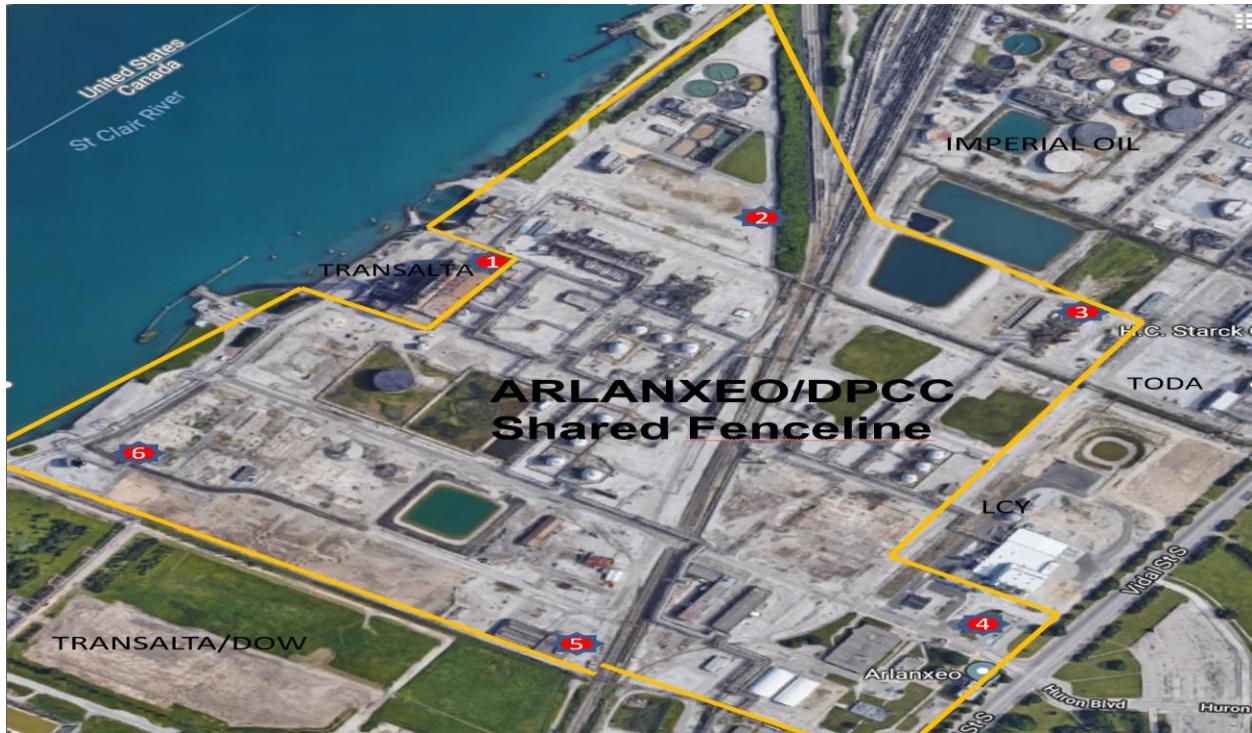


**Annual Ambient Monitoring Report Petrochemicals Industry Standard,
2022 Reporting Year**

DPCC Average 1,3 Butadiene Concentrations:

Monitor #	Location	2019	2020	2021	2022
1	E 0383543 N 4755905	1.13	0.60	0.47	1.12
2	E 0383543 N 4755905	2.37	2.19	0.97	1.00
3	E 0384093 N 4755833	1.37	1.07	0.60	1.24
4	E 0383953 N 4755328	0.81	0.63	0.37	1.19
5	E 0383589 N 4755252	1.02	0.94	0.35	0.40
6	E 0383213 N 4755589	0.43	0.20	0.17	0.22

DPCC Monitor Location Map:



2022 1,3 Butadiene Monitoring Results

Monitor Location #1			Monitor Location #2			Monitor Location #3		
Sample Start Date	Sample End Date	1,3-Butadiene (ug/m³)	Sample Start Date	Sample End Date	1,3-Butadiene (ug/m³)	Sample Start Date	Sample End Date	1,3-Butadiene (ug/m³)
December 22/21	January 5, 2022	<0.40	December 22/21	January 5, 2022	<0.47	December 22/21	January 5, 2022	<0.37
January 5, 2022	January 19, 2022	<0.34	January 5, 2022	January 19, 2022	0.51	January 5, 2022	January 19, 2022	<0.34
January 19, 2022	February 2, 2022	0.53	January 19, 2022	February 2, 2022	0.68	January 19, 2022	February 2, 2022	<0.34
February 2, 2022	February 16, 2022	<0.34	February 2, 2022	February 16, 2022	0.86	February 2, 2022	February 16, 2022	0.43
February 16, 2022	March 2, 2022	<0.34	February 16, 2022	March 2, 2022	0.39	February 16, 2022	March 2, 2022	0.55
March 2nd, 2022	March 16, 2022	1.44	March 2nd, 2022	March 16, 2022	1.74	March 2nd, 2022	March 16, 2022	0.64
March 16, 2022	March 30, 2022	0.68	March 16, 2022	March 30, 2022	<0.34	March 16, 2022	March 30, 2022	0.56
March 30, 2022	April 13, 2022	2.39	March 30, 2022	April 13, 2022	0.72	March 30, 2022	April 13, 2022	0.83
April 13, 2022	April 27, 2022	<0.34	April 13, 2022	April 27, 2022	<0.34	April 13, 2022	April 27, 2022	0.43
April 27, 2022	May 11, 2022	1.22	April 27, 2022	May 11, 2022	0.54	April 27, 2022	May 11, 2022	<0.33
May 11, 2022	May 25, 2022	0.71	May 11, 2022	May 25, 2022	0.99	May 11, 2022	May 25, 2022	1.36
May 25, 2022	June 8, 2022	0.73	May 25, 2022	June 8, 2022	0.69	May 25, 2022	June 8, 2022	0.45
June 8, 2022	June 22, 2022	1.91	June 8, 2022	June 22, 2022	4.16	June 8, 2022	June 22, 2022	2.55
June 22, 2022	July 6, 2022	<0.33	June 22, 2022	July 6, 2022	0.63	June 22, 2022	July 6, 2022	0.45
July 6, 2022	July 20, 2022	<0.33	July 6, 2022	July 20, 2022	<0.33	July 6, 2022	July 20, 2022	<0.33
July 20, 2022	Aug.3, 2022	0.42	July 20, 2022	Aug.3, 2022	<0.33	July 20, 2022	Aug.3, 2022	<0.33
Aug.3, 2022	Aug.17, 2022	<0.33	Aug.3, 2022	Aug.17, 2022	<0.33	Aug.3, 2022	Aug.17, 2022	<0.33
Aug.17, 2022	Aug.31, 2022	0.96	Aug.17, 2022	Aug.31, 2022	2.71	Aug.17, 2022	Aug.31, 2022	0.82
Aug.31, 2022	Sept.14, 2022	0.41	Aug.31, 2022	Sept.14, 2022	0.72	Aug.31, 2022	Sept.14, 2022	0.93
Sept.14, 2022	Sept.28, 2022	<0.33	Sept.14, 2022	Sept.28, 2022	<0.33	Sept.14, 2022	Sept.28, 2022	<0.33
Sept.28, 2022	Oct.12, 2022	4.57	Sept.28, 2022	Oct.12, 2022	2.75	Sept.28, 2022	Oct.12, 2022	18.20
Oct.12, 2022	Oct.26, 2022	1.30	Oct.12, 2022	Oct.26, 2022	2.10	Oct.12, 2022	Oct.26, 2022	0.79
Oct.26, 2022	Nov.9, 2022	8.98	Oct.26, 2022	Nov.9, 2022	3.08	Oct.26, 2022	Nov.9, 2022	0.88
Nov.9, 2022	Nov.23, 2022	0.56	Nov.9, 2022	Nov.23, 2022	0.74	Nov.9, 2022	Nov.23, 2022	0.51
Nov.23, 2022	Dec. 7, 2022	0.54	Nov.23, 2022	Dec. 7, 2022	0.56	Nov.23, 2022	Dec. 7, 2022	0.40
Average		1.16	Average		1.03	Average		1.29
Monitor Location #4			Monitor Location #5			Monitor Location #6		
Sample Start Date	Sample End Date	1,3-Butadiene (ug/m³)	Sample Start Date	Sample End Date	1,3-Butadiene (ug/m³)	Sample Start Date	Sample End Date	1,3-Butadiene (ug/m³)
December 22/21	January 5, 2022	<0.33	December 22/21	January 5, 2022	<0.33	December 22/21	January 5, 2022	<0.33
January 5, 2022	January 19, 2022	<0.34	January 5, 2022	January 19, 2022	<0.34	January 5, 2022	January 19, 2022	<0.34
January 19, 2022	February 2, 2022	<0.34	January 19, 2022	February 2, 2022	<0.34	January 19, 2022	February 2, 2022	<0.34
February 2, 2022	February 16, 2022	0.63	February 2, 2022	February 16, 2022	<0.34	February 2, 2022	February 16, 2022	<0.34
February 16, 2022	March 2, 2022	0.58	February 16, 2022	March 2, 2022	0.35	February 16, 2022	March 2, 2022	<0.34
March 2, 2022	March 16, 2022	0.44	March 2, 2022	March 16, 2022	<0.34	March 2, 2022	March 16, 2022	<0.34
March 16, 2022	March 30, 2022	0.89	March 16, 2022	March 30, 2022	<0.34	March 16, 2022	March 30, 2022	<0.34
March 30 2022	April 13, 2022	0.67	March 30, 2022	April 13, 2022	0.71	March 30, 2022	April 13, 2022	<0.34
April 13, 2022	April 27, 2022	<0.34	April 13, 2022	April 27, 2022	<0.34	April 13, 2022	April 27, 2022	<0.34
April 27, 2022	May 11, 2022	0.63	April 27, 2022	May 11, 2022	1.74	April 27, 2022	May 11, 2022	0.44
May 11, 2022	May 25, 2022	0.48	May 11, 2022	May 25, 2022	0.44	May 11, 2022	May 25, 2022	<0.33
May 25, 2022	June 8, 2022	<0.33	May 25, 2022	June 8, 2022	<0.33	May 25, 2022	June 8, 2022	<0.33
June 8, 2022	June 22, 2022	0.66	June 8, 2022	June 22, 2022	1.15	June 8, 2022	June 22, 2022	<0.33
June 22, 2022	July 6, 2022	<0.33	June 22, 2022	July 6, 2022	<0.33	June 22, 2022	July 6, 2022	<0.33
July 6, 2022	July 20, 2022	<0.33	July 6, 2022	July 20, 2022	<0.33	July 6, 2022	July 20, 2022	<0.33
July 20, 2022	Aug.3, 2022	0.67	July 20, 2022	Aug.3, 2022	<0.33	July 20, 2022	Aug.3, 2022	0.43
Aug.3, 2022	Aug.17, 2022	<0.33	Aug.3, 2022	Aug.17, 2022	<0.33	Aug.3, 2022	Aug.17, 2022	<0.33
Aug.17, 2022	Aug.31, 2022	1.36	Aug.17, 2022	Aug.31, 2022	0.74	Aug.17, 2022	Aug.31, 2022	<0.33
Aug.31, 2022	Sept.14, 2022	0.71	Aug.31, 2022	Sept.14, 2022	<0.33	Aug.31, 2022	Sept.14, 2022	<0.33
Sept.14, 2022	Sept.28, 2022	<0.33	Sept.14, 2022	Sept.28, 2022	<0.33	Sept.14, 2022	Sept.28, 2022	<0.33
Sept.28, 2022	Oct.12, 2022	18.60	Sept.28, 2022	Oct.12, 2022	1.93	Sept.28, 2022	Oct.12, 2022	0.66
Oct.12, 2022	Oct.26, 2022	<0.33	Oct.12, 2022	Oct.26, 2022	<0.33	Oct.12, 2022	Oct.26, 2022	<0.33
Oct.26, 2022	Nov.9, 2022	0.96	Oct.26, 2022	Nov.9, 2022	<0.33	Oct.26, 2022	Nov.9, 2022	0.37
Nov.9, 2022	Nov.23, 2022	<0.34	Nov.9, 2022	Nov.23, 2022	<0.34	Nov.9, 2022	Nov.23, 2022	0.36
Nov.23, 2022	Dec. 7, 2022	0.43	Nov.23, 2022	Dec. 7, 2022	<0.34	Nov.23, 2022	Dec. 7, 2022	<0.34
Average		1.22	Average		0.41	Average		0.23

2022 Statistical Analysis Calculations

There is no statistically significant increase in the concentrations of 1,3 Butadiene for the 2022 reporting year. The test statistics calculated are below the Table 7-62 Column 2 values therefore no action is required as outlined S.63.

Section 62 - Statistical Analysis of Ambient Monitor 1,3-Butadiene Concentration Measurements												
2022 Reporting Year	Monitor Location #1		Monitor Location #2		Monitor Location #3		Monitor Location #4		Monitor Location #5		Monitor Location #6	
	ug/m ³	log _e (x)										
January 5, 2022	0.2	-1.60943791	0.24	-1.42711636	0.19	-1.66073121	0.17	-1.77195684	0.17	-1.77195684	0.17	-1.77195684
January 19, 2022	0.17	-1.77195684	0.51	-0.67334455	0.17	-1.77195684	0.17	-1.77195684	0.17	-1.77195684	0.17	-1.77195684
February 2, 2022	0.53	-0.63487827	0.68	-0.38566248	0.17	-1.77195684	0.63	-0.46203546	0.17	-1.77195684	0.17	-1.77195684
February 16, 2022	0.17	-1.77195684	0.86	-0.15082289	0.43	-0.84397007	0.58	-0.54472718	0.35	-1.04982212	0.17	-1.77195684
March 2, 2022	0.17	-1.77195684	0.39	-0.94160854	0.55	-0.597837	0.44	-0.82098055	0.17	-1.77195684	0.17	-1.77195684
March 16, 2022	1.44	0.364643114	1.74	0.553885113	0.64	-0.4462871	0.89	-0.11653382	0.17	-1.77195684	0.17	-1.77195684
March 30, 2022	0.68	-0.38566248	0.17	-1.77195684	0.56	-0.5798185	0.67	-0.40047757	0.71	-0.34249031	0.17	-1.77195684
April 13, 2022	2.39	0.871293336	0.72	-0.32850407	0.83	-0.18632958	0.17	-1.77195684	0.17	-1.77195684	0.17	-1.77195684
April 27, 2022	0.17	-1.77195684	0.17	-1.77195684	0.43	-0.84397007	0.63	-0.46203546	1.74	0.553885113	0.44	-0.82098055
May 11, 2022	1.22	0.198850859	0.54	-0.61618614	0.17	-1.77195684	0.48	-0.73396918	0.44	-0.82098055	0.17	-1.77195684
May 25, 2022	0.71	-0.34249031	0.99	-0.01005034	1.36	0.3074847	0.17	-1.77195684	0.17	-1.77195684	0.17	-1.77195684
June 8, 2022	0.73	-0.31471074	0.69	-0.37106368	0.45	-0.7985077	0.66	-0.41551544	1.15	0.139761942	0.17	-1.77195684
June 22, 2022	1.91	0.647103242	4.16	1.425515074	2.55	0.936093359	0.43	-0.84397007	0.17	-1.77195684	0.17	-1.77195684
July 6, 2022	0.17	-1.77195684	0.63	-0.46203546	0.45	-0.7985077	0.17	-1.77195684	0.17	-1.77195684	0.17	-1.77195684
July 20, 2022	0.17	-1.77195684	0.17	-1.77195684	0.17	-1.77195684	0.67	-0.40047757	0.17	-1.77195684	0.43	-0.84397007
August 3, 2022	0.42	-0.86750057	0.17	-1.77195684	0.17	-1.77195684	0.17	-1.77195684	0.17	-1.77195684	0.17	-1.77195684
August 17, 2022	0.17	-1.77195684	0.17	-1.77195684	0.17	-1.77195684	0.17	-1.77195684	0.17	-1.77195684	0.17	-1.77195684
August 31, 2022	0.96	-0.04082199	2.71	0.996948635	0.82	-0.19845094	1.36	0.3074847	0.74	-0.30110509	0.17	-1.77195684
September 14, 2022	0.41	-0.89159812	0.72	-0.32850407	0.93	-0.07257069	0.71	-0.34249031	0.17	-1.77195684	0.17	-1.77195684
September 28, 2022	0.17	-1.77195684	0.17	-1.77195684	0.17	-1.77195684	0.17	-1.77195684	0.17	-1.77195684	0.17	-1.77195684
October 12, 2022	4.57	1.519513205	2.75	0.011600912	18.20	2.901421594	18.6	2.923161581	1.93	0.657520003	0.66	-0.41551544
October 26, 2022	1.30	0.262364264	2.10	0.741937345	0.79	-0.23572233	0.17	-1.77195684	0.17	-1.77195684	0.17	-1.77195684
November 9, 2022	8.98	2.194999882	3.08	1.124929597	0.88	-0.12783337	0.96	-0.04082199	0.17	-1.77195684	0.37	-0.99425227
November 23 2022	0.56	-0.5798185	0.74	-0.30110509	0.51	-0.67334455	0.17	-1.77195684	0.17	-1.77195684	0.36	-1.02165125
December 7, 2022	0.54	-0.61618614	0.56	-0.5798185	0.40	-0.91629073	0.43	-0.84629836	0.17	-1.77195684	0.17	-1.77195684
December 21, 2022	0.17	-1.77195684	0.17	-1.77195684	0.17	-1.77195684	0.36	-1.02443289	0.17	-1.77195684	0.17	-1.02443289
Mean		-0.62199803		-0.50479628		-0.73118564		-0.843988		-1.33963119		-1.55999767
Standard Deviation Squared		1.294768988		1.057895085		1.136084991		1.062314226		0.62958556		0.166557182
Test Statistic		0.686692685		-3.08831831		-1.60840145		0.378396163		-2.01588764		0.624075639
Degrees of Freedom		38.1		39.6		38.1		38.2		53.8		55.1
Table 7-62		3.551		3.551		3.551		3.551		3.46		3.460
Number of Samples		26		26		26		26		26		26
Number of samples -1		25		25		25		25		25		25

IF TABLE 7-62 VALUE IS > Test Statistic there is no significant increase in concentration at that monitor

paragraph 2	logarithm of sample result
paragraph 3	mean of sample result logarithms
paragraph 4	square of standard deviation of sample result logarithms (S_1^2 , 3YR or S_2^2 , ThisYR)
paragraph 5	test statistic (T), where $T = (Y - X) / \text{Sqrt} (S_1^2/m + S_2^2/n)$ $Y = \text{Paragraph 3 (this worksheet)}$ $X = \text{Paragraph 3 (3YR worksheet)}$ $S_1 = \text{Paragraph 4 (3YR worksheet)}$ $S_2 = \text{Paragraph 4 (this worksheet)}$ $m = \text{number of samples (3YR worksheet)}$ $n = \text{number of samples (this worksheet)}$
Paragraph 6	Degrees of freedom (v), where $v = [(S_1^2/m + S_2^2/n)^{1/2}] / [(S_1^2/m)^{1/(m-1)} + (S_2^2/n)^{1/(n-1)}]$
Paragraph 7	Table 7-62 Column 2