

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

Petroleum Industry Refining Standard (PRIS)

Shell Canada Products Sarnia Manufacturing Centre

Sarnia, Ontario Canada



2024 Property Line Benzene Monitoring Results

Sample Deployment Date	20-Dec-23	3-Jan-24	17-Jan-24	31-Jan-24	14-Feb-24	28-Feb-24	13-Mar-24	27-Mar-24	10-Apr-24	24-Apr-24	8-May-24	22-May-24	22-May-24	5-Jun-24
Sample Retrieval Date	3-Jan-24	17-Jan-24	31-Jan-24	14-Feb-24	28-Feb-24	13-Mar-24	27-Mar-24	10-Apr-24	24-Apr-24	8-May-24	22-May-24	5-Jun-24	19-Jun-24	
UTM Coordinates	Location	ug/m3	ug/m3	ug/m3	ug/m3	Event #5	ug/m3	ug/m3						
382166mE, 4752034mN	Station #1	2.52	2.63	2.06	2.19									
382511mE, 4752034mN	Station #2	1.80	2.11	1.70	1.60									
383172mE, 4752033mN	Station #3	1.30	1.22	1.72	1.24									
383332mE, 4751409mN	Station #4	1.58	1.16	1.88	1.07									
382517mE, 4751245mN	Station #5	1.54	1.77	2.42	1.88									
382125mE, 4750795mN	Station #6	2.23	1.06	2.47	2.35									
381748mE, 4750810mN	Station #7	2.26	1.04	2.59	3.37									
381455mE, 4750820mN	Station #8	7.24	1.40	9.08	7.44									
381051mE, 4750852mN	Station #9	2.16	0.95	2.74	1.69									
381112mE, 4751494mN	Station #10	3.09	1.22	1.60	2.29									
381438mE, 4751966mN	Station #11	8.20	2.36	3.51	2.40									
381773mE, 4752076mN	Station #12	2.62	4.04	6.33	4.42									

Field QA/QC Data

Field Blank #1	Location	Station #6	Station #1	Station #2	Station #3									
	Value (ug/m3)	<0.307	<0.312	<0.311	<0.309									
Field Duplicate	Location	Station #6	Station #1	Station #2	Station #3									
	Value (ug/m3)	2.38	2.88	1.76	1.17									
	RPD (%)	6.73%	9.51%	3.53%	5.65%									
Field Blank #2	Location	Station #12	Station #7	Station #8	Station #9									
	Value (ug/m3)	<0.307	<0.312	<0.311	<0.309									

Notes:

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Sample Deployment Date	19-Jun-24	3-Jul-24	17-Jul-24	31-Jul-24	14-Aug-24	28-Aug-24	11-Sep-24	25-Sep-24	9-Oct-24	23-Oct-24	6-Nov-24	20-Nov-24	4-Dec-24
Sample Retrieval Date	3-Jul-24	17-Jul-24	31-Jul-24	14-Aug-24	28-Aug-24	11-Sep-24	25-Sep-24	9-Oct-24	23-Oct-24	6-Nov-24	20-Nov-24	4-Dec-24	18-Dec-24
UTM Coordinates	Location	ug/m3											
382166mE, 4752034mN	Station #1												
382511mE, 4752034mN	Station #2												
383172mE, 4752033mN	Station #3												
383332mE, 4751409mN	Station #4												
382517mE, 4751245mN	Station #5												
382125mE, 4750795mN	Station #6												
381748mE, 4750810mN	Station #7												
381455mE, 4750820mN	Station #8												
381051mE, 4750852mN	Station #9												
381112mE, 4751494mN	Station #10												
381438mE, 4751966mN	Station #11												
381773mE, 4752076mN	Station #12												

Field QA/QC Data

Field Blank #1	Location Value (ug/m3)												
Field Duplicate	Location Value (ug/m3) RPD (%)												
Field Blank #2	Location Value (ug/m3)												

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2023 Property Line Benzene Monitoring Results

Sample Deployment Date	21-Dec-22	4-Jan-23	18-Jan-23	1-Feb-23	15-Feb-23	1-Mar-23	15-Mar-23	29-Mar-23	12-Apr-23	26-Apr-23	10-May-23	24-May-23	24-May-23	7-Jun-23
Sample Retrieval Date	4-Jan-23	18-Jan-23	1-Feb-23	15-Feb-23	1-Mar-23	15-Mar-23	29-Mar-23	12-Apr-23	26-Apr-23	10-May-23	24-May-23	7-Jun-23	21-Jun-23	
UTM Coordinates	Location	ug/m3	ug/m3	ug/m3	ug/m3	Event #5	ug/m3	ug/m3						
382166mE, 4752034mN	Station #1	2.97	2.40	2.31	2.64	2.26	1.20	2.62	1.94	3.68	2.02	2.82	1.12	1.49
382511mE, 4752034mN	Station #2	2.52	1.93	1.49	1.94	1.91	1.13	1.72	1.32	2.25	1.41	1.78	1.25	1.23
383172mE, 4752033mN	Station #3	1.26	1.20	0.94	1.21	1.16	1.23	1.43	0.88	1.38	1.20	1.69	2.18	1.74
383332mE, 4751409mN	Station #4	1.07	1.31	0.96	1.10	1.19	1.20	1.18	0.80	1.26	1.12	1.51	2.06	1.72
382517mE, 4751245mN	Station #5	1.62	1.77	1.78	1.64	1.96	1.88	1.76	1.26	1.77	1.40	1.29	1.88	1.94
382125mE, 4750795mN	Station #6	1.18	1.97	1.95	1.44	1.71	2.34	1.30	1.34	1.71	1.38	1.20	2.47	1.92
381748mE, 4750810mN	Station #7	1.09	2.02	1.40	1.32	2.02	3.13	1.38	1.23	1.58	1.79	1.62	2.53	2.36
381455mE, 4750820mN	Station #8	4.08	7.05	3.05	1.67	3.88	14.90	5.72	3.80	3.02	7.51	8.51	18.70	13.20
381051mE, 4750852mN	Station #9	2.29	0.79	1.32	0.64	2.14	2.95	1.11	1.06	1.42	2.15	1.15	1.75	1.84
381112mE, 4751494mN	Station #10	2.24	3.58	1.49	1.05	2.23	2.40	0.97	2.14	1.54	3.34	1.07	1.11	1.68
381438mE, 4751966mN	Station #11	4.95	8.48	2.50	2.64	4.69	1.50	1.50	4.40	3.18	4.35	2.48	1.14	1.61
381773mE, 4752076mN	Station #12	8.24	2.90	3.45	12.40	5.43	1.76	8.21	4.36	4.06	1.62	3.40	1.24	1.67

Field QA/QC Data

Field Blank #1	Location	Station #4	Station #5	Station #6	Station #1	Station #2	Station #3	Station #4	Station #5	Station #6	Station #1	Station #2	Station #3	Station #4
	Value (ug/m3)	<0.308	<0.309	<0.310	<0.310	<0.309	<0.309	<0.307	<0.306	<0.303	<0.305	<0.302	<0.301	<0.301
Field Duplicate	Location	Station #4	Station #5	Station #6	Station #1	Station #2	Station #3	Station #4	Station #5	Station #6	Station #1	Station #2	Station #3	Station #4
	Value (ug/m3)	1.15	1.76	1.91	2.83	1.86	1.09	1.23	1.28	1.71	1.78	1.77	2.20	1.67
	RPD (%)	7.48%	0.56%	2.05%	7.20%	2.62%	11.38%	4.24%	1.59%	0.00%	11.88%	0.56%	0.92%	2.91%
Field Blank #2	Location	Station #10	Station #11	Station #12	Station #7	Station #8	Station #9	Station #10	Station #11	Station #12	Station #7	Station #8	Station #9	Station #10
	Value (ug/m3)	<0.308	<0.309	<0.310	<0.310	<0.309	<0.309	<0.307	<0.306	<0.303	<0.305	<0.302	<0.301	<0.301

Notes:

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Sample Deployment Date		21-Jun-23	5-Jul-23	19-Jul-23	2-Aug-23	16-Aug-23	30-Aug-23	13-Sep-23	27-Sep-23	11-Oct-23	25-Oct-23	8-Nov-23	22-Nov-23	6-Dec-23
Sample Retrieval Date		5-Jul-23	19-Jul-23	2-Aug-23	16-Aug-23	30-Aug-23	13-Sep-23	27-Sep-23	11-Oct-23	25-Oct-23	8-Nov-23	22-Nov-23	6-Dec-23	20-Dec-23
UTM Coordinates	Location	ug/m3												
382166mE, 4752034mN	Station #1	1.57	1.73	1.84	1.22	1.72	1.40	0.96	1.89	1.47	2.24	2.00	2.08	3.47
382511mE, 4752034mN	Station #2	1.40	1.30	1.40	0.91	1.26	1.02	0.78	1.28	1.07	1.45	1.72	1.64	2.21
383172mE, 4752033mN	Station #3	1.59	1.15	1.08	1.08	1.00	0.95	0.72	1.14	0.87	1.23	1.30	1.22	1.27
383332mE, 4751409mN	Station #4	1.45	0.92	1.11	0.95	0.93	0.97	0.75	1.06	0.64	1.03	1.12	1.27	1.19
382517mE, 4751245mN	Station #5	1.81	1.32	1.37	1.27	1.42	1.46	1.10	1.26	1.43	1.68	2.76	1.90	1.77
382125mE, 4750795mN	Station #6	1.96	1.05	1.27	1.08	1.42	1.31	1.11	1.11	1.22	1.47	1.87	1.65	1.38
381748mE, 4750810mN	Station #7	2.16	1.18	1.46	1.60	1.40	1.68	1.31	1.23	2.33	1.76	2.08	1.71	1.60
381455mE, 4750820mN	Station #8	8.47	6.74	5.66	6.31	7.61	5.43	4.23	1.26	5.36	2.93	3.59	4.90	1.45
381051mE, 4750852mN	Station #9	1.86	1.38	0.95	1.40	1.73	0.90	2.05	1.29	1.84	1.54	1.06	1.70	0.83
381112mE, 4751494mN	Station #10	2.18	2.15	1.68	2.43	2.81	1.13	2.65	2.70	1.55	2.29	2.70	2.91	1.76
381438mE, 4751966mN	Station #11	2.30	2.17	2.26	0.92	1.70	1.72	2.13	2.08	2.81	2.38	3.41	2.82	3.28
381773mE, 4752076mN	Station #12	2.79	2.68	3.06	1.77	2.48	2.46	1.18	2.09	4.91	10.80	3.84	5.33	6.98

Field QA/QC Data

Field Blank #1	Location Value (ug/m3)	Station #5 <0.301	Station #6 <0.301	Station #1 <0.301	Station #2 <0.301	Station #3 <0.301	Station #4 <0.301	Station #5 <0.301	Station #6 <0.301	Station #1 <0.306	Station #2 <0.305	Station #3 <0.306	Station #4 <0.309	Station #5 <0.307
Field Duplicate	Location Value (ug/m3)	Station #5 1.66	Station #6 1.19	Station #1 2.05	Station #2 0.98	Station #3 1.02	Station #4 0.97	Station #5 1.18	Station #6 1.22	Station #1 1.46	Station #2 1.56	Station #3 1.22	Station #4 1.19	Station #5 1.76
Field Blank #2	Location Value (ug/m3)	RPD (%) 8.29%	RPD (%) 13.33%	RPD (%) 11.41%	RPD (%) 8.26%	RPD (%) 2.00%	RPD (%) 0.00%	RPD (%) 7.27%	RPD (%) 9.91%	RPD (%) 0.68%	RPD (%) 7.59%	RPD (%) 6.15%	RPD (%) 6.30%	RPD (%) 0.56%
	Station #11 <0.301	Station #12 <0.301	Station #7 <0.301	Station #8 <0.301	Station #9 <0.301	Station #10 <0.301	Station #11 <0.301	Station #12 <0.301	Station #7 <0.301	Station #8 <0.306	Station #9 <0.305	Station #10 <0.306	Station #11 <0.309	Station #12 <0.307

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Sample Deployment Date	22-Dec-21	5-Jan-22	19-Jan-22	2-Feb-22	16-Feb-22	1-Mar-23	16-Mar-22	30-Mar-22	13-Apr-22	27-Apr-22	11-May-22	25-May-22	25-May-22	8-Jun-22
Sample Retrieval Date	5-Jan-22	19-Jan-22	2-Feb-22	16-Feb-22	2-Mar-22	15-Mar-23	30-Mar-22	13-Apr-22	27-Apr-22	11-May-22	25-May-22	8-Jun-22	22-Jun-22	
UTM Coordinates	Location	ug/m3	ug/m3											
382166mE, 4752034mN	Station #1	1.87	1.94	1.53	2.13	2.50	1.20	1.99	1.66	1.79	1.65	2.13	1.59	2.78
382511mE, 4752034mN	Station #2	1.74	1.50	1.13	1.41	1.69	1.13	1.30	1.21	1.33	1.68	1.78	1.01	1.63
383172mE, 4752033mN	Station #3	1.44	0.91	0.95	1.21	1.06	1.23	1.23	1.00	1.07	1.52	1.30	1.04	1.11
383332mE, 4751409mN	Station #4	1.33	1.03	0.96	1.10	1.12	1.20	1.03	0.93	1.13	1.37	1.22	0.84	1.06
382517mE, 4751245mN	Station #5	1.88	1.47	1.68	2.19	1.62	1.88	2.21	1.58	1.82	1.65	1.38	1.10	1.44
382125mE, 4750795mN	Station #6	2.00	1.80	1.89	1.84	1.68	2.34	1.89	1.91	1.66	1.25	1.43	0.86	1.28
381748mE, 4750810mN	Station #7	1.69	1.92	2.36	2.35	2.05	3.13	2.31	1.91	2.01	2.01	1.58	0.89	1.62
381455mE, 4750820mN	Station #8	9.01	5.44	3.27	5.66	7.50	14.90	4.21	2.27	3.44	8.48	9.09	5.32	8.78
381051mE, 4750852mN	Station #9	1.51	1.63	1.01	1.06	1.81	2.95	1.33	0.92	1.12	2.55	1.51	0.70	1.09
381112mE, 4751494mN	Station #10	2.20	1.56	2.10	0.93	1.43	2.40	1.39	2.41	1.83	2.61	1.65	0.84	1.90
381438mE, 4751966mN	Station #11	6.49	1.34	6.57	2.66	2.06	1.50	3.54	6.00	2.58	5.88	3.29	2.17	2.60
381773mE, 4752076mN	Station #12	4.46	4.56	6.76	9.73	7.72	1.76	4.17	4.93	3.76	1.93	3.03	3.33	3.61

Field QA/QC Data

Field Blank #1	Location	Station #2	Station #3	Station #4	Station #5	Station #6	Station #3	Station #2	Station #3	Station #4	Station #5	Station #6	Station #1	Station #2
Field Blank #1	Value (ug/m3)	<0.30	<0.31	<0.31	<0.312	<0.311	<0.309	<0.307	<0.306	<0.305	<0.304	<0.301	<0.301	<0.301
Field Duplicate	Location	Station #2	Station #3	Station #4	Station #5	Station #6	Station #3	Station #2	Station #3	Station #4	Station #5	Station #6	Station #1	Station #2
Field Duplicate	Value (ug/m3)	1.62	0.88	0.95	1.97	1.64	1.09	1.28	0.91	1.06	1.45	1.37	1.57	1.62
Field Blank #2	Location	Station #8	Station #9	Station #10	Station #11	Station #12	Station #9	Station #8	Station #9	Station #10	Station #11	Station #12	Station #7	Station #8
Field Blank #2	Value (ug/m3)	<0.30	<0.31	<0.31	<0.312	<0.310	<0.309	<0.307	<0.306	<0.305	<0.304	<0.301	<0.301	<0.301
Field Blank #1	RPD (%)	6.90%	3.30%	1.04%	10.05%	2.38%	11.38%	1.54%	9.22%	6.19%	12.12%	4.20%	1.26%	0.61%

Notes:

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

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Sample Deployment Date	22-Jun-22	6-Jul-22	20-Jul-22	3-Aug-22	17-Aug-22	31-Aug-22	14-Sep-22	28-Sep-22	12-Oct-22	26-Oct-22	9-Nov-22	23-Nov-22	7-Dec-22	
Sample Retrieval Date	6-Jul-22	20-Jul-22	3-Aug-22	17-Aug-22	31-Aug-22	14-Sep-22	28-Sep-22	12-Oct-22	26-Oct-22	9-Nov-22	23-Nov-22	7-Dec-22	21-Dec-22	
UTM Coordinates	Location	ug/m3												
382166mE, 4752034mN	Station #1	2.18	1.71	1.73	2.59	1.58	1.24	1.58	1.75	2.07	1.37	2.51	2.31	2.10
382511mE, 4752034mN	Station #2	1.00	1.52	1.15	2.12	0.97	1.04	1.27	1.18	1.46	0.97	2.72	1.72	1.27
383172mE, 4752033mN	Station #3	0.81	1.01	0.87	2.58	1.09	1.39	0.97	0.78	0.787	0.73	1.52	1.13	0.92
383332mE, 4751409mN	Station #4	0.62	0.86	1.03	3.08	1.40	1.77	0.99	1.02	0.780	0.89	1.31	1.15	0.74
382517mE, 4751245mN	Station #5	0.98	1.12	1.98	2.09	1.83	1.71	1.82	1.69	1.25	0.99	2.31	1.68	1.23
382125mE, 4750795mN	Station #6	1.34	1.26	1.14	2.34	1.72	1.61	1.60	1.47	1.06	1.20	1.58	1.29	1.43
381748mE, 4750810mN	Station #7	1.45	1.41	1.36	2.47	1.81	1.59	2.02	2.03	0.833	1.28	1.09	1.49	1.31
381455mE, 4750820mN	Station #8	7.95	19.80	2.84	13.80	14.00	12.10	6.12	13.40	0.810	4.21	2.18	3.04	4.09
381051mE, 4750852mN	Station #9	1.31	1.87	0.58	2.96	0.74	1.31	0.76	2.83	0.553	1.44	1.48	1.01	2.79
381112mE, 4751494mN	Station #10	1.55	2.44	1.97	2.58	1.64	2.23	1.30	2.63	1.90	3.47	3.04	2.10	3.56
381438mE, 4751966mN	Station #11	2.72	2.12	2.00	2.50	2.76	2.63	2.48	1.76	4.17	4.58	1.88	4.64	2.92
381773mE, 4752076mN	Station #12	4.26	2.75	4.04	3.40	2.56	2.32	2.73	2.79	4.16	3.16	4.62	9.86	3.52

Field QA/QC Data

Field Blank #1	Location	Station #3	Station #4	Station #5	Station #6	Station #1	Station #2	Station #3	Station #4	Station #5	Station #6	Station #1	Station #2	Station #3
	Value (ug/m3)	<0.301	<0.301	<0.301	<0.301	<0.301	<0.301	<0.301	<0.303	<0.303	<0.303	<0.308	<0.308	<0.309
Field Duplicate	Location	Station #3	Station #4	Station #5	Station #6	Station #1	Station #2	Station #3	Station #4	Station #5	Station #6	Station #1	Station #2	Station #3
	Value (ug/m3)	0.71	0.99	1.85	2.21	1.64	0.96	1.06	0.94	1.26	1.23	2.67	1.51	0.82
	RPD (%)	11.98%	14.78%	6.57%	5.56%	3.80%	7.60%	9.73%	7.75%	0.80%	2.50%	6.37%	12.21%	10.99%
Field Blank #2	Location	Station #9	Station #10	Station #11	Station #12	Station #7	Station #8	Station #9	Station #10	Station #11	Station #12	Station #7	Station #8	Station #9
	Value (ug/m3)	<0.301	<0.301	<0.301	<0.301	<0.301	<0.301	<0.301	<0.303	<0.303	<0.303	<0.308	0.377	<0.309

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Sarnia, Ontario Canada



2021 Property Line Benzene Monitoring Results

Sample Deployment Date	23-Dec-20	6-Jan-21	20-Jan-21	3-Feb-21	17-Feb-21	1-Mar-23	17-Mar-21	31-Mar-21	14-Apr-21	28-Apr-21	12-May-21	26-May-21	26-May-21	9-Jun-21
Sample Retrieval Date	6-Jan-21	20-Jan-21	3-Feb-21	17-Feb-21	3-Mar-21	15-Mar-23	31-Mar-21	14-Apr-21	28-Apr-21	12-May-21	26-May-21	9-Jun-21	23-Jun-21	
UTM Coordinates	Location	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3
382166mE, 4752034mN	Station #1	2.20	3.72	0.98	2.33	2.44	1.20	1.21	1.71	1.69	1.48	2.46	1.60	1.19
382511mE, 4752034mN	Station #2	1.59	No Value ²	No Value ²	1.68	1.96	1.13	0.99	1.45	1.23	1.25	1.54	1.09	0.91
383172mE, 4752033mN	Station #3	1.12	1.41	0.78	1.15	1.31	1.23	1.15	1.05	0.85	1.12	0.90	0.81	1.00
383332mE, 4751409mN	Station #4	1.09	1.35	0.84	1.12	1.78	1.20	0.99	1.02	0.93	1.01	0.81	0.72	0.89
382517mE, 4751245mN	Station #5	2.71	2.45	1.70	2.25	1.83	1.88	1.41	1.95	1.95	2.02	1.30	0.61	1.04
382125mE, 4750795mN	Station #6	2.03	1.96	2.33	2.15	1.56	2.34	1.42	1.85	2.31	2.09	0.77	0.81	1.12
381748mE, 4750810mN	Station #7	1.56	1.67	2.69	2.08	1.46	3.13	1.33	1.76	2.66	2.25	0.81	0.93	1.38
381455mE, 4750820mN	Station #8	1.80	5.18	6.24	4.66	1.67	14.90	4.42	4.55	5.55	6.70	2.96	12.20	10.70
381051mE, 4750852mN ³	Station #9	1.20	1.76	2.32	2.85	2.09	2.95	1.18	0.88	1.87	1.18	0.58	1.32	0.98
381112mE, 4751494mN	Station #10	2.10	1.72	1.98	1.91	2.67	2.40	2.23	3.01	1.62	1.67	0.87	1.33	1.09
381438mE, 4751966mN	Station #11	3.69	2.66	3.40	2.23	5.08	1.50	3.30	6.00	3.61	2.47	1.49	1.19	1.31
381773mE, 4752076mN	Station #12	2.39	5.14	2.07	2.81	4.86	1.76	5.20	4.94	4.83	3.14	4.73	3.06	1.77

Field QA/QC Data

Field Blank #1	Location	Station #6	Station #1	Station #2	Station #3	Station #4		Station #6	Station #1	Station #2	Station #3	Station #4	Station #5	Station #6
Field Blank #1	Value (ug/m3)	<0.31	<0.31	<0.32	<0.32	<0.32		<0.31	<0.31	<0.31	<0.31	<0.30	<0.30	<0.30
Field Duplicate	Location	Station #6	Station #7	Station #8	Station #9	Station #10		Station #12	Station #1	Station #2	Station #3	Station #4	Station #5	Station #6
Field Duplicate	Value (ug/m3)	1.99	1.75	6.21	2.73	2.67	Station #3	5.04	1.73	1.20	1.14	0.89	0.75	1.12
Field Blank #2	Location	Station #12	Station #7	Station #8	Station #9	Station #10	Station #3	Station #12	Station #7	Station #8	Station #9	Station #10	Station #11	Station #12
Field Blank #2	Value (ug/m3)	<0.31	<0.31	<0.32	<0.32	<0.32	1.09	<0.31	<0.31	<0.31	<0.31	<0.30	<0.30	<0.30
0.113821138														

Notes:

Station #9

1) RPD is Relative Percent Difference (Difference / Mean expressed as a perc <0.30%

2) Events 2 and 3, Station 2: No value reported due to oversight by field technician.

3) FB sample was lost during short monitor relocation while site maintenance was occurring on Day 14 of Event #16. Monitor re-sited upon conclusion of work and Event #17 was not impacted by maintenance activities.

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

Petroleum Industry Refining Standard (PRIS)

Shell Canada Products Sarnia Manufacturing Centre

Sarnia, Ontario Canada



Sample Deployment Date		23-Jun-21	7-Jul-21	21-Jul-21	4-Aug-21	18-Aug-21	1-Sep-21	15-Sep-21	29-Sep-21	13-Oct-21	27-Oct-21	10-Nov-21	24-Nov-21	24-Nov-21	8-Dec-21
Sample Retrieval Date		7-Jul-21	21-Jul-21	4-Aug-21	18-Aug-21	1-Sep-21	15-Sep-21	29-Sep-21	13-Oct-21	27-Oct-21	10-Nov-21	24-Nov-21	8-Dec-21	22-Dec-21	
UTM Coordinates	Location	ug/m3													
382166mE, 4752034mN	Station #1	1.86	1.12	1.20	2.12	1.53	1.19	1.20	1.27	1.70	2.24	1.56	2.14	2.66	
382511mE, 4752034mN	Station #2	1.27	0.99	0.92	1.91	2.43	1.12	1.00	1.12	1.39	1.76	1.39	1.62	1.65	
383172mE, 4752033mN	Station #3	1.18	1.02	0.87	1.07	1.00	0.96	0.75	1.10	1.16	1.08	0.94	1.08	1.03	
383332mE, 4751409mN	Station #4	1.03	0.93	0.84	1.04	1.01	0.97	0.74	1.14	1.29	1.07	0.91	0.99	1.09	
382517mE, 4751245mN	Station #5	1.13	1.08	1.46	1.43	1.17	1.64	0.89	1.20	1.84	1.94	1.59	1.98	1.46	
382125mE, 4750795mN	Station #6	1.20	1.10	1.19	1.10	1.54	1.34	1.05	1.89	1.66	1.23	1.07	1.64	1.53	
381748mE, 4750810mN	Station #7	0.96	1.19	1.22	1.06	1.85	1.26	0.97	1.02	2.00	1.05	0.74	1.51	1.61	
381455mE, 4750820mN	Station #8	5.13	9.85	6.55	4.87	11.70	5.38	5.99	2.99	6.46	3.41	0.62	1.59	4.79	
381051mE, 4750852mN ³	Station #9	0.59	2.39	0.86	1.93	2.25	1.28	1.24	1.70	2.25	1.59	0.49	0.58	2.01	
381112mE, 4751494mN	Station #10	0.71	1.74	1.33	2.00	2.92	1.82	1.72	3.14	4.71	1.89	0.96	1.64	2.63	
381438mE, 4751966mN	Station #11	1.43	1.75	1.32	2.23	2.31	1.57	2.38	2.64	2.44	1.74	3.30	2.75	4.92	
381773mE, 4752076mN	Station #12	3.41	1.38	1.80	1.84	2.41	2.29	1.59	2.45	2.71	5.15	3.99	2.71	7.09	

Field QA/QC Data

Field Blank #1	Location	Station #1	Station #2	Station #3	Station #4	Station #5	Station #6	Station #1	Station #2	Station #3	Station #4	Station #5	Station #4	Station #5
	Value (ug/m3)	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.31	<0.31	<0.31	<0.31	<0.31
Field Duplicate	Location	Station #7	Station #8	Station #9	Station #10	Station #11	Station #12	Station #1	Station #2	Station #3	Station #4	Station #5	Station #4	Station #5
	Value (ug/m3)	0.96	9.58	0.86	2.03	2.30	2.74	1.24	1.16	1.12	1.08	1.39	1.04	1.34
	RPD (%)	0.00%	2.74%	0.00%	1.50%	0.43%	19.65%	3.33%	3.57%	3.45%	0.93%	12.58%	5.05%	8.22%
Field Blank #2	Location	Station #7	Station #8	Station #9 ³	Station #10	Station #11	Station #12	Station #7	Station #8	Station #9	Station #10	Station #11	Station #10	Station #11
	Value (ug/m3)	<0.30	<0.30	N/A	<0.30	<0.30	<0.30	<0.30	<0.30	<0.31	<0.31	<0.31	<0.31	<0.31

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

Petroleum Industry Refining Standard (PRIS)

Shell Canada Products Sarnia Manufacturing Centre

Sarnia, Ontario Canada



2020 Property Line Benzene Monitoring Results

Sample Deployment Date		24-Dec-19	8-Jan-20	22-Jan-20	5-Feb-20	19-Feb-20	1-Mar-23	18-Mar-20	1-Apr-20	15-Apr-20	29-Apr-20	13-May-20	27-May-20	27-May-20	10-Jun-20
Sample Retrieval Date		8-Jan-20	22-Jan-20	5-Feb-20	19-Feb-20	4-Mar-20	15-Mar-23	1-Apr-20	15-Apr-20	29-Apr-20	13-May-20	27-May-20	10-Jun-20	24-Jun-20	
UTM Coordinates	Location	ug/m3													
382166mE, 4752034mN	Station #1	2.08	1.81	2.44	1.73	2.68	1.20	1.35	1.78	1.75	1.66	1.61	2.22	1.74	
382511mE, 4752034mN	Station #2	1.51	1.50	1.56	1.38	2.01	1.13	1.33	1.19	1.14	1.27	1.37	1.49	1.30	
383172mE, 4752033mN	Station #3	1.08	1.23	1.27	1.06	1.47	1.23	1.40	1.19	1.07	1.21	1.17	1.37	0.96	
383332mE, 4751409mN	Station #4	1.07	1.17	1.15	0.90	1.50	1.20	1.52	1.26	0.96	1.25	1.20	1.21	0.87	
382517mE, 4751245mN	Station #5	1.70	1.90	1.66	1.51	2.30	1.88	1.50	2.46	1.23	1.53	1.10	1.28	1.39	
382125mE, 4750795mN	Station #6	1.26	1.77	1.29	1.77	2.47	2.34	1.86	2.09	1.38	1.65	1.24	1.25	1.38	
381748mE, 4750810mN	Station #7	1.08	1.77	1.36	1.49	1.96	3.13	2.30	2.09	1.11	1.71	1.11	1.50	1.89	
381455mE, 4750820mN	Station #8	2.47	2.85	3.87	4.51	4.77	14.90	10.00	6.64	6.61	11.70	4.29	8.65	9.49	
381052mE, 4750852mN	Station #9	0.72	0.84	1.18	1.41	0.97	2.95	2.25	1.13	1.11	1.17	1.76	0.97	1.90	
381112mE, 4751494mN	Station #10	1.24	1.60	1.32	1.05	0.68	2.40	1.90	1.73	1.43	0.97	1.74	1.19	1.22	
381438mE, 4751966mN	Station #11	4.70	4.85	4.21	2.55	1.04	1.50	4.13	2.61	2.31	2.13	4.10	2.09	1.43	
381773mE, 4752076mN	Station #12	7.66	3.81	4.53	5.28	6.25	1.76	2.32	2.55	3.43	2.86	3.99	4.32	1.92	

Field QA/QC Data

Field Blank #1	Location	Station #4	Station #5	Station #6	Station #1	Station #2	Station #3	Station #4	Station #5	Station #6	Station #1	Station #2	Station #3	Station #4	
	Value (ug/m3)	<0.29	<0.31	<0.31	<0.32	<0.31		<0.31	<0.31	<0.31	<0.31	<0.31	<0.30	<0.30	
Field Duplicate	Location	Station #4	Station #5	Station #6	Station #7	Station #8	Station #9	Station #10	Station #11	Station #12	Station #1	Station #2	Station #3	Station #4	
	Value (ug/m3)	1.12	1.74	1.36	1.60	4.62		Station #3	2.24	2.52	3.18	1.57	1.32	1.42	0.92
Field Blank #2	Location	Station #10	Station #11	Station #12	Station #7	Station #8	Station #3	Station #10	Station #11	Station #12	Station #7	Station #8	Station #9	Station #10	
	Value (ug/m3)	<0.29	<0.32	<0.31	<0.32	<0.31	1.09	<0.31	<0.31	<0.31	<0.31	<0.31	<0.30	<0.30	

0.113821138

Notes:

Station #9

1) RPD is Relative Percent Difference (Difference / Mean expressed as a percent). Use <0.309

2) Sample Period June 10 to June 24: Results for sample at Station #7 may be biased slightly low due to instrument drift

All other QC passed for this sample and all QC parameters were acceptable for remaining samples.

3) Sample Period Aug. 19 to Sept. 2: Station #6 sample tube was installed in the field upside down. This sample should not be considered as a representative sample.

4) Data for samples collected from STN-7 & STN -11 has been omitted due to laboratory quality control criteria not meeting the method requirements.

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

Petroleum Industry Refining Standard (PRIS)

Shell Canada Products Sarnia Manufacturing Centre

Sarnia, Ontario Canada



Sample Deployment Date		24-Jun-20	8-Jul-20	22-Jul-20	5-Aug-20	19-Aug-20	2-Sep-20	16-Sep-20	30-Sep-20	14-Oct-20	28-Oct-20	11-Nov-20	25-Nov-20	25-Nov-20	9-Dec-20
Sample Retrieval Date		8-Jul-20	22-Jul-20	5-Aug-20	19-Aug-20	2-Sep-20	16-Sep-20	30-Sep-20	14-Oct-20	28-Oct-20	11-Nov-20	25-Nov-20	9-Dec-20	23-Dec-20	
UTM Coordinates	Location	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3							
382166mE, 4752034mN	Station #1	2.08	1.51	1.02	1.14	1.56	1.40	1.70	1.58	1.40	2.27	2.10	2.41	1.96	
382511mE, 4752034mN	Station #2	1.65	1.10	0.93	0.91	1.19	1.05	3.39	1.19	1.22	1.16	1.54	1.26	1.44	
383172mE, 4752033mN	Station #3	1.86	1.10	1.14	0.77	1.24	0.87	0.85	0.88	0.78	0.79	1.11	0.93	1.14	
383332mE, 4751409mN	Station #4	1.56	0.84	1.25	0.72	0.86	0.85	0.48	0.85	0.89	0.86	1.49	0.85	1.07	
382517mE, 4751245mN	Station #5	1.81	1.12	1.51	1.06	1.45	1.12	0.68	1.46	1.29	0.96	3.82	1.79	1.80	
382125mE, 4750795mN	Station #6	1.62	1.20	1.40	1.15	1.06	0.98	0.71	1.25	1.49	1.03	2.17	2.25	1.75	
381748mE, 4750810mN	Station #7	1.76	1.34	1.26	1.18	1.21	0.98	See Note 4	1.49	1.35	1.41	2.29	2.11	1.55	
381455mE, 4750820mN	Station #8	19.60	13.40	18.60	10.90	6.00	11.80	6.60	4.55	5.34	3.43	3.95	9.75	4.12	
381052mE, 4750852mN	Station #9	1.03	1.33	1.12	1.58	1.16	1.22	0.47	0.98	1.33	0.56	1.23	0.53	2.32	
381112mE, 4751494mN	Station #10	0.80	1.66	0.90	1.91	2.09	1.67	1.47	1.28	1.79	1.18	3.08	1.01	2.89	
381438mE, 4751966mN	Station #11	1.15	2.24	0.84	1.29	3.13	2.06	See Note 4	1.79	2.19	2.30	4.93	1.62	4.14	
381773mE, 4752076mN	Station #12	2.43	2.74	1.44	2.15	3.03	2.13	3.96	3.12	2.92	10.40	4.55	6.73	5.72	

Field QA/QC Data

Field Blank #1	Location Value (ug/m3)	Station #5 <0.30	Station #6 <0.30	Station #1 <0.30	Station #2 <0.30	Station #3 <0.30	Station #4 <0.30	Station #5 <0.31	Station #6 <0.31	Station #1 <0.31	Station #2 <0.31	Station #3 <0.31	Station #4 <0.31	Station #5 <0.31
Field Duplicate	Location Value (ug/m3)	Station #5 1.78	Station #6 1.11	Station #7 1.37	Station #8 11.50	Station #9 1.15	Station #10 1.69	Station #11 See Note 4	Station #12 2.97	Station #1 1.54	Station #2 1.12	Station #3 1.09	Station #4 0.79	Station #5 1.75
Field Blank #2	Location Value (ug/m3)	1.66%	7.50%	8.73%	5.50%	0.86%	1.20%	-----	4.81%	10.00%	3.45%	1.80%	7.06%	2.78%

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	1-Mar-23	20-Mar-19	3-Apr-19	17-Apr-19	1-May-19	15-May-19	29-May-19	29-May-19	12-Jun-19
Sample Retrieval Date		9-Jan-19	23-Jan-19	6-Feb-19	20-Feb-19	6-Mar-19	15-Mar-23	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	1.20	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	1.13	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	1.23	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	1.20	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	1.88	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	2.34	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	3.13	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	14.90	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	2.95	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	2.40	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	1.50	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	1.76	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 #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	<0.30	<0.30
Field Duplicate	Location	Station #2	Station #3	Station #4	Station #5	Station #6		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	Station #3	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%	<0.309	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 #3	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	1.09	<0.31	<0.31	<0.31	<0.31	<0.31	<0.30	<0.30

0.113821138

Notes:

Station #9

1) RPD is Relative Percent Difference (Difference / Mean expressed as a percent). Use <0.309

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.

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

Petroleum Industry Refining Standard (PRIS)

Shell Canada Products Sarnia Manufacturing Centre

Sarnia, Ontario Canada



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	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	24-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	2.04	2.82	1.27	1.59	
382511mE, 4752034mN	Station #2	1.71	1.29	1.41	1.06	1.05	0.97	0.99	0.88	1.07	1.47	1.96	1.12	1.27	
383172mE, 4752033mN	Station #3	1.66	1.06	1.13	0.93	0.94	0.83	1.06	0.82	0.84	0.98	1.19	0.74	1.04	
383332mE, 4751409mN	Station #4	1.76	1.01	1.19	0.91	0.85	0.65	0.96	0.69	0.76	0.91	1.02	0.81	1.04	
382517mE, 4751245mN	Station #5	1.92	1.54	2.08	1.62	1.25	0.99	1.69	1.35	1.28	1.77	1.64	1.55	1.50	
382125mE, 4750795mN	Station #6	2.23	1.65	1.28	1.25	1.24	1.20	1.01	0.96	1.23	1.23	1.11	1.20	1.68	
381748mE, 4750810mN	Station #7	2.21	1.50	1.34	1.12	1.12	1.36	0.61	0.95	1.43	1.48	1.00	1.42	1.49	
381455mE, 4750820mN	Station #8	17.70	13.20	13.90	6.07	10.70	6.46	3.59	4.38	4.04	6.75	1.61	4.04	2.65	
381052mE, 4750852mN	Station #9	1.54	0.82	1.23	1.32	1.41	1.68	0.63	1.03	1.10	1.14	1.15	0.84	1.56	
381112mE, 4751494mN	Station #10	1.54	1.02	0.92	1.34	2.22	2.69	1.32	2.38	2.61	0.97	2.10	0.93	2.88	
381438mE, 4751966mN	Station #11	1.93	1.44	1.94	2.19	1.70	2.43	2.29	2.21	3.94	1.64	4.18	1.90	4.15	
381773mE, 4752076mN	Station #12	2.25	3.33	3.22	2.92	1.90	1.82	3.34	1.76	2.77	4.42	4.39	3.00	6.93	

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	<0.31	<0.31	<0.31	<0.34
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	4.24	2.80	1.12	1.11
RPD (%)		3.61%	4.95%	4.81%	1.60%	4.46%	2.94%	1.59%	5.46%	0.25%	4.07%	0.71%	0.00%	6.73%
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	<0.31	<0.31	<0.31	<0.31	<0.31	<0.34