
Table 2 – Unvalidated Draft Analytical Results Summary

TABLE 1

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

Well ID	Date Installed	Screened Interval		Sampling Parameters	Rationale for Continuing Use
		Top (ft bgs)	Bottom (ft bgs)		
MW2-07	10/12/2007	12	25	VOCs	Delineation well to confirm off-Site VOCs northwest of the Site are stable and not migrating.
MW10-07	10/15/2007	3.5	13.5	VOCs	Monitoring well will monitor the western property boundary.
MW21-07	12/4/2007	10.5	20.5	VOCs	Monitoring well will monitor the western property boundary.
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.
MW48-07	10/9/2007	5	15	VOCs	Up-gradient VOC delineation well.
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.
MW79-12	8/22/2012	25	30	VOCs	Up-gradient VOC delineation well.
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 bgs - feet below ground surface

MW - monitoring well

VOCs - Volatile Organic Compounds

LNAPL - Light Non Aqueous Phase Liquid

TABLE 2

PCC VALIDATION
UNVALIDATED DRAFT ANALYTICAL RESULTS SUMMARY
JULY 2014 SAMPLING
PONTIAC, MICHIGAN

Sample Location: Sample ID: Sample Date: Sample Type: Parameters	Residential Drinking Water	Non-Residential Drinking Water	Groundwater Surface Water Interface	Residential Groundwater Volatilization to Indoor Air Inhalation	Non-Residential Groundwater Volatilization to Indoor Air Inhalation	Water Solubility	Flammability and Explosivity Screening Levels	MW2-07 GW-17322-073014-DN-15 07/30/2014	MW10-07 GW-17322-073014-DN-12 07/30/2014
Units	a	b	c	d	e	f	g		
VOCs									
1,1,1-Trichloroethane	ug/L	200 A	200 A	89	660000	1300000 S	1330000	ID	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	8.5	35	78 X	12000	77000	2970000	ID	1.0 U
1,1,2-Trichloroethane	ug/L	5 A	5 A	330 X	17000	110000	4420000		1.0 U
1,1-Dichloroethane	ug/L	880	2500	740	1000000	2300000	5060000	380000	1.0 U
1,1-Dichloroethene	ug/L	7 A	7 A	130	200	1300	2250000	97000	1.0 U
1,2,4-Trichlorobenzene	ug/L	70 A	70 A	99 X	300000 S	300000 S	300000		5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	0.2 A	0.2 A		220 S	1200 S	1230		1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	0.05 A	0.05 A	5.7 X	2400	15000	4200000	ID	1.0 U
1,2-Dichlorobenzene	ug/L	600 A	600 A	13	160000 S	160000 S	156000		1.0 U
1,2-Dichloroethane	ug/L	5 A	5 A	360 X	9600	59000	8520000	2500000	1.0 U
1,2-Dichloropropane	ug/L	5 A	5 A	230 X	16000	36000	2800000	550000	1.0 U
1,3-Dichlorobenzene	ug/L	6.6	19	28	18000	41000	111000	ID	1.0 U
1,4-Dichlorobenzene	ug/L	75 A	75 A	17	16000	74000 S	73800		1.0 U
1,4-Dioxane	ug/L	85	350	2800 X	NLV	NLV	900000000	140000000	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	13000	38000	2200	240000000 S	240000000 S	240000000	ID	25 U
2-Hexanone	ug/L	1000	2900	ID	4200000	8700000	16000000		50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	1800	5200	ID	20000000 S	20000000 S	20000000	ID	50 U
Acetone	ug/L	730	2100	1700	1000000000 D,S	1000000000 D,S	1000000000	15000000	50 U
Benzene	ug/L	5 A	5 A	200 X	5600	35000	1750000	68000	1.0 U
Bromodichloromethane	ug/L	80 A,W	80 A,W	ID	4800	37000	6740000	ID	1.0 U
Bromoform	ug/L	80 A,W	80 A,W	ID	470000	3100000 S	3100000	ID	1.0 U
Bromomethane (Methyl bromide)	ug/L	10	29	35	4000	9000	14500000	ID	5.0 U
Carbon disulfide	ug/L	800	2300	ID	250000	550000	1190000	13000	5.0 U
Carbon tetrachloride	ug/L	5 A	5 A	45 X	370	2400	793000	ID	1.0 U
Chlorobenzene	ug/L	100 A	100 A	25	210000	470000 S	472000	160000	1.0 U
Chloroethane	ug/L	430	1700	1100 X	5700000 S	5700000 S	5740000	110000	5.0 U
Chloroform (Trichloromethane)	ug/L	80 A,W	80 A,W	350	28000	180000	7920000	ID	1.0 U
Chloromethane (Methyl chloride)	ug/L	260	1100	ID	8600	45000	6340000	36000	5.0 U
cis-1,2-Dichloroethene	ug/L	70 A	70 A	620	93000	210000	3500000	530000	5.6
cis-1,3-Dichloropropene	ug/L								1.0 U
Cyclohexane	ug/L								1.0 U
Dibromochloromethane	ug/L	80 A,W	80 A,W	ID	14000	110000	2600000	ID	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1700	4800	ID	220000	300000 S	300000	ID	5.0 U
Ethylbenzene	ug/L	74 E	74 E	18	110000	170000 S	169000	43000	1.0 U
Isopropyl benzene	ug/L	800	2300	28	56000 S	56000 S	56000	29000	5.0 U
Methyl acetate	ug/L								10 U
Methyl cyclohexane	ug/L								1.0 U
Methyl tert butyl ether (MTBE)	ug/L	40 E	40 E	7100 X	47000000 S	47000000 S	46800000	ID	5.0 U
Methylene chloride	ug/L	5 A	5 A	1500 X	220000	1400000	17000000	ID	5.0 U
Styrene	ug/L	100 A	100 A	80	170000	310000 S	310000	140000	1.0 U
Tetrachloroethene	ug/L	5 A	5 A	60 X	25000	170000	200000	ID	1.0 U
Toluene	ug/L	790 E	790 E	270	530000 S	530000 S	526000	61000	1.0 U
trans-1,2-Dichloroethene	ug/L	100 A	100 A	1500 X	85000	200000	6300000	230000	1.0 U
trans-1,3-Dichloropropene	ug/L								1.0 U
Trichloroethene	ug/L	5 A	5 A	200 X	2200	4900	1100000	ID	2.4
Trichlorofluoromethane (CFC-11)	ug/L	2600	7300		1100000 S	1100000 S	1100000	ID	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	170000 S	170000 S	32	170000 S	170000 S	170000	ID	1.0 U
Vinyl chloride	ug/L	2 A	2 A	13 X	1100	13000	2760000	33000	1.0 U
Xylenes (total)	ug/L	280 E	280 E	41	190000 S	190000 S	186000	70000	3.0 U

Notes :

U - Not detected at the associated reporting limit.

J - Estimated concentration.

 - Indicates concentration exceeded Part 201 Cleanup Criteria.

TABLE 2

PCC VALIDATION
UNVALIDATED DRAFT ANALYTICAL RESULTS SUMMARY
JULY 2014 SAMPLING
PONTIAC, MICHIGAN

Sample Location:	MW10-07	MW21-07	MW33-07	MW38-07	MW68-08	MW74-08	MW79-12
Sample ID:	GW-17322-073014-DN-13	GW-17322-073114-DN-16	GW-17322-073014-DN-10	GW-17322-073014-DN-08	GW-17322-072914-DN-02	GW-17322-072914-DN-04	GW-17322-073014-DN-14
Sample Date:	07/30/2014	07/31/2014	07/30/2014	07/30/2014	07/29/2014	07/29/2014	07/30/2014
Sample Type:	Duplicate						
Parameters	Units						
VOCs							
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	110 ^c	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	5.0	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.6	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	120 U	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U	25 U	25 U
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U	50 U	50 U
Acetone	ug/L	50 U	4.8 J	50 U	50 U	50 U	50 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	2.4	1.0 U
Chloromethane (Methyl chloride)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	2.1	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	300 ^{abc}	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U

Notes :

U - Not detected at the associated reporting limit.

J - Estimated concentration.

 - Indicates concentration exceeded Part 201 Cleanup Criteria.

TABLE 2

PCC VALIDATION
UNVALIDATED DRAFT ANALYTICAL RESULTS SUMMARY
JULY 2014 SAMPLING
PONTIAC, MICHIGAN

Sample Location:	MW80-12	MW81-12	MW82-12	MW83-12	MW85-12	MW86-12	MW87-12
Sample ID:	GW-17322-073114-DN-17	GW-17322-073114-DN-18	GW-17322-073014-DN-09	GW-17322-073014-DN-11	GW-17322-073014-DN-07	GW-17322-072914-DN-03	GW-17322-072914-DN-06
Sample Date:	07/31/2014	07/31/2014	07/30/2014	07/30/2014	07/30/2014	07/29/2014	07/29/2014
Sample Type:							
Parameters	Units						
VOCs							
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U	25 U	25 U
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U	50 U	50 U
Acetone	ug/L	50 U	50 U	50 U	50 U	50 U	50 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	36	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U

Notes :

U - Not detected at the associated reporting limit.

J - Estimated concentration.

 - Indicates concentration exceeded Part 201 Cleanup Criteria.

TABLE 2

PCC VALIDATION
UNVALIDATED DRAFT ANALYTICAL RESULTS SUMMARY
JULY 2014 SAMPLING
PONTIAC, MICHIGAN

Sample Location:		MW90-12	MW91-12	MW92i-13	MW92s-13	MW93i-13	Trip Blank
Sample ID:		GW-17322-072914-DN-05	GW-17322-072914-DN-01	GW-17322-073114-DN-20	GW-17322-073114-DN-21	GW-17322-073114-DN-19	TB-17322-073114
Sample Date:		07/29/2014	07/29/2014	07/31/2014	07/31/2014	07/31/2014	07/31/2014
Sample Type:							
Parameters	Units						
VOCs							
1,1,1-Trichloroethane	ug/L	1.0 U	2.3	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U	25 U	25 U
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U	50 U	50 U
Acetone	ug/L	50 U	50 U	50 U	50 U	50 U	50 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.0 U	17 ^{ab}	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrchloroethane (Freon 113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.4	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U

Notes :

U - Not detected at the associated reporting limit.

J - Estimated concentration.

 - Indicates concentration exceeded Part 201 Cleanup Criteria.