

Ontario Ministry of the Environment, Conservation and Parks (MECP)

Petroleum Industry Refining Standard (PRIS)

Shell Canada Products Sarnia Manufacturing Centre

Sarnia, Ontario Canada



2019 Property Line Benzene Monitoring Results

Sample Deployment Date		27-Dec-18	9-Jan-19	23-Jan-19	6-Feb-19	20-Feb-19	6-Mar-19	20-Mar-19	3-Apr-19	17-Apr-19	1-May-19	15-May-19	29-May-19	12-Jun-19	26-Jun-19
Sample Retrieval Date		9-Jan-19	23-Jan-19	6-Feb-19	20-Feb-19	6-Mar-19	20-Mar-19	3-Apr-19	17-Apr-19	1-May-19	15-May-19	29-May-19	12-Jun-19	26-Jun-19	
UTM Coordinates	Location	ug/m3													
382166mE, 4752034mN	Station #1	2.14	1.07	2.90	1.28	1.24	1.34	1.61	1.27	1.03	1.01	1.44	1.52	1.38	
382511mE, 4752034mN	Station #2	1.44	1.19	3.04	1.16	1.20	1.27	1.02	1.24	0.78	0.87	1.50	1.29	1.17	
383172mE, 4752033mN	Station #3	1.01	0.74	1.57	1.48	0.99	0.91	1.15	1.17	0.92	1.17	1.62	1.42	1.45	
383332mE, 4751409mN	Station #4	1.12	0.85	1.25	1.26	1.25	1.19	1.20	1.11	0.99	1.12	1.63	1.36	1.60	
382517mE, 4751245mN	Station #5	1.77	1.39	2.32	1.94	2.19	1.91	1.26	1.46	1.07	0.96	1.44	1.36	1.18	
382125mE, 4750795mN	Station #6	1.95	2.37	2.37	1.60	2.89	1.99	2.14	1.74	1.26	1.03	1.61	1.25	1.12	
381748mE, 4750810mN	Station #7	2.25	2.69	1.86	1.63	2.45	1.55	2.04	2.05	1.56	1.60	1.45	1.46	1.32	
381455mE, 4750820mN	Station #8	7.20	10.50	2.99	8.49	4.82	0.89	9.79	11.10	14.60	8.33	3.49	3.82	25.00	
381052mE, 4750852mN	Station #9	1.00	3.41	1.59	3.20	1.79	0.61	1.69	2.38	1.01	1.39	1.75	1.16	1.15	
381112mE, 4751494mN	Station #10	2.32	1.29	1.20	2.52	1.35	1.49	1.43	3.06	1.45	2.56	2.30	1.98	0.96	
381438mE, 4751966mN	Station #11	1.35	1.19	1.70	1.07	0.92	1.35	1.37	1.23	2.67	1.15	2.20	1.52	1.03	
381773mE, 4752076mN	Station #12	1.63	0.98	2.41	0.93	0.98	1.50	2.00	1.23	1.96	1.68	2.07	2.38	1.81	

Field QA/QC Data

Field Blank #1	Location	Station #2	Station #3	Station #4	Station #5	Station #6	Station #7	Station #8	Station #9	Station #10	Station #11	Station #12	Station #1	Station #2
	Value (ug/m3)	<0.34	<0.32	<0.32	<0.32	<0.32	<0.31	<0.31	<0.31	<0.31	<0.31	<0.31	<0.30	<0.30
Field Duplicate	Location	Station #2	Station #3	Station #4	Station #5	Station #6	Station #7	Station #8	Station #9	Station #10	Station #11	Station #12	Station #1	Station #2
	Value (ug/m3)	1.33	0.76	1.35	1.88	2.62	1.57	10.10	2.41	1.40	1.10	1.99	1.37	1.14
	RPD (%)	7.64%	2.70%	8.00%	3.09%	9.34%	1.29%	3.17%	1.26%	3.45%	4.35%	3.86%	9.87%	2.56%
Field Blank #2	Location	Station #8	Station #9	Station #10	Station #11	Station #12	Station #1	Station #2	Station #3	Station #4	Station #5	Station #6	Station #7	Station #8
	Value (ug/m3)	<0.34	<0.32	<0.32	<0.32	<0.32	<0.31	<0.31	<0.31	<0.31	<0.31	<0.31	<0.30	<0.30

Notes:

1) RPD is Relative Percent Difference (Difference / Mean expressed as a percent). Used as the default precision evaluation.

2) Sample Period Feb 6 to Feb 20: Results for sample at Station #1 may be biased slightly low, based on one of the

QC checks being slightly out of tolerance. All other QC passed.

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Sample Deployment Date	26-Jun-19	10-Jul-19	24-Jul-19	7-Aug-19	21-Aug-19	4-Sep-19	18-Sep-19	2-Oct-19	16-Oct-19	30-Oct-19	13-Nov-19	27-Nov-19	11-Dec-19
Sample Retrieval Date	10-Jul-19	24-Jul-19	7-Aug-19	21-Aug-19	4-Sep-19	18-Sep-19	2-Oct-19	16-Oct-19	30-Oct-19	13-Nov-19	27-Nov-19	11-Dec-19	25-Dec-19
UTM Coordinates	Location	ug/m3											
382166mE, 4752034mN	Station #1	1.88	1.94	2.33	1.58	1.29	1.32	1.54	1.22	1.71			
382511mE, 4752034mN	Station #2	1.71	1.29	1.41	1.06	1.05	0.97	0.99	0.88	1.07			
383172mE, 4752033mN	Station #3	1.66	1.06	1.13	0.93	0.94	0.83	1.06	0.82	0.84			
383332mE, 4751409mN	Station #4	1.76	1.01	1.19	0.91	0.85	0.65	0.96	0.69	0.76			
382517mE, 4751245mN	Station #5	1.92	1.54	2.08	1.62	1.25	0.99	1.69	1.35	1.28			
382125mE, 4750795mN	Station #6	2.23	1.65	1.28	1.25	1.24	1.20	1.01	0.96	1.23			
381748mE, 4750810mN	Station #7	2.21	1.50	1.34	1.12	1.12	1.36	0.61	0.95	1.43			
381455mE, 4750820mN	Station #8	17.70	13.20	13.90	6.07	10.70	6.46	3.59	4.38	4.04			
381052mE, 4750852mN	Station #9	1.54	0.82	1.23	1.32	1.41	1.68	0.63	1.03	1.10			
381112mE, 4751494mN	Station #10	1.54	1.02	0.92	1.34	2.22	2.69	1.32	2.38	2.61			
381438mE, 4751966mN	Station #11	1.93	1.44	1.94	2.19	1.70	2.43	2.29	2.21	3.94			
381773mE, 4752076mN	Station #12	2.25	3.33	3.22	2.92	1.90	1.82	3.34	1.76	2.77			

Field QA/QC Data

Field Blank #1	Location	Station #3	Station #4	Station #5	Station #6	Station #7	Station #8	Station #9	Station #10	Station #11	Station #12	Station #1	Station #2	Station #3
	Value (ug/m3)	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.31	<0.31				
Field Duplicate	Location	Station #3	Station #4	Station #5	Station #6	Station #7	Station #8	Station #9	Station #10	Station #11	Station #12	Station #1	Station #2	Station #3
	Value (ug/m3)	1.72	0.96	1.98	1.23	1.17	6.65	0.62	2.25	3.95				
RPD (%)		3.61%	4.95%	4.81%	1.60%	4.46%	2.94%	1.59%	5.46%	0.25%				
Field Blank #2	Location	Station #9	Station #10	Station #11	Station #12	Station #1	Station #2	Station #3	Station #4	Station #5	Station #6	Station #7	Station #8	Station #9
	Value (ug/m3)	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.31	<0.31			