Lakeland Industry & Community Association

SEPTEMBER 2023

Monthly Ambient Air Quality Monitoring Report

LICA-202309

Operation and Maintenance:

Bureau Veritas Canada

Data Validation and Report:

Lakeland Industry & Community Association

October 18, 2023

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October 18, 2023

Alberta Environment and Protected Areas (EPA)
11th Floor, Oxbridge Place
9820 106 Street
Edmonton, AB, T5K 2J6

RE: LICA – September 2023 Monthly Ambient Air Quality Monitoring Report

Enclosed is the September 2023 Monthly Ambient Air Quality Monitoring Report for the continuous ambient air quality monitoring stations of the Lakeland Industry & Community Association (LICA) regional air quality monitoring network.

The representative of the Person Responsible for this monitoring program is

LICA Airshed
Michael Bisaga, Monitoring Programs Manager
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This report has been reviewed by Michael Bisaga of the LICA Airshed.

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LIST OF ACRONYMS

AAAQOs	Alberta Ambient Air Quality Objectives
AEP	Alberta Environment and Parks
AMD	Air Monitoring Directive
AT	Ambient Temperature
BP	Barometric Pressure
CH4	Methane
EPEA	Environmental Protection and Enhancement Act
H2S	Hydrogen Sulphide
kph	kilometers per hour
LICA	Lakeland Industry & Community Association
mb	millibar
mm	millimeter
NMHC	Non-Methane Hydrocarbons
NO	Nitric Oxide
NO2	Nitrogen Dioxide
NOx	Oxide of Nitrogen
PAC	Polycyclic Aromatic Compounds
ppb	parts per billion
ppm	parts per million
RH	Relative Humidity
SO2	Sulphur Dioxide
ST	Station Temperature
STDWD	Standard Deviation Wind Direction
THC	Total Hydrocarbons
TRS	Total Reduced Sulphur
VWD	Vector Wind Direction
VWS	Vector Wind Speed
WD	Wind Direction
WS	Wind Speed
°C	Degrees Celsius

Listing of Continuous Monitoring Stations and Integrated Sampling Stations

Station Name		Cold Lake South	Tamarack	St. Lina	Lac La Biche
Station ID		1174	1248	1250	1690
Coordinates		54.41402	54.604935	54.215961	54.76516
		-110.23316	-110.452637	-111.503304	-111.9714490
Continuous Monitoring Parameter	SO2	√	√	√	√
	H2S		√	√	√
	TRS	√			
	NOX	√	√	√	√
	NOX	√	√	√	√
	NO2	√	√	√	√
	O3	√	√	√	√
	THC	√	√	√	√
	CH4	√	√	√	√
	NMHC	√	√	√	√
	RH	√	√	√	√
	BP	√	√	√	√
	AT	√	√	√	√
	ST	√	√	√	√
	PRECEIPITATION		√	√	
	WS	√	√	√	√
	WD	√	√	√	√
	STDWD	√	√	√	√
Integrated Sampling	VOCs	√			
	PAHs	√			
	Partisol	√			
	Passive	√			√
	NMHC Canister				√
	PAC			√	

List of Contractors performing air monitoring activities

Sampling Program	Monitoring Activities Conducted By	Sample Analysis Conducted By	Data/Report Prepared By	Electronic Submission Conducted By
Continuous Monitoring Station	Bureau Veritas Canada	Bureau Veritas Canada	LICA / Bureau Veritas Canada	LICA
Intermittent (VOCs/PAHs)	Bureau Veritas Canada	InnoTech Alberta Inc	InnoTech Alberta Inc	LICA
Partisol	Bureau Veritas Canada	InnoTech Alberta Inc	InnoTech Alberta Inc	LICA
Passive	Bureau Veritas Canada	Bureau Veritas Canada	Bureau Veritas Canada	LICA
PAC	Bureau Veritas Canada	ECCC	AEP	Not Applicable
NMHC Canister	Bureau Veritas Canada	InnoTech Alberta Inc	InnoTech Alberta Inc	Not Applicable

Monitoring Notes during the Month of September 2023

Cold Lake South

- All data collected this month were compliant with the requirements outlined in the AMD 2016.
- All parameters met the 90% operational uptime requirement, except O3 (88.8%). **AEPA reference #: 420862**.
- Measured parameters were below Alberta Ambient Air Quality Objectives (AAAQOs) and/or Alberta Ambient Air Quality Guidelines (AAAQGs) where applicable, except PM2.5. Seventy-five 1-hour and eight 24-hour PM2.5 exceedances were recorded this month. Widespread smoke from wildfires burning throughout western Canada is the cause of the numerous exceedances of the PM2.5 objective and guideline.

Date	Time (MST)	Parameter	Average Period	Concentration (µg/m3)	Wind speed (km/hr)	Wind Direction	Reference #
1-Sep	0	PM2.5	1-Hour	315	3.7	249°(WSW)	418927
1-Sep	1	PM2.5	1-Hour	336	5.7	245°(WSW)	418927
1-Sep	2	PM2.5	1-Hour	318	4.1	243°(WSW)	418927
1-Sep	3	PM2.5	1-Hour	262	3.9	237°(SW)	418927
1-Sep	4	PM2.5	1-Hour	232	4.8	243°(WSW)	418927
1-Sep	5	PM2.5	1-Hour	208	5.0	247°(WSW)	418927
1-Sep	6	PM2.5	1-Hour	165	6.6	267°(W)	418927

Date	Time (MST)	Parameter	Average Period	Concentration (µg/m3)	Wind speed (km/hr)	Wind Direction	Reference #
1-Sep	7	PM2.5	1-Hour	142	5.9	276°(W)	418927
1-Sep	8	PM2.5	1-Hour	125	5.1	265°(W)	418927
1-Sep	9	PM2.5	1-Hour	95	6.3	259°(WSW)	418927
1-Sep	-	PM2.5	24-Hour	127	6.3	245°(WSW)	418927
2-Sep	8	PM2.5	1-Hour	92	9.2	248°(WSW)	418927
2-Sep	9	PM2.5	1-Hour	110	8.9	265°(W)	418927
2-Sep	10	PM2.5	1-Hour	159	6.0	260°(WSW)	418927
2-Sep	11	PM2.5	1-Hour	224	6.2	259°(WSW)	418927
2-Sep	12	PM2.5	1-Hour	316	7.2	267°(W)	418927
2-Sep	13	PM2.5	1-Hour	333	8.7	270°(W)	418927
2-Sep	14	PM2.5	1-Hour	332	8.5	273°(W)	418927
2-Sep	15	PM2.5	1-Hour	356	8.3	267°(W)	418927
2-Sep	16	PM2.5	1-Hour	385	7.1	267°(W)	418927
2-Sep	17	PM2.5	1-Hour	393	4.7	240°(WSW)	418927
2-Sep	18	PM2.5	1-Hour	384	3.2	248°(WSW)	418927
2-Sep	19	PM2.5	1-Hour	373	0.6	233°(SW)	418927
2-Sep	20	PM2.5	1-Hour	370	0.5	184°(S)	418927
2-Sep	21	PM2.5	1-Hour	377	0.5	215°(SSW)	418927
2-Sep	22	PM2.5	1-Hour	411	3.4	232°(SW)	418927
2-Sep	23	PM2.5	1-Hour	453	3.5	243°(WSW)	418927
2-Sep	-	PM2.5	24-Hour	230	5.5	250°(WSW)	418927
3-Sep	0	PM2.5	1-Hour	440	0.1	213°(SSW)	418927
3-Sep	1	PM2.5	1-Hour	424	0.0	137°(SE)	418927
3-Sep	2	PM2.5	1-Hour	427	0.0	131°(SE)	418927
3-Sep	3	PM2.5	1-Hour	401	0.1	46°(NE)	418927
3-Sep	4	PM2.5	1-Hour	399	1.1	234°(SW)	418927
3-Sep	5	PM2.5	1-Hour	387	0.5	327°(NW)	418927
3-Sep	6	PM2.5	1-Hour	382	0.6	108°(ESE)	418927
3-Sep	7	PM2.5	1-Hour	382	0.1	160°(SSE)	418927
3-Sep	8	PM2.5	1-Hour	378	0.8	351°(N)	418927
3-Sep	9	PM2.5	1-Hour	384	2.4	17°(NNE)	418927
3-Sep	10	PM2.5	1-Hour	393	0.7	338°(NNW)	418927
3-Sep	11	PM2.5	1-Hour	402	3.0	14°(NNE)	418927
3-Sep	12	PM2.5	1-Hour	397	7.0	359°(N)	418927
3-Sep	13	PM2.5	1-Hour	287	9.8	31°(NNE)	418927
3-Sep	14	PM2.5	1-Hour	168	13.7	41°(NE)	418927
3-Sep	15	PM2.5	1-Hour	129	10.8	35°(NE)	418927
3-Sep	16	PM2.5	1-Hour	116	8.6	31°(NNE)	418927
3-Sep	17	PM2.5	1-Hour	112	3.0	10°(N)	418927

Date	Time (MST)	Parameter	Average Period	Concentration (µg/m3)	Wind speed (km/hr)	Wind Direction	Reference #
3-Sep	18	PM2.5	1-Hour	110	1.1	153°(SSE)	418927
3-Sep	19	PM2.5	1-Hour	110	2.0	265°(W)	418927
3-Sep	20	PM2.5	1-Hour	110	1.6	258°(WSW)	418927
3-Sep	21	PM2.5	1-Hour	104	0.3	155°(SSE)	418927
3-Sep	22	PM2.5	1-Hour	101	0.4	202°(SSW)	418927
3-Sep	23	PM2.5	1-Hour	99	0.6	222°(SW)	418927
3-Sep	-	PM2.5	24-Hour	277	2.8	24°(NNE)	418927
4-Sep	0	PM2.5	1-Hour	97	0.7	245°(WSW)	419223
4-Sep	1	PM2.5	1-Hour	97	3.4	241°(WSW)	419223
4-Sep	2	PM2.5	1-Hour	94	4.3	254°(WSW)	419223
4-Sep	3	PM2.5	1-Hour	95	4.2	305°(WNW)	419223
4-Sep	4	PM2.5	1-Hour	104	1.0	294°(WNW)	419223
4-Sep	5	PM2.5	1-Hour	105	0.9	231°(SW)	419223
4-Sep	6	PM2.5	1-Hour	114	1.7	230°(SW)	419223
4-Sep	7	PM2.5	1-Hour	135	5.2	274°(W)	419223
4-Sep	8	PM2.5	1-Hour	121	6.6	296°(WNW)	419223
4-Sep	9	PM2.5	1-Hour	89	10.5	314°(NW)	419223
4-Sep	-	PM2.5	24-Hour	52	6.0	300°(WNW)	419223
7-Sep	-	PM2.5	24-Hour	31	2.3	217°(SW)	419223
18-Sep	0	PM2.5	1-Hour	83	0.4	175°(S)	419925
18-Sep	1	PM2.5	1-Hour	87	0.8	223°(SW)	419925
18-Sep	2	PM2.5	1-Hour	93	0.6	151°(SSE)	419925
18-Sep	3	PM2.5	1-Hour	103	0.3	237°(SW)	419925
18-Sep	4	PM2.5	1-Hour	108	0.0	342°(NNW)	419925
18-Sep	5	PM2.5	1-Hour	118	1.0	258°(WSW)	419925
18-Sep	6	PM2.5	1-Hour	121	0.1	230°(SW)	419925
18-Sep	7	PM2.5	1-Hour	127	0.0	153°(SSE)	419925
18-Sep	8	PM2.5	1-Hour	143	1.5	233°(SW)	419925
18-Sep	9	PM2.5	1-Hour	148	0.7	222°(SW)	419925
18-Sep	10	PM2.5	1-Hour	147	5.7	285°(WNW)	419925
18-Sep	11	PM2.5	1-Hour	160	5.3	275°(W)	419925
18-Sep	12	PM2.5	1-Hour	157	7.3	242°(WSW)	419925
18-Sep	13	PM2.5	1-Hour	146	13.3	259°(WSW)	419925
18-Sep	14	PM2.5	1-Hour	81	12.6	270°(W)	419925
18-Sep	-	PM2.5	24-Hour	82	4.3	263°(W)	419925
21-Sep	-	PM2.5	24-Hour	37	2.6	229°(SW)	419925
29-Sep	-	PM2.5	24-Hour	31	5.5	1°(N)	420405

- **O3:** The analyzer failed the daily span check on September 3 and the as-found points check on September 5. As no specific problems could be identified, the calibration proceeded to correct the drift. Due to this issue, data were invalidated back to the last valid calibration check, which was September 2. Eighty-one hours of downtime were recorded.
- **THC/CH4/NMHC:** A new zero air generator was installed on September 25. One hour of downtime was recorded due to this event.

Tamarack

- All data collected this month were compliant with the requirements outlined in the AMD 2016.
- All parameters met the 90% operational uptime requirement.
- Measured parameters were below Alberta Ambient Air Quality Objectives (AAAQOs) and/or Alberta Ambient Air Quality Guidelines (AAAQGs) where applicable, except PM2.5. Fifty-two 1-hour and six 24-hour PM2.5 exceedances were recorded this month. Widespread smoke from wildfires burning throughout western Canada is the cause of the numerous exceedances of the PM2.5 objective and guideline.

Date	Time (MST)	Parameter	Average Period	Concentration (µg/m3)	Wind speed (km/hr)	Wind Direction	Reference #
1-Sep	0	PM2.5	1-Hour	199.2	4.6	314°(NW)	418930
1-Sep	1	PM2.5	1-Hour	167.8	4.1	305°(WNW)	418930
1-Sep	2	PM2.5	1-Hour	138.9	3.7	307°(NW)	418930
1-Sep	3	PM2.5	1-Hour	120.8	3.4	279°(W)	418930
1-Sep	4	PM2.5	1-Hour	104.9	4.6	246°(WSW)	418930
1-Sep	5	PM2.5	1-Hour	90.5	6.4	261°(W)	418930
1-Sep	-	PM2.5	24-Hour	63.5	6.6	247°(WSW)	418930
2-Sep	9	PM2.5	1-Hour	111.8	7.4	274°(W)	418930
2-Sep	10	PM2.5	1-Hour	205.4	7.3	282°(W)	418930
2-Sep	11	PM2.5	1-Hour	237	5.9	264°(W)	418930
2-Sep	12	PM2.5	1-Hour	235.1	7.2	271°(W)	418930
2-Sep	13	PM2.5	1-Hour	225.7	7.1	269°(W)	418930
2-Sep	14	PM2.5	1-Hour	197.1	8.9	267°(W)	418930
2-Sep	15	PM2.5	1-Hour	217.4	7.6	267°(W)	418930
2-Sep	16	PM2.5	1-Hour	239.4	7.2	267°(W)	418930
2-Sep	17	PM2.5	1-Hour	251.4	6.2	256°(WSW)	418930
2-Sep	18	PM2.5	1-Hour	246.8	5.7	266°(W)	418930
2-Sep	19	PM2.5	1-Hour	237.1	4.9	256°(WSW)	418930
2-Sep	20	PM2.5	1-Hour	234.7	3.6	275°(W)	418930
2-Sep	21	PM2.5	1-Hour	236.2	3.4	255°(WSW)	418930
2-Sep	22	PM2.5	1-Hour	233.9	5.5	213°(SSW)	418930
2-Sep	23	PM2.5	1-Hour	242.2	4.6	210°(SSW)	418930
2-Sep	-	PM2.5	24-Hour	152.2	6.3	258°(WSW)	418930
3-Sep	0	PM2.5	1-Hour	245.8	3.7	217°(SW)	418930
3-Sep	1	PM2.5	1-Hour	238.7	3.5	206°(SSW)	418930

Date	Time (MST)	Parameter	Average Period	Concentration (µg/m3)	Wind speed (km/hr)	Wind Direction	Reference #
3-Sep	2	PM2.5	1-Hour	234.9	1.4	186°(S)	418930
3-Sep	3	PM2.5	1-Hour	235	0.9	154°(SSE)	418930
3-Sep	4	PM2.5	1-Hour	219.5	1.0	168°(SSE)	418930
3-Sep	5	PM2.5	1-Hour	251.3	4.6	203°(SSW)	418930
3-Sep	6	PM2.5	1-Hour	240.5	0.3	172°(S)	418930
3-Sep	7	PM2.5	1-Hour	238	1.2	54°(NE)	418930
3-Sep	8	PM2.5	1-Hour	230.7	0.2	81°(E)	418930
3-Sep	9	PM2.5	1-Hour	233.4	1.0	49°(NE)	418930
3-Sep	10	PM2.5	1-Hour	252.1	1.8	57°(ENE)	418930
3-Sep	11	PM2.5	1-Hour	255.3	5.3	11°(NNE)	418930
3-Sep	12	PM2.5	1-Hour	132.7	7.1	10°(N)	418930
3-Sep	-	PM2.5	24-Hour	144.9	3.8	18°(NNE)	418930
17-Sep	20	PM2.5	1-Hour	104.5	5.9	280°(W)	419627
17-Sep	21	PM2.5	1-Hour	120.3	3.6	288°(WNW)	419627
17-Sep	22	PM2.5	1-Hour	119.2	2.3	275°(W)	419627
17-Sep	23	PM2.5	1-Hour	119.9	4.2	262°(W)	419627
17-Sep	-	PM2.5	24-Hour	33.1	3.9	308°(NW)	419627
18-Sep	0	PM2.5	1-Hour	122.7	3.0	261°(W)	419928
18-Sep	1	PM2.5	1-Hour	124.2	4.0	258°(WSW)	419928
18-Sep	2	PM2.5	1-Hour	121.3	2.7	201°(SSW)	419928
18-Sep	3	PM2.5	1-Hour	115	2.7	191°(S)	419928
18-Sep	4	PM2.5	1-Hour	113.5	2.2	180°(S)	419928
18-Sep	5	PM2.5	1-Hour	112.3	0.7	245°(WSW)	419928
18-Sep	6	PM2.5	1-Hour	106.6	0.6	129°(SE)	419928
18-Sep	7	PM2.5	1-Hour	112.8	0.8	131°(SE)	419928
18-Sep	8	PM2.5	1-Hour	112.5	0.3	332°(NNW)	419928
18-Sep	9	PM2.5	1-Hour	109.7	1.4	318°(NW)	419928
18-Sep	10	PM2.5	1-Hour	102.2	6.4	253°(WSW)	419928
18-Sep	11	PM2.5	1-Hour	107.6	4.1	272°(W)	419928
18-Sep	12	PM2.5	1-Hour	102.5	5.8	218°(SW)	419928
18-Sep	-	PM2.5	24-Hour	67.9	5.1	258°(WSW)	419928
20-Sep	11	PM2.5	1-Hour	86.6	5.3	284°(WNW)	419928
20-Sep	-	PM2.5	24-Hour	29.4	2.8	268°(W)	419928

- **THC/CH4/NMHC**:
  - The Thermo 55i analyzer, s/n: 1180930026, failed on September 14. The replacement Thermo 55i analyzer, s/n: 1180030034, was installed on September 16. The analyzer was allowed time to stabilize overnight (column conditioning was being performed). A

successful installation calibration was completed on September 17. Sixty-one hours of downtime were recorded due to this event.

- A new zero air generator was installed on September 25. One hour of downtime was recorded due to this event.

St. Lina Station

- All data collected this month were compliant with the requirements outlined in the AMD 2016.
- Due to HVAC unit failure which affected station temperatures, most gas analyzers, including SO2, H2S, NOx/NO/NO2, O3 and THC/CH4/NMHC, did not meet the 90% operational uptime requirement in September. **AEPA reference #: 419572**.
- Measured parameters were below Alberta Ambient Air Quality Objectives (AAAQOs) and/or Alberta Ambient Air Quality Guidelines (AAAQGs) where applicable, except PM2.5. Forty-eight 1-hour and six 24-hour PM2.5 exceedances were recorded this month. Widespread smoke from wildfires burning throughout western Canada is the cause of the numerous exceedances of the PM2.5 objective and guideline.

Date	Time (MST)	Parameter	Average Period	Concentration (µg/m3)	Wind speed (km/hr)	Wind Direction	Reference #
1-Sep	-	PM2.5	24-Hour	50	11.4	265°(W)	418929
2-Sep	8	PM2.5	1-Hour	96	11.4	289°(WNW)	418929
2-Sep	9	PM2.5	1-Hour	135	12.1	295°(WNW)	418929
2-Sep	10	PM2.5	1-Hour	155	11.3	281°(W)	418929
2-Sep	11	PM2.5	1-Hour	182	12.4	277°(W)	418929
2-Sep	12	PM2.5	1-Hour	198	13.5	286°(WNW)	418929
2-Sep	13	PM2.5	1-Hour	193	9.9	305°(WNW)	418929
2-Sep	14	PM2.5	1-Hour	242	10.5	303°(WNW)	418929
2-Sep	15	PM2.5	1-Hour	286	10.6	308°(NW)	418929
2-Sep	16	PM2.5	1-Hour	270	7.4	325°(NW)	418929
2-Sep	17	PM2.5	1-Hour	264	6.4	312°(NW)	418929
2-Sep	18	PM2.5	1-Hour	251	6.9	336°(NNW)	418929
2-Sep	19	PM2.5	1-Hour	247	7.9	305°(WNW)	418929
2-Sep	20	PM2.5	1-Hour	249	7.8	262°(W)	418929
2-Sep	21	PM2.5	1-Hour	254	8.9	277°(W)	418929
2-Sep	22	PM2.5	1-Hour	249	6.6	272°(W)	418929
2-Sep	23	PM2.5	1-Hour	236	7.2	318°(NW)	418929
2-Sep	-	PM2.5	24-Hour	158	10.7	284°(WNW)	418929
3-Sep	0	PM2.5	1-Hour	235	4.8	322°(NW)	418929
3-Sep	1	PM2.5	1-Hour	239	3.8	321°(NW)	418929
3-Sep	2	PM2.5	1-Hour	231	6.1	215°(SSW)	418929
3-Sep	3	PM2.5	1-Hour	242	8.7	208°(SSW)	418929
3-Sep	4	PM2.5	1-Hour	243	8.8	195°(SSW)	418929
3-Sep	5	PM2.5	1-Hour	231	8.5	195°(SSW)	418929

Date	Time (MST)	Parameter	Average Period	Concentration (µg/m3)	Wind speed (km/hr)	Wind Direction	Reference #
3-Sep	6	PM2.5	1-Hour	237	9.4	189°(S)	418929
3-Sep	7	PM2.5	1-Hour	245	9.4	200°(SSW)	418929
3-Sep	8	PM2.5	1-Hour	256	4.2	159°(SSE)	418929
3-Sep	9	PM2.5	1-Hour	238	7.7	12°(NNE)	418929
3-Sep	10	PM2.5	1-Hour	232	6.1	32°(NNE)	418929
3-Sep	11	PM2.5	1-Hour	187	9.6	22°(NNE)	418929
3-Sep	12	PM2.5	1-Hour	123	10.0	48°(NE)	418929
3-Sep	13	PM2.5	1-Hour	85	9.8	49°(NE)	418929
3-Sep	-	PM2.5	24-Hour	147	7.3	328°(NNW)	418929
4-Sep	4	PM2.5	1-Hour	82	9.7	321°(NW)	419222
4-Sep	5	PM2.5	1-Hour	85	7.6	331°(NNW)	419222
4-Sep	6	PM2.5	1-Hour	82	6.5	326°(NW)	419222
4-Sep	-	PM2.5	24-Hour	33	8.2	323°(NW)	419222
17-Sep	20	PM2.5	1-Hour	92	7.9	298°(WNW)	419601
17-Sep	21	PM2.5	1-Hour	97	7.9	282°(W)	419601
17-Sep	22	PM2.5	1-Hour	105	7.6	284°(WNW)	419601
17-Sep	23	PM2.5	1-Hour	110	7.2	295°(WNW)	419601
17-Sep	-	PM2.5	24-Hour	39	8.9	261°(W)	419601
18-Sep	0	PM2.5	1-Hour	111	8.5	286°(WNW)	419927
18-Sep	1	PM2.5	1-Hour	110	6.7	305°(WNW)	419927
18-Sep	2	PM2.5	1-Hour	107	6.9	247°(WSW)	419927
18-Sep	3	PM2.5	1-Hour	111	7.6	273°(W)	419927
18-Sep	4	PM2.5	1-Hour	117	6.0	263°(W)	419927
18-Sep	5	PM2.5	1-Hour	110	7.2	211°(SSW)	419927
18-Sep	6	PM2.5	1-Hour	104	6.5	222°(SW)	419927
18-Sep	7	PM2.5	1-Hour	113	8.2	200°(SSW)	419927
18-Sep	8	PM2.5	1-Hour	110	7.7	219°(SW)	419927
18-Sep	9	PM2.5	1-Hour	102	11.1	300°(WNW)	419927
18-Sep	10	PM2.5	1-Hour	88	13.2	328°(NNW)	419927
18-Sep	-	PM2.5	24-Hour	54	9.6	279°(W)	419927

- **Station HVAC unit:** The main fan that cools the radiator stopped working ca the HVAC unit to fail. on September 25. The motor was replaced on September 9. Due to this issue, the station temperatures rose above the manufacturer's recommended operation temperature ranges. Data quality collected during this period could have been affected by the issue and therefore were discarded. Downtime was variable among the instruments however, 128 hours to 150 hours of downtime were recorded in September as a result.
- **THC/CH4/NMHC:** A new zero air generator was installed on September 26. Two hours of downtime were recorded due to this event.

- **AQHI values:** Due to the HVAC unit issue, data quality for data collected by all gas analyzers between September 1 hour 0 and September 8 hour 12 were affected and were invalidated, with an exception of PM2.5. As NO2, O3 and PM2.5 are the parameters used to calculate the AQHI value, the AQHI values during this period were affected. However, However, considering that 1) although elevated, the station temperature was still within the operating range of the PM2.5 instrument, and 2) ambient air and wildfires conditions in and around the LICA region this season led to elevated PM2.5 concentrations, PM2.5 was the predominant parameter driving the AQHI values during the time the HVAC unit failed. As a result, AQHI values were not discarded and were kept for *reference use*.

Lac La Biche Station

- All data collected this month were compliant with the requirements outlined in the AMD 2016.
- All parameters met the 90% operational uptime requirement.
- Measured parameters were below Alberta Ambient Air Quality Objectives (AAAQOs) and/or Alberta Ambient Air Quality Guidelines (AAAQGs) where applicable, except PM2.5. Forty-eight 1-hour and six 24-hour PM2.5 exceedances were recorded this month. Widespread smoke from wildfires burning throughout western Canada is the cause of the numerous exceedances of the PM2.5 objective and guideline.

Date	Time (MST)	Parameter	Average Period	Concentration (µg/m3)	Wind speed (km/hr)	Wind Direction	Reference #
1-Sep	-	PM2.5	24-Hour	45.3	6.6	232°(SW)	418928
2-Sep	8	PM2.5	1-Hour	114.9	2.2	171°(S)	418928
2-Sep	9	PM2.5	1-Hour	118.4	2.2	182°(S)	418928
2-Sep	10	PM2.5	1-Hour	154.8	4.6	273°(W)	418928
2-Sep	11	PM2.5	1-Hour	180.8	9.1	273°(W)	418928
2-Sep	12	PM2.5	1-Hour	196.9	7.9	279°(W)	418928
2-Sep	13	PM2.5	1-Hour	203.9	7.2	274°(W)	418928
2-Sep	14	PM2.5	1-Hour	214.7	9.1	279°(W)	418928
2-Sep	15	PM2.5	1-Hour	230.3	8.3	268°(W)	418928
2-Sep	16	PM2.5	1-Hour	251.4	7.0	287°(WNW)	418928
2-Sep	17	PM2.5	1-Hour	256	6.8	299°(WNW)	418928
2-Sep	18	PM2.5	1-Hour	254.8	1.5	258°(WSW)	418928
2-Sep	19	PM2.5	1-Hour	246.7	2.3	183°(S)	418928
2-Sep	20	PM2.5	1-Hour	245.6	1.2	175°(S)	418928
2-Sep	21	PM2.5	1-Hour	246	3.1	169°(SSE)	418928
2-Sep	22	PM2.5	1-Hour	238.6	3.6	159°(SSE)	418928
2-Sep	23	PM2.5	1-Hour	246.2	3.6	155°(SSE)	418928
2-Sep	-	PM2.5	24-Hour	155.2	5.5	255°(WSW)	418928
3-Sep	0	PM2.5	1-Hour	248.5	3.9	144°(SE)	418928
3-Sep	1	PM2.5	1-Hour	246.7	3.5	134°(SE)	418928
3-Sep	2	PM2.5	1-Hour	228.9	3.2	152°(SSE)	418928
3-Sep	3	PM2.5	1-Hour	230.4	3.4	148°(SE)	418928
3-Sep	4	PM2.5	1-Hour	233.6	5.0	158°(SSE)	418928

Date	Time (MST)	Parameter	Average Period	Concentration (µg/m3)	Wind speed (km/hr)	Wind Direction	Reference #
3-Sep	5	PM2.5	1-Hour	233	4.9	154°(SSE)	418928
3-Sep	6	PM2.5	1-Hour	228.2	2.9	149°(SSE)	418928
3-Sep	7	PM2.5	1-Hour	222.3	2.5	165°(SSE)	418928
3-Sep	8	PM2.5	1-Hour	220.6	0.3	183°(S)	418928
3-Sep	9	PM2.5	1-Hour	189.1	3.6	337°(NNW)	418928
3-Sep	10	PM2.5	1-Hour	107	10.2	332°(NNW)	418928
3-Sep	-	PM2.5	24-Hour	127.5	4.1	160°(SSE)	418928
4-Sep	0	PM2.5	1-Hour	84.6	6.6	310°(NW)	419221
4-Sep	1	PM2.5	1-Hour	98.4	12.0	322°(NW)	419221
4-Sep	2	PM2.5	1-Hour	96.1	10.2	334°(NNW)	419221
4-Sep	3	PM2.5	1-Hour	91.5	11.1	332°(NNW)	419221
4-Sep	4	PM2.5	1-Hour	89.8	8.6	336°(NNW)	419221
4-Sep	-	PM2.5	24-Hour	33.8	8.7	309°(NW)	419221
17-Sep	18	PM2.5	1-Hour	83.2	3.7	260°(WSW)	419600
17-Sep	19	PM2.5	1-Hour	105.7	3.8	242°(WSW)	419600
17-Sep	20	PM2.5	1-Hour	116.3	3.4	238°(SW)	419600
17-Sep	21	PM2.5	1-Hour	119.1	3.3	202°(SSW)	419600
17-Sep	22	PM2.5	1-Hour	115.6	1.8	153°(SSE)	419600
17-Sep	23	PM2.5	1-Hour	118.1	3.0	185°(S)	419600
17-Sep	-	PM2.5	24-Hour	51.4	5.1	264°(W)	419600
18-Sep	0	PM2.5	1-Hour	115.2	2.8	167°(SSE)	419926
18-Sep	1	PM2.5	1-Hour	116.2	4.1	153°(SSE)	419926
18-Sep	2	PM2.5	1-Hour	119.1	3.1	179°(S)	419926
18-Sep	3	PM2.5	1-Hour	118.8	4.1	149°(SSE)	419926
18-Sep	4	PM2.5	1-Hour	120.1	4.1	124°(ESE)	419926
18-Sep	5	PM2.5	1-Hour	110.3	4.2	146°(SE)	419926
18-Sep	6	PM2.5	1-Hour	112.8	4.4	158°(SSE)	419926
18-Sep	7	PM2.5	1-Hour	117.8	1.7	216°(SW)	419926
18-Sep	8	PM2.5	1-Hour	118.3	3.2	192°(S)	419926
18-Sep	9	PM2.5	1-Hour	106.2	12.1	303°(WNW)	419926
18-Sep	-	PM2.5	24-Hour	53.9	7.2	271°(W)	419926

- No major events were identified this month.

Integrated Sampling

All the integrated sampling analytical results are included in the September 2023 Integrated Sampling Report.

- **VOCs Sampling System:**
  - The VOC sampler is programed to collect a 24-hour sample of air every sixth day as per the National Air Pollution Surveillance schedule (NAPS).
  - Measured parameters were below Alberta Ambient Air Quality Objectives (AAAQOs) where applicable.
  - Five samples were collected this month: on September 3, 9, 15, 21 and 27.
- **PAHs Sampling System:**
  - The PUF sampler is programed to collect a 24-hour sample of air every sixth day as per the National Air Pollution Surveillance schedule (NAPS).
  - Five samples were collected this month: on September 3, 9, 15, 21 and 27.
- **Partisol Sampling System:**
  - The Partisol sampler is programed to collect a 24-hour sample of air every sixth day as per National Air Pollution Surveillance schedule (NAPS).
  - Measured parameters were below Alberta Ambient Air Quality Objectives (AAAQOs) where applicable, except PM2.5 collected on September 3; analytical = 0.178 mg/m3 (AAAQO = 0.029 mg/m3). **AEPA reference #: 420863.**
  - Five samples were collected this month: on September 3, 9, 15, 21 and 27.
- **Passive Sampling System:**
  - There were no exceedances of the AAAQOs for all monitored parameters at any of the passive stations during this month.
  - The passive sample filters were installed at the stations between August 31 and September 3, and were removed between September 28 and October 2.
  - A total of 13 duplicate samples were collected: 2 for H2S, 3 for SO2, 2 for NO2, 2 for O3, 2 for HNO3 and 2 for NH3.
  - Station 18: The NMH3 sample media was found missing during the September changeout.
- **PAC Sampling System**:
  - The PAC sampling program began in December 2019, and is designed to collect a 2-month integrated sample.
  - The media for the July/September monitoring period were collected between September 31 and September 3. The media for the September/October monitoring period were installed during the time the media for the July/September monitoring period were collected.
- **NMHC canister Sampling System**:
  - The canister sampling program collects a 1-hour sample of air when the continuously non-methane hydrocarbon (NMHC) concentration reaches a specified trigger point. The current trigger point is 0.3 ppm and is based on real-time monitoring data that are averaged over a 5-minute period.
  - One canister event was recorded this month; on September 5 at 14:55, at NMHC concentration of 0.36ppm.

Revisions to Alberta's Ambient Air Quality Data Warehouse

Tamarack precipitation data: Sporadic 0.1mm measurements were recorded throughout the month in September. The readings were considered noise and were corrected to zero. The cause was likely because the wiring to the precipitation gauge, which runs underground, is degrading. An adjustment was made to the digital interface to try to filter out this noise on October 18. A permeant solution will be to relocate the gauge onto the trailer roof, which will be scheduled in spring 2024. As the issue started in mid-August, data collected in August were reviewed and revised using the same data validation method. The revised monthly total of precipitation collected in August was 23.9mm instead of 115.7mm. **ETS Request # 4603484**.

Deviations from Authorized Monitoring Methods

No deviations from authorized monitoring methods were recorded this month.

Disclaimer

Baseline correction were performed on the 1-minute data. 5-minute and hourly data were calculated based on the post-baseline correction 1-minute data set. Data verification/validation were then performed on the 5-minute and hourly data. Hourly data that are included in this report are the post-validation hourly data set.

Equipment calibration / maintenance records were provided by Bureau Veritas Canada.

Certification

This report was prepared and submitted by Lily Lin in accordance with Chapter 9 of the Air Monitoring Directive (AMD 2016).

Lily Lin, Data & Reporting Specialist, LICA Airshed

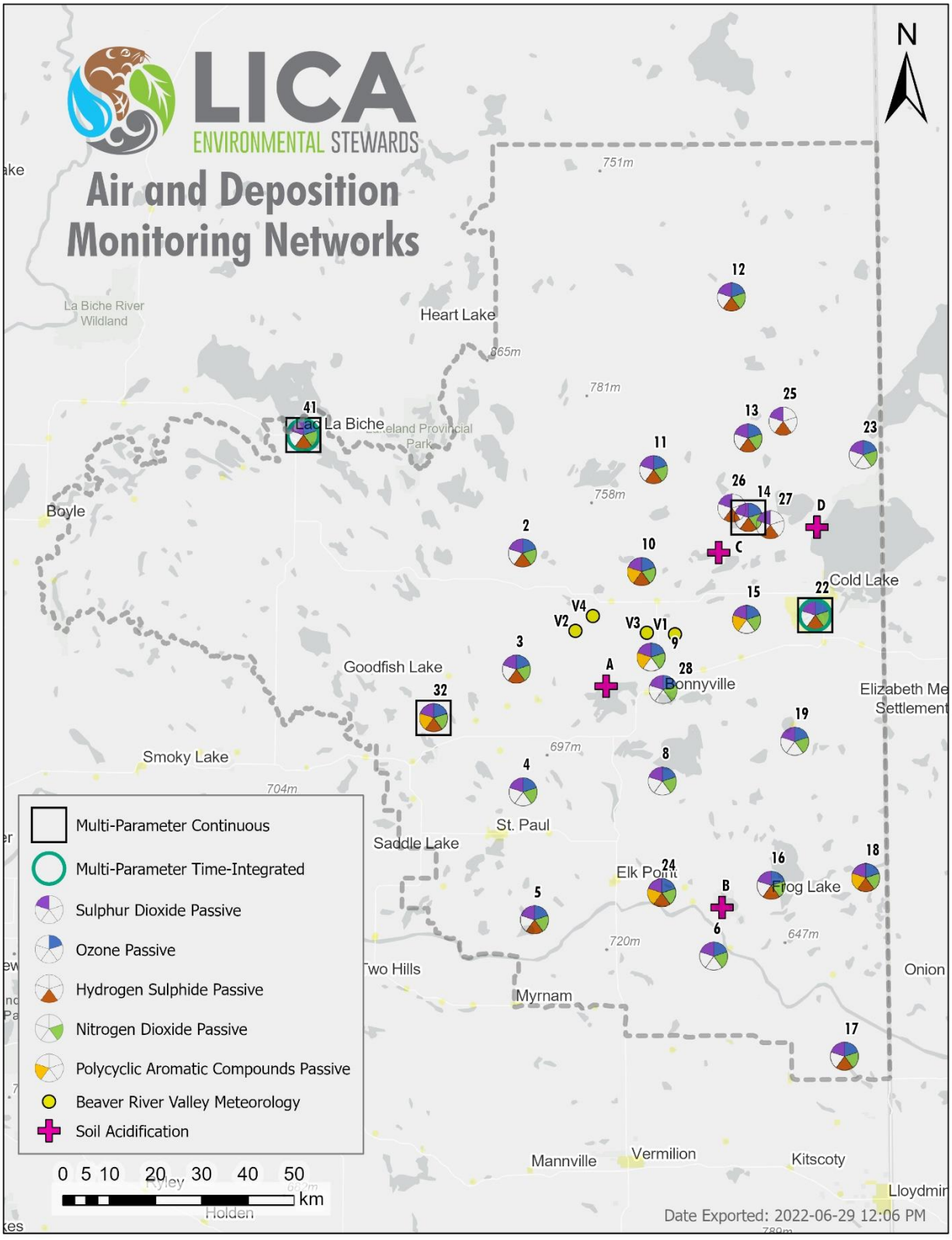
This report was reviewed by Michael Bisaga in accordance with Chapter 9 of the Air Monitoring Directive (AMD 2016).

I certify that I have reviewed and verified this report and that the information is complete, accurate and representative of the monitoring results, reporting timeframe and the specified analysis, summarization and reporting requirements. I also certify that at the time of this report's submission, all air data have been electronically uploaded to Alberta's Ambient Air Quality Data Warehouse as required by the AMD. Uploading of VOC data from the canister sampling program was not required at the time of completing this report.

Michael Bisaga, Monitoring Programs Manager, LICA Airshed

October 18, 2023

Map of LICA Continuous Monitoring Network



CONTINUOUS NETWORK EQUIPMENT AND MONITORING RESULTS SUMMARY

Cold Lake South Station

Equipment Operation Summary

Parameter	Calibration Date	Equipment Operational Summary
SO2 Thermo 43i-TLE #1180260018	September 6, 2023	• No operational issues were identified.
TRS Thermo 450i #812728560 **TRS convertor** CD Nova CDN-101 #501	September 6, 2023	• No operational issues were identified.
NOx/NO/NO2 Thermo 42i #1505664393	September 6, 2023	• A repeat zero-span check was initiated on September 10 to investigate span drift. As no further drift was shown, no further actions were required. One hour of downtime was recorded due to this additional quality check.
O3 Thermo 49i #1002240371	September 5, 2023	• The analyzer failed the daily span check on September 3 and the as-found points check on September 5. As no specific problems could be identified, the calibration proceeded to correct the drift. Due to this issue, data were invalidated back to the last valid calibration check, which was September 2. Eighty-one hours of downtime were recorded.
THC/CH4/NMHC Thermo 55i #1180930025 **H2 Generator** HG300 #210567071	September 7, 2023	• No operational issues were identified. • A new N2 gas cylinder was installed on September 7. • The analyzer was put offline while a new zero air generator was installed on September 25. One hour of downtime was recorded due to this event.
PM2.5 Teledyne T640 #575	September 25, 2023	• Thirty-two hours of data were discarded between September 8 and 9 and September 25 due to instrument fault. The analyzer was reset each time to correct the issue.

Parameter	Verification Date	Equipment Operational Summary
RH Rotronic HC2A-S3 #20257103	September 7, 2023	• No operational issues were identified.
BP Met One 092 #Y23368	September 7, 2023	• No operational issues were identified.
AT Rotronic HC2A-S3 #20257103	September 7, 2023	• No operational issues were identified.
ST COMET #NA	September 7, 2023	• No operational issues were identified.
WS/WD/STDWD RM Young 05305AQ #177354	September 7, 2023	• Wind direction data contained in this report represents where the wind is coming from. • An annual wind system calibration was completed on July 6, 2022. • No operational issues were identified.

Monitored Data Summary for Cold Lake South Station

Parameter	Objectives/Guidelines			Exceedances			Monthly Avg.	Min. 1-hr	Max. 1-hr	Date/Time	VWS (km/hr)	VWD (sector)	Max. 24-hr	Date	Operational Uptime (%)	Valid Data (%)
	1-hr	24-hr	30-day	1-hr	24-hr	30-day										
SO2 (ppb)	172	48	11	0	0	0	0.0	0	2	Sep 8 at hr 11	5.5	WSW	0.2	Sep 8	100.0	94.8
TRS (ppb)	-	-	-	-	-	-	0.4	0	3	Sep 3 at hr 5	0.5	NW	1.0	Sep 2	100.0	94.8
NOx (ppb)	-	-	-	-	-	-	2.4	0	17	Sep 25 at hr 8	1.4	NE	4.6	Sep 20	99.9	94.4
NO (ppb)	-	-	-	-	-	-	0.4	0	11	Sep 25 at hr 8	1.4	NE	1.7	Sep 20	99.9	94.4
NO2 (ppb)	159	-	-	0	-	-	2.1	0	9	Sep 27 at hr 18	0	ESE	3.8	Sep 27	99.9	94.4
O3 (ppb)	76	-	-	0	-	-	20.2	0.2	51.2	Sep 17 at hr 16	4.1	W	35.8	Sep 23	88.8	84.0
THC (ppm)	-	-	-	-	-	-	2.17	1.97	3.26	Sep 6 at hr 11	7.2	WSW	2.30	Sep 17	99.9	94.8
CH4 (ppm)	-	-	-	-	-	-	2.17	1.97	2.64	Sep 17 at hr 5	0.6	SW	2.30	Sep 17	99.9	94.8
NMHC (ppm)	-	-	-	-	-	-	0.01	0.00	1.06	Sep 6 at hr 11	7.2	WSW	0.14	Sep 6	99.9	94.8
PM2.5 (µg/m3)	80	29	-	75	8	-	42.1	4	453	Sep 2 at hr 23	3.5	WSW	276.8	Sep 3	94.9	94.7
RH (%)	-	-	-	-	-	-	74.3	29	100	Sep 1 at hr 3	3.9	SW	90.5	Sep 29	100.0	100.0
BP (millibar)	-	-	-	-	-	-	949	937	962	Sep 9 at hr 7	1.7	WSW	961	Sep 9	100.0	100.0
Ext. Temp. (°C)	-	-	-	-	-	-	12.1	-0.4	24.0	Sep 1 at hr 14	11.2	WSW	18.3	Sep 1	100.0	100.0
Stn. Temp. (°C)	-	-	-	-	-	-	24.3	22.5	25.4	Sep 8 at hr 2	0.1	ESE	24.9	Sep 3	100.0	100.0
WSV (km/hr)	-	-	-	-	-	-	1.3	0.0	17.0	Sep 14 at hr 14	17	NW	11.9	Sep 11	100.0	100.0
WDV (sector)	-	-	-	-	-	-	186 (S)	-	-	-	-	-	-	-	100.0	100.0

1- Date/ Time given is the first minimum and maximum value that was recorded

Alberta Ambient Air Quality Objectives (AAAQOs) and/or Alberta Ambient Air Quality Guidelines (AAAQGs) Exceedances

The following exceedances of AAAQOs and AAAQGs were observed at the Cold Lake South Station.

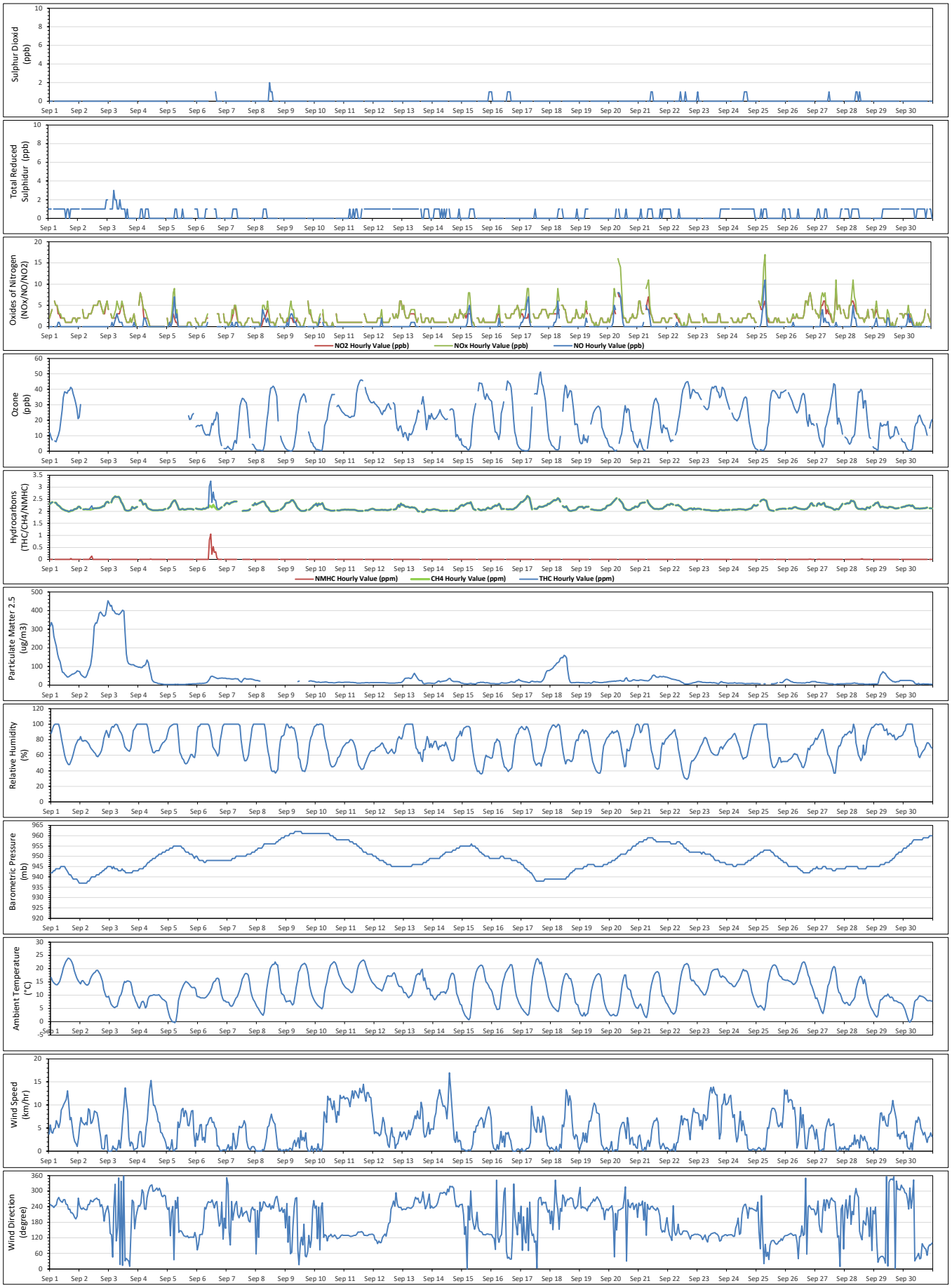
Date	Time (MST)	Parameter	Average Period	AAAQOs / AAAQGs	Concentration	Wind speed	Wind Direction	Reference #
Sep 1	0	PM2.5	1-Hour	80 µg/m3	315 µg/m3	3.7 km/hr	249° (WSW)	418927
Sep 1	1	PM2.5	1-Hour	80 µg/m3	336 µg/m3	5.7 km/hr	245° (WSW)	418927
Sep 1	2	PM2.5	1-Hour	80 µg/m3	318 µg/m3	4.1 km/hr	243° (WSW)	418927
Sep 1	3	PM2.5	1-Hour	80 µg/m3	262 µg/m3	3.9 km/hr	237° (SW)	418927
Sep 1	4	PM2.5	1-Hour	80 µg/m3	232 µg/m3	4.8 km/hr	243° (WSW)	418927
Sep 1	5	PM2.5	1-Hour	80 µg/m3	208 µg/m3	5.0 km/hr	247° (WSW)	418927
Sep 1	6	PM2.5	1-Hour	80 µg/m3	165 µg/m3	6.6 km/hr	267° (W)	418927
Sep 1	7	PM2.5	1-Hour	80 µg/m3	142 µg/m3	5.9 km/hr	276° (W)	418927
Sep 1	8	PM2.5	1-Hour	80 µg/m3	125 µg/m3	5.1 km/hr	265° (W)	418927
Sep 1	9	PM2.5	1-Hour	80 µg/m3	95 µg/m3	6.3 km/hr	259° (WSW)	418927
Sep 1	-	PM2.5	24-Hour	29 µg/m3	127 µg/m3	6.3 km/hr	245° (WSW)	418927
Sep 2	8	PM2.5	1-Hour	80 µg/m3	92 µg/m3	9.2 km/hr	248° (WSW)	418927
Sep 2	9	PM2.5	1-Hour	80 µg/m3	110 µg/m3	8.9 km/hr	265° (W)	418927
Sep 2	10	PM2.5	1-Hour	80 µg/m3	159 µg/m3	6.0 km/hr	260° (WSW)	418927
Sep 2	11	PM2.5	1-Hour	80 µg/m3	224 µg/m3	6.2 km/hr	259° (WSW)	418927
Sep 2	12	PM2.5	1-Hour	80 µg/m3	316 µg/m3	7.2 km/hr	267° (W)	418927
Sep 2	13	PM2.5	1-Hour	80 µg/m3	333 µg/m3	8.7 km/hr	270° (W)	418927
Sep 2	14	PM2.5	1-Hour	80 µg/m3	332 µg/m3	8.5 km/hr	273° (W)	418927
Sep 2	15	PM2.5	1-Hour	80 µg/m3	356 µg/m3	8.3 km/hr	267° (W)	418927
Sep 2	16	PM2.5	1-Hour	80 µg/m3	385 µg/m3	7.1 km/hr	267° (W)	418927
Sep 2	17	PM2.5	1-Hour	80 µg/m3	393 µg/m3	4.7 km/hr	240° (WSW)	418927
Sep 2	18	PM2.5	1-Hour	80 µg/m3	384 µg/m3	3.2 km/hr	248° (WSW)	418927
Sep 2	19	PM2.5	1-Hour	80 µg/m3	373 µg/m3	0.6 km/hr	233° (SW)	418927
Sep 2	20	PM2.5	1-Hour	80 µg/m3	370 µg/m3	0.5 km/hr	184° (S)	418927
Sep 2	21	PM2.5	1-Hour	80 µg/m3	377 µg/m3	0.5 km/hr	215° (SSW)	418927
Sep 2	22	PM2.5	1-Hour	80 µg/m3	411 µg/m3	3.4 km/hr	232° (SW)	418927
Sep 2	23	PM2.5	1-Hour	80 µg/m3	453 µg/m3	3.5 km/hr	243° (WSW)	418927
Sep 2	-	PM2.5	24-Hour	29 µg/m3	230 µg/m3	5.5 km/hr	250° (WSW)	418927
Sep 3	0	PM2.5	1-Hour	80 µg/m3	440 µg/m3	0.1 km/hr	213° (SSW)	418927
Sep 3	1	PM2.5	1-Hour	80 µg/m3	424 µg/m3	0.0 km/hr	137° (SE)	418927

Date	Time (MST)	Parameter	Average Period	AAAQOs / AAAQGs	Concentration	Wind speed	Wind Direction	Reference #
Sep 3	2	PM2.5	1-Hour	80 µg/m3	427 µg/m3	0.0 km/hr	131° (SE)	418927
Sep 3	3	PM2.5	1-Hour	80 µg/m3	401 µg/m3	0.1 km/hr	46° (NE)	418927
Sep 3	4	PM2.5	1-Hour	80 µg/m3	399 µg/m3	1.1 km/hr	234° (SW)	418927
Sep 3	5	PM2.5	1-Hour	80 µg/m3	387 µg/m3	0.5 km/hr	327° (NW)	418927
Sep 3	6	PM2.5	1-Hour	80 µg/m3	382 µg/m3	0.6 km/hr	108° (ESE)	418927
Sep 3	7	PM2.5	1-Hour	80 µg/m3	382 µg/m3	0.1 km/hr	160° (SSE)	418927
Sep 3	8	PM2.5	1-Hour	80 µg/m3	378 µg/m3	0.8 km/hr	351° (N)	418927
Sep 3	9	PM2.5	1-Hour	80 µg/m3	384 µg/m3	2.4 km/hr	17° (NNE)	418927
Sep 3	10	PM2.5	1-Hour	80 µg/m3	393 µg/m3	0.7 km/hr	338° (NNW)	418927
Sep 3	11	PM2.5	1-Hour	80 µg/m3	402 µg/m3	3.0 km/hr	14° (NNE)	418927
Sep 3	12	PM2.5	1-Hour	80 µg/m3	397 µg/m3	7.0 km/hr	359° (N)	418927
Sep 3	13	PM2.5	1-Hour	80 µg/m3	287 µg/m3	9.8 km/hr	31° (NNE)	418927
Sep 3	14	PM2.5	1-Hour	80 µg/m3	168 µg/m3	13.7 km/hr	41° (NE)	418927
Sep 3	15	PM2.5	1-Hour	80 µg/m3	129 µg/m3	10.8 km/hr	35° (NE)	418927
Sep 3	16	PM2.5	1-Hour	80 µg/m3	116 µg/m3	8.6 km/hr	31° (NNE)	418927
Sep 3	17	PM2.5	1-Hour	80 µg/m3	112 µg/m3	3.0 km/hr	10° (N)	418927
Sep 3	18	PM2.5	1-Hour	80 µg/m3	110 µg/m3	1.1 km/hr	153° (SSE)	418927
Sep 3	19	PM2.5	1-Hour	80 µg/m3	110 µg/m3	2.0 km/hr	265° (W)	418927
Sep 3	20	PM2.5	1-Hour	80 µg/m3	110 µg/m3	1.6 km/hr	258° (WSW)	418927
Sep 3	21	PM2.5	1-Hour	80 µg/m3	104 µg/m3	0.3 km/hr	155° (SSE)	418927
Sep 3	22	PM2.5	1-Hour	80 µg/m3	101 µg/m3	0.4 km/hr	202° (SSW)	418927
Sep 3	23	PM2.5	1-Hour	80 µg/m3	99 µg/m3	0.6 km/hr	222° (SW)	418927
Sep 3	-	PM2.5	24-Hour	29 µg/m3	277 µg/m3	2.8 km/hr	24° (NNE)	418927
Sep 4	0	PM2.5	1-Hour	80 µg/m3	97 µg/m3	0.7 km/hr	245° (WSW)	419223
Sep 4	1	PM2.5	1-Hour	80 µg/m3	97 µg/m3	3.4 km/hr	241° (WSW)	419223
Sep 4	2	PM2.5	1-Hour	80 µg/m3	94 µg/m3	4.3 km/hr	254° (WSW)	419223
Sep 4	3	PM2.5	1-Hour	80 µg/m3	95 µg/m3	4.2 km/hr	305° (WNW)	419223
Sep 4	4	PM2.5	1-Hour	80 µg/m3	104 µg/m3	1.0 km/hr	294° (WNW)	419223
Sep 4	5	PM2.5	1-Hour	80 µg/m3	105 µg/m3	0.9 km/hr	231° (SW)	419223
Sep 4	6	PM2.5	1-Hour	80 µg/m3	114 µg/m3	1.7 km/hr	230° (SW)	419223
Sep 4	7	PM2.5	1-Hour	80 µg/m3	135 µg/m3	5.2 km/hr	274° (W)	419223
Sep 4	8	PM2.5	1-Hour	80 µg/m3	121 µg/m3	6.6 km/hr	296° (WNW)	419223
Sep 4	9	PM2.5	1-Hour	80 µg/m3	89 µg/m3	10.5 km/hr	314° (NW)	419223

Date	Time (MST)	Parameter	Average Period	AAAQOs / AAAQGs	Concentration	Wind speed	Wind Direction	Reference #
Sep 4	-	PM2.5	24-Hour	29 µg/m3	52 µg/m3	6.0 km/hr	300° (WNW)	419223
Sep 7	-	PM2.5	24-Hour	29 µg/m3	31 µg/m3	2.3 km/hr	217° (SW)	419223
Sep 18	0	PM2.5	1-Hour	80 µg/m3	83 µg/m3	0.4 km/hr	175° (S)	419925
Sep 18	1	PM2.5	1-Hour	80 µg/m3	87 µg/m3	0.8 km/hr	223° (SW)	419925
Sep 18	2	PM2.5	1-Hour	80 µg/m3	93 µg/m3	0.6 km/hr	151° (SSE)	419925
Sep 18	3	PM2.5	1-Hour	80 µg/m3	103 µg/m3	0.3 km/hr	237° (SW)	419925
Sep 18	4	PM2.5	1-Hour	80 µg/m3	108 µg/m3	0.0 km/hr	342° (NNW)	419925
Sep 18	5	PM2.5	1-Hour	80 µg/m3	118 µg/m3	1.0 km/hr	258° (WSW)	419925
Sep 18	6	PM2.5	1-Hour	80 µg/m3	121 µg/m3	0.1 km/hr	230° (SW)	419925
Sep 18	7	PM2.5	1-Hour	80 µg/m3	127 µg/m3	0.0 km/hr	153° (SSE)	419925
Sep 18	8	PM2.5	1-Hour	80 µg/m3	143 µg/m3	1.5 km/hr	233° (SW)	419925
Sep 18	9	PM2.5	1-Hour	80 µg/m3	148 µg/m3	0.7 km/hr	222° (SW)	419925
Sep 18	10	PM2.5	1-Hour	80 µg/m3	147 µg/m3	5.7 km/hr	285° (WNW)	419925
Sep 18	11	PM2.5	1-Hour	80 µg/m3	160 µg/m3	5.3 km/hr	275° (W)	419925
Sep 18	12	PM2.5	1-Hour	80 µg/m3	157 µg/m3	7.3 km/hr	242° (WSW)	419925
Sep 18	13	PM2.5	1-Hour	80 µg/m3	146 µg/m3	13.3 km/hr	259° (WSW)	419925
Sep 18	14	PM2.5	1-Hour	80 µg/m3	81 µg/m3	12.6 km/hr	270° (W)	419925
Sep 18	-	PM2.5	24-Hour	29 µg/m3	82 µg/m3	4.3 km/hr	263° (W)	419925
Sep 21	-	PM2.5	24-Hour	29 µg/m3	37 µg/m3	2.6 km/hr	229° (SW)	419925
Sep 29	-	PM2.5	24-Hour	29 µg/m3	31 µg/m3	5.5 km/hr	1° (N)	420405

The source of the exceedance of the PM2.5 objective and guideline was due to wildfire smokes.

Timeseries Chart of Hourly Average for the month of Sep 2023 - Cold Lake South Station



Tamarack Station

Equipment Operation Summary

Parameter	Calibration Date	Equipment Operational Summary
SO2 Thermo 43i-TLE #1180930031	September 16, 2023	• No operational issues were recorded.
H2S Thermo 450i #CM17360005	September 16, 2023	• No operational issues were recorded.
NOx/NO/NO2 Thermo 42i #1180930028	September 16, 2023	• No operational issues were recorded.
O3 Thermo 49iQ #1202068570	September 17, 2023	• No operational issues were recorded.
THC/CH4/NMHC Thermo 55i #1180930026 #1180030034	September 17, 2023	• The Thermo 55i analyzer, s/n: 1180930026, failed on September 14. The replacement Thermo 55i analyzer, s/n: 1180030034, was installed on September 16. The analyzer was allowed time to stabilize overnight (column conditioning was being performed). A successful installation calibration was completed on September 17. Sixty-one hours of downtime were recorded due to this event. • NMHC noise was recorded after the analyzer, #1180030034, was installed on September 17. More system checks and investigations will be conducted in October to confirm the data validity. As the analyzer passed the daily zero-span check each day, data were considered valid. Data will be reviewed and may be revised based on October's check results. • The analyzer was put offline while a new zero air generator was installed on September 25. One hour of downtime was recorded due to this event.
PM2.5 Thermo Sharp 5030 #CM2209	September 25, 2023	• No operational issues were recorded.

Parameter	Verification Date	Equipment Operational Summary
RH Rotronic HC2A-S3 #20433166	September 17, 2023	• No operational issues were recorded.
BP Met One 090D #F4497	September 17, 2023	• No operational issues were recorded.
AT Rotronic HC2A-S3 #20433166	September 17, 2023	• No operational issues were recorded.
ST COMET #NA	September 17, 2023	• No operational issues were recorded.
Precipitation MetOne 387 #C13580	September 17, 2023	• Sporadic 0.1mm measurements were recorded throughout the month. The readings were considered noise and were corrected to zero. The cause was likely because the wiring to the precipitation gauge, which runs underground, is degrading. An adjustment was made to the digital interface to try to filter out this noise on October 18. A permeant solution will be to relocate the gauge onto the trailer roof, which will be scheduled in spring 2024. As the issue started in mid-August, data collected in August were reviewed and revised using the same data validation method. The revised monthly total of precipitation collected in August was 23.9mm instead of 115.7mm.
WS/WD/STDWD RM Young 05305VK #161465	September 17, 2023	• Wind direction data contained in this report represents where the wind is coming from. • An annual wind system calibration was completed on September 17, 2023. • No operational issues were recorded.

Monitored Data Summary for Tamarack Site

Parameter	Objectives/Guidelines			Exceedances			Monthly Avg.	Min. 1-hr	Max. 1-hr	Date/Time	VWS (km/hr)	VWD (sector)	Max. 24-hr	Date	Operational Uptime (%)	Valid Data (%)
	1-hr	24-hr	30-day	1-hr	24-hr	30-day										
SO2 (ppb)	172	48	11	0	0	0	0.6	0	11	Sep 25 at hr 19	6.7	ESE	3.3	Sep 4	100.0	94.7
H2S (ppb)	10	3	-	0	0	-	0.2	0	8	Sep 6 at hr 2	4.2	SE	1.0	Sep 6	100.0	94.7
NOx (ppb)	-	-	-	-	-	-	4.0	0	26	Sep 25 at hr 20	7.3	ESE	8.3	Sep 4	100.0	94.6
NO (ppb)	-	-	-	-	-	-	0.8	0	16	Sep 10 at hr 6	1.7	NE	3.3	Sep 4	100.0	94.6
NO2 (ppb)	159	-	-	0	-	-	3.2	0	23	Sep 25 at hr 20	7.3	ESE	6.1	Sep 27	100.0	94.6
O3 (ppb)	76	-	-	0	-	-	21.2	0.5	52.8	Sep 17 at hr 15	C	C	37.1	Sep 23	100.0	94.8
THC (ppm)	-	-	-	-	-	-	2.18	2.01	3.08	Sep 25 at hr 2	1	SW	2.43	Sep 25	91.4	86.6
CH4 (ppm)	-	-	-	-	-	-	2.16	2.01	2.67	Sep 25 at hr 6	1	ENE	2.32	Sep 25	91.4	86.6
NMHC (ppm)	-	-	-	-	-	-	0.02	0.00	0.47	Sep 25 at hr 2	1	SW	0.12	Sep 25	91.4	86.6
PM2.5 (µg/m3)	80	29	-	52	6	-	27.3	1	255	Sep 3 at hr 11	5.3	NNE	152.2	Sep 2	100.0	99.7
RH (%)	-	-	-	-	-	-	76.2	28	100	Sep 3 at hr 2	1.4	S	95.5	Sep 29	100.0	100.0
BP (millibar)	-	-	-	-	-	-	936	924	950	Sep 9 at hr 9	2.5	NNE	948	Sep 9	100.0	100.0
Ext. Temp. (°C)	-	-	-	-	-	-	11.9	-0.8	23.1	Sep 17 at hr 13	3.8	SSW	18.4	Sep 1	100.0	100.0
Stn. Temp. (°C)	-	-	-	-	-	-	22.3	21.3	23.7	Sep 17 at hr 12	5.9	NE	22.6	Sep 23	100.0	100.0
Precipitation (mm)*	-	-	-	-	-	-	2.4	0.0	0.4	Sep 6 at hr 1	4.2	ESE	0.4	Sep 6	100.0	100.0
WSV (km/hr)	-	-	-	-	-	-	1.8	0.0	14.1	Sep 14 at hr 6	14.1	WNW	9.0	Sep 11	100.0	99.7
WDV (sector)	-	-	-	-	-	-	198 (SSW)	-	-	-	-	-	-	-	100.0	99.7

1- Date/ Time given is the first minimum and maximum value that was recorded

* Data represents the total (sum) for the indicated time frame

Alberta Ambient Air Quality Objectives (AAAQOs) and/or Alberta Ambient Air Quality Guidelines (AAAQGs) Exceedances

The following exceedances of AAAQOs and AAAQGs were observed at the Tamarack Site.

Date	Time (MST)	Parameter	Average Period	AAAQOs / AAAQGs	Concentration	Wind speed	Wind Direction	Reference #
Sep 1	0	PM2.5	1-Hour	80 µg/m3	199.2 µg/m3	4.6 km/hr	314° (NW)	418930
Sep 1	1	PM2.5	1-Hour	80 µg/m3	167.8 µg/m3	4.1 km/hr	305° (WNW)	418930
Sep 1	2	PM2.5	1-Hour	80 µg/m3	138.9 µg/m3	3.7 km/hr	307° (NW)	418930
Sep 1	3	PM2.5	1-Hour	80 µg/m3	120.8 µg/m3	3.4 km/hr	279° (W)	418930
Sep 1	4	PM2.5	1-Hour	80 µg/m3	104.9 µg/m3	4.6 km/hr	246° (WSW)	418930
Sep 1	5	PM2.5	1-Hour	80 µg/m3	90.5 µg/m3	6.4 km/hr	261° (W)	418930
Sep 1	-	PM2.5	24-Hour	29 µg/m3	63.5 µg/m3	6.6 km/hr	247° (WSW)	418930
Sep 2	9	PM2.5	1-Hour	80 µg/m3	111.8 µg/m3	7.4 km/hr	274° (W)	418930
Sep 2	10	PM2.5	1-Hour	80 µg/m3	205.4 µg/m3	7.3 km/hr	282° (W)	418930
Sep 2	11	PM2.5	1-Hour	80 µg/m3	237 µg/m3	5.9 km/hr	264° (W)	418930
Sep 2	12	PM2.5	1-Hour	80 µg/m3	235.1 µg/m3	7.2 km/hr	271° (W)	418930
Sep 2	13	PM2.5	1-Hour	80 µg/m3	225.7 µg/m3	7.1 km/hr	269° (W)	418930
Sep 2	14	PM2.5	1-Hour	80 µg/m3	197.1 µg/m3	8.9 km/hr	267° (W)	418930
Sep 2	15	PM2.5	1-Hour	80 µg/m3	217.4 µg/m3	7.6 km/hr	267° (W)	418930
Sep 2	16	PM2.5	1-Hour	80 µg/m3	239.4 µg/m3	7.2 km/hr	267° (W)	418930
Sep 2	17	PM2.5	1-Hour	80 µg/m3	251.4 µg/m3	6.2 km/hr	256° (WSW)	418930
Sep 2	18	PM2.5	1-Hour	80 µg/m3	246.8 µg/m3	5.7 km/hr	266° (W)	418930
Sep 2	19	PM2.5	1-Hour	80 µg/m3	237.1 µg/m3	4.9 km/hr	256° (WSW)	418930
Sep 2	20	PM2.5	1-Hour	80 µg/m3	234.7 µg/m3	3.6 km/hr	275° (W)	418930
Sep 2	21	PM2.5	1-Hour	80 µg/m3	236.2 µg/m3	3.4 km/hr	255° (WSW)	418930
Sep 2	22	PM2.5	1-Hour	80 µg/m3	233.9 µg/m3	5.5 km/hr	213° (SSW)	418930
Sep 2	23	PM2.5	1-Hour	80 µg/m3	242.2 µg/m3	4.6 km/hr	210° (SSW)	418930
Sep 2	-	PM2.5	24-Hour	29 µg/m3	152.2 µg/m3	6.3 km/hr	258° (WSW)	418930
Sep 3	0	PM2.5	1-Hour	80 µg/m3	245.8 µg/m3	3.7 km/hr	217° (SW)	418930
Sep 3	1	PM2.5	1-Hour	80 µg/m3	238.7 µg/m3	3.5 km/hr	206° (SSW)	418930
Sep 3	2	PM2.5	1-Hour	80 µg/m3	234.9 µg/m3	1.4 km/hr	186° (S)	418930
Sep 3	3	PM2.5	1-Hour	80 µg/m3	235 µg/m3	0.9 km/hr	154° (SSE)	418930
Sep 3	4	PM2.5	1-Hour	80 µg/m3	219.5 µg/m3	1.0 km/hr	168° (SSE)	418930
Sep 3	5	PM2.5	1-Hour	80 µg/m3	251.3 µg/m3	4.6 km/hr	203° (SSW)	418930
Sep 3	6	PM2.5	1-Hour	80 µg/m3	240.5 µg/m3	0.3 km/hr	172° (S)	418930

Date	Time (MST)	Parameter	Average Period	AAAQOs / AAAQGs	Concentration	Wind speed	Wind Direction	Reference #
Sep 3	7	PM2.5	1-Hour	80 µg/m3	238 µg/m3	1.2 km/hr	54° (NE)	418930
Sep 3	8	PM2.5	1-Hour	80 µg/m3	230.7 µg/m3	0.2 km/hr	81° (E)	418930
Sep 3	9	PM2.5	1-Hour	80 µg/m3	233.4 µg/m3	1.0 km/hr	49° (NE)	418930
Sep 3	10	PM2.5	1-Hour	80 µg/m3	252.1 µg/m3	1.8 km/hr	57° (ENE)	418930
Sep 3	11	PM2.5	1-Hour	80 µg/m3	255.3 µg/m3	5.3 km/hr	11° (NNE)	418930
Sep 3	12	PM2.5	1-Hour	80 µg/m3	132.7 µg/m3	7.1 km/hr	10° (N)	418930
Sep 3	-	PM2.5	24-Hour	29 µg/m3	144.9 µg/m3	3.8 km/hr	18° (NNE)	418930
Sep 17	20	PM2.5	1-Hour	80 µg/m3	104.5 µg/m3	5.9 km/hr	280° (W)	419627
Sep 17	21	PM2.5	1-Hour	80 µg/m3	120.3 µg/m3	3.6 km/hr	288° (WNW)	419627
Sep 17	22	PM2.5	1-Hour	80 µg/m3	119.2 µg/m3	2.3 km/hr	275° (W)	419627
Sep 17	23	PM2.5	1-Hour	80 µg/m3	119.9 µg/m3	4.2 km/hr	262° (W)	419627
Sep 17	-	PM2.5	24-Hour	29 µg/m3	33.1 µg/m3	3.9 km/hr	308° (NW)	419627
Sep 18	0	PM2.5	1-Hour	80 µg/m3	122.7 µg/m3	3.0 km/hr	261° (W)	419928
Sep 18	1	PM2.5	1-Hour	80 µg/m3	124.2 µg/m3	4.0 km/hr	258° (WSW)	419928
Sep 18	2	PM2.5	1-Hour	80 µg/m3	121.3 µg/m3	2.7 km/hr	201° (SSW)	419928
Sep 18	3	PM2.5	1-Hour	80 µg/m3	115 µg/m3	2.7 km/hr	191° (S)	419928
Sep 18	4	PM2.5	1-Hour	80 µg/m3	113.5 µg/m3	2.2 km/hr	180° (S)	419928
Sep 18	5	PM2.5	1-Hour	80 µg/m3	112.3 µg/m3	0.7 km/hr	245° (WSW)	419928
Sep 18	6	PM2.5	1-Hour	80 µg/m3	106.6 µg/m3	0.6 km/hr	129° (SE)	419928
Sep 18	7	PM2.5	1-Hour	80 µg/m3	112.8 µg/m3	0.8 km/hr	131° (SE)	419928
Sep 18	8	PM2.5	1-Hour	80 µg/m3	112.5 µg/m3	0.3 km/hr	332° (NNW)	419928
Sep 18	9	PM2.5	1-Hour	80 µg/m3	109.7 µg/m3	1.4 km/hr	318° (NW)	419928
Sep 18	10	PM2.5	1-Hour	80 µg/m3	102.2 µg/m3	6.4 km/hr	253° (WSW)	419928
Sep 18	11	PM2.5	1-Hour	80 µg/m3	107.6 µg/m3	4.1 km/hr	272° (W)	419928
Sep 18	12	PM2.5	1-Hour	80 µg/m3	102.5 µg/m3	5.8 km/hr	218° (SW)	419928
Sep 18	-	PM2.5	24-Hour	29 µg/m3	67.9 µg/m3	5.1 km/hr	258° (WSW)	419928
Sep 20	11	PM2.5	1-Hour	80 µg/m3	86.6 µg/m3	5.3 km/hr	284° (WNW)	419928
Sep 20	-	PM2.5	24-Hour	29 µg/m3	29.4 µg/m3	2.8 km/hr	268° (W)	419928

The source of the exceedance of the PM2.5 objective and guideline was due to wildfire smokes.

Timeseries Chart of Hourly Average for the month of Sep 2023 - Tamarack Site

St. Lina Station

Equipment Operation Summary

Parameter	Calibration Date	Equipment Operational Summary
SO2 Thermo 43i-TLE #1180930030	September 10, 2023	• The station's HVAC system failed on August 25. The motor was replaced on September 8. Due to this issue, the station temperatures rose above the manufacture's recommend operation temperature ranges. Data quality collected during this period could have been affected and therefore were discarded. One hundred eighty-one hours of downtime were recorded in September as a result. • Five hours of downtime were recorded on September 10 and 29 due to intermittent polling issues. • As the datalogger failed Windows update on September 30, no data were collected. The problem was corrected on October 1. Twenty-one hours of downtime were recorded due to this event.
H2S Teledyne T100 #1014	September 10, 2023	• The station's HVAC system failed on August 25. The motor was replaced on September 8. Due to this issue, the station temperatures rose above the manufacture's recommend operation temperature ranges. Data quality collected during this period could have been affected and therefore were discarded. One hundred eighty-one hours of downtime were recorded in September as a result. • Three hours of downtime were recorded on September 29 due to intermittent polling issues. • As the datalogger failed Windows update on September 30, no data were collected. The problem was corrected on October 1. Twenty-one hours of downtime were recorded due to this event.
NOx/NO/NO2 Thermo 42i #1180930029	September 10, 2023	• The station's HVAC system failed on August 25. The motor was replaced on September 8. Due to this issue, the station temperatures rose above the manufacture's recommend operation temperature ranges. Data quality collected during this period could have been affected and therefore were discarded. One hundred eighty-one hours of downtime were recorded in September as a result. • Five hours of downtime were recorded on September 10 and 29 due to intermittent polling issues. • As the datalogger failed Windows update on September 30, no data were collected. The problem was corrected on October 1. Twenty-one hours of downtime were recorded due to this event.

Parameter	Calibration Date	Equipment Operational Summary
THC/CH4/NMHC Thermo 55i #1236656107	September 11, 2023	• The station's HVAC system failed on August 25. The motor was replaced on September 8. Due to this issue, the station temperatures rose above the manufacture's recommend operation temperature ranges. Data quality collected during this period could have been affected and therefore were discarded. One hundred eighty-one hours of downtime were recorded in September as a result. • Hourly data collected on September 9 hour 9 was invalidated due to injection issues. • Both span gas cylinder and N2 gas cylinder were replaced on September 11. • A new zero air generator was installed on September 26. Two hours of downtime were recorded due to this event. Five hours of downtime were recorded on September 10 and 29 due to intermittent polling issues. • As the datalogger failed Windows update on September 30, no data were collected. The problem was corrected on October 1. Twenty-one hours of downtime were recorded due to this event. • A successful monthly calibration was completed on September 13. Following the monthly calibration, NMHC noise was noted. On September 17, investigations were made, and maintenance was performed on the H2 generator. A repeat multi-point calibration was completed on September 18. However, the issue continued. On September 25, the Thermo 55i, s/n: 1180030034, was removed for maintenance, and the Thermo 55i, s/n: 1236656107, analyzer was installed. The analyzer was put offline overnight for column conditioning. A post-repair calibration was completed on September 26. Thirty-five hours of downtime were recorded due to these maintenance activities.

Parameter	Calibration Date	Equipment Operational Summary
O3 Thermo 49iQ #12208316586	September 11, 2023	• The station's HVAC system failed on August 25. The motor was replaced on September 8. Due to this issue, the station temperatures rose above the manufacture's recommend operation temperature ranges. Data quality collected during this period could have been affected and therefore were discarded. One hundred eighty-one hours of downtime were recorded in September as a result. • Three hours of downtime were recorded on September 29 due to intermittent polling issues. • As the datalogger failed Windows update on September 30, no data were collected. The problem was corrected on October 1. Twenty-one hours of downtime were recorded due to this event.
PM2.5 Thermo Sharp 5030i #CM17091001	September 26, 2023	• Five hours of downtime were recorded on September 10 and 29 due to intermittent polling issues. • As the datalogger failed Windows update on September 30, no data were collected. The problem was corrected on October 1. Twenty-one hours of downtime were recorded due to this event.
Parameter	**Verification Date**	**Equipment Operational Summary**
RH Rotronic HC2A-S3 #20404750	September 11, 2023	• No operational issues were recorded.
BP Met One 090D #F4498	September 11, 2023	• Four hours of downtime were recorded on September 10 and 29 due to intermittent polling issues. • As the datalogger failed Windows update on September 30, no data were collected. The problem was corrected on October 1. Twenty-one hours of downtime were recorded due to this event.
AT Rotronic HC2A-S3 #20404750	September 11, 2023	• Four hours of downtime were recorded on September 10 and 29 due to intermittent polling issues. • As the datalogger failed Windows update on September 30, no data were collected. The problem was corrected on October 1. Twenty-one hours of downtime were recorded due to this event.

Parameter	Verification Date	Equipment Operational Summary
ST COMET #NA	September 11, 2023	• Three hours of downtime were recorded on September 29 due to intermittent polling issues. • As the datalogger failed Windows update on September 30, no data were collected. The problem was corrected on October 1. Twenty-one hours of downtime were recorded due to this event.
Precipitation MetOne 387D #A23775	September 11, 2023	• Four hours of downtime were recorded on September 10 and 29 due to intermittent polling issues. • As the datalogger failed Windows update on September 30, no data were collected. The problem was corrected on October 1. Twenty-one hours of downtime were recorded due to this event.
WS/WD/STDWD RM Young 05305VK #161466	September 11, 2023	• Wind direction data contained in this report represents where the wind is coming from. • An annual wind system calibration was completed on July 22, 2022. • Four hours of downtime were recorded on September 10 and 29 due to intermittent polling issues. • As the datalogger failed Windows update on September 30, no data were collected. The problem was corrected on October 1. Twenty-one hours of downtime were recorded due to this event.

Monitored Data Summary for St. Lina Site

Parameter	Objectives/Guidelines			Exceedances			Monthly Avg.	Min. 1-hr	Max. 1-hr	Date/Time	VWS (km/hr)	VWD (sector)	Max. 24-hr	Date	Operational Uptime (%)	Valid Data (%)
	1-hr	24-hr	30-day	1-hr	24-hr	30-day										
SO2 (ppb)	172	48	11	0	0	0	NA	0	2	Sep 8 at hr 13	9.1	W	0.2	Sep 9	71.3	67.2
H2S (ppb)	10	3	-	0	0	-	NA	0	1	Sep 11 at hr 5	12.1	S	0.0	Sep 9	71.5	67.5
NOx (ppb)	-	-	-	-	-	-	NA	0	11	Sep 9 at hr 9	5.4	E	5.0	Sep 9	71.3	67.1
NO (ppb)	-	-	-	-	-	-	NA	0	7	Sep 8 at hr 13	9.1	W	3.0	Sep 9	71.3	67.1
NO2 (ppb)	159	-	-	0	-	-	NA	0	6	Sep 27 at hr 6	8.8	WSW	2.7	Sep 16	71.3	67.1
O3 (ppb)	76	-	-	0	-	-	NA	10.2	57.6	Sep 15 at hr 15	11.3	SSE	41.5	Sep 16	71.5	67.6
THC (ppm)	-	-	-	-	-	-	NA	1.99	2.41	Sep 18 at hr 5	7.2	SSW	2.21	Sep 17	70.8	66.9
CH4 (ppm)	-	-	-	-	-	-	NA	1.99	2.39	Sep 18 at hr 6	6.5	SW	2.20	Sep 17	70.8	66.9
NMHC (ppm)	-	-	-	-	-	-	NA	0.00	0.07	Sep 13 at hr 13	12	W	0.01	Sep 13	70.8	66.9
PM2.5 (µg/m3)	80	29	-	48	6	-	25.7	0	286	Sep 2 at hr 15	10.6	NW	157.9	Sep 2	96.4	96.1
RH (%)	-	-	-	-	-	-	65.9	30	98	Sep 5 at hr 3	5	SW	90.2	Sep 29	96.5	96.5
BP (millibar)	-	-	-	-	-	-	918	908	930	Sep 9 at hr 7	5.6	NE	929	Sep 9	96.5	96.5
Ext. Temp. (°C)	-	-	-	-	-	-	13.3	1.8	24.1	Sep 11 at hr 14	18.5	S	17.8	Sep 1	96.5	96.5
Stn. Temp. (°C)	-	-	-	-	-	-	25.7	19.7	41.4	Sep 1 at hr 18	9.8	SW	39.1	Sep 2	96.7	96.7
Precipitation (mm)*	-	-	-	-	-	-	7.5	0.0	2.4	Sep 5 at hr 22	3.8	S	4.2	Sep 5	96.5	96.5
WSV (km/hr)	-	-	-	-	-	-	3.2	0.4	19.4	Sep 23 at hr 12	19.4	SSE	14.1	Sep 11	96.5	96.5
WDV (sector)	-	-	-	-	-	-	232 (SW)	-	-	-	-	-	-	-	96.5	96.5

1- Date/ Time given is the first minimum and maximum value that was recorded

* Data represents the total (sum) for the indicated time frame

Alberta Ambient Air Quality Objectives (AAAQOs) and/or Alberta Ambient Air Quality Guidelines (AAAQGs) Exceedances

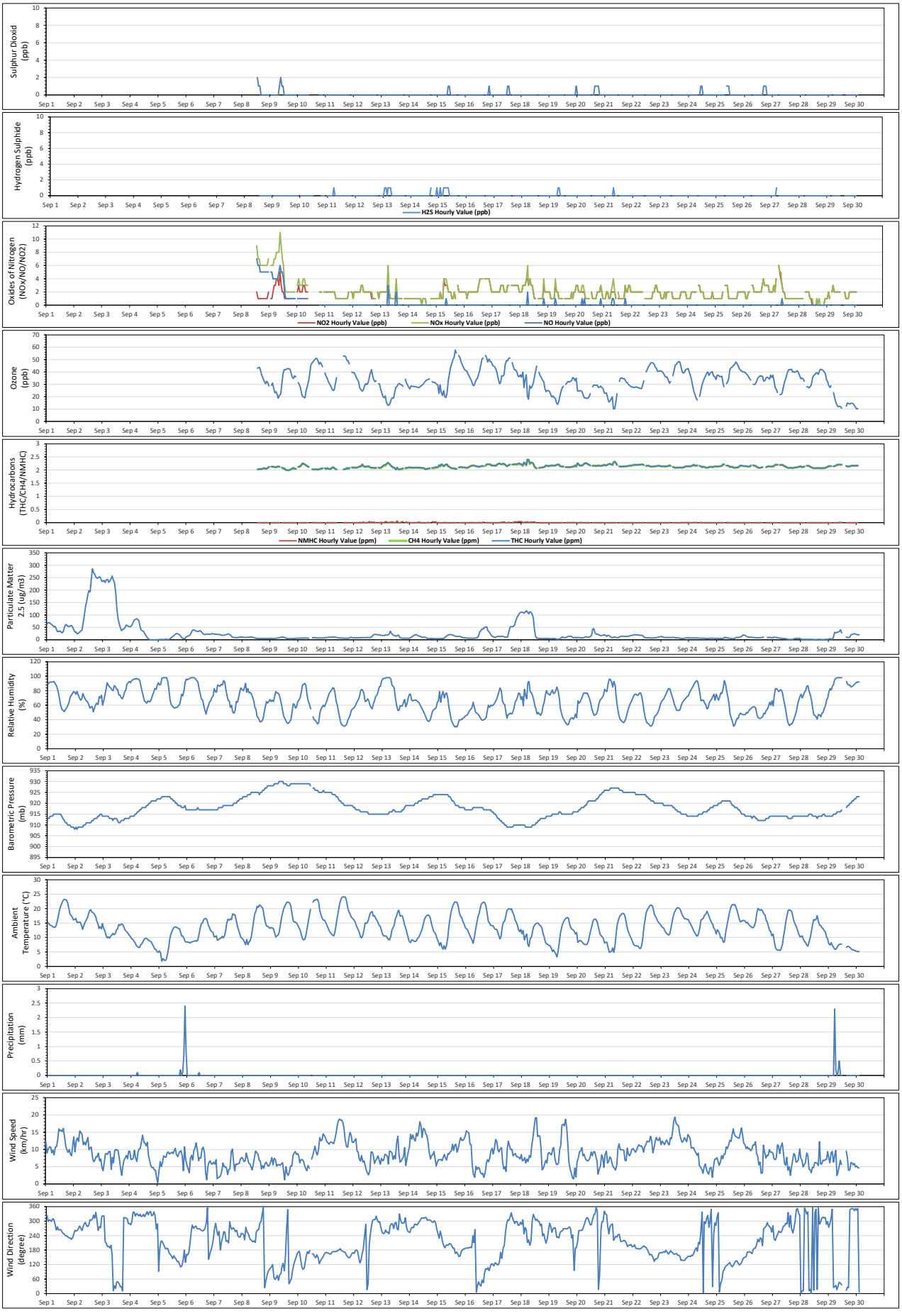
The following exceedances of AAAQOs and AAAQGs were observed at the St. Lina Site.

Date	Time (MST)	Parameter	Average Period	AAAQOs / AAAQGs	Concentration	Wind speed	Wind Direction	Reference #
Sep 1	-	PM2.5	24-Hour	29 µg/m3	50 µg/m3	11.4 km/hr	265° (W)	418929
Sep 2	8	PM2.5	1-Hour	80 µg/m3	96 µg/m3	11.4 km/hr	289° (WNW)	418929
Sep 2	9	PM2.5	1-Hour	80 µg/m3	135 µg/m3	12.1 km/hr	295° (WNW)	418929
Sep 2	10	PM2.5	1-Hour	80 µg/m3	155 µg/m3	11.3 km/hr	281° (W)	418929
Sep 2	11	PM2.5	1-Hour	80 µg/m3	182 µg/m3	12.4 km/hr	277° (W)	418929
Sep 2	12	PM2.5	1-Hour	80 µg/m3	198 µg/m3	13.5 km/hr	286° (WNW)	418929
Sep 2	13	PM2.5	1-Hour	80 µg/m3	193 µg/m3	9.9 km/hr	305° (WNW)	418929
Sep 2	14	PM2.5	1-Hour	80 µg/m3	242 µg/m3	10.5 km/hr	303° (WNW)	418929
Sep 2	15	PM2.5	1-Hour	80 µg/m3	286 µg/m3	10.6 km/hr	308° (NW)	418929
Sep 2	16	PM2.5	1-Hour	80 µg/m3	270 µg/m3	7.4 km/hr	325° (NW)	418929
Sep 2	17	PM2.5	1-Hour	80 µg/m3	264 µg/m3	6.4 km/hr	312° (NW)	418929
Sep 2	18	PM2.5	1-Hour	80 µg/m3	251 µg/m3	6.9 km/hr	336° (NNW)	418929
Sep 2	19	PM2.5	1-Hour	80 µg/m3	247 µg/m3	7.9 km/hr	305° (WNW)	418929
Sep 2	20	PM2.5	1-Hour	80 µg/m3	249 µg/m3	7.8 km/hr	262° (W)	418929
Sep 2	21	PM2.5	1-Hour	80 µg/m3	254 µg/m3	8.9 km/hr	277° (W)	418929
Sep 2	22	PM2.5	1-Hour	80 µg/m3	249 µg/m3	6.6 km/hr	272° (W)	418929
Sep 2	23	PM2.5	1-Hour	80 µg/m3	236 µg/m3	7.2 km/hr	318° (NW)	418929
Sep 2	-	PM2.5	24-Hour	29 µg/m3	158 µg/m3	10.7 km/hr	284° (WNW)	418929
Sep 3	0	PM2.5	1-Hour	80 µg/m3	235 µg/m3	4.8 km/hr	322° (NW)	418929
Sep 3	1	PM2.5	1-Hour	80 µg/m3	239 µg/m3	3.8 km/hr	321° (NW)	418929
Sep 3	2	PM2.5	1-Hour	80 µg/m3	231 µg/m3	6.1 km/hr	215° (SSW)	418929
Sep 3	3	PM2.5	1-Hour	80 µg/m3	242 µg/m3	8.7 km/hr	208° (SSW)	418929
Sep 3	4	PM2.5	1-Hour	80 µg/m3	243 µg/m3	8.8 km/hr	195° (SSW)	418929
Sep 3	5	PM2.5	1-Hour	80 µg/m3	231 µg/m3	8.5 km/hr	195° (SSW)	418929
Sep 3	6	PM2.5	1-Hour	80 µg/m3	237 µg/m3	9.4 km/hr	189° (S)	418929
Sep 3	7	PM2.5	1-Hour	80 µg/m3	245 µg/m3	9.4 km/hr	200° (SSW)	418929
Sep 3	8	PM2.5	1-Hour	80 µg/m3	256 µg/m3	4.2 km/hr	159° (SSE)	418929
Sep 3	9	PM2.5	1-Hour	80 µg/m3	238 µg/m3	7.7 km/hr	12° (NNE)	418929
Sep 3	10	PM2.5	1-Hour	80 µg/m3	232 µg/m3	6.1 km/hr	32° (NNE)	418929
Sep 3	11	PM2.5	1-Hour	80 µg/m3	187 µg/m3	9.6 km/hr	22° (NNE)	418929

Date	Time (MST)	Parameter	Average Period	AAAQOs / AAAQGs	Concentration	Wind speed	Wind Direction	Reference #
Sep 3	12	PM2.5	1-Hour	80 µg/m3	123 µg/m3	10.0 km/hr	48° (NE)	418929
Sep 3	13	PM2.5	1-Hour	80 µg/m3	85 µg/m3	9.8 km/hr	49° (NE)	418929
Sep 3	-	PM2.5	24-Hour	29 µg/m3	147 µg/m3	7.3 km/hr	328° (NNW)	418929
Sep 4	4	PM2.5	1-Hour	80 µg/m3	82 µg/m3	9.7 km/hr	321° (NW)	419222
Sep 4	5	PM2.5	1-Hour	80 µg/m3	85 µg/m3	7.6 km/hr	331° (NNW)	419222
Sep 4	6	PM2.5	1-Hour	80 µg/m3	82 µg/m3	6.5 km/hr	326° (NW)	419222
Sep 4	-	PM2.5	24-Hour	29 µg/m3	33 µg/m3	8.2 km/hr	323° (NW)	419222
Sep 17	20	PM2.5	1-Hour	80 µg/m3	92 µg/m3	7.9 km/hr	298° (WNW)	419601
Sep 17	21	PM2.5	1-Hour	80 µg/m3	97 µg/m3	7.9 km/hr	282° (W)	419601
Sep 17	22	PM2.5	1-Hour	80 µg/m3	105 µg/m3	7.6 km/hr	284° (WNW)	419601
Sep 17	23	PM2.5	1-Hour	80 µg/m3	110 µg/m3	7.2 km/hr	295° (WNW)	419601
Sep 17	-	PM2.5	24-Hour	29 µg/m3	39 µg/m3	8.9 km/hr	261° (W)	419601
Sep 18	0	PM2.5	1-Hour	80 µg/m3	111 µg/m3	8.5 km/hr	286° (WNW)	419927
Sep 18	1	PM2.5	1-Hour	80 µg/m3	110 µg/m3	6.7 km/hr	305° (WNW)	419927
Sep 18	2	PM2.5	1-Hour	80 µg/m3	107 µg/m3	6.9 km/hr	247° (WSW)	419927
Sep 18	3	PM2.5	1-Hour	80 µg/m3	111 µg/m3	7.6 km/hr	273° (W)	419927
Sep 18	4	PM2.5	1-Hour	80 µg/m3	117 µg/m3	6.0 km/hr	263° (W)	419927
Sep 18	5	PM2.5	1-Hour	80 µg/m3	110 µg/m3	7.2 km/hr	211° (SSW)	419927
Sep 18	6	PM2.5	1-Hour	80 µg/m3	104 µg/m3	6.5 km/hr	222° (SW)	419927
Sep 18	7	PM2.5	1-Hour	80 µg/m3	113 µg/m3	8.2 km/hr	200° (SSW)	419927
Sep 18	8	PM2.5	1-Hour	80 µg/m3	110 µg/m3	7.7 km/hr	219° (SW)	419927
Sep 18	9	PM2.5	1-Hour	80 µg/m3	102 µg/m3	11.1 km/hr	300° (WNW)	419927
Sep 18	10	PM2.5	1-Hour	80 µg/m3	88 µg/m3	13.2 km/hr	328° (NNW)	419927
Sep 18	-	PM2.5	24-Hour	29 µg/m3	54 µg/m3	9.6 km/hr	279° (W)	419927

The source of the exceedance of the PM2.5 objective and guideline was due to wildfire smokes.

Timeseries Chart of Hourly Average for the month of Sep 2023 - St. Lina Site



Lac La Biche Station

Equipment Operation Summary

Parameter	Calibration Date	Equipment Operational Summary
SO2 Thermo 43i-TLE #1180320043	September 14, 2023	• No operational issues were identified this month.
H2S Thermo 450i #CM17360002	September 14, 2023	• The analyzer spanned high on both September 10 and 11 due to unstable permeation oven temperature. The station thermostat was adjusted on September 11 to lower the station temperature to correct the issue. The span issue was corrected afterwards. As the issue was only affected the daily zero-span system, data quality was not affected. No data were invalidated due to this event.
NOx/NO/NO2 Thermo 42i #1180930027	September 14, 2023	• No operational issues were identified this month.
O3 Thermo 49i #1002240372	September 15, 2023	• The analyzer failed the daily span check on September 24 and continued to October. The zero-span pump was rebuilt on September 26 following by a repeat zero-span check. The analyzer passed the October's monthly calibration. Based on the October's the multi-point calibration check result, data collected between September 24 and September 30 were considered valid. One hour of downtime was recorded due to the additional quality check.
THC/CH4/NMHC Thermo 55i #1180030044	September 15, 2023	• The H2 generator maintenance was completed before the monthly calibration was started. Desiccant cartridge was renewed. Two hours of downtime were recorded due to this event.
PM2.5 Thermo Sharp 5030i #CM17071016	September 26, 2023	• No operational issues were identified this month.
Parameter	**Verification Date**	**Equipment Operational Summary**
RH Rotronic HC2A-S3 #0020357518	September 15, 2023	• No operational issues were recorded this month.

Parameter	Verification Date	Equipment Operational Summary
BP Met One 092 #Y23360	September 15, 2023	• No operational issues were recorded this month.
AT Rotronic HC2A-S3 #0020357518	September 15, 2023	• No operational issues were recorded this month.
ST COMET #NA	September 15, 2023	• No operational issues were recorded this month.
WS/WD/STDWD RM Young 05305VK #56778	September 15, 2023	• Wind direction data contained in this report represents where the wind is coming from. • The last annual wind system calibration was completed on September 15, 2023. • No operational issues were recorded this month.

Monitored Data Summary for Lac La Biche Station

Parameter	Objectives/Guidelines			Exceedances			Monthly Avg.	Min. 1-hr	Max. 1-hr	Date/Time	VWS (km/hr)	VWD (sector)	Max. 24-hr	Date	Operational Uptime (%)	Valid Data (%)
	1-hr	24-hr	30-day	1-hr	24-hr	30-day										
SO2 (ppb)	172	48	11	0	0	0	0.0	0	2	Sep 15 at hr 9	6.6	SSE	0.1	Sep 20	100.0	94.8
H2S (ppb)	10	3	-	0	0	-	0.2	0	1	Sep 1 at hr 5	2.6	WSW	1.0	Sep 2	100.0	94.8
NOx (ppb)	-	-	-	-	-	-	4.5	1	51	Sep 27 at hr 18	0.6	SW	11.3	Sep 27	100.0	94.7
NO (ppb)	-	-	-	-	-	-	0.9	0	23	Sep 27 at hr 18	0.6	SW	6.1	Sep 29	100.0	94.7
NO2 (ppb)	159	-	-	0	-	-	3.6	1	28	Sep 27 at hr 18	0.6	SW	7.5	Sep 27	100.0	94.7
O3 (ppb)	76	-	-	0	-	-	23.0	0.6	50.6	Sep 15 at hr 19	10.1	SE	38.6	Sep 23	99.9	94.8
THC (ppm)	-	-	-	-	-	-	2.12	1.98	2.47	Sep 17 at hr 2	0.8	SE	2.25	Sep 17	99.7	94.8
CH4 (ppm)	-	-	-	-	-	-	2.12	1.98	2.47	Sep 17 at hr 2	0.8	SE	2.25	Sep 17	99.7	94.8
NMHC (ppm)	-	-	-	-	-	-	0.00	0.00	0.03	Sep 5 at hr 14	7.7	SE	0.00	Sep 5	99.7	94.8
PM2.5 (µg/m3)	80	29	-	48	6	-	26.3	1	256	Sep 2 at hr 17	6.8	WNW	155.2	Sep 2	100.0	99.7
RH (%)	-	-	-	-	-	-	72.3	31	100	Sep 3 at hr 3	3.4	SE	93.9	Sep 3	100.0	100.0
BP (millibar)	-	-	-	-	-	-	946	934	959	Sep 9 at hr 8	0.4	WNW	958	Sep 9	100.0	100.0
Ext. Temp. (°C)	-	-	-	-	-	-	12.8	1.3	24.8	Sep 11 at hr 14	13.1	SSE	18.6	Sep 1	100.0	100.0
Stn. Temp. (°C)	-	-	-	-	-	-	21.7	18.8	23.3	Sep 5 at hr 4	3.7	SSE	22.4	Sep 30	100.0	100.0
WSV (km/hr)	-	-	-	-	-	-	1.8	0.0	18.3	Sep 14 at hr 11	18.3	NW	12.7	Sep 23	100.0	99.6
WDV (sector)	-	-	-	-	-	-	183 (S)	-	-	-	-	-	-	-	100.0	99.6

1- Date/ Time given is the first minimum and maximum value that was recorded

Alberta Ambient Air Quality Objectives (AAAQOs) and/or Alberta Ambient Air Quality Guidelines (AAAQGs) Exceedances

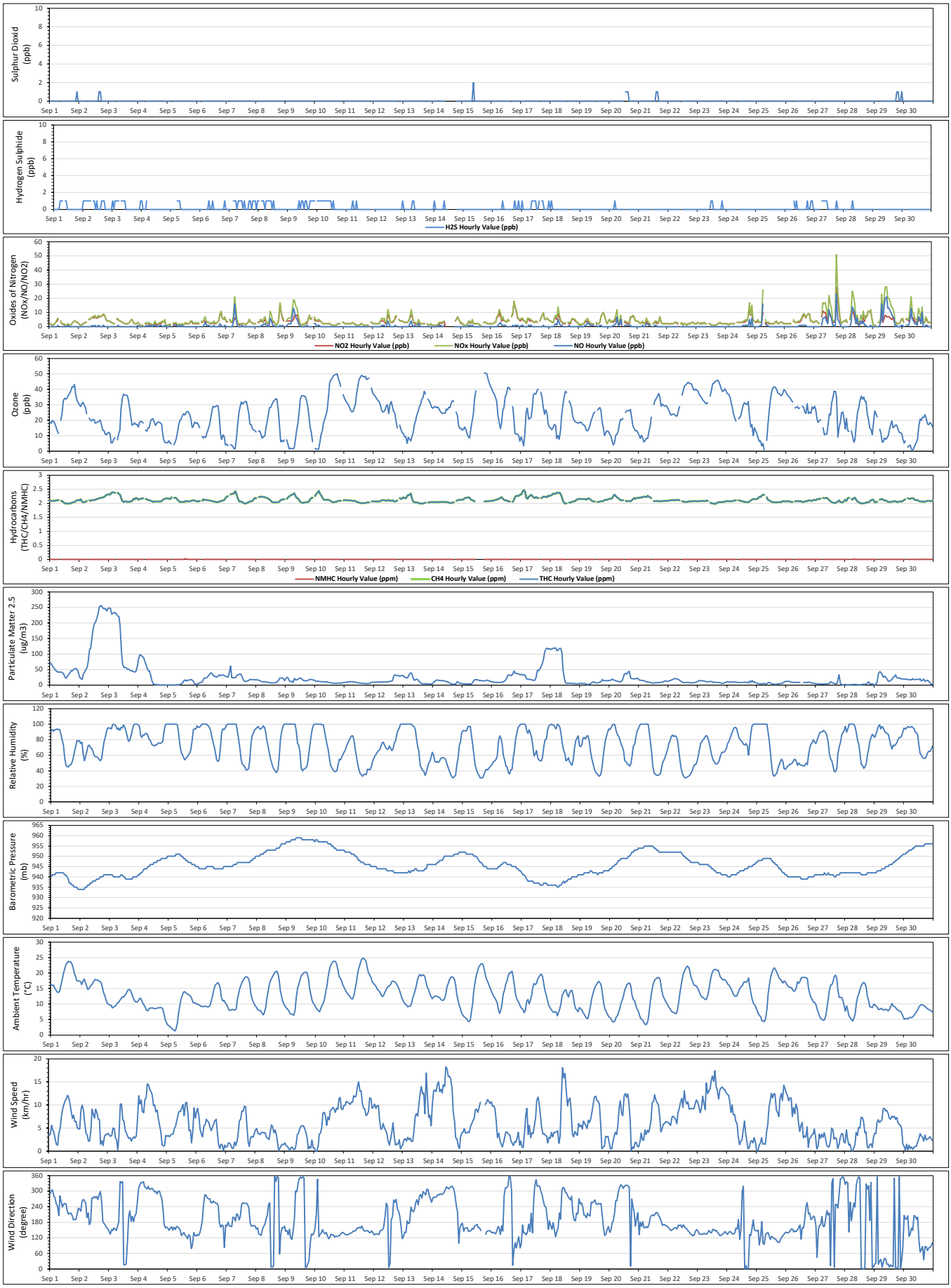
The following exceedances of AAAQOs and AAAQGs were observed at the Lac La Biche Station.

Date	Time (MST)	Parameter	Average Period	AAAQOs / AAAQGs	Concentration	Wind speed	Wind Direction	Reference #
Sep 1	-	PM2.5	24-Hour	29 µg/m3	45.3 µg/m3	6.6 km/hr	232° (SW)	418928
Sep 2	8	PM2.5	1-Hour	80 µg/m3	114.9 µg/m3	2.2 km/hr	171° (S)	418928
Sep 2	9	PM2.5	1-Hour	80 µg/m3	118.4 µg/m3	2.2 km/hr	182° (S)	418928
Sep 2	10	PM2.5	1-Hour	80 µg/m3	154.8 µg/m3	4.6 km/hr	273° (W)	418928
Sep 2	11	PM2.5	1-Hour	80 µg/m3	180.8 µg/m3	9.1 km/hr	273° (W)	418928
Sep 2	12	PM2.5	1-Hour	80 µg/m3	196.9 µg/m3	7.9 km/hr	279° (W)	418928
Sep 2	13	PM2.5	1-Hour	80 µg/m3	203.9 µg/m3	7.2 km/hr	274° (W)	418928
Sep 2	14	PM2.5	1-Hour	80 µg/m3	214.7 µg/m3	9.1 km/hr	279° (W)	418928
Sep 2	15	PM2.5	1-Hour	80 µg/m3	230.3 µg/m3	8.3 km/hr	268° (W)	418928
Sep 2	16	PM2.5	1-Hour	80 µg/m3	251.4 µg/m3	7.0 km/hr	287° (WNW)	418928
Sep 2	17	PM2.5	1-Hour	80 µg/m3	256 µg/m3	6.8 km/hr	299° (WNW)	418928
Sep 2	18	PM2.5	1-Hour	80 µg/m3	254.8 µg/m3	1.5 km/hr	258° (WSW)	418928
Sep 2	19	PM2.5	1-Hour	80 µg/m3	246.7 µg/m3	2.3 km/hr	183° (S)	418928
Sep 2	20	PM2.5	1-Hour	80 µg/m3	245.6 µg/m3	1.2 km/hr	175° (S)	418928
Sep 2	21	PM2.5	1-Hour	80 µg/m3	246 µg/m3	3.1 km/hr	169° (SSE)	418928
Sep 2	22	PM2.5	1-Hour	80 µg/m3	238.6 µg/m3	3.6 km/hr	159° (SSE)	418928
Sep 2	23	PM2.5	1-Hour	80 µg/m3	246.2 µg/m3	3.6 km/hr	155° (SSE)	418928
Sep 2	-	PM2.5	24-Hour	29 µg/m3	155.2 µg/m3	5.5 km/hr	255° (WSW)	418928
Sep 3	0	PM2.5	1-Hour	80 µg/m3	248.5 µg/m3	3.9 km/hr	144° (SE)	418928
Sep 3	1	PM2.5	1-Hour	80 µg/m3	246.7 µg/m3	3.5 km/hr	134° (SE)	418928
Sep 3	2	PM2.5	1-Hour	80 µg/m3	228.9 µg/m3	3.2 km/hr	152° (SSE)	418928
Sep 3	3	PM2.5	1-Hour	80 µg/m3	230.4 µg/m3	3.4 km/hr	148° (SE)	418928
Sep 3	4	PM2.5	1-Hour	80 µg/m3	233.6 µg/m3	5.0 km/hr	158° (SSE)	418928
Sep 3	5	PM2.5	1-Hour	80 µg/m3	233 µg/m3	4.9 km/hr	154° (SSE)	418928
Sep 3	6	PM2.5	1-Hour	80 µg/m3	228.2 µg/m3	2.9 km/hr	149° (SSE)	418928
Sep 3	7	PM2.5	1-Hour	80 µg/m3	222.3 µg/m3	2.5 km/hr	165° (SSE)	418928
Sep 3	8	PM2.5	1-Hour	80 µg/m3	220.6 µg/m3	0.3 km/hr	183° (S)	418928
Sep 3	9	PM2.5	1-Hour	80 µg/m3	189.1 µg/m3	3.6 km/hr	337° (NNW)	418928
Sep 3	10	PM2.5	1-Hour	80 µg/m3	107 µg/m3	10.2 km/hr	332° (NNW)	418928
Sep 3	-	PM2.5	24-Hour	29 µg/m3	127.5 µg/m3	4.1 km/hr	160° (SSE)	418928

Date	Time (MST)	Parameter	Average Period	AAAQOs / AAAQGs	Concentration	Wind speed	Wind Direction	Reference #
Sep 4	0	PM2.5	1-Hour	80 µg/m3	84.6 µg/m3	6.6 km/hr	310° (NW)	419221
Sep 4	1	PM2.5	1-Hour	80 µg/m3	98.4 µg/m3	12.0 km/hr	322° (NW)	419221
Sep 4	2	PM2.5	1-Hour	80 µg/m3	96.1 µg/m3	10.2 km/hr	334° (NNW)	419221
Sep 4	3	PM2.5	1-Hour	80 µg/m3	91.5 µg/m3	11.1 km/hr	332° (NNW)	419221
Sep 4	4	PM2.5	1-Hour	80 µg/m3	89.8 µg/m3	8.6 km/hr	336° (NNW)	419221
Sep 4	-	PM2.5	24-Hour	29 µg/m3	33.8 µg/m3	8.7 km/hr	309° (NW)	419221
Sep 17	18	PM2.5	1-Hour	80 µg/m3	83.2 µg/m3	3.7 km/hr	260° (WSW)	419600
Sep 17	19	PM2.5	1-Hour	80 µg/m3	105.7 µg/m3	3.8 km/hr	242° (WSW)	419600
Sep 17	20	PM2.5	1-Hour	80 µg/m3	116.3 µg/m3	3.4 km/hr	238° (SW)	419600
Sep 17	21	PM2.5	1-Hour	80 µg/m3	119.1 µg/m3	3.3 km/hr	202° (SSW)	419600
Sep 17	22	PM2.5	1-Hour	80 µg/m3	115.6 µg/m3	1.8 km/hr	153° (SSE)	419600
Sep 17	23	PM2.5	1-Hour	80 µg/m3	118.1 µg/m3	3.0 km/hr	185° (S)	419600
Sep 17	-	PM2.5	24-Hour	29 µg/m3	51.4 µg/m3	5.1 km/hr	264° (W)	419600
Sep 18	0	PM2.5	1-Hour	80 µg/m3	115.2 µg/m3	2.8 km/hr	167° (SSE)	419926
Sep 18	1	PM2.5	1-Hour	80 µg/m3	116.2 µg/m3	4.1 km/hr	153° (SSE)	419926
Sep 18	2	PM2.5	1-Hour	80 µg/m3	119.1 µg/m3	3.1 km/hr	179° (S)	419926
Sep 18	3	PM2.5	1-Hour	80 µg/m3	118.8 µg/m3	4.1 km/hr	149° (SSE)	419926
Sep 18	4	PM2.5	1-Hour	80 µg/m3	120.1 µg/m3	4.1 km/hr	124° (ESE)	419926
Sep 18	5	PM2.5	1-Hour	80 µg/m3	110.3 µg/m3	4.2 km/hr	146° (SE)	419926
Sep 18	6	PM2.5	1-Hour	80 µg/m3	112.8 µg/m3	4.4 km/hr	158° (SSE)	419926
Sep 18	7	PM2.5	1-Hour	80 µg/m3	117.8 µg/m3	1.7 km/hr	216° (SW)	419926
Sep 18	8	PM2.5	1-Hour	80 µg/m3	118.3 µg/m3	3.2 km/hr	192° (S)	419926
Sep 18	9	PM2.5	1-Hour	80 µg/m3	106.2 µg/m3	12.1 km/hr	303° (WNW)	419926
Sep 18	-	PM2.5	24-Hour	29 µg/m3	53.9 µg/m3	7.2 km/hr	271° (W)	419926

The source of the exceedance of the PM2.5 objective and guideline was due to wildfire smokes.

Timeseries Chart of Hourly Average for the month of Sep 2023 - Lac La Biche Station



TABLES AND CHARTS

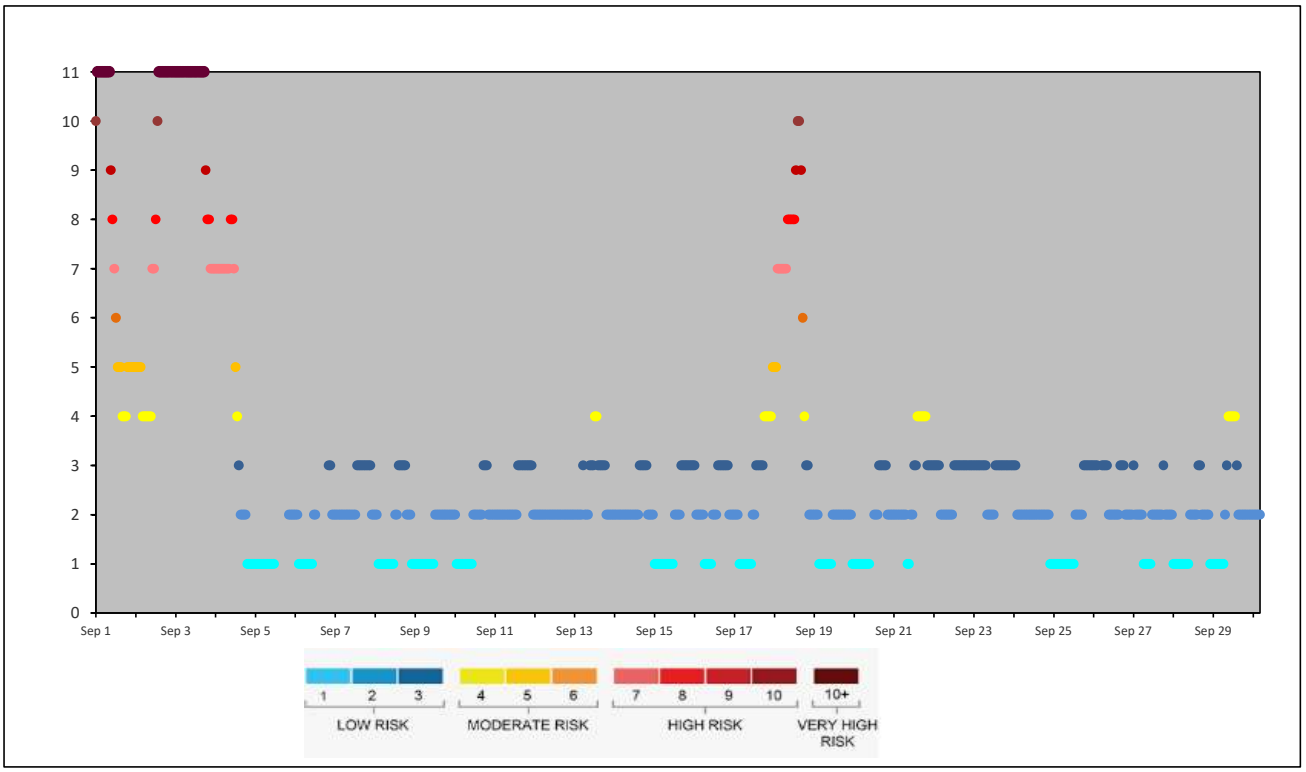
COLD LAKE SOUTH STATION

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Cold Lake South Station - September 2023

AIR QUALITY HEALTH INDEX

Day	Hourly Period Starting at (MST)																							
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Sep 1	10	11	11	11	11	11	11	11	11	9	8	7	6	5	5	5	4	4	4	5	5	5	5	5
Sep 2	5	5	5	5	4	4	4	4	4	4	7	7	8	10	11	11	11	11	11	11	11	11	11	11
Sep 3	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	9	8	8	7	7	7
Sep 4	7	7	7	7	7	7	7	7	7	8	8	7	5	4	3	2	2	2	2	1	1	1	1	1
Sep 5	1	1	1	1	1	1	1	1	1	1	1	1									2	2	2	2
Sep 6	2	2	1	1	1	1	1	1	1	1	1	2	2								3	3	2	1
Sep 7	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	2	2
Sep 8	2	2	1	1	1	1	1	1	1	1	1	1	2	2	3	3	3	3	3	2	2	2	1	1
Sep 9	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2
Sep 10	2	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	3	3	3	2	2	2	2
Sep 11	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	2
Sep 12	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Sep 13	2	2	2	2	2	3	2	2	2	3	3	3	4	4	3	3	3	3	3	2	2	2	2	2
Sep 14	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	2	2	2	2
Sep 15	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	3	3	3	3	3	3	3	3
Sep 16	3	2	2	2	2	2	1	1	1	1	1	2	2	2	3	3	3	3	3	3	3	2	2	2
Sep 17	2	2	2	1	1	1	1	1	1	1	1	2	2	3	3	3	3	3	4	4	4	4	4	5
Sep 18	5	5	7	7	7	7	7	7	8	8	8	8	8	9	10	10	9	6	4	3	3	2	2	2
Sep 19	2	2	2	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	1
Sep 20	1	1	1	1	1	1	1	1	1	1			2	2	2	3	3	3	3	3	2	2	2	2
Sep 21	2	2	2	2	2	2	2	2	1	1	2	2	3	3	4	4	4	4	4	4	3	3	3	3
Sep 22	3	3	3	3	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3
Sep 23	3	3	3	3	3	3	3	3	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3
Sep 24	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1
Sep 25	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	3	3	3	3	3	3
Sep 26	3	3	3		3	3	3	3	2	2	2	2	2	2	2	2	3	3	3	2	2	2	2	2
Sep 27	3	2	2	2	2	2	1	1	1	1	1	2	2	2	2	2	2	2	3	2	2	2	2	2
Sep 28	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	3	3	2	2	2	2	2	1	1
Sep 29	1	1	1	1	1	1	1	2	3	4	4	4	4	4	3	2	2	2	2	2	2	2	2	2
Sep 30	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1



Lakeland Industry & Community Association

Cold Lake South Station - September 2023

Summary of Hourly Averages

SULPHUR DIOXIDE (SO_2) in ppb

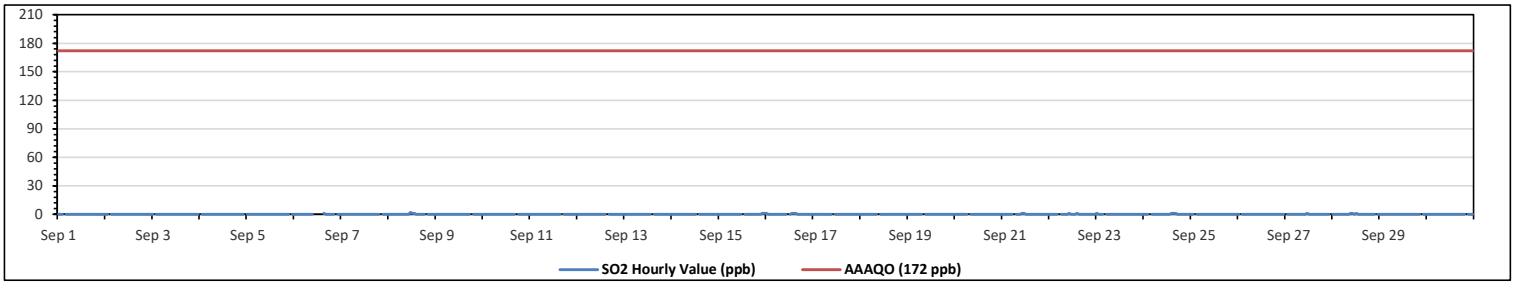
Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 172 ppb, 24-Hour 48 ppb, 30-Day 11 ppb

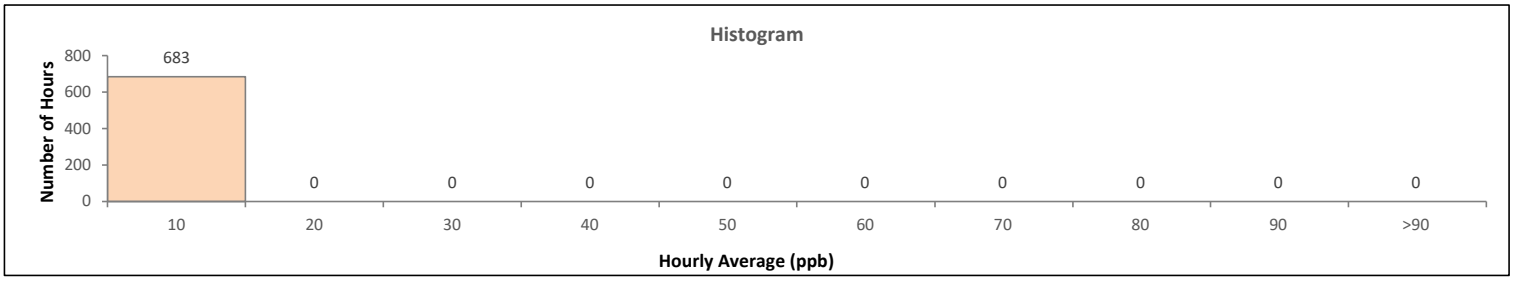
Number of 1-Hour Exceedances:	0	Number of 24-Hour Exceedances:	0	30-Day Exceedence:	0		
Maximum Hourly Value:	2	ppb	on Sep 8 at hr 11	Hours in Service:	720		
Maximum Daily Value:	0.2	ppb	on Sep 8	Hours of Data:	683		
Minimum Hourly Value:	0	ppb	on Sep 1 at hr 0	Hours of Missing Data:	0		
Minimum Daily Value:	0.0	ppb	on Sep 1	Hours of Calibration:	37		
Monthly Average:	0.0	ppb		Operational Uptime:	100.0		

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Sep 1	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 2	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 3	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 4	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0.0
Sep 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0.0
Sep 6	0	0	0	0	0	0	0	0	0	0	C	C	C	C	C	1	0	0	0	0	0	S	0	0	0	1	0.1
Sep 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0.0
Sep 8	0	0	0	0	0	0	0	0	0	0	0	2	1	1	0	0	0	0	0	S	0	0	0	0	0	2	0.2
Sep 9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0.0
Sep 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0.0
Sep 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0.0
Sep 12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0.0
Sep 13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 14	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 15	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	1	1	0	1	0.1
Sep 16	1	0	0	0	0	0	0	0	0	0	0	S	0	1	1	1	0	0	0	0	0	0	0	0	0	1	0.2
Sep 17	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 18	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 19	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 20	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 21	0	0	0	0	0	0	S	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1
Sep 22	0	0	0	0	0	S	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0.1
Sep 23	1	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Sep 24	0	0	0	S	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	1	0.1
Sep 25	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 26	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 27	S	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	S	0	1	0.0
Sep 28	0	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0	0	0	0	0	S	0	0	1	0.1
Sep 29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0.0
Sep 30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0.0
Diurnal Maximum	1	0	0	0	0	0	0	0	0	1	1	2	1	1	1	1	1	0	0	0	0	0	1	1			
Diurnal Average	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	ND	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



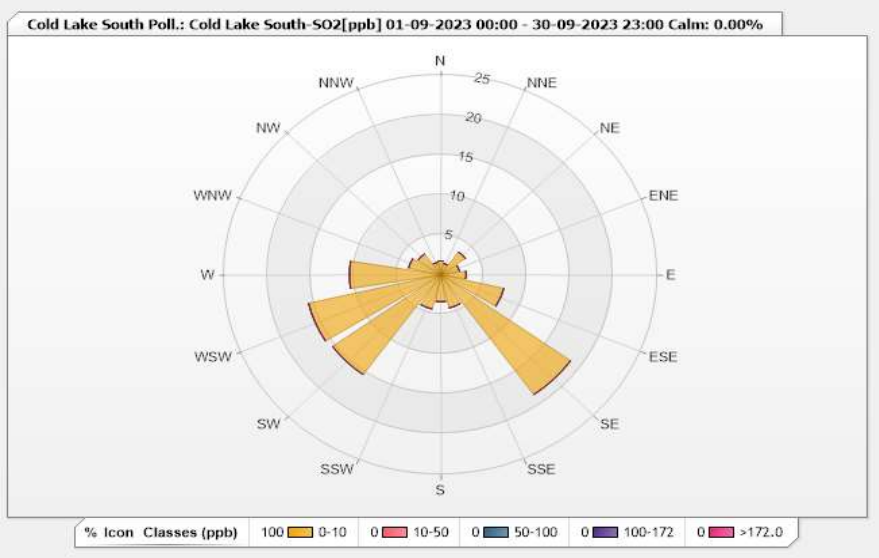


Station: Cold Lake South Poll.: Cold Lake South-SO2[ppb] Monthly: 09-2023

Type: Pollution Rose
Direction: Blowing From (Wind Frequency)
Time Base: 1 - Hour

Calm: 0.00% Valid Data: 94.86% Calm Avg: 0.00 [ppm]

Direction	0-10	10-50	50-100	100-172	>172.0	Total
N	1.76	0	0	0	0	1.76
NNE	1.46	0	0	0	0	1.46
NE	3.51	0	0	0	0	3.51
ENE	2.2	0	0	0	0	2.2
E	2.93	0	0	0	0	2.93
ESE	7.47	0	0	0	0	7.47
SE	18.45	0	0	0	0	18.45
SSE	4.25	0	0	0	0	4.25
S	3.37	0	0	0	0	3.37
SSW	4.39	0	0	0	0	4.39
SW	15.37	0	0	0	0	15.37
WSW	15.67	0	0	0	0	15.67
W	10.54	0	0	0	0	10.54
WNW	3.81	0	0	0	0	3.81
NW	3.22	0	0	0	0	3.22
NNW	1.61	0	0	0	0	1.61
Summary	100	0	0	0	0	100



Lakeland Industry & Community Association

Cold Lake South Station - September 2023

Summary of Hourly Averages

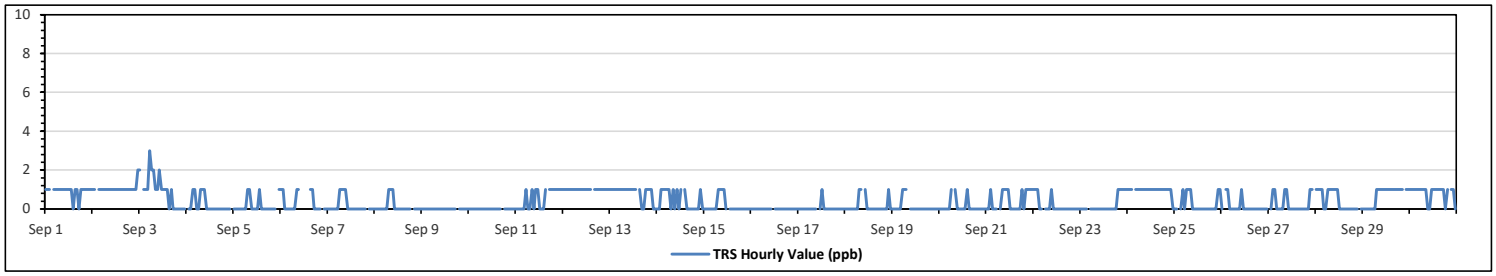
TOTAL REDUCED SULPHUR (TRS) in ppb

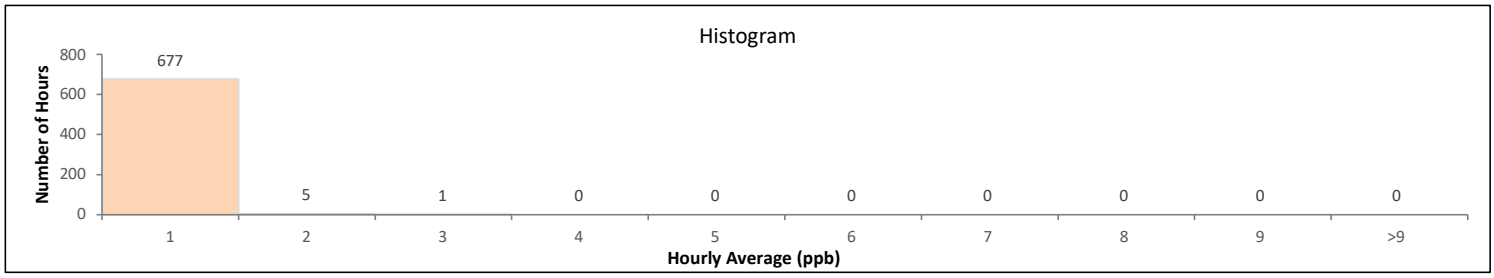
Maximum Hourly Value:	3	ppb	on Sep 3 at hr 5	Hours in Service:	720
Maximum Daily Value:	1.0	ppb	on Sep 2	Hours of Data:	683
Minimum Hourly Value:	0	ppb	on Sep 1 at hr 14	Hours of Missing Data:	0
Minimum Daily Value:	0.0	ppb	on Sep 9	Hours of Calibration:	37
Monthly Average:	0.4	ppb		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Sep 1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	0	1	1	0	1	1	1	1	1	1	0	1	0.9
Sep 2	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	2	**1.0**
Sep 3	2	S	1	1	1	**3**	2	2	1	1	2	1	1	1	1	0	1	0	0	0	0	0	0	0	0	**3**	0.9
Sep 4	S	0	0	1	1	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	1	0.2
Sep 5	0	0	0	0	0	0	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	S	1	0	1	0.2
Sep 6	1	1	0	0	0	0	0	0	1	1	C	C	C	C	C	1	1	0	0	0	0	S	0	0	0	1	0.3
Sep 7	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	1	0.2
Sep 8	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	1	0.1
Sep 9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0.0
Sep 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0.0
Sep 11	0	0	0	0	0	1	0	0	1	0	1	1	0	0	0	1	S	1	1	1	1	1	1	1	0	1	0.5
Sep 12	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1.0
Sep 13	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	0	0	1	1	1	1	0	0	0	1	0.8
Sep 14	0	0	1	1	1	1	1	0	1	0	1	0	1	S	1	0	0	0	0	0	0	0	1	0	0	1	0.4
Sep 15	0	0	0	0	0	0	0	1	1	1	1	0	S	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2
Sep 16	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 17	0	0	0	0	0	0	0	0	0	0	S	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Sep 18	0	0	0	0	0	0	0	1	1	S	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0.2
Sep 19	0	0	0	0	0	1	1	1	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1
Sep 20	0	0	0	0	0	0	1	S	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0.1
Sep 21	0	0	1	0	0	0	S	0	1	1	1	1	0	0	0	0	0	0	1	0	1	1	1	1	0	1	0.4
Sep 22	1	1	1	0	0	S	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2
Sep 23	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	1	0.2
Sep 24	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1.0
Sep 25	0	0	S	0	1	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0.3
Sep 26	0	S	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1
Sep 27	S	0	1	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	1	S	0	1	0.3
Sep 28	1	1	1	1	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	S	0	0	1	0.4
Sep 29	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	0	1	0.7
Sep 30	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	0	1	S	1	1	0	0	1	0.8
Diurnal Maximum	2	1	1	1	1	3	2	2	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	2			
Diurnal Average	0.4	0.3	0.4	0.4	0.3	0.4	0.5	0.6	0.8	0.6	0.5	0.4	0.4	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.4	0.5	0.4			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	ND	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



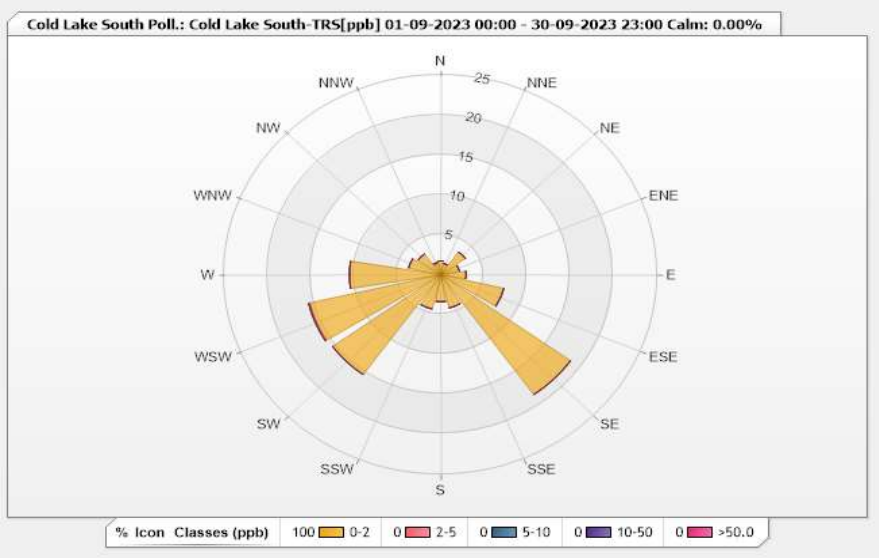


Station: Cold Lake South Poll.: Cold Lake South-TRS[ppb] Monthly: 09-2023

Type: Pollution Rose
Direction: Blowing From (Wind Frequency)
Time Base: 1 - Hour

Calm: 0.00% Valid Data: 94.86% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-50	>50.0	Total
N	1.76	0	0	0	0	1.76
NNE	1.46	0	0	0	0	1.46
NE	3.51	0	0	0	0	3.51
ENE	2.2	0	0	0	0	2.2
E	2.93	0	0	0	0	2.93
ESE	7.47	0	0	0	0	7.47
SE	18.45	0	0	0	0	18.45
SSE	4.25	0	0	0	0	4.25
S	3.37	0	0	0	0	3.37
SSW	4.39	0	0	0	0	4.39
SW	15.37	0	0	0	0	15.37
WSW	15.52	0.15	0	0	0	15.67
W	10.54	0	0	0	0	10.54
WNW	3.81	0	0	0	0	3.81
NW	3.22	0	0	0	0	3.22
NNW	1.46	0.15	0	0	0	1.61
Summary	100	0.3	0	0	0	100



Lakeland Industry & Community Association

Cold Lake South Station - September 2023

Summary of Hourly Averages

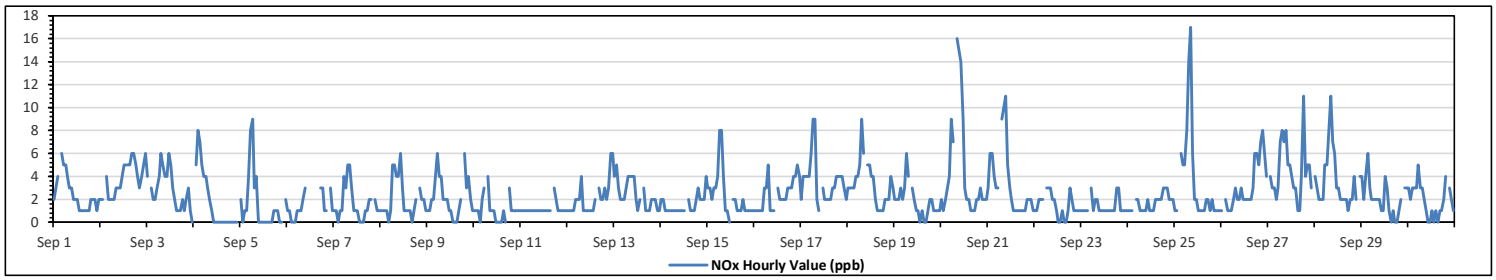
OXIDES OF NITROGEN (NOx) in ppb

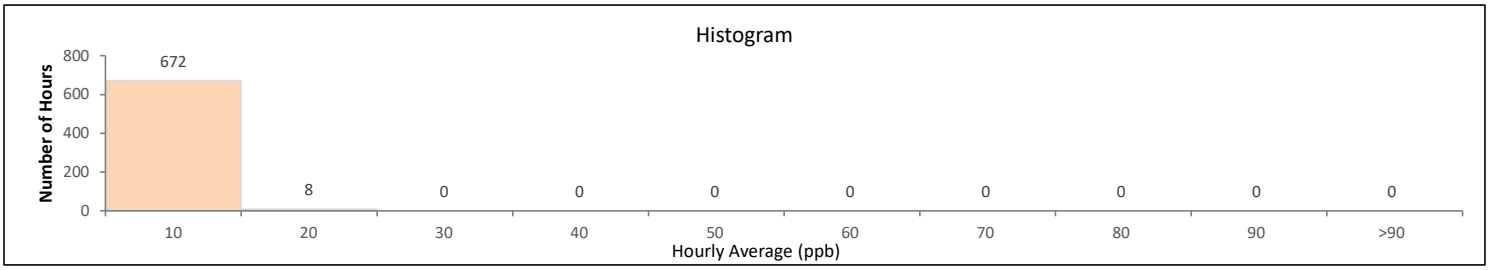
Maximum Hourly Value:	17	ppb	on Sep 25 at hr 8	Hours in Service:	720	
Maximum Daily Value:	4.6	ppb	on Sep 20	Hours of Data:	680	
Minimum Hourly Value:	0	ppb	on Sep 3 at hr 23	Hours of Missing Data:	1	
Minimum Daily Value:	1.1	ppb	on Sep 10	Hours of Calibration:	39	
Monthly Average:	2.4	ppb		Operational Uptime:	99.9	

Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Sep 1	2	3	4	S	6	5	5	4	3	3	2	2	2	1	1	1	1	1	1	2	2	2	1	2	1	6	2.4
Sep 2	2	2	S	4	2	2	2	2	3	3	3	4	5	5	5	5	6	6	5	4	3	4	5	6	2	6	3.8
Sep 3	4	S	3	2	2	3	4	6	5	4	4	6	5	3	2	1	1	1	2	1	2	3	1	0	0	6	2.8
Sep 4	S	5	8	7	5	4	4	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	8	1.8
Sep 5	2	0	1	1	4	8	9	3	4	0	0	0	0	0	0	0	0	1	1	1	0	0	S	2	0	9	1.6
Sep 6	1	1	0	0	0	1	1	1	2	3	C	C	C	C	C	C	C	3	3	1	1	S	3	1	0	3	NA
Sep 7	1	1	0	1	1	4	3	5	5	3	1	1	1	0	0	0	1	1	2	2	S	2	1	1	0	5	1.6
Sep 8	1	1	1	1	0	1	5	5	4	4	6	3	1	1	1	1	0	1	2	S	3	2	2	1	0	6	2.0
Sep 9	1	1	2	2	4	6	4	4	2	2	2	1	1	0	0	0	1	2	S	6	3	4	2	1	0	6	2.2
Sep 10	1	1	1	0	2	3	NRM	4	1	1	1	0	0	0	0	1	0	S	3	1	1	1	1	1	0	4	1.1
Sep 11	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	3	2	1	1	1	1	1	1	3	1.1
Sep 12	1	1	1	1	2	2	2	4	1	1	1	1	1	1	2	S	3	2	2	3	2	3	6	6	1	6	2.1
Sep 13	4	5	3	2	2	2	3	4	4	4	4	2	1	2	S	3	1	1	1	2	2	2	1	1	1	5	2.4
Sep 14	2	2	1	1	1	1	1	1	1	1	1	1	1	S	2	1	1	1	2	3	2	2	2	4	1	4	1.5
Sep 15	3	3	2	3	3	4	8	8	4	1	1	0	S	2	2	1	1	1	2	1	1	1	1	1	0	8	2.3
Sep 16	1	1	1	1	1	3	3	5	1	1	1	S	3	2	2	2	2	3	3	3	4	4	5	4	1	5	2.4
Sep 17	2	4	4	4	4	6	9	9	2	1	S	3	2	2	2	2	3	3	4	4	4	4	3	2	1	9	3.6
Sep 18	3	3	3	3	4	4	5	9	6	S	5	5	4	4	2	1	1	1	1	2	2	2	4	3	1	9	3.3
Sep 19	2	2	2	3	2	3	6	4	S	3	2	1	1	0	1	0	0	1	2	2	1	1	1	1	0	6	1.8
Sep 20	2	1	2	3	4	9	7	S	16	15	14	9	3	2	2	1	1	1	2	2	3	2	2	2	1	16	4.6
Sep 21	3	6	6	4	3	3	S	9	10	11	5	3	2	1	1	1	1	1	1	1	2	2	2	1	1	11	3.4
Sep 22	1	1	2	2	2	S	3	3	3	2	2	1	0	0	1	0	0	1	3	2	1	1	1	1	0	3	1.4
Sep 23	1	1	1	1	S	3	1	2	2	1	1	1	1	1	1	1	1	1	3	3	1	1	1	1	1	3	1.3
Sep 24	1	1	1	S	2	2	1	1	1	1	2	1	1	1	2	2	2	2	3	3	3	2	2	2	1	3	1.7
Sep 25	1	1	S	6	5	5	8	14	17	6	2	2	1	1	1	1	2	2	1	2	1	1	1	1	1	17	3.6
Sep 26	1	S	2	1	1	1	2	3	2	2	3	2	2	2	2	2	3	6	6	5	7	8	6	4	1	8	3.2
Sep 27	S	4	3	3	2	3	7	8	7	8	5	5	4	3	3	1	1	4	11	4	5	5	3	S	1	11	4.5
Sep 28	4	3	2	2	2	5	5	8	11	7	6	3	3	2	2	2	2	1	2	2	4	2	S	4	1	11	3.7
Sep 29	4	2	4	6	3	2	2	2	2	2	1	1	4	3	1	0	1	0	0	1	2	S	3	3	0	6	2.1
Sep 30	3	2	3	3	3	5	3	3	2	1	0	0	1	0	1	0	1	1	2	4	S	3	2	1	0	5	1.9
Diurnal Maximum	4	6	8	7	6	9	9	14	17	15	14	9	5	5	5	5	6	6	11	6	7	8	6	6			
Diurnal Average	2.0	2.1	2.3	2.4	2.5	3.5	4.1	4.7	4.3	3.2	2.7	2.1	1.8	1.4	1.4	1.1	1.3	1.8	2.5	2.3	2.3	2.3	2.3	2.1			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	ND	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



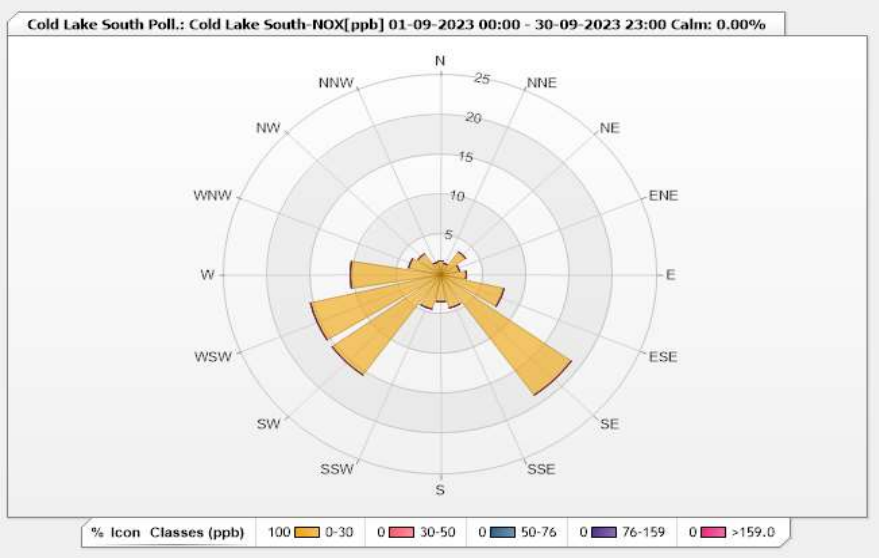


Station: Cold Lake South Poll.: Cold Lake South-NOX[ppb] Monthly: 09-2023

Type: Pollution Rose
Direction: Blowing From (Wind Frequency)
Time Base: 1 - Hour

Calm: 0.00% Valid Data: 94.44% Calm Avg: 0.00 [ppm]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	1.76	0	0	0	0	1.76
NNE	1.47	0	0	0	0	1.47
NE	3.53	0	0	0	0	3.53
ENE	2.21	0	0	0	0	2.21
E	2.94	0	0	0	0	2.94
ESE	7.5	0	0	0	0	7.5
SE	18.53	0	0	0	0	18.53
SSE	4.26	0	0	0	0	4.26
S	3.38	0	0	0	0	3.38
SSW	4.41	0	0	0	0	4.41
SW	15.44	0	0	0	0	15.44
WSW	15.44	0	0	0	0	15.44
W	10.44	0	0	0	0	10.44
WNW	3.82	0	0	0	0	3.82
NW	3.24	0	0	0	0	3.24
NNW	1.62	0	0	0	0	1.62
Summary	100	0	0	0	0	100



Lakeland Industry & Community Association

Cold Lake South Station - September 2023

Summary of Hourly Averages

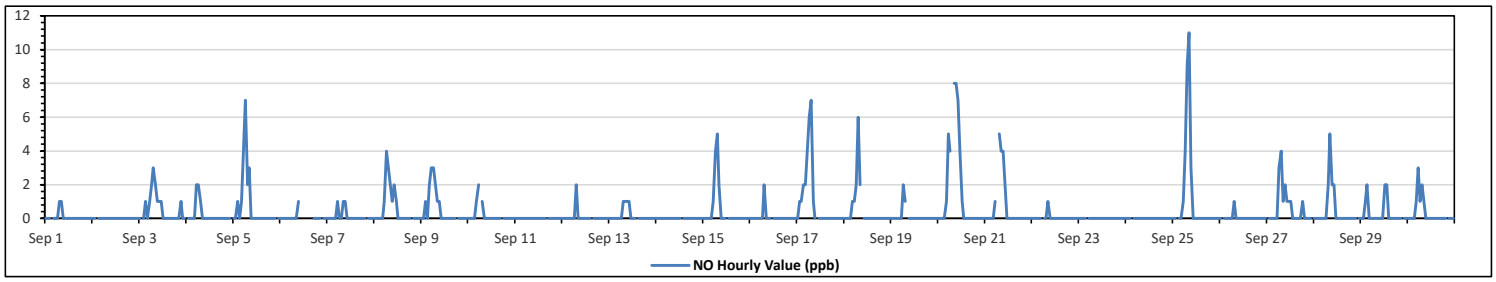
NITRIC OXIDE (NO) in ppb

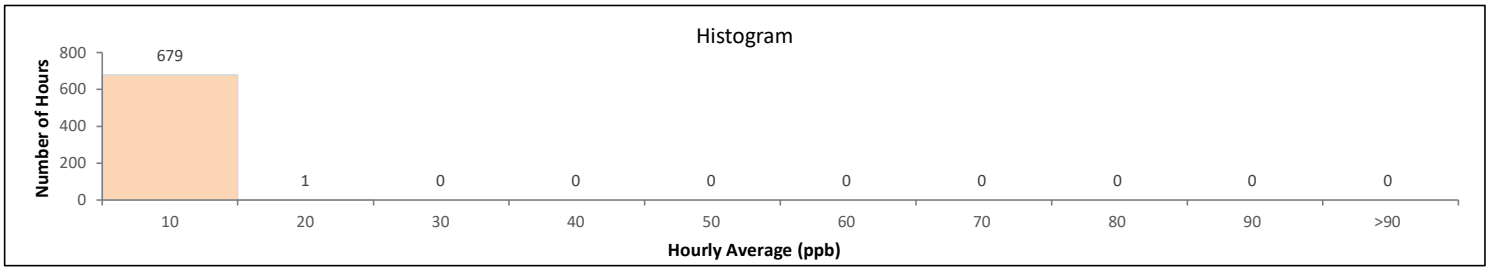
Maximum Hourly Value:	11	ppb	on Sep 25 at hr 8	Hours in Service:	720
Maximum Daily Value:	1.7	ppb	on Sep 20	Hours of Data:	680
Minimum Hourly Value:	0	ppb	on Sep 1 at hr 0	Hours of Missing Data:	1
Minimum Daily Value:	0.0	ppb	on Sep 2	Hours of Calibration:	39
Monthly Average:	0.4	ppb		Operational Uptime:	99.9

Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Sep 1	0	0	0	S	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1
Sep 2	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 3	0	S	0	1	0	1	2	3	2	1	1	1	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0.6
Sep 4	S	0	0	0	0	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	2	0.2
Sep 5	0	0	1	0	1	4	7	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	7	0.8
Sep 6	0	0	0	0	0	0	0	0	0	1	C	C	C	C	C	C	C	0	0	0	0	S	0	0	0	1	NA
Sep 7	0	0	0	0	0	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	1	0.1
Sep 8	0	0	0	0	0	1	4	3	2	1	2	1	0	0	0	0	0	0	0	S	0	0	0	0	0	4	0.6
Sep 9	0	0	1	0	2	3	3	2	1	1	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	3	0.6
Sep 10	0	0	0	0	1	2	NRM	1	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	2	0.2
Sep 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0.0
Sep 12	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	2	0.1
Sep 13	0	0	0	0	0	0	0	1	1	1	1	0	0	0	S	0	0	0	0	0	0	0	0	0	0	1	0.2
Sep 14	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 15	0	0	0	0	0	1	4	5	2	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	5	0.5
Sep 16	0	0	0	0	0	0	0	2	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.1
Sep 17	0	1	1	2	2	4	6	7	1	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	1.0
Sep 18	0	0	0	0	1	1	2	6	2	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0.5
Sep 19	0	0	0	0	0	0	2	1	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.1
Sep 20	0	0	0	0	1	5	4	S	8	8	7	4	1	0	0	0	0	0	0	0	0	0	0	0	0	8	1.7
Sep 21	0	0	0	0	0	1	S	5	4	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0.7
Sep 22	0	0	0	0	0	S	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Sep 23	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 24	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 25	0	0	S	0	0	1	4	9	11	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	1.2
Sep 26	0	S	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Sep 27	S	0	0	0	0	0	3	4	1	2	1	1	1	0	0	0	0	0	1	0	0	0	0	S	0	4	0.6
Sep 28	0	0	0	0	0	0	0	2	5	2	2	0	0	0	0	0	0	0	0	0	0	0	S	0	0	5	0.5
Sep 29	0	0	1	2	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	S	0	0	0	2	0.3
Sep 30	0	0	0	0	1	3	1	2	1	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	3	0.3
Diurnal Maximum	0	1	1	2	2	5	7	9	11	8	7	4	2	2	0	0	0	0	1	0	0	1	0	0			
Diurnal Average	0.0	0.0	0.1	0.2	0.3	1.0	1.6	2.1	1.6	0.9	0.6	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	ND	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



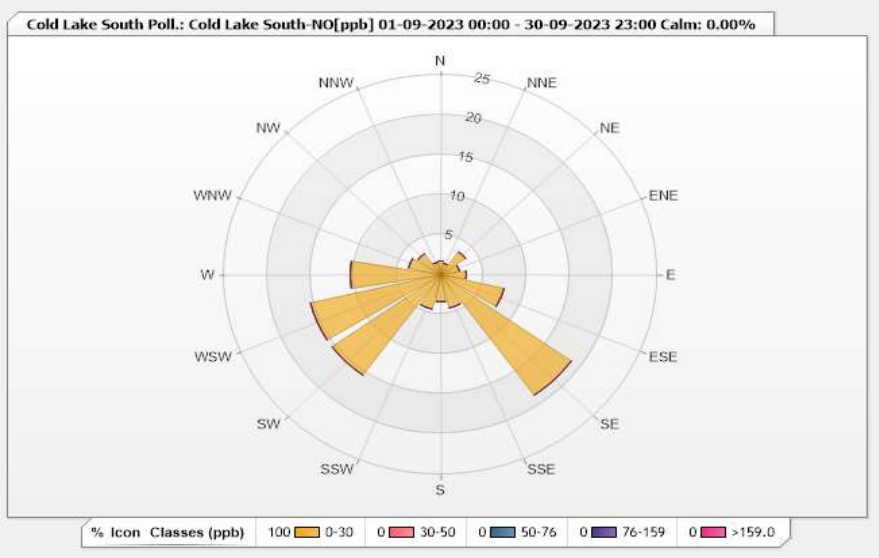


Station: Cold Lake South Poll.: Cold Lake South-NO[ppb] Monthly: 09-2023

Type: Pollution Rose
Direction: Blowing From (Wind Frequency)
Time Base: 1 - Hour

Calm: 0.00% Valid Data: 94.44% Calm Avg: 0.00 [ppm]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	1.76	0	0	0	0	1.76
NNE	1.47	0	0	0	0	1.47
NE	3.53	0	0	0	0	3.53
ENE	2.21	0	0	0	0	2.21
E	2.94	0	0	0	0	2.94
ESE	7.5	0	0	0	0	7.5
SE	18.53	0	0	0	0	18.53
SSE	4.26	0	0	0	0	4.26
S	3.38	0	0	0	0	3.38
SSW	4.41	0	0	0	0	4.41
SW	15.44	0	0	0	0	15.44
WSW	15.44	0	0	0	0	15.44
W	10.44	0	0	0	0	10.44
WNW	3.82	0	0	0	0	3.82
NW	3.24	0	0	0	0	3.24
NNW	1.62	0	0	0	0	1.62
Summary	100	0	0	0	0	100



Lakeland Industry & Community Association

Cold Lake South Station - September 2023

Summary of Hourly Averages

NITROGEN DIOXIDE (NO_2) in ppb

Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 159 ppb

Number of 1-Hour Exceedances: 0

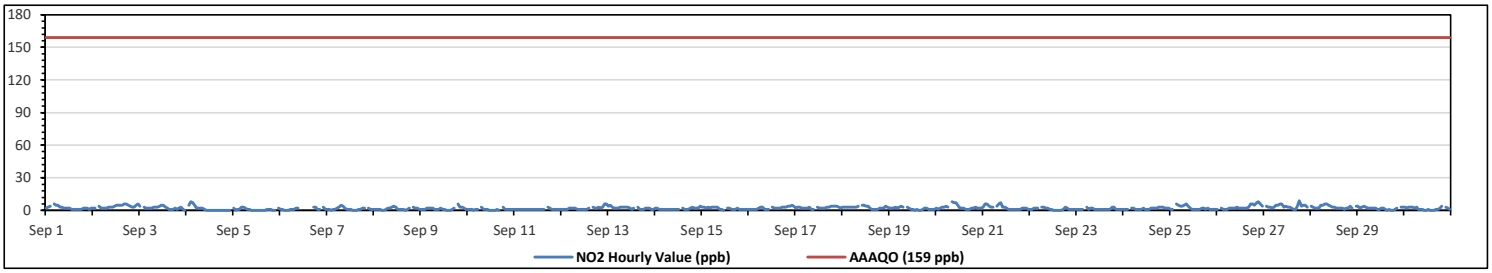
Maximum Hourly Value:	9	ppb	on Sep 27 at hr 18	Hours in Service:	720
Maximum Daily Value:	3.8	ppb	on Sep 27	Hours of Data:	680
Minimum Hourly Value:	0	ppb	on Sep 3 at hr 23	Hours of Missing Data:	1
Minimum Daily Value:	0.8	ppb	on Sep 5	Hours of Calibration:	39
Monthly Average:	2.1	ppb		Operational Uptime:	99.9

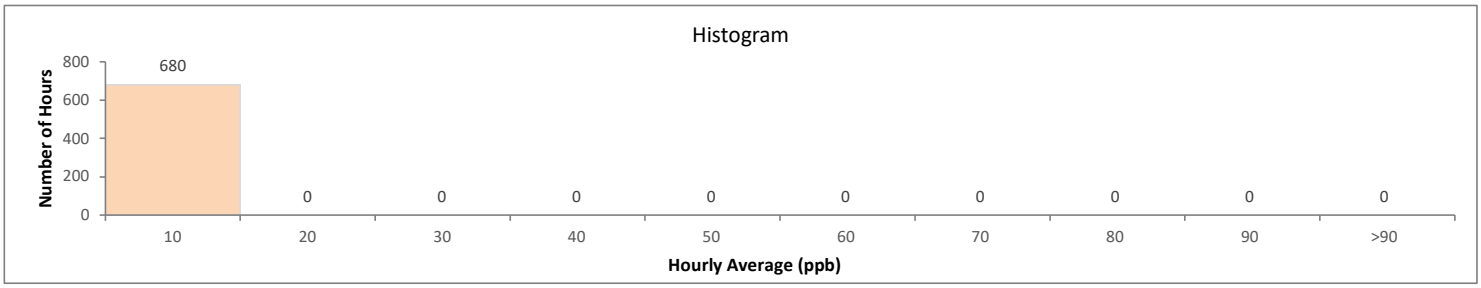
Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Sep 1	2	3	4	S	6	5	5	3	3	2	2	2	2	1	1	1	1	1	1	2	2	2	1	2	1	6	2.3
Sep 2	2	2	S	4	2	2	2	2	3	3	3	4	5	5	5	5	6	6	5	4	3	3	5	6	2	6	3.8
Sep 3	4	S	3	2	2	2	2	3	3	3	4	5	5	3	2	1	1	1	2	1	2	3	1	0	0	5	2.4
Sep 4	S	5	8	7	5	2	2	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	8	1.5
Sep 5	2	0	1	1	3	3	2	1	1	0	0	0	0	0	0	0	0	1	1	1	0	0	S	2	0	3	0.8
Sep 6	1	1	0	0	0	1	1	1	2	2	C	C	C	C	C	C	C	3	3	1	1	S	3	1	0	3	NA
Sep 7	1	1	0	1	1	2	3	5	4	2	1	1	1	0	0	0	1	1	2	2	S	2	1	1	0	5	1.4
Sep 8	1	1	1	1	0	0	1	2	2	3	4	3	1	1	1	1	0	1	2	S	3	2	2	1	0	4	1.5
Sep 9	1	1	1	2	2	2	2	1	1	1	2	1	1	0	0	0	1	2	S	6	3	3	2	1	0	6	1.6
Sep 10	1	1	1	0	1	1	NRM	3	1	1	1	0	0	0	0	1	0	S	3	1	1	1	1	1	0	3	0.9
Sep 11	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	3	2	1	1	1	1	1	1	3	1.1
Sep 12	1	1	1	1	2	2	2	2	1	1	1	1	1	1	2	S	3	2	2	3	2	3	6	6	1	6	2.0
Sep 13	4	5	3	2	2	2	3	3	3	3	3	2	1	2	S	3	1	1	1	2	2	2	1	1	1	5	2.3
Sep 14	2	2	1	1	1	1	1	1	1	1	1	1	1	S	2	1	1	1	2	3	2	2	2	4	1	4	1.5
Sep 15	3	3	2	3	2	3	3	3	3	1	1	0	S	2	2	1	1	1	2	1	1	1	1	1	0	3	1.8
Sep 16	1	1	1	1	1	2	3	3	1	1	1	S	3	2	2	2	2	3	3	3	4	4	5	4	1	5	2.3
Sep 17	2	3	3	2	2	2	2	3	1	1	S	3	2	2	2	2	3	3	4	4	4	4	3	2	1	4	2.6
Sep 18	3	3	3	3	3	3	3	3	4	S	5	5	4	4	2	1	1	1	1	2	2	2	4	3	1	5	2.8
Sep 19	2	2	2	3	2	3	4	3	S	3	2	1	1	0	1	0	0	1	2	2	1	1	1	1	0	4	1.7
Sep 20	2	1	2	3	3	4	3	S	8	7	7	5	2	2	2	1	1	1	2	2	3	2	2	2	1	8	2.9
Sep 21	3	6	6	4	3	3	S	4	6	7	3	3	2	1	1	1	1	1	1	1	2	2	2	1	1	7	2.8
Sep 22	1	1	2	2	2	S	3	3	2	2	1	1	0	0	0	0	0	1	3	2	1	1	1	1	0	3	1.3
Sep 23	1	1	1	1	S	3	1	2	2	1	1	1	1	1	1	1	1	1	3	3	1	1	1	1	1	3	1.3
Sep 24	1	1	1	S	2	2	1	1	1	1	2	1	1	1	2	2	2	2	3	3	3	2	2	2	1	3	1.7
Sep 25	1	1	S	6	5	4	4	5	6	4	2	1	1	1	1	1	2	2	1	2	1	1	1	1	1	6	2.3
Sep 26	1	S	2	1	1	1	2	2	2	2	3	2	2	2	2	2	3	6	6	5	7	8	6	4	1	8	3.1
Sep 27	S	4	3	3	2	3	5	5	6	6	3	4	3	3	2	1	1	4	9	4	5	5	3	S	1	9	3.8
Sep 28	4	3	2	2	2	5	5	6	6	5	4	3	3	2	2	2	2	1	2	2	4	2	S	4	1	6	3.2
Sep 29	4	2	3	4	3	2	2	2	2	2	1	1	2	2	1	0	1	0	0	1	2	S	3	3	0	4	1.9
Sep 30	3	2	3	3	3	2	3	1	1	1	0	0	1	0	0	0	1	1	2	4	S	3	2	1	0	4	1.6
Diurnal Maximum	4	6	8	7	6	5	5	6	8	7	7	5	5	5	5	5	6	6	9	6	7	8	6	6			
Diurnal Average	2.0	2.1	2.2	2.3	2.2	2.3	2.5	2.6	2.7	2.3	2.1	1.9	1.7	1.4	1.3	1.1	1.3	1.8	2.4	2.3	2.3	2.3	2.3	2.1			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	ND	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.

Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



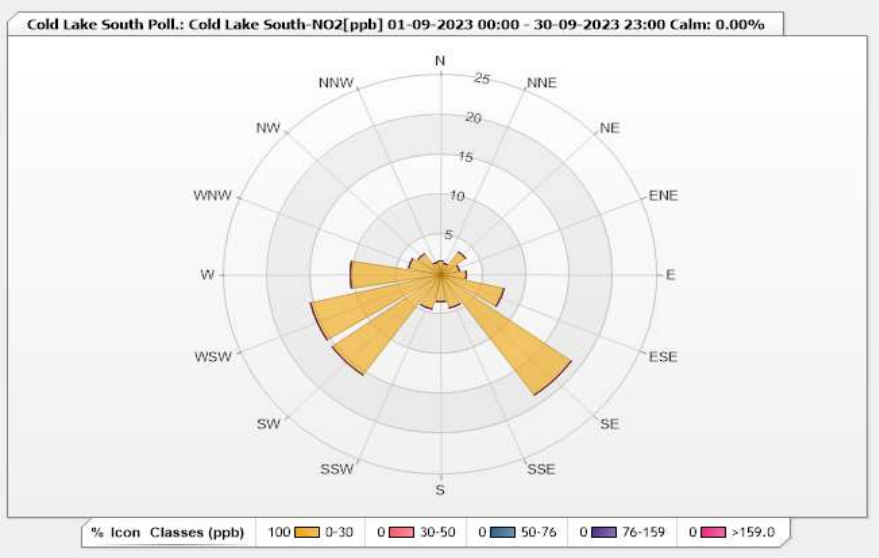


Station: Cold Lake South Poll.: Cold Lake South-NO2[ppb] Monthly: 09-2023

Type: Pollution Rose
Direction: Blowing From (Wind Frequency)
Time Base: 1 - Hour

Calm: 0.00% Valid Data: 94.44% Calm Avg: 0.00 [ppm]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	1.76	0	0	0	0	1.76
NNE	1.47	0	0	0	0	1.47
NE	3.53	0	0	0	0	3.53
ENE	2.21	0	0	0	0	2.21
E	2.94	0	0	0	0	2.94
ESE	7.5	0	0	0	0	7.5
SE	18.53	0	0	0	0	18.53
SSE	4.26	0	0	0	0	4.26
S	3.38	0	0	0	0	3.38
SSW	4.41	0	0	0	0	4.41
SW	15.44	0	0	0	0	15.44
WSW	15.44	0	0	0	0	15.44
W	10.44	0	0	0	0	10.44
WNW	3.82	0	0	0	0	3.82
NW	3.24	0	0	0	0	3.24
NNW	1.62	0	0	0	0	1.62
Summary	100	0	0	0	0	100



Lakeland Industry & Community Association

Cold Lake South Station - September 2023

Summary of Hourly Averages

OZONE (O_3) in ppb

Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 76 ppb

Number of 1-Hour Exceedances: 0

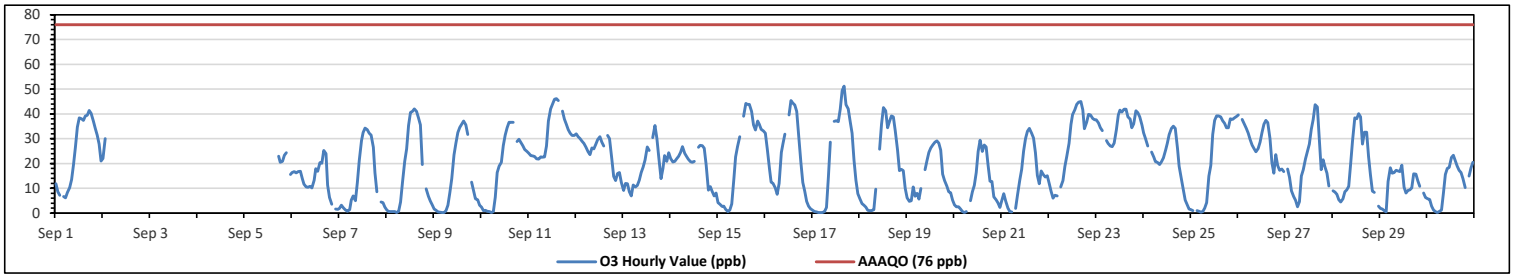
Maximum Hourly Value:	51.2	ppb	on Sep 17 at hr 16	Hours in Service:	720
Maximum Daily Value:	35.8	ppb	on Sep 23	Hours of Data:	605
Minimum Hourly Value:	0.2	ppb	on Sep 9 at hr 4	Hours of Missing Data:	81
Minimum Daily Value:	10.8	ppb	on Sep 20	Hours of Calibration:	34
Monthly Average:	20.2	ppb		Operational Uptime:	88.8

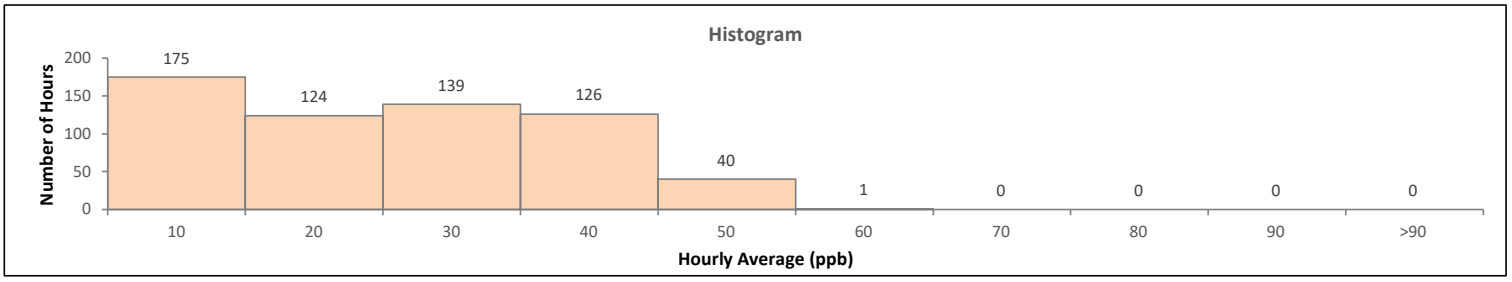
Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Sep 1	11.8	8.7	7.2	S	6.7	6.1	8.4	10.3	13.6	19.6	26.6	34.7	38.4	38	37.4	39.2	39.4	41.4	40.3	37.1	34.2	31.4	27.9	21	6.1	41.4	25.2
Sep 2	22.1	30.1	S	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	22.1	30.1	NA
Sep 3	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	
Sep 4	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	
Sep 5	X	X	X	X	X	X	X	X	X	X	X	X	C	C	C	C	C	22.9	20.4	20.9	23.4	24.3	S	15.6	15.6	24.3	NA
Sep 6	16.3	16.7	16.2	16.8	16.9	13.9	11.7	10.5	10.4	10.8	10.1	13.3	17.9	16.9	20.3	20.1	25.2	24	11.4	6.3	3.6	S	1.7	1.5	1.5	25.2	13.6
Sep 7	1.9	3.2	2.1	1.2	0.8	1.3	5.2	7	5	12.4	21.3	29.2	32.5	34.3	33.6	32.3	31.4	26.5	16.2	8.7	S	4.5	4.2	2.4	0.8	34.3	13.8
Sep 8	1.2	0.7	0.7	0.7	0.6	0.3	0.8	4.5	12.4	20.9	25.9	35.3	40.7	41.1	42.1	41.1	38.5	35.6	19.6	S	9.7	6.8	4.9	3.3	0.3	42.1	16.8
Sep 9	1.7	1.1	0.5	0.4	0.2	0.2	0.9	3.2	8.2	13.9	23.5	28.3	32.5	34.6	35.8	37.1	35.6	31.7	S	12.5	9.2	5.7	5.3	3.1	**0.2**	37.1	14.1
Sep 10	2.4	1	1.1	0.8	0.7	0.3	0.6	6.4	16.3	19	20.5	27.2	31.5	34.4	36.7	36.6	36.7	S	28.9	29.8	28.5	27.2	25.7	24.9	0.3	36.7	19.0
Sep 11	24.1	23.2	23.1	22.8	21.9	21.8	22.6	22.5	22.7	27.1	37.1	42	43.9	45.9	46.1	45.5	S	41.2	37.9	35.9	33.6	32.2	31.3	31.3	21.8	46.1	32.0
Sep 12	32	30.8	30	29	28.1	26.7	24.7	23.6	26.3	26	27.8	29.7	30.8	28.6	27.1	S	31.3	30.1	22.1	14.8	13.2	15.9	16.3	12.4	12.4	32.0	25.1
Sep 13	9.2	12	11.8	8.7	7	11.4	10.5	11.2	13.3	16.3	18.6	21.4	26.6	25.3	S	30.5	35.3	30.2	22.4	13.9	18	23.2	20.9	24.3	7.0	35.3	18.3
Sep 14	22.1	20.6	20.9	21.8	23	24.5	26.8	24.1	22.8	21.8	20.8	20.5	20.9	S	26.5	27.3	27.2	26.2	19.5	9.3	10.7	9.1	7	8.1	7.0	27.3	20.1
Sep 15	4.2	3.6	2.7	2.8	1.5	0.7	1.2	3.7	14.4	22.6	26.8	30.8	S	39.1	44.2	43.8	43.8	41.1	35.6	33.5	37.1	35.9	33.8	33.1	0.7	44.2	23.3
Sep 16	32.2	25.9	17.8	12.5	12	10.2	7.5	11.9	24.5	28	31.9	S	39.5	45.4	44.4	43.5	41.1	31.5	20.4	12.4	8.9	4.8	2.8	1.8	1.8	45.4	22.2
Sep 17	1.1	0.6	0.5	0.3	0.3	0.3	0.6	2.3	14.6	28.6	S	37	37.3	36.9	41.9	49.5	**51.2**	43.7	42	37	32.3	21.4	13.3	7.8	0.3	**51.2**	21.8
Sep 18	5.9	3.9	3.1	2.4	1.1	1	0.9	1.4	9.6	S	25.8	35.9	42.6	41.3	34.5	37	39.2	38.8	33.1	25.5	17.1	17.7	17.2	10	0.9	42.6	19.3
Sep 19	6.2	4.8	5	10.6	6.8	8	5.6	9.9	S	17.5	21.2	24.5	26.4	27.5	28.6	29.1	28.3	25.4	15.7	13.2	10.9	8.7	8.2	5.2	4.8	29.1	15.1
Sep 20	3.3	2.6	2.6	1.6	0.6	0.2	0.7	S	5	8.6	11.2	16.4	24.8	29.4	24.9	27.5	26.7	19.4	12.9	12.7	6.6	5.3	4.1	2.3	**0.2**	29.4	**10.8**
Sep 21	5.1	7.8	4.9	2.1	0.7	0.5	S	1.9	7.3	13.3	17.7	25	30	33	34.2	32.3	30.3	24.3	15.2	11.8	17	15.5	14.5	15.1	0.5	34.2	15.6
Sep 22	12	8.8	6	7.2	7	S	10.5	13.1	18.8	23	28.2	35.7	39.7	41.6	43.8	44.8	45	41.6	34.1	36.6	39.9	39.6	38.2	37.7	6.0	45.0	28.4
Sep 23	37.7	36.4	34.5	33.3	S	29.2	28.2	27.1	26.8	28.3	33.6	39.6	41.5	40.8	41.9	41.9	38.8	37.9	34.5	36	41.3	40.5	38.9	35.5	26.8	41.9	**35.8**
Sep 24	32.4	30	27.1	S	24.6	22.5	20.8	20.4	19.6	20.7	22.3	25.5	28.2	31.7	34.2	35.1	34.2	26.1	19	14.5	9.5	5.2	3.4	1.7	1.7	35.1	22.1
Sep 25	1.3	0.9	S	1	0.8	0.4	0.7	2	4.3	15	19.2	31.7	37.4	39.2	39.2	38.8	37.3	36.3	34.4	34.4	38.1	37.8	38.4	39	0.4	39.2	22.9
Sep 26	39.5	S	37.8	35.9	34.2	32.2	29.7	27.4	26.1	24.7	26.1	28.6	32.5	35.8	37.4	36.5	30.1	20.3	16.1	23.6	19.2	17.3	17.8	16.7	16.1	39.5	28.1
Sep 27	S	17.8	14.4	9	6.7	5.1	2.6	4.6	14.9	17.6	21.9	24.9	27.9	33.8	37.8	43.7	42.8	30	17.6	21.5	18.6	16.1	11	S	2.6	43.7	20.0
Sep 28	9.1	8.5	7.5	5.3	4.5	5.8	8.7	9.4	10.8	19.9	29.3	38.5	38	40.1	38.9	27.9	32.7	32.7	22.8	15.4	8.9	8.3	S	2.8	2.8	40.1	18.5
Sep 29	1.9	1.7	0.9	0.5	12.8	18.3	16.1	16.4	17.3	17	16.8	19.3	10.4	8.1	9.2	9.4	10.2	15.8	15.7	13	10.8	S	8.1	6.3	0.5	19.3	11.1
Sep 30	5.7	5.5	2.9	1.2	0.7	0.3	0.8	1.2	8.1	15.6	18	18.4	22.4	23.3	21.2	18.9	17.3	16.4	13.9	10.3	S	14.9	18.1	20.4	0.3	23.3	12.0
Diurnal Maximum	39.5	36.4	37.8	35.9	34.2	32.2	29.7	27.4	26.8	28.6	37.1	42.0	43.9	45.9	46.1	49.5	51.2	43.7	42.0	37.1	41.3	40.5	38.9	39.0			
Diurnal Average	13.2	11.8	11.3	9.5	8.8	9.6	9.9	11.0	14.9	19.5	23.3	28.5	31.8	33.8	34.5	34.8	34.0	30.4	23.9	20.8	20.0	18.8	16.5	14.7			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	ND	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.

Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



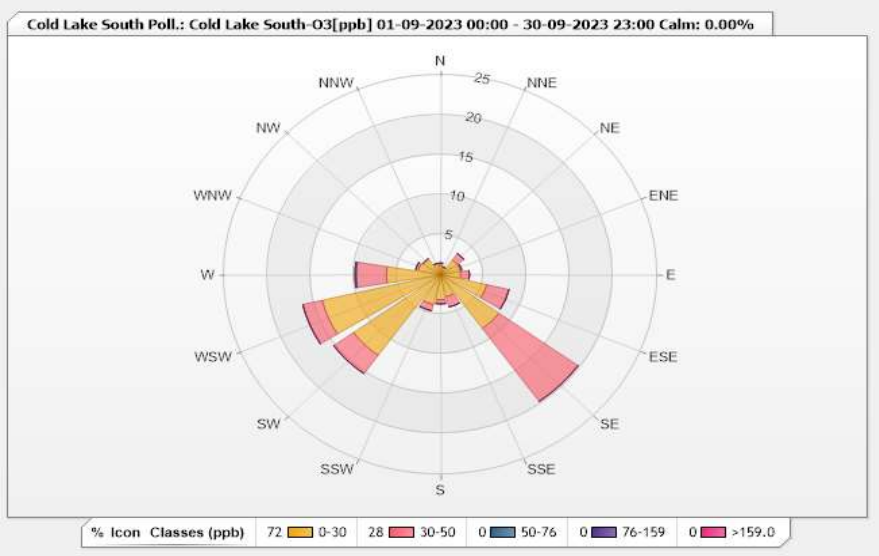


Station: Cold Lake South Poll.: Cold Lake South-O3[ppb] Monthly: 09-2023

Type: Pollution Rose
Direction: Blowing From (Wind Frequency)
Time Base: 1 - Hour

Calm: 0.00% Valid Data: 84.03% Calm Avg: 0.00 [ppm]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	1.16	0.33	0	0	0	1.49
NNE	0.99	0	0	0	0	0.99
NE	2.31	0.99	0	0	0	3.3
ENE	2.31	0.17	0	0	0	2.48
E	2.31	0.99	0	0	0	3.3
ESE	5.45	2.64	0	0	0	8.09
SE	8.26	11.24	0	0	0	19.5
SSE	2.81	1.32	0	0	0	4.13
S	3.14	0.5	0	0	0	3.64
SSW	3.8	0.83	0	0	0	4.63
SW	12.4	2.81	0	0	0	15.21
WSW	14.05	2.31	0	0	0	16.36
W	6.28	3.47	0.17	0	0	9.92
WNW	2.64	0.33	0	0	0	2.97
NW	2.48	0	0	0	0	2.48
NNW	1.49	0	0	0	0	1.49
Summary	71.88	27.93	0.17	0	0	100



Lakeland Industry & Community Association

Cold Lake South Station - September 2023

Summary of Hourly Averages

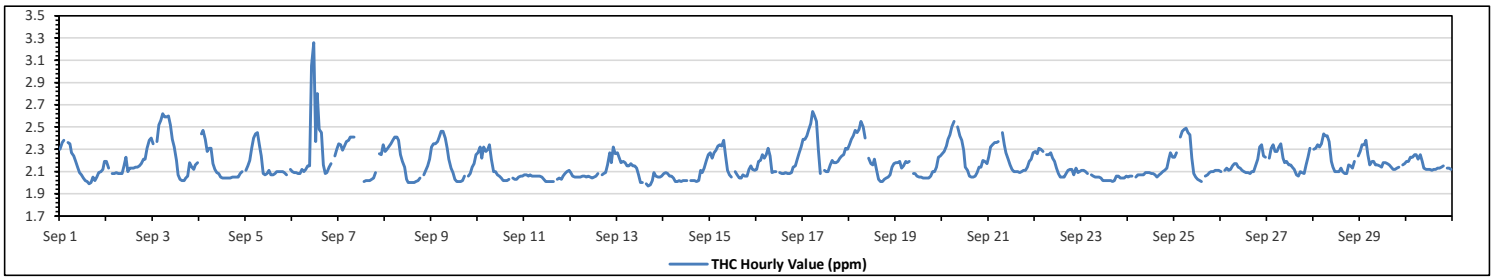
TOTAL HYDROCARBONS (THC) in ppm

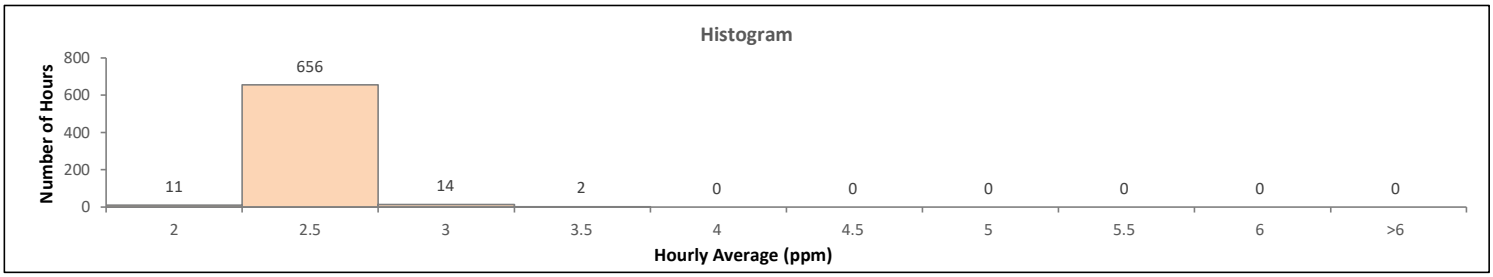
Maximum Hourly Value:	3.26	ppm	on Sep 6 at hr 11	Hours in Service:	720
Maximum Daily Value:	2.30	ppm	on Sep 17	Hours of Data:	683
Minimum Hourly Value:	1.97	ppm	on Sep 13 at hr 16	Hours of Missing Data:	1
Minimum Daily Value:	2.05	ppm	on Sep 11	Hours of Calibration:	36
Monthly Average:	2.17	ppm		Operational Uptime:	99.9

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Sep 1	2.30	2.36	2.38	S	2.36	2.35	2.27	2.24	2.19	2.14	2.09	2.07	2.04	2.02	2.01	1.99	2.00	2.05	2.02	2.05	2.09	2.10	2.12	2.19	1.99	2.38	2.15
Sep 2	2.19	2.13	S	2.08	2.08	2.09	2.08	2.08	2.08	2.15	2.23	2.10	2.13	2.13	2.13	2.14	2.14	2.15	2.17	2.21	2.21	2.31	2.38	2.40	2.08	2.40	2.16
Sep 3	2.35	S	2.37	2.52	2.56	2.62	2.59	2.59	2.60	2.52	2.39	2.32	2.20	2.07	2.03	2.02	2.02	2.04	2.06	2.18	2.14	2.12	2.16	2.18	2.02	2.62	2.29
Sep 4	S	2.44	2.47	2.39	2.28	2.31	2.31	2.17	2.12	2.09	2.08	2.05	2.04	2.04	2.04	2.04	2.04	2.05	2.05	2.05	2.05	2.08	2.10	S	2.04	2.47	2.15
Sep 5	2.11	2.15	2.20	2.31	2.40	2.44	2.45	2.34	2.24	2.08	2.07	2.08	2.11	2.07	2.07	2.08	2.10	2.10	2.10	2.10	2.09	2.07	S	2.12	2.07	2.45	2.17
Sep 6	2.10	2.09	2.09	2.08	2.08	2.12	2.10	2.12	2.15	2.15	3.05	3.26	2.37	2.80	2.48	2.45	2.16	2.08	2.09	2.14	2.17	S	2.24	2.30	2.08	3.26	2.29
Sep 7	2.35	2.34	2.29	2.33	2.37	2.38	2.41	2.41	2.41	C	C	C	C	2.01	2.02	2.02	2.02	2.03	2.04	2.09	S	2.26	2.25	2.34	2.01	2.41	2.23
Sep 8	2.28	2.30	2.33	2.35	2.38	2.41	2.41	2.38	2.25	2.19	2.14	2.03	2.00	2.00	2.00	2.00	2.01	2.02	2.04	S	2.07	2.11	2.15	2.21	2.00	2.41	2.18
Sep 9	2.32	2.35	2.35	2.37	2.41	2.46	2.46	2.40	2.31	2.21	2.13	2.09	2.03	2.01	2.01	2.01	2.02	2.06	S	2.06	2.08	2.14	2.17	2.25	2.01	2.46	2.20
Sep 10	2.27	2.32	2.22	2.32	2.28	2.30	2.34	2.21	2.10	2.10	2.07	2.06	2.04	2.02	2.02	2.02	2.03	S	2.04	2.03	2.03	2.05	2.06	2.06	2.02	2.34	2.13
Sep 11	2.07	2.07	2.06	2.07	2.06	2.06	2.06	2.06	2.06	2.05	2.03	2.01	2.01	2.01	2.01	2.01	S	2.03	2.04	2.03	2.06	2.08	2.10	2.11	2.01	2.11	2.05
Sep 12	2.09	2.06	2.05	2.05	2.05	2.05	2.06	2.06	2.05	2.06	2.05	2.04	2.05	2.06	2.08	S	2.07	2.08	2.09	2.16	2.27	2.18	2.32	2.26	2.04	2.32	2.10
Sep 13	2.27	2.22	2.18	2.19	2.18	2.15	2.15	2.17	2.15	2.15	2.13	2.07	2.00	2.00	S	1.99	1.97	1.98	2.02	2.09	2.06	2.05	2.05	2.06	1.97	2.27	2.10
Sep 14	2.08	2.09	2.08	2.06	2.06	2.04	2.01	2.01	2.02	2.01	2.02	2.02	2.02	S	2.02	2.02	2.02	2.01	2.02	2.11	2.09	2.13	2.20	2.25	2.01	2.25	2.06
Sep 15	2.27	2.22	2.27	2.29	2.33	2.34	2.33	2.38	2.24	2.11	2.07	2.05	S	2.10	2.07	2.04	2.04	2.07	2.06	2.06	2.12	2.15	2.12	2.11	2.04	2.38	2.17
Sep 16	2.12	2.19	2.20	2.25	2.22	2.25	2.31	2.24	2.09	2.10	2.10	S	2.09	2.08	2.08	2.09	2.08	2.08	2.09	2.14	2.15	2.21	2.27	2.32	2.08	2.32	2.16
Sep 17	2.39	2.39	2.42	2.48	2.53	2.64	2.60	2.55	2.29	2.08	S	2.11	2.10	2.10	2.16	2.20	2.18	2.18	2.19	2.22	2.24	2.25	2.31	2.30	2.08	2.64	2.30
Sep 18	2.34	2.39	2.42	2.47	2.45	2.48	2.55	2.50	2.40	S	2.22	2.17	2.16	2.21	2.11	2.03	2.01	2.01	2.03	2.04	2.05	2.07	2.14	2.17	2.01	2.55	2.24
Sep 19	2.18	2.18	2.19	2.13	2.15	2.19	2.18	2.19	S	2.08	2.08	2.06	2.05	2.05	2.04	2.04	2.04	2.04	2.04	2.06	2.10	2.10	2.14	2.23	2.04	2.24	2.12
Sep 20	2.26	2.28	2.33	2.39	2.43	2.50	2.55	S	2.50	2.42	2.38	2.29	2.14	2.11	2.06	2.05	2.05	2.06	2.09	2.14	2.14	2.20	2.19	2.17	2.05	2.55	2.25
Sep 21	2.23	2.32	2.34	2.36	2.36	2.37	S	2.45	2.34	2.27	2.21	2.16	2.12	2.10	2.10	2.10	2.09	2.10	2.11	2.11	2.14	2.19	2.21	2.27	2.09	2.45	2.22
Sep 22	2.28	2.26	2.31	2.30	2.28	S	2.25	2.25	2.27	2.22	2.19	2.13	2.08	2.05	2.05	2.05	2.08	2.11	2.12	2.12	2.07	2.13	2.09	2.10	2.05	2.31	2.16
Sep 23	2.11	2.11	2.10	2.08	S	2.07	2.06	2.05	2.05	2.05	2.04	2.02	2.02	2.02	2.02	2.02	2.01	2.02	2.06	2.06	2.04	2.04	2.04	2.06	2.01	2.11	2.05
Sep 24	2.05	2.06	2.06	S	2.05	2.07	2.07	2.07	2.07	2.09	2.09	2.09	2.08	2.08	2.07	2.05	2.07	2.08	2.10	2.11	2.13	2.21	2.27	2.23	2.05	2.27	2.10
Sep 25	2.23	2.27	S	2.41	2.46	2.48	2.49	2.45	2.43	2.22	2.08	2.05	2.03	2.02	2.01	Y	2.06	2.07	2.09	2.10	2.10	2.11	2.11	2.11	2.01	2.49	2.20
Sep 26	2.10	S	2.11	2.13	2.11	2.12	2.15	2.17	2.17	2.14	2.13	2.11	2.10	2.09	2.09	2.08	2.10	2.10	2.16	2.21	2.32	2.34	2.24	2.23	2.08	2.34	2.15
Sep 27	S	2.22	2.31	2.34	2.28	2.28	2.32	2.35	2.22	2.18	2.19	2.16	2.16	2.14	2.12	2.07	2.06	2.10	2.09	2.08	2.16	2.23	2.31	S	2.06	2.35	2.20
Sep 28	2.30	2.31	2.34	2.32	2.35	2.44	2.42	2.42	2.37	2.19	2.14	2.10	2.10	2.10	2.13	2.10	2.08	2.08	2.16	2.15	2.13	2.19	S	2.24	2.08	2.44	2.22
Sep 29	2.28	2.34	2.34	2.38	2.25	2.16	2.19	2.19	2.16	2.16	2.15	2.14	2.18	2.18	2.17	2.16	2.14	2.12	2.12	2.13	2.14	S	2.16	2.17	2.12	2.38	2.19
Sep 30	2.19	2.19	2.23	2.23	2.25	2.25	2.21	2.25	2.19	2.13	2.12	2.12	2.12	2.11	2.12	2.12	2.13	2.13	2.14	2.15	S	2.13	2.13	2.12	2.11	2.25	2.16
Diurnal Maximum	2.39	2.44	2.47	2.52	2.56	2.64	2.60	2.59	2.60	2.52	3.05	3.26	2.37	2.80	2.48	2.45	2.18	2.18	2.19	2.22	2.32	2.34	2.38	2.40			
Diurnal Average	2.22	2.24	2.25	2.27	2.28	2.29	2.29	2.27	2.22	2.16	2.17	2.14	2.09	2.10	2.08	2.07	2.06	2.07	2.08	2.11	2.12	2.15	2.18	2.20			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	ND	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



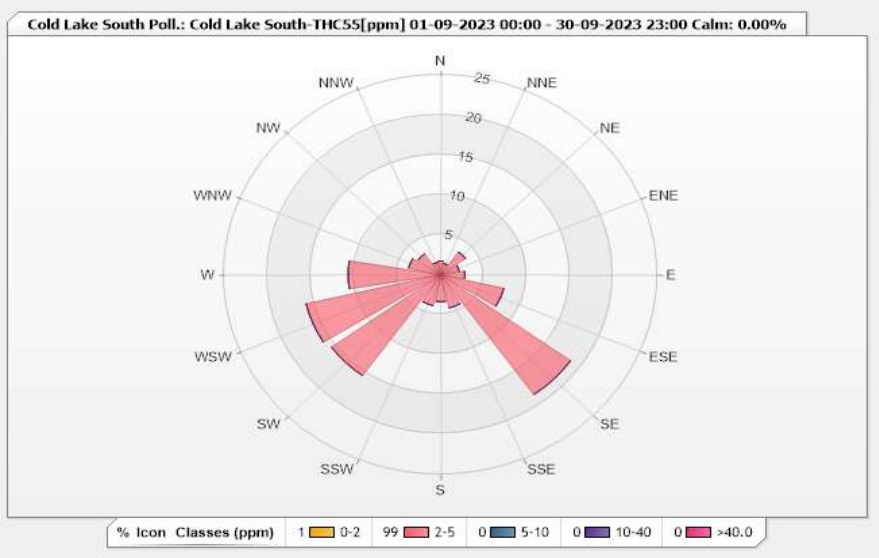


Station: Cold Lake South Poll.: Cold Lake South-THC55[ppm] Monthly: 09-2023

Type: Pollution Rose
Direction: Blowing From (Wind Frequency)
Time Base: 1 - Hour

Calm: 0.00% Valid Data: 94.86% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-40	>40.0	Total
N	0	1.76	0	0	0	1.76
NNE	0	1.46	0	0	0	1.46
NE	0	3.51	0	0	0	3.51
ENE	0	2.2	0	0	0	2.2
E	0	2.78	0	0	0	2.78
ESE	0	7.47	0	0	0	7.47
SE	0	18.45	0	0	0	18.45
SSE	0	4.25	0	0	0	4.25
S	0	3.37	0	0	0	3.37
SSW	0	3.95	0	0	0	3.95
SW	0.15	15.37	0	0	0	15.52
WSW	0.15	15.81	0	0	0	15.96
W	0.44	10.25	0	0	0	10.69
WNW	0.15	3.66	0	0	0	3.81
NW	0	3.22	0	0	0	3.22
NNW	0	1.61	0	0	0	1.61
Summary	0.89	99.12	0	0	0	100



Lakeland Industry & Community Association

Cold Lake South Station - September 2023

Summary of Hourly Averages

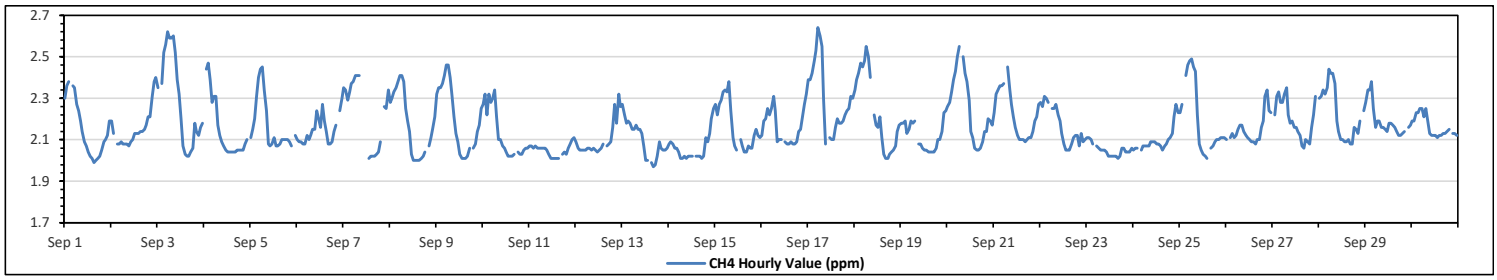
METHANE (CH4) in ppm

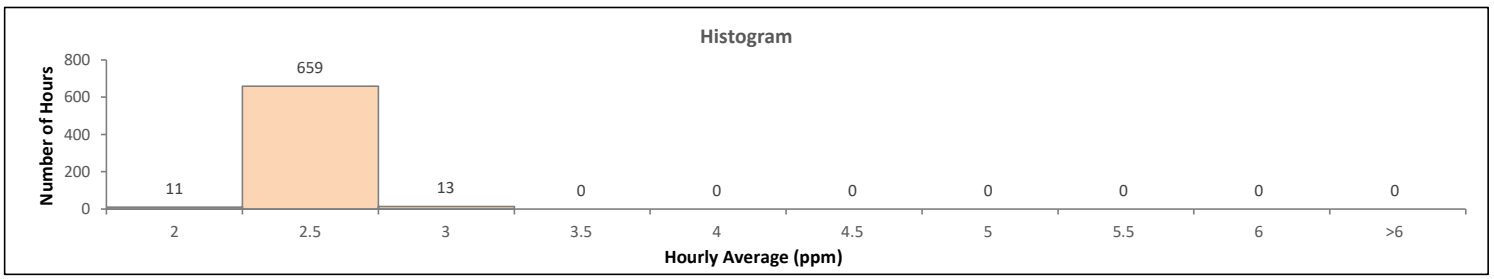
Maximum Hourly Value:	2.64	ppm	on Sep 17 at hr 5	Hours in Service:	720	
Maximum Daily Value:	2.30	ppm	on Sep 17	Hours of Data:	683	
Minimum Hourly Value:	1.97	ppm	on Sep 13 at hr 16	Hours of Missing Data:	1	
Minimum Daily Value:	2.05	ppm	on Sep 11	Hours of Calibration:	36	
Monthly Average:	2.17	ppm		Operational Uptime:	99.9	

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Sep 1	2.30	2.36	2.38	S	2.36	2.35	2.27	2.24	2.19	2.14	2.09	2.07	2.04	2.02	2.01	1.99	2.00	2.01	2.02	2.05	2.09	2.10	2.12	2.19	1.99	2.38	2.15
Sep 2	2.19	2.13	S	2.08	2.08	2.09	2.08	2.08	2.08	2.07	2.09	2.10	2.13	2.13	2.13	2.14	2.14	2.15	2.17	2.21	2.21	2.31	2.38	2.40	2.07	2.40	2.16
Sep 3	2.35	S	2.37	2.52	2.56	2.62	2.59	2.59	2.60	2.52	2.39	2.32	2.20	2.07	2.03	2.02	2.02	2.04	2.06	2.18	2.14	2.12	2.16	2.18	2.02	2.62	2.29
Sep 4	S	2.44	2.47	2.39	2.28	2.31	2.31	2.17	2.12	2.09	2.07	2.05	2.04	2.04	2.04	2.04	2.04	2.05	2.05	2.05	2.05	2.08	2.10	S	2.04	2.47	2.15
Sep 5	2.11	2.15	2.20	2.31	2.40	2.44	2.45	2.34	2.24	2.08	2.07	2.08	2.11	2.07	2.07	2.08	2.10	2.10	2.10	2.10	2.09	2.07	S	2.12	2.07	2.45	2.17
Sep 6	2.10	2.09	2.09	2.08	2.08	2.12	2.10	2.12	2.15	2.15	2.24	2.20	2.16	2.27	2.19	2.14	2.08	2.08	2.09	2.14	2.17	S	2.24	2.30	2.08	2.30	2.15
Sep 7	2.35	2.34	2.29	2.33	2.37	2.38	2.41	2.41	2.41	C	C	C	C	2.01	2.02	2.02	2.02	2.03	2.04	2.09	S	2.26	2.25	2.34	2.01	2.41	2.23
Sep 8	2.28	2.30	2.33	2.35	2.38	2.41	2.41	2.38	2.25	2.19	2.14	2.03	2.00	2.00	2.00	2.00	2.01	2.02	2.04	S	2.07	2.11	2.15	2.21	2.00	2.41	2.18
Sep 9	2.32	2.35	2.35	2.37	2.41	2.46	2.46	2.40	2.31	2.21	2.13	2.09	2.03	2.01	2.01	2.01	2.02	2.06	S	2.06	2.08	2.14	2.17	2.25	2.01	2.46	2.20
Sep 10	2.27	2.32	2.22	2.32	2.28	2.30	2.34	2.21	2.10	2.10	2.07	2.06	2.04	2.02	2.02	2.02	2.03	S	2.04	2.03	2.03	2.05	2.06	2.06	2.02	2.34	2.13
Sep 11	2.07	2.07	2.06	2.07	2.06	2.06	2.06	2.06	2.06	2.05	2.03	2.01	2.01	2.01	2.01	2.01	S	2.03	2.04	2.03	2.06	2.08	2.10	2.11	2.01	2.11	2.05
Sep 12	2.09	2.06	2.05	2.05	2.05	2.05	2.06	2.06	2.05	2.06	2.05	2.04	2.05	2.06	2.08	S	2.07	2.08	2.09	2.16	2.27	2.18	2.32	2.26	2.04	2.32	2.10
Sep 13	2.27	2.22	2.18	2.19	2.18	2.15	2.15	2.17	2.15	2.15	2.13	2.07	2.00	2.00	S	1.99	1.97	1.98	2.02	2.09	2.06	2.05	2.05	2.06	1.97	2.27	2.10
Sep 14	2.08	2.09	2.08	2.06	2.06	2.04	2.01	2.01	2.02	2.01	2.02	2.02	2.02	S	2.02	2.02	2.02	2.01	2.02	2.11	2.09	2.13	2.20	2.25	2.01	2.25	2.06
Sep 15	2.27	2.22	2.27	2.29	2.33	2.34	2.33	2.38	2.24	2.11	2.07	2.05	S	2.10	2.07	2.04	2.04	2.07	2.06	2.06	2.12	2.15	2.12	2.11	2.04	2.38	2.17
Sep 16	2.12	2.19	2.20	2.25	2.22	2.25	2.31	2.24	2.09	2.10	2.10	S	2.09	2.08	2.08	2.09	2.08	2.08	2.09	2.14	2.15	2.21	2.27	2.32	2.08	2.32	2.16
Sep 17	2.39	2.39	2.42	2.48	2.53	**2.64**	2.60	2.55	2.29	2.08	S	2.11	2.10	2.10	2.16	2.20	2.18	2.18	2.19	2.22	2.24	2.25	2.31	2.30	2.08	**2.64**	**2.30**
Sep 18	2.34	2.39	2.42	2.47	2.45	2.48	2.55	2.50	2.40	S	2.22	2.17	2.16	2.21	2.11	2.03	2.01	2.01	2.03	2.04	2.05	2.07	2.14	2.17	2.01	2.55	2.24
Sep 19	2.18	2.18	2.19	2.13	2.15	2.19	2.18	2.19	S	2.08	2.08	2.06	2.05	2.05	2.04	2.04	2.04	2.04	2.06	2.10	2.10	2.14	2.23	2.24	2.04	2.24	2.12
Sep 20	2.26	2.28	2.33	2.39	2.43	2.50	2.55	S	2.50	2.42	2.38	2.29	2.14	2.11	2.06	2.05	2.05	2.06	2.09	2.14	2.14	2.20	2.19	2.17	2.05	2.55	2.25
Sep 21	2.23	2.32	2.34	2.36	2.36	2.37	S	2.45	2.34	2.27	2.21	2.16	2.12	2.10	2.10	2.10	2.09	2.10	2.11	2.11	2.14	2.19	2.21	2.27	2.09	2.45	2.22
Sep 22	2.28	2.26	2.31	2.30	2.28	S	2.25	2.25	2.27	2.22	2.19	2.13	2.08	2.05	2.05	2.05	2.08	2.11	2.12	2.12	2.07	2.13	2.09	2.10	2.05	2.31	2.16
Sep 23	2.11	2.11	2.10	2.08	S	2.07	2.06	2.05	2.05	2.05	2.04	2.02	2.02	2.02	2.02	2.02	2.01	2.02	2.06	2.06	2.04	2.04	2.04	2.06	2.01	2.11	2.05
Sep 24	2.05	2.06	2.06	S	2.05	2.07	2.07	2.07	2.07	2.09	2.09	2.09	2.08	2.08	2.07	2.05	2.07	2.08	2.10	2.11	2.13	2.21	2.27	2.23	2.05	2.27	2.10
Sep 25	2.23	2.27	S	2.41	2.46	2.48	2.49	2.45	2.43	2.22	2.08	2.05	2.03	2.02	2.01	Y	2.06	2.07	2.09	2.10	2.10	2.11	2.11	2.11	2.01	2.49	2.20
Sep 26	2.10	S	2.11	2.13	2.11	2.12	2.15	2.17	2.17	2.14	2.12	2.11	2.10	2.09	2.09	2.08	2.10	2.10	2.16	2.19	2.31	2.34	2.24	2.23	2.08	2.34	2.15
Sep 27	S	2.22	2.31	2.33	2.28	2.28	2.32	2.35	2.22	2.18	2.19	2.16	2.16	2.14	2.12	2.07	2.06	2.10	2.09	2.08	2.16	2.22	2.31	S	2.06	2.35	2.20
Sep 28	2.30	2.31	2.34	2.32	2.35	2.44	2.42	2.42	2.37	2.19	2.14	2.10	2.10	2.09	2.09	2.10	2.08	2.08	2.16	2.15	2.13	2.19	S	2.24	2.08	2.44	2.22
Sep 29	2.28	2.34	2.34	2.38	2.25	2.16	2.19	2.19	2.16	2.16	2.15	2.14	2.18	2.18	2.17	2.16	2.14	2.12	2.12	2.13	2.14	S	2.16	2.17	2.12	2.38	2.19
Sep 30	2.19	2.19	2.23	2.23	2.25	2.25	2.21	2.25	2.19	2.13	2.12	2.12	2.12	2.11	2.12	2.12	2.13	2.13	2.14	2.15	S	2.13	2.13	2.12	2.11	2.25	2.16
Diurnal Maximum	2.39	2.44	2.47	2.52	2.56	2.64	2.60	2.59	2.60	2.52	2.39	2.32	2.20	2.27	2.19	2.20	2.18	2.18	2.19	2.22	2.31	2.34	2.38	2.40			
Diurnal Average	2.22	2.24	2.25	2.27	2.28	2.29	2.29	2.27	2.22	2.15	2.13	2.10	2.08	2.08	2.07	2.06	2.06	2.07	2.08	2.11	2.12	2.15	2.18	2.20			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance			
K	Collection Error	ND	No Data (Machine Not in Service)	Y	Routine Maintenance	P	Power Failure	
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)					

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



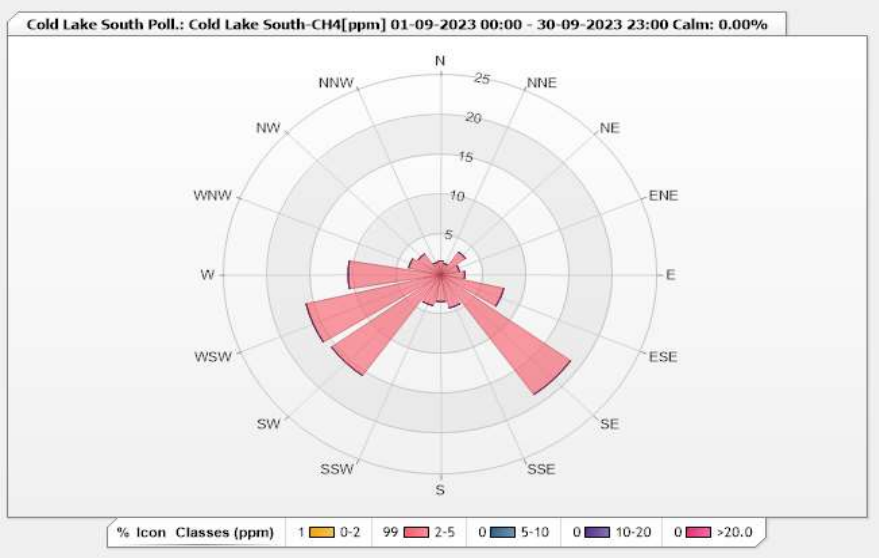


Station: Cold Lake South Poll.: Cold Lake South-CH4[ppm] Monthly: 09-2023

Type: Pollution Rose
Direction: Blowing From (Wind Frequency)
Time Base: 1 - Hour

Calm: 0.00% Valid Data: 94.86% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-20	>20.0	Total
N	0	1.76	0	0	0	1.76
NNE	0	1.46	0	0	0	1.46
NE	0	3.51	0	0	0	3.51
ENE	0	2.2	0	0	0	2.2
E	0	2.78	0	0	0	2.78
ESE	0	7.47	0	0	0	7.47
SE	0	18.45	0	0	0	18.45
SSE	0	4.25	0	0	0	4.25
S	0	3.37	0	0	0	3.37
SSW	0	3.95	0	0	0	3.95
SW	0.15	15.37	0	0	0	15.52
WSW	0.15	15.81	0	0	0	15.96
W	0.44	10.25	0	0	0	10.69
WNW	0.15	3.66	0	0	0	3.81
NW	0	3.22	0	0	0	3.22
NNW	0	1.61	0	0	0	1.61
Summary	0.89	99.12	0	0	0	100



Lakeland Industry & Community Association

Cold Lake South Station - September 2023

Summary of Hourly Averages

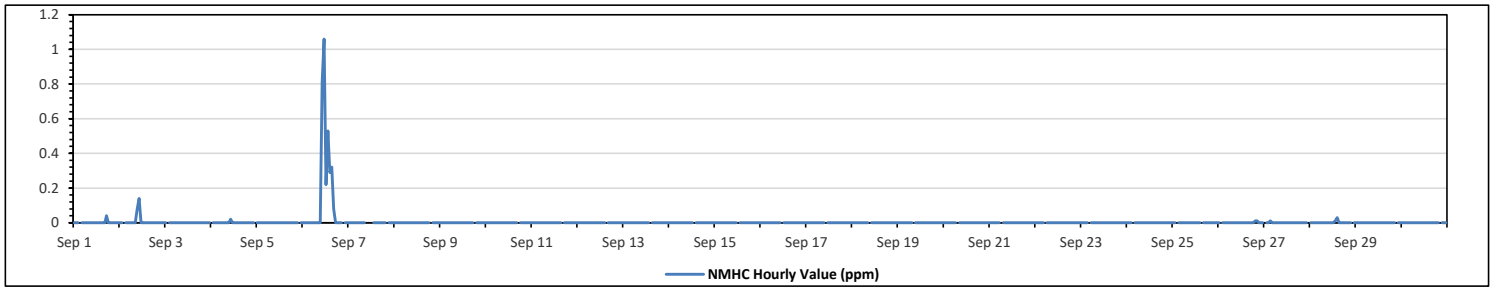
NON-METHANE HYDROCARBONS (NMHC) in ppm

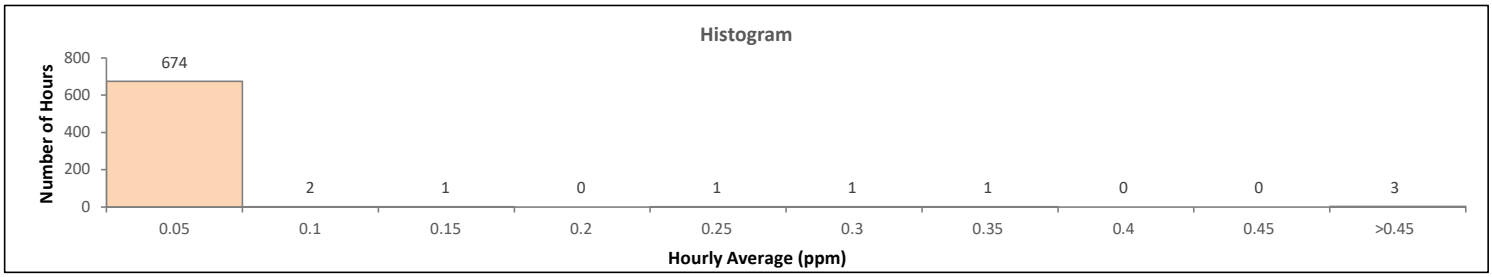
Maximum Hourly Value:	1.06	ppm	on Sep 6 at hr 11	Hours in Service:	720
Maximum Daily Value:	0.14	ppm	on Sep 6	Hours of Data:	683
Minimum Hourly Value:	0.00	ppm	on Sep 1 at hr 0	Hours of Missing Data:	1
Minimum Daily Value:	0.00	ppm	on Sep 3	Hours of Calibration:	36
Monthly Average:	0.01	ppm		Operational Uptime:	99.9

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Sep 1	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00
Sep 2	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.01
Sep 3	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 4	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.02	0.00
Sep 5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00
Sep 6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.81	**1.06**	0.22	0.53	0.29	0.32	0.08	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	**1.06**	**0.14**
Sep 7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	C	C	C	C	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00
Sep 8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 21	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 22	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 23	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 24	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 25	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Y	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 26	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.01	0.00
Sep 27	S	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.01	0.00
Sep 28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.03	0.00
Sep 29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00
Sep 30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00
Diurnal Maximum	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.08	0.81	1.06	0.22	0.53	0.29	0.32	0.08	0.04	0.00	0.01	0.01	0.00	0.00	0.00			
Diurnal Average	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.04	0.01	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	ND	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



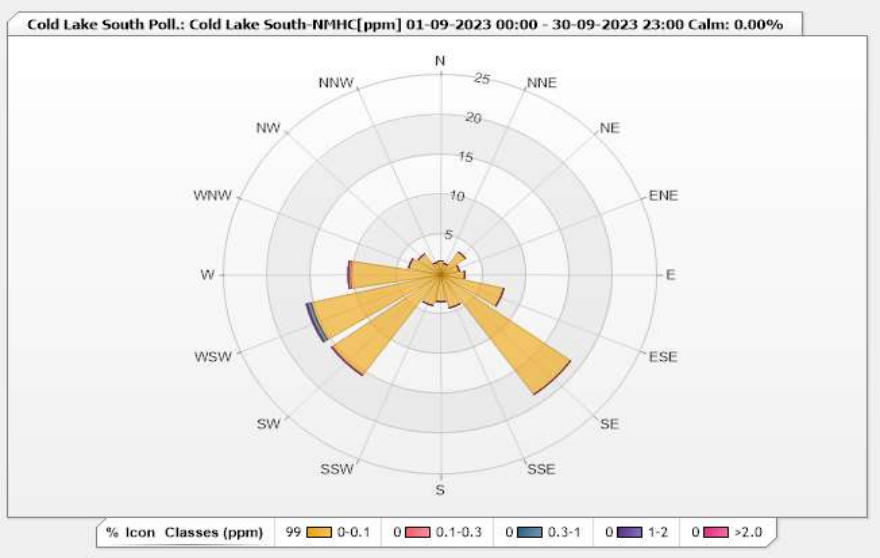


Station: Cold Lake South Poll.: Cold Lake South-NMHC[ppm] Monthly: 09-2023

Type: Pollution Rose
Direction: Blowing From (Wind Frequency)
Time Base: 1 - Hour

Calm: 0.00% Valid Data: 94.86% Calm Avg: 0.00 [ppm]

Direction	0-0.1	0.1-0.3	0.3-1	1-2	>2.0	Total
N	1.76	0	0	0	0	1.76
NNE	1.46	0	0	0	0	1.46
NE	3.51	0	0	0	0	3.51
ENE	2.2	0	0	0	0	2.2
E	2.78	0	0	0	0	2.78
ESE	7.47	0	0	0	0	7.47
SE	18.45	0	0	0	0	18.45
SSE	4.25	0	0	0	0	4.25
S	3.37	0	0	0	0	3.37
SSW	3.95	0	0	0	0	3.95
SW	15.37	0.15	0	0	0	15.52
WSW	15.37	0	0.44	0.15	0	15.96
W	10.4	0.29	0	0	0	10.69
WNW	3.81	0	0	0	0	3.81
NW	3.22	0	0	0	0	3.22
NNW	1.61	0	0	0	0	1.61
Summary	98.98	0.44	0.44	0.15	0	100



Lakeland Industry & Community Association

Cold Lake South Station - September 2023

Summary of Hourly Averages

PARTICULATE MATTER 2.5 ($PM_{2.5}$) in µg/m^3

Alberta Ambient Air Quality Guideline (AAAQG): 1-Hour 80 µg/m3, Alberta Ambient Air Quality Objective (AAAQO): 24-Hour 29 µg/m3

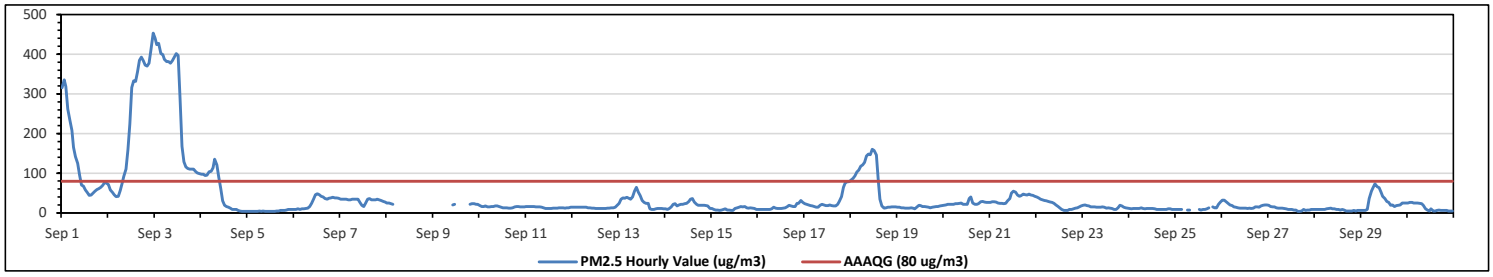
Number of 1-Hour Exceedances: 75 Number of 24-Hour Exceedances: 8

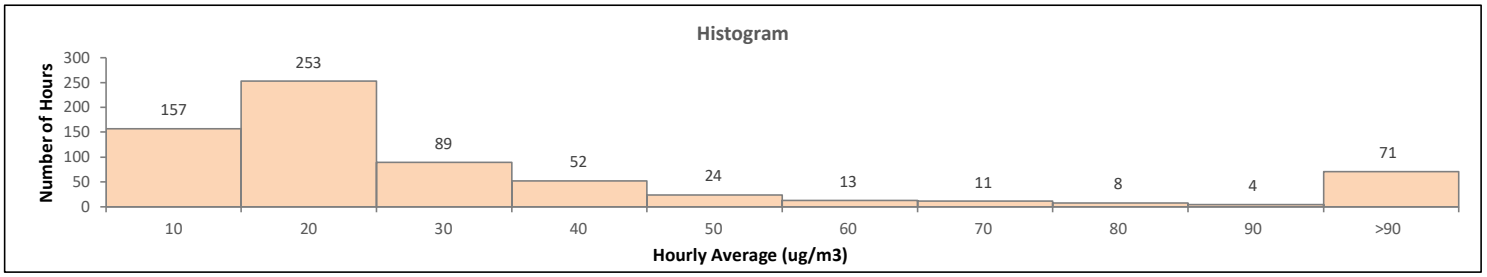
Maximum Hourly Value:	453	µg/m^3 on Sep 2 at hr 23	Hours in Service:	720	
Maximum Daily Value:	276.8	µg/m^3 on Sep 3	Hours of Data:	682	
Minimum Hourly Value:	4	µg/m^3 on Sep 4 at hr 21	Hours of Missing Data:	37	
Minimum Daily Value:	5	µg/m^3 on Sep 5	Hours of Calibration:	1	
Monthly Average:	42.1	µg/m^3	Operational Uptime:	94.9	

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Sep 1	315	336	318	262	232	208	165	142	125	95	70	67	58	51	44	45	50	54	59	61	64	69	77	75	44	336	126.8
Sep 2	72	58	51	46	41	42	56	75	92	110	159	224	316	333	332	356	385	393	384	373	370	377	411	**453**	41	**453**	229.5
Sep 3	440	424	427	401	399	387	382	382	378	384	393	402	397	287	168	129	116	112	110	110	110	104	101	99	99	440	**276.8**
Sep 4	97	97	94	95	104	105	114	135	121	89	62	30	19	16	14	12	9	9	8	6	5	4	4	4	**4**	135	52.2
Sep 5	4	4	4	4	4	4	5	4	5	4	4	4	4	4	4	5	5	6	6	6	7	8	8	8	**4**	8	**5.0**
Sep 6	9	9	10	9	10	10	11	12	16	24	34	46	48	46	42	40	36	35	37	38	39	38	38	37	9	48	28.1
Sep 7	35	35	35	34	33	33	34	35	34	34	26	19	16	25	35	36	33	33	33	34	33	31	29	27	16	36	31.3
Sep 8	25	25	23	22	X	X	X	X	X	X	16	X	X	X	X	X	9	X	X	X	X	X	10	X	9	25	NA
Sep 9	X	X	X	11	X	X	X	X	12	X	20	22	X	X	X	X	X	X	X	21	23	23	21	21	11	23	NA
Sep 10	18	16	16	17	15	15	16	16	17	17	16	14	13	13	13	12	12	13	15	16	16	15	15	15	12	18	15.0
Sep 11	16	16	16	16	16	15	15	15	14	13	11	11	11	11	12	12	12	13	13	13	12	13	13	14	11	16	13.5
Sep 12	14	14	14	14	14	14	14	14	13	13	12	12	11	11	11	11	11	11	12	12	13	13	14	18	11	18	12.9
Sep 13	24	35	38	37	39	37	35	40	55	64	52	43	31	26	24	24	10	8	9	10	11	11	11	10	8	64	28.5
Sep 14	10	9	11	15	21	23	17	20	21	22	23	24	29	35	36	27	22	19	19	19	19	18	17	11	9	36	20.3
Sep 15	11	9	7	7	6	7	9	10	7	7	6	6	11	13	14	16	15	16	13	12	13	12	11	9	6	16	10.3
Sep 16	9	9	9	8	8	8	8	10	14	12	11	11	11	12	13	16	19	17	16	16	24	24	31	26	8	31	14.3
Sep 17	23	21	20	18	17	16	14	14	19	22	20	18	18	20	18	17	17	21	29	41	64	76	78	79	14	79	29.2
Sep 18	83	87	93	103	108	118	121	127	143	148	147	160	157	146	81	34	17	12	13	14	14	15	15	15	12	160	82.1
Sep 19	14	14	13	13	12	12	12	13	12	10	14	19	18	16	16	15	14	13	14	15	16	16	17	18	10	19	14.4
Sep 20	19	20	21	21	22	21	23	23	24	25	22	22	22	36	40	25	22	22	23	28	29	27	26	26	19	40	24.5
Sep 21	26	28	28	27	25	24	24	23	24	30	36	50	54	52	45	42	43	47	46	45	47	45	44	42	23	54	37.4
Sep 22	40	38	35	33	31	30	29	27	26	24	20	16	12	8	6	6	6	8	9	10	12	13	15	17	6	40	19.6
Sep 23	19	20	18	17	15	15	15	14	14	14	15	14	12	13	12	11	9	8	13	19	17	14	13	12	8	20	14.3
Sep 24	11	10	11	11	11	11	13	11	10	11	11	11	11	10	9	8	9	9	9	9	10	10	9	9	8	13	10.2
Sep 25	9	9	8	8	X	X	7	7	X	11	X	X	8	7	8	9	10	13	C	15	13	13	21	27	7	27	11.3
Sep 26	32	32	28	24	20	18	15	14	13	12	12	12	12	11	12	11	12	15	15	14	17	19	20	20	11	32	17.1
Sep 27	19	16	15	15	13	12	12	12	11	10	9	8	8	7	7	4	4	5	8	6	7	7	8	8	**4**	19	9.6
Sep 28	8	9	9	9	9	9	10	11	12	10	10	8	8	7	8	7	5	5	5	5	6	5	6	6	5	12	7.8
Sep 29	6	6	6	8	36	55	63	73	66	63	52	42	36	29	26	19	20	16	18	19	20	25	25	25	6	73	31.4
Sep 30	25	26	26	25	25	25	24	23	19	10	7	5	10	5	5	6	7	6	6	6	6	5	5	5	5	26	13.0
Diurnal Maximum	440	424	427	401	399	387	382	382	378	384	393	402	397	333	332	356	385	393	384	373	370	377	411	453			
Diurnal Average	49.4	49.4	48.4	44.3	47.6	47.2	45.1	46.5	47.0	46.0	44.5	47.1	48.6	44.6	37.7	34.1	32.4	33.5	34.9	34.2	35.8	36.2	37.1	39.2			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	ND	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



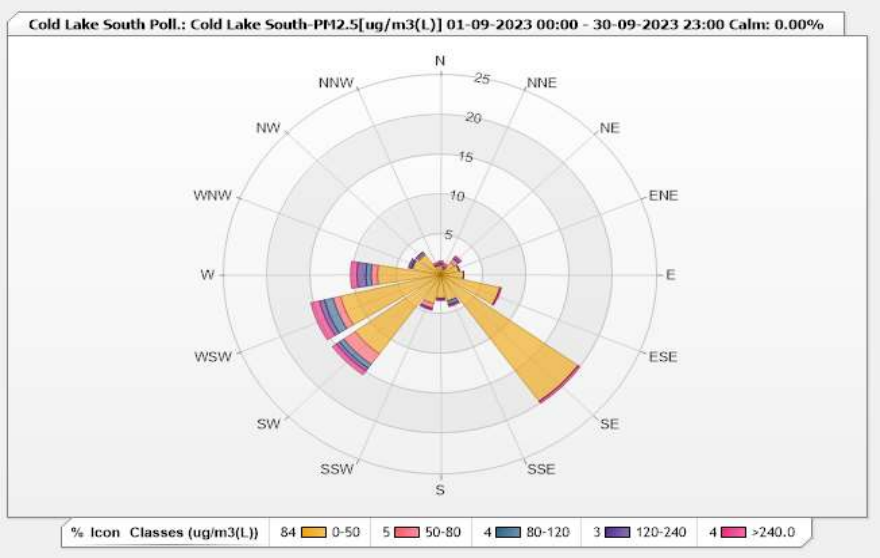


Station: Cold Lake South Poll.: Cold Lake South-PM2.5[ug/m3(L)] Monthly: 09-2023

Type: Pollution Rose
Direction: Blowing From (Wind Frequency)
Time Base: 1 - Hour

Calm: 0.00% Valid Data: 94.72% Calm Avg: 0.00 [ppm]

Direction	0-50	50-80	80-120	120-240	>240.0	Total
N	1.17	0.15	0.15	0	0.29	1.76
NNE	0.73	0.15	0.15	0	0.44	1.47
NE	1.91	0.59	0	0.29	0.15	2.94
ENE	2.2	0	0	0	0	2.2
E	2.64	0	0	0	0	2.64
ESE	7.04	0	0	0	0.15	7.19
SE	19.5	0	0	0	0.29	19.79
SSE	3.37	0	0.44	0.15	0.15	4.11
S	2.93	0	0.15	0	0.15	3.23
SSW	3.67	0.59	0.15	0	0.15	4.56
SW	12.17	1.61	0.59	0.44	0.59	15.4
WSW	11.88	0.88	1.03	0.59	1.03	15.41
W	7.33	0.73	0.59	1.03	0.73	10.41
WNW	3.37	0	0.15	0.29	0	3.81
NW	3.08	0.15	0.29	0	0	3.52
NNW	1.17	0	0.15	0	0.29	1.61
Summary	84.16	4.85	3.84	2.79	4.41	100



Lakeland Industry & Community Association

Cold Lake South Station - September 2023

Summary of Hourly Averages

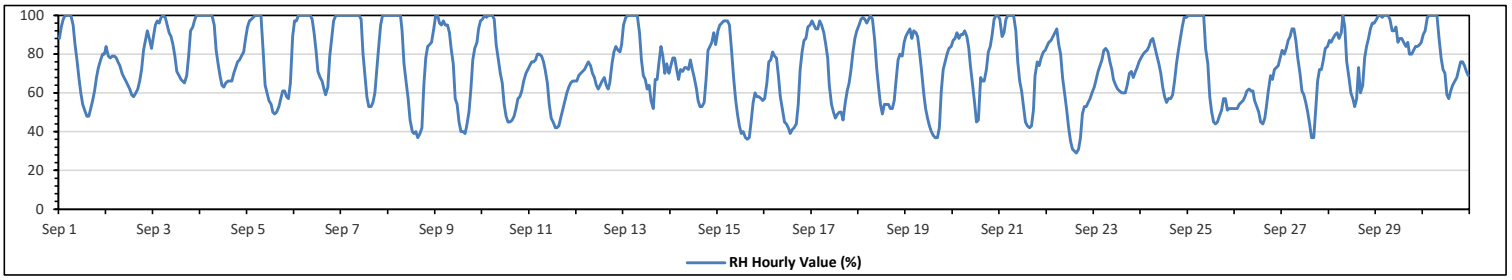
RELATIVE HUMIDITY (RH) in %

Maximum Hourly Value:	100	%	on Sep 1 at hr 3	Hours in Service:	720
Maximum Daily Value:	90.5	%	on Sep 29	Hours of Data:	720
Minimum Hourly Value:	29	%	on Sep 22 at hr 15	Hours of Missing Data:	0
Minimum Daily Value:	58.9	%	on Sep 26	Hours of Calibration:	0
Monthly Average:	74.3	%		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																						Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Sep 1	88	94	98	**100**	**100**	**100**	**100**	95	85	77	68	60	54	51	48	48	52	56	61	68	73	77	80	80	48	**100**	75.5
Sep 2	84	79	78	79	79	78	76	74	70	68	66	64	62	59	58	60	62	66	72	82	87	92	88	83	58	92	73.6
Sep 3	89	95	97	96	99	**100**	99	95	91	89	85	79	71	69	67	66	65	69	79	92	94	97	**100**	**100**	65	**100**	86.8
Sep 4	**100**	**100**	**100**	**100**	**100**	**100**	**100**	95	82	75	69	64	63	65	66	66	66	70	73	76	77	79	81	88	63	**100**	81.5
Sep 5	94	97	98	99	**100**	**100**	**100**	**100**	81	64	60	56	54	50	49	50	53	57	61	61	58	57	65	89	49	**100**	73.0
Sep 6	97	97	**100**	**100**	**100**	**100**	**100**	**100**	**100**	98	91	82	71	68	66	62	59	63	79	88	97	**100**	**100**	**100**	59	**100**	88.3
Sep 7	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	98	80	69	58	53	53	55	60	72	84	95	**100**	**100**	**100**	53	**100**	86.5
Sep 8	**100**	**100**	**100**	**100**	**100**	**100**	**100**	92	75	65	57	46	40	39	40	37	39	42	64	78	84	85	86	93	37	**100**	73.4
Sep 9	**100**	**100**	96	95	97	95	95	91	82	75	57	54	45	40	40	39	43	50	62	77	83	86	93	97	39	**100**	74.7
Sep 10	98	**100**	99	**100**	**100**	**100**	98	85	77	70	65	54	48	45	45	46	48	52	57	58	61	66	70	72	45	**100**	71.4
Sep 11	74	76	76	77	80	80	79	76	72	65	54	47	45	42	42	43	48	52	56	60	63	65	66	66	42	80	62.7
Sep 12	66	69	70	71	72	74	76	74	70	68	64	62	64	66	68	64	62	65	75	81	84	82	81	85	62	85	71.4
Sep 13	95	99	**100**	**100**	**100**	**100**	**100**	**100**	91	77	69	67	62	64	56	52	67	67	76	84	79	70	75	70	52	**100**	80.0
Sep 14	74	78	78	72	67	72	71	73	73	72	77	72	68	62	56	53	53	55	67	82	84	86	91	85	53	91	71.7
Sep 15	92	95	96	97	97	97	95	81	68	57	49	43	39	40	37	36	37	44	55	60	58	58	57	56	36	97	64.3
Sep 16	57	65	76	77	81	79	78	69	58	51	45	44	42	39	41	42	44	54	72	81	87	88	94	95	39	95	65.0
Sep 17	97	95	93	93	97	95	91	85	78	64	54	50	47	49	50	50	46	55	61	65	72	81	88	92	46	97	72.8
Sep 18	95	98	99	98	96	98	**100**	98	87	73	63	54	49	54	54	54	52	52	56	67	77	80	79	86	49	**100**	75.8
Sep 19	89	91	93	88	92	91	89	81	72	60	52	47	43	40	38	37	37	42	61	72	76	80	83	84	37	93	68.3
Sep 20	87	88	91	88	90	90	92	89	83	74	64	55	45	46	68	66	66	72	81	84	90	98	**100**	**100**	45	**100**	79.5
Sep 21	98	89	91	98	**100**	**100**	**100**	**100**	92	76	66	61	53	45	43	42	43	51	69	76	74	78	81	82	42	**100**	75.3
Sep 22	84	86	87	89	91	93	85	80	68	59	51	42	35	31	30	**29**	31	37	49	53	53	55	57	60	**29**	93	59.8
Sep 23	63	67	71	74	77	82	83	81	76	72	67	64	62	61	60	60	60	64	70	71	68	71	73	76	60	83	69.7
Sep 24	78	80	81	82	84	87	88	84	79	75	70	63	58	55	57	57	59	66	75	82	88	94	99	99	55	99	76.7
Sep 25	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	83	75	58	50	45	44	45	48	51	57	57	51	52	52	52	44	**100**	71.7
Sep 26	52	52	54	55	56	58	61	62	61	61	56	53	50	45	44	47	53	61	69	67	72	73	74	78	44	78	**58.9**
Sep 27	82	80	83	87	89	93	93	87	78	70	61	59	55	50	44	37	37	51	66	72	72	77	83	84	37	93	70.4
Sep 28	87	86	88	90	91	88	91	**100**	94	76	68	60	57	53	57	73	60	64	78	84	88	93	96	96	53	**100**	79.9
Sep 29	98	**100**	**100**	99	**100**	**100**	**100**	98	92	92	94	86	88	88	86	84	86	80	80	82	84	84	85	86	80	**100**	**90.5**
Sep 30	90	92	99	**100**	**100**	**100**	**100**	**100**	89	78	72	70	59	57	61	64	66	68	72	76	76	74	71	69	57	**100**	79.3
Diurnal Maximum	100	100	100	100	100	100	100	100	100	100	98	86	88	88	86	84	86	80	81	92	97	100	100	100			
Diurnal Average	86.9	88.3	89.7	90.1	91.2	91.7	91.3	88.2	80.8	72.8	66.2	59.9	54.9	52.5	52.3	52.1	53.2	57.9	67.5	74.0	76.8	79.3	81.6	83.4			

C	Monthly Calibration	**S**	Daily Zero-Span Check	**Q**	Quality Assurance	
K	Collection Error	**ND**	No Data (Machine Not in Service)	**Y**	Routine Maintenance	**P** Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	**NRM**	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



Lakeland Industry & Community Association

Cold Lake South Station - September 2023

Summary of Hourly Averages

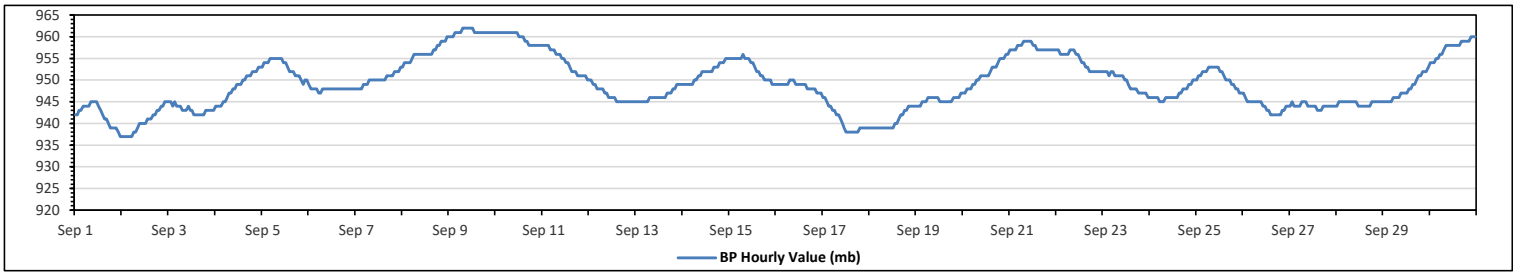
BAROMETRIC PRESSURE (BP) in millibar

Maximum Hourly Value:	962	mb	on Sep 9 at hr 7	Hours in Service:	720	
Maximum Daily Value:	961	mb	on Sep 9	Hours of Data:	720	
Minimum Hourly Value:	937	mb	on Sep 1 at hr 23	Hours of Missing Data:	0	
Minimum Daily Value:	940	mb	on Sep 2	Hours of Calibration:	0	
Monthly Average:	949	mb		Operational Uptime:	100.0	

Day	Hourly Period Starting at (MST)																							Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Sep 1	942	942	943	943	944	944	944	944	945	945	945	945	944	943	942	941	941	940	939	939	939	939	938	**937**	**937**	945	942
Sep 2	**937**	**937**	**937**	**937**	**937**	**937**	938	938	939	940	940	940	940	941	941	941	942	942	943	943	944	944	945	945	**937**	945	**940**
Sep 3	945	945	944	945	944	944	944	943	943	943	944	943	943	942	942	942	942	942	942	943	943	943	943	943	942	945	943
Sep 4	944	944	944	944	945	945	946	947	947	948	948	949	949	949	950	950	951	951	951	952	952	952	953	953	944	953	949
Sep 5	953	954	954	954	955	955	955	955	955	955	955	954	954	953	952	952	952	951	951	951	950	949	950	950	949	955	953
Sep 6	949	948	948	948	948	947	947	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	947	949	948
Sep 7	948	948	948	948	949	949	949	950	950	950	950	950	950	950	950	950	951	951	951	951	952	952	952	953	948	953	950
Sep 8	953	954	954	954	954	955	956	956	956	956	956	956	956	956	956	956	957	957	958	958	959	959	959	960	953	960	956
Sep 9	960	960	960	961	961	961	961	**962**	**962**	**962**	**962**	**962**	**962**	961	961	961	961	961	961	961	961	961	961	961	960	**962**	**961**
Sep 10	961	961	961	961	961	961	961	961	961	961	961	961	960	960	960	959	959	958	958	958	958	958	958	958	958	961	960
Sep 11	958	958	958	958	957	957	957	956	956	956	955	955	954	954	953	952	952	952	951	951	951	951	951	950	950	958	954
Sep 12	950	950	949	949	948	948	948	948	947	947	946	946	946	946	945	945	945	945	945	945	945	945	945	945	945	950	947
Sep 13	945	945	945	945	945	945	945	946	946	946	946	946	946	946	946	946	947	947	947	948	948	949	949	949	945	949	946
Sep 14	949	949	949	949	949	949	950	950	951	951	952	952	952	952	952	952	953	953	953	954	954	954	955	955	949	955	952
Sep 15	955	955	955	955	955	955	955	956	955	955	955	954	954	953	952	952	951	951	950	950	950	950	949	949	949	956	953
Sep 16	949	949	949	949	949	949	949	950	950	950	949	949	949	949	949	949	948	948	948	948	948	947	947	947	947	950	949
Sep 17	946	946	945	944	944	943	943	942	942	941	940	939	938	938	938	938	938	938	938	939	939	939	939	939	938	946	941
Sep 18	939	939	939	939	939	939	939	939	939	939	939	939	939	940	940	941	942	942	943	943	944	944	944	944	939	944	941
Sep 19	944	944	944	945	945	945	946	946	946	946	946	946	945	945	945	945	945	945	945	946	946	946	946	947	944	947	945
Sep 20	947	947	948	948	948	949	949	950	950	951	951	951	951	951	952	953	953	953	954	955	955	955	956	956	947	956	951
Sep 21	957	957	957	957	958	958	958	959	959	959	959	959	958	958	957	957	957	957	957	957	957	957	957	957	957	959	958
Sep 22	957	957	956	956	956	956	956	957	957	957	956	956	955	954	954	953	953	952	952	952	952	952	952	952	952	957	955
Sep 23	952	952	952	951	952	952	951	951	951	951	951	950	950	949	948	948	948	948	947	947	947	947	947	946	946	952	950
Sep 24	946	946	946	946	946	945	945	945	946	946	946	946	946	946	946	947	947	948	948	948	949	949	950	950	945	950	947
Sep 25	950	951	951	952	952	952	953	953	953	953	953	953	952	952	951	950	950	950	949	949	948	948	947	947	947	953	951
Sep 26	947	946	945	945	945	945	945	945	945	945	944	944	943	943	942	942	942	942	942	942	943	943	944	944	942	947	944
Sep 27	944	945	944	944	944	944	945	945	945	944	944	944	944	944	943	943	943	944	944	944	944	944	944	944	943	945	944
Sep 28	944	945	945	945	945	945	945	945	945	945	945	944	944	944	944	944	944	944	945	945	945	945	945	945	944	945	945
Sep 29	945	945	945	945	945	946	946	946	946	947	947	947	947	948	948	949	949	950	951	951	952	952	952	953	945	953	948
Sep 30	954	954	954	955	955	956	956	957	958	958	958	958	958	958	958	958	959	959	959	959	959	960	960	960	954	960	958
Diurnal Maximum	961	961	961	961	961	961	961	962	962	962	962	962	962	961	961	961	961	961	961	961	961	961	961	961			
Diurnal Average	949	949	949	949	949	949	949	950	950	950	950	950	949	949	949	949	949	949	949	949	949	949	950	950			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	ND	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



Lakeland Industry & Community Association

Cold Lake South Station - September 2023

Summary of Hourly Averages

AMBIENT TEMPERATURE (AT) in Degree Celsius

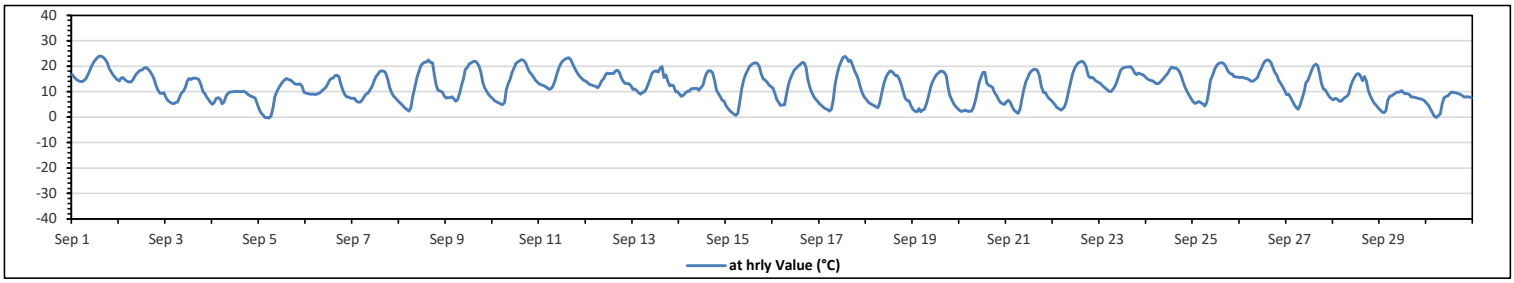
Maximum Hourly Value:	24.0	°C	on Sep 1 at hr 14	Hours in Service:	720	
Maximum Daily Value:	18.3	°C	on Sep 1	Hours of Data:	720	
Minimum Hourly Value:	-0.4	°C	on Sep 5 at hr 5	Hours of Missing Data:	0	
Minimum Daily Value:	6.3	°C	on Sep 30	Hours of Calibration:	0	
Monthly Average:	12.1	°C		Operational Uptime:	100.0	

Day	Hourly Period Starting at (MST)																						Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Sep 1	16.7	15.5	14.8	14.3	14	13.9	14.4	15.2	16.6	18.4	20.2	21.6	22.6	23.4	**24**	23.8	23.3	22.5	21.2	19.2	17.7	16.5	15.5	14.9	13.9	**24.0**	**18.3**
Sep 2	14.2	15.3	15.5	14.8	14.2	13.8	13.8	14.5	16	17.1	17.8	18.4	18.6	19.3	19.4	18.7	17.9	16.7	15.1	12.3	10.6	9.4	9.3	9.6	9.3	19.4	15.1
Sep 3	7.9	6.6	6	5.5	5.3	5.7	5.8	7.8	9.4	10.2	11.5	14	15.2	14.8	15.3	15.3	15.2	14.9	12.8	10.2	9.3	7.9	6.9	5.7	5.3	15.3	10.0
Sep 4	5	5.9	7.4	7.7	7	5.2	5.8	8.4	9.4	9.8	9.8	10	10.2	10	10	10	10.2	9.7	9	8.5	8.2	7.9	7.4	5.2	5.0	10.2	8.2
Sep 5	3.1	1.6	0.8	-0.1	-0.1	**-0.4**	0.3	3.5	8	9.9	11.4	12.7	13.7	14.5	15.2	14.9	14.5	14	13.3	12.9	12.9	13	12.2	9.7	**-0.4**	15.2	8.8
Sep 6	9.4	9.3	9	9	9	8.9	9.1	9.5	10.1	10.8	11.5	12.7	14.3	15.1	15.3	16.3	16.4	16	13.1	10.4	8.7	7.9	7.9	7.4	7.4	16.4	11.1
Sep 7	7.4	7.3	6.2	5.8	5.9	6.9	8	9	9.4	10.8	12	14.1	16	16.8	17.9	18.2	18	17.5	14.8	11.5	9.6	8.4	7.6	6.7	5.8	18.2	11.1
Sep 8	5.8	5.1	4.3	3.5	2.9	2.4	3.6	8.2	12.1	15.4	17.8	20.1	21	21.6	21.6	22.5	21.5	21.4	17	12.7	10.6	10.3	9.8	8.4	2.4	22.5	12.5
Sep 9	7.5	7.7	7.7	8	7.2	6.3	6.8	9.6	12.8	15.3	18.7	19.5	20.9	21.4	21.8	22	21.4	20.1	17.6	13.6	11.4	9.9	8.7	7.9	6.3	22.0	13.5
Sep 10	7.2	6.5	6	5.6	5.3	4.8	5.7	10.6	13	14.9	17.5	19.4	21.2	21.7	22.2	22.6	22.2	21.2	19.2	17.7	16.6	15.6	14.5	13.7	4.8	22.6	14.4
Sep 11	13.1	12.6	12.4	12	11.5	10.9	11.1	12.2	14.1	16.8	19.5	21.1	22.1	22.6	23	23.3	22.7	21.1	19.5	18.1	16.8	15.8	15	14.4	10.9	23.3	16.7
Sep 12	14	13.3	12.8	12.5	12.3	12	11.5	12.5	14.1	15.2	16.8	17.4	17.1	17.2	17.1	18	18.5	17.7	15.7	14.2	13.3	13.2	13.2	12.3	11.5	18.5	14.7
Sep 13	10.9	11	10.5	9.5	9	9.7	9.8	11.1	13.1	15.1	17.4	17.9	18.2	17.7	19.2	19.8	15.5	16.5	14.1	12.3	12.6	12.3	9.9	10	9.0	19.8	13.5
Sep 14	9.1	8.2	8.6	9.5	10.1	10.1	11.1	11.1	11.2	11.3	10.6	11.5	12.5	15.6	17.2	18.2	18.2	17.5	14.6	10.7	9.3	8	6.6	6.3	6.3	18.2	11.5
Sep 15	4.5	3.2	2.3	1.7	1.1	0.7	1.5	6.1	11.1	14.5	16.7	18.6	19.9	20.6	21.1	21.3	21.1	19.9	17	15	14.6	13.7	12.7	12.1	0.7	21.3	12.1
Sep 16	11.3	9.2	6.8	5.8	4.6	4.7	4.8	9	12.8	15.1	16.8	18.4	19.2	20	20.7	21.5	21.4	19.6	15.2	11.7	9.6	8.2	7	6.1	4.6	21.5	12.5
Sep 17	5.2	4.6	3.9	3.4	2.9	2.4	3	6.8	13.1	16.8	19.7	21.6	23.3	23.8	23.1	21.8	22.4	20.5	18.1	16.5	14.6	11.6	9.4	7.9	2.4	23.8	13.2
Sep 18	7	6	5.4	4.9	4.5	4	3.8	5.5	9.6	13	15.4	17	18.1	18	17.3	16.3	16.3	14.9	12.5	9.7	7.3	6.5	6.4	4.3	3.8	18.1	10.2
Sep 19	3.1	2.3	2.1	3.4	2.1	2.8	3.1	5.5	8.3	11.5	13.7	15.3	16.5	17.4	17.9	18.1	17.6	16.3	11.6	8.6	6.7	5.1	4.2	3.4	2.1	18.1	9.0
Sep 20	2.6	2.2	2.5	2.8	2.3	2.2	2.4	3.8	6.4	9.7	13.6	15.8	17.6	17.6	13.3	12.4	12.2	11.7	9.6	8.3	6.8	5.7	5.2	5	2.2	17.6	8.0
Sep 21	6	6.7	5.8	4.1	2.8	1.9	1.5	3.2	6.8	11	13.9	15.6	17.4	18.2	18.7	18.9	18.3	16.4	12.2	9.6	9.6	8.2	7.2	6.6	1.5	18.9	10.0
Sep 22	5.7	4.8	3.7	3.3	2.8	3.2	4.1	6.4	10.5	13.8	16.9	19	20.4	21.4	21.7	21.9	21.4	19.8	16.3	15.4	15.7	15.2	14.2	13.7	2.8	21.9	13.0
Sep 23	13.4	12.6	11.9	11.3	10.7	10	10.2	11.2	12.5	14.5	17	18.6	19.3	19.6	19.7	19.7	19.9	18.9	17.3	16.7	17.3	16.9	16.7	16.1	10.0	19.9	15.5
Sep 24	15.3	14.8	14.4	14.3	13.8	13.2	13.2	13.8	14.7	15.3	16.3	17.4	18.8	19.7	19.1	19.3	18.9	17.8	16	13.6	11.3	9.7	8.4	7.1	7.1	19.7	14.8
Sep 25	6.1	5.4	5.7	6.1	5.6	5.1	4.3	5.6	9.5	14.6	16.5	18.9	20.2	21.1	21.4	21.3	20.8	19.6	17.9	17.1	16.9	16	15.8	15.7	4.3	21.4	13.6
Sep 26	15.6	15.7	15.4	15.2	15	14.5	14	14.2	14.8	15.6	17.7	19	20.7	22	22.5	22.4	21.3	19.5	17.6	16.5	14.4	13.3	12	10.4	10.4	22.5	16.6
Sep 27	8.7	9	7.8	6.2	4.9	3.8	3.1	4.7	7.6	10.2	13.5	14.4	16.3	18.7	20.2	20.8	20.3	17	13	11	10.7	9.3	7.9	7.2	3.1	20.8	11.1
Sep 28	6.8	7.3	7.1	6.3	6.2	7	7.8	8.2	9.2	12.2	14.2	15.7	16.9	17.1	16.1	14.3	15.9	14.1	10.5	8.4	6.9	5.4	4.7	3.8	3.8	17.1	10.1
Sep 29	2.9	2.1	1.7	2.5	6.6	8.2	8.4	8.9	9.5	9.8	9.7	10.4	9.6	9.1	9.3	8.9	7.9	7.9	7.8	7.5	7.2	7.1	6.9	6.4	1.7	10.4	7.3
Sep 30	5.5	4.4	3	1.6	0.2	-0.2	0.5	1.3	5.3	7.6	8.2	8.4	9.3	9.8	9.6	9.5	9.3	9	8.6	8	7.9	8	7.9	7.7	-0.2	9.8	**6.3**
Diurnal Maximum	16.7	15.7	15.5	15.2	15.0	14.5	14.4	15.2	16.6	18.4	20.2	21.6	23.3	23.8	24.0	23.8	23.3	22.5	21.2	19.2	17.7	16.9	16.7	16.1			
Diurnal Average	8.4	7.9	7.4	7.0	6.7	6.5	6.8	8.6	11.0	13.2	15.1	16.5	17.6	18.2	18.4	18.4	18.0	17.0	14.6	12.6	11.5	10.5	9.7	8.9			

C	Monthly Calibration	**S**	Daily Zero-Span Check	**Q**	Quality Assurance	
K	Collection Error	**ND**	No Data (Machine Not in Service)	**Y**	Routine Maintenance	**P** Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	**NRM**	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.

Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



Lakeland Industry & Community Association

Cold Lake South Station - September 2023

Summary of Hourly Averages

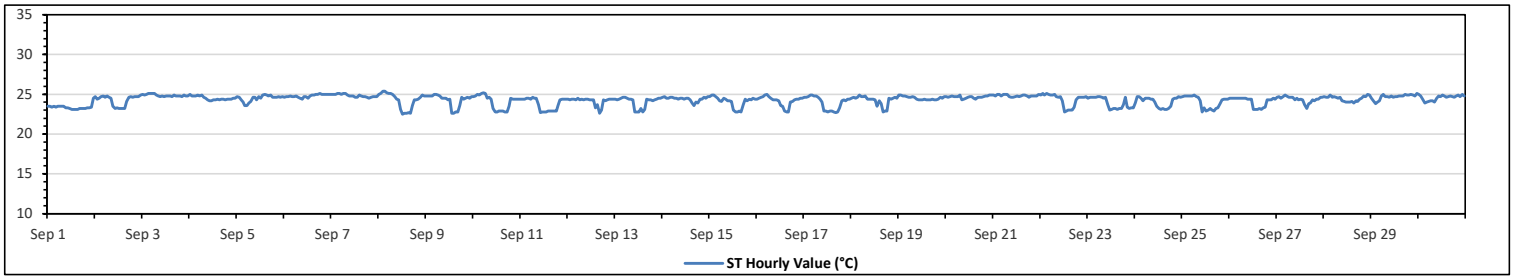
STATION TEMPERATURE (ST) in Degree Celsius

Maximum Hourly Value:	25.4	°C	on Sep 8 at hr 2	Hours in Service:	720	
Maximum Daily Value:	24.9	°C	on Sep 3	Hours of Data:	720	
Minimum Hourly Value:	22.5	°C	on Sep 8 at hr 12	Hours of Missing Data:	0	
Minimum Daily Value:	23.4	°C	on Sep 1	Hours of Calibration:	0	
Monthly Average:	24.3	°C		Operational Uptime:	100.0	

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Sep 1	23.5	23.5	23.4	23.5	23.4	23.5	23.5	23.5	23.5	23.3	23.3	23.2	23.1	23.1	23.1	23.1	23.2	23.2	23.2	23.2	23.3	23.3	23.4	24.5	23.1	24.5	**23.4**
Sep 2	24.7	24.4	24.5	24.7	24.8	24.6	24.8	24.6	24.5	23.5	23.2	23.3	23.2	23.2	23.2	23.2	24.1	24.6	24.7	24.6	24.7	24.7	24.7	24.9	23.2	24.9	24.2
Sep 3	25.0	24.9	25.0	25.1	25.1	25.1	25.1	24.9	24.8	24.7	24.8	24.7	24.8	24.8	24.8	24.7	24.9	24.8	24.8	24.8	24.7	24.9	24.8	24.8	24.7	25.1	**24.9**
Sep 4	25.0	24.8	24.8	24.8	24.9	24.8	24.9	24.6	24.5	24.3	24.2	24.2	24.3	24.3	24.4	24.3	24.4	24.4	24.3	24.4	24.4	24.4	24.5	24.5	24.2	25.0	24.5
Sep 5	24.7	24.6	24.3	24.0	23.6	23.6	23.9	24.1	24.6	24.6	24.3	24.7	24.5	24.9	25.0	24.9	24.8	24.9	24.6	24.6	24.6	24.7	24.6	24.7	23.6	25.0	24.5
Sep 6	24.6	24.7	24.7	24.8	24.7	24.7	24.8	24.6	24.5	24.4	24.7	24.7	24.5	24.8	24.9	24.9	25.0	25.0	25.1	25.0	25.0	25.0	25.0	25.0	24.4	25.1	24.8
Sep 7	25.0	25.0	25.0	25.1	25.1	25.0	25.1	25.1	24.9	24.8	24.8	24.8	24.6	24.6	24.9	24.8	24.7	24.7	24.6	24.5	24.6	24.7	24.7	24.7	24.5	25.1	24.8
Sep 8	25.0	25.1	**25.4**	**25.4**	25.2	25.1	25.1	25.0	24.7	24.4	24.3	23.1	**22.5**	22.6	22.6	22.7	22.6	23.6	24.3	24.3	24.4	24.6	24.9	24.8	**22.5**	**25.4**	24.2
Sep 9	24.8	24.8	24.8	24.8	25.0	25.0	24.9	24.8	24.5	24.5	24.5	24.3	24.4	22.6	22.6	22.8	22.8	23.6	24.6	24.4	24.5	24.6	24.5	24.7	22.6	25.0	24.3
Sep 10	24.7	24.8	25.0	24.9	25.1	25.2	25.1	24.5	24.6	24.4	23.2	22.8	22.8	22.9	22.9	22.9	22.8	22.8	23.5	24.5	24.4	24.4	24.4	24.4	22.8	25.2	24.0
Sep 11	24.4	24.4	24.4	24.5	24.5	24.4	24.6	24.5	24.5	23.7	22.7	22.8	22.8	22.8	22.9	22.9	22.9	22.9	22.9	23.6	24.3	24.4	24.4	24.4	22.7	24.6	23.8
Sep 12	24.4	24.3	24.4	24.4	24.3	24.5	24.3	24.4	24.3	24.4	24.4	24.3	24.3	24.3	23.3	23.7	22.6	23.0	24.3	24.2	24.3	24.4	24.4	24.4	22.6	24.5	24.2
Sep 13	24.4	24.3	24.4	24.5	24.6	24.6	24.5	24.4	24.4	24.3	22.8	22.8	22.8	23.2	22.8	23.1	24.4	24.3	24.3	24.2	24.3	24.4	24.5	24.5	22.8	24.6	24.0
Sep 14	24.6	24.7	24.5	24.5	24.6	24.6	24.5	24.5	24.4	24.5	24.5	24.4	24.5	24.5	24.3	23.9	23.6	24.0	23.9	24.4	24.4	24.6	24.5	24.7	23.6	24.7	24.4
Sep 15	24.7	24.9	24.9	24.7	24.5	24.2	24.1	24.5	24.4	24.2	24.2	24.1	23.0	22.8	22.8	22.9	22.8	23.7	24.4	24.2	24.4	24.3	24.5	24.4	22.8	24.9	24.1
Sep 16	24.4	24.5	24.6	24.7	24.9	25.0	24.7	24.5	24.3	24.3	24.3	24.2	23.6	23.5	22.9	22.8	22.8	24.0	24.1	24.3	24.4	24.4	24.5	24.5	22.8	25.0	24.2
Sep 17	24.6	24.6	24.7	24.9	24.9	24.8	24.8	24.6	24.4	24.0	22.9	22.9	22.8	22.9	22.9	22.8	22.7	22.8	23.3	24.2	24.3	24.2	24.4	24.4	22.7	24.9	23.9
Sep 18	24.5	24.6	24.5	24.6	24.9	24.7	24.7	24.8	24.4	24.4	24.4	24.4	24.3	23.5	24.2	23.8	22.8	22.9	22.9	24.5	24.4	24.5	24.6	24.5	22.8	24.9	24.2
Sep 19	24.9	24.9	24.8	24.8	24.7	24.6	24.6	24.7	24.6	24.4	24.3	24.3	24.3	24.4	24.3	24.3	24.3	24.4	24.3	24.3	24.4	24.6	24.5	24.7	24.3	24.9	24.5
Sep 20	24.7	24.6	24.7	24.8	24.7	24.7	24.7	24.9	24.3	24.4	24.5	24.6	24.7	24.7	24.5	24.4	24.6	24.6	24.6	24.7	24.8	24.8	24.9	24.9	24.3	24.9	24.7
Sep 21	24.9	24.8	25.0	25.0	24.8	25.0	25.0	25.0	24.7	24.6	24.6	24.7	24.8	24.7	24.8	24.9	24.9	24.8	24.6	24.8	24.8	24.8	24.8	25.0	24.6	25.0	24.8
Sep 22	24.9	25.1	24.9	25.1	25.0	24.9	24.9	25.0	24.7	24.6	24.7	24.2	22.8	22.9	23.0	23.0	23.0	23.4	24.3	24.6	24.6	24.6	24.6	24.7	22.8	25.1	24.3
Sep 23	24.5	24.6	24.6	24.6	24.6	24.7	24.7	24.6	24.5	24.6	23.7	23.0	23.1	23.2	23.2	23.1	23.2	23.2	23.7	24.6	23.4	23.2	23.3	23.3	23.0	24.7	23.9
Sep 24	23.9	24.7	24.7	24.5	24.2	24.5	24.5	24.5	24.4	24.4	24.0	23.5	23.2	23.1	23.2	23.1	23.1	23.2	23.5	24.4	24.5	24.5	24.7	24.6	23.1	24.7	24.0
Sep 25	24.7	24.8	24.8	24.8	24.8	24.8	24.9	24.7	24.6	24.2	22.8	23.3	22.9	23.0	23.2	23.0	22.9	23.2	23.3	23.8	24.3	24.4	24.4	24.4	22.8	24.9	24.0
Sep 26	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.4	24.4	24.4	23.1	23.1	23.1	23.2	23.1	23.3	23.4	24.3	24.3	24.3	24.5	24.4	23.1	24.5	24.1
Sep 27	24.6	24.7	24.5	24.7	24.9	24.8	24.6	24.6	24.6	24.3	24.5	24.3	24.4	24.3	23.7	23.2	23.8	23.9	24.3	24.2	24.4	24.4	24.6	24.6	23.2	24.9	24.4
Sep 28	24.7	24.6	24.6	24.9	24.6	24.7	24.6	24.5	24.6	24.2	24.1	24.0	24.0	24.0	24.1	23.9	24.2	24.1	24.4	24.5	24.8	24.7	25.0	24.9	23.9	25.0	24.4
Sep 29	24.5	24.2	23.8	24.0	24.2	24.8	25.0	24.7	24.7	24.6	24.8	24.6	24.7	24.7	24.8	24.8	24.8	25.0	24.9	24.9	25.0	24.9	24.8	25.1	23.8	25.1	24.7
Sep 30	25.0	24.8	24.4	23.9	24.0	24.1	24.2	24.2	24.0	24.5	24.8	24.7	24.9	24.8	24.6	24.7	24.8	24.7	24.6	24.8	24.9	24.7	25.0	24.8	23.9	25.0	24.6
Diurnal Maximum	25.0	25.1	25.4	25.4	25.2	25.2	25.1	25.1	24.9	24.8	24.8	24.8	24.9	24.9	25.0	24.9	25.0	25.0	25.1	25.0	25.0	25.0	25.0	25.1			
Diurnal Average	24.6	24.6	24.6	24.7	24.6	24.7	24.7	24.6	24.5	24.3	24.1	24.0	23.8	23.7	23.7	23.7	23.7	23.9	24.1	24.4	24.5	24.5	24.5	24.6			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	ND	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



Lakeland Industry & Community Association

Cold Lake South Station - September 2023

Summary of Hourly Averages

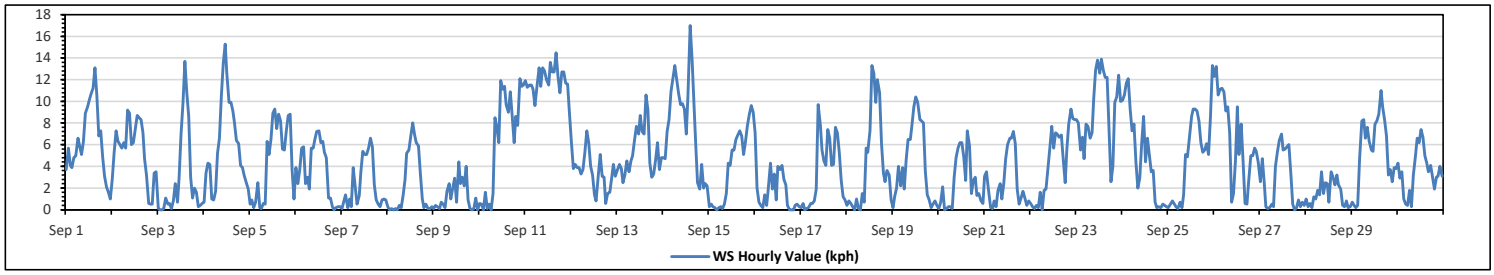
VECTOR WIND SPEED (VWS) in km/hr

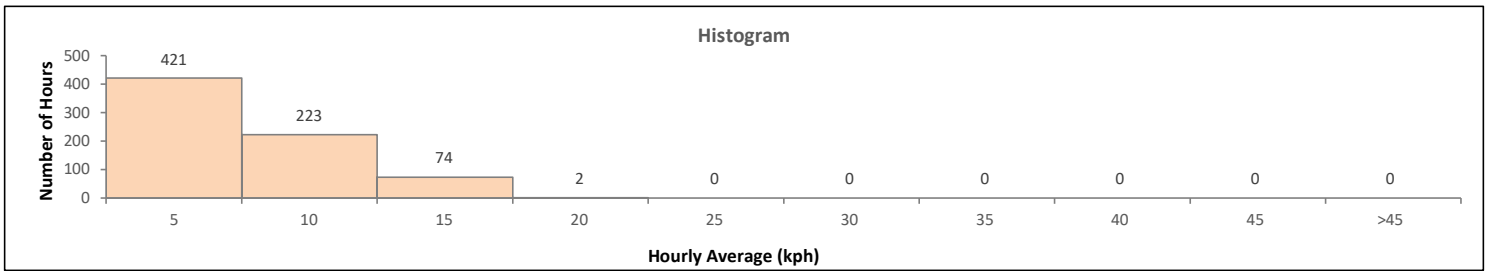
Maximum Hourly Value:	17.0	kph	on Sep 14 at hr 14	Hours in Service:	720	
Maximum Daily Value:	11.9	kph	on Sep 11	Hours of Data:	720	
Minimum Hourly Value:	0.0	kph	on Sep 3 at hr 1	Hours of Missing Data:	0	
Minimum Daily Value:	1.3	kph	on Sep 9	Hours of Calibration:	0	
Monthly Average:	1.3	kph		Operational Uptime:	100.0	

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Sep 1	3.7	5.7	4.1	3.9	4.8	5.0	6.6	5.9	5.1	6.3	8.9	9.5	10.1	10.7	11.2	13.1	10.5	6.8	7.3	4.9	3.1	2.1	1.6	1.0	1.0	13.1	6.3
Sep 2	2.8	5.3	7.3	6.3	6.0	5.7	6.2	5.7	9.2	8.9	6.0	6.2	7.2	8.7	8.5	8.3	7.1	4.7	3.2	0.6	0.5	0.5	3.4	3.5	0.5	9.2	5.5
Sep 3	0.1	**0.0**	**0.0**	0.1	1.1	0.5	0.6	0.1	0.8	2.4	0.7	3.0	7.0	9.8	13.7	10.8	8.6	3.0	1.1	2.0	1.6	0.3	0.4	0.6	**0.0**	13.7	2.8
Sep 4	0.7	3.4	4.3	4.2	1.0	0.9	1.7	5.2	6.6	10.5	13.5	15.3	12.6	9.9	9.9	9.1	8.0	6.4	6.1	4.1	3.9	3.2	2.6	1.9	0.7	15.3	6.0
Sep 5	0.5	0.9	0.2	0.7	2.5	0.2	0.1	0.6	0.5	6.3	5.1	6.5	8.9	9.3	7.5	8.8	8.2	5.6	5.5	7.3	8.7	8.8	3.7	1.0	0.1	9.3	4.5
Sep 6	3.9	2.4	3.7	5.7	5.8	2.4	3.0	1.9	5.7	5.7	6.6	7.2	7.3	6.2	6.3	5.3	4.8	1.1	1.1	0.3	**0.0**	0.2	0.3	0.3	**0.0**	7.3	3.6
Sep 7	0.1	0.7	1.4	0.2	1.0	0.3	3.9	2.2	0.5	1.3	3.5	5.4	5.1	5.1	5.7	6.6	5.8	2.3	0.9	0.5	0.3	0.9	1.0	0.9	0.1	6.6	2.3
Sep 8	0.3	**0.0**	0.1	**0.0**	0.1	**0.0**	0.4	0.2	1.3	2.8	5.2	5.5	6.8	8.0	6.9	6.2	5.9	3.3	1.0	0.2	0.5	0.1	0.1	0.3	**0.0**	8.0	2.3
Sep 9	0.1	0.4	0.3	0.1	0.7	0.5	0.2	1.7	2.4	1.0	2.0	2.9	0.7	4.4	2.4	3.0	2.2	4.0	0.9	0.1	**0.0**	0.1	1.1	**0.0**	**0.0**	4.4	**1.3**
Sep 10	0.6	0.5	**0.0**	1.6	0.1	0.5	**0.0**	1.5	8.5	7.8	6.2	11.9	11.1	11.4	9.7	9.0	10.9	8.6	6.2	8.6	7.8	12.1	11.4	11.5	**0.0**	12.1	6.6
Sep 11	11.9	11.3	11.5	11.5	11.1	9.6	11.3	13.1	11.4	13.1	12.8	12.0	11.5	13.6	12.7	12.7	14.5	12.3	10.8	12.7	12.7	11.7	11.6	8.8	8.8	14.5	**11.9**
Sep 12	6.2	3.8	4.2	3.9	3.9	3.3	3.7	5.3	7.3	6.2	4.0	3.2	1.4	0.8	3.2	5.1	3.1	3.0	0.6	1.5	1.6	3.0	4.2	3.1	0.6	7.3	3.6
Sep 13	3.6	4.2	3.8	2.5	3.2	4.5	3.5	4.5	5.0	6.4	7.7	7.0	8.7	7.2	7.0	10.6	9.2	4.3	3.0	3.3	4.6	6.2	3.7	4.8	2.5	10.6	5.4
Sep 14	4.8	4.7	7.2	8.3	10.9	12.1	13.3	12.0	10.7	9.7	9.8	9.3	7.0	10.5	**17.0**	13.9	9.7	6.3	2.5	1.9	4.2	2.0	2.4	2.2	1.9	**17.0**	8.0
Sep 15	0.3	0.5	0.3	0.2	**0.0**	0.2	0.3	0.1	0.5	1.5	4.3	4.1	5.5	5.5	6.5	6.9	7.3	6.8	5.1	6.3	7.8	8.8	9.6	9.0	**0.0**	9.6	4.1
Sep 16	7.1	2.0	0.7	0.4	0.2	1.4	0.4	1.9	4.3	1.9	3.3	0.9	4.0	3.7	4.1	2.8	2.3	0.4	**0.0**	**0.0**	**0.0**	0.4	0.5	0.3	**0.0**	7.1	1.8
Sep 17	0.2	0.6	**0.0**	0.1	0.2	0.6	0.6	0.8	1.9	9.7	7.8	5.5	4.5	4.1	7.4	6.6	4.1	4.2	7.6	7.1	5.3	2.7	1.2	0.9	**0.0**	9.7	3.5
Sep 18	0.4	0.8	0.6	0.3	**0.0**	1.0	0.1	**0.0**	1.5	0.7	5.7	5.3	7.3	13.3	12.6	9.9	12.0	10.8	6.1	3.4	2.6	3.6	3.2	0.9	**0.0**	13.3	4.3
Sep 19	0.2	1.2	2.0	4.0	2.2	3.9	1.9	4.6	6.5	6.5	7.8	9.5	10.4	9.9	8.3	8.2	8.0	3.5	1.4	0.9	0.2	0.5	0.8	0.4	0.2	10.4	4.3
Sep 20	0.1	0.7	2.1	**0.0**	0.1	0.3	0.3	0.1	3.0	4.8	5.7	6.2	6.2	4.9	2.7	7.3	5.9	1.5	2.7	3.0	1.3	1.5	0.8	0.6	**0.0**	7.3	2.6
Sep 21	3.1	3.5	1.9	0.2	0.1	0.8	0.3	1.8	2.4	1.0	2.4	4.7	6.0	6.6	6.6	7.2	6.1	1.9	0.5	1.1	1.7	1.1	0.4	0.8	0.1	7.2	2.6
Sep 22	0.6	0.3	0.1	0.4	0.2	1.6	**0.0**	1.8	1.9	3.8	5.7	7.7	5.7	7.1	7.0	6.7	6.9	4.6	2.5	5.5	7.9	9.3	8.4	8.3	**0.0**	9.3	4.3
Sep 23	8.3	8.0	5.5	6.7	4.7	7.9	7.7	6.6	7.1	10.2	12.9	13.8	12.6	13.9	12.9	12.2	12.2	7.4	2.6	4.0	9.9	10.4	12.4	10.0	2.6	13.9	9.2
Sep 24	10.1	10.6	11.7	12.1	9.3	7.3	7.9	4.4	2.0	2.9	6.1	8.6	4.4	6.6	5.3	3.5	3.6	0.7	0.2	0.3	0.2	0.5	0.4	0.3	0.2	12.1	5.0
Sep 25	0.2	0.5	0.8	0.6	0.3	0.1	0.7	0.2	1.4	5.1	4.9	6.6	8.6	9.3	9.3	9.1	8.2	6.2	5.3	5.5	6.1	5.1	8.6	13.3	0.1	13.3	4.8
Sep 26	12.3	13.2	10.6	11.1	11.2	10.9	9.1	9.5	7.1	0.7	1.5	4.5	9.5	5.1	7.9	4.4	0.6	0.5	2.5	5.0	5.0	5.7	5.4	4.4	0.5	13.2	6.6
Sep 27	2.6	4.7	2.5	0.3	0.1	0.2	0.5	0.3	4.0	5.3	6.4	7.0	5.5	5.6	5.8	6.0	3.4	0.5	**0.0**	0.2	0.9	0.3	0.7	0.4	**0.0**	7.0	2.6
Sep 28	1.0	0.3	0.6	0.2	1.2	1.0	1.8	1.4	3.5	1.5	2.5	2.4	0.7	3.5	3.0	2.3	3.2	2.3	1.9	0.4	0.3	0.8	0.2	0.3	0.2	3.5	1.5
Sep 29	0.7	0.4	0.2	0.4	4.7	8.2	8.3	6.6	7.6	6.3	5.5	5.4	7.9	8.2	8.8	11.0	9.5	8.3	6.8	3.2	3.7	2.6	3.9	3.8	0.2	11.0	5.5
Sep 30	4.3	2.9	3.5	1.0	0.5	0.4	1.8	0.3	3.2	4.8	6.6	6.2	7.4	6.7	5.0	4.3	3.5	4.1	3.0	1.9	3.0	3.1	4.0	3.1	0.3	7.4	3.5
Diurnal Maximum	12.3	13.2	11.7	12.1	11.2	12.1	13.3	13.1	11.4	13.1	13.5	15.3	12.6	13.9	17.0	13.9	14.5	12.3	10.8	12.7	12.7	12.1	12.4	13.3			
Diurnal Average	3.0	3.1	3.0	2.9	2.9	3.0	3.2	3.3	4.4	5.2	6.0	6.8	7.1	7.7	7.8	7.7	6.8	4.5	3.3	3.2	3.5	3.6	3.6	3.2			

C	Monthly Calibration	**S**	Daily Zero-Span Check	**Q**	Quality Assurance	
K	Collection Error	**ND**	No Data (Machine Not in Service)	**Y**	Routine Maintenance	**P** Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	**NRM**	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



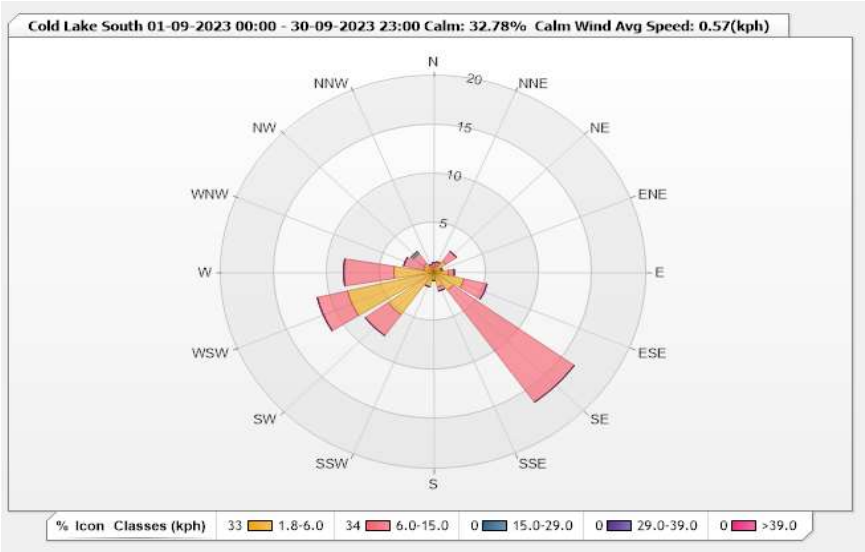


Station: Cold Lake South Monitor: WDS [kph] Monthly: 09-2023

Type: Wind Rose
Direction: Blowing From (Wind Frequency)
Time Base: 1 - Hour

Calm (WS<1.8kph): 32.78% Valid Data: 100.00%

Direction	1.8-6.0	6.0-15.0	15.0-29.0	29.0-39.0	>39.0	Total
N	0.56	0.42	0	0	0	0.98
NNE	0.69	0.42	0	0	0	1.11
NE	1.39	1.25	0	0	0	2.64
ENE	0.69	0.14	0	0	0	0.83
E	1.39	0.56	0	0	0	1.95
ESE	2.92	2.22	0	0	0	5.14
SE	2.22	14.03	0	0	0	16.25
SSE	1.53	0.42	0	0	0	1.95
S	0.83	0	0	0	0	0.83
SSW	1.53	0	0	0	0	1.53
SW	5.28	2.64	0	0	0	7.92
WSW	8.33	2.92	0	0	0	11.25
W	3.75	4.72	0	0	0	8.47
WNW	0.97	1.94	0	0	0	2.91
NW	1.11	1.25	0.28	0	0	2.64
NNW	0.14	0.69	0	0	0	0.83
Summary	33.33	33.62	0.28	0	0	67.23



Lakeland Industry & Community Association

Cold Lake South Station - September 2023

Summary of Hourly Averages

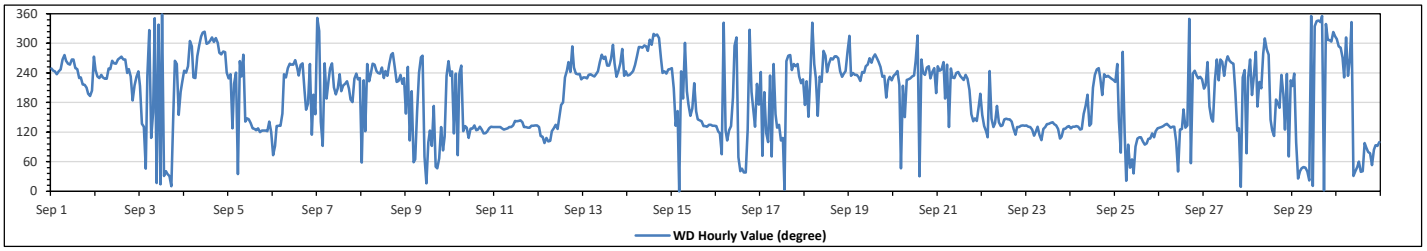
WIND DIRECTION (VWD) in sector

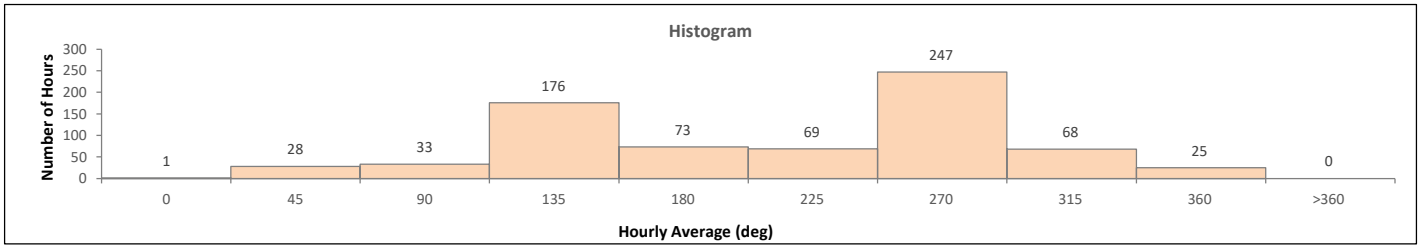
Monthly Average:	186 (S)	degree	
Hours in Service:	720		
Hours of Data:	720		
Hours of Missing Data:	0		
Hours of Calibration:	0		
Operational Uptime:	100.0		

Day	Hourly Period Starting at (MST)																							Daily Average	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Degree	Quadrant
Sep 1	WSW	WSW	WSW	SW	WSW	WSW	W	W	W	WSW	WSW	W	W	WSW	WSW	SW	SW	SW	SW	SSW	SSW	S	SSW	W	245	WSW
Sep 2	WSW	SW	SW	SW	SW	SW	SW	WSW	WSW	W	WSW	WSW	W	W	W	W	W	WSW	WSW	SW	S	SSW	SW	WSW	250	WSW
Sep 3	SSW	SE	SE	NE	SW	NW	ESE	SSE	N	NNE	NNW	NNE	N	NNE	NE	NE	NNE	N	SSE	W	WSW	SSE	SSW	SW	24	NNE
Sep 4	WSW	WSW	WSW	WNW	WNW	SW	SW	W	WNW	NW	NW	NW	WNW	WNW	NW	NW	WNW	NW	WNW	W	W	WNW	W	WSW	300	WNW
Sep 5	SW	SW	SE	SW	WSW	NE	W	SW	W	SE	SE	SE	SE	SE	SE	ESE	SE	ESE	ESE	ESE	ESE	ESE	SE	ESE	133	SE
Sep 6	ENE	E	SE	SE	SE	SSE	SW	SW	WSW	WSW	WSW	WSW	W	WSW	SW	WSW	WSW	SSW	SSE	S	WSW	ESE	SSW	SSE	230	SW
Sep 7	N	NW	SE	E	WSW	S	SW	WSW	WSW	SSW	SSW	SSW	SW	SSW	SSW	SW	SW	SSW	S	S	SW	WSW	SW	SW	217	SW
Sep 8	ENE	SW	ESE	WSW	SW	SW	WSW	WSW	WSW	WSW	WSW	WSW	SW	WSW	SW	WSW	W	W	WSW	SW	SW	SW	SW	SW	248	WSW
Sep 9	SSE	WSW	ESE	SSW	ENE	ENE	SSE	WSW	W	W	ENE	NNE	E	ESE	E	S	NE	NE	ENE	SE	E	ESE	SW	W	84	E
Sep 10	SW	WSW	ESE	WSW	ENE	SW	WSW	ESE	SE	SE	ESE	SE	SE	SE	ESE	SE	SE	SE	ESE	ESE	ESE	SE	SE	SE	127	SE
Sep 11	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	133	SE
Sep 12	SE	ESE	ESE	E	ESE	E	E	ESE	SE	SE	SE	SSE	S	S	SW	WSW	W	WSW	WNW	WSW	WSW	SW	SW	SW	153	SSE
Sep 13	SW	SW	SW	SW	SW	SW	SW	SW	WSW	W	W	W	W	WSW	WSW	W	WNW	WSW	SW	WSW	WSW	WNW	SW	WSW	257	WSW
Sep 14	SW	SW	WSW	WSW	WSW	W	WNW	WNW	WNW	WNW	WNW	WNW	NW	WNW	NW	NW	NW	NW	W	WSW	WSW	WSW	WSW	WSW	286	WNW
Sep 15	WSW	SSW	SE	SSE	N	WSW	S	WNW	SSW	S	SSE	SSE	SW	SSE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	145	SE
Sep 16	SE	ESE	ESE	ENE	NNW	ESE	ESE	ESE	SE	S	WNW	NW	ENE	NE	NE	NE	NE	SE	NNW	SSW	SSE	SE	SW	S	91	E
Sep 17	WSW	ENE	SSW	ESE	E	SW	ENE	WSW	SSE	SE	SE	ESE	ESE	N	W	W	W	WSW	WSW	WSW	WSW	SW	SW	SW	224	SW
Sep 18	S	SW	SSE	SW	NNW	WSW	SW	SSE	SW	SW	WNW	W	WSW	WSW	W	W	W	W	W	WSW	SW	SW	WSW	W	263	W
Sep 19	NW	SW	WSW	SW	SW	SW	SW	WSW	WSW	WSW	WSW	W	W	W	W	W	W	WSW	SW	SW	S	SW	SW	SW	257	WSW
Sep 20	SW	SW	WSW	SW	NE	SSW	SSE	SW	SW	SW	SW	SW	W	NW	NNE	W	WSW	SW	WSW	WSW	SW	WSW	WSW	SSW	251	WSW
Sep 21	WSW	WSW	WSW	W	S	WSW	SE	WSW	SW	SW	WSW	WSW	SW	SW	SW	SW	SW	SSW	SSE	SE	SE	SE	S	SSW	229	SW
Sep 22	SSE	SE	ESE	ESE	WSW	SE	SE	SE	S	SE	SE	SE	SE	SE	SE	SE	SE	SE	ESE	SE	SE	SE	SE	SE	137	SE
Sep 23	SE	SE	SE	SE	ESE	ESE	SE	ESE	ESE	SE	SE	SE	SE	SE	SE	SE	SE	SE	ESE	ESE	SE	SE	SE	SE	130	SE
Sep 24	SE	SE	SE	SE	SE	SE	SE	SSE	S	SSW	SE	SE	SSW	SW	WSW	WSW	SW	SSW	SW	SW	SW	SW	SW	SW	150	SSE
Sep 25	SW	WSW	SE	ENE	W	ESE	NNE	E	NE	ENE	NE	E	ESE	ESE	ESE	E	E	E	ESE	ESE	ESE	ESE	ESE	SE	104	ESE
Sep 26	SE	SE	SE	SE	SE	SE	SE	SE	SE	E	NE	SE	SE	SSE	SE	SE	N	ENE	WSW	WSW	SW	SW	SW	SW	144	SE
Sep 27	SSW	SSW	W	S	SE	SE	SW	W	SW	W	W	SW	W	W	W	W	WSW	SSW	ESE	SE	N	SW	WSW	ENE	252	WSW
Sep 28	SW	W	SSW	SW	W	S	SW	SSW	W	NW	WNW	W	SE	ESE	ESE	S	S	SSE	SW	SSW	SE	SW	ENE	SW	211	SSW
Sep 29	SSW	WSW	E	NNE	NE	NE	NE	NE	NE	NNE	N	NNE	NNW	NNW	NNW	NNW	N	N	NNW	NW	NW	WNW	NW	NW	1	N
Sep 30	NW	WNW	WNW	W	SW	NW	SW	W	NNW	NNE	NE	NE	ENE	NE	NE	E	E	E	ENE	NE	E	E	E	E	50	NE

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	ND	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Machine Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.





Lakeland Industry & Community Association

Cold Lake South Station - September 2023

Summary of Hourly Averages

VECTOR WIND SPEED (VWS) in km/hr & WIND DIRECTION (VWD) in sector

WIND SPEED

Maximum Hourly Value:	17.0	kph	on Sep 14 at hr 14	Hours in Service:	720
Maximum Daily Value:	11.9	kph	on Sep 11	Hours of Data:	720
Minimum Hourly Value:	0.0	kph	on Sep 3 at hr 1	Hours of Missing Data:	0
Minimum Daily Value:	1.3	kph	on Sep 9	Hours of Calibration:	0
Monthly Average:	1.3	kph		Operational Uptime:	100.0

WIND DIRECTION

Monthly Average: 186 degree (S)

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Sep 1	3.7	5.7	4.1	3.9	4.8	5.0	6.6	5.9	5.1	6.3	8.9	9.5	10.1	10.7	11.2	13.1	10.5	6.8	7.3	4.9	3.1	2.1	1.6	1.0	1.0	13.1	6.3
	WSW	WSW	WSW	SW	WSW	WSW	W	W	W	WSW	WSW	W	W	WSW	WSW	SW	SW	SW	SW	SSW	SSW	S	SSW	W			
Sep 2	2.8	5.3	7.3	6.3	6.0	5.7	6.2	5.7	9.2	8.9	6.0	6.2	7.2	8.7	8.5	8.3	7.1	4.7	3.2	0.6	0.5	0.5	3.4	3.5	0.5	9.2	5.5
	WSW	SW	SW	SW	SW	SW	SW	WSW	WSW	W	WSW	WSW	W	W	W	W	W	WSW	WSW	SW	S	SSW	SW	WSW			
Sep 3	0.1	**0.0**	**0.0**	0.1	1.1	0.5	0.6	0.1	0.8	2.4	0.7	3.0	7.0	9.8	13.7	10.8	8.6	3.0	1.1	2.0	1.6	0.3	0.4	0.6	**0.0**	13.7	2.8
	SSW	SE	SE	NE	SW	NW	ESE	SSE	N	NNE	NNW	NNE	N	NNE	NE	NE	NNE	N	SSE	W	WSW	SSE	SSW	SW			
Sep 4	0.7	3.4	4.3	4.2	1.0	0.9	1.7	5.2	6.6	10.5	13.5	15.3	12.6	9.9	9.9	9.1	8.0	6.4	6.1	4.1	3.9	3.2	2.6	1.9	0.7	15.3	6.0
	WSW	WSW	WSW	WNW	WNW	SW	SW	W	WNW	NW	NW	NW	WNW	WNW	NW	NW	WNW	NW	WNW	W	W	WNW	W	WSW			
Sep 5	0.5	0.9	0.2	0.7	2.5	0.2	0.1	0.6	0.5	6.3	5.1	6.5	8.9	9.3	7.5	8.8	8.2	5.6	5.5	7.3	8.7	8.8	3.7	1.0	0.1	9.3	4.5
	SW	SW	SE	SW	WSW	NE	W	SW	W	SE	SE	SE	SE	SE	SE	ESE	SE	ESE	ESE	ESE	ESE	ESE	SE	ESE			
Sep 6	3.9	2.4	3.7	5.7	5.8	2.4	3.0	1.9	5.7	5.7	6.6	7.2	7.3	6.2	6.3	5.3	4.8	1.1	1.1	0.3	**0.0**	0.2	0.3	0.3	**0.0**	7.3	3.6
	ENE	E	SE	SE	SE	SSE	SW	SW	WSW	WSW	WSW	WSW	W	WSW	SW	WSW	WSW	SSW	SSE	S	WSW	ESE	SSW	SSE			
Sep 7	0.1	0.7	1.4	0.2	1.0	0.3	3.9	2.2	0.5	1.3	3.5	5.4	5.1	5.1	5.7	6.6	5.8	2.3	0.9	0.5	0.3	0.9	1.0	0.9	0.1	6.6	2.3
	N	NW	SE	E	WSW	S	SW	WSW	WSW	SSW	SSW	SSW	SW	SSW	SSW	SW	SW	SSW	S	S	SW	WSW	SW	SW			
Sep 8	0.3	**0.0**	0.1	**0.0**	0.1	**0.0**	0.4	0.2	1.3	2.8	5.2	5.5	6.8	8.0	6.9	6.2	5.9	3.3	1.0	0.2	0.5	0.1	0.1	0.3	**0.0**	8.0	2.3
	ENE	SW	ESE	WSW	SW	SW	WSW	WSW	WSW	WSW	WSW	WSW	SW	WSW	SW	WSW	W	W	WSW	SW	SW	SW	SW	SW			
Sep 9	0.1	0.4	0.3	0.1	0.7	0.5	0.2	1.7	2.4	1.0	2.0	2.9	0.7	4.4	2.4	3.0	2.2	4.0	0.9	0.1	**0.0**	0.1	1.1	**0.0**	**0.0**	4.4	**1.3**
	SSE	WSW	ESE	SSW	ENE	ENE	SSE	WSW	W	W	ENE	NNE	E	ESE	E	S	NE	NE	ENE	SE	E	ESE	SW	W			
Sep 10	0.6	0.5	**0.0**	1.6	0.1	0.5	**0.0**	1.5	8.5	7.8	6.2	11.9	11.1	11.4	9.7	9.0	10.9	8.6	6.2	8.6	7.8	12.1	11.4	11.5	**0.0**	12.1	6.6
	SW	WSW	ESE	WSW	ENE	SW	WSW	ESE	SE	SE	ESE	SE	SE	SE	ESE	SE	SE	SE	ESE	ESE	ESE	SE	SE	SE			
Sep 11	11.9	11.3	11.5	11.5	11.1	9.6	11.3	13.1	11.4	13.1	12.8	12.0	11.5	13.6	12.7	12.7	14.5	12.3	10.8	12.7	12.7	11.7	11.6	8.8	8.8	14.5	**11.9**
	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE			
Sep 12	6.2	3.8	4.2	3.9	3.9	3.3	3.7	5.3	7.3	6.2	4.0	3.2	1.4	0.8	3.2	5.1	3.1	3.0	0.6	1.5	1.6	3.0	4.2	3.1	0.6	7.3	3.6
	SE	ESE	ESE	E	ESE	E	E	ESE	SE	SE	SE	SSE	S	S	SW	WSW	W	WSW	WNW	WSW	WSW	SW	SW	SW			
Sep 13	3.6	4.2	3.8	2.5	3.2	4.5	3.5	4.5	5.0	6.4	7.7	7.0	8.7	7.2	7.0	10.6	9.2	4.3	3.0	3.3	4.6	6.2	3.7	4.8	2.5	10.6	5.4
	SW	SW	SW	SW	SW	SW	SW	SW	WSW	W	W	W	W	WSW	WSW	W	WNW	WSW	SW	WSW	WSW	WNW	SW	WSW			
Sep 14	4.8	4.7	7.2	8.3	10.9	12.1	13.3	12.0	10.7	9.7	9.8	9.3	7.0	10.5	**17.0**	13.9	9.7	6.3	2.5	1.9	4.2	2.0	2.4	2.2	1.9	**17.0**	8.0
	SW	SW	WSW	WSW	WSW	W	WNW	WNW	WNW	WNW	WNW	WNW	NW	WNW	NW	NW	NW	NW	W	WSW	WSW	WSW	WSW	WSW			
Sep 15	0.3	0.5	0.3	0.2	**0.0**	0.2	0.3	0.1	0.5	1.5	4.3	4.1	5.5	5.5	6.5	6.9	7.3	6.8	5.1	6.3	7.8	8.8	9.6	9.0	**0.0**	9.6	4.1
	WSW	SSW	SE	SSE	N	WSW	S	WNW	SSW	S	SSE	SSE	SW	SSE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE			
Sep 16	7.1	2.0	0.7	0.4	0.2	1.4	0.4	1.9	4.3	1.9	3.3	0.9	4.0	3.7	4.1	2.8	2.3	0.4	**0.0**	**0.0**	**0.0**	0.4	0.5	0.3	**0.0**	7.1	1.8
	SE	ESE	ESE	ENE	NNW	ESE	ESE	ESE	SE	S	WNW	NW	ENE	NE	NE	NE	NE	SE	NNW	SSW	SSE	SE	SW	S			
Sep 17	0.2	0.6	**0.0**	0.1	0.2	0.6	0.6	0.8	1.9	9.7	7.8	5.5	4.5	4.1	7.4	6.6	4.1	4.2	7.6	7.1	5.3	2.7	1.2	0.9	**0.0**	9.7	3.5
	WSW	ENE	SSW	ESE	E	SW	ENE	WSW	SSE	SE	SE	ESE	ESE	N	W	W	W	WSW	WSW	WSW	WSW	SW	SW	SW			
Sep 18	0.4	0.8	0.6	0.3	**0.0**	1.0	0.1	**0.0**	1.5	0.7	5.7	5.3	7.3	13.3	12.6	9.9	12.0	10.8	6.1	3.4	2.6	3.6	3.2	0.9	**0.0**	13.3	4.3
	S	SW	SSE	SW	NNW	WSW	SW	SSE	SW	SW	WNW	W	WSW	WSW	W	W	W	W	W	WSW	SW	SW	WSW	W			
Sep 19	0.2	1.2	2.0	4.0	2.2	3.9	1.9	4.6	6.5	6.5	7.8	9.5	10.4	9.9	8.3	8.2	8.0	3.5	1.4	0.9	0.2	0.5	0.8	0.4	0.2	10.4	4.3
	NW	SW	WSW	SW	SW	SW	SW	WSW	WSW	WSW	WSW	W	W	W	W	W	W	WSW	SW	SW	S	SW	SW	SW			
Sep 20	0.1	0.7	2.1	**0.0**	0.1	0.3	0.3	0.1	3.0	4.8	5.7	6.2	6.2	4.9	2.7	7.3	5.9	1.5	2.7	3.0	1.3	1.5	0.8	0.6	**0.0**	7.3	2.6
	SW	SW	WSW	SW	NE	SSW	SSE	SW	SW	SW	SW	SW	W	NW	NNE	W	WSW	SW	WSW	WSW	SW	WSW	WSW	SSW			
Sep 21	3.1	3.5	1.9	0.2	0.1	0.8	0.3	1.8	2.4	1.0	2.4	4.7	6.0	6.6	6.6	7.2	6.1	1.9	0.5	1.1	1.7	1.1	0.4	0.8	0.1	7.2	2.6
	WSW	WSW	WSW	W	S	WSW	SE	WSW	SW	SW	WSW	WSW	SW	SW	SW	SW	SW	SSW	SSE	SE	SE	SE	S	SSW			
Sep 22	0.6	0.3	0.1	0.4	0.2	1.6	**0.0**	1.8	1.9	3.8	5.7	7.7	5.7	7.1	7.0	6.7	6.9	4.6	2.5	5.5	7.9	9.3	8.4	8.3	**0.0**	9.3	4.3
	SSE	SE	ESE	ESE	WSW	SE	SE	SE	S	SE	SE	SE	SE	SE	SE	SE	SE	SE	ESE	SE	SE	SE	SE	SE			
Sep 23	8.3	8.0	5.5	6.7	4.7	7.9	7.7	6.6	7.1	10.2	12.9	13.8	12.6	13.9	12.9	12.2	12.2	7.4	2.6	4.0	9.9	10.4	12.4	10.0	2.6	13.9	9.2
	SE	SE	SE	SE	ESE	ESE	SE	ESE	ESE	SE	SE	SE	SE	SE	SE	SE	SE	SE	ESE	ESE	SE	SE	SE	SE			
Sep 24	10.1	10.6	11.7	12.1	9.3	7.3	7.9	4.4	2.0	2.9	6.1	8.6	4.4	6.6	5.3	3.5	3.6	0.7	0.2	0.3	0.2	0.5	0.4	0.3	0.2	12.1	5.0
	SE	SE	SE	SE	SE	SE	SE	SSE	S	SSW	SE	SE	SSW	SW	WSW	WSW	SW	SSW	SW	SW	SW	SW	SW	SW			
Sep 25	0.2	0.5	0.8	0.6	0.3	0.1	0.7	0.2	1.4	5.1	4.9	6.6	8.6	9.3	9.3	9.1	8.2	6.2	5.3	5.5	6.1	5.1	8.6	13.3	0.1	13.3	4.8
	SW	WSW	SE	ENE	W	ESE	NNE	E	NE	ENE	NE	E	ESE	ESE	ESE	E	E	E	ESE	ESE	ESE	ESE	ESE	SE			
Sep 26	12.3	13.2	10.6	11.1	11.2	10.9	9.1	9.5	7.1	0.7	1.5	4.5	9.5	5.1	7.9	4.4	0.6	0.5	2.5	5.0	5.0	5.7	5.4	4.4	0.5	13.2	6.6
	SE	SE	SE	SE	SE	SE	SE	SE	SE	E	NE	SE	SE	SSE	SE	SE	N	ENE	WSW	WSW	SW	SW	SW	SW			
Sep 27	2.6	4.7	2.5	0.3	0.1	0.2	0.5	0.3	4.0	5.3	6.4	7.0	5.5	5.6	5.8	6.0	3.4	0.5	**0.0**	0.2	0.9	0.3	0.7	0.4	**0.0**	7.0	2.6
	SSW	SSW	W	S	SE	SE	SW	W	SW	W	W	SW	W	W	W	W	WSW	SSW	ESE	SE	N	SW	WSW	ENE			
Sep 28	1.0	0.3	0.6	0.2	1.2	1.0	1.8	1.4	3.5	1.5	2.5	2.4	0.7	3.5	3.0	2.3	3.2	2.3	1.9	0.4	0.3	0.8	0.2	0.3	0.2	3.5	1.5
	SW	W	SSW	SW	W	S	SW	SSW	W	NW	WNW	W	SE	ESE	ESE	S	S	SSE	SW	SSW	SE	SW	ENE	SW			
Sep 29	0.7	0.4	0.2	0.4	4.7	8.2	8.3	6.6	7.6	6.3	5.5	5.4	7.9	8.2	8.8	11.0	9.5	8.3	6.8	3.2	3.7	2.6	3.9	3.8	0.2	11.0	5.5
	SSW	WSW	E	NNE	NE	NE	NE	NE	NE	NNE	N	NNE	NNW	NNW	NNW	NNW	N	N	NNW	NW	NW	WNW	NW	NW			
Sep 30	4.3	2.9	3.5	1.0	0.5	0.4	1.8	0.3	3.2	4.8	6.6	6.2	7.4	6.7	5.0	4.3	3.5	4.1	3.0	1.9	3.0	3.1	4.0	3.1	0.3	7.4	3.5
	NW	WNW	WNW	W	SW	NW	SW	W	NNW	NNE	NE	NE	ENE	NE	NE	E	E	E	ENE	NE	E	E	E	E			

C	Monthly Calibration	**S**	Daily Zero-Span Check	**Q**	Quality Assurance			
K	Collection Error	**ND**	No Data (Machine Not in Service)	**Y**	Routine Maintenance	**P**	Power Failure	
X	InValid Data (Equipment Malfunction /Recovery)	**NRM**	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)					

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Lakeland Industry & Community Association

Cold Lake South Station - September 2023

Summary of Hour Standard Deviations

STANDARD DEVIATION WIND DIRECTION (STDWD) in Degree

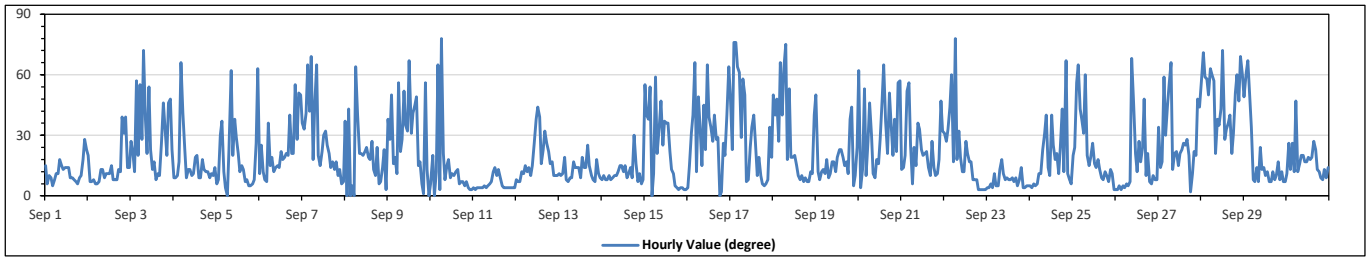
Maximum Hourly Value:	78 degree on Sep 10 at hr 6	Hours in Service:	720
		Hours of Data:	720
Minimum Hourly Value:	0 degree on Sep 5 at hr 6	Hours of Missing Data:	0
		Hours of Calibration:	0
		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
Sep 1	15	6	10	9	5	8	11	11	18	15	13	14	14	14	9	9	8	7	6	9	10	18	28	23	5	28
Sep 2	20	7	7	8	6	6	7	13	13	9	11	11	11	15	8	8	8	13	12	39	31	39	14	14	6	39
Sep 3	27	21	12	57	20	55	28	72	38	21	54	23	13	17	8	11	10	26	46	34	20	46	48	23	8	72
Sep 4	9	9	10	17	66	41	23	9	13	13	10	11	19	20	9	9	18	13	12	12	9	11	10	14	9	66
Sep 5	6	8	30	37	12	4	**0**	23	62	20	38	29	21	12	15	13	7	8	5	5	6	8	26	63	**0**	63
Sep 6	11	25	12	8	7	36	15	19	12	14	15	14	22	18	19	21	20	40	21	21	55	28	51	50	7	55
Sep 7	36	33	41	65	42	69	18	45	65	20	15	22	30	32	25	21	14	17	13	17	10	13	6	7	6	69
Sep 8	37	**0**	43	**0**	5	**0**	64	40	21	21	20	22	24	19	18	27	13	10	24	6	7	14	23	3	**0**	64
Sep 9	38	28	50	16	19	11	56	22	28	52	35	32	67	31	41	45	49	15	17	6	1	56	13	**0**	**0**	67
Sep 10	6	20	**0**	12	65	3	**78**	21	8	15	18	9	11	10	12	13	6	7	7	5	7	4	3	3	**0**	**78**
Sep 11	4	3	4	4	4	4	5	4	5	6	7	12	14	10	13	9	5	4	4	4	4	4	4	4	3	14
Sep 12	8	7	7	12	11	15	12	14	10	15	26	38	44	39	16	23	32	26	22	16	17	10	10	10	7	44
Sep 13	11	10	11	19	8	7	9	9	17	14	14	14	9	19	14	14	25	15	10	8	7	18	11	9	7	25
Sep 14	8	10	8	8	10	8	9	10	10	12	15	15	12	15	9	11	14	9	30	16	7	11	6	8	6	30
Sep 15	55	40	38	54	**0**	11	59	21	35	47	25	37	36	36	22	13	11	5	4	3	4	4	3	3	**0**	59
Sep 16	4	15	31	40	66	12	49	35	15	45	23	65	39	34	27	40	28	29	**0**	2	26	20	40	64	**0**	66
Sep 17	49	23	76	76	64	61	29	58	50	7	8	24	34	40	27	10	19	10	6	5	6	8	34	19	5	76
Sep 18	50	40	48	27	66	40	63	75	18	53	19	19	20	15	10	8	10	7	9	7	7	12	11	40	7	75
Sep 19	50	12	8	12	13	11	18	9	11	17	17	12	19	23	23	19	15	17	11	38	44	5	10	24	5	50
Sep 20	62	4	13	53	10	27	46	30	11	9	18	16	28	47	65	37	21	51	36	20	38	22	56	57	4	65
Sep 21	13	14	20	52	56	25	6	24	15	36	33	23	20	21	22	14	10	27	14	10	11	18	47	32	6	56
Sep 22	31	27	33	44	60	17	**78**	18	32	19	12	12	27	21	17	17	8	8	8	3	3	3	3	3	3	**78**
Sep 23	4	4	6	4	11	5	5	13	18	11	8	9	8	8	9	7	9	5	8	14	4	4	5	5	4	18
Sep 24	5	4	6	5	6	11	11	23	31	40	14	10	40	25	18	21	11	24	43	12	67	11	8	6	4	67
Sep 25	20	24	56	65	43	38	31	60	20	15	19	26	16	14	18	13	9	8	12	10	7	13	11	3	3	65
Sep 26	3	3	5	3	5	4	6	5	7	68	46	21	12	27	17	24	48	10	21	7	6	10	8	8	3	68
Sep 27	34	14	17	59	30	45	55	66	13	21	22	15	21	23	26	25	28	20	2	11	22	20	48	44	2	66
Sep 28	57	71	59	58	50	63	60	57	21	38	35	43	72	28	33	36	40	21	31	51	60	47	69	60	21	72
Sep 29	49	61	67	49	34	8	7	14	7	24	13	14	10	12	7	7	12	8	10	17	8	12	7	7	7	67
Sep 30	11	26	13	26	12	47	12	16	20	20	17	17	19	18	19	27	23	13	12	9	8	13	9	14	8	47
Diurnal Minimum	3	0	0	0	0	0	0	4	5	6	7	9	8	8	7	7	5	4	0	2	1	3	3	0		
Diurnal Maximum	62	71	76	76	66	69	78	75	65	68	54	65	72	47	65	45	49	51	46	51	67	56	69	64		

C	Monthly Calibration	**S**	Daily Zero-Span Check	**Q**	Quality Assurance	
K	Collection Error	**ND**	No Data (Machine Not in Service)	**Y**	Routine Maintenance	**P** Power Failure
X	InValid Data (Machine Malfunction /Recovery)	**NRM**	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.

Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



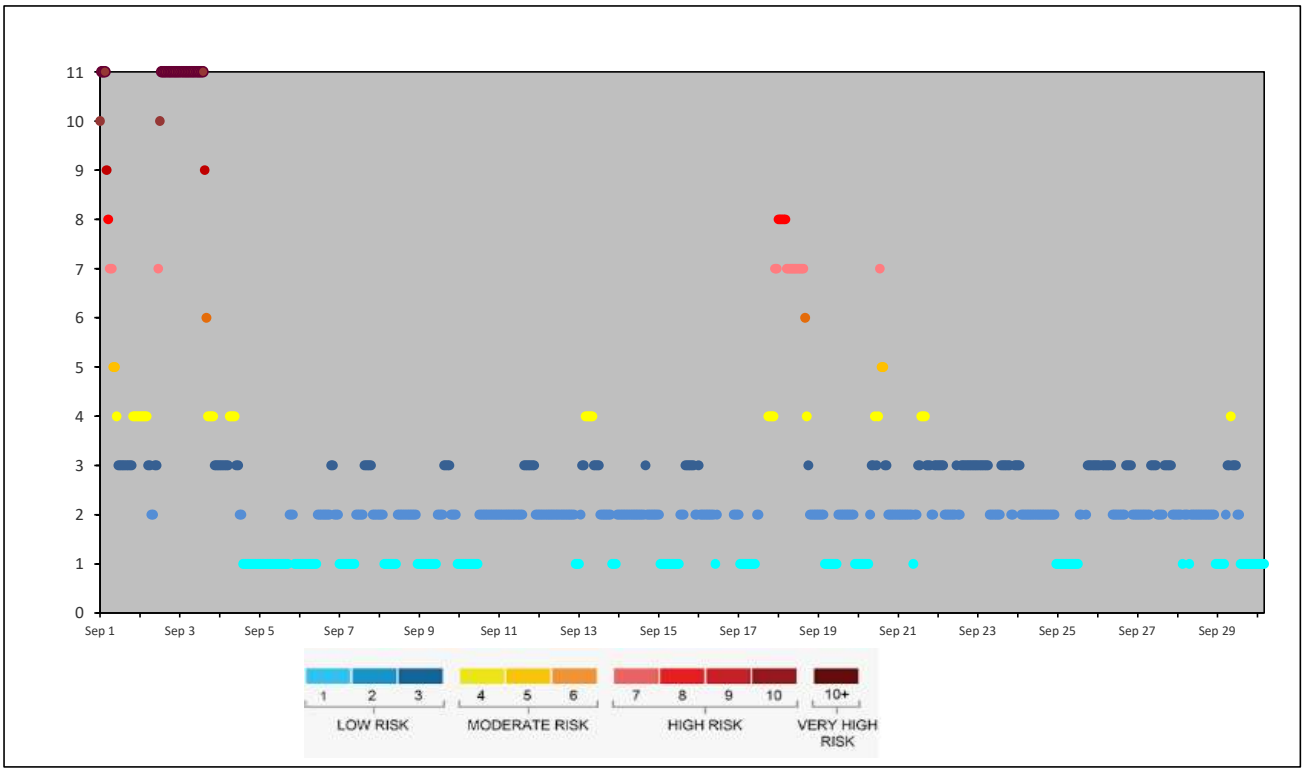
TAMARACK STATION

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Tamarack Site - September 2023

AIR QUALITY HEALTH INDEX

Day	Hourly Period Starting at (MST)																							
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Sep 1	10	11	11	11	9	8	7	7	5	5	4	3	3	3	3	3	3	3	3	3	4	4	4	4
Sep 2	4	4	4	4	4	3	3	2	2	3	3	7	10	11	11	11	11	11	11	11	11	11	11	11
Sep 3	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	9	6	4	4	4	4	3	3	3
Sep 4	3	3	3	3	3	3	4	4	4	4	3	3	2	2	1	1	1	1	1	1	1	1	1	1
Sep 5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	1	1	1
Sep 6	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	3	3	2	2	1
Sep 7	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	3	3	3	3	3	2	2	2	2
Sep 8	2	2	2	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	1
Sep 9	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	3	3	3	3	2	2	2	2	1
Sep 10	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2
Sep 11	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	2	2
Sep 12	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1
Sep 13	1	2	3	3	4	4	4	4	4	3	3	3	3	2	2	2	2	2	2	2	1	1	1	2
Sep 14	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	2	2	2	2	2	2	2
Sep 15	2	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	3	3	3	3	3	3	2	2
Sep 16	3	2	2	2	2	2	2	2	2	2	1	2										2	2	2
Sep 17	2	1	1	1	1	1	1	1	1	1	1	2	2						4	4	4	4	7	7
Sep 18	8	8	8	8	8	7	7	7	7	7	7	7	7	7	7	7	6	4	3	2	2	2	2	2
Sep 19	2	2	2	2	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	1	1
Sep 20	1	1	1	1	1	1	1	2	3	3	4	3	4	7	5	5	3	3	2	2	2	2	2	2
Sep 21	2	2	2	2	2	2	2	2	2	1	2	2	3	3	4	4	4	3	3	3	2	2	3	3
Sep 22	3	3	3	3	2	2	2	2	2	2	2	3	2	2	3	3	3	3	3	3	3	3	3	3
Sep 23	3	3	3	3	3	3	3	2	2	2	2	2	2	2	3	3	3	3	3	3	2	2	3	3
Sep 24	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1
Sep 25	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2			2	3	3	3	3	3	3
Sep 26	3	3		3	3	3	3	3	3	2	2	2	2	2	2	2	2	3	3	3	3	2	2	2
Sep 27	2	2	2	2	2	2	2	2	3	3	3	3	2	2	2	2	3	3	3	3	3	2	2	2
Sep 28	2	2	2	1	2	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1
Sep 29	1	1	1	1	1	2	3	3	4	3	3	3	2	2	1	1	1	1	1	1	1	1	1	1
Sep 30	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1



Lakeland Industry & Community Association

Tamarack Site - September 2023

Summary of Hourly Averages

SULPHUR DIOXIDE (SO_2) in ppb

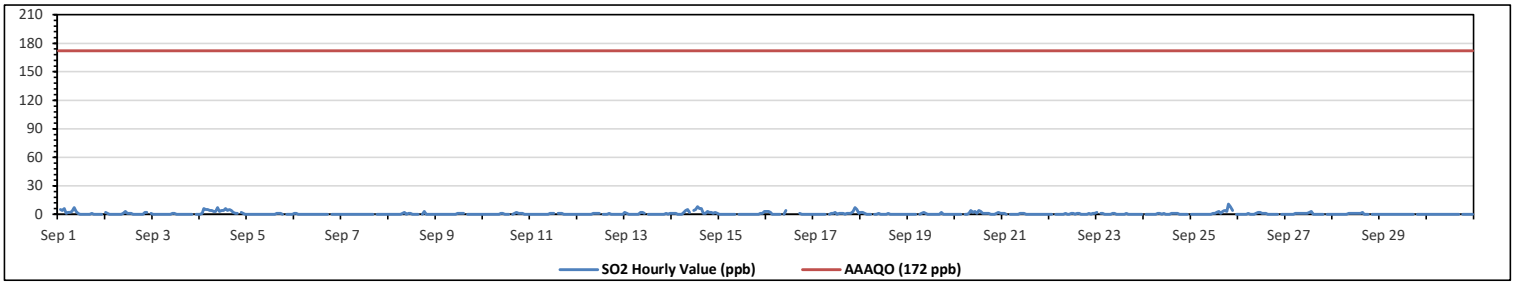
Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 172 ppb, 24-Hour 48 ppb, 30-Day 11 ppb

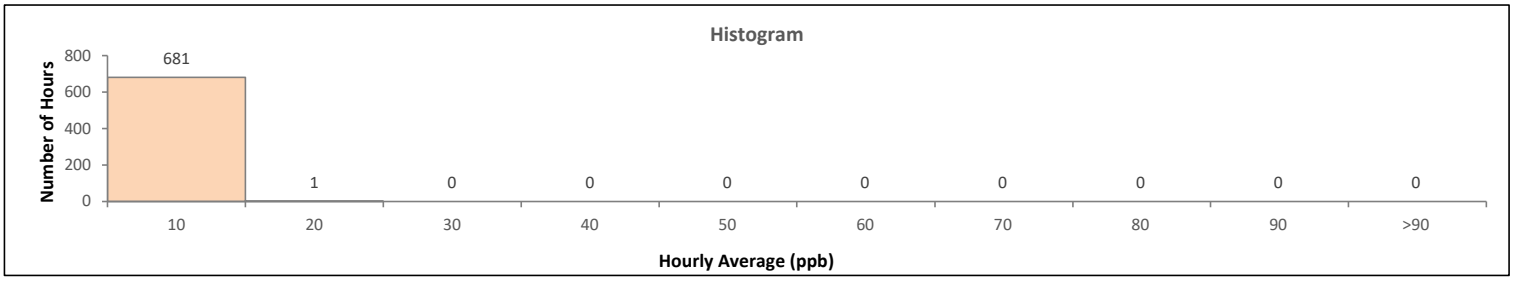
Number of 1-Hour Exceedances:	0	Number of 24-Hour Exceedances:	0	30-Day Exceedence:	0	
Maximum Hourly Value:	11	ppb	on Sep 25 at hr 19	Hours in Service:	720	
Maximum Daily Value:	3.3	ppb	on Sep 4	Hours of Data:	682	
Minimum Hourly Value:	0	ppb	on Sep 1 at hr 11	Hours of Missing Data:	0	
Minimum Daily Value:	0.0	ppb	on Sep 7	Hours of Calibration:	38	
Monthly Average:	0.6	ppb		Operational Uptime:	100.0	

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Sep 1	S	5	4	6	1	2	2	3	7	3	1	0	0	0	0	0	0	1	0	0	0	0	0	S	0	7	1.6
Sep 2	2	1	0	0	0	0	0	0	0	1	3	1	1	1	0	0	0	0	0	0	2	2	S	1	0	3	0.7
Sep 3	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	S	0	0	0	1	0.1
Sep 4	0	1	6	5	5	4	4	3	3	7	3	4	4	6	4	5	4	2	1	1	S	2	1	0	0	7	3.3
Sep 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	S	0	0	0	0	0	1	0.1
Sep 6	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	1	0.1
Sep 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0.0
Sep 8	0	0	0	0	0	0	0	1	2	0	1	1	0	0	0	0	S	0	3	0	0	0	0	0	0	3	0.3
Sep 9	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	S	0	0	0	0	0	0	0	0	0	1	0.2
Sep 10	0	0	0	0	0	0	0	0	0	1	1	0	0	0	S	0	1	2	1	1	1	0	0	0	0	2	0.3
Sep 11	0	0	0	0	0	0	0	0	0	0	1	1	1	S	1	1	1	0	0	0	0	0	0	0	0	1	0.3
Sep 12	0	0	0	0	0	0	0	0	1	1	1	1	S	0	0	0	1	0	0	0	0	0	0	0	0	1	0.2
Sep 13	2	1	0	0	0	0	0	0	2	2	1	S	0	0	0	0	0	0	0	0	0	1	0	1	0	2	0.4
Sep 14	1	1	1	0	0	0	2	4	5	2	S	4	5	8	6	6	1	1	3	2	2	1	2	1	0	8	2.5
Sep 15	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	1	1	3	0	3	0.2
Sep 16	3	3	2	0	0	0	0	0	S	0	4	C	C	C	C	C	C	1	0	0	0	0	0	0	0	4	NA
Sep 17	0	0	0	0	0	0	0	S	0	1	1	2	0	1	1	1	0	1	1	1	3	7	5	1	0	7	1.1
Sep 18	2	2	1	0	0	0	S	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2	0.3
Sep 19	0	0	0	0	0	S	0	1	2	1	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0.3
Sep 20	0	0	0	0	S	0	0	1	4	2	3	1	4	3	1	1	1	1	0	0	0	1	2	1	0	4	1.1
Sep 21	1	1	0	S	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2
Sep 22	0	0	S	0	0	0	0	0	1	0	0	1	1	0	1	1	0	0	0	0	1	0	1	1	0	1	0.3
Sep 23	2	S	1	1	0	0	0	0	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0.3
Sep 24	S	0	0	0	0	0	0	1	1	0	1	0	0	0	1	1	1	1	0	0	0	0	0	S	0	1	0.3
Sep 25	0	0	0	0	0	0	0	0	0	0	0	1	1	2	3	1	3	4	3	11	8	4	S	0	0	11	1.8
Sep 26	0	0	0	0	0	1	0	0	0	1	2	2	1	1	1	0	0	0	0	0	0	S	0	0	0	2	0.4
Sep 27	0	0	0	0	0	1	1	1	1	1	1	1	2	3	0	0	0	0	0	0	S	0	0	0	0	3	0.5
Sep 28	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	2	0	0	0	S	0	0	0	0	0	2	0.4
Sep 29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0.0
Sep 30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0.0
Diurnal Maximum	3	5	6	6	5	4	4	4	7	7	4	4	5	8	6	6	4	4	3	11	8	7	5	3			
Diurnal Average	0.5	0.6	0.5	0.4	0.2	0.3	0.3	0.5	1.1	0.9	0.9	0.9	0.8	1.0	0.8	0.8	0.5	0.6	0.4	0.6	0.6	0.7	0.4	0.3			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	ND	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



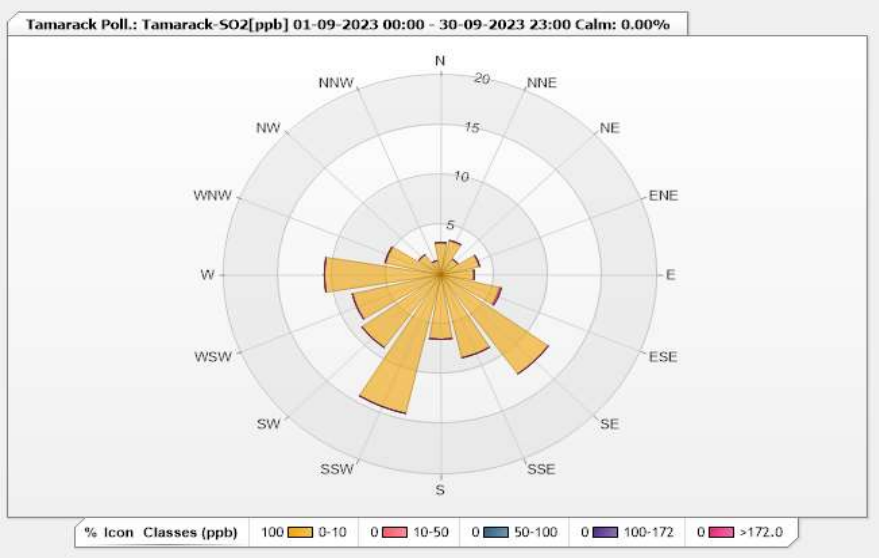


Station: Tamarack Poll.: Tamarack-SO2[ppb] Monthly: 09-2023

Type: Pollution Rose
Direction: Blowing From (Wind Frequency)
Time Base: 1 - Hour

Calm: 0.00% Valid Data: 94.44% Calm Avg: 0.00 [ppm]

Direction	0-10	10-50	50-100	100-172	>172.0	Total
N	3.24	0	0	0	0	3.24
NNE	3.53	0	0	0	0	3.53
NE	1.91	0	0	0	0	1.91
ENE	3.68	0	0	0	0	3.68
E	3.09	0	0	0	0	3.09
ESE	5.59	0.15	0	0	0	5.74
SE	12.21	0	0	0	0	12.21
SSE	8.53	0	0	0	0	8.53
S	6.47	0	0	0	0	6.47
SSW	14.26	0	0	0	0	14.26
SW	8.97	0	0	0	0	8.97
WSW	8.38	0	0	0	0	8.38
W	10.74	0	0	0	0	10.74
WNW	5.29	0	0	0	0	5.29
NW	2.5	0	0	0	0	2.5
NNW	1.47	0	0	0	0	1.47
Summary	100	0.15	0	0	0	100



Lakeland Industry & Community Association

Tamarack Site - September 2023

Summary of Hourly Averages

HYDROGEN SULPHIDE (H_2S) in ppb

Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 10 ppb, 24-Hour 3 ppb

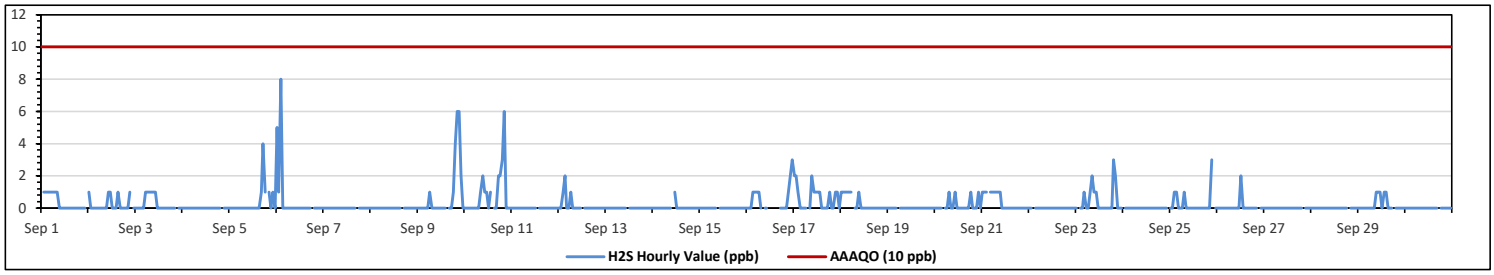
Number of 1-Hour Exceedances:	0	Number of 24-Hour Exceedances:	0

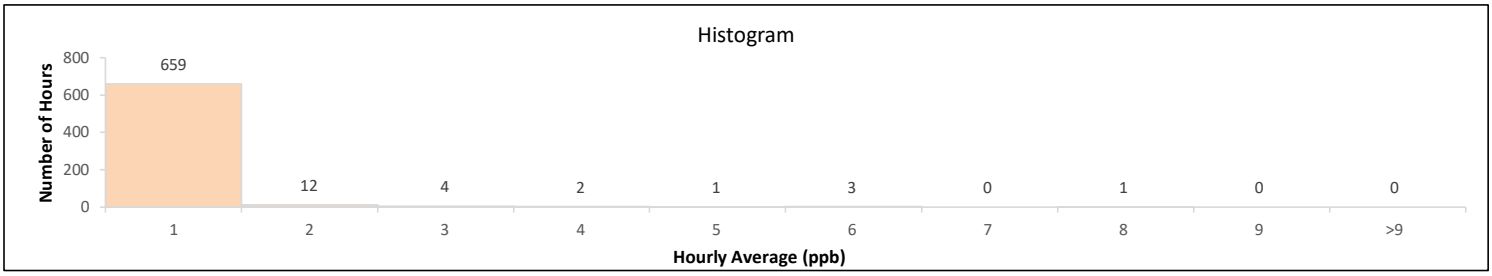
Maximum Hourly Value:	8	ppb	on Sep 6 at hr 2	Hours in Service:	720
Maximum Daily Value:	1.0	ppb	on Sep 6	Hours of Data:	682
Minimum Hourly Value:	0	ppb	on Sep 1 at hr 9	Hours of Missing Data:	0
Minimum Daily Value:	0.0	ppb	on Sep 1	Hours of Calibration:	38
Monthly Average:	0.2	ppb		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Sep 1	S	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	1	0.0
Sep 2	1	0	0	0	0	0	0	0	0	0	1	1	0	0	0	1	0	0	0	0	0	1	S	0	0	1	0.0
Sep 3	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	S	0	0	0	1	0.0
Sep 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0.0
Sep 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4	1	S	1	0	1	0	0	4	0.0
Sep 6	5	1	**8**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	**8**	**1.0**
Sep 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0.0
Sep 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0.0
Sep 9	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	S	0	0	1	4	6	6	2	0	0	6	**1.0**
Sep 10	0	0	0	0	0	0	0	0	1	2	1	1	0	1	S	0	0	2	2	3	6	0	0	0	0	6	**1.0**
Sep 11	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 12	0	0	1	2	0	0	1	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	2	0.0
Sep 13	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 14	0	0	0	0	0	0	0	0	0	0	S	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Sep 15	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 16	0	0	0	1	1	1	1	0	S	0	0	C	C	C	C	C	C	0	0	0	0	1	2	3	0	3	-
Sep 17	2	2	1	0	0	0	0	S	0	2	1	1	1	1	0	0	0	0	1	0	0	1	1	0	0	2	**1.0**
Sep 18	1	1	1	1	1	1	S	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Sep 19	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 20	0	0	0	0	S	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0	0	1	0.0
Sep 21	1	1	1	S	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Sep 22	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 23	0	S	0	0	1	0	0	1	2	1	1	0	0	0	0	0	0	0	0	3	2	0	0	0	0	3	0.0
Sep 24	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0.0
Sep 25	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3	S	0	0	3	0.0
Sep 26	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	S	0	0	0	2	0.0
Sep 27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0.0
Sep 28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0.0
Sep 29	0	0	0	0	0	0	0	0	0	1	1	1	0	1	1	0	0	0	S	0	0	0	0	0	0	1	0.0
Sep 30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0.0
Diurnal Maximum	5	2	8	2	1	1	1	1	2	2	1	1	2	1	1	1	1	4	2	4	6	6	2	3			
Diurnal Average	0.4	0.2	0.5	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.2	0.2	0.4	0.5	0.4	0.3	0.1			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	ND	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



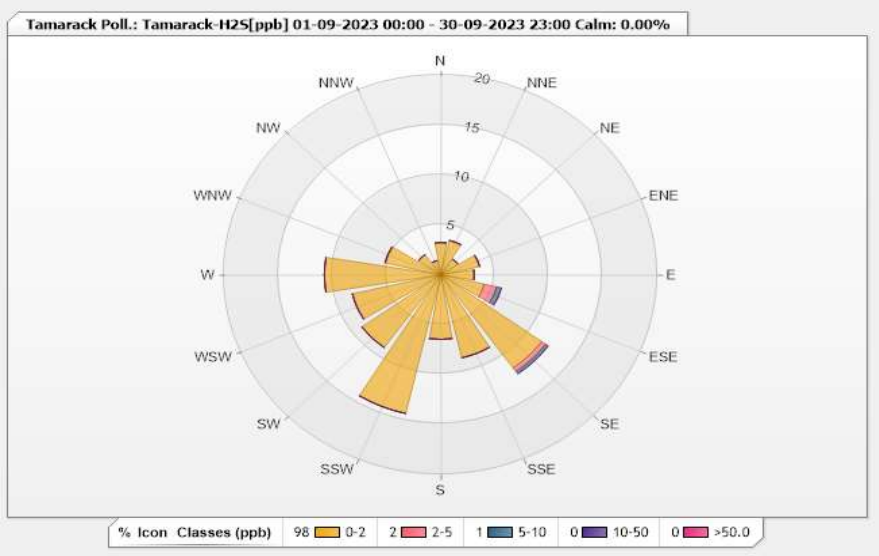


Station: Tamarack Poll.: Tamarack-H2S[ppb] Monthly: 09-2023

Type: Pollution Rose
Direction: Blowing From (Wind Frequency)
Time Base: 1 - Hour

Calm: 0.00% Valid Data: 94.44% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-50	>50.0	Total
N	3.24	0	0	0	0	3.24
NNE	3.53	0	0	0	0	3.53
NE	1.91	0	0	0	0	1.91
ENE	3.68	0	0	0	0	3.68
E	3.09	0	0	0	0	3.09
ESE	4.12	1.18	0.44	0	0	5.74
SE	11.47	0.44	0.29	0	0	12.2
SSE	8.53	0	0	0	0	8.53
S	6.47	0	0	0	0	6.47
SSW	14.26	0	0	0	0	14.26
SW	8.97	0	0	0	0	8.97
WSW	8.38	0	0	0	0	8.38
W	10.74	0	0	0	0	10.74
WNW	5.29	0	0	0	0	5.29
NW	2.5	0	0	0	0	2.5
NNW	1.47	0	0	0	0	1.47
Summary	97.65	1.62	0.73	0	0	100



Lakeland Industry & Community Association

Tamarack Site - September 2023

Summary of Hourly Averages

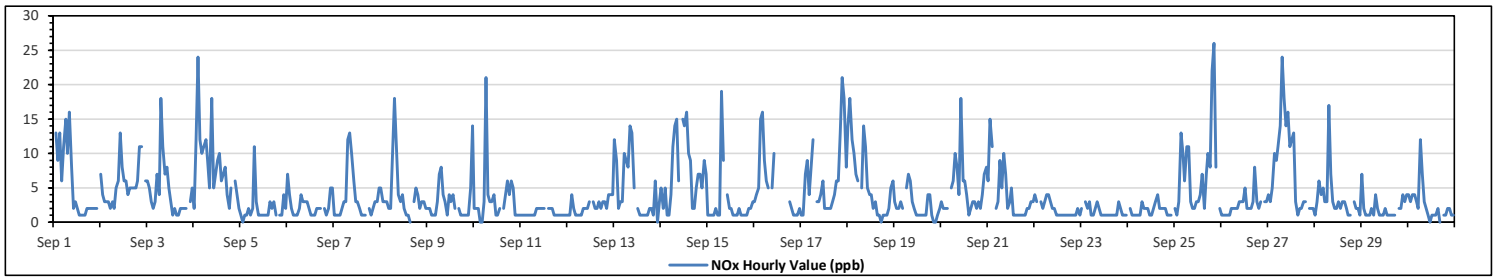
OXIDES OF NITROGEN (NOx) in ppb

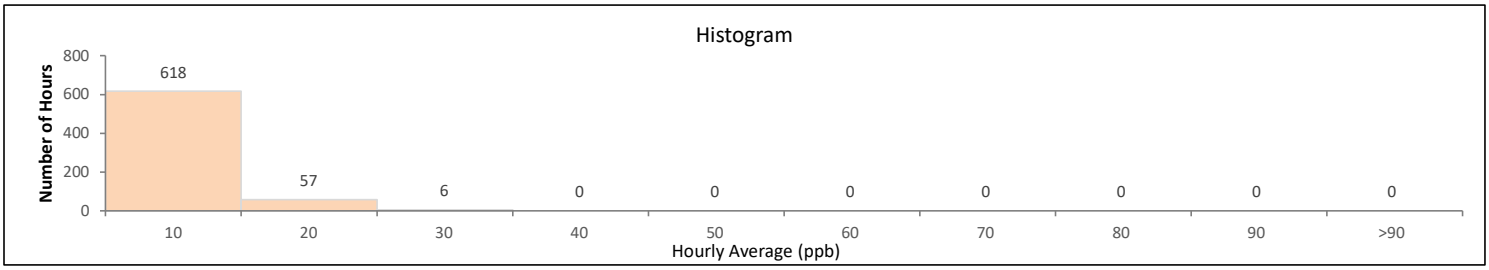
Maximum Hourly Value:	26	ppb	on Sep 25 at hr 20	Hours in Service:	720
Maximum Daily Value:	8.3	ppb	on Sep 4	Hours of Data:	681
Minimum Hourly Value:	0	ppb	on Sep 5 at hr 1	Hours of Missing Data:	0
Minimum Daily Value:	1.3	ppb	on Sep 11	Hours of Calibration:	39
Monthly Average:	4.0	ppb		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Sep 1	S	13	9	13	6	11	15	10	16	8	2	3	2	1	1	1	1	2	2	2	2	2	2	S	1	16	5.6
Sep 2	7	4	3	3	3	2	3	2	5	6	13	8	6	6	4	5	5	5	5	6	11	11	S	6	2	13	5.6
Sep 3	6	5	3	2	3	7	4	18	11	7	8	5	3	1	2	1	1	2	2	2	2	S	3	5	1	18	4.5
Sep 4	2	12	24	12	10	11	12	9	5	18	5	7	9	10	6	7	8	4	2	5	S	6	4	2	2	24	**8.3**
Sep 5	1	0	1	1	2	1	2	11	3	1	1	1	1	1	1	3	2	3	1	S	1	1	4	2	**0**	11	2.0
Sep 6	7	4	2	1	1	1	2	4	3	3	3	2	1	1	1	2	2	2	S	2	1	2	5	5	1	7	2.5
Sep 7	1	1	1	1	2	3	3	12	13	10	6	3	3	2	1	1	1	S	2	1	2	3	3	5	1	13	3.5
Sep 8	5	3	3	3	2	2	10	18	11	4	3	4	2	1	1	0	S	3	5	4	2	3	3	2	**0**	18	4.1
Sep 9	2	2	1	1	1	3	7	8	4	3	1	4	3	4	2	S	2	1	1	1	1	1	5	14	1	14	3.1
Sep 10	2	2	2	0	0	3	21	4	3	3	4	1	1	2	S	2	4	6	4	6	5	1	1	1	**0**	21	3.4
Sep 11	1	1	1	1	1	1	1	1	2	2	2	2	2	S	2	2	2	1	1	1	1	1	1	1	1	2	**1.3**
Sep 12	1	1	4	2	1	1	1	1	2	2	2	3	S	3	2	2	3	2	3	3	2	4	4	4	1	4	2.3
Sep 13	12	9	2	3	3	10	9	8	14	13	5	S	2	1	1	1	1	1	2	2	1	6	0	3	**0**	14	4.7
Sep 14	5	2	5	1	1	4	11	14	15	6	S	15	14	16	10	9	2	2	5	7	7	5	9	7	1	16	7.5
Sep 15	1	1	1	1	2	1	1	19	9	S	4	2	2	1	1	1	2	1	1	1	1	2	2	3	1	19	2.6
Sep 16	3	4	5	15	16	9	6	5	S	5	10	C	C	C	C	C	C	C	3	2	1	1	1	2	1	16	NA
Sep 17	1	1	7	9	4	8	12	S	3	3	4	6	2	2	2	2	3	4	6	6	13	21	18	8	1	21	6.3
Sep 18	14	18	12	10	7	6	S	5	14	11	5	4	4	2	3	1	1	0	1	1	1	2	5	6	**0**	18	5.8
Sep 19	3	2	2	3	2	S	5	7	6	3	2	1	1	1	1	1	1	4	4	1	0	0	1	2	**0**	7	2.3
Sep 20	3	2	2	2	S	5	6	10	8	4	18	6	6	4	1	2	3	3	2	3	2	4	7	8	1	18	4.8
Sep 21	6	15	11	S	2	3	9	5	10	7	2	3	5	1	1	1	1	1	1	1	2	2	3	3	1	15	4.1
Sep 22	4	3	S	3	2	3	4	4	3	2	2	1	1	1	1	1	1	1	1	1	1	1	2	1	1	4	1.9
Sep 23	2	S	3	2	3	1	1	2	3	2	1	1	1	1	1	1	1	1	1	3	2	1	1	1	1	3	1.6
Sep 24	S	2	1	1	1	1	1	3	2	2	2	1	1	2	3	4	2	2	2	2	1	1	1	S	1	4	1.7
Sep 25	2	1	3	13	10	6	11	11	3	2	2	3	3	4	7	2	7	10	8	22	**26**	8	S	2	1	**26**	7.2
Sep 26	1	1	1	1	1	2	2	2	2	3	3	3	5	2	2	2	3	8	3	2	3	S	3	3	1	8	2.5
Sep 27	4	3	5	10	9	11	14	24	18	14	16	11	12	13	3	1	2	2	3	3	S	2	2	2	1	24	8.0
Sep 28	1	3	6	4	5	3	3	17	7	3	2	2	3	2	3	3	2	1	1	S	3	2	2	1	1	17	3.4
Sep 29	7	2	1	1	1	2	1	4	2	1	1	1	2	1	1	1	1	1	S	2	2	4	3	4	1	7	2.0
Sep 30	4	3	4	4	3	2	12	7	3	2	1	0	1	1	1	2	0	S	1	1	2	2	1	1	**0**	12	2.5
Diurnal Maximum	14	18	24	15	16	11	21	24	18	18	18	15	14	16	10	9	8	10	8	22	26	21	18	14			
Diurnal Average	3.9	4.1	4.3	4.2	3.6	4.2	6.5	8.4	6.9	5.2	4.5	3.7	3.5	3.1	2.3	2.2	2.3	2.7	2.6	3.3	3.5	3.5	3.4	3.7			

C	Monthly Calibration	**S**	Daily Zero-Span Check	**Q**	Quality Assurance	
K	Collection Error	**ND**	No Data (Machine Not in Service)	**Y**	Routine Maintenance	**P** Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	**NRM**	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



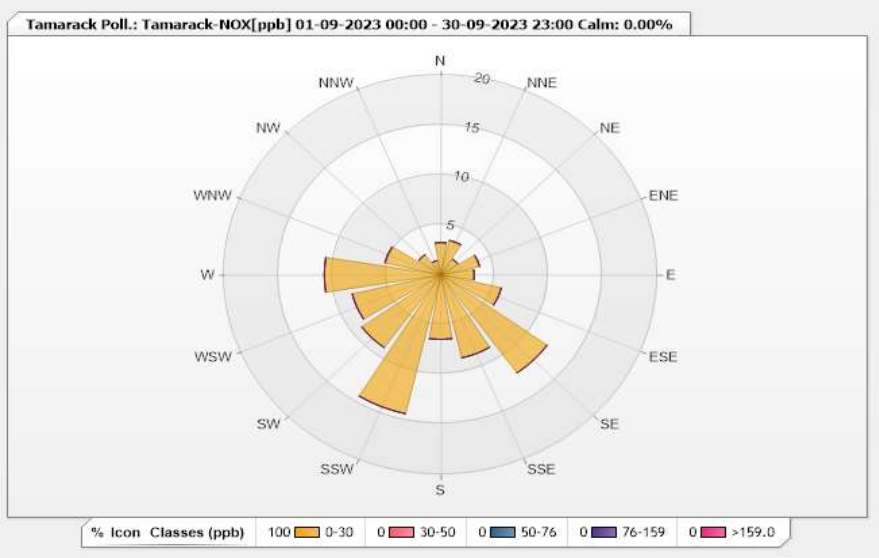


Station: Tamarack Poll.: Tamarack-NOX[ppb] Monthly: 09-2023

Type: Pollution Rose
Direction: Blowing From (Wind Frequency)
Time Base: 1 - Hour

Calm: 0.00% Valid Data: 94.31% Calm Avg: 0.00 [ppm]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	3.24	0	0	0	0	3.24
NNE	3.53	0	0	0	0	3.53
NE	1.91	0	0	0	0	1.91
ENE	3.68	0	0	0	0	3.68
E	3.09	0	0	0	0	3.09
ESE	5.74	0	0	0	0	5.74
SE	12.08	0	0	0	0	12.08
SSE	8.54	0	0	0	0	8.54
S	6.48	0	0	0	0	6.48
SSW	14.29	0	0	0	0	14.29
SW	8.98	0	0	0	0	8.98
WSW	8.39	0	0	0	0	8.39
W	10.75	0	0	0	0	10.75
WNW	5.3	0	0	0	0	5.3
NW	2.5	0	0	0	0	2.5
NNW	1.47	0	0	0	0	1.47
Summary	100	0	0	0	0	100



Lakeland Industry & Community Association

Tamarack Site - September 2023

Summary of Hourly Averages

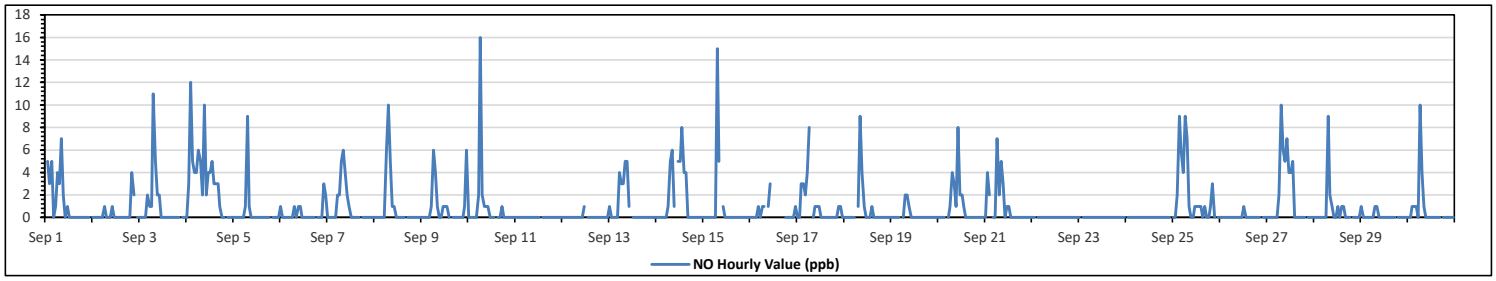
NITRIC OXIDE (NO) in ppb

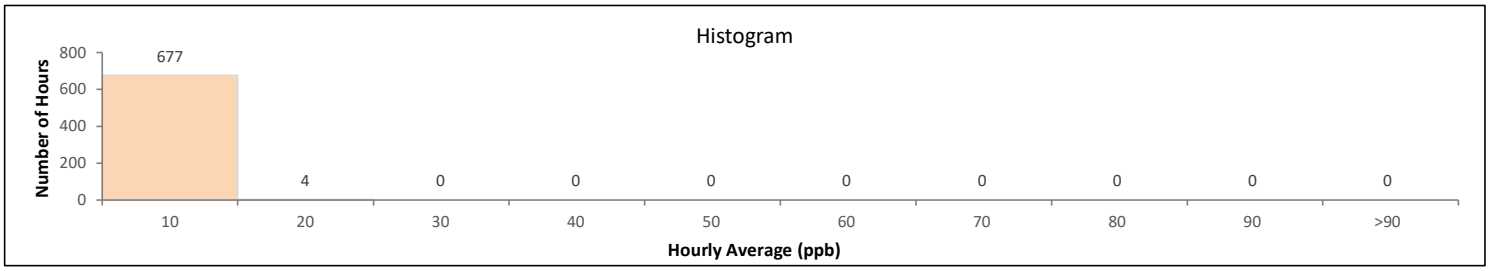
Maximum Hourly Value:	16	ppb	on Sep 10 at hr 6	Hours in Service:	720	
Maximum Daily Value:	3.3	ppb	on Sep 4	Hours of Data:	681	
Minimum Hourly Value:	0	ppb	on Sep 1 at hr 4	Hours of Missing Data:	0	
Minimum Daily Value:	0.0	ppb	on Sep 11	Hours of Calibration:	39	
Monthly Average:	0.8	ppb		Operational Uptime:	100.0	

Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Sep 1	S	5	3	5	0	1	4	3	7	2	0	1	0	0	0	0	0	0	0	0	0	0	0	S	0	7	1.4
Sep 2	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	4	2	S	0	0	4	0.3
Sep 3	0	0	0	0	2	1	1	11	5	2	2	0	0	0	0	0	0	0	0	0	0	S	0	0	0	11	1.0
Sep 4	0	3	12	5	4	4	6	5	2	10	2	4	4	5	3	3	3	1	0	0	S	0	0	0	0	12	**3.3**
Sep 5	0	0	0	0	0	0	1	9	1	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	9	0.5
Sep 6	1	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	S	0	0	0	3	2	0	3	0.4
Sep 7	0	0	0	0	0	2	2	5	6	4	2	1	0	0	0	0	0	S	0	0	0	0	0	0	0	6	1.0
Sep 8	0	0	0	0	0	0	6	10	5	1	1	0	0	0	0	0	S	0	0	0	0	0	0	0	0	10	1.0
Sep 9	0	0	0	0	0	1	6	4	1	0	0	1	1	1	0	S	0	0	0	0	0	0	1	6	0	6	1.0
Sep 10	0	0	0	0	0	2	**16**	2	1	1	1	0	0	0	S	0	0	1	0	0	0	0	0	0	0	**16**	1.0
Sep 11	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 12	0	0	0	0	0	0	0	0	0	0	0	1	S	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Sep 13	1	0	0	0	0	4	3	3	5	5	1	S	0	0	0	0	0	0	0	0	0	0	0	0	0	5	1.0
Sep 14	0	0	0	0	0	0	1	5	6	1	S	5	5	8	4	4	0	0	0	0	0	0	0	0	0	8	1.7
Sep 15	0	0	0	0	0	0	0	15	5	S	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	0.9
Sep 16	0	0	0	0	1	0	1	1	S	1	3	C	C	C	C	C	C	C	0	0	0	0	0	1	0	3	NA
Sep 17	0	0	3	3	2	4	8	S	0	1	1	1	0	0	0	0	0	0	0	0	0	1	1	0	0	8	1.1
Sep 18	0	0	0	0	0	0	S	1	9	4	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	9	0.7
Sep 19	0	0	0	0	0	S	0	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.2
Sep 20	0	0	0	0	S	0	1	4	3	1	8	2	2	1	0	0	0	0	0	0	0	0	0	0	0	8	1.0
Sep 21	0	4	2	S	0	0	7	2	5	3	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	7	1.1
Sep 22	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 23	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 24	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0.0
Sep 25	0	0	2	9	6	4	9	7	1	0	0	1	1	1	1	0	1	0	0	1	3	0	S	0	0	9	2.0
Sep 26	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	S	0	0	0	1	0.0
Sep 27	0	0	0	0	0	0	2	10	6	5	7	4	4	5	0	0	0	0	0	0	0	S	0	0	0	10	1.9
Sep 28	0	0	0	0	0	0	0	9	2	1	0	0	1	0	1	1	0	0	0	S	0	0	0	0	0	9	0.7
Sep 29	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	1	0.1
Sep 30	0	0	1	1	1	0	10	4	1	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	10	0.8
Diurnal Maximum	1	5	12	9	6	4	16	15	9	10	8	5	5	8	4	4	3	1	0	1	4	2	3	6			
Diurnal Average	0.1	0.4	0.8	0.8	0.6	0.8	2.9	3.9	2.6	1.5	1.1	0.8	0.7	0.8	0.4	0.3	0.1	0.1	0.0	0.0	0.3	0.1	0.2	0.3			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	ND	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



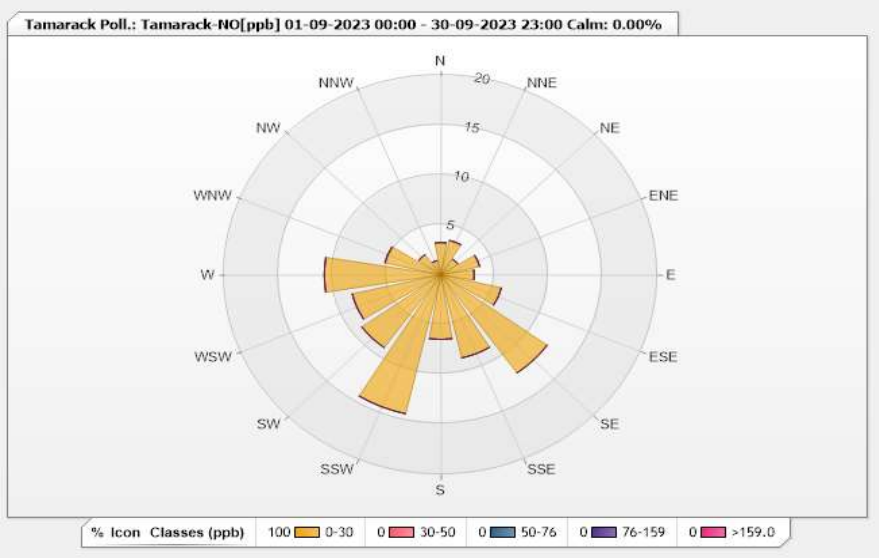


Station: Tamarack Poll.: Tamarack-NO[ppb] Monthly: 09-2023

Type: Pollution Rose
Direction: Blowing From (Wind Frequency)
Time Base: 1 - Hour

Calm: 0.00% Valid Data: 94.31% Calm Avg: 0.00 [ppm]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	3.24	0	0	0	0	3.24
NNE	3.53	0	0	0	0	3.53
NE	1.91	0	0	0	0	1.91
ENE	3.68	0	0	0	0	3.68
E	3.09	0	0	0	0	3.09
ESE	5.74	0	0	0	0	5.74
SE	12.08	0	0	0	0	12.08
SSE	8.54	0	0	0	0	8.54
S	6.48	0	0	0	0	6.48
SSW	14.29	0	0	0	0	14.29
SW	8.98	0	0	0	0	8.98
WSW	8.39	0	0	0	0	8.39
W	10.75	0	0	0	0	10.75
WNW	5.3	0	0	0	0	5.3
NW	2.5	0	0	0	0	2.5
NNW	1.47	0	0	0	0	1.47
Summary	100	0	0	0	0	100



Lakeland Industry & Community Association

Tamarack Site - September 2023

Summary of Hourly Averages

NITROGEN DIOXIDE (NO_2) in ppb

Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 159 ppb

Number of 1-Hour Exceedances: 0

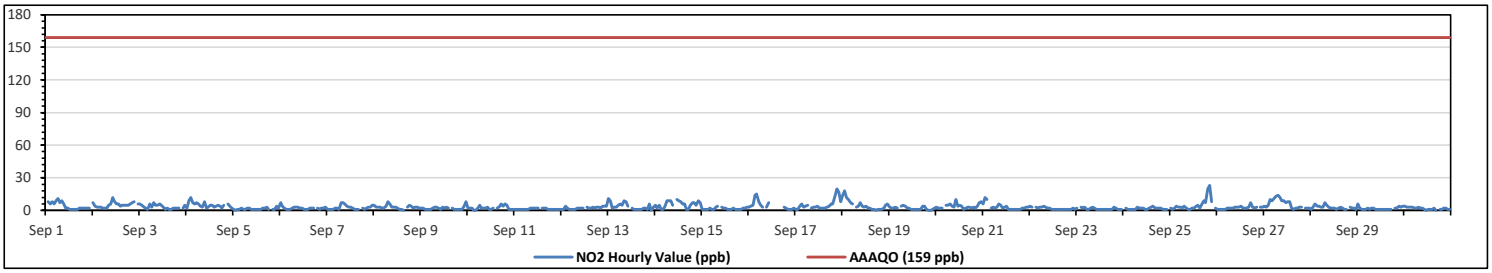
Maximum Hourly Value:	23	ppb	on Sep 25 at hr 20	Hours in Service:	720
Maximum Daily Value:	6.1	ppb	on Sep 27	Hours of Data:	681
Minimum Hourly Value:	0	ppb	on Sep 5 at hr 1	Hours of Missing Data:	0
Minimum Daily Value:	1.3	ppb	on Sep 11	Hours of Calibration:	39
Monthly Average:	3.2	ppb		Operational Uptime:	100.0

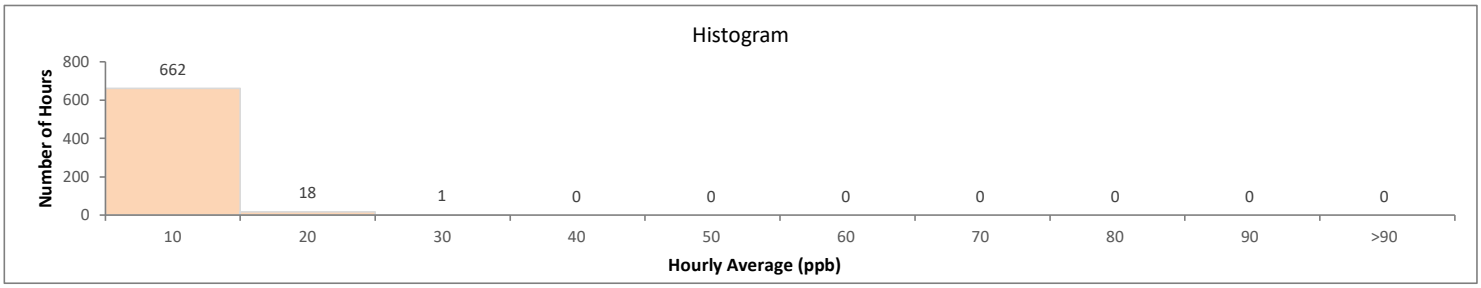
Day	Hourly Period Starting at (MST)																						Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Sep 1	S	8	6	8	6	9	11	7	9	6	2	2	1	1	1	1	1	2	2	2	2	2	2	S	1	11	4.1
Sep 2	7	4	3	3	3	2	2	2	5	6	12	8	6	6	4	5	5	5	5	6	7	8	S	6	2	12	5.2
Sep 3	6	5	3	2	1	6	3	7	5	5	6	5	3	1	2	1	1	2	2	2	2	S	2	5	1	7	3.3
Sep 4	2	9	12	7	6	7	6	4	3	8	2	3	5	5	3	4	5	4	2	5	S	6	4	2	2	12	5.0
Sep 5	1	0	1	1	2	1	1	2	2	1	1	1	1	1	1	2	2	3	1	S	1	1	4	2	0	4	1.4
Sep 6	7	4	2	1	1	1	2	3	3	3	2	2	1	1	1	2	2	2	S	2	1	2	2	3	1	7	2.2
Sep 7	1	1	1	1	2	2	1	7	7	6	4	3	3	2	1	1	1	S	2	1	2	3	3	5	1	7	2.6
Sep 8	5	3	3	3	2	2	4	8	6	3	3	3	2	1	1	0	S	3	5	4	2	3	3	2	0	8	3.1
Sep 9	2	2	1	1	1	1	2	3	3	2	1	3	2	3	2	S	2	1	1	1	1	1	4	8	1	8	2.1
Sep 10	2	2	2	0	0	2	5	2	2	2	3	1	1	2	S	2	3	6	4	6	5	1	1	1	0	6	2.4
Sep 11	1	1	1	1	1	1	1	1	2	2	2	2	2	S	2	2	2	1	1	1	1	1	1	1	1	2	1.3
Sep 12	1	1	4	2	1	1	1	1	2	2	2	2	S	3	2	2	3	2	3	3	2	4	4	4	1	4	2.3
Sep 13	11	9	2	3	3	5	6	5	9	8	4	S	2	1	1	1	1	1	2	2	1	6	0	3	0	11	3.7
Sep 14	5	2	5	1	1	4	9	9	9	5	S	10	9	8	6	6	1	1	5	7	7	5	9	7	1	10	5.7
Sep 15	1	1	1	1	2	1	1	3	4	S	3	2	2	1	1	1	2	1	1	1	1	2	2	3	1	4	1.7
Sep 16	3	4	5	14	15	8	5	3	S	3	7	C	C	C	C	C	C	C	3	2	1	1	1	2	1	15	NA
Sep 17	1	1	4	6	3	4	5	S	2	3	3	4	2	2	2	2	3	4	6	6	13	20	17	8	1	20	5.3
Sep 18	14	18	12	10	7	6	S	3	4	7	4	3	4	2	2	1	1	0	1	1	1	2	5	6	0	18	5.0
Sep 19	3	2	2	3	2	S	4	5	4	2	2	1	1	1	1	1	1	4	4	1	0	0	1	2	0	5	2.0
Sep 20	3	2	2	2	S	5	5	6	4	3	10	4	5	4	1	2	3	3	2	3	2	4	7	8	1	10	3.9
Sep 21	6	12	10	S	2	3	2	3	6	5	2	3	4	1	1	1	1	1	1	1	2	2	3	3	1	12	3.3
Sep 22	4	3	S	3	2	3	3	4	3	2	2	1	1	1	1	1	1	1	1	1	1	1	2	1	1	4	1.9
Sep 23	2	S	3	2	3	1	1	2	3	2	1	1	1	1	1	1	1	1	1	3	2	1	1	1	1	3	1.6
Sep 24	S	2	1	1	1	1	1	3	2	2	2	1	1	2	3	4	2	2	2	2	1	1	1	S	1	4	1.7
Sep 25	2	1	2	4	3	3	2	4	2	1	1	2	2	4	5	2	6	9	7	20	23	8	S	2	1	23	5.0
Sep 26	1	1	1	1	1	2	2	2	2	3	3	3	4	2	2	2	3	7	3	2	3	S	3	3	1	7	2.4
Sep 27	4	3	5	10	9	11	13	14	12	9	9	7	8	8	2	1	2	2	3	3	S	2	2	2	1	14	6.1
Sep 28	1	3	6	4	4	3	3	7	5	3	2	2	2	1	2	3	2	1	1	S	3	2	2	1	1	7	2.7
Sep 29	6	2	1	1	1	2	1	2	2	1	1	1	1	1	1	1	1	1	S	2	2	4	3	4	1	6	1.8
Sep 30	4	3	3	3	3	2	2	3	2	2	1	0	1	1	1	2	0	S	1	1	2	2	1	1	0	4	1.8
Diurnal Maximum	14	18	12	14	15	11	13	14	12	9	12	10	9	8	6	6	6	9	7	20	23	20	17	8			
Diurnal Average	3.8	3.8	3.6	3.4	3.0	3.4	3.6	4.3	4.3	3.7	3.3	2.9	2.8	2.4	1.9	1.9	2.1	2.6	2.6	3.3	3.3	3.4	3.2	3.4			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	ND	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.

Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



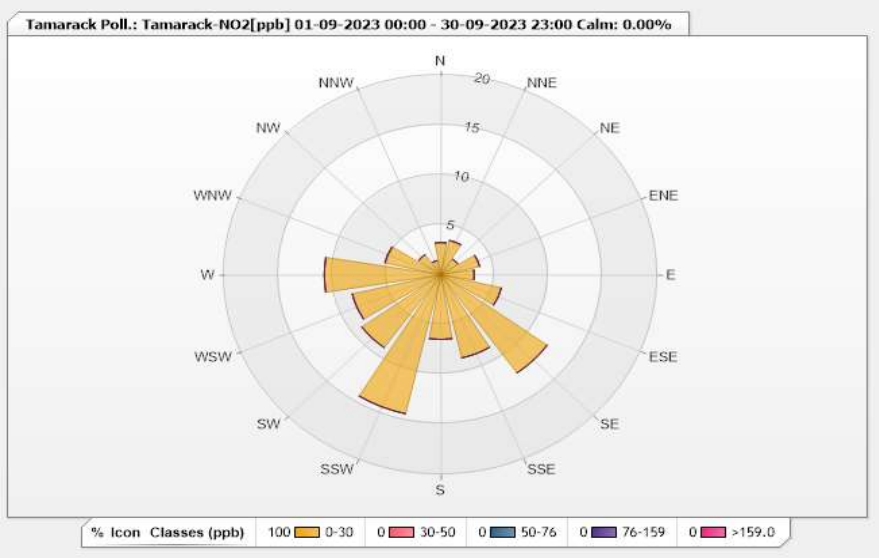


Station: Tamarack Poll.: Tamarack-NO2[ppb] Monthly: 09-2023

Type: Pollution Rose
Direction: Blowing From (Wind Frequency)
Time Base: 1 - Hour

Calm: 0.00% Valid Data: 94.31% Calm Avg: 0.00 [ppm]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	3.24	0	0	0	0	3.24
NNE	3.53	0	0	0	0	3.53
NE	1.91	0	0	0	0	1.91
ENE	3.68	0	0	0	0	3.68
E	3.09	0	0	0	0	3.09
ESE	5.74	0	0	0	0	5.74
SE	12.08	0	0	0	0	12.08
SSE	8.54	0	0	0	0	8.54
S	6.48	0	0	0	0	6.48
SSW	14.29	0	0	0	0	14.29
SW	8.98	0	0	0	0	8.98
WSW	8.39	0	0	0	0	8.39
W	10.75	0	0	0	0	10.75
WNW	5.3	0	0	0	0	5.3
NW	2.5	0	0	0	0	2.5
NNW	1.47	0	0	0	0	1.47
Summary	100	0	0	0	0	100



Lakeland Industry & Community Association

Tamarack Site - September 2023

Summary of Hourly Averages

OZONE (O_3) in ppb

Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 76 ppb

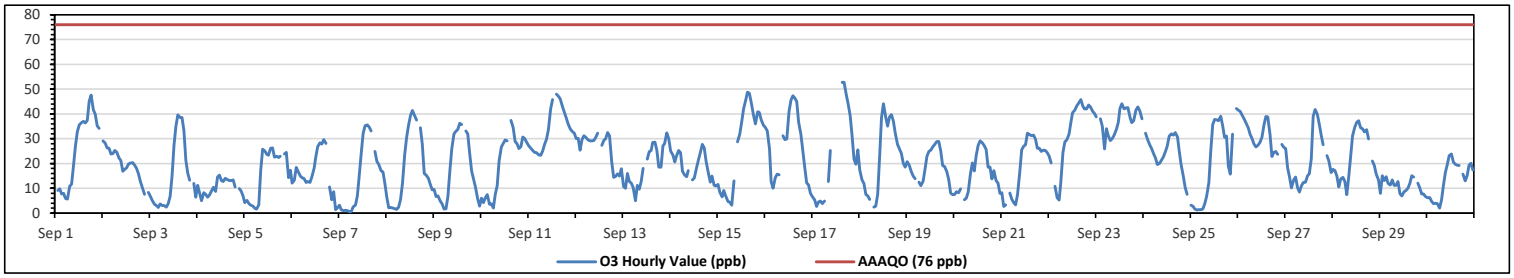
Number of 1-Hour Exceedances: 0

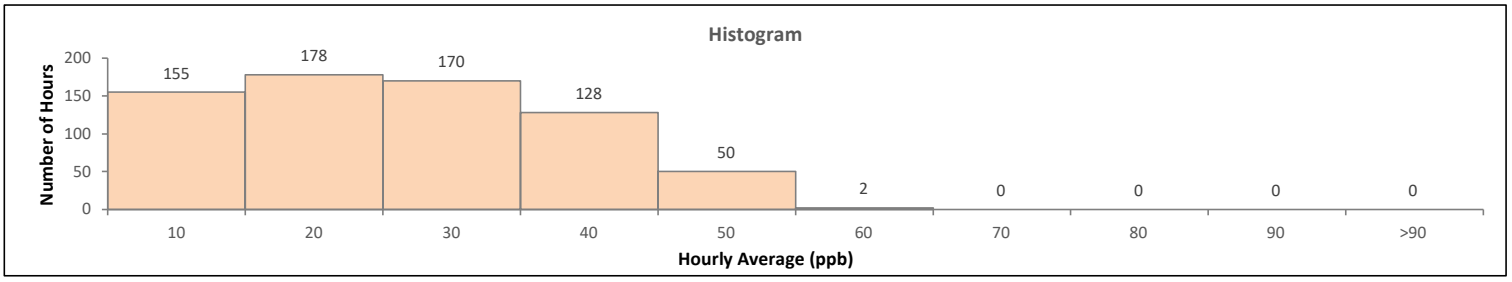
Maximum Hourly Value:	52.8	ppb	on Sep 17 at hr 15	Hours in Service:	720
Maximum Daily Value:	37.1	ppb	on Sep 23	Hours of Data:	683
Minimum Hourly Value:	0.5	ppb	on Sep 7 at hr 5	Hours of Missing Data:	0
Minimum Daily Value:	10.5	ppb	on Sep 4	Hours of Calibration:	37
Monthly Average:	21.2	ppb		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Sep 1	S	9.2	9.8	7.7	8	5.9	5.6	10.8	11.7	19.2	27	32.9	35.6	36.5	37	36.4	37.4	45.2	47.7	41.6	39.8	35.2	34.2	S	5.6	47.7	26.1
Sep 2	29.1	28.3	26.4	26.2	23.9	24	25.2	24.6	22.2	21.2	16.9	17.7	18.3	19.9	20.2	20.3	19.4	18	15.8	12.7	9.9	7.5	S	8.4	7.5	29.1	19.8
Sep 3	6.9	5.1	3.5	3	2.3	3.7	3	3	2.4	3.9	6.9	15.1	27.3	35.1	39.6	38.6	38.6	33.2	21.4	16.1	13.3	S	12	6.4	2.3	39.6	14.8
Sep 4	11.3	8.1	5	8.2	7.6	6.5	7.3	8.9	10.4	8.8	14.6	15.3	13.2	12.7	14	13.6	13.1	13.1	13.5	10.6	S	9.9	8.9	6.9	5.0	15.3	**10.5**
Sep 5	4.2	5.1	3.9	3.1	2.9	1.9	1.7	3.3	17.3	25.8	25	23.7	23.4	26.2	26.3	22.5	22.9	22.4	22.9	S	23.9	24.5	14.3	17.3	1.7	26.3	15.8
Sep 6	12.1	13.3	18.4	16.7	14.9	14.1	14	12.3	12.8	12.4	14.7	18.2	22.5	26.8	28.4	27.9	29.7	28.2	S	10.6	5.3	8.6	1.4	2.3	1.4	29.7	15.9
Sep 7	3.2	1.2	0.9	1.1	1	0.5	0.6	2.6	3.2	7	15.3	25.4	32.1	35.2	35.6	34.7	33.1	S	24.9	20.9	19.6	17.2	16.6	12	**0.5**	35.6	15.0
Sep 8	6.4	2.2	2.3	2.1	1.8	1.5	2.4	5.5	12	23.8	30.6	35.5	39.3	41.4	39.6	37.5	S	34.4	27.7	15.9	15.4	14	11.5	9.4	1.5	41.4	17.9
Sep 9	9.5	6.7	7	4.9	3.7	1.6	1.8	6.9	16.9	25.9	32	33	33.8	36.3	35.7	S	33.1	32	24.2	17	13.8	10.5	5.8	2.8	1.6	36.3	17.2
Sep 10	6	4.3	6.1	7.4	3.5	3.7	2.1	7.6	11.1	21.2	26.6	28.2	29.5	29.1	S	37.4	34.4	28.9	28	26.1	26.8	30.7	30.1	28.4	2.1	37.4	19.9
Sep 11	27	26.2	25.3	24.5	24.3	23.5	23.4	25	27.8	29.8	33.6	42	45.7	S	48	47.2	46	43	40.6	38.3	35.8	34	33	32.2	23.4	48.0	33.7
Sep 12	30.1	30.2	25.4	29.6	31.2	30.6	29.5	29.1	29.1	29.3	30.6	32.2	S	27.3	29.2	30.1	32.6	31.2	20.5	14.4	14.8	15.8	15	17.9	14.4	32.6	26.3
Sep 13	10.7	10	16	12.8	12.1	10.3	5	11.3	9.6	12.8	18	S	21.8	24.7	25.3	28.5	28.6	25.2	18.5	18.5	27.2	28	32.4	30.1	5.0	32.4	19.0
Sep 14	25	23.5	20.6	23	25.2	24.3	16.9	15.3	14.7	17.1	S	13.4	14.2	18.3	21.6	24	27.8	26.4	20.8	16.1	12.5	14.9	11.2	11	11.0	27.8	19.0
Sep 15	11.5	8.3	6.6	9.2	7	4.8	4.4	3.1	13	S	28.7	31.8	36.8	42.1	45.8	48.7	48.4	43.8	39.4	36	40.9	40.7	37.6	35.5	3.1	48.7	27.1
Sep 16	34.6	33.1	26	12.8	10	14.3	15.7	15.5	S	31.2	29.6	29.9	41	45.6	47.4	46.4	45	36.7	31.8	25.2	18.6	12.2	11.4	8	8.0	47.4	27.0
Sep 17	6.4	5.4	2.7	4.5	4.9	3.9	4.9	S	12.7	25.3	C	C	C	C	C	**52.8**	52.7	48.3	43.8	39.3	31.2	21.8	19.7	25.5	2.7	**52.8**	22.5
Sep 18	17.4	13.5	12	7.6	7	5.5	S	2.5	2.8	7.6	22.5	38.6	44.1	38.8	35	38.8	39.7	37.1	32.2	27.7	26	24.2	20.1	18.5	2.5	44.1	22.6
Sep 19	20.7	19.2	16.8	14.9	13.9	S	12.5	11.1	12.9	17.8	23	24.9	25.4	26.6	27.9	28.9	28.8	25.1	19.2	18.8	16.8	13.6	8.1	7.4	7.4	28.9	18.9
Sep 20	7.4	8.7	8.2	9.8	S	5.3	6	8.6	16	20.2	17	23.4	27.3	29.1	28.4	27.2	25.7	18.6	18.6	13.8	17.2	13.1	12.1	7.9	5.3	29.1	16.1
Sep 21	8.2	2.7	3.3	S	8.1	5.6	4.2	3.3	7.4	16.5	25.5	26.9	27.6	32.3	31.7	31.2	31.4	29.9	26.2	26.2	24.8	25.4	25.3	24.3	2.7	32.3	19.5
Sep 22	22.9	20.2	S	10.8	6.1	5.2	12	24.4	28.7	29.5	31.8	36.8	40.5	41.5	43.2	44.4	45.7	43.3	42	42.1	43.5	42.8	41.1	40.1	5.2	45.7	32.1
Sep 23	38.9	S	38	35.1	25.9	34.1	31.4	29.3	30	31.5	33.8	36.6	42.2	44.1	42	42.4	42.6	38.5	36.5	37.3	41.5	42.8	41.3	38.1	25.9	44.1	**37.1**
Sep 24	S	32.3	29.5	27.6	26.1	23.7	22.3	19.6	20.1	21.4	22.7	25.1	27.1	31	32	31.4	32.5	30.7	25.4	19.7	15	10.3	7.5	S	7.5	32.5	24.2
Sep 25	3.2	2.9	1.6	1.2	1.3	1.3	1.7	3.7	6.9	12.3	25.3	35.7	37.8	37.6	37.3	39.1	35.3	30.6	31.1	18.8	15.7	31.8	S	42.2	1.2	42.2	19.8
Sep 26	41.5	41	39.4	37.8	36.1	34.4	31.7	30	27.9	26.7	27.5	28.6	30.7	35.5	39	38.8	31.8	22.8	24.4	24.8	23.7	S	27.7	26.5	22.8	41.5	31.7
Sep 27	26.1	18.3	14.6	10.2	13.5	14.6	10.3	8.5	11	12.4	12.5	15	15.9	22	39.1	41.8	39.9	35.8	31.4	27.6	S	23.2	21	16.3	8.5	41.8	20.9
Sep 28	17.7	17.1	15	10.5	13.8	14.4	12.7	7.4	14.6	22.8	31.2	34.7	36.6	37.2	34.5	34.1	32.8	33.7	29.9	S	21	19.2	15.7	13.5	7.4	37.2	22.6
Sep 29	7.9	15.1	13.2	14.7	12	11.4	13.4	11.2	11.3	12.8	7.8	7	8.7	9.2	10	12	15.1	14.6	S	12.1	10.1	7.7	7.7	6.7	6.7	15.1	10.9
Sep 30	6.1	6.3	4.8	3.9	4	3.8	2	5.2	11.2	16.4	19.6	23.2	23.9	20.6	19.8	19.3	19.2	S	15.7	13	15.1	19.3	20.1	17.4	2.0	23.9	13.5
Diurnal Maximum	41.5	41.0	39.4	37.8	36.1	34.4	31.7	30.0	30.0	31.5	33.8	42.0	45.7	45.6	48.0	52.8	52.7	48.3	47.7	42.1	43.5	42.8	41.3	42.2			
Diurnal Average	16.1	14.4	13.9	13.1	12.1	11.5	11.2	12.1	14.7	19.4	23.2	26.8	29.4	30.8	32.6	33.7	33.2	31.1	27.6	22.9	22.1	21.4	19.4	18.3			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	ND	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



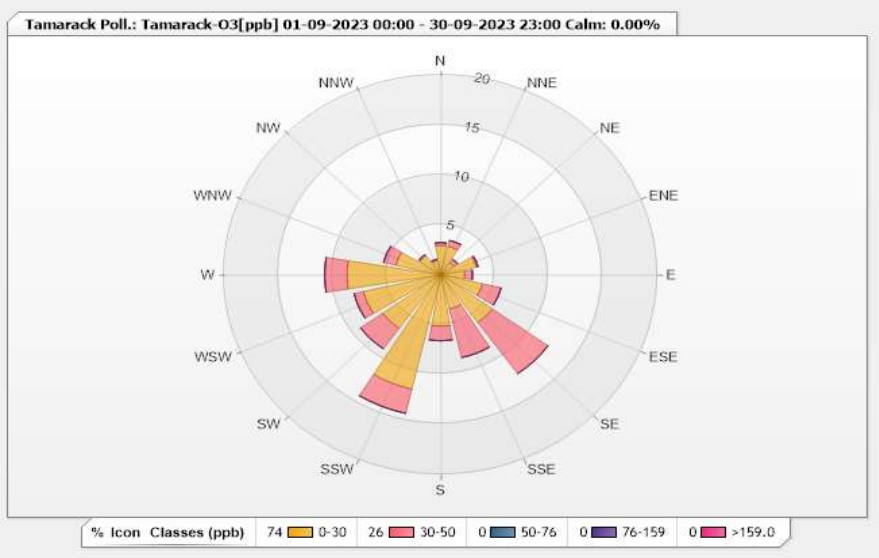


Station: Tamarack Poll.: Tamarack-O3[ppb] Monthly: 09-2023

Type: Pollution Rose
Direction: Blowing From (Wind Frequency)
Time Base: 1 - Hour

Calm: 0.00% Valid Data: 94.58% Calm Avg: 0.00 [ppm]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	2.94	0.29	0	0	0	3.23
NNE	2.94	0.59	0	0	0	3.53
NE	1.47	0.44	0	0	0	1.91
ENE	3.38	0.15	0	0	0	3.53
E	2.2	0.73	0	0	0	2.93
ESE	3.96	1.76	0	0	0	5.72
SE	5.87	6.31	0	0	0	12.18
SSE	3.52	4.99	0	0	0	8.51
S	5.14	1.47	0	0	0	6.61
SSW	11.75	2.5	0	0	0	14.25
SW	6.61	2.5	0	0	0	9.11
WSW	7.34	0.88	0	0	0	8.22
W	8.66	2.06	0	0	0	10.72
WNW	4.26	1.17	0	0	0	5.43
NW	2.35	0.15	0	0	0	2.5
NNW	1.47	0.15	0	0	0	1.62
Summary	73.86	26.14	0	0	0	100



Lakeland Industry & Community Association

Tamarack Site - September 2023

Summary of Hourly Averages

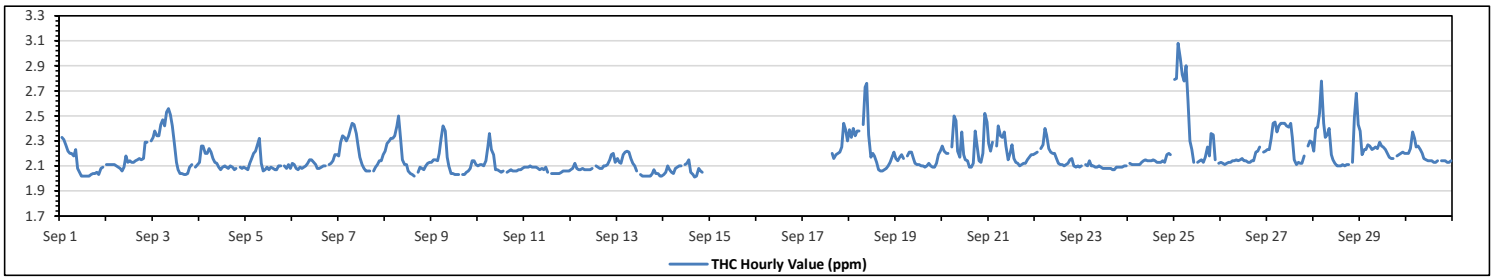
TOTAL HYDROCARBONS (THC) in ppm

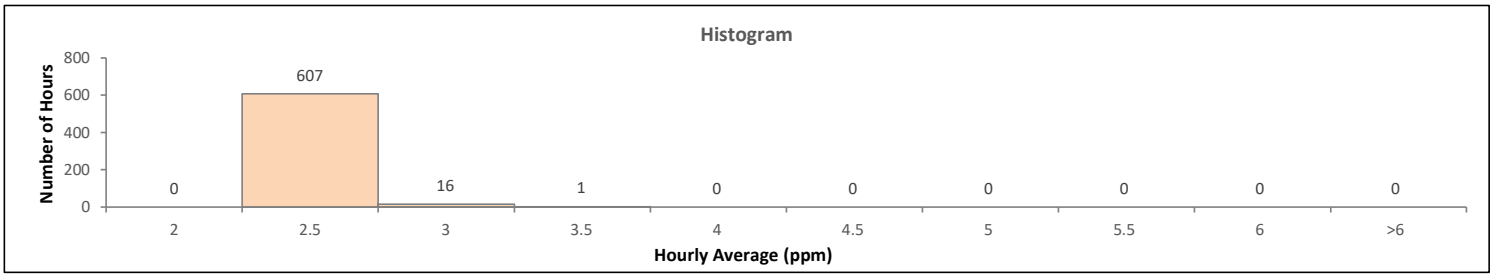
Maximum Hourly Value:	3.08	ppm	on Sep 25 at hr 2	Hours in Service:	720
Maximum Daily Value:	2.43	ppm	on Sep 25	Hours of Data:	624
Minimum Hourly Value:	2.01	ppm	on Sep 15 at hr 16	Hours of Missing Data:	62
Minimum Daily Value:	2.07	ppm	on Sep 11	Hours of Calibration:	34
Monthly Average:	2.18	ppm		Operational Uptime:	91.4

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Sep 1	S	2.33	2.31	2.27	2.22	2.20	2.20	2.18	2.23	2.08	2.05	2.02	2.02	2.02	2.02	2.02	2.03	2.04	2.04	2.05	2.03	2.08	2.09	S	2.02	2.33	2.12
Sep 2	2.11	2.11	2.11	2.11	2.11	2.10	2.09	2.08	2.06	2.09	2.18	2.13	2.14	2.13	2.13	2.14	2.15	2.16	2.15	2.16	2.29	2.29	S	2.30	2.06	2.30	2.14
Sep 3	2.33	2.38	2.34	2.34	2.43	2.47	2.42	2.53	2.56	2.51	2.42	2.29	2.13	2.07	2.04	2.04	2.03	2.03	2.04	2.09	2.11	S	2.09	2.11	2.03	2.56	2.25
Sep 4	2.13	2.26	2.26	2.20	2.20	2.24	2.21	2.16	2.13	2.12	2.09	2.07	2.09	2.10	2.09	2.08	2.10	2.09	2.07	2.08	S	2.09	2.08	2.09	2.07	2.26	2.13
Sep 5	2.08	2.07	2.12	2.16	2.20	2.22	2.27	2.32	2.12	2.06	2.07	2.09	2.07	2.09	2.08	2.07	2.07	2.10	2.10	S	2.10	2.08	2.11	2.08	2.06	2.32	2.12
Sep 6	2.12	2.11	2.08	2.07	2.09	2.08	2.09	2.10	2.12	2.15	2.15	2.13	2.11	2.08	2.08	2.09	2.10	2.10	S	2.11	2.12	2.14	2.19	2.19	2.07	2.19	2.11
Sep 7	2.18	2.29	2.34	2.33	2.30	2.34	2.39	2.44	2.43	2.36	2.27	2.17	2.11	2.08	2.06	2.06	2.06	S	2.06	2.09	2.11	2.14	2.14	2.19	2.06	2.44	2.21
Sep 8	2.22	2.28	2.30	2.32	2.32	2.34	2.42	2.50	2.33	2.15	2.11	2.11	2.06	2.04	2.03	2.02	S	2.05	2.09	2.08	2.07	2.10	2.12	2.13	2.02	2.50	2.18
Sep 9	2.13	2.15	2.15	2.14	2.20	2.32	2.42	2.38	2.17	2.10	2.04	2.04	2.03	2.03	2.03	S	2.03	2.03	2.05	2.06	2.08	2.14	2.14	2.11	2.03	2.42	2.13
Sep 10	2.10	2.11	2.11	2.10	2.14	2.25	2.36	2.23	2.19	2.07	2.07	2.06	2.05	2.06	S	2.05	2.06	2.07	2.06	2.06	2.06	2.07	2.07	2.08	2.05	2.36	2.11
Sep 11	2.09	2.09	2.09	2.10	2.09	2.09	2.09	2.08	2.07	2.08	2.07	2.09	2.05	S	2.04	2.04	2.04	2.04	2.04	2.05	2.06	2.06	2.06	2.06	2.04	2.10	2.07
Sep 12	2.07	2.08	2.12	2.08	2.07	2.07	2.08	2.07	2.07	2.07	2.07	2.08	S	2.10	2.09	2.08	2.08	2.10	2.10	2.11	2.15	2.19	2.20	2.13	2.07	2.20	2.10
Sep 13	2.16	2.13	2.12	2.19	2.21	2.22	2.21	2.16	2.12	2.10	2.06	S	2.03	2.02	2.02	2.02	2.02	2.02	2.04	2.07	2.04	2.04	2.02	2.02	2.02	2.22	2.09
Sep 14	2.03	2.05	2.10	2.07	2.05	2.04	2.08	2.09	2.10	2.10	S	2.11	2.12	2.15	2.05	2.03	2.01	2.02	2.08	2.06	2.05	X	X	X	2.01	2.15	2.07
Sep 15	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	0.00	0.00	NA
Sep 16	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	0.00	0.00	NA
Sep 17	X	X	X	X	X	X	X	X	X	X	C	C	C	C	C	2.20	2.16	2.19	2.20	2.21	2.25	2.44	2.39	2.30	2.16	2.44	NA
Sep 18	2.39	2.33	2.40	2.34	2.38	2.38	S	2.43	2.73	2.76	2.35	2.17	2.20	2.18	2.13	2.07	2.06	2.06	2.07	2.08	2.10	2.13	2.17	2.21	2.06	2.76	2.27
Sep 19	2.16	2.14	2.17	2.19	2.16	S	2.18	2.21	2.21	2.16	2.12	2.11	2.11	2.10	2.10	2.09	2.10	2.12	2.10	2.09	2.09	2.12	2.19	2.22	2.09	2.22	2.14
Sep 20	2.26	2.22	2.20	2.20	S	2.25	2.50	2.46	2.22	2.17	2.37	2.19	2.15	2.14	2.09	2.09	2.12	2.38	2.26	2.14	2.13	2.20	2.52	2.45	2.09	2.52	2.25
Sep 21	2.28	2.22	2.29	S	2.26	2.42	2.34	2.33	2.37	2.26	2.15	2.20	2.27	2.16	2.13	2.12	2.10	2.11	2.12	2.12	2.15	2.17	2.19	2.19	2.10	2.42	2.22
Sep 22	2.20	2.21	S	2.24	2.27	2.40	2.35	2.24	2.21	2.20	2.20	2.16	2.12	2.11	2.11	2.10	2.11	2.12	2.15	2.16	2.10	2.09	2.10	2.09	2.09	2.40	2.18
Sep 23	2.10	S	2.11	2.10	2.14	2.10	2.10	2.09	2.09	2.10	2.09	2.08	2.08	2.08	2.08	2.08	2.07	2.07	2.09	2.09	2.09	2.09	2.10	2.10	2.07	2.14	2.09
Sep 24	S	2.12	2.11	2.11	2.11	2.11	2.11	2.13	2.14	2.15	2.14	2.14	2.14	2.15	2.14	2.13	2.13	2.13	2.14	2.13	2.19	2.20	2.19	S	2.11	2.20	2.14
Sep 25	2.79	2.80	**3.08**	2.96	2.83	2.78	2.90	2.62	2.30	2.23	2.13	Y	2.13	2.14	2.15	2.13	2.17	2.25	2.18	2.36	2.35	2.15	S	2.12	2.12	**3.08**	**2.43**
Sep 26	2.13	2.12	2.11	2.12	2.13	2.13	2.14	2.14	2.15	2.14	2.15	2.16	2.14	2.14	2.13	2.13	2.14	2.14	2.21	2.22	2.25	S	2.21	2.22	2.11	2.25	2.15
Sep 27	2.23	2.23	2.32	2.44	2.45	2.37	2.42	2.44	2.44	2.44	2.42	2.41	2.44	2.33	2.15	2.11	2.13	2.12	2.12	2.18	S	2.26	2.30	2.29	2.11	2.45	2.31
Sep 28	2.22	2.40	2.41	2.52	2.78	2.44	2.33	2.35	2.40	2.19	2.15	2.12	2.10	2.10	2.10	2.11	2.10	2.11	2.11	S	2.13	2.49	2.68	2.43	2.10	2.78	2.29
Sep 29	2.38	2.19	2.23	2.23	2.27	2.26	2.23	2.24	2.25	2.24	2.29	2.26	2.25	2.23	2.20	2.17	2.16	2.16	S	2.18	2.19	2.20	2.21	2.20	2.16	2.38	2.23
Sep 30	2.20	2.20	2.24	2.37	2.32	2.25	2.26	2.23	2.20	2.16	2.15	2.14	2.14	2.14	2.13	2.13	2.14	S	2.14	2.14	2.14	2.13	2.13	2.14	2.13	2.37	2.18
Diurnal Maximum	2.79	2.80	3.08	2.96	2.83	2.78	2.90	2.62	2.73	2.76	2.42	2.41	2.44	2.33	2.20	2.20	2.17	2.38	2.26	2.36	2.35	2.49	2.68	2.45			
Diurnal Average	2.20	2.22	2.24	2.24	2.26	2.26	2.28	2.27	2.24	2.19	2.17	2.14	2.13	2.11	2.09	2.09	2.09	2.11	2.11	2.12	2.13	2.16	2.19	2.18			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance			
K	Collection Error	ND	No Data (Machine Not in Service)	Y	Routine Maintenance	P	Power Failure	
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)					

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



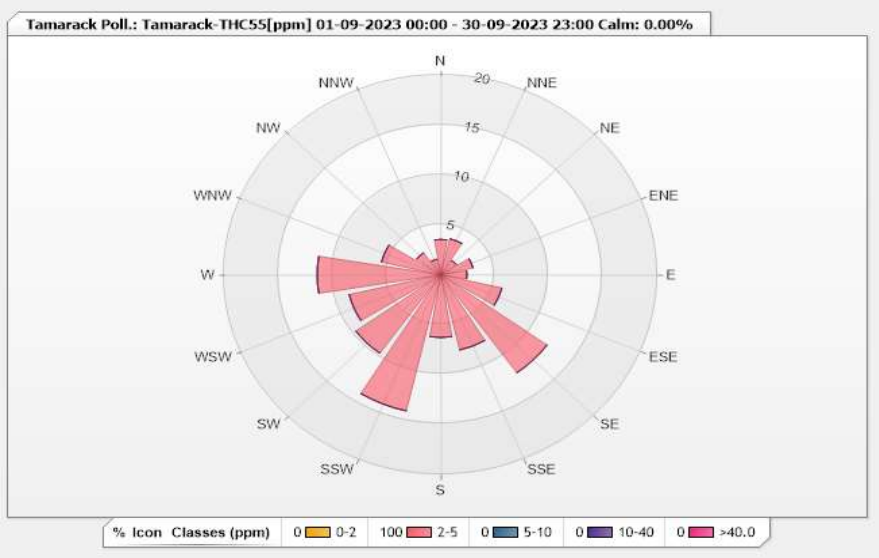


Station: Tamarack Poll.: Tamarack-THC55[ppm] Monthly: 09-2023

Type: Pollution Rose
Direction: Blowing From (Wind Frequency)
Time Base: 1 - Hour

Calm: 0.00% Valid Data: 86.39% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-40	>40.0	Total
N	0	3.54	0	0	0	3.54
NNE	0	3.7	0	0	0	3.7
NE	0	1.77	0	0	0	1.77
ENE	0	3.05	0	0	0	3.05
E	0	2.41	0	0	0	2.41
ESE	0	5.79	0	0	0	5.79
SE	0	12.06	0	0	0	12.06
SSE	0	7.72	0	0	0	7.72
S	0	6.27	0	0	0	6.27
SSW	0	13.99	0	0	0	13.99
SW	0	9.65	0	0	0	9.65
WSW	0	8.68	0	0	0	8.68
W	0	11.41	0	0	0	11.41
WNW	0	5.63	0	0	0	5.63
NW	0	2.73	0	0	0	2.73
NNW	0	1.61	0	0	0	1.61
Summary	0	100	0	0	0	100



Lakeland Industry & Community Association

Tamarack Site - September 2023

Summary of Hourly Averages

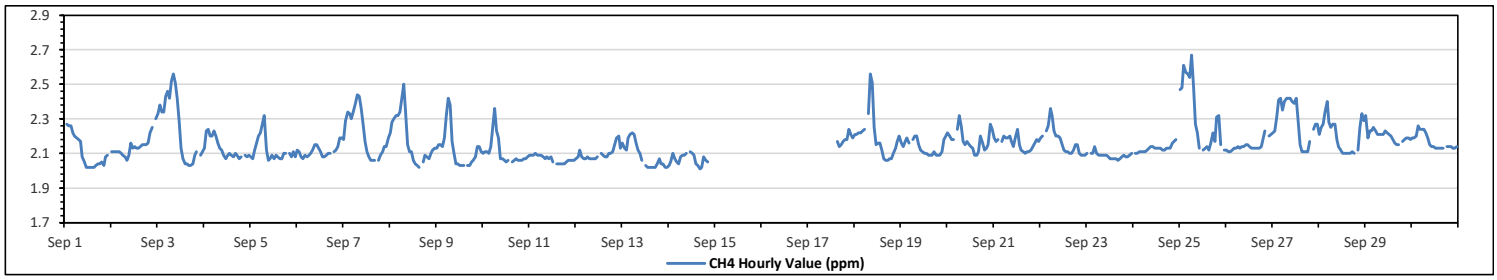
METHANE (CH4) in ppm

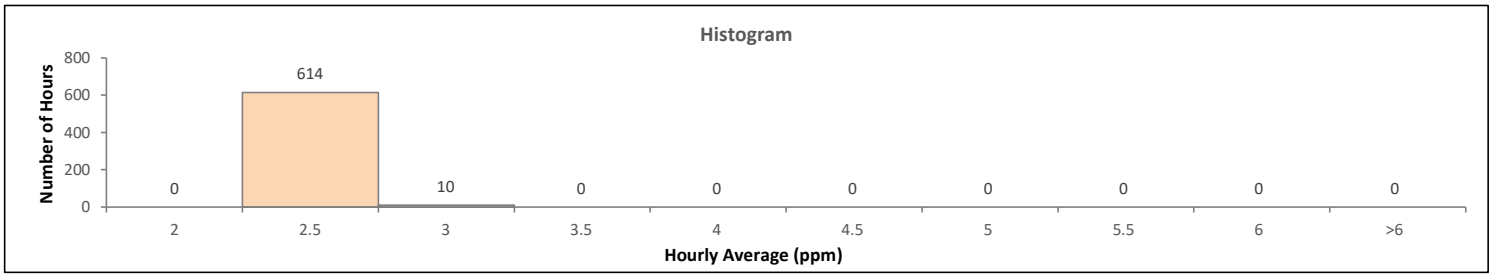
Maximum Hourly Value:	2.67	ppm	on Sep 25 at hr 6	Hours in Service:	720
Maximum Daily Value:	2.32	ppm	on Sep 25	Hours of Data:	624
Minimum Hourly Value:	2.01	ppm	on Sep 14 at hr 16	Hours of Missing Data:	62
Minimum Daily Value:	2.06	ppm	on Sep 14	Hours of Calibration:	34
Monthly Average:	2.16	ppm		Operational Uptime:	91.4

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Sep 1	S	2.27	2.26	2.26	2.22	2.20	2.19	2.18	2.17	2.08	2.05	2.02	2.02	2.02	2.02	2.02	2.03	2.04	2.04	2.05	2.03	2.08	2.09	S	2.02	2.27	2.11
Sep 2	2.11	2.11	2.11	2.11	2.11	2.10	2.09	2.08	2.06	2.09	2.16	2.13	2.14	2.13	2.13	2.14	2.15	2.15	2.15	2.16	2.22	2.25	S	2.30	2.06	2.30	2.14
Sep 3	2.33	2.38	2.34	2.34	2.43	2.46	2.42	2.52	2.56	2.51	2.42	2.29	2.13	2.07	2.04	2.04	2.03	2.03	2.04	2.09	2.11	S	2.09	2.11	2.03	2.56	2.25
Sep 4	2.13	2.23	2.24	2.20	2.20	2.23	2.20	2.16	2.13	2.12	2.09	2.07	2.09	2.10	2.09	2.08	2.10	2.09	2.07	2.08	S	2.09	2.08	2.09	2.07	2.24	2.13
Sep 5	2.08	2.07	2.12	2.16	2.20	2.22	2.27	2.32	2.12	2.06	2.07	2.09	2.07	2.09	2.08	2.07	2.07	2.10	2.10	S	2.10	2.08	2.11	2.08	2.06	2.32	2.12
Sep 6	2.12	2.11	2.08	2.07	2.09	2.08	2.09	2.10	2.12	2.15	2.15	2.13	2.11	2.08	2.08	2.09	2.10	2.10	S	2.11	2.12	2.14	2.19	2.19	2.07	2.19	2.11
Sep 7	2.18	2.29	2.34	2.33	2.30	2.34	2.39	2.44	2.43	2.36	2.27	2.17	2.11	2.08	2.06	2.06	2.06	S	2.06	2.09	2.11	2.14	2.14	2.19	2.06	2.44	2.21
Sep 8	2.22	2.28	2.30	2.32	2.32	2.34	2.42	2.50	2.33	2.15	2.11	2.11	2.06	2.04	2.03	2.02	S	2.05	2.09	2.08	2.07	2.10	2.12	2.13	2.02	2.50	2.18
Sep 9	2.13	2.15	2.15	2.14	2.19	2.32	2.42	2.38	2.17	2.10	2.04	2.04	2.03	2.03	2.03	S	2.03	2.03	2.05	2.06	2.08	2.14	2.14	2.11	2.03	2.42	2.13
Sep 10	2.10	2.11	2.11	2.10	2.14	2.25	2.36	2.23	2.19	2.07	2.07	2.06	2.05	2.06	S	2.05	2.06	2.07	2.06	2.06	2.06	2.07	2.07	2.08	2.05	2.36	2.11
Sep 11	2.09	2.09	2.09	2.10	2.09	2.09	2.09	2.08	2.07	2.08	2.07	2.08	2.05	S	2.04	2.04	2.04	2.04	2.04	2.05	2.06	2.06	2.06	2.06	2.04	2.10	2.07
Sep 12	2.07	2.08	2.12	2.08	2.07	2.07	2.08	2.07	2.07	2.07	2.07	2.08	S	2.10	2.09	2.08	2.08	2.10	2.10	2.11	2.15	2.19	2.20	2.13	2.07	2.20	2.10
Sep 13	2.16	2.13	2.12	2.19	2.21	2.22	2.21	2.16	2.12	2.10	2.06	S	2.03	2.02	2.02	2.02	2.02	2.02	2.04	2.07	2.04	2.04	2.02	2.02	2.02	2.22	2.09
Sep 14	2.03	2.05	2.10	2.07	2.05	2.04	2.08	2.09	2.09	2.10	S	2.11	2.10	2.09	2.04	2.03	2.01	2.02	2.08	2.06	2.05	X	X	X	2.01	2.11	2.06
Sep 15	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Sep 16	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Sep 17	X	X	X	X	X	X	X	X	X	X	C	C	C	C	C	2.17	2.14	2.15	2.17	2.18	2.18	2.24	2.21	2.19	2.14	2.24	NA
Sep 18	2.21	2.21	2.22	2.22	2.23	2.24	S	2.33	2.56	2.51	2.25	2.15	2.16	2.16	2.12	2.07	2.06	2.06	2.07	2.07	2.10	2.13	2.17	2.20	2.06	2.56	2.20
Sep 19	2.16	2.14	2.17	2.19	2.16	S	2.18	2.20	2.20	2.15	2.12	2.11	2.10	2.10	2.09	2.09	2.09	2.11	2.09	2.09	2.09	2.11	2.18	2.20	2.09	2.20	2.14
Sep 20	2.22	2.20	2.18	2.18	S	2.24	2.32	2.26	2.17	2.15	2.17	2.15	2.14	2.13	2.09	2.09	2.11	2.20	2.16	2.12	2.13	2.15	2.27	2.24	2.09	2.32	2.18
Sep 21	2.19	2.17	2.18	S	2.17	2.20	2.19	2.19	2.20	2.17	2.14	2.19	2.24	2.15	2.12	2.11	2.10	2.11	2.11	2.12	2.14	2.16	2.18	2.17	2.10	2.24	2.16
Sep 22	2.19	2.20	S	2.23	2.26	2.36	2.32	2.23	2.20	2.20	2.19	2.16	2.12	2.11	2.11	2.10	2.10	2.12	2.15	2.15	2.10	2.09	2.09	2.09	2.09	2.36	2.17
Sep 23	2.10	S	2.10	2.10	2.14	2.10	2.09	2.09	2.09	2.09	2.09	2.08	2.07	2.07	2.07	2.07	2.06	2.07	2.08	2.09	2.08	2.08	2.09	2.10	2.06	2.14	2.09
Sep 24	S	2.10	2.10	2.11	2.11	2.11	2.11	2.12	2.13	2.14	2.14	2.13	2.13	2.13	2.13	2.12	2.12	2.13	2.13	2.13	2.16	2.17	2.18	S	2.10	2.18	2.13
Sep 25	2.47	2.48	2.61	2.57	2.56	2.54	2.67	2.49	2.27	2.22	2.13	Y	2.12	2.13	2.14	2.12	2.16	2.22	2.17	2.31	2.32	2.15	S	2.12	2.12	2.67	2.32
Sep 26	2.12	2.11	2.11	2.12	2.13	2.13	2.14	2.13	2.14	2.14	2.15	2.15	2.14	2.13	2.13	2.13	2.13	2.13	2.14	2.19	2.23	S	2.20	2.21	2.11	2.23	2.14
Sep 27	2.22	2.23	2.31	2.41	2.42	2.35	2.40	2.42	2.42	2.42	2.40	2.39	2.42	2.31	2.15	2.11	2.11	2.11	2.11	2.17	S	2.24	2.27	2.27	2.11	2.42	2.29
Sep 28	2.21	2.25	2.27	2.34	2.40	2.28	2.25	2.27	2.27	2.18	2.14	2.12	2.10	2.10	2.10	2.10	2.10	2.11	2.10	S	2.12	2.25	2.33	2.29	2.10	2.40	2.20
Sep 29	2.32	2.19	2.23	2.23	2.25	2.23	2.21	2.21	2.21	2.21	2.23	2.22	2.21	2.20	2.18	2.16	2.15	2.15	S	2.17	2.18	2.19	2.19	2.18	2.15	2.32	2.20
Sep 30	2.19	2.19	2.20	2.26	2.24	2.24	2.24	2.22	2.19	2.15	2.14	2.14	2.13	2.13	2.13	2.13	2.13	S	2.14	2.14	2.14	2.13	2.13	2.14	2.13	2.26	2.17
Diurnal Maximum	2.47	2.48	2.61	2.57	2.56	2.54	2.67	2.52	2.56	2.51	2.42	2.39	2.42	2.31	2.18	2.17	2.16	2.22	2.17	2.31	2.32	2.25	2.33	2.30			
Diurnal Average	2.17	2.19	2.20	2.21	2.22	2.23	2.25	2.24	2.21	2.18	2.15	2.13	2.12	2.11	2.09	2.09	2.09	2.10	2.10	2.12	2.12	2.14	2.15	2.16			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	ND	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



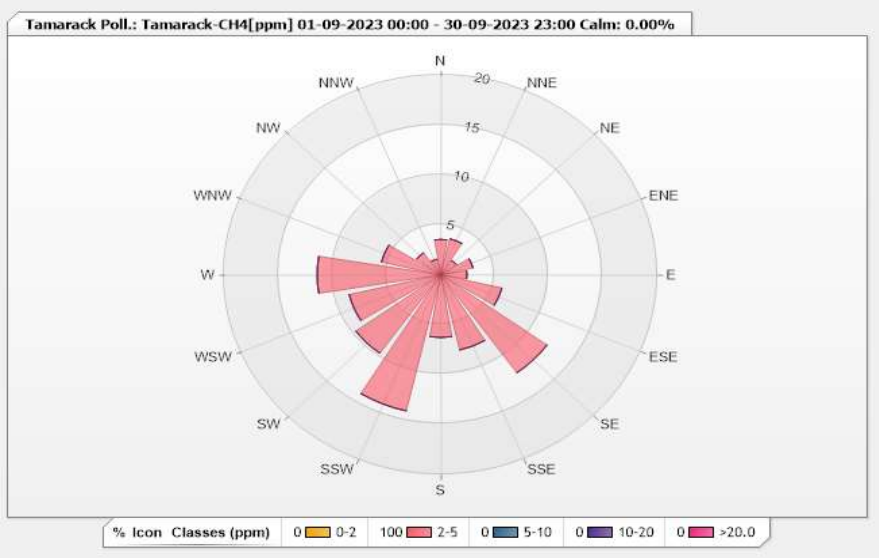


Station: Tamarack Poll.: Tamarack-CH4[ppm] Monthly: 09-2023

Type: Pollution Rose
Direction: Blowing From (Wind Frequency)
Time Base: 1 - Hour

Calm: 0.00% Valid Data: 86.39% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-20	>20.0	Total
N	0	3.54	0	0	0	3.54
NNE	0	3.7	0	0	0	3.7
NE	0	1.77	0	0	0	1.77
ENE	0	3.05	0	0	0	3.05
E	0	2.41	0	0	0	2.41
ESE	0	5.79	0	0	0	5.79
SE	0	12.06	0	0	0	12.06
SSE	0	7.72	0	0	0	7.72
S	0	6.27	0	0	0	6.27
SSW	0	13.99	0	0	0	13.99
SW	0	9.65	0	0	0	9.65
WSW	0	8.68	0	0	0	8.68
W	0	11.41	0	0	0	11.41
WNW	0	5.63	0	0	0	5.63
NW	0	2.73	0	0	0	2.73
NNW	0	1.61	0	0	0	1.61
Summary	0	100	0	0	0	100



Lakeland Industry & Community Association

Tamarack Site - September 2023

Summary of Hourly Averages

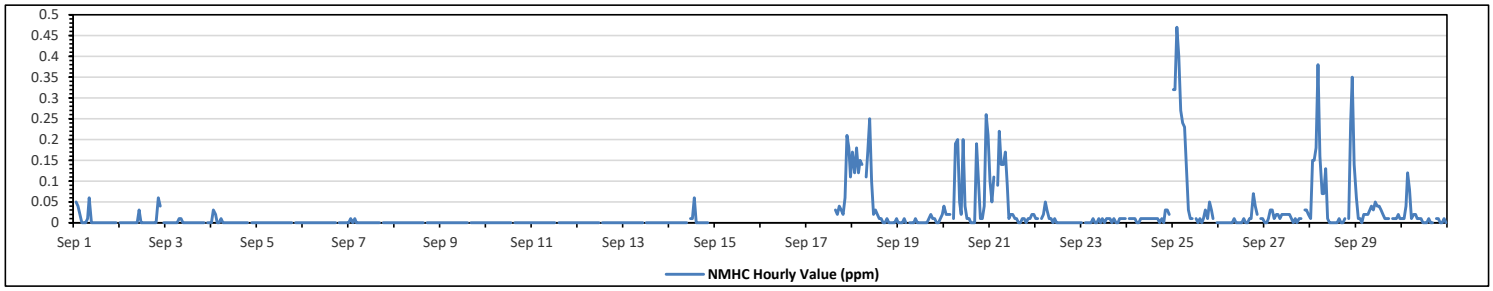
NON-METHANE HYDROCARBONS (NMHC) in ppm

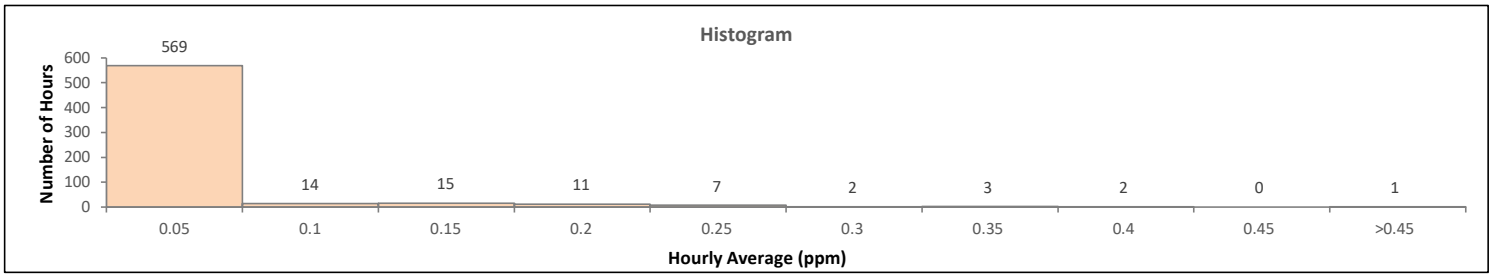
Maximum Hourly Value:	0.47	ppm	on Sep 25 at hr 2	Hours in Service:	720	
Maximum Daily Value:	0.12	ppm	on Sep 25	Hours of Data:	624	
Minimum Hourly Value:	0.00	ppm	on Sep 1 at hr 4	Hours of Missing Data:	62	
Minimum Daily Value:	0.00	ppm	on Sep 5	Hours of Calibration:	34	
Monthly Average:	0.02	ppm		Operational Uptime:	91.4	

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Sep 1	S	0.05	0.04	0.02	0.00	0.00	0.00	0.01	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.06	0.01
Sep 2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.04	S	0.00	0.00	0.06	0.01
Sep 3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.01	0.00
Sep 4	0.00	0.03	0.02	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.03	0.00
Sep 5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 7	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
Sep 8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.01	0.01	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	X	X	X	0.00	0.06	0.00
Sep 15	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	0.00	0.00	NA
Sep 16	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	0.00	0.00	NA
Sep 17	X	X	X	X	X	X	X	X	X	X	C	C	C	C	C	0.03	0.02	0.04	0.03	0.02	0.06	0.21	0.18	0.11	0.02	0.21	NA
Sep 18	0.17	0.12	0.18	0.12	0.15	0.14	S	0.11	0.17	0.25	0.10	0.02	0.03	0.02	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.25	0.07
Sep 19	0.00	0.00	0.00	0.01	0.00	S	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.01	0.01	0.00	0.00	0.01	0.02	0.00	0.02	0.00
Sep 20	0.04	0.02	0.02	0.02	S	0.01	0.19	0.20	0.05	0.02	0.20	0.04	0.01	0.01	0.00	0.00	0.00	0.19	0.10	0.01	0.01	0.04	0.26	0.21	0.00	0.26	0.07
Sep 21	0.10	0.05	0.11	S	0.09	0.22	0.14	0.14	0.17	0.09	0.01	0.02	0.02	0.01	0.01	0.00	0.00	0.01	0.01	0.00	0.01	0.01	0.02	0.02	0.00	0.22	0.05
Sep 22	0.01	0.01	S	0.01	0.02	0.05	0.03	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.01
Sep 23	0.00	S	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.00	0.00	0.01	0.01	0.01	0.01	0.00	0.01	0.00
Sep 24	S	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.00	0.03	0.03	0.02	S	0.00	0.03	0.01
Sep 25	0.32	0.32	**0.47**	0.40	0.27	0.24	0.23	0.13	0.03	0.01	0.01	Y	0.01	0.00	0.01	0.00	0.01	0.03	0.01	0.05	0.03	0.01	S	0.00	0.00	**0.47**	**0.12**
Sep 26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.01	0.07	0.04	0.02	S	0.01	0.01	0.00	0.07	0.01
Sep 27	0.00	0.00	0.01	0.03	0.03	0.01	0.02	0.02	0.01	0.02	0.02	0.02	0.02	0.02	0.01	0.00	0.01	0.00	0.01	0.01	S	0.03	0.03	0.02	0.00	0.03	0.02
Sep 28	0.01	0.15	0.15	0.18	0.38	0.16	0.07	0.07	0.13	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	S	0.01	0.24	0.35	0.14	0.00	0.38	0.09
Sep 29	0.06	0.01	0.01	0.00	0.02	0.02	0.02	0.03	0.04	0.03	0.05	0.04	0.04	0.03	0.02	0.01	0.01	0.01	S	0.01	0.01	0.01	0.02	0.01	0.00	0.06	0.02
Sep 30	0.01	0.01	0.04	0.12	0.08	0.01	0.02	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.01	0.00	0.00	S	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.12	0.02
Diurnal Maximum	0.32	0.32	0.47	0.40	0.38	0.24	0.23	0.20	0.17	0.25	0.20	0.04	0.04	0.06	0.02	0.03	0.02	0.19	0.10	0.05	0.06	0.24	0.35	0.21			
Diurnal Average	0.03	0.03	0.04	0.04	0.04	0.03	0.03	0.03	0.03	0.02	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.03	0.04	0.02			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance			
K	Collection Error	ND	No Data (Machine Not in Service)	Y	Routine Maintenance	P	Power Failure	
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)					

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



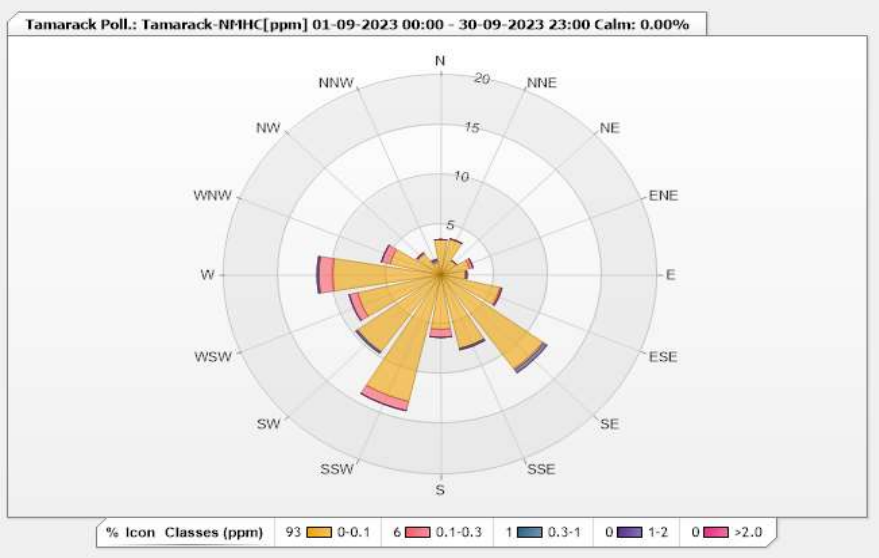


Station: Tamarack Poll.: Tamarack-NMHC[ppm] Monthly: 09-2023

Type: Pollution Rose
Direction: Blowing From (Wind Frequency)
Time Base: 1 - Hour

Calm: 0.00% Valid Data: 86.39% Calm Avg: 0.00 [ppm]

Direction	0-0.1	0.1-0.3	0.3-1	1-2	>2.0	Total
N	3.54	0	0	0	0	3.54
NNE	3.7	0	0	0	0	3.7
NE	1.77	0	0	0	0	1.77
ENE	2.73	0.32	0	0	0	3.05
E	2.25	0.16	0	0	0	2.41
ESE	5.63	0.16	0	0	0	5.79
SE	11.58	0.16	0.32	0	0	12.06
SSE	7.56	0	0.16	0	0	7.72
S	5.47	0.8	0	0	0	6.27
SSW	13.02	0.96	0	0	0	13.98
SW	9.49	0	0.16	0	0	9.65
WSW	7.88	0.8	0	0	0	8.68
W	9.97	1.29	0.16	0	0	11.42
WNW	4.82	0.8	0	0	0	5.62
NW	2.57	0.16	0	0	0	2.73
NNW	1.29	0.16	0.16	0	0	1.61
Summary	93.27	5.77	0.96	0	0	100



Lakeland Industry & Community Association

Tamarack Site - September 2023

Summary of Hourly Averages

PARTICULATE MATTER 2.5 ($PM_{2.5}$) in µg/m^3

Alberta Ambient Air Quality Guideline (AAAQG): 1-Hour 80 µg/m3, Alberta Ambient Air Quality Objective (AAAQO): 24-Hour 29 µg/m3

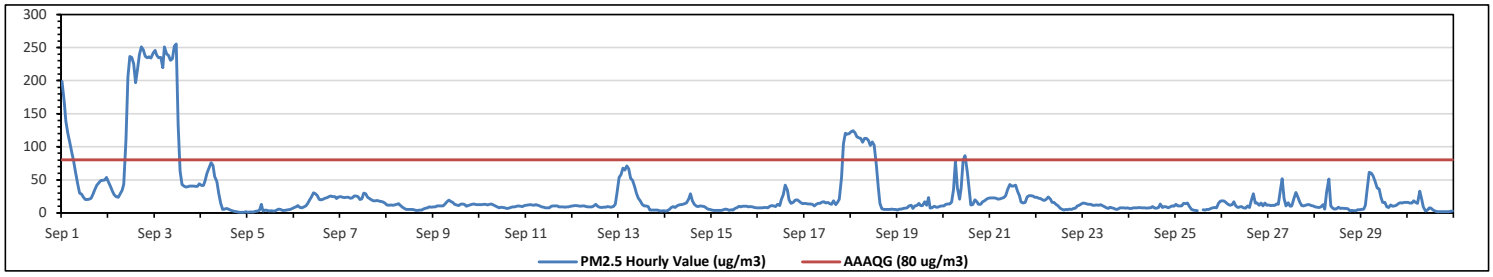
Number of 1-Hour Exceedances: 52 Number of 24-Hour Exceedances: 6

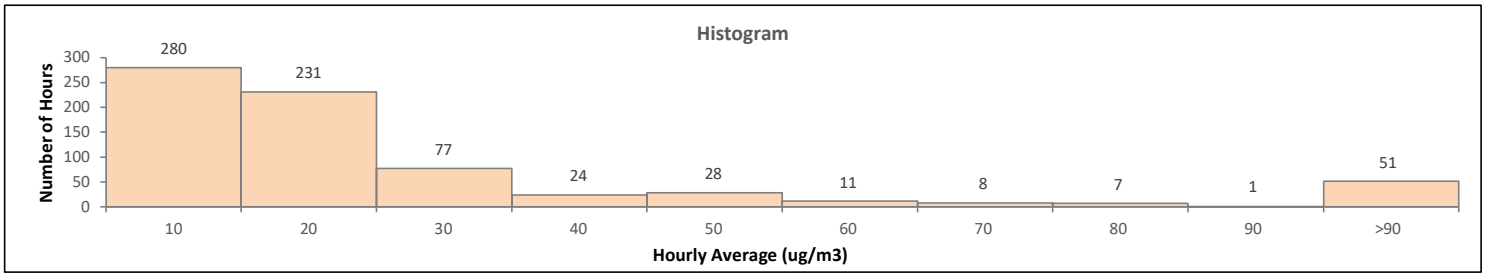
Maximum Hourly Value:	255	µg/m^3 on Sep 3 at hr 11	Hours in Service:	720	
Maximum Daily Value:	152.2	µg/m^3 on Sep 2	Hours of Data:	718	
Minimum Hourly Value:	1	µg/m^3 on Sep 4 at hr 20	Hours of Missing Data:	0	
Minimum Daily Value:	4	µg/m^3 on Sep 5	Hours of Calibration:	2	
Monthly Average:	27.3	µg/m^3	Operational Uptime:	100.0	

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Sep 1	199	168	139	121	105	91	79	62	44	30	28	24	20	20	21	22	28	36	42	45	49	49	50	53	20	199	63.5
Sep 2	47	40	32	28	24	24	29	34	44	112	205	237	235	226	197	217	239	251	247	237	235	236	234	242	24	251	**152.2**
Sep 3	246	239	235	235	220	251	241	238	231	233	252	**255**	133	63	43	41	39	40	40	41	40	40	40	44	39	**255**	144.9
Sep 4	41	41	48	60	69	76	71	55	47	29	14	5	6	7	6	4	3	2	2	2	1	1	1	2	**1**	76	24.7
Sep 5	1	1	1	1	2	3	4	13	3	4	4	3	3	3	3	4	6	5	4	3	4	5	5	7	**1**	13	**3.7**
Sep 6	8	9	11	8	7	9	10	14	20	24	31	29	26	20	20	21	22	23	25	25	24	25	22	24	7	31	19.0
Sep 7	25	24	23	23	24	22	23	26	25	25	20	21	30	29	24	22	19	18	18	19	18	17	16	14	14	30	21.8
Sep 8	12	12	12	12	12	13	14	11	8	6	5	5	5	5	5	4	4	4	4	6	7	8	9	9	4	14	7.9
Sep 9	9	9	10	10	11	11	14	17	19	17	15	13	12	11	13	14	13	10	11	12	13	13	12	12	9	19	12.5
Sep 10	12	12	13	13	12	13	13	12	10	9	8	9	8	8	7	7	8	9	9	10	11	10	9	11	7	13	10.1
Sep 11	11	12	12	12	12	12	12	10	9	9	8	8	8	10	10	11	11	9	9	9	9	9	9	10	8	12	10.0
Sep 12	11	11	11	10	10	10	11	10	9	9	9	10	13	9	8	8	8	9	10	9	8	10	13	29	8	29	10.6
Sep 13	54	58	67	65	71	67	52	49	41	30	22	18	13	10	11	9	4	4	4	4	4	3	3	3	3	71	27.8
Sep 14	3	3	5	8	10	8	11	12	12	13	14	15	21	29	18	13	10	10	10	10	9	8	6	5	3	29	11.0
Sep 15	4	4	4	4	4	4	5	6	5	4	5	4	7	8	10	9	10	10	10	9	10	9	8	8	4	10	6.6
Sep 16	7	8	7	8	8	8	10	11	10	10	13	11	20	27	42	34	19	14	16	19	20	18	15	14	7	42	15.4
Sep 17	14	14	13	14	13	10	13	14	14	16	17	15	16	14	13	18	12	16	21	53	105	120	119	120	10	120	33.1
Sep 18	123	124	121	115	114	112	107	113	113	110	102	108	103	71	38	14	6	5	5	5	5	6	5	5	5	124	67.9
Sep 19	4	6	6	6	7	8	11	12	7	10	11	15	11	11	17	12	23	7	8	10	9	9	10	10	4	23	9.9
Sep 20	11	13	14	14	16	35	79	38	21	38	80	87	62	35	12	13	20	17	13	13	17	18	21	22	11	87	29.4
Sep 21	23	23	23	22	21	21	22	23	26	36	43	40	41	42	33	26	16	15	16	24	26	26	26	24	15	43	26.5
Sep 22	23	22	22	20	19	20	24	21	16	16	13	10	7	6	4	5	5	6	5	6	7	10	12	13	4	24	13.0
Sep 23	15	14	13	13	13	12	12	12	12	12	11	10	8	7	9	8	6	5	6	7	8	8	7	7	5	15	9.7
Sep 24	7	7	7	8	8	8	8	8	8	7	8	8	10	7	7	8	14	8	10	9	8	9	11	10	7	14	8.3
Sep 25	13	10	11	11	14	14	15	9	5	4	4	3	C	C	5	4	5	5	6	8	8	8	14	18	3	18	8.8
Sep 26	18	18	15	13	11	12	17	11	8	9	9	8	7	11	8	18	29	15	15	12	15	10	15	12	7	29	13.1
Sep 27	12	11	11	11	13	13	36	52	22	11	15	10	10	22	31	24	16	11	11	12	12	12	11	10	10	52	16.6
Sep 28	9	8	8	9	12	6	32	51	11	7	6	6	9	6	7	7	6	6	3	4	3	3	5	5	3	51	9.5
Sep 29	5	6	11	37	61	60	56	48	38	36	23	16	15	9	8	12	10	10	12	14	15	15	15	16	5	61	22.8
Sep 30	16	15	15	18	15	15	33	21	9	3	4	8	7	4	2	2	2	2	2	2	2	2	2	3	2	33	8.5
Diurnal Maximum	246	239	235	235	220	251	241	238	231	233	252	255	235	226	197	217	239	251	247	237	235	236	234	242			
Diurnal Average	32.7	31.4	30.7	30.9	31.2	32.2	35.3	33.7	28.1	29.3	33.3	33.6	29.8	25.2	21.0	20.3	20.5	19.4	19.7	21.3	23.4	23.9	24.1	25.4			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance		
K	Collection Error	ND	No Data (Machine Not in Service)	Y	Routine Maintenance	P	Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)				

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



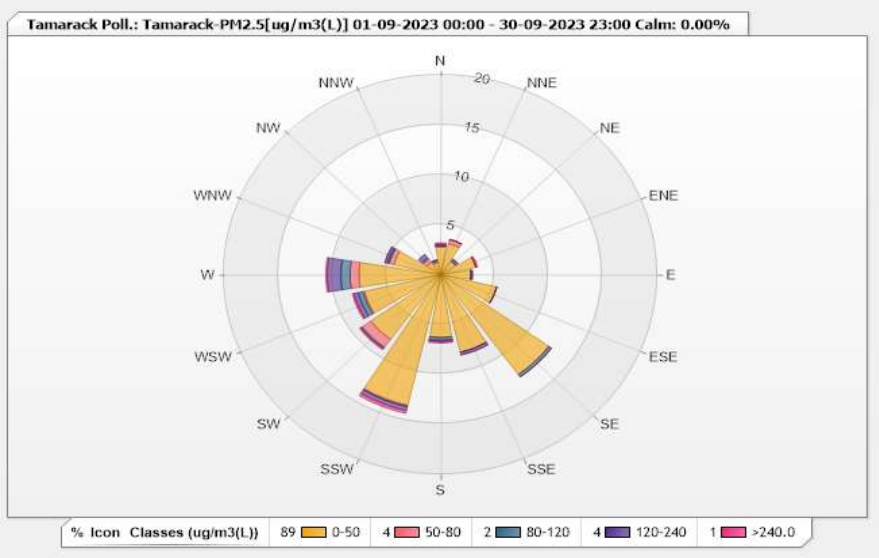


Station: Tamarack Poll.: Tamarack-PM2.5[ug/m3(L)] Monthly: 09-2023

Type: Pollution Rose
Direction: Blowing From (Wind Frequency)
Time Base: 1 - Hour

Calm: 0.00% Valid Data: 99.44% Calm Avg: 0.00 [ppm]

Direction	0-50	50-80	80-120	120-240	>240.0	Total
N	2.79	0.14	0	0.14	0.14	3.21
NNE	3.21	0.42	0	0	0	3.63
NE	1.68	0	0	0.28	0	1.96
ENE	3.35	0	0	0	0.14	3.49
E	2.79	0	0	0.14	0	2.93
ESE	5.31	0	0	0	0	5.31
SE	12.29	0	0.28	0	0	12.57
SSE	7.96	0	0	0.28	0	8.24
S	6.28	0	0.28	0.14	0.14	6.84
SSW	13.41	0.14	0	0.42	0.28	14.25
SW	7.96	0.98	0.14	0	0.14	9.22
WSW	7.26	0.14	0.42	0.42	0.14	8.38
W	7.54	0.84	0.84	1.26	0.14	10.62
WNW	4.47	0.42	0.14	0.28	0	5.31
NW	1.54	0.42	0.14	0.42	0	2.52
NNW	1.26	0.14	0.14	0	0	1.54
Summary	89.1	3.64	2.38	3.78	1.12	100



Lakeland Industry & Community Association

Tamarack Site - September 2023

Summary of Hourly Averages

RELATIVE HUMIDITY (RH) in %

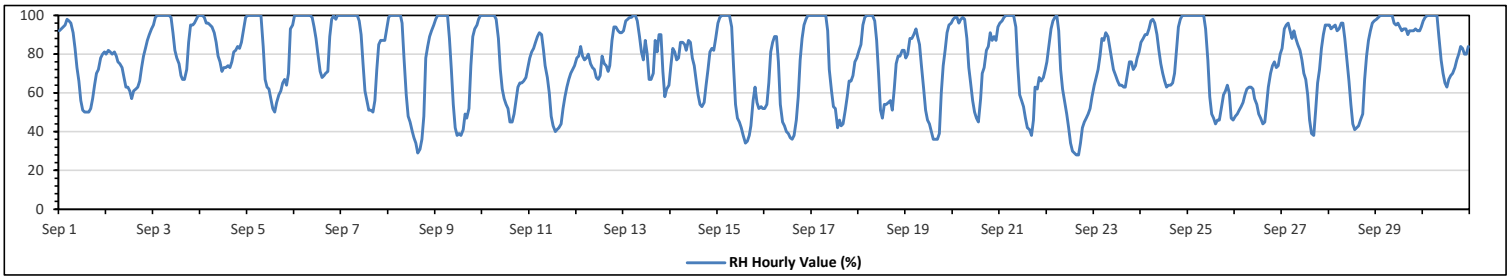
Maximum Hourly Value:	100	%	on Sep 3 at hr 2	Hours in Service:	720	
Maximum Daily Value:	95.5	%	on Sep 29	Hours of Data:	720	
Minimum Hourly Value:	28	%	on Sep 22 at hr 15	Hours of Missing Data:	0	
Minimum Daily Value:	58.2	%	on Sep 22	Hours of Calibration:	0	
Monthly Average:	76.2	%		Operational Uptime:	100.0	

Day	Hourly Period Starting at (MST)																						Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Sep 1	92	93	94	95	98	97	96	91	83	73	66	56	51	50	50	50	52	57	64	70	72	78	80	81	50	98	74.5
Sep 2	80	82	81	80	81	79	76	75	73	68	63	63	61	57	61	62	63	66	73	79	83	87	90	93	57	93	74.0
Sep 3	95	99	**100**	**100**	**100**	**100**	**100**	**100**	**100**	99	91	82	78	75	69	67	67	72	86	95	95	96	98	**100**	67	**100**	90.2
Sep 4	**100**	**100**	99	96	96	95	94	91	86	79	76	71	73	73	74	73	76	81	82	84	83	86	93	99	71	**100**	85.8
Sep 5	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	84	67	63	62	56	52	50	55	59	61	65	67	64	70	93	95	50	**100**	77.6
Sep 6	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	99	94	88	80	71	68	69	70	71	89	98	**100**	98	**100**	**100**	68	**100**	91.5
Sep 7	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	97	90	75	61	56	51	51	50	56	72	85	87	87	87	93	50	**100**	83.3
Sep 8	99	**100**	**100**	**100**	**100**	**100**	**100**	96	78	59	48	45	40	37	34	29	31	36	48	78	84	89	92	95	29	**100**	71.6
Sep 9	98	**100**	**100**	**100**	**100**	**100**	**100**	88	72	54	42	38	39	38	41	49	47	52	74	89	93	95	98	**100**	38	**100**	75.3
Sep 10	**100**	**100**	**100**	**100**	**100**	**100**	**100**	98	88	72	62	57	54	52	45	45	49	56	63	65	65	66	68	73	45	**100**	74.1
Sep 11	78	81	83	86	89	91	90	82	74	68	60	48	43	40	41	42	44	52	58	63	67	70	72	74	40	91	66.5
Sep 12	78	79	84	79	77	78	80	75	73	72	68	67	69	79	75	74	71	74	87	94	94	92	91	91	67	94	79.2
Sep 13	92	97	98	99	99	**100**	**100**	97	89	81	77	87	80	67	67	70	87	81	90	90	71	58	62	64	58	**100**	83.5
Sep 14	74	83	81	77	78	86	86	85	82	87	86	78	74	65	59	54	53	55	64	72	81	83	82	88	53	88	75.5
Sep 15	96	99	**100**	**100**	**100**	**100**	**100**	94	73	54	47	45	42	38	34	35	38	43	56	63	55	52	53	52	34	**100**	65.4
Sep 16	52	54	65	81	86	89	89	76	54	45	43	40	39	37	36	38	46	58	77	88	95	98	**100**	**100**	36	**100**	66.1
Sep 17	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	92	72	61	53	52	42	46	43	44	51	58	66	66	69	76	78	42	**100**	73.7
Sep 18	82	85	95	99	**100**	**100**	**100**	**100**	97	87	70	51	47	54	54	55	56	51	62	75	79	79	82	82	47	**100**	76.8
Sep 19	78	80	88	88	90	93	89	85	74	62	51	46	44	40	36	36	36	39	60	74	82	91	95	96	36	96	68.9
Sep 20	98	99	99	96	98	99	98	88	73	66	56	50	47	45	57	70	73	82	84	91	87	89	87	94	45	99	80.3
Sep 21	96	97	99	**100**	**100**	**100**	**100**	**100**	94	74	59	56	53	47	42	41	38	46	63	62	68	66	68	72	38	**100**	72.5
Sep 22	76	84	93	97	99	**100**	92	72	62	55	49	42	34	30	29	**28**	**28**	34	42	45	47	49	52	58	**28**	**100**	**58.2**
Sep 23	64	68	72	79	88	87	91	89	83	77	72	69	66	64	64	63	63	69	76	76	72	74	78	81	63	91	74.4
Sep 24	86	88	90	90	93	97	98	96	90	82	75	70	66	63	64	64	65	70	82	94	98	**100**	**100**	**100**	63	**100**	84.2
Sep 25	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	93	77	58	49	47	44	46	46	53	59	61	64	60	47	46	44	**100**	72.9
Sep 26	48	49	51	53	55	59	62	63	63	62	57	54	49	47	44	45	53	63	70	74	76	73	74	80	44	80	59.3
Sep 27	83	93	95	96	92	88	92	88	85	82	77	70	67	59	46	39	38	51	65	72	83	90	95	95	38	96	76.7
Sep 28	95	93	94	95	92	93	96	96	88	78	66	54	44	41	42	43	46	49	67	79	87	92	96	97	41	97	76.0
Sep 29	98	99	**100**	**100**	**100**	**100**	**100**	**100**	**100**	96	95	96	94	92	93	93	90	92	92	92	93	92	92	94	90	**100**	**95.5**
Sep 30	97	99	**100**	**100**	**100**	**100**	**100**	**100**	89	77	70	65	63	67	69	70	73	77	80	84	83	80	80	84	63	**100**	83.6
Diurnal Maximum	100	100	100	100	100	100	100	100	100	99	95	96	94	92	93	93	90	92	92	98	100	100	100	100			
Diurnal Average	87.8	90.0	92.0	92.9	93.7	94.4	94.3	90.8	83.3	74.6	67.0	61.2	57.2	54.2	52.8	53.3	55.1	59.9	70.3	77.5	79.1	80.3	82.7	85.2			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance			
K	Collection Error	ND	No Data (Machine Not in Service)	Y	Routine Maintenance	P	Power Failure	
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)					

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.

Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



Lakeland Industry & Community Association

Tamarack Site - September 2023

Summary of Hourly Averages

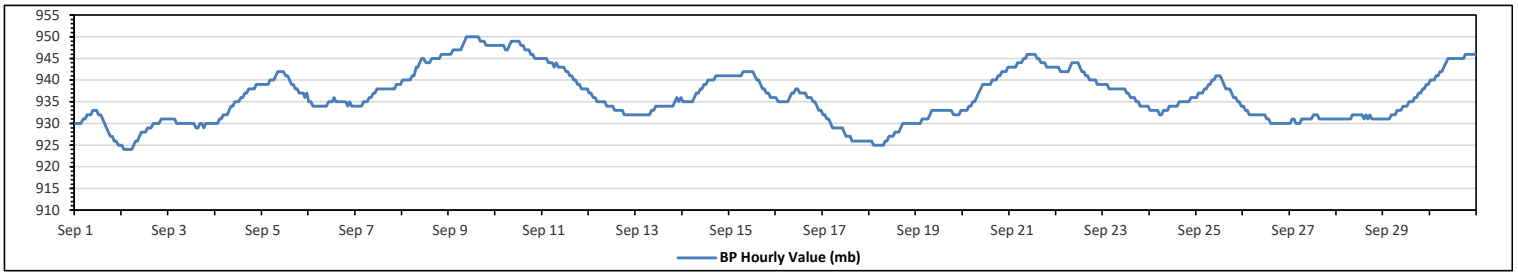
BAROMETRIC PRESSURE (BP) in millibar

Maximum Hourly Value:	950	mb	on Sep 9 at hr 9	Hours in Service:	720
Maximum Daily Value:	948	mb	on Sep 9	Hours of Data:	720
Minimum Hourly Value:	924	mb	on Sep 2 at hr 1	Hours of Missing Data:	0
Minimum Daily Value:	927	mb	on Sep 18	Hours of Calibration:	0
Monthly Average:	936	mb		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																							Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Sep 1	930	930	930	930	931	931	932	932	932	933	933	933	932	932	931	930	929	928	927	927	926	926	925	925	925	933	930
Sep 2	925	**924**	**924**	**924**	**924**	**924**	925	926	926	927	928	928	928	929	929	929	930	930	930	930	931	931	931	931	**924**	931	928
Sep 3	931	931	931	931	930	930	930	930	930	930	930	930	930	930	929	929	930	930	929	930	930	930	930	930	929	931	930
Sep 4	930	930	931	931	932	932	932	933	934	934	935	935	935	936	936	937	937	938	938	938	938	939	939	939	930	939	935
Sep 5	939	939	939	939	940	940	940	941	942	942	942	942	941	941	940	939	939	938	938	937	937	937	936	937	936	942	939
Sep 6	935	935	934	934	934	934	934	934	934	934	935	935	935	936	935	935	935	935	935	935	934	935	934	934	934	936	935
Sep 7	934	934	934	934	935	935	935	936	936	937	937	938	938	938	938	938	938	938	938	938	938	939	939	939	934	939	937
Sep 8	940	940	940	940	940	941	941	943	943	944	945	945	944	944	944	945	945	945	945	945	946	946	946	946	940	946	943
Sep 9	946	946	947	947	947	947	947	948	949	**950**	**950**	**950**	**950**	**950**	**950**	**950**	949	949	949	948	948	948	948	948	946	**950**	**948**
Sep 10	948	948	948	948	948	947	947	948	949	949	949	949	949	948	948	947	947	947	946	946	945	945	945	945	945	949	947
Sep 11	945	945	945	944	944	944	943	944	943	943	943	943	942	942	941	941	940	940	939	939	938	938	938	938	938	945	942
Sep 12	937	937	936	936	935	935	935	935	935	934	934	934	934	933	933	933	933	933	932	932	932	932	932	932	932	937	934
Sep 13	932	932	932	932	932	932	932	932	933	933	934	934	934	934	934	934	934	934	934	934	935	936	935	936	932	936	934
Sep 14	935	935	935	935	935	935	936	937	937	938	938	939	939	940	940	940	940	941	941	941	941	941	941	941	935	941	938
Sep 15	941	941	941	941	941	941	941	942	942	942	942	942	942	941	940	940	939	938	938	937	937	936	936	936	936	942	940
Sep 16	936	935	935	935	935	935	935	936	937	937	938	938	937	937	937	937	936	936	936	936	935	935	934	933	933	938	936
Sep 17	932	932	931	931	930	929	929	929	929	929	929	928	927	927	927	926	926	926	926	926	926	926	926	926	926	932	928
Sep 18	926	926	925	925	925	925	925	925	926	926	927	927	927	928	928	928	929	930	930	930	930	930	930	930	925	930	**927**
Sep 19	930	930	930	931	931	931	931	932	933	933	933	933	933	933	933	933	933	933	933	932	932	932	932	933	930	933	932
Sep 20	933	933	933	934	934	935	935	936	937	938	939	939	939	939	939	940	940	940	941	941	942	942	942	943	933	943	938
Sep 21	943	943	943	943	944	944	944	945	945	946	946	946	946	946	945	945	944	944	944	943	943	943	943	943	943	946	944
Sep 22	943	943	942	942	942	942	942	943	944	944	944	944	943	942	942	941	941	940	940	940	940	939	939	939	939	944	942
Sep 23	939	939	939	938	938	938	938	938	938	938	938	938	937	937	936	936	936	935	935	934	934	934	934	934	934	939	937
Sep 24	933	933	933	933	933	932	932	933	933	933	934	934	934	934	934	935	935	935	935	935	935	936	936	936	932	936	934
Sep 25	936	937	937	937	938	938	939	939	940	940	941	941	941	940	939	938	938	938	937	936	936	935	935	934	934	941	938
Sep 26	934	933	933	932	932	932	932	932	932	932	932	932	931	931	930	930	930	930	930	930	930	930	930	930	930	934	931
Sep 27	930	931	931	930	930	930	931	931	931	931	931	931	932	932	932	931	931	931	931	931	931	931	931	931	930	932	931
Sep 28	931	931	931	931	931	931	931	931	932	932	932	932	932	932	931	932	931	932	931	931	931	931	931	931	931	932	931
Sep 29	931	931	931	931	932	932	932	933	933	933	934	934	934	935	935	935	936	936	937	937	938	938	939	939	931	939	934
Sep 30	940	940	940	941	941	942	942	943	944	945	945	945	945	945	945	945	945	945	946	946	946	946	946	946	940	946	944
Diurnal Maximum	948	948	948	948	948	947	947	948	949	950	950	950	950	950	950	950	949	949	949	948	948	948	948	948			
Diurnal Average	936	935	935	935	935	935	936	936	937	937	937	937	937	937	937	937	937	937	936	936	936	936	936	936			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	ND	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



Lakeland Industry & Community Association

Tamarack Site - September 2023

Summary of Hourly Averages

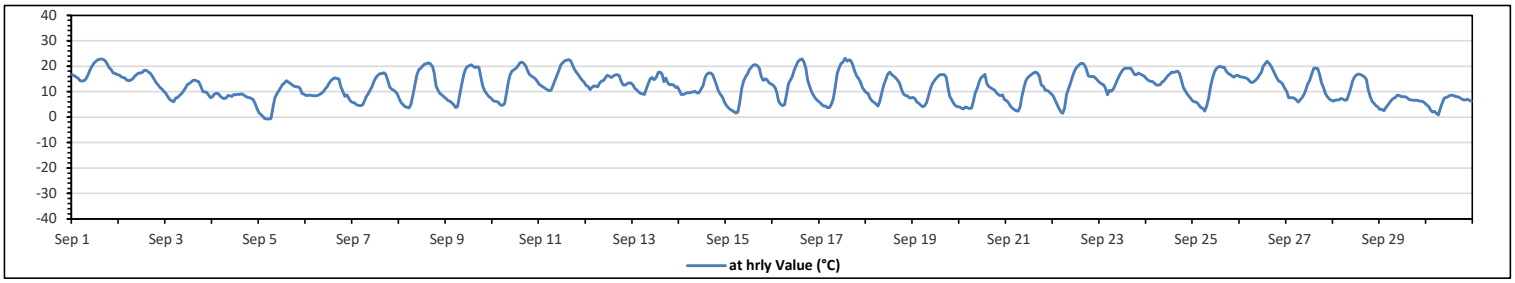
AMBIENT TEMPERATURE (AT) in Degree Celsius

Maximum Hourly Value:	23.1	°C	on Sep 17 at hr 13	Hours in Service:	720
Maximum Daily Value:	18.4	°C	on Sep 1	Hours of Data:	720
Minimum Hourly Value:	-0.8	°C	on Sep 5 at hr 5	Hours of Missing Data:	0
Minimum Daily Value:	5.8	°C	on Sep 30	Hours of Calibration:	0
Monthly Average:	11.9	°C		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Sep 1	16.6	16.2	15.7	15.2	14.3	14.1	14.3	15	16.5	18.4	19.9	21.1	21.8	22.5	22.8	22.9	22.6	22	20.7	19.4	18.6	17.3	17.2	16.7	14.1	22.9	**18.4**
Sep 2	16.5	15.9	15.5	15.4	14.6	14.3	14.6	15	16.1	16.7	17.3	17.3	17.6	18.5	18.3	17.7	17.3	16.3	15	13.6	12.7	11.6	11	10.2	10.2	18.5	15.4
Sep 3	9.4	8.2	7	6.5	6	7.5	7.6	8.5	9.2	10.1	11.3	12.7	13.2	13.7	14.4	14.6	14.2	13.9	12	10	9.8	9.7	8.6	7.6	6.0	14.6	10.2
Sep 4	8	9	9.4	9.1	8.2	7.6	7.2	7.5	8.5	8.4	8.2	8.9	8.8	9	8.9	9.1	8.8	8.2	7.8	7.6	7.4	6.8	5.1	3.1	3.1	9.4	7.9
Sep 5	1.6	1	0.2	-0.7	-0.7	**-0.8**	-0.5	3.8	7.5	9	10.3	11.5	12.8	13.5	14.3	13.8	13.2	12.7	12.2	11.9	11.9	11.2	9.3	9	**-0.8**	14.3	7.8
Sep 6	8.5	8.5	8.6	8.5	8.4	8.4	8.5	8.9	9.4	9.9	11.1	12.1	13.4	14.4	15	15.4	15.2	15	12.1	9.8	8.2	8.7	7.4	6.3	6.3	15.4	10.5
Sep 7	5.7	5.6	4.9	4.6	4.4	4.7	6	7.9	9	10.7	12	14.2	15.6	16.4	17.1	17.1	17.5	17	14.4	11.8	11	10.7	10.2	9	4.4	17.5	10.7
Sep 8	7.1	5.6	4.9	4.2	3.9	3.6	4.8	8.3	12.8	16.7	18.6	19.1	20	20.8	21	21.4	20.9	19.9	17.3	12.2	10.6	9.3	8.6	7.9	3.6	21.4	12.5
Sep 9	7.2	6.5	6.2	5.6	4.8	3.7	4.1	8.9	12.9	16.4	18.6	19.9	20.3	20.6	20	19.5	19.8	19.4	15.6	12.1	10.3	9	8	7.5	3.7	20.6	12.4
Sep 10	6.7	6.2	6.1	5.7	4.7	4.6	5.2	8.8	13.3	16.5	18.1	18.7	19.2	20.3	21.4	21.6	21.1	20.1	18.2	16.7	16.1	15.6	15	14	4.6	21.6	13.9
Sep 11	12.9	12.3	11.8	11.2	10.8	10.4	10.5	12.3	14.3	16.2	18.4	20.5	21.4	22.1	22.3	22.6	22.2	20.6	18.9	17.7	16.6	15.5	14.6	13.8	10.4	22.6	16.2
Sep 12	12.4	12	10.8	11.7	12.3	12.2	11.9	13.4	14.1	14.4	15.7	16.4	16.1	15.6	16.2	16.5	16.7	16.3	14.2	12.6	12.5	13	13.4	13.5	10.8	16.7	13.9
Sep 13	12.6	11.2	10.8	9.9	9.3	9.2	8.9	11.1	13.2	15	15.5	14.7	15.6	17.6	17.7	17	13.9	15.3	13.5	12.6	12.8	12.7	11.6	11.9	8.9	17.7	13.1
Sep 14	10.5	8.9	8.9	9.3	9.6	9.5	9.7	9.8	10.2	9.5	9.5	10.8	12.3	15.3	16.6	17.4	17.3	16.7	14.9	12.7	10.3	9	8.1	6.3	6.3	17.4	11.4
Sep 15	4.7	3.7	2.9	2.6	2.1	1.6	2	6	11.2	14.2	15.8	17.2	18.7	19.6	20.4	20.6	20.3	19.1	16	14.4	15	14.7	13.6	13	1.6	20.6	12.1
Sep 16	12.5	11.7	9.5	6.4	5.1	4.5	4.8	8.9	13	14.5	16	18.5	20.3	21.8	22.6	22.9	21.5	18.8	14.6	11.8	9.7	8.4	7.2	6.4	4.5	22.9	13.0
Sep 17	5.8	5.1	4.3	4.3	3.8	3.7	5	7.1	11.5	16.9	19.1	20.9	21.6	**23.1**	21.9	22.5	22.3	20.8	18.1	16.2	15.2	13.7	11.6	10.6	3.7	**23.1**	13.5
Sep 18	9.6	9.3	7.4	6.3	5.7	5.1	4.3	6	9.6	12.7	14.7	16.8	17.7	16.8	16.2	15.5	14.7	13.5	11	9.1	8.5	8.4	7.6	7.5	4.3	17.7	10.6
Sep 19	7.8	7.2	5.8	5.4	4.7	4.1	4.3	5.7	8.5	11.3	13.2	14.3	15.3	16.1	16.7	16.6	16.7	15.7	11.2	8.2	6.6	5.2	4.3	4.2	4.1	16.7	9.5
Sep 20	4	3.5	3.2	4	3.7	3.3	3.5	6.2	9.6	11.2	13.7	15.5	16.1	16.8	13.2	11.9	11.5	11	10.7	9.4	8.7	8.4	8.7	6.9	3.2	16.8	8.9
Sep 21	6.5	5.7	4.5	3.6	2.9	2.5	2.3	4	7.8	11.7	14.3	15.5	16.2	16.8	17.3	17.7	17.3	16.1	12.6	12	10.6	10.6	9.9	9.1	2.3	17.7	10.3
Sep 22	8.3	6.8	5.1	3.5	2	1.5	3.6	8.7	11.4	13.6	16.1	18.1	19.4	20.3	20.9	21.2	20.7	19.1	16.2	15.9	16	16	15.2	14.3	1.5	21.2	13.1
Sep 23	13.6	13	12.6	11.2	8.8	10.6	10.2	11.1	12.9	14.7	16.3	17.5	18.7	19.2	19.1	19.1	19.1	17.9	16.6	16.7	17.3	16.8	16.4	15.9	8.8	19.2	15.2
Sep 24	15	14.4	14	14	13.5	12.7	12.5	12.8	13.7	14.2	15.2	16.3	17	17.7	17.6	17.8	18	17.2	14.5	11.7	10.1	8.9	8	7	7.0	18.0	13.9
Sep 25	6.3	6	5.6	4.7	3.8	3.4	2.3	4.3	7.3	11.9	15.7	17.9	19.2	19.7	20	19.6	19.6	18.1	17.2	16.7	16.1	15.7	16.3	16.4	2.3	20.0	12.7
Sep 26	15.8	15.8	15.6	15.4	15	14.2	13.6	13.8	14.4	15.3	16.5	17.6	19.8	20.8	21.9	21.1	20.1	18.6	17	15.4	14.1	13.8	13	11.2	11.2	21.9	16.2
Sep 27	10.2	7.7	7.7	7.6	7.3	6.8	5.9	6.8	7.8	9.1	10.8	13.2	14.4	17.2	19.1	19.2	19	16.6	13.5	11.7	9.3	8.1	7	6.7	5.9	19.2	10.9
Sep 28	6.2	6.7	6.8	6.8	7.3	7	6.6	6.8	8.9	11.3	14.1	15.8	16.6	16.9	16.7	16.3	15.8	14.8	10.8	8.1	6.3	5.3	4.5	4	4.0	16.9	10.0
Sep 29	3	3.1	2.5	3.8	4.7	5.7	6.8	7.4	7.8	8.6	8.5	8	8	8.1	7.6	6.9	6.8	6.7	6.6	6.6	6.4	6.3	6.1	5.6	2.5	8.6	6.3
Sep 30	4.8	4.2	2.8	1.9	2.2	1.5	0.8	3.3	5.5	7.3	7.8	8.1	8.5	8.6	8.3	8.1	8	7.6	7.1	6.8	6.8	7	6.7	6.2	0.8	8.6	**5.8**
Diurnal Maximum	16.6	16.2	15.7	15.4	15.0	14.3	14.6	15.0	16.5	18.4	19.9	21.1	21.8	23.1	22.8	22.9	22.6	22.0	20.7	19.4	18.6	17.3	17.2	16.7			
Diurnal Average	9.0	8.4	7.7	7.3	6.8	6.6	6.7	8.6	10.9	12.9	14.4	15.6	16.5	17.3	17.5	17.5	17.1	16.2	14.0	12.4	11.5	10.9	10.1	9.4			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance		
K	Collection Error	ND	No Data (Machine Not in Service)	Y	Routine Maintenance	P	Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)				

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



Lakeland Industry & Community Association

Tamarack Site - September 2023

Summary of Hourly Averages

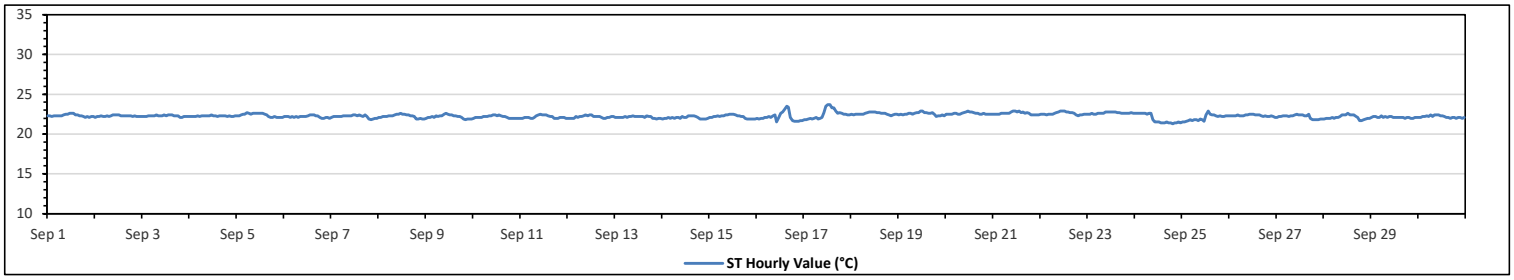
STATION TEMPERATURE (ST) in Degree Celsius

Maximum Hourly Value:	23.7	°C	on Sep 17 at hr 12	Hours in Service:	720
Maximum Daily Value:	22.6	°C	on Sep 23	Hours of Data:	720
Minimum Hourly Value:	21.3	°C	on Sep 24 at hr 19	Hours of Missing Data:	0
Minimum Daily Value:	21.9	°C	on Sep 24	Hours of Calibration:	0
Monthly Average:	22.3	°C		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																							Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Sep 1	22.3	22.3	22.2	22.3	22.3	22.3	22.3	22.3	22.4	22.5	22.5	22.6	22.6	22.6	22.4	22.4	22.3	22.3	22.2	22.1	22.2	22.1	22.2	22.2	22.1	22.6	22.3
Sep 2	22.1	22.2	22.2	22.3	22.2	22.2	22.3	22.2	22.3	22.4	22.4	22.4	22.4	22.3	22.3	22.3	22.3	22.3	22.3	22.2	22.3	22.2	22.2	22.2	22.1	22.4	22.3
Sep 3	22.2	22.2	22.2	22.3	22.3	22.3	22.3	22.4	22.3	22.3	22.3	22.4	22.3	22.4	22.4	22.4	22.3	22.3	22.3	22.1	22.1	22.2	22.2	22.2	22.1	22.4	22.3
Sep 4	22.2	22.2	22.2	22.2	22.3	22.2	22.3	22.3	22.3	22.3	22.3	22.4	22.3	22.3	22.2	22.3	22.3	22.3	22.3	22.2	22.3	22.2	22.2	22.3	22.2	22.4	22.3
Sep 5	22.3	22.3	22.4	22.5	22.5	22.7	22.6	22.5	22.6	22.6	22.6	22.6	22.6	22.6	22.5	22.4	22.2	22.1	22.1	22.2	22.1	22.1	22.1	22.1	22.1	22.7	22.4
Sep 6	22.2	22.2	22.2	22.1	22.2	22.1	22.2	22.1	22.2	22.2	22.2	22.2	22.3	22.4	22.4	22.4	22.3	22.3	22.1	22.0	22.0	22.1	22.1	22.0	22.0	22.4	22.2
Sep 7	22.1	22.2	22.2	22.2	22.2	22.2	22.3	22.3	22.3	22.3	22.3	22.4	22.4	22.3	22.4	22.3	22.2	22.4	22.2	21.9	21.8	21.9	22.0	22.0	21.8	22.4	22.2
Sep 8	22.1	22.1	22.2	22.2	22.2	22.3	22.3	22.3	22.4	22.5	22.5	22.6	22.5	22.5	22.4	22.4	22.3	22.3	22.2	21.9	21.9	22.0	21.9	21.9	21.9	22.6	22.2
Sep 9	22.0	22.1	22.1	22.2	22.1	22.3	22.2	22.3	22.3	22.5	22.6	22.5	22.4	22.4	22.3	22.3	22.2	22.2	22.1	21.9	21.8	21.9	21.9	21.9	21.8	22.6	22.2
Sep 10	22.0	22.1	22.1	22.1	22.1	22.2	22.2	22.2	22.3	22.3	22.4	22.4	22.3	22.4	22.3	22.2	22.2	22.1	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.4	22.2
Sep 11	22.0	22.0	22.1	22.1	22.1	22.0	22.0	22.1	22.3	22.4	22.5	22.4	22.4	22.4	22.3	22.2	22.2	22.0	22.0	22.0	22.1	22.1	22.1	22.0	22.0	22.5	22.2
Sep 12	22.0	22.0	22.0	22.0	22.2	22.1	22.2	22.2	22.3	22.4	22.3	22.4	22.4	22.2	22.2	22.2	22.2	22.1	22.0	22.0	22.1	22.1	22.2	22.2	22.0	22.4	22.2
Sep 13	22.1	22.1	22.1	22.1	22.1	22.2	22.1	22.2	22.2	22.3	22.2	22.2	22.2	22.2	22.2	22.1	22.3	22.2	22.2	22.0	22.0	21.9	22.0	22.0	21.9	22.3	22.1
Sep 14	21.9	22.0	22.0	22.1	22.0	22.1	22.0	22.1	22.1	22.0	22.2	22.1	22.1	22.3	22.3	22.3	22.3	22.2	22.1	21.9	21.9	21.9	21.9	22.0	21.9	22.3	22.1
Sep 15	22.1	22.1	22.2	22.2	22.3	22.2	22.3	22.3	22.4	22.4	22.5	22.5	22.5	22.4	22.3	22.3	22.2	22.2	22.0	21.9	21.9	21.9	21.9	21.9	21.9	22.5	22.2
Sep 16	22.0	21.9	22.0	22.0	22.1	22.1	22.2	22.1	22.3	22.4	21.5	22.1	22.6	22.8	23.1	23.5	23.4	22.1	21.7	21.6	21.6	21.6	21.7	21.7	21.5	23.5	22.2
Sep 17	21.8	21.8	21.9	22.0	21.9	22.0	22.1	21.9	22.0	22.1	22.7	23.5	**23.7**	**23.7**	23.3	23.3	22.9	22.6	22.7	22.6	22.5	22.5	22.4	22.4	21.8	**23.7**	22.5
Sep 18	22.5	22.4	22.5	22.5	22.5	22.5	22.5	22.6	22.7	22.8	22.8	22.8	22.8	22.7	22.7	22.6	22.6	22.6	22.5	22.4	22.3	22.4	22.5	22.5	22.3	22.8	22.6
Sep 19	22.4	22.5	22.4	22.5	22.5	22.6	22.6	22.5	22.6	22.7	22.7	22.9	22.9	22.7	22.7	22.6	22.6	22.7	22.5	22.2	22.3	22.3	22.4	22.3	22.2	22.9	22.5
Sep 20	22.5	22.5	22.5	22.5	22.6	22.6	22.5	22.5	22.6	22.7	22.8	22.9	22.8	22.8	22.7	22.6	22.6	22.5	22.5	22.6	22.5	22.5	22.5	22.5	22.5	22.9	22.6
Sep 21	22.5	22.5	22.5	22.5	22.6	22.6	22.6	22.6	22.6	22.8	22.9	22.9	22.8	22.9	22.7	22.8	22.6	22.7	22.6	22.4	22.4	22.4	22.4	22.4	22.4	22.9	22.6
Sep 22	22.5	22.5	22.5	22.4	22.5	22.5	22.5	22.6	22.7	22.8	22.9	22.9	22.9	22.8	22.8	22.7	22.7	22.6	22.4	22.3	22.4	22.4	22.5	22.5	22.3	22.9	22.6
Sep 23	22.5	22.5	22.6	22.5	22.5	22.6	22.6	22.6	22.6	22.8	22.8	22.8	22.8	22.8	22.8	22.7	22.7	22.6	22.6	22.6	22.6	22.6	22.7	22.6	22.5	22.8	**22.6**
Sep 24	22.6	22.6	22.6	22.6	22.6	22.6	22.5	22.6	22.6	21.8	21.5	21.5	21.5	21.4	21.4	21.4	21.5	21.4	21.4	**21.3**	21.4	21.4	21.5	21.4	**21.3**	22.6	**21.9**
Sep 25	21.5	21.5	21.6	21.7	21.8	21.7	21.8	21.8	21.7	21.9	21.8	21.6	22.4	22.9	22.5	22.4	22.4	22.3	22.2	22.3	22.2	22.2	22.3	22.3	21.5	22.9	22.0
Sep 26	22.3	22.3	22.3	22.3	22.4	22.3	22.3	22.3	22.4	22.4	22.5	22.5	22.5	22.4	22.4	22.4	22.3	22.2	22.3	22.2	22.2	22.3	22.2	22.1	22.1	22.5	22.3
Sep 27	22.1	22.2	22.2	22.3	22.3	22.3	22.2	22.3	22.3	22.4	22.5	22.4	22.4	22.4	22.3	22.3	22.5	22.0	21.8	21.8	21.8	21.8	21.9	21.9	21.8	22.5	22.2
Sep 28	21.9	22.0	22.0	22.0	22.1	22.0	22.1	22.1	22.2	22.4	22.4	22.4	22.6	22.4	22.4	22.4	22.2	22.1	21.7	21.7	21.8	21.9	22.0	22.0	21.7	22.6	22.1
Sep 29	22.1	22.2	22.2	22.1	22.1	22.3	22.1	22.2	22.1	22.2	22.2	22.1	22.1	22.1	22.1	22.1	22.1	22.0	22.1	22.1	22.0	22.0	22.1	22.1	22.0	22.3	22.1
Sep 30	22.1	22.1	22.2	22.2	22.3	22.2	22.4	22.2	22.4	22.4	22.4	22.3	22.3	22.2	22.1	22.1	22.0	22.1	22.1	22.0	22.1	22.1	22.0	22.1	22.0	22.4	22.2
Diurnal Maximum	22.6	22.6	22.6	22.6	22.6	22.7	22.6	22.6	22.7	22.8	22.9	23.5	23.7	23.7	23.3	23.5	23.4	22.7	22.7	22.6	22.6	22.6	22.7	22.6			
Diurnal Average	22.2	22.2	22.2	22.2	22.3	22.3	22.3	22.3	22.4	22.4	22.4	22.5	22.5	22.5	22.4	22.4	22.4	22.3	22.2	22.1	22.1	22.1	22.1	22.1			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	ND	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



Lakeland Industry & Community Association

Tamarack Site - September 2023

Summary of Hourly Averages

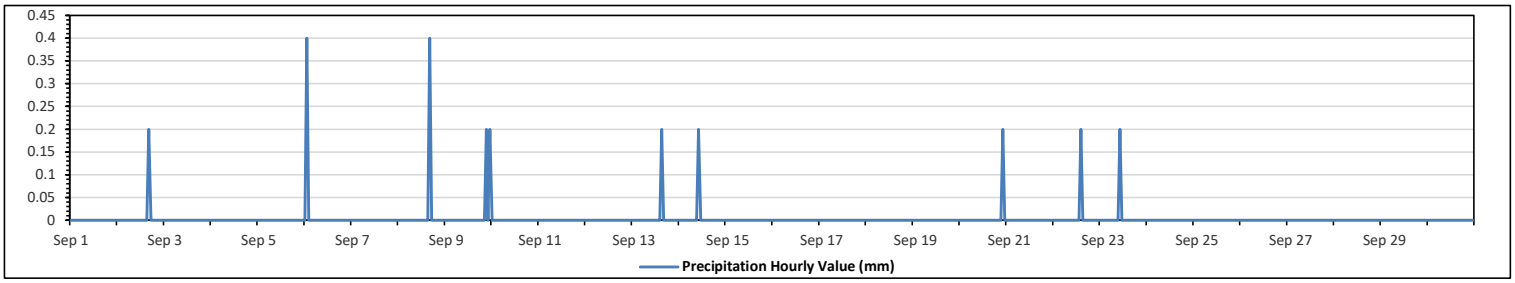
PRECIPITATION in mm

Maximum Hourly Value:	0.4	mm	on Sep 6 at hr 1	Hours in Service:	720	
Maximum Daily Value:	0.4	mm	on Sep 6	Hours of Data:	720	
Minimum Hourly Value:	0.0	mm	on Sep 1 at hr 0	Hours of Missing Data:	0	
Minimum Daily Value:	0.0	mm	on Sep 1	Hours of Calibration:	0	
Monthly Total:	2.4	mm		Operational Uptime:	100.0	

Day	Hourly Period Starting at (MST)																						Daily Minimum	Daily Maximum	Daily Total
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Sep 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Sep 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0	0	0	0	0	0	0	0.0	0.2	0.2
Sep 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Sep 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Sep 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Sep 6	0	**0.4**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	**0.4**	**0.4**
Sep 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Sep 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0.4**	0	0	0	0	0	0	0	0.0	**0.4**	**0.4**
Sep 9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0	0.2	0.0	0.2	**0.4**
Sep 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Sep 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Sep 12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Sep 13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0	0	0	0	0	0	0	0	0.0	0.2	0.2
Sep 14	0	0	0	0	0	0	0	0	0	0	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.2	0.2
Sep 15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Sep 16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Sep 17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Sep 18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Sep 19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Sep 20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0	0.0	0.2	0.2
Sep 21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Sep 22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0	0	0	0	0	0	0	0	0	0.0	0.2	0.2
Sep 23	0	0	0	0	0	0	0	0	0	0	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.2	0.2
Sep 24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Sep 25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Sep 26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Sep 27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Sep 28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Sep 29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Sep 30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Diurnal Maximum	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.2	0.2	0.4	0.0	0.0	0.0	0.0	0.2	0.2	0.2			
Diurnal Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	ND	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



Lakeland Industry & Community Association

Tamarack Site - September 2023

Summary of Hourly Averages

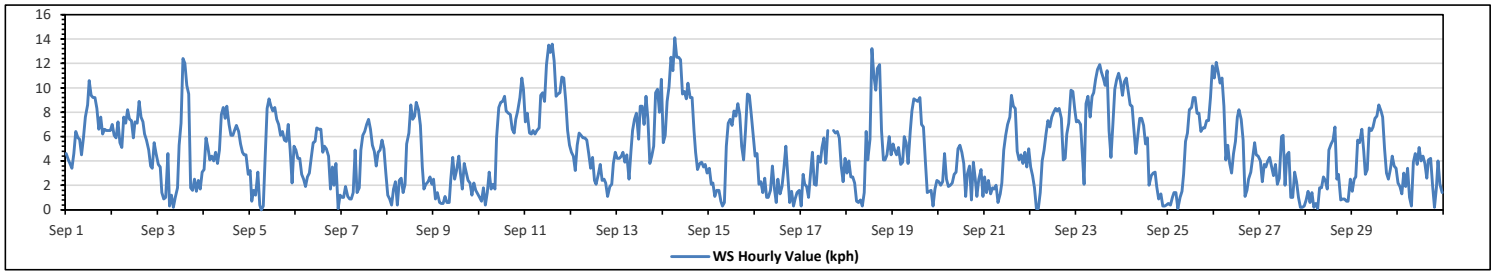
VECTOR WIND SPEED (VWS) in km/hr

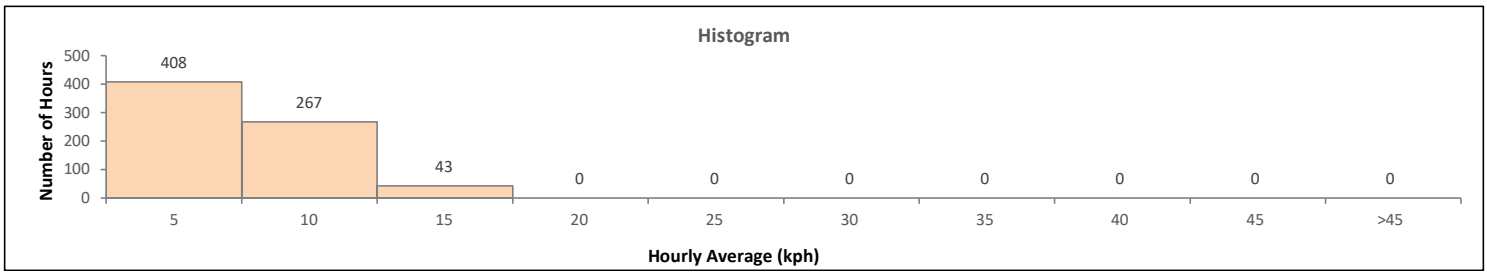
Maximum Hourly Value:	14.1	kph	on Sep 14 at hr 6	Hours in Service:	720	
Maximum Daily Value:	9.0	kph	on Sep 11	Hours of Data:	718	
Minimum Hourly Value:	0.0	kph	on Sep 5 at hr 6	Hours of Missing Data:	0	
Minimum Daily Value:	2.0	kph	on Sep 9	Hours of Calibration:	2	
Monthly Average:	1.8	kph		Operational Uptime:	100.0	

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Sep 1	4.6	4.1	3.7	3.4	4.6	6.4	5.9	5.8	4.5	5.9	7.6	8.6	10.6	9.4	9.2	9.2	8.3	6.6	7.6	6.2	6.6	6.5	6.5	6.5	3.4	10.6	6.6
Sep 2	7.0	6.1	5.9	7.2	5.5	5.1	7.6	7.1	8.2	7.4	7.3	5.9	7.2	7.1	8.9	7.6	7.2	6.2	5.7	4.9	3.6	3.4	5.5	4.6	3.4	8.9	6.3
Sep 3	3.7	3.5	1.4	0.9	1.0	4.6	0.3	1.2	0.2	1.0	1.8	5.3	7.1	12.4	12.0	10.2	9.5	1.8	1.6	2.5	1.5	2.4	1.7	3.1	0.2	12.4	3.8
Sep 4	3.3	5.9	5.1	4.1	4.4	4.0	4.7	3.8	4.9	7.8	8.4	7.5	8.5	7.0	6.1	6.1	6.5	6.9	6.4	5.4	4.7	4.5	4.5	2.9	2.9	8.5	5.6
Sep 5	3.2	0.7	1.6	1.2	3.1	0.4	**0.0**	0.3	4.4	8.3	9.1	8.5	8.1	8.4	7.4	7.0	6.1	6.4	5.7	5.6	7.0	4.9	2.2	5.2	**0.0**	9.1	4.8
Sep 6	4.9	4.2	4.2	2.9	2.5	1.9	2.7	3.0	4.3	5.5	5.6	6.7	6.6	6.6	4.7	5.2	5.0	4.4	1.7	3.5	2.0	3.8	0.1	1.2	0.1	6.7	3.9
Sep 7	1.0	1.0	1.9	1.1	0.9	0.9	1.4	4.9	1.4	1.8	4.9	6.1	6.4	7.0	7.4	6.6	5.3	4.8	3.6	4.7	4.9	5.7	5.0	3.0	0.9	7.4	3.8
Sep 8	1.2	0.9	0.4	1.7	2.3	0.4	2.4	2.6	1.4	2.1	5.4	6.3	8.6	7.4	7.7	8.8	8.2	6.9	3.5	1.7	2.1	2.3	2.7	2.1	0.4	8.8	3.7
Sep 9	2.5	0.9	1.4	0.6	0.5	0.5	1.1	0.6	0.6	2.5	4.3	2.5	3.2	4.4	3.0	1.7	3.8	3.1	2.4	2.2	1.2	2.2	1.6	1.3	0.5	4.4	**2.0**
Sep 10	1.0	0.7	1.8	0.4	1.4	3.1	1.7	2.1	1.7	5.9	8.4	8.8	8.9	9.3	8.1	7.9	7.8	6.6	6.3	7.4	8.1	9.2	10.8	9.9	0.4	10.8	5.7
Sep 11	7.2	7.9	6.3	6.2	6.5	6.2	6.5	6.7	9.4	9.6	8.9	11.9	13.5	12.9	13.6	12.2	9.3	9.5	9.6	10.9	10.8	9.0	6.5	5.3	5.3	13.6	**9.0**
Sep 12	4.7	4.4	3.2	5.3	6.3	6.1	5.9	5.9	5.7	4.6	3.4	4.3	2.4	2.1	2.9	3.7	2.4	2.5	2.2	1.1	1.9	2.1	3.8	4.7	1.1	6.3	3.8
Sep 13	4.2	4.2	4.4	4.7	3.9	4.5	2.5	4.8	6.5	7.4	7.9	5.8	8.5	8.5	7.0	9.3	7.4	3.8	4.4	5.2	9.6	9.9	8.0	10.7	2.5	10.7	6.4
Sep 14	5.5	6.1	8.9	10.1	12.5	11.4	**14.1**	12.5	12.5	12.3	9.5	9.7	9.1	10.4	9.2	9.2	6.5	4.7	3.3	3.8	3.9	3.5	3.7	3.0	3.0	**14.1**	8.1
Sep 15	3.4	2.1	2.2	1.1	1.6	1.6	0.7	0.3	0.6	5.2	7.1	7.4	6.9	8.1	7.7	8.7	7.8	5.2	4.1	6.5	9.5	9.4	7.8	6.1	0.3	9.5	5.0
Sep 16	4.4	4.6	2.1	2.3	1.4	2.6	1.0	1.0	1.6	3.6	1.8	0.6	2.5	1.3	1.9	3.4	5.2	3.2	0.6	1.5	0.3	0.9	1.4	1.6	0.3	5.2	2.1
Sep 17	0.3	2.9	2.1	1.9	1.0	3.2	4.7	2.1	2.0	4.4	3.9	5.1	5.9	3.8	6.5	C	C	6.5	6.3	6.4	5.9	3.6	2.3	4.2	0.3	6.5	3.9
Sep 18	3.0	4.0	2.7	2.7	2.2	0.7	0.6	0.8	0.3	1.4	6.4	4.1	5.8	13.2	11.0	9.8	11.6	11.9	6.5	4.1	4.1	4.5	6.0	4.5	0.3	13.2	5.1
Sep 19	5.4	4.9	4.5	5.1	3.7	3.9	6.0	5.5	3.8	6.5	8.1	9.1	9.0	8.9	9.2	7.0	6.8	4.0	1.4	1.5	1.6	0.3	1.7	2.4	0.3	9.2	5.0
Sep 20	2.3	2.0	2.3	4.6	2.5	1.9	2.0	2.2	2.9	3.1	5.0	5.3	4.7	3.8	1.1	2.9	3.6	0.8	3.9	2.5	1.1	2.5	3.3	1.1	0.8	5.3	2.8
Sep 21	2.7	1.4	2.4	1.3	1.8	1.7	2.0	0.6	1.3	2.2	4.9	6.1	7.0	7.6	9.4	8.5	8.3	4.8	4.1	4.5	3.8	4.7	3.5	5.0	0.6	9.4	4.2
Sep 22	3.5	2.8	1.8	0.1	0.1	1.4	4.0	4.9	6.2	7.3	6.8	7.6	8.0	8.3	8.1	8.3	7.5	4.1	4.2	6.2	7.1	9.8	9.7	8.2	0.1	9.8	5.7
Sep 23	7.2	7.3	7.0	4.4	2.1	8.7	9.3	7.6	9.3	9.6	10.7	11.5	11.9	11.3	10.8	10.2	11.4	6.5	4.3	7.0	9.9	10.7	11.2	10.5	2.1	11.9	8.8
Sep 24	9.4	10.5	10.8	9.7	8.6	8.5	6.5	4.6	6.1	7.5	7.5	6.9	5.4	5.9	2.0	2.8	3.0	3.1	1.9	0.9	1.3	0.3	0.3	0.4	0.3	10.8	5.2
Sep 25	0.5	0.4	1.0	1.4	1.4	0.1	1.0	1.5	2.9	5.6	6.3	8.2	8.4	9.2	9.2	7.9	7.9	6.4	6.7	6.7	7.3	7.3	9.2	11.8	0.1	11.8	5.3
Sep 26	10.8	12.1	11.3	10.4	10.8	8.5	4.1	5.3	3.8	3.0	4.6	5.6	7.6	8.2	7.4	5.7	1.1	1.6	2.5	3.1	4.3	5.5	4.5	4.4	1.1	12.1	6.1
Sep 27	4.0	2.3	3.7	3.5	4.0	4.3	3.4	2.8	3.7	2.1	2.6	6.0	6.1	2.0	4.5	4.7	1.0	1.0	3.1	2.3	1.0	0.2	0.2	0.3	0.2	6.1	2.9
Sep 28	0.8	1.5	0.6	1.4	0.2	0.5	0.1	1.8	1.8	2.7	2.4	1.7	4.9	5.4	5.7	6.8	2.5	2.9	0.8	0.9	0.9	0.7	0.7	2.5	0.1	6.8	2.1
Sep 29	1.5	2.5	2.7	5.7	5.5	6.6	4.8	2.9	3.3	6.7	6.5	6.8	7.5	7.7	8.6	8.1	7.6	5.0	3.0	2.5	3.3	4.4	3.6	3.4	1.5	8.6	5.0
Sep 30	2.2	1.9	1.3	3.0	1.9	3.4	1.0	0.3	3.9	4.6	3.7	5.1	4.0	4.4	3.8	2.6	4.1	4.2	2.0	0.2	1.8	4.0	2.1	1.4	0.2	5.1	2.8
Diurnal Maximum	10.8	12.1	11.3	10.4	12.5	11.4	14.1	12.5	12.5	12.3	10.7	11.9	13.5	13.2	13.6	12.2	11.6	11.9	9.6	10.9	10.8	10.7	11.2	11.8			
Diurnal Average	3.8	3.8	3.6	3.6	3.5	3.8	3.6	3.5	4.0	5.3	6.0	6.5	7.1	7.4	7.1	7.0	6.3	4.8	4.0	4.1	4.4	4.6	4.3	4.4			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	ND	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



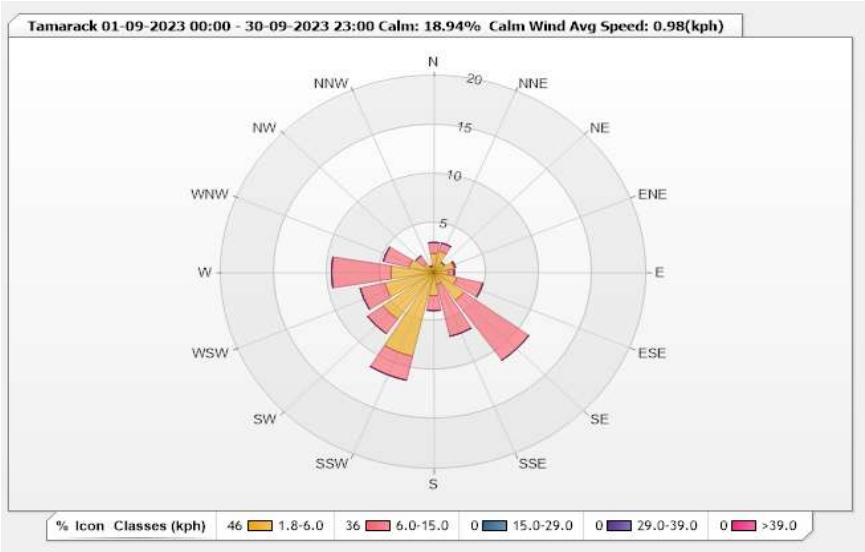


Station: Tamarack Monitor: WDS [kph] Monthly: 09-2023

Type: Wind Rose
Direction: Blowing From (Wind Frequency)
Time Base: 1 - Hour

Calm (WS<1.8kph): 18.94% Valid Data: 99.72%

Direction	1.8-6.0	6.0-15.0	15.0-29.0	29.0-39.0	>39.0	Total
N	1.95	1.11	0	0	0	3.06
NNE	2.23	0.84	0	0	0	3.07
NE	1.25	0	0	0	0	1.25
ENE	1.95	0.14	0	0	0	2.09
E	1.39	0.56	0	0	0	1.95
ESE	2.23	2.51	0	0	0	4.74
SE	3.48	7.52	0	0	0	11
SSE	1.25	5.43	0	0	0	6.68
S	2.37	1.53	0	0	0	3.9
SSW	8.77	2.51	0	0	0	11.28
SW	5.85	1.81	0	0	0	7.66
WSW	4.74	2.37	0	0	0	7.11
W	4.04	5.57	0	0	0	9.61
WNW	2.37	2.51	0	0	0	4.88
NW	1.11	0.97	0	0	0	2.08
NNW	0.56	0.14	0	0	0	0.7
Summary	45.54	35.52	0	0	0	81.06



Lakeland Industry & Community Association

Tamarack Site - September 2023

Summary of Hourly Averages

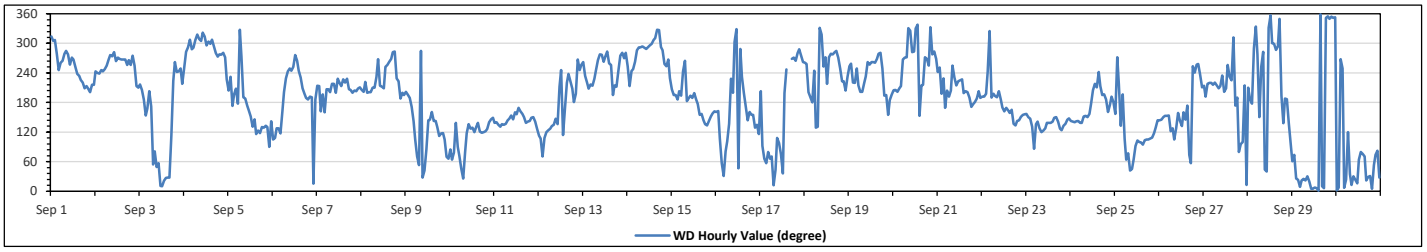
WIND DIRECTION (VWD) in sector

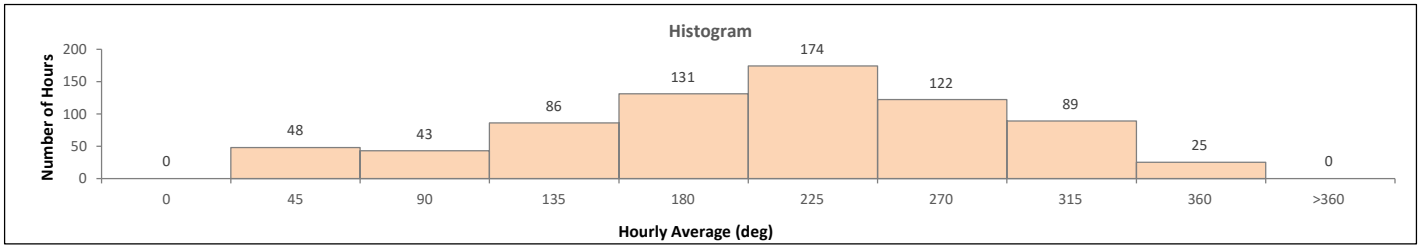
Monthly Average:	198 (SSW)	degree	
Hours in Service:	720		
Hours of Data:	718		
Hours of Missing Data:	0		
Hours of Calibration:	2		
Operational Uptime:	100.0		

Day	Hourly Period Starting at (MST)																							Daily Average	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Degree	Quadrant
Sep 1	NW	WNW	NW	W	WSW	W	W	W	WNW	W	WSW	W	W	WSW	SW	SW	SW	SW	SSW	SSW	SSW	SSW	SW	SW	247	WSW
Sep 2	WSW	WSW	WSW	WSW	WSW	WSW	WSW	W	W	W	W	W	W	W	W	W	W	WSW	W	WSW	W	WSW	SSW	SSW	258	WSW
Sep 3	SW	SSW	S	SSE	SSE	SSW	S	NE	E	NE	ENE	NNE	N	NNE	NNE	NNE	NNE	ESE	SW	W	WSW	WSW	WSW	SW	18	NNE
Sep 4	WSW	W	WNW	NW	WNW	WNW	NW	NW	NW	WNW	NW	NW	WNW	WNW	WNW	NW	WNW	W	W	W	W	W	W	SW	294	WNW
Sep 5	SSW	SW	S	SSW	SSW	S	NNW	W	S	S	S	SSE	SSE	SE	SE	ESE	ESE	ESE	SE	SE	SE	SE	E	SE	149	SSE
Sep 6	ESE	ESE	SE	SE	ESE	SSE	SSW	SW	WSW	WSW	WSW	WSW	W	W	WSW	SW	SSW	SSW	S	S	S	S	NNE	S	215	SSW
Sep 7	SSW	SSW	SSE	SSW	SSE	SSW	SSW	SSW	SW	SW	SSW	SW	SW	SSW	SW	SW	SW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	211	SSW
Sep 8	SSW	SSW	SW	SSW	SSW	SSW	SSW	SSW	SW	W	SSW	SSW	SSW	WSW	WSW	W	W	W	WNW	SW	SW	S	SSW	SSW	237	SW
Sep 9	SSW	SSW	S	S	SE	ESE	ENE	NE	WNW	NNE	NE	E	SE	SE	SSE	SE	SE	SE	ESE	ESE	ESE	ESE	ENE	ENE	121	ESE
Sep 10	E	ENE	ENE	SE	E	ENE	NE	NNE	E	ESE	SE	SE	SE	ESE	SE	SE	ESE	ESE	ESE	ESE	SE	SE	SE	SSE	126	SE
Sep 11	SE	SE	SE	SE	SE	SE	SE	SE	SE	SSE	SE	SSE	SSE	SSE	SSE	SSE	SSE	SE	SE	#N/A	SSE	SSE	SE	SE	148	SE
Sep 12	ESE	ESE	ENE	ESE	ESE	ESE	SE	SE	SE	SE	SE	SSW	WSW	ESE	SSE	SW	SW	SW	SSW	S	SSW	W	WSW	WSW	153	SSE
Sep 13	W	SW	SW	SSW	SW	SSW	SW	WSW	W	W	W	W	W	WNW	WSW	WSW	SSW	SSW	SSW	WSW	W	W	W	W	256	WSW
Sep 14	WSW	SSW	WSW	WSW	W	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	NW	NW	NNW	NW	WNW	WNW	WSW	WSW	W	SW	284	WNW
Sep 15	SSW	SSW	SSW	S	SSW	SSW	WSW	W	S	S	SSW	S	SSW	S	S	SSE	SSE	SE	SE	SE	SE	SSE	SSE	SSE	169	SSE
Sep 16	SSE	SSE	ESE	ENE	NNE	E	E	SE	SW	SSW	WNW	NNW	NE	WNW	SW	SSW	S	SE	SSE	SSE	SSE	SE	SE	ESE	154	SSE
Sep 17	SSW	E	ENE	ENE	E	ENE	ENE	NNE	NE	ESE	E	ENE	NE	SSW	WSW	C	C	W	W	W	W	WNW	W	W	308	NW
Sep 18	W	WSW	SSW	S	S	WSW	SE	SE	NNW	NW	WSW	W	SW	W	W	W	W	WNW	W	WSW	SW	SW	SSW	SW	258	WSW
Sep 19	WSW	WSW	SW	SW	WSW	SSW	SSW	SSW	SW	SW	W	WSW	W	W	W	W	W	W	WSW	SSW	SSW	SSE	S	SSW	245	WSW
Sep 20	SSW	SSW	SSW	SSW	SSW	W	W	W	NNW	NW	W	WNW	NNW	NNW	SSE	SSW	SW	W	W	WSW	NNW	W	WNW	W	268	W
Sep 21	WSW	WSW	SSW	SW	SSE	SSW	S	SSW	WSW	SW	SSW	SW	SW	SW	SSW	SSW	SSW	S	S	S	S	S	SSW	S	205	SSW
Sep 22	S	S	SSW	WSW	NW	S	SSW	S	S	SSW	S	SSE	SSE	SSE	SSE	SSE	SSE	SE	SE	SE	SE	SSE	SSE	SSE	167	SSE
Sep 23	SSE	SSE	SE	SE	E	SE	SE	SE	ESE	ESE	SE	SE	SE	SE	SE	SSE	SSE	SE	SE	ESE	SE	SE	SE	SE	138	SE
Sep 24	SE	SE	SE	SE	SE	SE	SE	SSE	SSE	SSE	SSE	S	SSW	SW	SSW	WSW	SSW	SSW	SSW	S	SSE	S	S	S	159	SSE
Sep 25	SSE	W	SW	SE	SSW	ESE	ENE	ENE	NE	NE	ENE	E	ESE	E	E	E	ESE	ESE	ESE	ESE	ESE	ESE	SE	SE	104	ESE
Sep 26	SE	SE	SSE	SSE	SSE	SSE	ESE	SE	ESE	SE	SSE	SE	SE	SSE	SE	S	ENE	ENE	WSW	WSW	WSW	WSW	SW	SSW	156	SSE
Sep 27	SSW	S	SW	SW	SW	SW	SW	SSW	SSW	SSW	SW	SSW	SSW	WSW	SW	SW	NW	S	S	E	E	E	SSW	NNE	214	SSW
Sep 28	SSW	S	S	WNW	NNW	W	SSE	WSW	W	NE	NE	NNW	N	WNW	WNW	WNW	WNW	N	SSW	SE	S	S	SE	E	308	NW
Sep 29	ENE	ENE	NNE	NNE	N	NNE	NNE	NNE	NNE	NNE	N	N	N	N	N	N	N	N	N	N	N	N	N	N	10	N
Sep 30	N	N	W	WSW	N	NNE	ESE	NE	NNE	NNE	NNE	NNE	ENE	E	ENE	ENE	NNE	NNE	NNE	N	NE	ENE	E	NNE	37	NE

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	ND	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Machine Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.





Lakeland Industry & Community Association

Tamarack Site - September 2023

Summary of Hourly Averages

VECTOR WIND SPEED (VWS) in km/hr & WIND DIRECTION (VWD) in sector

WIND SPEED					
Maximum Hourly Value:	14.1	kph	on Sep 14 at hr 6	Hours in Service:	720
Maximum Daily Value:	9.0	kph	on Sep 11	Hours of Data:	718
Minimum Hourly Value:	0.0	kph	on Sep 5 at hr 6	Hours of Missing Data:	0
Minimum Daily Value:	2.0	kph	on Sep 9	Hours of Calibration:	2
Monthly Average:	1.8	kph		Operational Uptime:	100.0
WIND DIRECTION					
Monthly Average:	198	degree (SSW)			

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Sep 1	4.6	4.1	3.7	3.4	4.6	6.4	5.9	5.8	4.5	5.9	7.6	8.6	10.6	9.4	9.2	9.2	8.3	6.6	7.6	6.2	6.6	6.5	6.5	6.5	3.4	10.6	6.6
	NW	WNW	NW	W	WSW	W	W	W	WNW	W	WSW	W	W	WSW	SW	SW	SW	SW	SSW	SSW	SSW	SSW	SW	SW			
Sep 2	7.0	6.1	5.9	7.2	5.5	5.1	7.6	7.1	8.2	7.4	7.3	5.9	7.2	7.1	8.9	7.6	7.2	6.2	5.7	4.9	3.6	3.4	5.5	4.6	3.4	8.9	6.3
	WSW	WSW	WSW	WSW	WSW	WSW	WSW	W	W	W	W	W	W	W	W	W	W	WSW	W	WSW	W	WSW	SSW	SSW			
Sep 3	3.7	3.5	1.4	0.9	1.0	4.6	0.3	1.2	0.2	1.0	1.8	5.3	7.1	12.4	12.0	10.2	9.5	1.8	1.6	2.5	1.5	2.4	1.7	3.1	0.2	12.4	3.8
	SW	SSW	S	SSE	SSE	SSW	S	NE	E	NE	ENE	NNE	N	NNE	NNE	NNE	NNE	ESE	SW	W	WSW	WSW	WSW	SW			
Sep 4	3.3	5.9	5.1	4.1	4.4	4.0	4.7	3.8	4.9	7.8	8.4	7.5	8.5	7.0	6.1	6.1	6.5	6.9	6.4	5.4	4.7	4.5	4.5	2.9	2.9	8.5	5.6
	WSW	W	WNW	NW	WNW	WNW	NW	NW	NW	WNW	NW	NW	WNW	WNW	WNW	NW	WNW	W	W	W	W	W	W	SW			
Sep 5	3.2	0.7	1.6	1.2	3.1	0.4	**0.0**	0.3	4.4	8.3	9.1	8.5	8.1	8.4	7.4	7.0	6.1	6.4	5.7	5.6	7.0	4.9	2.2	5.2	**0.0**	9.1	4.8
	SSW	SW	S	SSW	SSW	S	NNW	W	S	S	S	SSE	SSE	SE	SE	ESE	ESE	ESE	SE	SE	SE	SE	E	SE			
Sep 6	4.9	4.2	4.2	2.9	2.5	1.9	2.7	3.0	4.3	5.5	5.6	6.7	6.6	6.6	4.7	5.2	5.0	4.4	1.7	3.5	2.0	3.8	0.1	1.2	0.1	6.7	3.9
	ESE	ESE	SE	SE	ESE	SSE	SSW	SW	WSW	WSW	WSW	WSW	W	W	WSW	SW	SSW	SSW	S	S	S	S	NNE	S			
Sep 7	1.0	1.0	1.9	1.1	0.9	0.9	1.4	4.9	1.4	1.8	4.9	6.1	6.4	7.0	7.4	6.6	5.3	4.8	3.6	4.7	4.9	5.7	5.0	3.0	0.9	7.4	3.8
	SSW	SSW	SSE	SSW	SSE	SSW	SSW	SSW	SW	SW	SSW	SW	SW	SSW	SW	SW	SW	SSW	SSW	SSW	SSW	SSW	SSW	SSW			
Sep 8	1.2	0.9	0.4	1.7	2.3	0.4	2.4	2.6	1.4	2.1	5.4	6.3	8.6	7.4	7.7	8.8	8.2	6.9	3.5	1.7	2.1	2.3	2.7	2.1	0.4	8.8	3.7
	SSW	SSW	SW	SSW	SSW	SSW	SSW	SSW	SW	W	SSW	SSW	SSW	WSW	WSW	W	W	W	WNW	SW	SW	S	SSW	SSW			
Sep 9	2.5	0.9	1.4	0.6	0.5	0.5	1.1	0.6	0.6	2.5	4.3	2.5	3.2	4.4	3.0	1.7	3.8	3.1	2.4	2.2	1.2	2.2	1.6	1.3	0.5	4.4	**2.0**
	SSW	SSW	S	S	SE	ESE	ENE	NE	WNW	NNE	NE	E	SE	SE	SSE	SE	SE	SE	ESE	ESE	ESE	ESE	ENE	ENE			
Sep 10	1.0	0.7	1.8	0.4	1.4	3.1	1.7	2.1	1.7	5.9	8.4	8.8	8.9	9.3	8.1	7.9	7.8	6.6	6.3	7.4	8.1	9.2	10.8	9.9	0.4	10.8	5.7
	E	ENE	ENE	SE	E	ENE	NE	NNE	E	ESE	SE	SE	SE	ESE	SE	SE	ESE	ESE	ESE	ESE	SE	SE	SE	SSE			
Sep 11	7.2	7.9	6.3	6.2	6.5	6.2	6.5	6.7	9.4	9.6	8.9	11.9	13.5	12.9	13.6	12.2	9.3	9.5	9.6	10.9	10.8	9.0	6.5	5.3	5.3	13.6	**9.0**
	SE	SE	SE	SE	SE	SE	SE	SE	SE	SSE	SE	SSE	SSE	SSE	SSE	SSE	SSE	SE	SE	#N/A	SSE	SSE	SE	SE			
Sep 12	4.7	4.4	3.2	5.3	6.3	6.1	5.9	5.9	5.7	4.6	3.4	4.3	2.4	2.1	2.9	3.7	2.4	2.5	2.2	1.1	1.9	2.1	3.8	4.7	1.1	6.3	3.8
	ESE	ESE	ENE	ESE	ESE	ESE	SE	SE	SE	SE	SE	SSW	WSW	ESE	SSE	SW	SW	SW	SSW	S	SSW	W	WSW	WSW			
Sep 13	4.2	4.2	4.4	4.7	3.9	4.5	2.5	4.8	6.5	7.4	7.9	5.8	8.5	8.5	7.0	9.3	7.4	3.8	4.4	5.2	9.6	9.9	8.0	10.7	2.5	10.7	6.4
	W	SW	SW	SSW	SW	SSW	SW	WSW	W	W	W	W	W	WNW	WSW	WSW	SSW	SSW	SSW	WSW	W	W	W	W			
Sep 14	5.5	6.1	8.9	10.1	12.5	11.4	14.1	12.5	12.5	12.3	9.5	9.7	9.1	10.4	9.2	9.2	6.5	4.7	3.3	3.8	3.9	3.5	3.7	3.0	3.0	**14.1**	8.1
	WSW	SSW	WSW	WSW	W	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	NW	NW	NNW	NW	WNW	WNW	WSW	WSW	W	SW			
Sep 15	3.4	2.1	2.2	1.1	1.6	1.6	0.7	0.3	0.6	5.2	7.1	7.4	6.9	8.1	7.7	8.7	7.8	5.2	4.1	6.5	9.5	9.4	7.8	6.1	0.3	9.5	5.0
	SSW	SSW	SSW	S	SSW	SSW	WSW	W	S	S	SSW	S	SSW	S	S	SSE	SSE	SE	SE	SE	SE	SSE	SSE	SSE			
Sep 16	4.4	4.6	2.1	2.3	1.4	2.6	1.0	1.0	1.6	3.6	1.8	0.6	2.5	1.3	1.9	3.4	5.2	3.2	0.6	1.5	0.3	0.9	1.4	1.6	0.3	5.2	2.1
	SSE	SSE	ESE	ENE	NNE	E	E	SE	SW	SSW	WNW	NNW	NE	WNW	SW	SSW	S	SE	SSE	SSE	SSE	SE	SE	ESE			
Sep 17	0.3	2.9	2.1	1.9	1.0	3.2	4.7	2.1	2.0	4.4	3.9	5.1	5.9	3.8	6.5	**C**	**C**	6.5	6.3	6.4	5.9	3.6	2.3	4.2	0.3	6.5	3.9
	SSW	E	ENE	ENE	E	ENE	ENE	NNE	NE	ESE	E	ENE	NE	SSW	WSW	**C**	**C**	W	W	W	W	WNW	W	W			
Sep 18	3.0	4.0	2.7	2.7	2.2	0.7	0.6	0.8	0.3	1.4	6.4	4.1	5.8	13.2	11.0	9.8	11.6	11.9	6.5	4.1	4.1	4.5	6.0	4.5	0.3	13.2	5.1
	W	WSW	SSW	S	S	WSW	SE	SE	NNW	NW	WSW	W	SW	W	W	W	W	WNW	W	WSW	SW	SW	SSW	SW			
Sep 19	5.4	4.9	4.5	5.1	3.7	3.9	6.0	5.5	3.8	6.5	8.1	9.1	9.0	8.9	9.2	7.0	6.8	4.0	1.4	1.5	1.6	0.3	1.7	2.4	0.3	9.2	5.0
	WSW	WSW	SW	SW	WSW	SSW	SSW	SSW	SW	SW	W	WSW	W	W	W	W	W	W	WSW	SSW	SSW	SSE	S	SSW			
Sep 20	2.3	2.0	2.3	4.6	2.5	1.9	2.0	2.2	2.9	3.1	5.0	5.3	4.7	3.8	1.1	2.9	3.6	0.8	3.9	2.5	1.1	2.5	3.3	1.1	0.8	5.3	2.8
	SSW	SSW	SSW	SSW	SSW	W	W	W	NNW	NW	W	WNW	NNW	NNW	SSE	SSW	SW	W	W	WSW	NNW	W	WNW	W			
Sep 21	2.7	1.4	2.4	1.3	1.8	1.7	2.0	0.6	1.3	2.2	4.9	6.1	7.0	7.6	9.4	8.5	8.3	4.8	4.1	4.5	3.8	4.7	3.5	5.0	0.6	9.4	4.2
	WSW	WSW	SSW	SW	SSE	SSW	S	SSW	WSW	SW	SSW	SW	SW	SW	SSW	SSW	SSW	S	S	S	S	S	SSW	S			
Sep 22	3.5	2.8	1.8	0.1	0.1	1.4	4.0	4.9	6.2	7.3	6.8	7.6	8.0	8.3	8.1	8.3	7.5	4.1	4.2	6.2	7.1	9.8	9.7	8.2	0.1	9.8	5.7
	S	S	SSW	WSW	NW	S	SSW	S	S	SSW	S	SSE	SSE	SSE	SSE	SSE	SSE	SE	SE	SE	SE	SSE	SSE	SSE			
Sep 23	7.2	7.3	7.0	4.4	2.1	8.7	9.3	7.6	9.3	9.6	10.7	11.5	11.9	11.3	10.8	10.2	11.4	6.5	4.3	7.0	9.9	10.7	11.2	10.5	2.1	11.9	8.8
	SSE	SSE	SE	SE	E	SE	SE	SE	ESE	ESE	SE	SE	SE	SE	SE	SSE	SSE	SE	SE	ESE	SE	SE	SE	SE			
Sep 24	9.4	10.5	10.8	9.7	8.6	8.5	6.5	4.6	6.1	7.5	7.5	6.9	5.4	5.9	2.0	2.8	3.0	3.1	1.9	0.9	1.3	0.3	0.3	0.4	0.3	10.8	5.2
	SE	SE	SE	SE	SE	SE	SE	SSE	SSE	SSE	SSE	S	SSW	SW	SSW	WSW	SSW	SSW	SSW	S	SSE	S	S	S			
Sep 25	0.5	0.4	1.0	1.4	1.4	0.1	1.0	1.5	2.9	5.6	6.3	8.2	8.4	9.2	9.2	7.9	7.9	6.4	6.7	6.7	7.3	7.3	9.2	11.8	0.1	11.8	5.3
	SSE	W	SW	SE	SSW	ESE	ENE	ENE	NE	NE	ENE	E	ESE	E	E	E	ESE	ESE	ESE	ESE	ESE	ESE	SE	SE			
Sep 26	10.8	12.1	11.3	10.4	10.8	8.5	4.1	5.3	3.8	3.0	4.6	5.6	7.6	8.2	7.4	5.7	1.1	1.6	2.5	3.1	4.3	5.5	4.5	4.4	1.1	12.1	6.1
	SE	SE	SSE	SSE	SSE	SSE	ESE	SE	ESE	SE	SSE	SE	SE	SSE	SE	S	ENE	ENE	WSW	WSW	WSW	WSW	SW	SSW			
Sep 27	4.0	2.3	3.7	3.5	4.0	4.3	3.4	2.8	3.7	2.1	2.6	6.0	6.1	2.0	4.5	4.7	1.0	1.0	3.1	2.3	1.0	0.2	0.2	0.3	0.2	6.1	2.9
	SSW	S	SW	SW	SW	SW	SW	SSW	SSW	SSW	SW	SSW	SSW	WSW	SW	SW	NW	S	S	E	E	E	SSW	NNE			
Sep 28	0.8	1.5	0.6	1.4	0.2	0.5	0.1	1.8	1.8	2.7	2.4	1.7	4.9	5.4	5.7	6.8	2.5	2.9	0.8	0.9	0.9	0.7	0.7	2.5	0.1	6.8	2.1
	SSW	S	S	WNW	NNW	W	SSE	WSW	W	NE	NE	NNW	N	WNW	WNW	WNW	WNW	N	SSW	SE	S	S	SE	E			
Sep 29	1.5	2.5	2.7	5.7	5.5	6.6	4.8	2.9	3.3	6.7	6.5	6.8	7.5	7.7	8.6	8.1	7.6	5.0	3.0	2.5	3.3	4.4	3.6	3.4	1.5	8.6	5.0
	ENE	ENE	NNE	NNE	N	NNE	NNE	NNE	NNE	NNE	N	N	N	N	N	N	N	N	N	N	N	N	N	N			
Sep 30	2.2	1.9	1.3	3.0	1.9	3.4	1.0	0.3	3.9	4.6	3.7	5.1	4.0	4.4	3.8	2.6	4.1	4.2	2.0	0.2	1.8	4.0	2.1	1.4	0.2	5.1	2.8
	N	N	W	WSW	N	NNE	ESE	NE	NNE	NNE	NNE	NNE	ENE	E	ENE	ENE	NNE	NNE	NNE	N	NE	ENE	E	NNE			

C	Monthly Calibration	**S**	Daily Zero-Span Check	**Q**	Quality Assurance			
K	Collection Error	**ND**	No Data (Machine Not in Service)	**Y**	Routine Maintenance	**P**	Power Failure	
X	InValid Data (Equipment Malfunction /Recovery)	**NRM**	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)					

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Lakeland Industry & Community Association

Tamarack Site - September 2023

Summary of Hour Standard Deviations

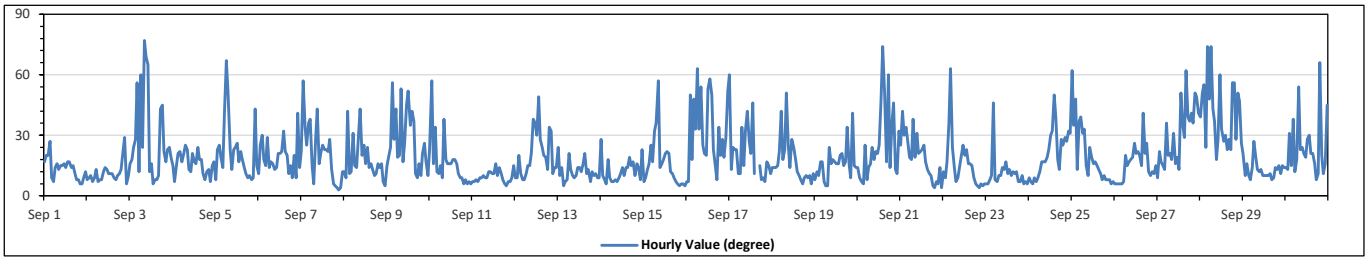
STANDARD DEVIATION WIND DIRECTION (STDWD) in Degree

Maximum Hourly Value:	77	degree on Sep 3 at hr 8	Hours in Service:	720		
			Hours of Data:	718		
Minimum Hourly Value:	3	degree on Sep 7 at hr 21	Hours of Missing Data:	0		
			Hours of Calibration:	2		
			Operational Uptime:	100.0		

Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
Sep 1	17	20	20	27	9	7	14	16	13	15	15	16	14	17	17	14	15	11	8	8	6	6	9	12	6	27
Sep 2	8	9	10	7	9	13	7	8	8	12	14	13	11	11	11	9	8	10	11	13	22	29	6	10	6	29
Sep 3	16	18	24	28	56	12	60	24	77	69	65	12	16	6	8	8	10	43	45	22	17	23	24	19	6	77
Sep 4	15	7	15	21	22	17	21	25	23	13	12	21	17	16	24	18	18	11	8	12	13	7	15	17	7	25
Sep 5	8	23	25	19	14	41	67	52	23	13	23	24	26	17	22	18	14	11	9	10	8	9	43	15	8	67
Sep 6	11	25	30	18	15	29	14	17	16	13	14	21	21	22	32	22	20	11	15	9	20	9	41	14	9	41
Sep 7	22	57	34	25	36	38	15	6	28	43	16	22	25	23	23	22	28	13	6	5	4	3	4	12	3	57
Sep 8	12	9	42	11	12	31	15	14	30	43	20	25	16	24	14	16	13	10	11	16	14	16	7	5	5	43
Sep 9	15	20	24	56	28	43	19	20	53	17	26	45	52	35	42	37	11	9	16	10	21	26	17	10	9	56
Sep 10	23	57	16	34	12	11	15	9	38	18	16	16	16	18	18	16	11	9	9	6	8	6	7	6	6	57
Sep 11	7	7	8	7	9	9	10	9	9	12	12	11	11	16	10	14	11	8	6	5	7	7	9	15	5	16
Sep 12	9	9	20	11	8	8	11	15	15	21	38	36	30	49	28	24	20	19	13	34	32	11	14	14	8	49
Sep 13	24	10	14	5	7	8	21	13	10	9	10	14	14	12	16	21	11	13	7	12	10	11	9	9	5	24
Sep 14	28	10	8	6	18	9	7	7	8	7	9	11	14	10	14	14	19	15	17	10	16	14	8	23	6	28
Sep 15	7	9	13	16	25	17	32	36	57	14	16	18	21	22	21	12	11	9	7	6	5	6	6	5	5	57
Sep 16	7	7	50	18	48	33	63	33	54	25	21	20	53	58	50	23	15	8	34	20	28	19	29	52	7	63
Sep 17	60	13	24	23	23	11	11	34	15	32	42	27	21	46	11	C	C	15	8	9	7	17	15	11	7	60
Sep 18	14	14	14	15	22	42	18	23	51	25	14	28	24	18	12	10	8	6	9	10	9	10	6	11	6	51
Sep 19	8	12	10	17	17	7	5	5	24	16	18	17	16	16	20	21	15	17	34	16	9	41	15	14	5	41
Sep 20	14	9	7	6	25	8	14	16	24	18	22	21	25	48	74	51	17	60	14	36	46	13	11	32	6	74
Sep 21	25	42	30	34	26	19	18	38	19	31	21	22	23	25	17	13	11	10	5	4	7	6	14	4	4	42
Sep 22	12	9	17	36	63	24	14	7	9	14	20	25	20	23	16	16	15	9	6	5	4	6	5	6	4	63
Sep 23	6	6	8	10	46	8	7	10	10	14	13	17	11	13	10	12	11	12	7	7	10	6	7	6	6	46
Sep 24	9	7	6	9	7	9	12	17	17	17	19	23	30	32	50	39	18	13	28	25	29	27	32	31	6	50
Sep 25	62	35	48	13	37	39	31	33	15	10	24	19	16	17	15	13	11	8	10	8	8	8	6	7	6	62
Sep 26	6	6	6	6	6	7	20	15	17	18	19	26	21	22	20	15	41	21	26	12	10	12	11	15	6	41
Sep 27	9	22	17	15	13	36	20	21	18	31	16	19	13	51	36	29	62	39	37	41	36	51	49	41	9	62
Sep 28	39	51	55	24	74	48	74	43	37	18	28	60	33	27	30	23	28	23	56	56	28	51	47	26	18	74
Sep 29	21	10	16	10	8	14	27	19	13	12	13	10	10	10	10	11	8	9	14	13	15	11	15	14	8	27
Sep 30	14	13	31	15	38	12	18	54	23	24	21	19	28	30	21	21	16	8	11	66	20	11	16	45	8	66
Diurnal Minimum	6	6	6	5	6	7	5	5	8	7	9	10	10	6	8	8	8	6	5	4	4	3	4	4		
Diurnal Maximum	62	57	55	56	74	48	74	54	77	69	65	60	53	58	74	51	62	60	56	66	46	51	49	52		

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	ND	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Machine Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



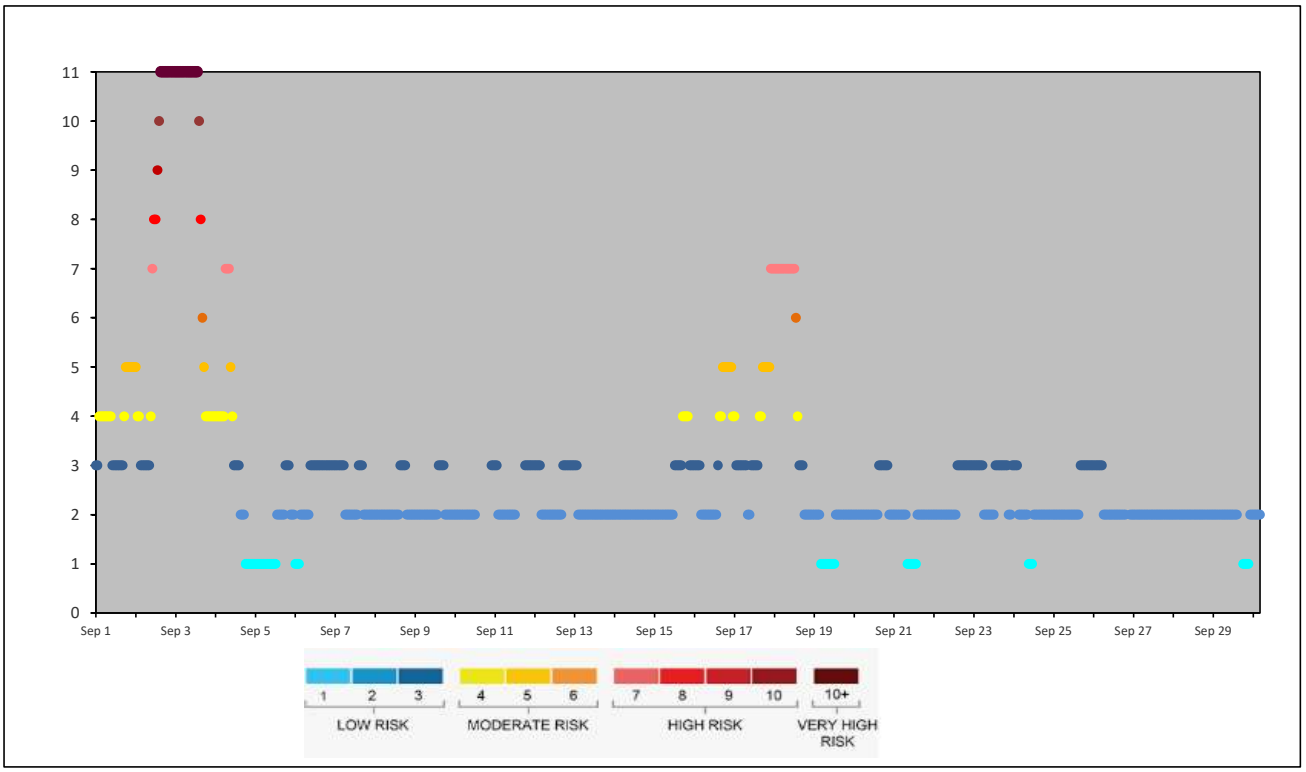
ST. LINA STATION

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

St. Lina Site - September 2023

AIR QUALITY HEALTH INDEX

Day	Hourly Period Starting at (MST)																							
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Sep 1	3	3	4	4	4	4	4	4	4	4	3	3	3	3	3	3	3	4	5	5	5	5	5	5
Sep 2	5	4	4	3	3	3	3	3	3	4	7	8	8	9	10	11	11	11	11	11	11	11	11	11
Sep 3	11	11	11	11	11	11	11	11	11	11	11	11	11	11	10	8	6	5	4	4	4	4	4	4
Sep 4	4	4	4	4	4	4	7	7	7	5	4	3	3	3	3	2	2	2	1	1	1	1	1	1
Sep 5	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	3	3	3	2	2	2
Sep 6	1	1	1	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	1
Sep 7	3	3	3	3	3	3	2	2	2	2	2	2	2	2	3	3	3	2	2	2	2	2	2	2
Sep 8	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	2	2	2	2	2
Sep 9	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	2	2	2	2	2	2
Sep 10	2	2	2	2	2	2	2	2	2	2	2	2	2										3	3
Sep 11	3	3	2	2	2	2	2	2	2	2	2	2	2						3	3	3	3	3	3
Sep 12	3	3	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3
Sep 13	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Sep 14	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Sep 15	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	4	4	4	4	3	3	3
Sep 16	3	3	3	3	2	2	2	2	2	2	2	2	2	2	3	4	4	5	5	5	5	5	5	4
Sep 17	4	3	3	3	3	3	3	3	2	2	3	3	3	3	3	4	4	5	5	5	5	5	7	7
Sep 18	7	7	7	7	7	7	7	7	7	7	7	7	7	6	4	3	3	3	2	2	2	2	2	2
Sep 19	2	2	2	2	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2
Sep 20	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	2	2	2
Sep 21	2	2	2	2	2	2	2	2	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2
Sep 22	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3
Sep 23	3	3	3	3	3	3	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	2	2	3
Sep 24	3	3	3	2	2	2	2	2	2	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2
Sep 25	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3
Sep 26	3	3	3	3	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2		2	2	2
Sep 27	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Sep 28	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Sep 29	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2				1	1	1	1	2	2
Sep 30	2	2	2	2	2																			



Lakeland Industry & Community Association

St. Lina Site - September 2023

Summary of Hourly Averages

SULPHUR DIOXIDE (SO_2) in ppb

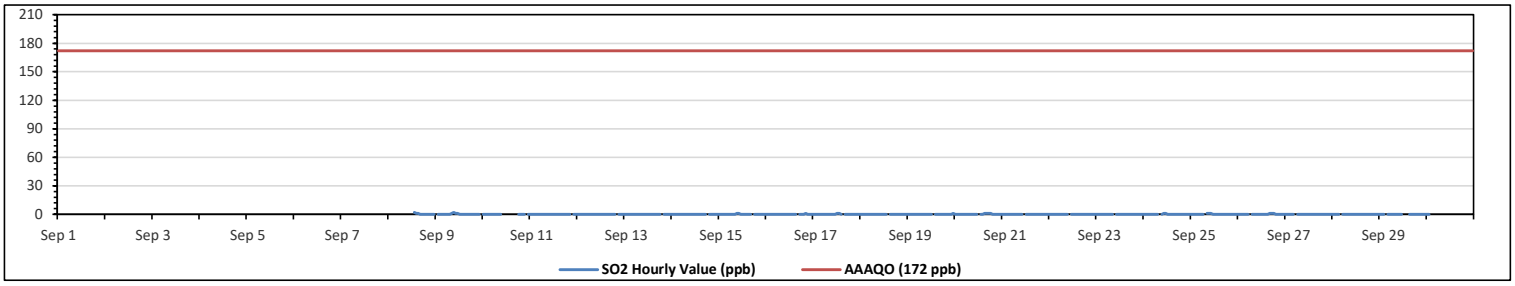
Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 172 ppb, 24-Hour 48 ppb, 30-Day 11 ppb

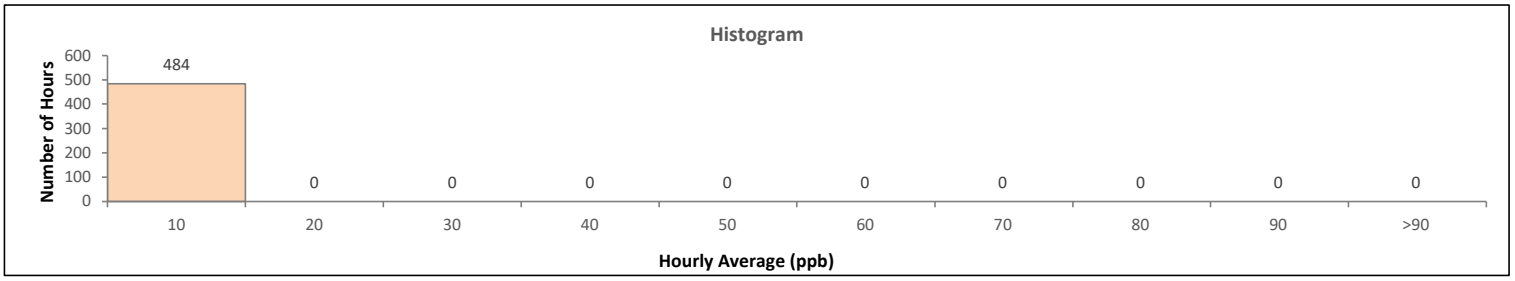
Number of 1-Hour Exceedances:	0	Number of 24-Hour Exceedances:	0	30-Day Exceedence:	0	
Maximum Hourly Value:	2	ppb	on Sep 8 at hr 13	Hours in Service:	720	
Maximum Daily Value:	0.2	ppb	on Sep 9	Hours of Data:	484	
Minimum Hourly Value:	0	ppb	on Sep 8 at hr 16	Hours of Missing Data:	207	
Minimum Daily Value:	0.0	ppb	on Sep 11	Hours of Calibration:	29	
Monthly Average:	NA	ppb		Operational Uptime:	71.3	

Day	Hourly Period Starting at (MST)																						Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Sep 1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Sep 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Sep 3	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Sep 4	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Sep 5	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Sep 6	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Sep 7	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Sep 8	X	X	X	X	X	X	X	X	X	X	X	X	X	2	1	1	0	0	0	0	0	0	0	0	0	2	NA
Sep 9	S	0	0	0	0	0	0	0	1	2	1	1	0	0	0	0	0	0	0	0	0	0	0	S	0	2	0.2
Sep 10	0	0	0	0	0	0	0	0	0	0	K	K	C	C	C	C	C	C	0	0	0	0	S	0	0	0	NA
Sep 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0.0
Sep 12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0.0
Sep 13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0.0
Sep 14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0.0
Sep 15	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	S	0	0	0	0	0	0	0	1	0.1
Sep 16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	1	0	0	0	0	1	0.0
Sep 17	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	S	0	0	0	0	0	0	0	0	0	1	0.1
Sep 18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 19	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	1	0	1	0.0
Sep 20	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	1	1	1	1	0	0	0	0	0	0	1	0.2
Sep 21	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 22	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 23	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 24	0	0	0	0	0	0	0	0	S	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1
Sep 25	0	0	0	0	0	0	0	S	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1
Sep 26	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	1	0.1
Sep 27	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 28	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 29	0	0	0	S	0	0	0	0	0	0	0	0	K	K	K	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 30	0	0	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	0	NA
Diurnal Maximum	0	0	0	0	0	0	0	0	1	2	1	1	1	2	1	1	1	1	1	0	1	0	0	1			
Diurnal Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	ND	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



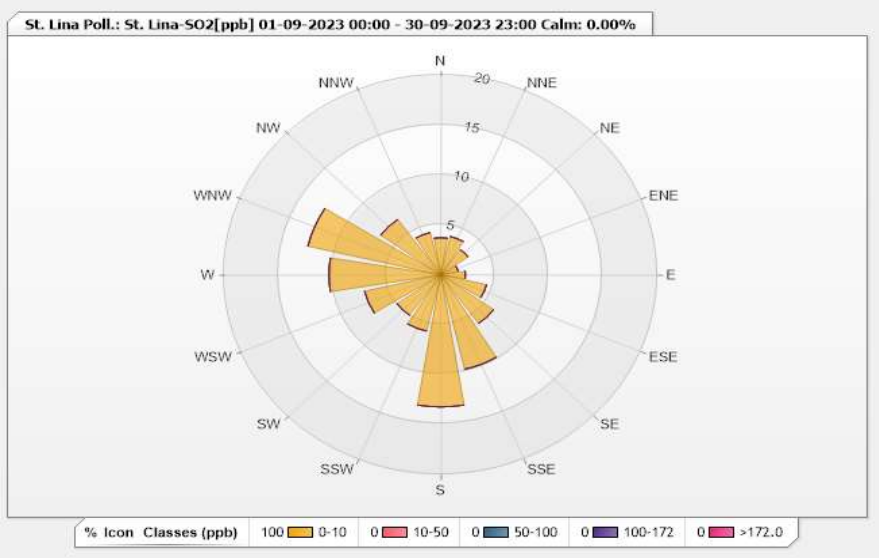


Station: St. Lina Poll.: St. Lina-SO2[ppb] Monthly: 09-2023

Type: Pollution Rose
Direction: Blowing From (Wind Frequency)
Time Base: 1 - Hour

Calm: 0.00% Valid Data: 67.22% Calm Avg: 0.00 [ppm]

Direction	0-10	10-50	50-100	100-172	>172.0	Total
N	3.72	0	0	0	0	3.72
NNE	3.93	0	0	0	0	3.93
NE	3.1	0	0	0	0	3.1
ENE	1.65	0	0	0	0	1.65
E	2.27	0	0	0	0	2.27
ESE	4.34	0	0	0	0	4.34
SE	5.99	0	0	0	0	5.99
SSE	9.71	0	0	0	0	9.71
S	13.22	0	0	0	0	13.22
SSW	5.79	0	0	0	0	5.79
SW	4.96	0	0	0	0	4.96
WSW	7.23	0	0	0	0	7.23
W	10.33	0	0	0	0	10.33
WNW	12.6	0	0	0	0	12.6
NW	6.82	0	0	0	0	6.82
NNW	4.34	0	0	0	0	4.34
Summary	100	0	0	0	0	100



Lakeland Industry & Community Association

St. Lina Site - September 2023

Summary of Hourly Averages

HYDROGEN SULPHIDE (H_2S) in ppb

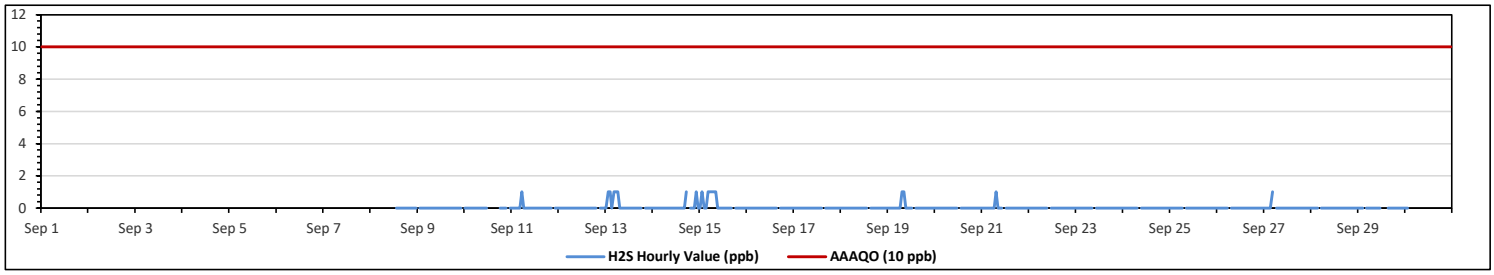
Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 10 ppb, 24-Hour 3 ppb

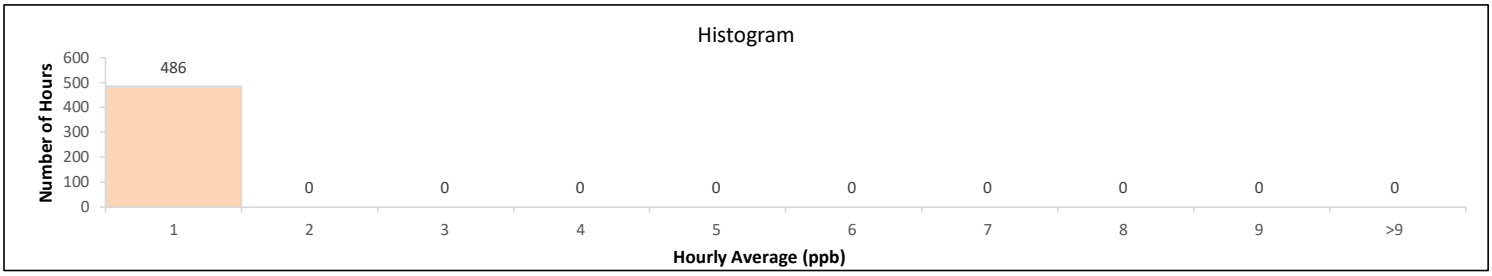
Number of 1-Hour Exceedances:	0		Number of 24-Hour Exceedances:	0	
Maximum Hourly Value:	1	ppb	on Sep 11 at hr 5	Hours in Service:	720
Maximum Daily Value:	0.0	ppb	on Sep 9	Hours of Data:	486
Minimum Hourly Value:	0	ppb	on Sep 8 at hr 13	Hours of Missing Data:	205
Minimum Daily Value:	0.0	ppb	on Sep 9	Hours of Calibration:	29
Monthly Average:	NA	ppb		Operational Uptime:	71.5

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Sep 1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Sep 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Sep 3	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Sep 4	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Sep 5	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Sep 6	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Sep 7	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Sep 8	X	X	X	X	X	X	X	X	X	X	X	X	X	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Sep 9	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0.0
Sep 10	0	0	0	0	0	0	0	0	0	0	0	0	C	C	C	C	C	C	0	0	0	0	S	0	0	0	-
Sep 11	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	1	0.0
Sep 12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0.0
Sep 13	0	1	1	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	1	0.0
Sep 14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	S	0	0	0	1	0	0	1	0.0
Sep 15	0	1	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	1	0.0
Sep 16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0.0
Sep 17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0.0
Sep 18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 19	0	0	0	0	0	0	0	1	1	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Sep 20	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 21	0	0	0	0	0	0	0	1	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Sep 22	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 23	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 24	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 25	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 26	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 27	0	0	0	0	1	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Sep 28	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 29	0	0	0	S	0	0	0	0	0	0	0	0	K	K	K	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 30	0	0	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	0	-
Diurnal Maximum	0	1	1	0	1	1	1	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0			
Diurnal Average	0.0	0.1	0.0	0.0	0.2	0.2	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	ND	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



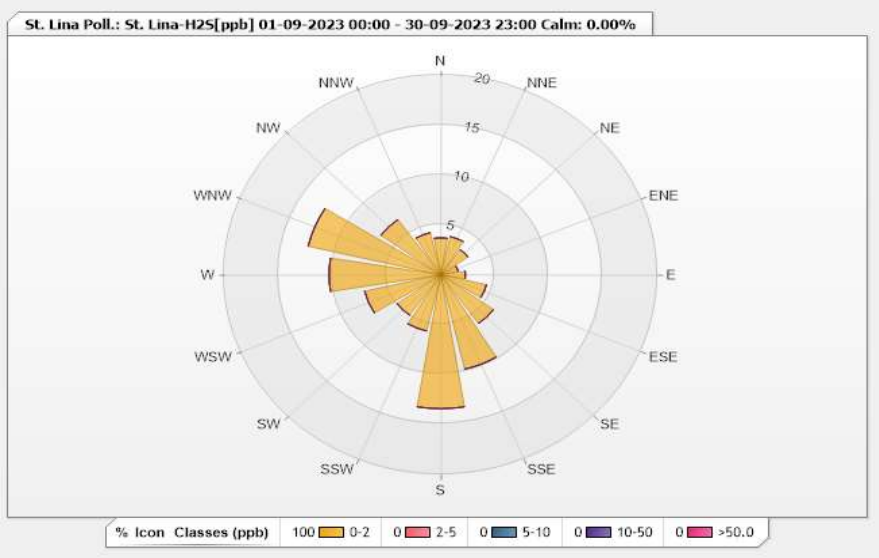


Station: St. Lina Poll.: St. Lina-H2S[ppb] Monthly: 09-2023

Type: Pollution Rose
Direction: Blowing From (Wind Frequency)
Time Base: 1 - Hour

Calm: 0.00% Valid Data: 67.36% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-50	>50.0	Total
N	3.71	0	0	0	0	3.71
NNE	3.92	0	0	0	0	3.92
NE	3.09	0	0	0	0	3.09
ENE	1.65	0	0	0	0	1.65
E	2.27	0	0	0	0	2.27
ESE	4.33	0	0	0	0	4.33
SE	5.98	0	0	0	0	5.98
SSE	9.69	0	0	0	0	9.69
S	13.4	0	0	0	0	13.4
SSW	5.77	0	0	0	0	5.77
SW	4.95	0	0	0	0	4.95
WSW	7.22	0	0	0	0	7.22
W	10.31	0	0	0	0	10.31
WNW	12.58	0	0	0	0	12.58
NW	6.8	0	0	0	0	6.8
NNW	4.33	0	0	0	0	4.33
Summary	100	0	0	0	0	100



Lakeland Industry & Community Association

St. Lina Site - September 2023

Summary of Hourly Averages

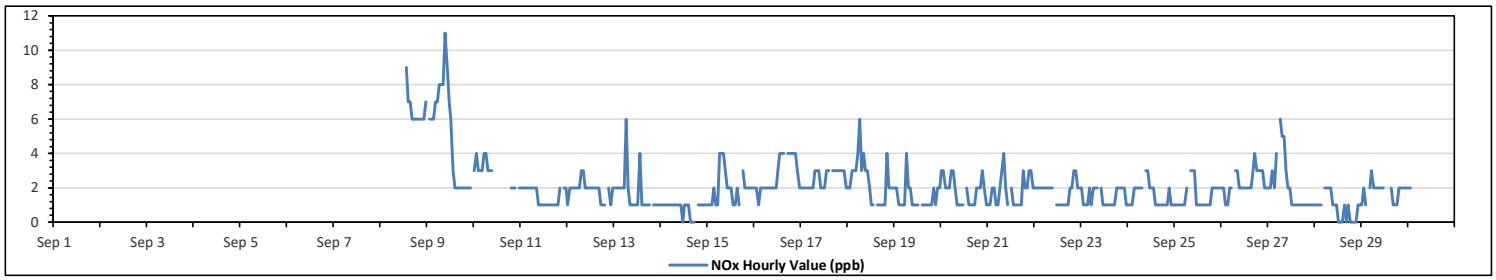
OXIDES OF NITROGEN (NOx) in ppb

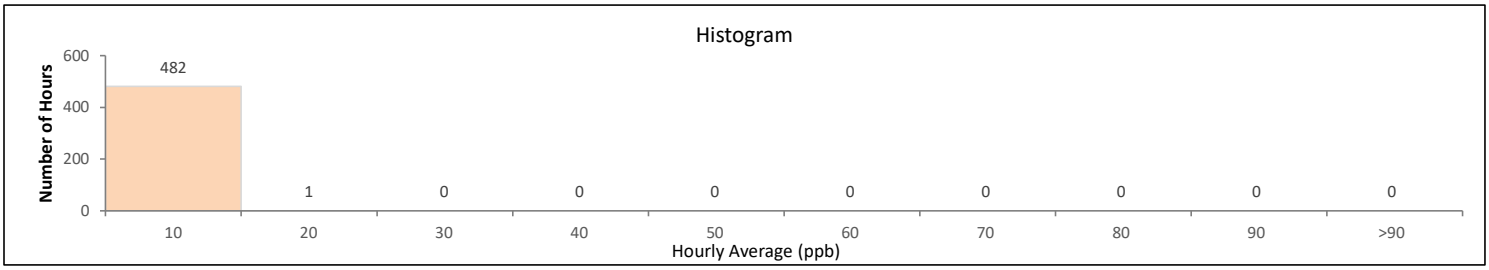
Maximum Hourly Value:	11	ppb	on Sep 9 at hr 9	Hours in Service:	720	
Maximum Daily Value:	5.0	ppb	on Sep 9	Hours of Data:	483	
Minimum Hourly Value:	0	ppb	on Sep 14 at hr 11	Hours of Missing Data:	207	
Minimum Daily Value:	0.8	ppb	on Sep 14	Hours of Calibration:	30	
Monthly Average:	NA	ppb		Operational Uptime:	71.3	

Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Sep 1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Sep 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Sep 3	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Sep 4	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Sep 5	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Sep 6	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Sep 7	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Sep 8	X	X	X	X	X	X	X	X	X	X	X	X	X	9	7	7	6	6	6	6	6	6	6	7	6	9	NA
Sep 9	S	6	6	6	7	7	8	8	8	11	9	7	6	3	2	2	2	2	2	2	2	2	2	S	2	**11**	**5.0**
Sep 10	3	4	3	3	3	4	4	3	3	3	K	K	C	C	C	C	C	C	C	2	2	2	S	2	2	4	NA
Sep 11	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	2	S	2	2	1	2	1.5
Sep 12	1	2	2	2	2	2	2	3	3	2	2	2	2	2	2	2	2	1	1	1	S	2	1	2	1	3	1.9
Sep 13	2	2	2	2	2	2	6	2	1	1	1	1	1	4	1	1	1	1	1	S	1	1	1	1	1	6	1.7
Sep 14	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	0	0	0	S	1	1	1	1	1	**0**	1	**0.8**
Sep 15	1	1	1	2	1	1	4	4	4	3	2	2	2	1	1	2	1	S	3	2	2	2	2	2	1	4	2.0
Sep 16	2	2	1	2	2	2	2	2	2	2	2	2	3	4	4	4	S	4	4	4	4	4	3	2	1	4	2.7
Sep 17	2	2	2	2	2	2	2	3	3	3	2	2	2	3	3	S	3	3	3	3	3	3	3	2	2	3	2.5
Sep 18	2	2	3	3	3	4	6	3	4	3	3	2	1	1	S	1	1	1	1	1	4	2	2	2	1	6	2.4
Sep 19	2	2	1	1	1	1	4	2	2	1	1	1	1	S	1	1	1	1	1	1	2	1	2	2	1	4	1.4
Sep 20	3	3	2	2	2	3	3	2	1	1	1	1	S	2	1	1	1	1	2	2	2	3	2	1	1	3	1.8
Sep 21	1	1	2	2	1	1	2	3	4	2	1	S	2	1	1	1	1	1	3	2	2	3	3	2	1	4	1.8
Sep 22	2	2	2	2	2	2	2	2	2	2	S	1	1	1	1	1	1	1	2	2	3	3	2	2	1	3	1.8
Sep 23	2	1	1	1	2	1	2	2	2	S	2	1	1	1	1	1	1	1	2	2	2	2	2	1	1	2	1.5
Sep 24	1	1	1	2	2	2	2	2	S	3	3	2	2	2	1	1	1	1	1	1	1	2	1	1	1	3	1.6
Sep 25	1	1	1	1	1	1	2	S	3	3	3	1	1	1	1	1	1	1	1	2	2	2	2	2	1	3	1.5
Sep 26	2	2	1	1	2	2	S	3	3	2	2	2	2	2	2	2	3	4	3	3	3	3	2	2	1	4	2.3
Sep 27	2	2	3	2	4	S	6	5	5	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	6	2.1
Sep 28	1	1	1	1	S	2	2	2	2	1	1	1	0	0	0	1	0	1	0	0	0	0	1	1	**0**	2	**0.8**
Sep 29	1	2	1	S	2	3	2	2	2	2	2	2	K	K	K	2	1	1	1	2	2	2	2	2	1	3	1.8
Sep 30	2	2	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2	2	NA
Diurnal Maximum	3	6	6	6	7	7	8	8	8	11	9	7	6	9	7	7	6	6	6	6	6	6	6	7			
Diurnal Average	1.7	2.0	1.9	2.0	2.2	2.3	3.2	2.8	2.9	2.5	2.2	1.7	1.7	2.1	1.7	1.7	1.5	1.7	2.0	2.0	2.2	2.2	2.0	1.9			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	ND	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



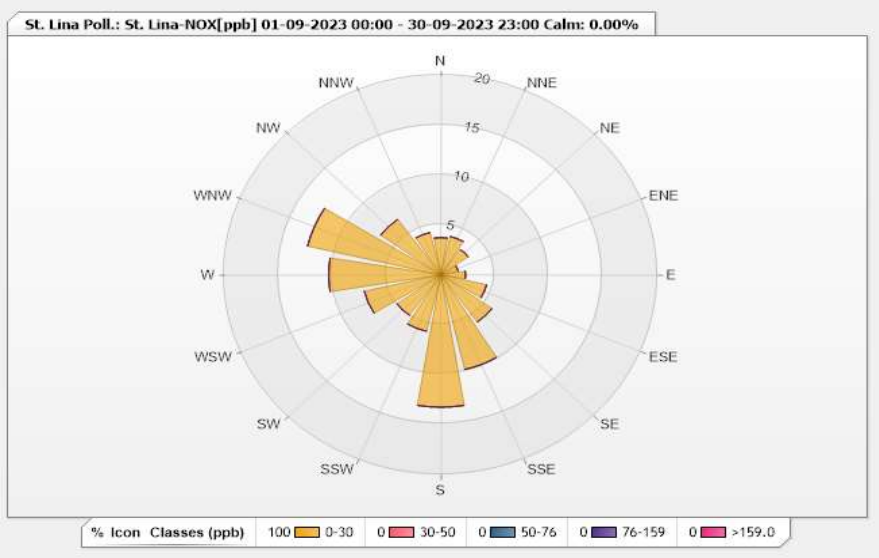


Station: St. Lina Poll.: St. Lina-NOX[ppb] Monthly: 09-2023

Type: Pollution Rose
Direction: Blowing From (Wind Frequency)
Time Base: 1 - Hour

Calm: 0.00% Valid Data: 67.08% Calm Avg: 0.00 [ppm]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	3.73	0	0	0	0	3.73
NNE	3.93	0	0	0	0	3.93
NE	3.11	0	0	0	0	3.11
ENE	1.66	0	0	0	0	1.66
E	2.28	0	0	0	0	2.28
ESE	4.35	0	0	0	0	4.35
SE	5.8	0	0	0	0	5.8
SSE	9.73	0	0	0	0	9.73
S	13.25	0	0	0	0	13.25
SSW	5.8	0	0	0	0	5.8
SW	4.97	0	0	0	0	4.97
WSW	7.25	0	0	0	0	7.25
W	10.35	0	0	0	0	10.35
WNW	12.63	0	0	0	0	12.63
NW	6.83	0	0	0	0	6.83
NNW	4.35	0	0	0	0	4.35
Summary	100	0	0	0	0	100



Lakeland Industry & Community Association

St. Lina Site - September 2023

Summary of Hourly Averages

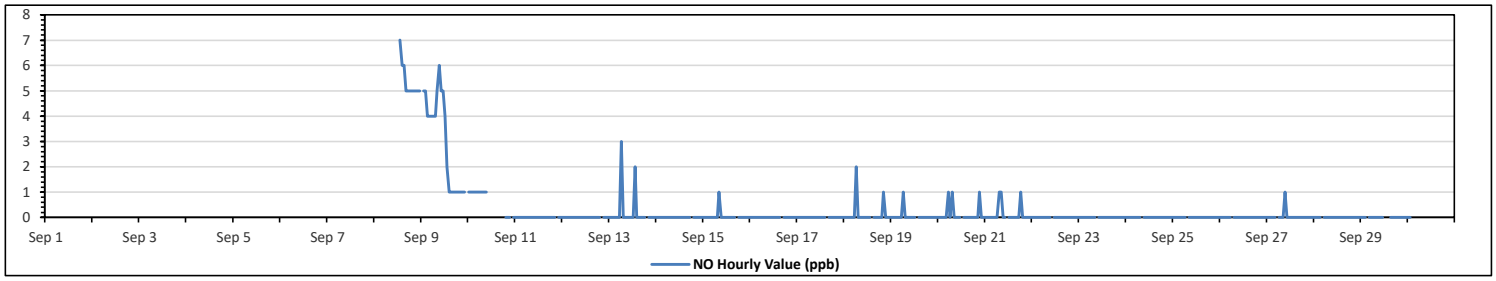
NITRIC OXIDE (NO) in ppb

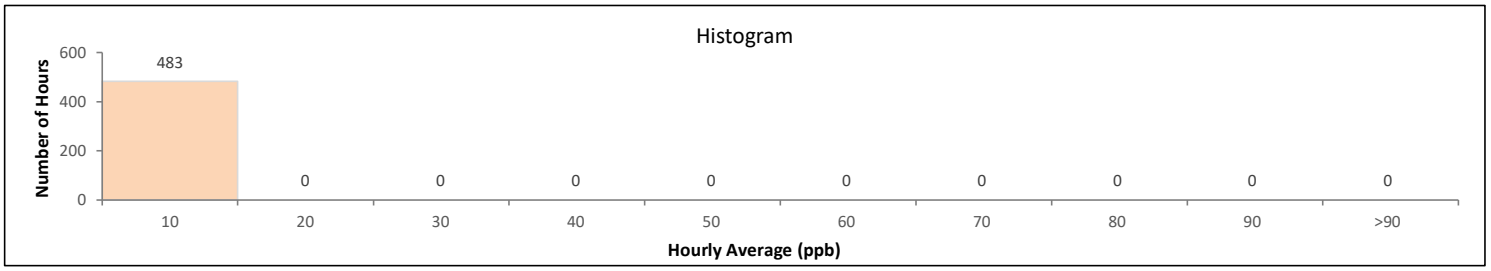
Maximum Hourly Value:	7	ppb	on Sep 8 at hr 13	Hours in Service:	720	
Maximum Daily Value:	3.0	ppb	on Sep 9	Hours of Data:	483	
Minimum Hourly Value:	0	ppb	on Sep 10 at hr 19	Hours of Missing Data:	207	
Minimum Daily Value:	0.0	ppb	on Sep 11	Hours of Calibration:	30	
Monthly Average:	NA	ppb		Operational Uptime:	71.3	

Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Sep 1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Sep 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Sep 3	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Sep 4	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Sep 5	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Sep 6	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Sep 7	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Sep 8	X	X	X	X	X	X	X	X	X	X	X	X	X	7	6	6	5	5	5	5	5	5	5	5	5	7	NA
Sep 9	S	5	5	4	4	4	4	4	5	6	5	5	4	2	1	1	1	1	1	1	1	1	1	S	1	6	3.0
Sep 10	1	1	1	1	1	1	1	1	1	1	K	K	C	C	C	C	C	C	C	0	0	0	S	0	0	1	NA
Sep 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0.0
Sep 12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0.0
Sep 13	0	0	0	0	0	0	3	0	0	0	0	0	0	2	0	0	0	0	0	S	0	0	0	0	0	3	0.2
Sep 14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0.0
Sep 15	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	1	0.0
Sep 16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0.0
Sep 17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0.0
Sep 18	0	0	0	0	0	0	2	0	0	0	0	0	0	0	S	0	0	0	0	0	1	0	0	0	0	2	0.1
Sep 19	0	0	0	0	0	0	1	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Sep 20	0	0	0	0	0	1	0	1	0	0	0	0	S	0	0	0	0	0	0	0	0	1	0	0	0	1	0.1
Sep 21	0	0	0	0	0	0	0	1	1	0	0	S	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0.1
Sep 22	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 23	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 24	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 25	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 26	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 27	0	0	0	0	0	S	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Sep 28	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 29	0	0	0	S	0	0	0	0	0	0	0	0	K	K	K	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 30	0	0	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	0	NA
Diurnal Maximum	1	5	5	4	4	4	4	4	5	6	5	5	4	7	6	6	5	5	5	5	5	5	5	5			
Diurnal Average	0.0	0.3	0.3	0.3	0.3	0.3	0.6	0.4	0.4	0.4	0.3	0.3	0.2	0.6	0.4	0.4	0.3	0.3	0.4	0.3	0.3	0.3	0.3	0.2			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	ND	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



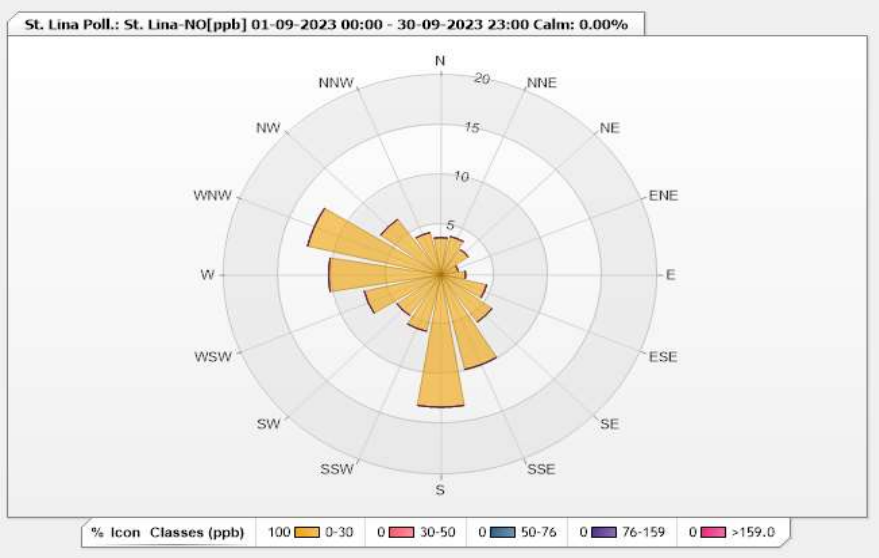


Station: St. Lina Poll.: St. Lina-NO[ppb] Monthly: 09-2023

Type: Pollution Rose
Direction: Blowing From (Wind Frequency)
Time Base: 1 - Hour

Calm: 0.00% Valid Data: 67.08% Calm Avg: 0.00 [ppm]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	3.73	0	0	0	0	3.73
NNE	3.93	0	0	0	0	3.93
NE	3.11	0	0	0	0	3.11
ENE	1.66	0	0	0	0	1.66
E	2.28	0	0	0	0	2.28
ESE	4.35	0	0	0	0	4.35
SE	5.8	0	0	0	0	5.8
SSE	9.73	0	0	0	0	9.73
S	13.25	0	0	0	0	13.25
SSW	5.8	0	0	0	0	5.8
SW	4.97	0	0	0	0	4.97
WSW	7.25	0	0	0	0	7.25
W	10.35	0	0	0	0	10.35
WNW	12.63	0	0	0	0	12.63
NW	6.83	0	0	0	0	6.83
NNW	4.35	0	0	0	0	4.35
Summary	100	0	0	0	0	100



Lakeland Industry & Community Association

St. Lina Site - September 2023

Summary of Hourly Averages

NITROGEN DIOXIDE (NO_2) in ppb

Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 159 ppb

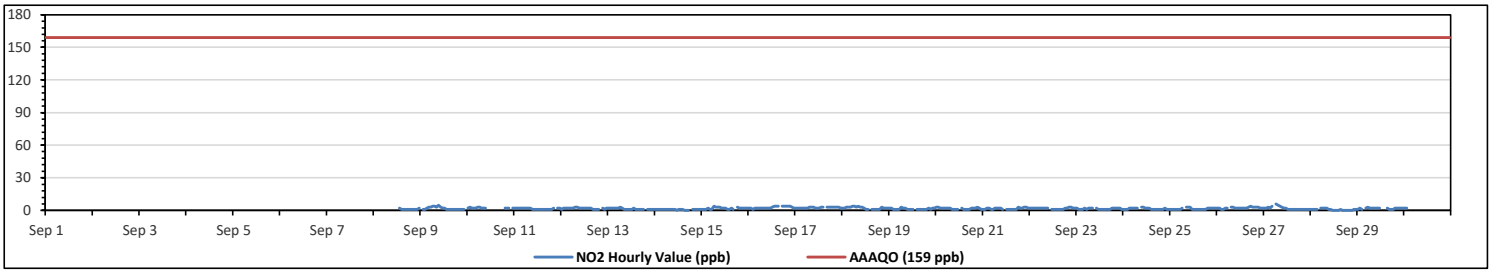
Number of 1-Hour Exceedances: 0

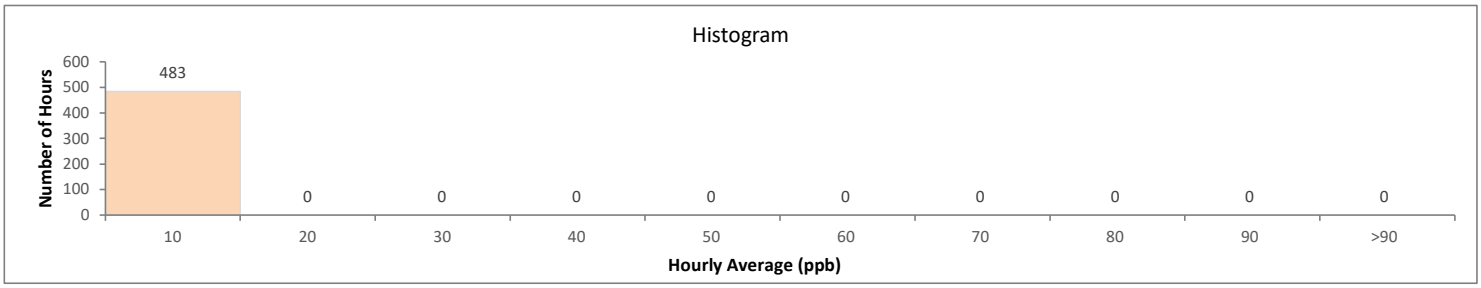
Maximum Hourly Value:	6	ppb	on Sep 27 at hr 6	Hours in Service:	720
Maximum Daily Value:	2.7	ppb	on Sep 16	Hours of Data:	483
Minimum Hourly Value:	0	ppb	on Sep 14 at hr 11	Hours of Missing Data:	207
Minimum Daily Value:	0.7	ppb	on Sep 28	Hours of Calibration:	30
Monthly Average:	NA	ppb		Operational Uptime:	71.3

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Sep 1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Sep 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Sep 3	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Sep 4	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Sep 5	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Sep 6	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Sep 7	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Sep 8	X	X	X	X	X	X	X	X	X	X	X	X	X	2	1	1	1	1	1	1	1	1	1	2	1	2	NA
Sep 9	S	1	1	2	3	3	4	4	3	5	3	2	2	1	1	1	1	1	1	1	1	1	1	S	1	5	2.0
Sep 10	2	3	2	2	2	3	3	2	2	2	K	K	C	C	C	C	C	C	C	2	2	2	S	2	2	3	NA
Sep 11	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	2	S	2	2	1	2	1.5
Sep 12	1	2	2	2	2	2	2	3	3	2	2	2	2	2	2	2	1	1	1	1	S	2	1	2	1	3	1.8
Sep 13	2	2	2	2	2	2	3	2	1	1	1	1	1	2	1	1	1	1	1	S	1	1	1	1	1	3	1.4
Sep 14	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	0	0	0	S	1	1	1	1	1	0	1	0.8
Sep 15	1	1	1	2	1	1	4	3	3	3	2	2	2	1	1	2	1	S	3	2	2	2	2	2	1	4	1.9
Sep 16	2	2	1	2	2	2	2	2	2	2	2	2	3	4	4	4	S	4	4	4	4	4	3	2	1	4	2.7
Sep 17	2	2	2	2	2	2	2	3	3	3	2	2	2	3	3	S	3	3	3	3	3	3	3	2	2	3	2.5
Sep 18	2	2	3	3	3	4	4	3	4	3	3	2	1	1	S	1	1	1	1	1	3	2	2	2	1	4	2.3
Sep 19	2	2	1	1	1	1	3	2	2	1	1	1	1	S	1	1	1	1	1	1	2	1	2	2	1	3	1.4
Sep 20	3	3	2	2	2	2	2	2	1	1	1	1	S	2	1	1	1	1	2	2	2	3	2	1	1	3	1.7
Sep 21	1	1	2	2	1	1	2	2	2	2	1	S	1	1	1	1	1	1	3	2	2	3	3	2	1	3	1.7
Sep 22	2	2	2	2	2	2	2	2	2	2	S	1	1	1	1	1	1	1	2	2	3	3	2	2	1	3	1.8
Sep 23	2	1	1	1	2	1	2	2	2	S	2	1	1	1	1	1	1	1	2	2	2	2	2	1	1	2	1.5
Sep 24	1	1	1	2	2	2	2	2	S	3	3	2	2	2	1	1	1	1	1	1	1	2	1	1	1	3	1.6
Sep 25	1	1	1	1	1	1	2	S	3	3	3	1	1	1	1	1	1	1	1	2	2	2	2	2	1	3	1.5
Sep 26	2	2	1	1	2	2	S	3	3	2	2	2	2	2	2	2	3	4	3	3	3	3	2	2	1	4	2.3
Sep 27	2	2	3	2	4	S	6	5	4	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	6	2.0
Sep 28	1	1	1	1	S	2	2	2	2	1	1	0	0	0	0	1	0	0	0	0	0	0	1	1	0	2	0.7
Sep 29	1	2	1	S	2	3	2	2	2	2	2	2	K	K	K	2	1	1	1	2	2	2	2	2	1	3	1.8
Sep 30	2	2	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2	2	NA
Diurnal Maximum	3	3	3	3	4	4	6	5	4	5	3	2	3	4	4	4	3	4	4	4	4	4	3	2			
Diurnal Average	1.7	1.7	1.6	1.8	2.0	2.0	2.6	2.5	2.4	2.2	1.8	1.4	1.4	1.5	1.3	1.3	1.1	1.3	1.7	1.7	1.9	2.0	1.8	1.7			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	ND	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



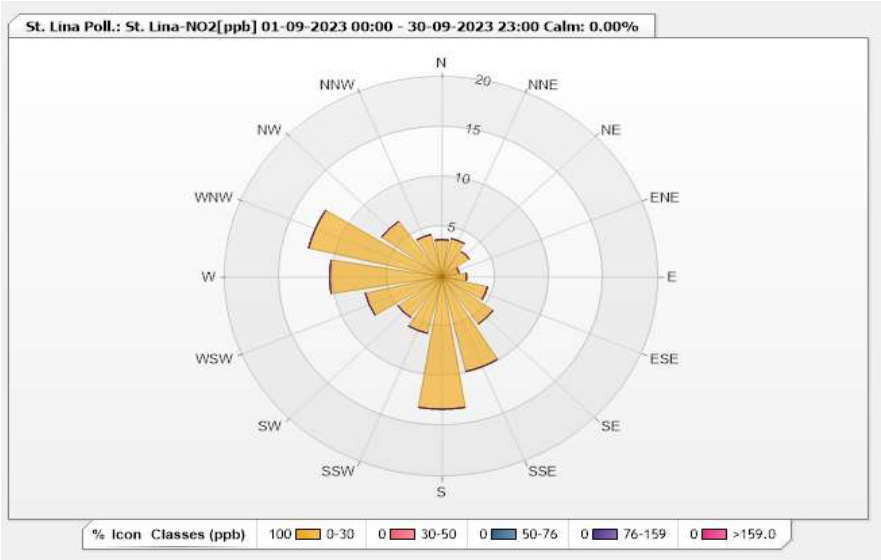


Station: St. Lina Poll.: St. Lina-NO2[ppb] Monthly: 09-2023

Type: Pollution Rose
Direction: Blowing From (Wind Frequency)
Time Base: 1 - Hour

Calm: 0.00% Valid Data: 67.08% Calm Avg: 0.00 [ppm]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	3.73	0	0	0	0	3.73
NNE	3.93	0	0	0	0	3.93
NE	3.11	0	0	0	0	3.11
ENE	1.66	0	0	0	0	1.66
E	2.28	0	0	0	0	2.28
ESE	4.35	0	0	0	0	4.35
SE	5.8	0	0	0	0	5.8
SSE	9.73	0	0	0	0	9.73
S	13.25	0	0	0	0	13.25
SSW	5.8	0	0	0	0	5.8
SW	4.97	0	0	0	0	4.97
WSW	7.25	0	0	0	0	7.25
W	10.35	0	0	0	0	10.35
WNW	12.63	0	0	0	0	12.63
NW	6.83	0	0	0	0	6.83
NNW	4.35	0	0	0	0	4.35
Summary	100	0	0	0	0	100



Lakeland Industry & Community Association

St. Lina Site - September 2023

Summary of Hourly Averages

OZONE (O_3) in ppb

Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 76 ppb

Number of 1-Hour Exceedances: 0

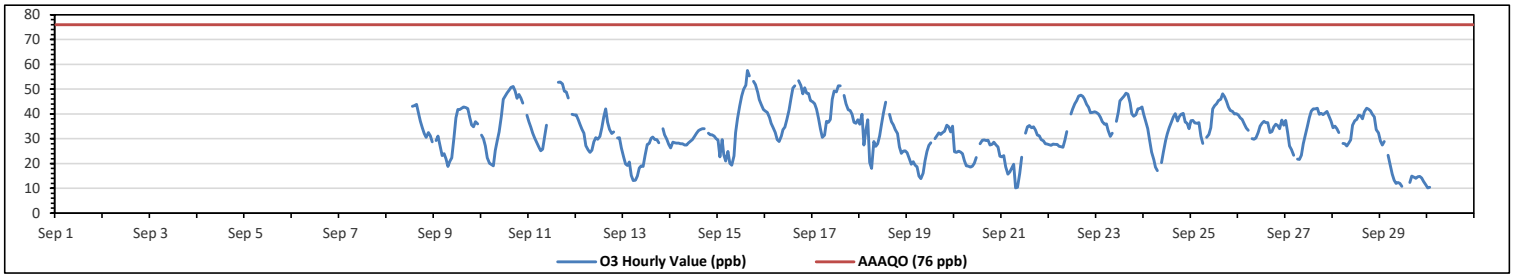
Maximum Hourly Value:	57.6	ppb	on Sep 15 at hr 15	Hours in Service:	720
Maximum Daily Value:	41.5	ppb	on Sep 16	Hours of Data:	487
Minimum Hourly Value:	10.2	ppb	on Sep 21 at hr 7	Hours of Missing Data:	205
Minimum Daily Value:	16.4	ppb	on Sep 29	Hours of Calibration:	28
Monthly Average:	NA	ppb		Operational Uptime:	71.5

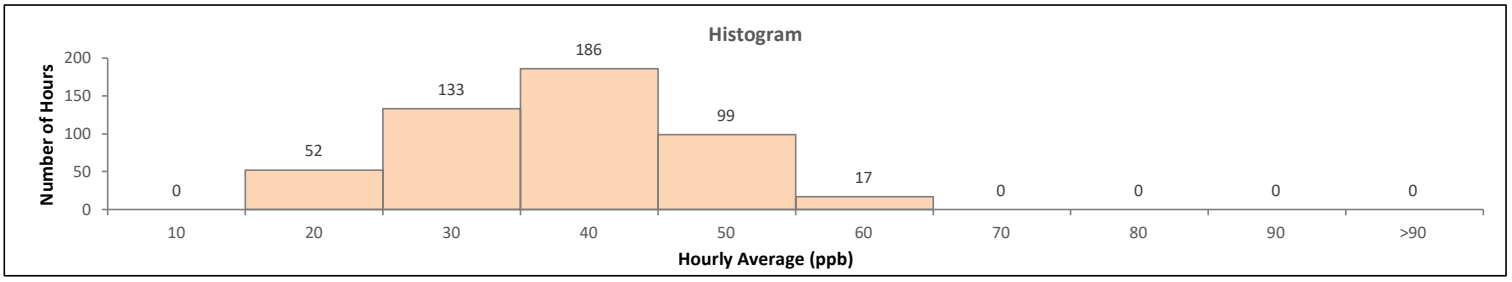
Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Sep 1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	
Sep 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	
Sep 3	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	
Sep 4	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	
Sep 5	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	
Sep 6	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	
Sep 7	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	
Sep 8	X	X	X	X	X	X	X	X	X	X	X	X	X	43.1	43.4	43.8	40.4	37	34.4	32.1	30.6	32.5	31.2	28.7	28.7	43.8	NA
Sep 9	S	29.3	31.1	26.8	23.2	24	22	18.8	20.9	22.2	30.6	38.5	41.8	41.7	42.3	42.8	42.6	42.2	38.7	35.6	34.8	36.9	36	S	18.8	42.8	32.9
Sep 10	31.4	30	27.1	22.2	20.1	19.6	19.1	25.2	29.1	32.8	39.1	45.9	47.2	48.5	49.6	50.7	51.1	49.3	46.3	47.8	46.4	44.3	S	39.4	19.1	51.1	37.5
Sep 11	36.9	34.7	32.2	30.3	28.6	26.7	25.1	25.8	30.7	35.4	C	C	C	C	C	52.8	52.9	52.1	49.2	48.9	46.4	S	39.9	39.5	25.1	52.9	38.2
Sep 12	39.5	37.8	35.7	33.8	32.2	27.2	25.5	24.4	25.4	28.7	30.5	29.8	30.9	34.4	38.8	42	36.7	33.8	32.1	32.8	S	30.3	30.5	26.4	24.4	42.0	32.1
Sep 13	22.7	19.9	19.2	20.6	15.2	13.2	13.3	14.9	18.1	19.1	18.8	23.2	27.7	28.1	30.2	30.7	29.7	29.6	28.4	S	34.1	31.6	29.8	27.7	13.2	34.1	23.7
Sep 14	26.4	28.6	28.4	28.3	28.3	28	28	27.5	27.5	28.3	29	29.6	30.8	32.3	33.2	33.6	34.1	34.1	S	32.2	31.6	31.6	31.1	30.1	26.4	34.1	30.1
Sep 15	29.5	22.7	29.6	23.6	21	24.9	20.1	19.4	23.1	32.6	38.2	43.4	47.2	49.9	51.7	57.6	55.3	S	53.2	51.9	48.7	45.7	43.8	41.8	19.4	57.6	38.0
Sep 16	41.2	40.6	38.6	36.3	34.6	32.6	29.6	28.9	31	33.6	34.7	37.6	41.5	46.2	50.4	51.3	S	53.4	51.5	48.1	50.5	48.3	48.2	45.5	28.9	53.4	41.5
Sep 17	44.9	44.1	41.9	38.3	34.1	30.6	31.5	37	36.7	37.8	45.9	49.3	48.9	51.3	51.3	S	47.5	44.1	41.6	41.4	39.8	36.6	36.3	37.7	30.6	51.3	41.2
Sep 18	35.8	39.9	27.5	33.3	37.7	20.5	18	28.8	26.9	28	31.1	35.8	40.4	44.8	S	39.9	36.9	35.6	33.6	32.1	26.6	24.1	25	25.1	18.0	44.8	31.6
Sep 19	24.3	22	19.8	20.7	19.4	18.7	15	13.9	16.1	21.1	24.8	27.3	28.4	S	30	31.2	32.4	31.7	32.6	33	35.5	34.9	32.8	35	13.9	35.5	26.1
Sep 20	24.7	24.5	25	24.6	24	21.2	19.1	19	18.5	19	20.1	22.4	S	28	29.4	29.5	29.3	29.4	27.4	27.8	28.6	27.4	26.6	23	18.5	29.5	24.7
Sep 21	22.6	23.2	18.7	15.7	16.6	18.1	19.8	10.2	10.4	16.1	22.5	S	32.3	34.9	35.3	34.5	34.8	33.5	31.5	31.2	29.6	29.1	28	27.9	10.2	35.3	25.1
Sep 22	27.6	27.3	27.9	27.8	27.7	26.9	26.8	26.5	29.4	32.9	S	40	41.9	44.1	45.5	47.3	47.6	47.1	46	43.8	42.7	40.5	40.6	40.9	26.5	47.6	36.9
Sep 23	40.6	40	38.7	36.9	35.8	36	33.4	30.9	32.3	S	37	40.8	45.3	46.1	47.3	48.4	47.9	44.3	40.1	39.1	39.7	42	42.2	42.8	30.9	48.4	40.3
Sep 24	40	37.2	34	29.2	24.6	21.5	18.6	17.2	S	20.3	24.7	29.4	32	34.5	36.8	38.9	40.1	37.1	38.9	39.8	40.2	36.8	36.3	34	17.2	40.2	32.3
Sep 25	37.3	37.4	36.4	36.3	36.5	31	28.2	S	30.6	31.7	34.5	42	43.4	44.1	45.4	45.9	48.1	47	45.2	42.9	41.4	41	40	40.1	28.2	48.1	39.4
Sep 26	39.6	38.5	37.8	35.9	34.3	33.4	S	30.1	29.8	30.3	32.5	35	36.3	37	36.5	36.5	32.5	32.9	34.9	35.8	35.3	34.1	37.5	35.5	29.8	39.6	34.9
Sep 27	37.4	32.7	27.1	25.7	23.4	S	21.8	21.7	23.3	28	31.8	35.1	38.6	41.2	42.1	42	42.3	39.9	40.2	39.7	40.4	41	39.2	37	21.7	42.3	34.4
Sep 28	34.5	35.1	34.1	32.5	S	28.2	28	27	28.3	29.5	35.5	37.3	37.8	39.4	39.3	38	40.9	42.3	41.9	41.3	39.8	38.8	33.6	32.4	27.0	42.3	35.5
Sep 29	29.1	27.4	28.8	S	23.4	19.2	15.7	13.3	12	12.3	12	10.8	K	K	K	12.3	14.9	14.5	14	14.7	14.8	14.1	12.8	11.5	10.8	29.1	16.4
Sep 30	10.2	10.4	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	10.2	10.4	NA
Diurnal Maximum	44.9	44.1	41.9	38.3	37.7	36.0	33.4	37.0	36.7	37.8	45.9	49.3	48.9	51.3	51.7	57.6	55.3	53.4	53.2	51.9	50.5	48.3	48.2	45.5			
Diurnal Average	32.2	31.1	30.5	28.9	27.0	25.1	22.9	23.0	25.0	27.0	30.2	34.4	38.5	40.5	41.0	40.5	39.9	38.6	38.2	37.7	37.0	35.3	34.4	33.4			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	ND	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.

Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



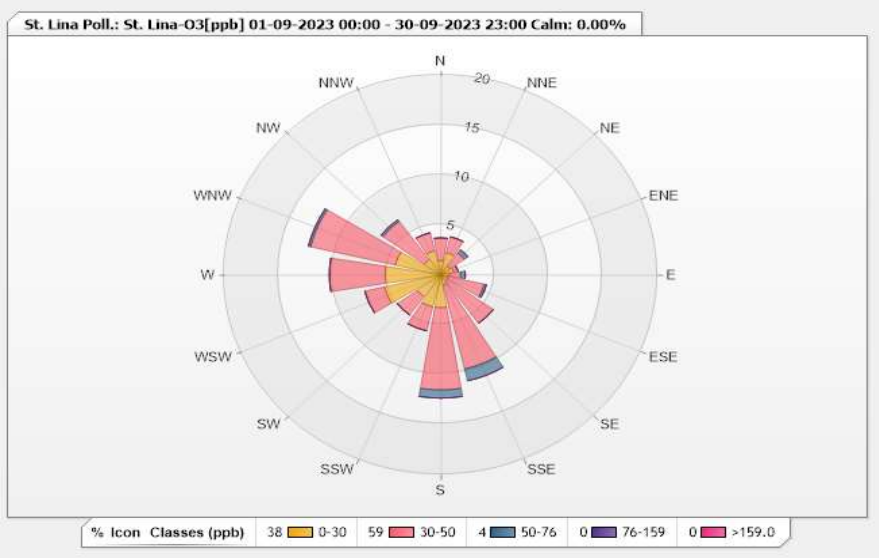


Station: St. Lina Poll.: St. Lina-O3[ppb] Monthly: 09-2023

Type: Pollution Rose
Direction: Blowing From (Wind Frequency)
Time Base: 1 - Hour

Calm: 0.00% Valid Data: 67.50% Calm Avg: 0.00 [ppm]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	1.44	2.26	0	0	0	3.7
NNE	2.26	1.65	0	0	0	3.91
NE	1.03	1.65	0.41	0	0	3.09
ENE	1.23	0.41	0	0	0	1.64
E	0.82	1.03	0.41	0	0	2.26
ESE	0.62	3.5	0.21	0	0	4.33
SE	0.82	5.14	0	0	0	5.96
SSE	1.03	8.64	1.23	0	0	10.9
S	3.29	8.23	0.82	0	0	12.34
SSW	3.29	2.47	0	0	0	5.76
SW	2.67	2.26	0	0	0	4.93
WSW	5.35	1.85	0	0	0	7.2
W	5.14	5.14	0	0	0	10.28
WNW	4.32	8.02	0.21	0	0	12.55
NW	1.85	4.73	0.21	0	0	6.79
NNW	2.47	1.85	0	0	0	4.32
Summary	37.63	58.83	3.5	0	0	100



Lakeland Industry & Community Association

St. Lina Site - September 2023

Summary of Hourly Averages

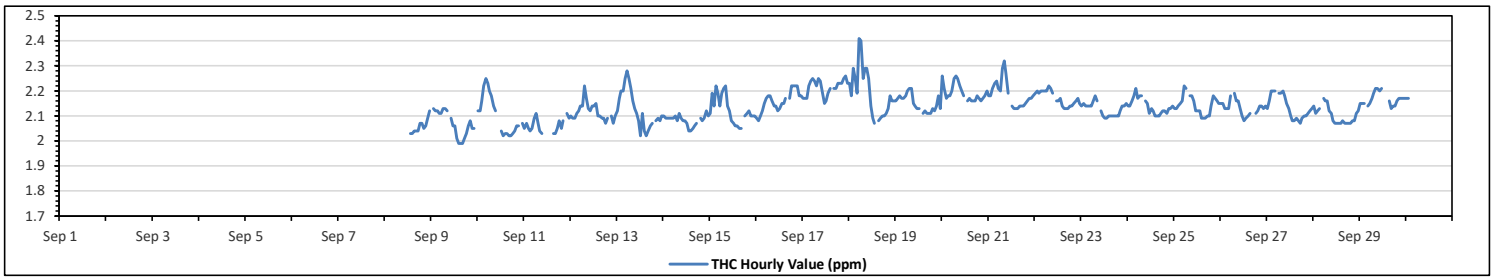
TOTAL HYDROCARBONS (THC) in ppm

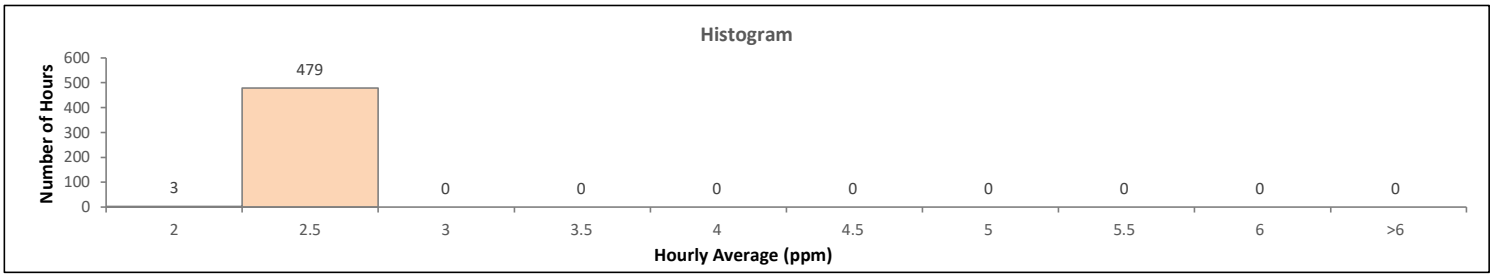
Maximum Hourly Value:	2.41	ppm	on Sep 18 at hr 5	Hours in Service:	720	
Maximum Daily Value:	2.21	ppm	on Sep 17	Hours of Data:	482	
Minimum Hourly Value:	1.99	ppm	on Sep 9 at hr 14	Hours of Missing Data:	210	
Minimum Daily Value:	2.06	ppm	on Sep 11	Hours of Calibration:	28	
Monthly Average:	NA	ppm		Operational Uptime:	70.8	

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Sep 1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Sep 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Sep 3	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Sep 4	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Sep 5	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Sep 6	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Sep 7	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Sep 8	X	X	X	X	X	X	X	X	X	X	X	X	X	2.03	2.03	2.04	2.04	2.04	2.07	2.07	2.05	2.06	2.09	2.12	2.03	2.12	NA
Sep 9	S	2.13	2.12	2.12	2.11	2.11	2.13	2.13	2.12	X	2.09	2.06	2.06	2.01	1.99	1.99	1.99	2.01	2.03	2.06	2.08	2.05	2.05	S	1.99	2.13	2.07
Sep 10	2.12	2.12	2.16	2.22	2.25	2.23	2.20	2.18	2.14	2.12	K	K	2.04	2.02	2.03	2.03	2.02	2.02	2.03	2.04	2.06	2.06	S	2.07	2.02	2.25	2.10
Sep 11	2.05	2.07	2.05	2.04	2.05	2.09	2.11	2.07	2.04	2.03	C	C	C	C	C	2.03	2.03	2.05	2.08	2.05	2.08	S	2.11	2.09	2.03	2.11	2.06
Sep 12	2.10	2.09	2.09	2.11	2.12	2.14	2.14	2.22	2.17	2.13	2.12	2.14	2.14	2.15	2.10	2.10	2.09	2.09	2.07	2.09	S	2.10	2.07	2.10	2.07	2.22	2.12
Sep 13	2.12	2.17	2.20	2.20	2.25	2.28	2.25	2.21	2.16	2.13	2.11	2.08	2.02	2.11	2.04	2.02	2.04	2.06	2.07	S	2.08	2.09	2.08	2.10	2.02	2.28	2.12
Sep 14	2.10	2.09	2.09	2.09	2.09	2.09	2.10	2.08	2.11	2.09	2.08	2.08	2.07	2.04	2.04	2.05	2.06	2.07	S	2.09	2.08	2.09	2.12	2.10	2.04	2.12	2.08
Sep 15	2.11	2.19	2.14	2.22	2.19	2.14	2.19	2.21	2.22	2.14	2.12	2.08	2.07	2.06	2.06	2.05	2.05	S	2.10	2.11	2.12	2.10	2.10	2.10	2.05	2.22	2.12
Sep 16	2.09	2.08	2.10	2.12	2.15	2.17	2.18	2.18	2.16	2.14	2.14	2.12	2.13	2.15	2.15	2.17	S	2.17	2.22	2.22	2.22	2.22	2.18	2.18	2.08	2.22	2.16
Sep 17	2.17	2.17	2.17	2.22	2.24	2.25	2.24	2.22	2.25	2.24	2.19	2.15	2.16	2.19	2.21	S	2.21	2.21	2.23	2.23	2.23	2.25	2.26	2.23	2.15	2.26	**2.21**
Sep 18	2.23	2.18	2.29	2.25	2.19	**2.41**	2.40	2.25	2.29	2.29	2.25	2.14	2.09	2.07	S	2.08	2.09	2.10	2.10	2.11	2.13	2.18	2.16	2.16	2.07	**2.41**	2.19
Sep 19	2.16	2.17	2.18	2.17	2.17	2.18	2.20	2.21	2.21	2.15	2.14	2.13	2.13	S	2.11	2.12	2.11	2.11	2.11	2.13	2.12	2.14	2.18	2.13	2.11	2.21	2.15
Sep 20	2.26	2.21	2.17	2.18	2.18	2.20	2.25	2.26	2.25	2.22	2.20	2.18	S	2.16	2.17	2.16	2.16	2.16	2.18	2.17	2.16	2.17	2.18	2.20	2.16	2.26	2.19
Sep 21	2.18	2.18	2.21	2.23	2.24	2.21	2.20	2.29	2.32	2.27	2.19	S	2.14	2.13	2.13	2.13	2.14	2.14	2.14	2.15	2.16	2.17	2.17	2.18	2.13	2.32	2.19
Sep 22	2.19	2.20	2.19	2.20	2.20	2.20	2.20	2.22	2.21	2.19	S	2.16	2.16	2.17	2.14	2.13	2.13	2.13	2.14	2.14	2.15	2.16	2.17	2.15	2.13	2.22	2.17
Sep 23	2.14	2.15	2.14	2.14	2.14	2.14	2.16	2.18	2.16	S	2.12	2.10	2.09	2.09	2.10	2.10	2.10	2.10	2.10	2.10	2.12	2.14	2.14	2.15	2.09	2.18	2.13
Sep 24	2.14	2.14	2.16	2.18	2.21	2.17	2.18	2.18	S	2.16	2.15	2.11	2.13	2.12	2.10	2.10	2.10	2.11	2.12	2.12	2.11	2.13	2.13	2.14	2.10	2.21	2.14
Sep 25	2.13	2.13	2.14	2.15	2.16	2.22	2.21	S	2.18	2.18	2.16	2.12	2.12	2.12	2.09	2.09	2.09	2.10	2.10	2.14	2.18	2.17	2.16	2.15	2.09	2.22	2.14
Sep 26	2.15	2.15	2.13	2.13	2.13	2.18	S	2.19	2.16	2.16	2.13	2.10	2.08	2.09	2.10	2.11	Y	Y	2.11	2.12	2.14	2.14	2.13	2.14	2.08	2.19	2.13
Sep 27	2.13	2.16	2.20	2.20	2.20	S	2.19	2.19	2.20	2.18	2.15	2.13	2.10	2.08	2.08	2.09	2.08	2.07	2.09	2.10	2.10	2.11	2.12	2.13	2.07	2.20	2.13
Sep 28	2.14	2.11	2.12	2.13	S	2.17	2.16	2.16	2.12	2.11	2.08	2.07	2.07	2.07	2.07	2.08	2.07	2.07	2.07	2.07	2.08	2.08	2.11	2.12	2.07	2.17	2.10
Sep 29	2.15	2.15	2.15	S	2.14	2.15	2.17	2.19	2.21	2.21	2.20	2.21	K	K	K	2.16	2.13	2.14	2.14	2.16	2.17	2.17	2.17	2.17	2.13	2.21	2.17
Sep 30	2.17	2.17	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.17	2.17	NA
Diurnal Maximum	2.26	2.21	2.29	2.25	2.25	2.41	2.40	2.29	2.32	2.29	2.25	2.21	2.16	2.19	2.21	2.17	2.21	2.21	2.23	2.23	2.23	2.25	2.26	2.23			
Diurnal Average	2.14	2.15	2.15	2.17	2.17	2.19	2.19	2.19	2.18	2.17	2.15	2.12	2.10	2.10	2.09	2.09	2.09	2.10	2.11	2.12	2.12	2.13	2.14	2.14			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance			
K	Collection Error	ND	No Data (Machine Not in Service)	Y	Routine Maintenance	P	Power Failure	
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)					

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



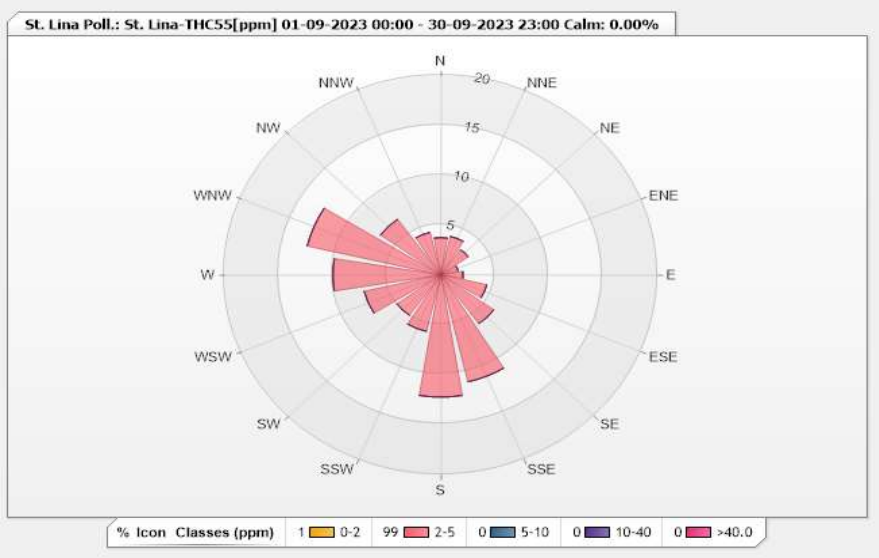


Station: St. Lina Poll.: St. Lina-THC55[ppm] Monthly: 09-2023

Type: Pollution Rose
Direction: Blowing From (Wind Frequency)
Time Base: 1 - Hour

Calm: 0.00% Valid Data: 66.94% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-40	>40.0	Total
N	0	3.73	0	0	0	3.73
NNE	0	3.94	0	0	0	3.94
NE	0.21	2.9	0	0	0	3.11
ENE	0	1.66	0	0	0	1.66
E	0	2.07	0	0	0	2.07
ESE	0	4.36	0	0	0	4.36
SE	0	6.02	0	0	0	6.02
SSE	0	11	0	0	0	11
S	0	12.24	0	0	0	12.24
SSW	0	5.81	0	0	0	5.81
SW	0	4.98	0	0	0	4.98
WSW	0	7.26	0	0	0	7.26
W	0.21	9.75	0	0	0	9.96
WNW	0	12.66	0	0	0	12.66
NW	0	6.85	0	0	0	6.85
NNW	0.21	4.15	0	0	0	4.36
Summary	0.63	99.38	0	0	0	100



Lakeland Industry & Community Association

St. Lina Site - September 2023

Summary of Hourly Averages

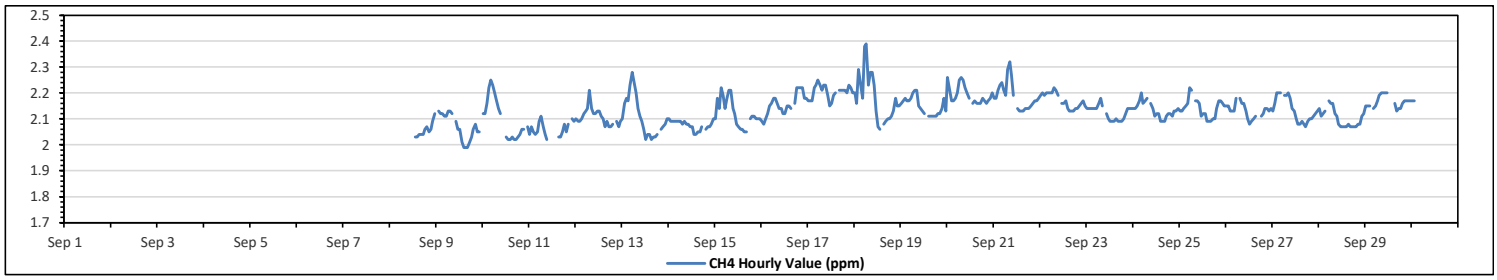
METHANE (CH4) in ppm

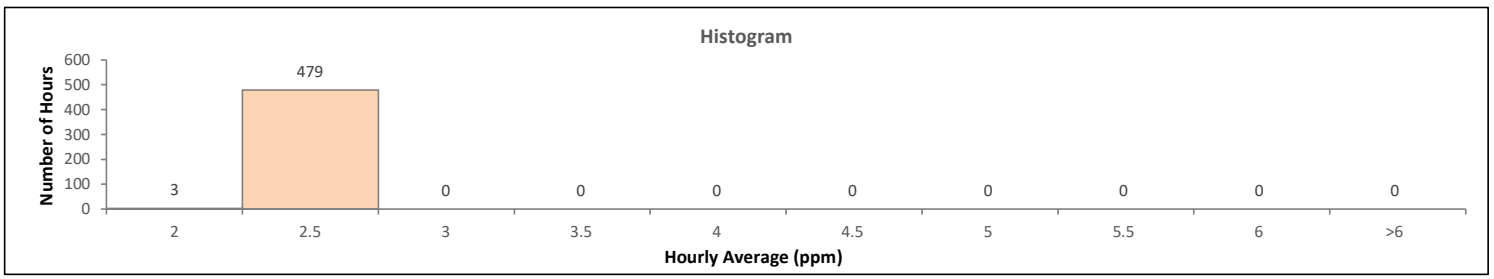
Maximum Hourly Value:	2.39	ppm	on Sep 18 at hr 6	Hours in Service:	720	
Maximum Daily Value:	2.20	ppm	on Sep 17	Hours of Data:	482	
Minimum Hourly Value:	1.99	ppm	on Sep 9 at hr 14	Hours of Missing Data:	210	
Minimum Daily Value:	2.06	ppm	on Sep 11	Hours of Calibration:	28	
Monthly Average:	NA	ppm		Operational Uptime:	70.8	

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Sep 1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Sep 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Sep 3	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Sep 4	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Sep 5	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Sep 6	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Sep 7	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Sep 8	X	X	X	X	X	X	X	X	X	X	X	X	X	2.03	2.03	2.04	2.04	2.04	2.06	2.07	2.05	2.06	2.09	2.12	2.03	2.12	NA
Sep 9	S	2.13	2.12	2.12	2.11	2.11	2.13	2.13	2.12	X	2.09	2.06	2.06	2.01	1.99	1.99	1.99	2.01	2.03	2.06	2.08	2.05	2.05	S	1.99	2.13	2.07
Sep 10	2.12	2.12	2.16	2.22	2.25	2.23	2.20	2.17	2.14	2.12	K	K	2.03	2.02	2.02	2.03	2.02	2.02	2.03	2.04	2.06	2.06	S	2.07	2.02	2.25	2.10
Sep 11	2.04	2.07	2.05	2.04	2.05	2.09	2.11	2.07	2.04	2.02	C	C	C	C	C	2.03	2.03	2.05	2.08	2.05	2.08	S	2.10	2.09	2.02	2.11	2.06
Sep 12	2.10	2.09	2.09	2.10	2.12	2.13	2.14	2.21	2.14	2.12	2.12	2.13	2.13	2.11	2.10	2.07	2.09	2.07	2.07	2.08	S	2.09	2.07	2.09	2.07	2.21	2.11
Sep 13	2.10	2.16	2.18	2.17	2.23	2.28	2.24	2.20	2.14	2.11	2.09	2.06	2.02	2.04	2.04	2.02	2.03	2.03	2.04	S	2.06	2.07	2.08	2.10	2.02	2.28	2.11
Sep 14	2.10	2.09	2.09	2.09	2.09	2.09	2.09	2.08	2.09	2.08	2.08	2.07	2.07	2.04	2.04	2.05	2.05	2.07	S	2.06	2.07	2.07	2.08	2.10	2.04	2.10	2.08
Sep 15	2.10	2.18	2.14	2.22	2.19	2.14	2.18	2.21	2.21	2.14	2.12	2.08	2.07	2.06	2.06	2.05	2.05	S	2.10	2.11	2.11	2.10	2.10	2.10	2.05	2.22	2.12
Sep 16	2.09	2.08	2.10	2.12	2.15	2.16	2.18	2.18	2.16	2.14	2.14	2.12	2.12	2.15	2.15	2.14	S	2.16	2.22	2.22	2.22	2.22	2.18	2.18	2.08	2.22	2.16
Sep 17	2.17	2.17	2.17	2.22	2.23	2.25	2.23	2.21	2.23	2.23	2.19	2.15	2.16	2.19	2.20	S	2.21	2.21	2.21	2.21	2.20	2.23	2.22	2.20	2.15	2.25	**2.20**
Sep 18	2.20	2.16	2.29	2.23	2.18	2.38	**2.39**	2.23	2.28	2.28	2.23	2.13	2.07	2.06	S	2.08	2.09	2.10	2.10	2.11	2.13	2.18	2.15	2.15	2.06	**2.39**	2.18
Sep 19	2.16	2.17	2.18	2.17	2.17	2.18	2.20	2.21	2.21	2.15	2.14	2.13	2.12	S	2.11	2.11	2.11	2.11	2.11	2.12	2.12	2.14	2.18	2.13	2.11	2.21	2.15
Sep 20	2.26	2.21	2.17	2.17	2.18	2.20	2.25	2.26	2.25	2.22	2.20	2.18	S	2.16	2.17	2.16	2.16	2.16	2.18	2.17	2.16	2.17	2.18	2.20	2.16	2.26	2.19
Sep 21	2.18	2.18	2.21	2.23	2.24	2.21	2.19	2.29	2.32	2.27	2.19	S	2.14	2.13	2.13	2.13	2.14	2.14	2.14	2.15	2.16	2.17	2.17	2.18	2.13	2.32	2.19
Sep 22	2.19	2.20	2.19	2.20	2.20	2.20	2.20	2.22	2.21	2.19	S	2.16	2.16	2.17	2.14	2.13	2.13	2.13	2.14	2.14	2.15	2.16	2.17	2.15	2.13	2.22	2.17
Sep 23	2.14	2.14	2.14	2.14	2.14	2.14	2.16	2.18	2.15	S	2.12	2.10	2.09	2.09	2.09	2.10	2.09	2.09	2.09	2.10	2.12	2.14	2.14	2.14	2.09	2.18	2.12
Sep 24	2.14	2.14	2.15	2.17	2.20	2.16	2.17	2.18	S	2.16	2.14	2.11	2.12	2.12	2.09	2.09	2.09	2.11	2.12	2.12	2.11	2.13	2.13	2.14	2.09	2.20	2.13
Sep 25	2.13	2.13	2.14	2.15	2.16	2.22	2.21	S	2.17	2.17	2.16	2.11	2.12	2.12	2.09	2.09	2.09	2.10	2.10	2.14	2.17	2.17	2.16	2.15	2.09	2.22	2.14
Sep 26	2.15	2.15	2.13	2.13	2.13	2.18	S	2.18	2.16	2.16	2.13	2.10	2.08	2.09	2.10	2.11	Y	Y	2.11	2.12	2.14	2.14	2.13	2.14	2.08	2.18	2.13
Sep 27	2.13	2.16	2.20	2.20	2.20	S	2.19	2.19	2.20	2.18	2.14	2.13	2.10	2.08	2.08	2.09	2.08	2.07	2.09	2.10	2.10	2.11	2.12	2.13	2.07	2.20	2.13
Sep 28	2.14	2.11	2.12	2.13	S	2.17	2.16	2.16	2.12	2.11	2.08	2.07	2.07	2.07	2.07	2.08	2.07	2.07	2.07	2.07	2.08	2.08	2.11	2.12	2.07	2.17	2.10
Sep 29	2.15	2.15	2.15	S	2.14	2.15	2.17	2.19	2.20	2.20	2.20	2.20	K	K	K	2.16	2.13	2.14	2.14	2.16	2.17	2.17	2.17	2.17	2.13	2.20	2.17
Sep 30	2.17	2.17	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.17	2.17	NA
Diurnal Maximum	2.26	2.21	2.29	2.23	2.25	2.38	2.39	2.29	2.32	2.28	2.23	2.20	2.16	2.19	2.20	2.16	2.21	2.21	2.22	2.22	2.22	2.23	2.22	2.20			
Diurnal Average	2.14	2.14	2.15	2.16	2.17	2.18	2.19	2.19	2.18	2.16	2.14	2.12	2.10	2.09	2.09	2.08	2.08	2.09	2.11	2.11	2.12	2.13	2.13	2.14			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance			
K	Collection Error	ND	No Data (Machine Not in Service)	Y	Routine Maintenance	P	Power Failure	
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)					

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



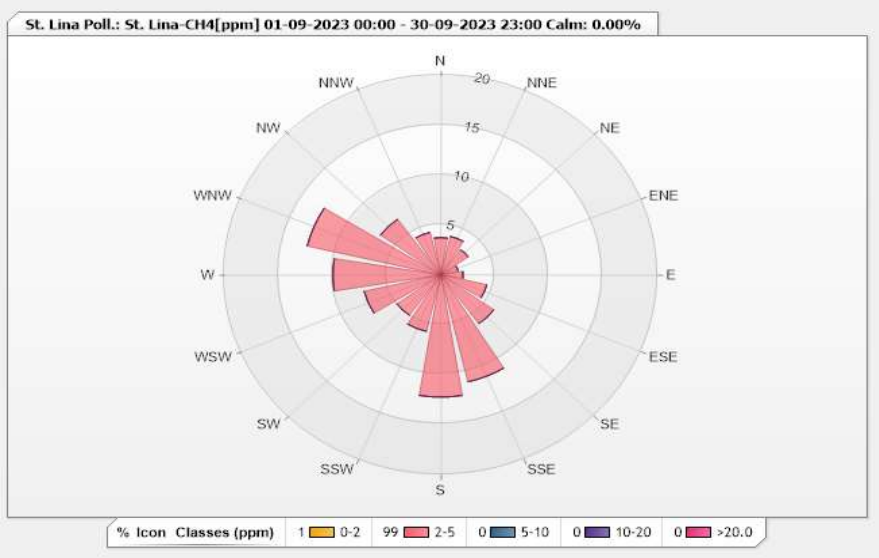


Station: St. Lina Poll.: St. Lina-CH4[ppm] Monthly: 09-2023

Type: Pollution Rose
Direction: Blowing From (Wind Frequency)
Time Base: 1 - Hour

Calm: 0.00% Valid Data: 66.94% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-20	>20.0	Total
N	0	3.73	0	0	0	3.73
NNE	0	3.94	0	0	0	3.94
NE	0.21	2.9	0	0	0	3.11
ENE	0	1.66	0	0	0	1.66
E	0	2.07	0	0	0	2.07
ESE	0	4.36	0	0	0	4.36
SE	0	6.02	0	0	0	6.02
SSE	0	11	0	0	0	11
S	0	12.24	0	0	0	12.24
SSW	0	5.81	0	0	0	5.81
SW	0	4.98	0	0	0	4.98
WSW	0	7.26	0	0	0	7.26
W	0.21	9.75	0	0	0	9.96
WNW	0	12.66	0	0	0	12.66
NW	0	6.85	0	0	0	6.85
NNW	0.21	4.15	0	0	0	4.36
Summary	0.63	99.38	0	0	0	100



Lakeland Industry & Community Association

St. Lina Site - September 2023

Summary of Hourly Averages

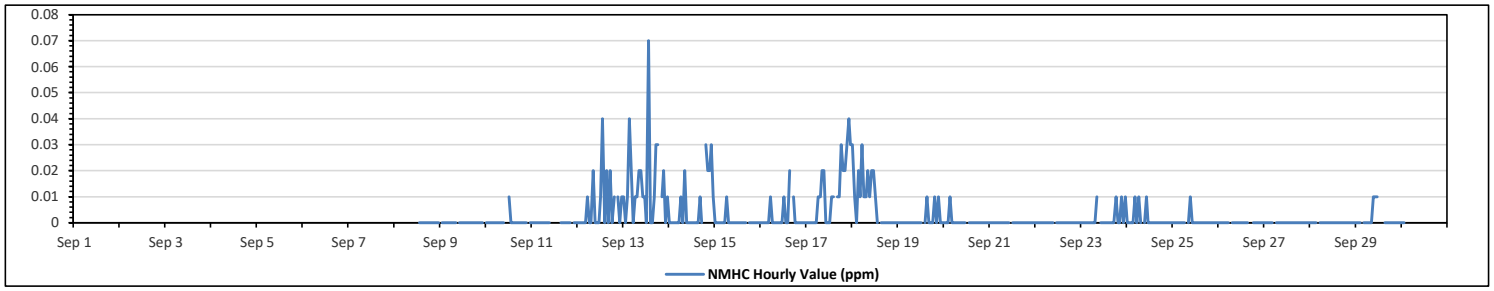
NON-METHANE HYDROCARBONS (NMHC) in ppm

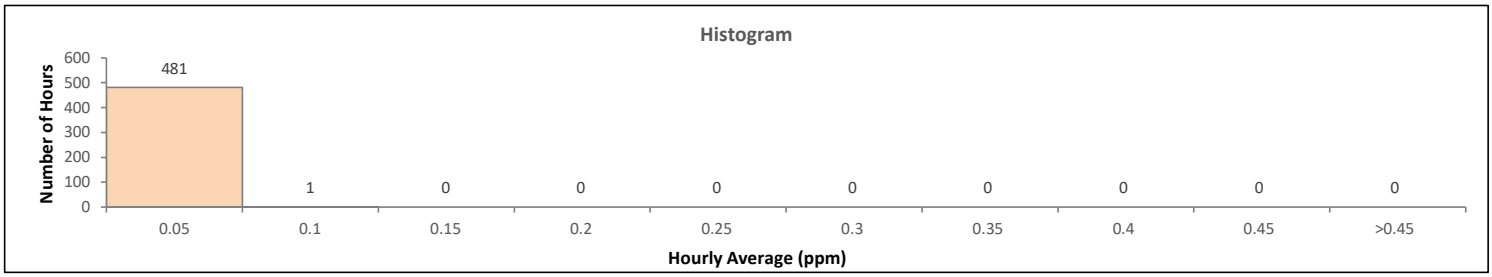
Maximum Hourly Value:	0.07	ppm	on Sep 13 at hr 13	Hours in Service:	720	
Maximum Daily Value:	0.01	ppm	on Sep 13	Hours of Data:	482	
Minimum Hourly Value:	0.00	ppm	on Sep 8 at hr 13	Hours of Missing Data:	210	
Minimum Daily Value:	0.00	ppm	on Sep 9	Hours of Calibration:	28	
Monthly Average:	NA	ppm		Operational Uptime:	70.8	

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Sep 1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Sep 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Sep 3	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Sep 4	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Sep 5	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Sep 6	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Sep 7	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Sep 8	X	X	X	X	X	X	X	X	X	X	X	X	X	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NA
Sep 9	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	X	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00
Sep 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	K	K	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.01	0.00
Sep 11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	C	C	C	C	C	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00
Sep 12	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.02	0.00	0.00	0.00	0.01	0.04	0.00	0.02	0.00	0.02	0.00	0.01	S	0.01	0.00	0.01	0.00	0.04	0.01
Sep 13	0.01	0.00	0.01	0.04	0.02	0.00	0.01	0.01	0.02	0.02	0.01	0.01	0.00	**0.07**	0.00	0.00	0.01	0.03	0.03	S	0.01	0.02	0.00	0.01	0.00	**0.07**	**0.01**
Sep 14	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	S	0.03	0.02	0.02	0.03	0.01	0.00	0.03	0.01
Sep 15	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
Sep 16	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.02	S	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00
Sep 17	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.02	0.02	0.00	0.00	0.00	0.01	0.01	S	0.01	0.01	0.03	0.02	0.02	0.03	0.04	0.03	0.00	0.04	0.01
Sep 18	0.03	0.01	0.00	0.02	0.01	0.03	0.01	0.01	0.02	0.01	0.02	0.02	0.01	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.01
Sep 19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.00
Sep 20	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
Sep 21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.01	0.00	0.01	0.00
Sep 24	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	S	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
Sep 25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
Sep 26	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Y	Y	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 27	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 28	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 29	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	K	K	K	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
Sep 30	0.00	0.00	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00	0.00	NA
Diurnal Maximum	0.03	0.01	0.01	0.04	0.02	0.03	0.01	0.01	0.02	0.02	0.02	0.02	0.01	0.07	0.01	0.02	0.01	0.03	0.03	0.03	0.02	0.03	0.04	0.03			
Diurnal Average	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	ND	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



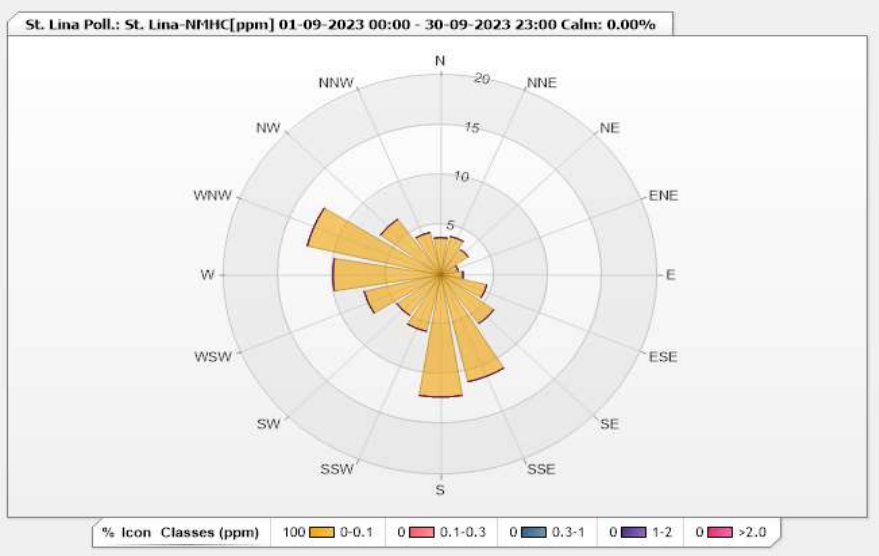


Station: St. Lina Poll.: St. Lina-NMHC[ppm] Monthly: 09-2023

Type: Pollution Rose
Direction: Blowing From (Wind Frequency)
Time Base: 1 - Hour

Calm: 0.00% Valid Data: 66.94% Calm Avg: 0.00 [ppm]

Direction	0-0.1	0.1-0.3	0.3-1	1-2	>2.0	Total
N	3.73	0	0	0	0	3.73
NNE	3.94	0	0	0	0	3.94
NE	3.11	0	0	0	0	3.11
ENE	1.66	0	0	0	0	1.66
E	2.07	0	0	0	0	2.07
ESE	4.36	0	0	0	0	4.36
SE	6.02	0	0	0	0	6.02
SSE	11	0	0	0	0	11
S	12.24	0	0	0	0	12.24
SSW	5.81	0	0	0	0	5.81
SW	4.98	0	0	0	0	4.98
WSW	7.26	0	0	0	0	7.26
W	9.96	0	0	0	0	9.96
WNW	12.66	0	0	0	0	12.66
NW	6.85	0	0	0	0	6.85
NNW	4.36	0	0	0	0	4.36
Summary	100	0	0	0	0	100



Lakeland Industry & Community Association

St. Lina Site - September 2023

Summary of Hourly Averages

PARTICULATE MATTER 2.5 ($PM_{2.5}$) in µg/m^3

Alberta Ambient Air Quality Guideline (AAAQG): 1-Hour 80 µg/m3, Alberta Ambient Air Quality Objective (AAAQO): 24-Hour 29 µg/m3

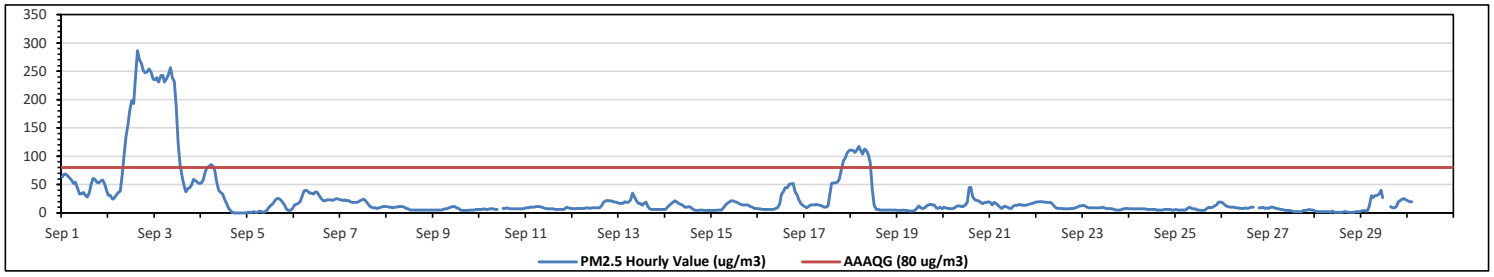
Number of 1-Hour Exceedances: 48 Number of 24-Hour Exceedances: 6

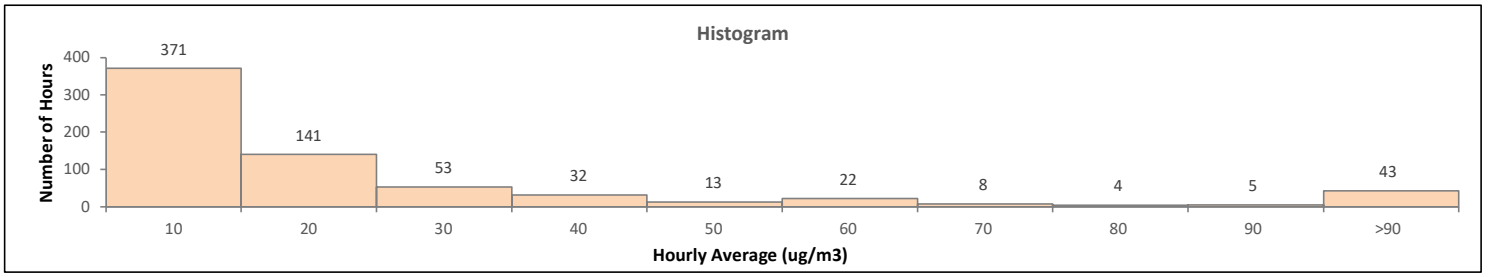
Maximum Hourly Value:	286 µg/m^3 on Sep 2 at hr 15	Hours in Service:	720
Maximum Daily Value:	157.9 µg/m^3 on Sep 2	Hours of Data:	692
Minimum Hourly Value:	0 µg/m^3 on Sep 4 at hr 17	Hours of Missing Data:	26
Minimum Daily Value:	2 µg/m^3 on Sep 28	Hours of Calibration:	2
Monthly Average:	25.7 µg/m^3	Operational Uptime:	96.4

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Sep 1	63	69	68	65	61	57	52	54	43	33	34	36	31	28	35	50	61	59	54	53	56	58	50	40	28	69	50.4
Sep 2	31	31	24	26	31	36	38	66	96	135	155	182	198	193	242	**286**	270	264	251	247	249	254	249	236	24	**286**	**157.9**
Sep 3	235	239	231	242	243	231	237	245	256	238	232	187	123	85	65	49	37	43	44	49	59	56	54	52	37	256	147.2
Sep 4	53	59	71	80	82	85	82	76	53	39	36	33	24	17	9	4	1	0	0	0	0	0	0	0	**0**	85	33.5
Sep 5	1	1	1	2	1	1	3	2	1	2	5	10	13	16	21	25	25	23	19	13	7	4	4	7	1	25	8.6
Sep 6	13	15	16	20	29	38	40	38	35	35	33	37	36	30	25	22	21	23	23	23	22	24	25	24	13	40	27.0
Sep 7	23	22	23	21	22	20	18	18	18	19	21	23	24	21	17	12	10	9	9	8	9	10	11	11	8	24	16.6
Sep 8	11	10	10	9	10	10	11	11	11	10	8	7	5	5	5	5	5	5	5	5	5	5	5	5	5	11	7.4
Sep 9	5	5	5	5	5	6	7	7	9	10	11	11	9	8	5	4	4	4	4	5	5	5	6	6	4	11	6.3
Sep 10	6	6	7	6	6	7	7	7	6	6	K	K	8	8	9	8	7	7	7	7	7	7	7	8	6	9	7.0
Sep 11	9	9	10	10	10	11	11	11	10	9	8	7	7	7	7	6	6	6	6	6	7	10	9	8	6	11	8.3
Sep 12	8	7	8	8	8	8	8	9	9	8	9	9	9	9	9	12	18	21	22	21	21	20	19	18	7	22	12.4
Sep 13	17	17	17	20	18	19	23	35	28	21	17	17	13	17	19	10	7	6	6	6	6	6	6	6	6	35	14.9
Sep 14	6	10	13	16	19	21	19	16	15	13	10	10	11	10	7	5	4	4	5	5	4	4	4	4	4	21	9.8
Sep 15	4	4	4	5	5	5	9	13	17	19	21	21	20	18	16	15	14	14	14	13	11	10	8	8	4	21	12.0
Sep 16	7	7	6	6	6	6	6	6	6	8	9	16	32	37	44	44	50	51	52	37	32	24	16	13	6	52	21.7
Sep 17	11	9	11	14	14	14	15	14	13	12	10	10	12	31	52	53	53	55	60	78	92	97	105	110	9	110	39.4
Sep 18	111	110	107	111	117	110	104	113	110	102	88	42	13	6	6	5	5	5	5	5	5	5	5	5	5	117	54.0
Sep 19	4	4	4	5	4	4	3	3	3	4	8	12	9	8	9	12	14	15	14	14	9	8	10	7	3	15	7.8
Sep 20	10	9	8	8	7	8	10	12	12	11	11	13	18	44	45	28	23	22	21	18	16	18	18	20	7	45	17.1
Sep 21	18	14	18	17	13	10	8	11	11	10	8	8	12	13	13	15	14	13	13	14	15	16	17	18	8	18	13.3
Sep 22	19	20	20	20	19	18	18	18	16	12	9	8	8	8	7	7	7	7	8	8	9	10	12	12	7	20	12.5
Sep 23	13	12	10	9	9	9	9	9	9	9	10	9	8	7	8	7	6	5	5	5	6	7	8	8	5	13	8.2
Sep 24	7	7	7	7	7	7	7	7	7	6	6	6	6	6	5	5	5	5	6	6	6	6	5	5	5	7	6.1
Sep 25	6	5	5	5	5	5	8	10	8	7	7	5	5	4	4	5	8	10	9	10	12	14	19	19	4	19	8.1
Sep 26	18	15	12	11	10	10	10	9	9	8	8	8	9	8	9	10	10	C	C	9	9	10	8	9	8	18	10.0
Sep 27	8	10	10	9	8	7	6	6	5	4	4	4	3	2	2	2	2	2	4	4	5	6	5	5	2	10	5.1
Sep 28	3	2	2	2	2	2	2	2	1	3	1	1	1	1	1	2	2	1	1	1	1	2	2	2	1	3	**1.7**
Sep 29	3	4	3	3	11	30	27	30	31	33	40	27	K	K	K	11	9	9	11	20	22	24	25	23	3	40	18.9
Sep 30	21	20	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	20	21	NA
Diurnal Maximum	235	239	231	242	243	231	237	245	256	238	232	187	198	193	242	286	270	264	251	247	249	254	249	236			
Diurnal Average	24.8	25.1	25.0	26.3	27.0	27.4	27.5	29.6	29.2	28.5	29.3	27.1	23.8	23.1	24.9	24.8	24.1	24.6	24.2	23.8	24.4	24.8	24.6	23.8			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	ND	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



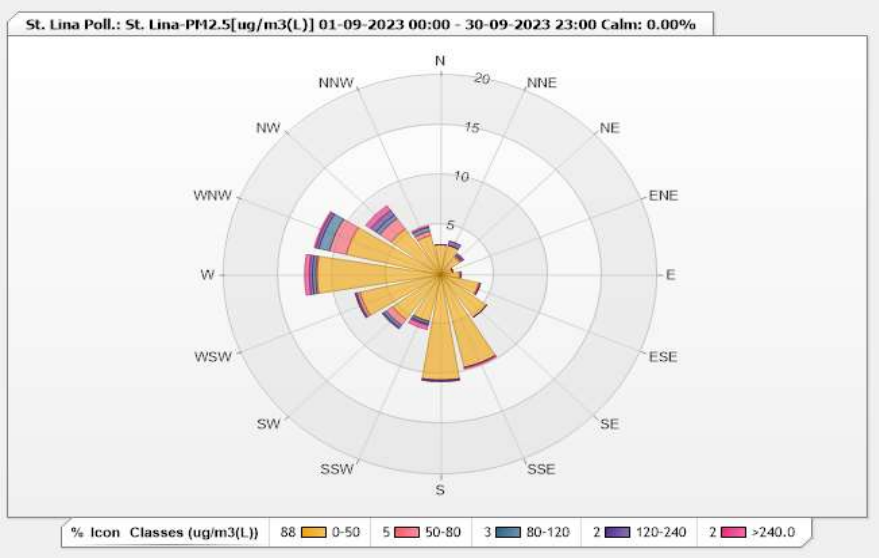


Station: St. Lina Poll.: St. Lina-PM2.5[ug/m3(L)] Monthly: 09-2023

Type: Pollution Rose
Direction: Blowing From (Wind Frequency)
Time Base: 1 - Hour

Calm: 0.00% Valid Data: 96.11% Calm Avg: 0.00 [ppm]

Direction	0-50	50-80	80-120	120-240	>240.0	Total
N	3.03	0	0	0	0	3.03
NNE	3.03	0	0	0.43	0	3.46
NE	2.17	0.14	0.14	0.14	0	2.59
ENE	1.16	0	0	0	0	1.16
E	1.73	0.14	0	0	0	1.87
ESE	3.61	0.14	0	0	0	3.75
SE	5.2	0	0	0	0	5.2
SSE	9.54	0	0	0	0.14	9.68
S	10.55	0	0	0.14	0	10.69
SSW	4.77	0	0.29	0.14	0.43	5.63
SW	5.49	0.72	0.29	0.14	0	6.64
WSW	7.66	0.29	0.14	0	0	8.09
W	11.42	0.14	0.29	0.29	0.43	12.57
WNW	8.96	1.59	1.01	0.29	0.14	11.99
NW	5.64	1.3	0.43	0.58	0.58	8.53
NNW	4.05	0.43	0.43	0	0.14	5.05
Summary	88.01	4.89	3.02	2.15	1.86	100



Lakeland Industry & Community Association

St. Lina Site - September 2023

Summary of Hourly Averages

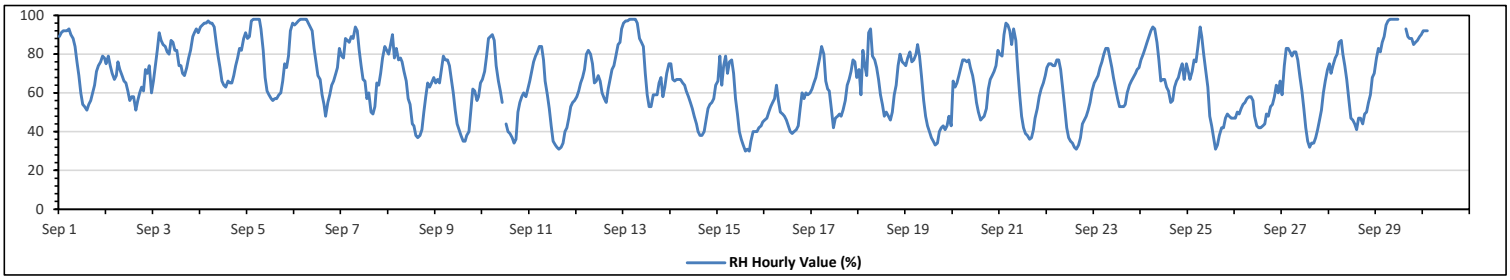
RELATIVE HUMIDITY (RH) in %

Maximum Hourly Value:	98	%	on Sep 5 at hr 3	Hours in Service:	720
Maximum Daily Value:	90.2	%	on Sep 29	Hours of Data:	695
Minimum Hourly Value:	30	%	on Sep 15 at hr 14	Hours of Missing Data:	25
Minimum Daily Value:	50.6	%	on Sep 16	Hours of Calibration:	0
Monthly Average:	65.9	%		Operational Uptime:	96.5

Day	Hourly Period Starting at (MST)																							Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Sep 1	89	91	92	92	92	93	90	88	84	76	69	60	54	53	51	54	56	60	64	71	74	76	79	78	51	93	74.4
Sep 2	75	79	74	70	67	69	76	72	69	66	65	61	56	58	58	51	56	60	63	61	72	70	74	60	51	79	65.9
Sep 3	66	74	82	91	87	85	84	81	80	87	86	82	82	74	74	70	69	73	78	82	89	91	93	91	66	93	81.3
Sep 4	94	95	96	96	97	96	96	94	86	79	73	66	64	63	66	65	65	69	74	78	83	82	88	91	63	97	81.5
Sep 5	88	89	97	**98**	**98**	**98**	**98**	93	82	68	61	59	57	56	57	57	59	60	66	75	73	79	92	96	56	**98**	77.3
Sep 6	95	96	97	**98**	**98**	**98**	**98**	96	94	92	83	76	69	67	59	54	48	55	59	64	66	70	73	83	48	**98**	78.7
Sep 7	79	78	88	87	86	89	88	94	92	82	74	67	66	57	60	50	49	53	65	64	70	78	84	82	49	94	74.3
Sep 8	80	84	90	78	83	77	78	76	71	66	57	54	44	43	38	37	38	41	50	58	65	63	65	68	37	90	62.7
Sep 9	65	67	65	72	79	77	77	74	67	60	51	44	41	38	35	35	38	40	51	62	61	56	58	65	35	79	57.4
Sep 10	67	71	79	88	89	90	87	74	66	61	55	K	44	40	39	37	34	36	50	55	58	60	58	62	34	90	60.9
Sep 11	66	71	76	79	81	84	84	77	66	59	52	43	35	33	32	31	32	34	40	42	47	53	55	56	31	84	55.3
Sep 12	58	61	65	68	72	80	82	80	75	65	66	69	66	60	57	55	62	66	72	74	79	85	86	93	55	93	70.7
Sep 13	96	97	97	**98**	**98**	**98**	**98**	96	88	86	84	70	59	53	53	59	59	59	65	68	58	63	70	75	53	**98**	77.0
Sep 14	75	67	66	67	67	67	65	64	61	58	55	52	48	44	40	38	38	40	46	52	54	55	57	64	38	75	55.8
Sep 15	66	79	64	74	79	70	76	77	70	57	49	40	36	33	**30**	31	**30**	35	40	40	40	42	43	45	**30**	79	51.9
Sep 16	46	47	50	53	55	57	64	56	50	49	48	46	43	40	39	40	41	43	52	60	57	60	59	60	39	64	**50.6**
Sep 17	62	65	68	73	78	84	80	66	62	61	51	42	47	48	49	48	51	56	64	67	71	77	76	68	42	84	63.1
Sep 18	72	59	82	74	69	91	93	79	77	73	67	59	54	48	50	48	46	50	59	64	74	80	76	75	46	93	67.5
Sep 19	74	78	81	76	77	80	85	79	69	56	48	43	40	37	35	33	34	40	42	43	41	43	48	43	33	85	55.2
Sep 20	66	63	65	69	73	77	77	76	77	73	69	63	55	50	46	47	48	52	62	67	69	71	74	82	46	82	65.5
Sep 21	80	79	90	96	95	92	85	93	87	72	59	48	42	39	38	36	37	41	47	52	58	62	65	69	36	96	65.1
Sep 22	73	75	75	74	74	77	77	72	63	52	42	37	35	34	32	31	33	37	44	46	48	51	55	61	31	77	54.1
Sep 23	65	67	69	73	76	80	83	83	78	73	68	62	57	53	53	53	54	60	64	66	68	70	72	73	53	83	67.5
Sep 24	77	80	83	86	89	92	94	93	86	77	66	67	67	63	61	55	56	63	66	68	72	75	67	75	55	94	74.1
Sep 25	71	67	71	77	76	84	94	89	80	72	63	48	43	37	31	33	38	42	42	47	49	48	47	47	31	94	58.2
Sep 26	47	50	49	52	54	55	57	58	58	56	48	43	42	42	43	44	49	48	53	54	58	64	60	66	42	66	52.1
Sep 27	59	74	83	83	81	79	81	81	77	68	61	52	42	35	32	34	34	37	41	46	51	60	66	72	32	83	59.5
Sep 28	75	70	74	78	80	86	87	80	74	67	56	47	46	44	41	47	47	44	49	50	55	59	68	70	41	87	62.3
Sep 29	78	83	81	86	89	95	97	**98**	**98**	**98**	**98**	**98**	K	K	K	93	89	88	88	85	86	87	89	90	78	**98**	**90.2**
Sep 30	92	92	92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	92	92	NA
Diurnal Maximum	96	97	97	98	98	98	98	98	98	98	98	98	82	74	74	93	89	88	88	85	89	91	93	96			
Diurnal Average	73.2	74.9	78.0	79.5	80.7	82.8	83.8	80.7	75.4	69.3	62.9	57.1	51.2	47.9	46.4	47.1	47.9	51.1	57.1	60.7	63.7	66.6	68.9	71.0			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	ND	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



Lakeland Industry & Community Association

St. Lina Site - September 2023

Summary of Hourly Averages

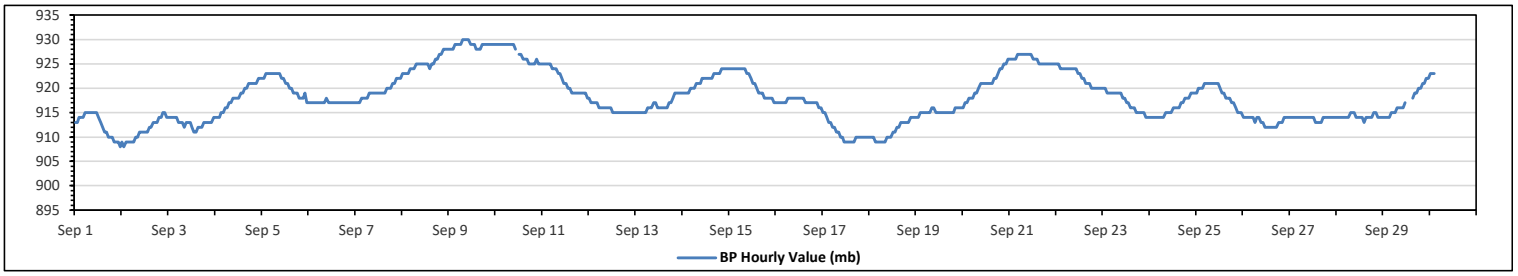
BAROMETRIC PRESSURE (BP) in millibar

Maximum Hourly Value:	930	mb	on Sep 9 at hr 7	Hours in Service:	720	
Maximum Daily Value:	929	mb	on Sep 9	Hours of Data:	695	
Minimum Hourly Value:	908	mb	on Sep 1 at hr 23	Hours of Missing Data:	25	
Minimum Daily Value:	911	mb	on Sep 17	Hours of Calibration:	0	
Monthly Average:	918	mb		Operational Uptime:	96.5	

Day	Hourly Period Starting at (MST)																							Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Sep 1	913	913	914	914	914	915	915	915	915	915	915	915	914	913	912	911	911	910	910	910	909	909	909	**908**	**908**	915	912
Sep 2	909	**908**	909	909	909	909	909	910	910	911	911	911	911	911	912	912	913	913	913	914	914	915	915	914	**908**	915	911
Sep 3	914	914	914	914	914	913	913	913	912	913	913	913	912	911	911	912	912	912	913	913	913	913	913	914	911	914	913
Sep 4	914	914	914	915	915	916	916	917	917	918	918	918	918	919	919	920	920	921	921	921	921	921	922	922	914	922	918
Sep 5	922	922	923	923	923	923	923	923	923	923	922	922	921	921	920	920	919	919	919	918	918	918	919	917	917	923	921
Sep 6	917	917	917	917	917	917	917	917	917	918	917	917	917	917	917	917	917	917	917	917	917	917	917	917	917	918	917
Sep 7	917	917	917	918	918	918	918	919	919	919	919	919	919	919	919	919	920	920	920	921	921	922	922	922	917	922	919
Sep 8	923	923	923	923	924	924	924	925	925	925	925	925	925	925	924	925	925	926	926	927	927	928	928	928	923	928	925
Sep 9	928	928	928	929	929	929	929	**930**	**930**	**930**	**930**	929	929	929	928	928	928	929	929	929	929	929	929	929	928	**930**	**929**
Sep 10	929	929	929	929	929	929	929	929	929	929	928	K	927	927	926	926	926	925	925	925	925	926	925	925	925	929	927
Sep 11	925	925	925	925	925	924	924	924	923	923	922	921	921	920	920	919	919	919	919	919	919	919	919	918	918	925	922
Sep 12	918	917	917	917	917	916	916	916	916	916	916	916	915	915	915	915	915	915	915	915	915	915	915	915	915	918	916
Sep 13	915	915	915	915	915	915	916	916	916	917	917	916	916	916	916	916	916	917	917	918	919	919	919	919	915	919	917
Sep 14	919	919	919	919	920	920	920	921	921	921	922	922	922	922	922	922	923	923	923	923	924	924	924	924	919	924	922
Sep 15	924	924	924	924	924	924	924	924	924	923	923	922	921	921	920	919	919	919	918	918	918	918	918	917	917	924	921
Sep 16	917	917	917	917	917	917	918	918	918	918	918	918	918	918	918	917	917	917	917	917	917	917	916	916	916	918	917
Sep 17	915	915	914	913	913	912	912	911	911	910	910	909	909	909	909	909	909	910	910	910	910	910	910	910	909	915	**911**
Sep 18	910	910	910	909	909	909	909	909	909	910	910	910	911	911	912	912	913	913	913	913	913	914	914	914	909	914	911
Sep 19	914	914	915	915	915	915	915	915	916	916	915	915	915	915	915	915	915	915	915	915	916	916	916	916	914	916	915
Sep 20	916	917	917	918	918	918	919	919	920	921	921	921	921	921	921	921	922	922	923	924	924	925	925	926	916	926	921
Sep 21	926	926	926	926	927	927	927	927	927	927	927	927	926	926	926	925	925	925	925	925	925	925	925	925	925	927	926
Sep 22	925	925	924	924	924	924	924	924	924	924	924	923	923	922	922	921	921	921	920	920	920	920	920	920	920	925	922
Sep 23	920	920	919	919	919	919	919	919	919	919	918	918	917	917	916	916	916	915	915	915	915	915	914	914	914	920	917
Sep 24	914	914	914	914	914	914	914	914	915	915	915	915	916	916	916	916	917	917	918	918	918	919	919	919	914	919	916
Sep 25	919	920	920	920	921	921	921	921	921	921	921	921	920	919	919	918	918	918	917	917	916	915	915	915	915	921	919
Sep 26	914	914	914	914	914	914	913	914	914	913	913	912	912	912	912	912	912	912	913	913	913	914	914	914	912	914	913
Sep 27	914	914	914	914	914	914	914	914	914	914	914	914	914	913	913	913	913	914	914	914	914	914	914	914	913	914	914
Sep 28	914	914	914	914	914	914	914	915	915	915	914	914	914	914	913	914	914	914	914	915	915	914	914	914	913	915	914
Sep 29	914	914	914	914	915	915	915	916	916	916	916	917	K	K	K	918	919	919	920	920	921	921	922	922	914	922	917
Sep 30	923	923	923	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	923	923	NA
Diurnal Maximum	929	929	929	929	929	929	929	930	930	930	930	929	929	929	928	928	928	929	929	929	929	929	929	929			
Diurnal Average	918	918	918	918	918	918	918	918	918	919	918	918	918	918	918	918	918	918	918	918	918	918	918	918			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	ND	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



Lakeland Industry & Community Association

St. Lina Site - September 2023

Summary of Hourly Averages

AMBIENT TEMPERATURE (AT) in Degree Celsius

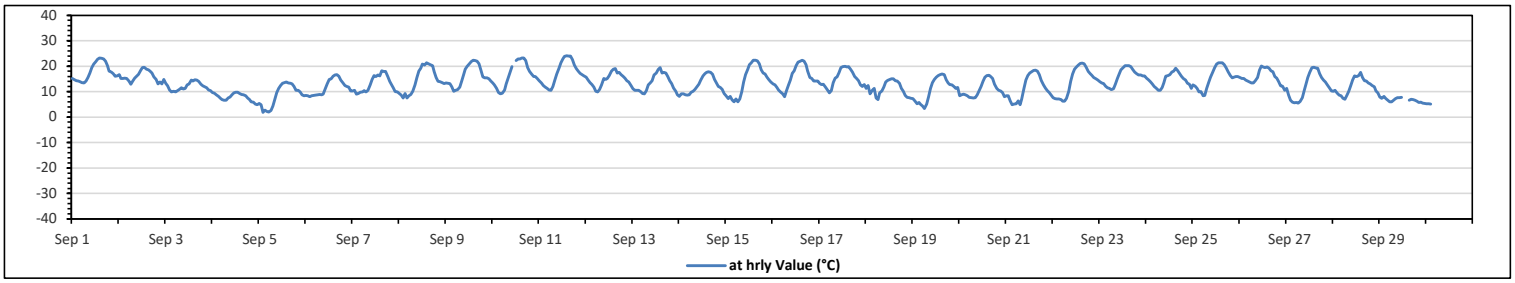
Maximum Hourly Value:	24.1	°C	on Sep 11 at hr 14	Hours in Service:	720	
Maximum Daily Value:	17.8	°C	on Sep 1	Hours of Data:	695	
Minimum Hourly Value:	1.8	°C	on Sep 5 at hr 2	Hours of Missing Data:	25	
Minimum Daily Value:	6.8	°C	on Sep 29	Hours of Calibration:	0	
Monthly Average:	13.3	°C		Operational Uptime:	96.5	

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Sep 1	15.2	14.7	14.3	14.1	13.9	13.6	13.5	14.1	15.6	17.3	19.5	20.8	21.7	22.7	23.2	23.1	22.9	22	20.2	18.1	17.7	17.1	16.1	16.2	13.5	23.2	**17.8**
Sep 2	16.6	15.2	15.2	15.3	15.2	14.2	12.9	14.1	15.3	16.1	16.8	18.2	19.4	19.6	18.8	18.6	18	17.3	15.8	14.8	13.1	13.7	13	14.8	12.9	19.6	15.9
Sep 3	13.3	12.3	10.7	9.9	10.2	9.8	10.4	10.9	11.5	11	11.3	12.6	13	14.5	14.2	14.7	14.6	14	12.9	12.3	11.9	11.5	10.7	10.4	9.8	14.7	12.0
Sep 4	9.6	9.4	8.7	8.2	7.3	6.9	6.6	6.6	7.5	7.9	8.8	9.5	9.7	9.7	9.3	8.9	8.8	8.4	7.5	6.9	6	5.9	5.1	4.9	4.9	9.7	7.8
Sep 5	5.4	4.8	**1.8**	2.7	2.2	2	2.6	4.3	7	9.6	11.2	12.4	13.3	13.6	13.7	13.4	13.3	13	12	10.6	10.5	9.8	8.7	8.4	**1.8**	13.7	8.6
Sep 6	8.5	8.4	8.1	8.4	8.5	8.6	8.7	8.9	8.7	9	11.2	13.2	14.9	15	16.1	16.5	16.6	16.1	14.5	13.4	12.4	12.1	11.8	10.3	8.1	16.6	11.7
Sep 7	10.3	10.6	9	9.3	9.7	9.8	10.4	9.9	10.6	12.7	14.9	16.3	16	16.5	16.2	18.2	17.9	17.9	15.9	14	12.6	11.5	10	9.8	9.0	18.2	12.9
Sep 8	9.3	8.6	7.5	9.3	7.5	8.4	8.9	10.2	12.6	15.6	18	19.2	20.8	20.4	21.3	21	20.5	20.2	17.8	15.6	14	13.9	13.6	13.2	7.5	21.3	14.5
Sep 9	13.5	13.3	13.2	11.9	10.2	10.6	10.8	11.8	14.2	16.6	18.8	20	20.9	21.8	22.3	22.2	22	21	18.5	15.8	15.4	15.4	15	14.2	10.2	22.3	16.2
Sep 10	13.4	12.7	11.2	9.6	9.2	9.4	10.7	13.1	15.3	17.6	19.8	K	22.2	22.9	22.9	23.2	23.2	22.2	19.4	17.9	16.8	16	16	15.2	9.2	23.2	16.5
Sep 11	14.3	13.4	12.4	11.8	11.3	10.7	10.6	12	14.5	16.9	19.1	21.4	22.9	23.8	**24.1**	24	24	22.6	20.4	19	18	17.2	16.7	16.2	10.6	**24.1**	17.4
Sep 12	15.7	14.6	13.6	12.8	11.8	10.1	9.9	10.9	12.6	15.1	14.9	15.2	16.3	18.1	18.8	19	17.4	17.6	16.6	16.1	15.3	14.3	13.8	12.4	9.9	19.0	14.7
Sep 13	11.1	10.5	10.6	10.5	10	9.3	9.2	10.4	12.6	13.4	14.3	16.5	17.3	18.7	19.5	17.4	17.6	17.4	16	14.3	13.2	11.4	10.1	8.7	8.7	19.5	13.3
Sep 14	8.2	9.2	9.1	8.7	8.6	8.8	9.7	10.1	10.9	11.9	12.9	14.5	16.2	17.1	17.6	17.8	17.6	16.8	14.8	13.4	12.1	11.7	10.9	9.3	8.2	17.8	12.4
Sep 15	8.4	7.2	8.2	6.8	6	7.1	6	7.1	9.9	13.8	16.7	18.9	20.5	21.4	22.3	22.3	22.1	20.9	18.6	17.4	16.9	15.7	14.7	13.7	6.0	22.3	14.3
Sep 16	13.1	12.6	11.7	10.7	9.9	9.1	8	10.4	12.5	14.5	17.2	18.2	20.2	21.6	22	22.3	21.9	20.6	18.1	15.5	15.1	14.2	14.1	14.1	8.0	22.3	15.3
Sep 17	13.3	12.8	12.9	11.9	10.7	9.5	10.4	13.6	15.3	15.8	17.5	19.4	19.8	20	19.7	19.9	18.8	17.7	16	15.2	14.3	12.6	12	12.8	9.5	20.0	15.1
Sep 18	11.3	12.4	9.2	10.5	11.2	7.5	6.9	9.5	10.3	11.8	13.7	14.4	14.8	15	15	14.3	14.1	13.3	11.3	10.2	8.5	7.8	7.7	7.3	6.9	15.0	11.2
Sep 19	7.2	6.4	5.2	5.7	5	4.3	3.3	5.1	8.1	11.2	13.6	14.8	15.7	16.3	16.7	16.9	16.6	14.7	13.4	12.8	12.6	12.1	11.2	11.7	3.3	16.9	10.9
Sep 20	8.3	8.8	9	8.7	8.3	7.8	7.6	7.5	7.7	8.8	10.4	12.1	14	15.7	16.3	16.4	16	15.1	12.9	11.2	10.6	10.3	9.6	8.1	7.5	16.4	10.9
Sep 21	8.4	8.4	6.4	4.9	5.1	5.3	6.4	4.9	7.1	11.2	14.5	16.3	17.4	17.8	18.3	18.4	18	16.7	14.4	12.6	11.4	10.4	9.6	8.6	4.9	18.4	11.4
Sep 22	7.6	7.2	7.1	7.1	6.9	6.3	6.2	7.4	10.2	14	16.9	18.8	19.7	20.4	21.1	21.2	21	19.7	17.9	17.1	16.4	15.5	15	14.5	6.2	21.2	14.0
Sep 23	13.9	13.5	13.2	12.2	11.5	11.3	10.8	11.1	13	15.1	17.1	18.6	19.5	20.2	20.3	20.2	19.8	18.7	17.7	17.1	16.5	16.5	16.2	16.2	10.8	20.3	15.8
Sep 24	15.3	14.7	13.9	13	12.1	11.4	10.6	10.5	11.7	13.4	16.1	16.3	16.6	17.7	18	19.1	18.3	17.2	16.1	15.2	14.5	13.3	12.9	11.2	10.5	19.1	14.5
Sep 25	12.7	12.2	11.3	9.8	10	8.4	8.5	11.3	13.6	15.7	17.7	19.5	20.8	21.4	21.3	21.4	20.5	19.3	17.8	16.3	15.4	15.7	15.9	15.9	8.4	21.4	15.5
Sep 26	15.6	15.1	15.2	14.5	14.1	13.8	13.4	13.4	14.3	15.6	18.5	20.1	19.7	19.4	19.7	19.1	18.2	17.8	16	15.3	13.9	12.3	12.2	10.6	10.6	20.1	15.7
Sep 27	11.2	8.6	6.6	5.9	5.6	5.7	5.5	6.1	7.6	10.5	12.8	15.5	17.6	19.4	19.6	19.3	19.1	17.1	15.5	14.6	13.8	12.6	11.4	10.3	5.5	19.6	12.2
Sep 28	10.2	10.6	9.4	8.6	8.3	7.4	7	8.5	10.2	12.3	14.6	16.2	16	16.3	17.6	15.6	14.3	14.1	13.4	13.1	12.4	11.9	10.3	9.5	7.0	17.6	12.0
Sep 29	7.9	7.4	8.2	7.2	6.7	6	6	6.6	7.2	7.6	7.7	7.8	K	K	K	6.6	7	6.9	6.6	6.2	5.7	5.8	5.5	5.4	5.4	8.2	**6.8**
Sep 30	5.2	5.2	5.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.1	5.2	NA
Diurnal Maximum	16.6	15.2	15.2	15.3	15.2	14.2	13.5	14.1	15.6	17.6	19.8	21.4	22.9	23.8	24.1	24.0	24.0	22.6	20.4	19.0	18.0	17.2	16.7	16.2			
Diurnal Average	11.1	10.7	9.9	9.7	9.2	8.7	8.7	9.7	11.3	13.2	15.1	16.3	17.7	18.5	18.8	18.3	17.9	17.1	15.4	14.2	13.3	12.7	12.1	11.5			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	ND	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.

Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



Lakeland Industry & Community Association

St. Lina Site - September 2023

Summary of Hourly Averages

STATION TEMPERATURE (ST) in Degree Celsius

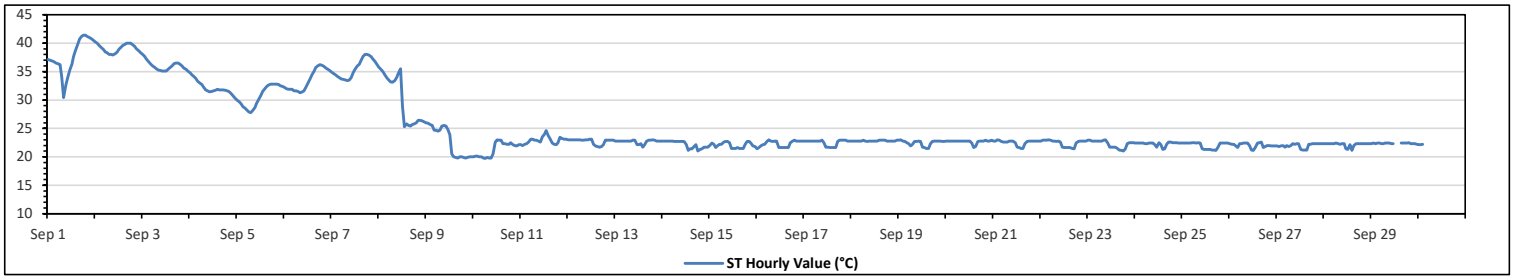
Maximum Hourly Value:	41.4	°C	on Sep 1 at hr 18	Hours in Service:	720
Maximum Daily Value:	39.1	°C	on Sep 2	Hours of Data:	696
Minimum Hourly Value:	19.7	°C	on Sep 10 at hr 6	Hours of Missing Data:	24
Minimum Daily Value:	21.3	°C	on Sep 10	Hours of Calibration:	0
Monthly Average:	25.7	°C		Operational Uptime:	96.7

Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Sep 1	37.1	37.0	36.9	36.7	36.5	36.4	36.2	34.1	30.4	32.6	34.0	35.2	36.3	37.6	38.7	39.8	40.7	41.2	**41.4**	**41.4**	41.2	41.0	40.8	40.5	30.4	**41.4**	37.7
Sep 2	40.2	40.0	39.6	39.3	38.9	38.5	38.3	38.0	38.0	37.9	38.1	38.4	38.9	39.3	39.6	39.8	40.0	40.0	40.0	39.7	39.4	39.0	38.7	38.3	37.9	40.2	**39.1**
Sep 3	38.0	37.7	37.2	36.8	36.4	36.0	35.8	35.5	35.3	35.2	35.1	35.1	35.1	35.4	35.7	36.0	36.4	36.5	36.5	36.3	36.0	35.6	35.4	35.1	35.1	38.0	36.0
Sep 4	34.8	34.4	34.1	33.8	33.3	33.0	32.7	32.2	31.8	31.6	31.4	31.5	31.6	31.7	31.9	31.8	31.8	31.8	31.7	31.6	31.4	31.1	30.7	30.3	30.3	34.8	32.2
Sep 5	30.0	29.7	29.3	28.8	28.6	28.2	27.9	27.8	28.2	28.7	29.4	30.1	30.8	31.5	32.0	32.4	32.6	32.8	32.8	32.8	32.8	32.7	32.5	32.4	27.8	32.8	30.6
Sep 6	32.2	32.0	31.9	31.9	31.9	31.6	31.6	31.5	31.3	31.4	31.6	32.2	33.0	33.7	34.4	35.1	35.7	36.0	36.2	36.1	35.9	35.6	35.4	35.2	31.3	36.2	33.5
Sep 7	34.9	34.6	34.4	34.1	33.9	33.7	33.6	33.5	33.4	33.5	34.0	34.8	35.4	36.0	36.3	37.0	37.7	38.0	38.0	37.9	37.6	37.2	36.8	36.3	33.4	38.0	35.5
Sep 8	35.8	35.4	35.0	34.4	33.9	33.5	33.2	33.1	33.4	34.0	34.8	35.5	28.9	25.3	25.8	25.5	25.4	25.7	25.8	26.0	26.4	26.4	26.3	26.1	25.3	35.8	30.2
Sep 9	26.0	25.9	25.7	25.5	24.7	24.7	24.5	24.7	25.4	25.5	25.4	24.8	23.9	20.5	20.0	19.9	19.8	20.0	20.0	19.9	19.8	19.9	20.0	20.0	19.8	26.0	22.8
Sep 10	20.0	20.1	20.1	20.0	20.0	19.8	**19.7**	19.9	19.8	19.8	20.5	22.6	23.0	22.9	22.9	22.3	22.3	22.2	22.2	22.5	22.1	22.0	21.9	22.1	**19.7**	23.0	**21.3**
Sep 11	22.1	22.0	22.2	22.3	22.6	23.1	23.1	22.9	22.9	22.8	22.6	23.5	24.0	24.6	23.8	23.1	22.4	22.2	22.1	22.5	23.4	23.2	23.1	23.1	22.0	24.6	22.9
Sep 12	23.0	23.0	23.0	23.0	23.0	23.0	23.0	22.9	22.9	23.0	23.0	23.1	23.1	22.2	21.9	21.8	21.7	21.8	22.1	22.9	22.9	22.9	22.9	22.9	21.7	23.1	22.7
Sep 13	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.9	22.9	22.1	22.1	22.3	21.7	22.1	22.8	22.9	22.9	23.0	22.9	22.8	22.8	22.8	21.7	23.0	22.7
Sep 14	22.8	22.8	22.8	22.8	22.8	22.8	22.7	22.7	22.7	22.7	22.7	22.7	22.1	21.1	21.4	21.4	21.8	22.1	21.0	21.3	21.4	21.7	21.7	21.7	21.0	22.8	22.2
Sep 15	22.0	22.4	22.2	21.6	22.0	22.2	22.2	22.6	22.7	22.7	22.5	21.5	21.5	21.5	21.6	21.5	21.5	21.5	22.2	22.7	22.7	22.3	21.9	21.8	21.5	22.7	22.1
Sep 16	21.4	21.6	22.0	22.1	22.2	22.7	23.0	22.8	22.7	22.8	22.8	21.6	21.6	21.6	21.6	21.6	21.6	22.5	22.8	22.9	22.8	22.8	22.8	22.8	21.4	23.0	22.3
Sep 17	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.9	22.5	21.7	21.7	21.6	21.6	21.6	21.6	22.7	22.9	22.9	22.9	22.9	22.8	22.8	21.6	22.9	22.5
Sep 18	22.8	22.8	22.8	22.8	22.8	22.8	22.9	22.8	22.7	22.8	22.8	22.8	22.8	22.8	22.9	22.9	22.9	22.9	22.8	22.8	22.8	22.8	22.8	22.9	22.7	22.9	22.8
Sep 19	22.9	23.0	22.8	22.7	22.5	22.3	21.9	22.2	22.7	22.7	22.8	22.7	21.7	21.6	21.5	21.5	22.3	22.7	22.8	22.8	22.8	22.8	22.7	22.7	21.5	23.0	22.5
Sep 20	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.4	21.6	21.8	22.7	22.8	22.8	22.8	22.9	22.8	22.8	22.9	21.6	22.9	22.7
Sep 21	22.8	22.8	23.0	22.9	22.7	22.6	22.6	22.6	22.8	22.8	22.8	22.5	21.7	21.6	21.5	21.5	22.3	22.7	22.8	22.8	22.8	22.8	22.8	22.8	21.5	23.0	22.5
Sep 22	22.8	22.9	22.9	22.9	23.0	22.9	22.8	22.8	22.7	22.8	22.6	21.7	21.6	21.6	21.6	21.6	21.5	21.4	22.4	22.7	22.8	22.8	22.8	22.8	21.4	23.0	22.4
Sep 23	22.9	22.9	22.8	22.8	22.8	22.8	22.8	22.8	22.9	23.0	22.4	21.7	21.7	21.7	21.7	21.5	21.2	21.1	21.0	21.4	22.3	22.5	22.5	22.5	21.0	23.0	22.2
Sep 24	22.4	22.4	22.4	22.4	22.4	22.3	22.3	22.4	22.4	22.4	22.1	21.7	22.5	22.1	21.3	21.4	22.2	22.6	22.6	22.5	22.5	22.5	22.4	22.4	21.3	22.6	22.3
Sep 25	22.4	22.4	22.4	22.4	22.4	22.5	22.5	22.4	22.5	22.4	21.4	21.3	21.3	21.3	21.3	21.2	21.2	21.1	21.6	22.4	22.4	22.4	22.4	22.4	21.1	22.5	22.0
Sep 26	22.3	22.2	22.2	21.9	21.6	22.3	22.3	22.4	22.4	22.4	22.0	21.2	21.1	21.6	22.4	22.5	22.6	21.6	21.8	22.0	22.0	21.9	21.9	21.9	21.1	22.6	22.0
Sep 27	21.9	21.8	21.9	22.0	21.7	22.0	21.8	22.0	22.3	22.2	22.3	22.3	21.3	21.2	21.2	21.2	22.2	22.2	22.3	22.3	22.3	22.3	22.3	22.3	21.2	22.3	22.0
Sep 28	22.3	22.3	22.3	22.3	22.3	22.3	22.4	22.3	22.2	22.3	22.3	21.4	21.3	22.1	21.1	22.0	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	21.1	22.4	22.2
Sep 29	22.3	22.4	22.3	22.4	22.4	22.3	22.3	22.4	22.4	22.4	22.3	22.3	**K**	**K**	**K**	22.4	22.4	22.4	22.4	22.5	22.3	22.3	22.3	22.2	22.2	22.5	22.4
Sep 30	22.1	22.1	22.2	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	22.1	22.2	NA
Diurnal Maximum	40.2	40.0	39.6	39.3	38.9	38.5	38.3	38.0	38.0	37.9	38.1	38.4	38.9	39.3	39.6	39.8	40.7	41.2	41.4	41.4	41.2	41.0	40.8	40.5			
Diurnal Average	26.0	25.9	25.8	25.8	25.7	25.7	25.6	25.5	25.4	25.6	25.6	25.5	25.5	25.3	25.3	25.3	25.6	25.7	25.8	25.9	25.9	25.8	25.7	25.7			

C	Monthly Calibration	**S**	Daily Zero-Span Check	**Q**	Quality Assurance	
K	Collection Error	**ND**	No Data (Machine Not in Service)	**Y**	Routine Maintenance	**P** Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	**NRM**	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.

Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



Lakeland Industry & Community Association

St. Lina Site - September 2023

Summary of Hourly Averages

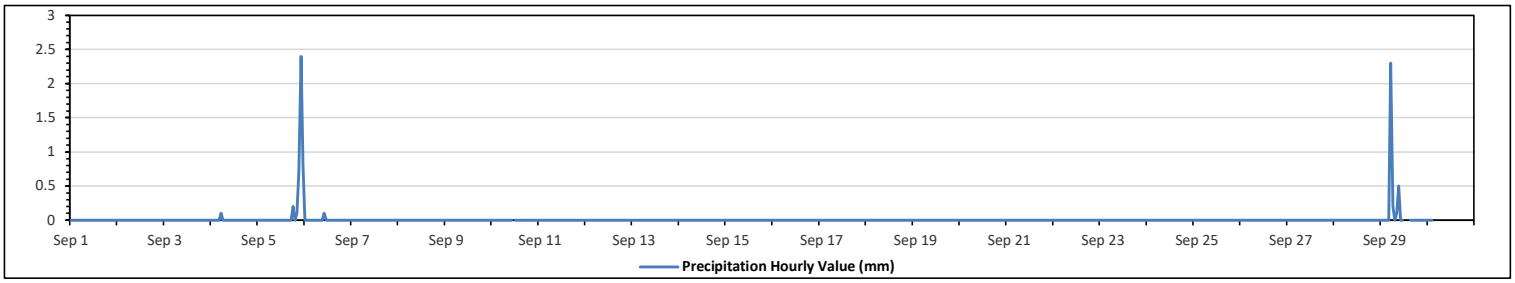
PRECIPITATION in mm

Maximum Hourly Value:	2.4	mm	on Sep 5 at hr 22	Hours in Service:	720		
Maximum Daily Value:	4.2	mm	on Sep 5	Hours of Data:	695		
Minimum Hourly Value:	0.0	mm	on Sep 1 at hr 0	Hours of Missing Data:	25		
Minimum Daily Value:	0.0	mm	on Sep 1	Hours of Calibration:	0		
Monthly Total:	7.5	mm		Operational Uptime:	96.5		

Day	Hourly Period Starting at (MST)																						Daily Minimum	Daily Maximum	Daily Total
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Sep 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Sep 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Sep 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Sep 4	0	0	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1	0.1
Sep 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0	0.1	0.7	**2.4**	0.8	0.0	**2.4**	**4.2**
Sep 6	0	0	0	0	0	0	0	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1	0.1
Sep 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Sep 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Sep 9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Sep 10	0	0	0	0	0	0	0	0	0	0	0	**K**	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Sep 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Sep 12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Sep 13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Sep 14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Sep 15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Sep 16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Sep 17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Sep 18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Sep 19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Sep 20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Sep 21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Sep 22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Sep 23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Sep 24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Sep 25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Sep 26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Sep 27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Sep 28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Sep 29	0	0	0	0	0	2.3	0.2	0	0.1	0.5	0	0	**K**	**K**	**K**	0	0	0	0	0	0	0	0	0	0.0	2.3	3.1
Sep 30	0	0	0	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	0.0	0.0	NA
Diurnal Maximum	0.0	0.0	0.0	0.0	0.0	2.3	0.2	0.0	0.1	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.1	0.7	2.4	0.8			
Diurnal Average	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0			

C	Monthly Calibration	**S**	Daily Zero-Span Check	**Q**	Quality Assurance	
K	Collection Error	**ND**	No Data (Machine Not in Service)	**Y**	Routine Maintenance	**P** Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	**NRM**	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



Lakeland Industry & Community Association

St. Lina Site - September 2023

Summary of Hourly Averages

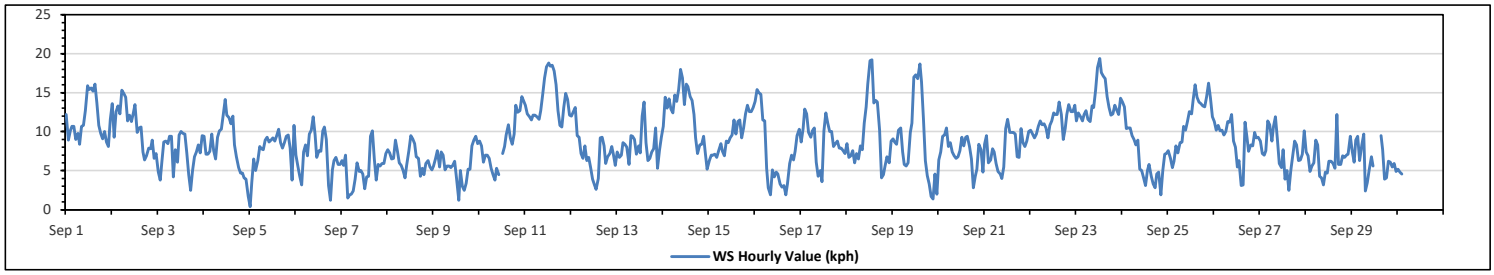
VECTOR WIND SPEED (VWS) in km/hr

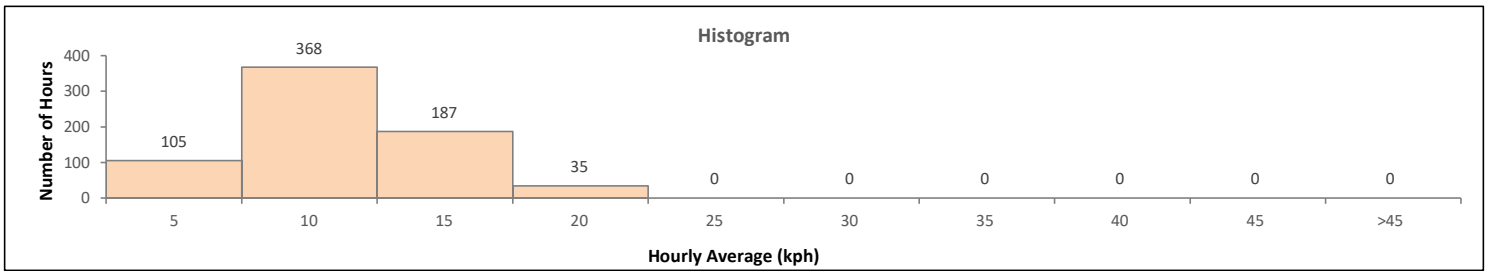
Maximum Hourly Value:	19.4	kph	on Sep 23 at hr 12	Hours in Service:	720	
Maximum Daily Value:	14.1	kph	on Sep 11	Hours of Data:	695	
Minimum Hourly Value:	0.4	kph	on Sep 5 at hr 0	Hours of Missing Data:	25	
Minimum Daily Value:	5.1	kph	on Sep 7	Hours of Calibration:	0	
Monthly Average:	3.2	kph		Operational Uptime:	96.5	

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Sep 1	12.2	8.9	10.1	10.7	10.7	9.0	9.8	8.4	10.7	10.8	12.7	15.9	15.4	15.6	15.2	16.1	13.7	10.8	9.8	9.1	10.0	8.7	8.1	11.6	8.1	16.1	11.4
Sep 2	13.6	9.3	12.6	13.3	12.3	15.3	14.9	14.4	11.4	12.1	11.3	12.4	13.5	9.9	10.5	10.6	7.4	6.4	6.9	7.9	7.8	8.9	6.6	7.2	6.4	15.3	10.7
Sep 3	4.8	3.8	6.1	8.7	8.8	8.5	9.4	9.4	4.2	7.7	6.1	9.6	10.0	9.8	9.7	7.3	4.5	2.5	5.0	6.8	7.4	8.3	7.3	9.5	2.5	10.0	7.3
Sep 4	9.4	7.1	7.1	7.5	9.7	7.6	6.5	9.3	10.1	10.3	12.2	14.1	12.1	11.8	11.0	12.0	8.3	6.8	5.4	4.7	4.7	4.1	3.9	1.7	1.7	14.1	8.2
Sep 5	**0.4**	3.5	6.5	5.0	6.3	8.1	7.8	7.7	8.9	9.3	8.7	8.9	9.2	8.8	9.5	10.3	8.6	7.9	8.6	9.4	9.6	7.9	3.8	10.8	**0.4**	10.8	7.7
Sep 6	7.0	5.6	4.3	3.2	7.4	8.3	6.9	9.7	10.2	11.9	9.6	6.7	7.6	7.5	10.1	10.6	9.0	3.1	1.2	5.1	6.3	6.7	5.8	5.8	1.2	11.9	7.1
Sep 7	6.3	5.7	7.0	1.5	1.9	2.0	2.4	3.9	6.0	4.9	5.0	4.6	2.7	4.2	4.3	9.4	10.1	6.5	3.8	5.8	5.6	5.9	5.9	7.2	1.5	10.1	**5.1**
Sep 8	7.7	7.3	6.5	6.6	8.9	7.6	6.0	5.7	5.0	4.1	5.7	7.6	9.5	9.1	8.5	6.8	6.6	4.3	5.3	4.5	5.9	6.3	5.5	5.1	4.1	9.5	6.5
Sep 9	5.6	6.5	7.6	5.5	7.4	7.0	5.1	5.6	5.6	5.4	5.7	6.2	4.0	1.2	5.0	3.0	2.5	3.4	5.2	5.2	8.2	8.9	9.4	8.5	1.2	9.4	5.7
Sep 10	8.8	8.2	6.1	7.0	7.0	6.6	5.3	4.5	3.8	5.3	4.5	**K**	7.2	8.1	9.6	10.9	9.2	8.4	9.7	13.4	12.5	12.7	14.5	14.0	3.8	14.5	8.6
Sep 11	13.4	12.3	11.9	11.5	12.1	12.1	11.9	11.6	12.7	14.7	16.9	18.3	18.8	18.4	18.5	17.8	16.0	12.7	10.8	10.6	13.1	14.9	14.1	12.1	10.6	18.8	**14.1**
Sep 12	12.0	12.6	13.1	9.5	9.3	7.2	6.6	8.2	6.3	6.7	5.4	3.9	3.2	2.6	4.0	9.2	9.3	8.2	5.9	6.8	7.2	8.1	7.1	5.7	2.6	13.1	7.4
Sep 13	7.4	6.7	7.0	8.6	8.4	8.0	5.8	9.5	9.4	9.0	7.1	8.2	7.3	12.0	13.8	8.6	6.3	6.6	7.4	7.8	10.5	5.3	7.6	9.3	5.3	13.8	8.2
Sep 14	10.7	14.4	13.0	14.2	12.9	12.4	14.7	13.9	15.4	18.0	16.9	13.5	16.1	15.8	14.5	14.0	12.2	9.2	7.2	8.3	8.4	9.4	7.4	5.2	5.2	18.0	12.4
Sep 15	6.3	7.0	7.0	7.1	6.7	7.7	8.5	7.5	6.9	8.8	8.6	9.2	9.6	11.5	9.7	11.3	11.5	9.2	10.5	12.3	13.4	12.6	12.6	13.1	6.3	13.4	9.5
Sep 16	13.9	15.4	15.0	14.8	11.5	11.4	5.3	2.8	1.9	5.1	4.2	4.8	4.6	3.3	2.9	3.1	1.9	3.3	5.9	7.0	6.4	7.5	9.5	10.3	1.9	15.4	7.2
Sep 17	8.7	10.4	12.9	12.3	9.9	9.3	10.1	10.5	6.1	4.3	5.0	3.6	10.1	12.4	11.1	10.0	10.0	8.1	8.5	8.8	7.9	7.9	7.6	7.2	3.6	12.9	8.9
Sep 18	8.5	6.7	6.9	7.6	6.0	7.2	6.5	8.2	7.7	11.1	13.2	16.1	19.1	19.2	13.7	14.0	13.8	10.2	4.1	4.5	5.6	6.8	6.0	8.8	4.1	19.2	9.6
Sep 19	9.1	8.7	8.4	10.2	10.5	7.4	5.8	5.6	6.0	9.9	11.1	17.0	17.3	16.8	18.7	16.4	11.7	6.3	4.4	3.3	1.7	1.4	4.6	2.0	1.4	18.7	8.9
Sep 20	6.4	7.4	9.4	9.6	10.5	8.1	8.6	7.4	6.9	6.6	6.8	7.6	9.3	8.2	9.3	9.4	8.1	6.5	2.8	4.3	5.2	8.4	7.7	4.8	2.8	10.5	7.5
Sep 21	8.4	9.5	6.0	6.4	7.8	7.4	5.9	4.9	4.6	4.0	5.5	10.4	11.6	9.9	9.9	9.9	9.7	6.8	6.7	10.4	8.6	8.1	8.8	10.0	4.0	11.6	8.0
Sep 22	10.2	9.7	9.2	9.7	10.7	11.4	10.9	11.0	10.5	9.2	10.8	11.4	12.4	12.2	12.2	13.8	12.2	9.0	10.4	12.2	13.5	12.6	12.6	13.4	9.0	13.8	11.3
Sep 23	11.4	12.4	11.9	11.4	12.2	12.7	11.6	11.3	13.3	13.1	15.3	18.2	**19.4**	17.6	17.1	16.8	14.5	13.1	12.1	12.3	13.4	12.8	12.2	14.3	11.3	**19.4**	13.8
Sep 24	13.8	13.2	10.4	10.5	10.5	9.5	9.0	8.3	8.9	5.2	5.0	4.1	3.1	5.0	5.8	4.3	3.3	2.8	4.6	4.8	1.9	5.0	7.1	7.2	1.9	13.8	6.8
Sep 25	7.6	6.6	5.4	6.2	8.2	7.3	8.6	8.7	10.7	10.2	11.3	12.6	12.3	14.1	16.0	14.4	13.8	13.6	13.3	13.2	14.5	16.2	14.3	11.9	5.4	16.2	11.3
Sep 26	11.3	10.2	10.8	10.1	10.2	9.6	10.0	11.3	11.2	12.2	8.8	8.0	5.5	6.3	3.1	3.2	11.2	9.3	7.5	8.3	8.2	9.9	9.2	9.3	3.1	12.2	8.9
Sep 27	8.8	7.2	7.0	7.6	11.4	10.9	8.8	10.7	11.9	9.1	5.9	5.4	7.7	3.9	5.0	2.5	5.0	6.9	8.8	8.3	6.3	6.4	7.1	10.1	2.5	11.9	7.6
Sep 28	7.4	6.9	4.9	5.6	6.0	8.9	8.3	4.3	4.1	3.2	4.8	4.7	6.2	6.2	5.9	5.3	12.2	5.8	5.8	6.9	6.7	7.0	7.1	9.4	3.2	12.2	6.4
Sep 29	7.5	6.1	8.9	9.4	6.3	8.3	9.7	2.4	3.5	5.1	6.8	5.6	**K**	**K**	**K**	9.5	7.7	3.9	4.1	6.2	6.1	5.5	5.9	4.9	2.4	9.7	6.4
Sep 30	5.2	4.8	4.6	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	4.6	5.2	NA
Diurnal Maximum	13.9	15.4	15.0	14.8	12.9	15.3	14.9	14.4	15.4	18.0	16.9	18.3	19.4	19.2	18.7	17.8	16.0	13.6	13.3	13.4	14.5	16.2	14.5	14.3			
Diurnal Average	8.8	8.5	8.6	8.7	9.0	8.9	8.3	8.2	8.1	8.5	8.7	9.6	10.2	10.1	10.2	10.0	9.3	7.3	7.0	7.9	8.2	8.4	8.3	8.6			

C	Monthly Calibration	**S**	Daily Zero-Span Check	**Q**	Quality Assurance			
K	Collection Error	**ND**	No Data (Machine Not in Service)	**Y**	Routine Maintenance	**P**	Power Failure	
X	InValid Data (Equipment Malfunction /Recovery)	**NRM**	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)					

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



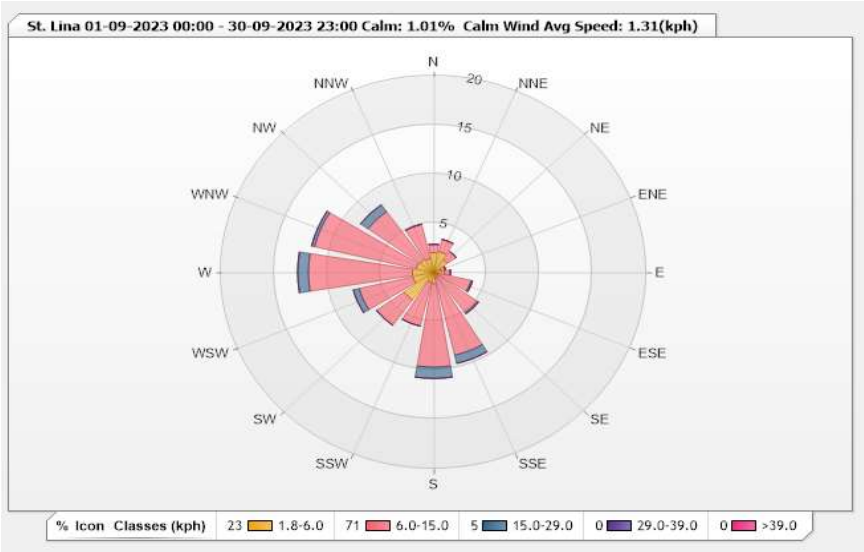


Station: St. Lina Monitor: WDS [kph] Monthly: 09-2023

Type: Wind Rose
Direction: Blowing From (Wind Frequency)
Time Base: 1 - Hour

Calm (WS<1.8kph): 1.01% Valid Data: 96.53%

Direction	1.8-6.0	6.0-15.0	15.0-29.0	29.0-39.0	>39.0	Total
N	2.01	0.86	0	0	0	2.87
NNE	2.16	1.29	0	0	0	3.45
NE	1.58	1.01	0	0	0	2.59
ENE	0.72	0.43	0	0	0	1.15
E	1.01	0.58	0	0	0	1.59
ESE	0.43	3.17	0.14	0	0	3.74
SE	0.29	4.75	0.14	0	0	5.18
SSE	0.58	8.06	0.86	0	0	9.5
S	1.15	8.49	1.15	0	0	10.79
SSW	1.01	4.6	0	0	0	5.61
SW	3.45	3.17	0	0	0	6.62
WSW	2.01	5.18	0.58	0	0	7.77
W	2.01	9.78	1.01	0	0	12.8
WNW	1.73	9.78	0.29	0	0	11.8
NW	1.58	6.04	0.86	0	0	8.48
NNW	1.44	3.6	0	0	0	5.04
Summary	23.16	70.79	5.03	0	0	98.98



Lakeland Industry & Community Association

St. Lina Site - September 2023

Summary of Hourly Averages

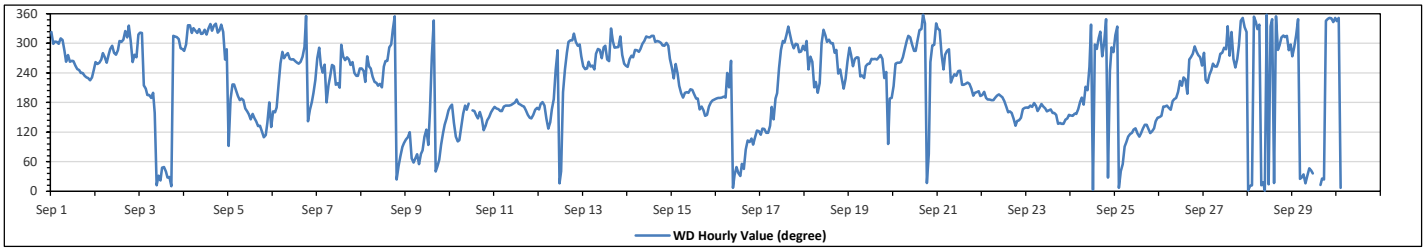
WIND DIRECTION (VWD) in sector

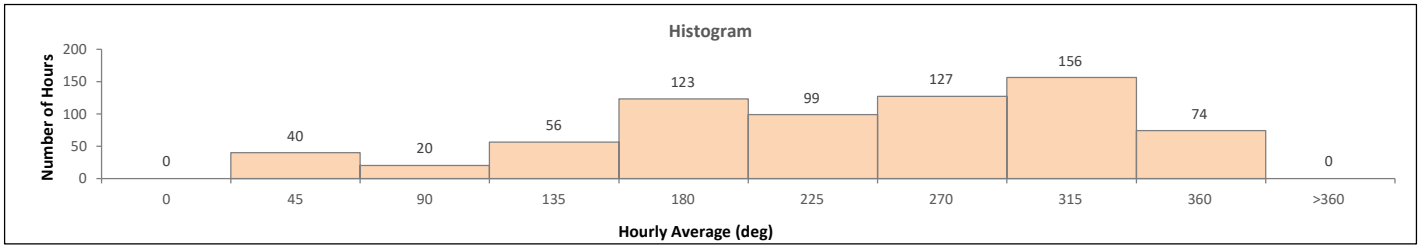
Monthly Average:	232 (SW)	degree	
Hours in Service:	720		
Hours of Data:	695		
Hours of Missing Data:	25		
Hours of Calibration:	0		
Operational Uptime:	96.5		

Day	Hourly Period Starting at (MST)																							Daily Average	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Degree	Quadrant
Sep 1	NW	WNW	WNW	WNW	WNW	NW	NW	WNW	W	W	W	W	W	WSW	WSW	WSW	WSW	WSW	SW	SW	SW	SW	SW	WSW	265	W
Sep 2	W	WSW	W	W	W	W	W	W	WNW	WNW	W	W	WNW	WNW	WNW	NW	NW	NW	NNW	WNW	W	W	W	NW	284	WNW
Sep 3	NW	NW	SSW	SSW	SSW	SSW	S	SSW	SSE	NNE	NNE	NNE	NE	NE	NE	NNE	NNE	N	NW	NW	NW	NW	WNW	WNW	328	NNW
Sep 4	WNW	WNW	NNW	NNW	NW	NNW	NW	NW	NNW	NW	NW	NNW	NW	NNW	NNW	NW	NNW	NNW	NW	NW	NNW	NW	W	WNW	323	NW
Sep 5	E	S	SW	SW	SSW	S	S	S	S	SSE	SSE	SSE	SE	SSE	SE	SE	SE	SE	ESE	ESE	ESE	SE	S	SE	156	SSE
Sep 6	SSE	SSE	SSE	SW	WSW	W	W	W	W	W	W	W	W	W	WSW	W	W	WNW	N	SE	SSE	S	SSW	SW	249	WSW
Sep 7	W	WNW	WSW	WSW	WSW	S	SSW	SW	WSW	WSW	SW	SW	SSW	WNW	W	W	W	W	WSW	W	WSW	SW	SW	WSW	253	WSW
Sep 8	WSW	WSW	SW	W	WSW	WSW	SW	SW	SW	SSW	SW	SSW	WSW	W	W	WNW	WNW	NNW	N	NNE	NE	ENE	E	E	254	WSW
Sep 9	ESE	ESE	ESE	ENE	ENE	ENE	ENE	NE	ENE	E	ESE	SE	E	SSE	W	NNW	NE	NE	ENE	E	ESE	SE	SE	SSE	99	E
Sep 10	S	S	SE	ESE	E	ESE	SE	SSE	S	SSE	S	K	SSE	SSE	SSE	SE	SSE	SE	ESE	SE	SE	SSE	SSE	SSE	149	SSE
Sep 11	S	SSE	SSE	SSE	SSE	S	S	S	S	S	S	S	S	S	S	S	S	SSE	SSE	SSE	SE	SSE	SSE	SSE	170	SSE
Sep 12	SSE	S	S	S	SE	SE	SE	SSE	S	WSW	WNW	NNE	NE	SSW	WSW	W	WNW	NW	NW	NW	WNW	WNW	WNW	W	228	SW
Sep 13	WSW	WSW	WSW	W	WSW	WSW	WSW	W	WNW	WNW	W	WNW	WNW	W	W	NNW	WNW	WNW	WNW	WNW	NW	W	WSW	WSW	276	W
Sep 14	WSW	W	W	W	WNW	WNW	W	WNW	WNW	WNW	NW	NW	NW	NW	NW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	W	295	WNW
Sep 15	WSW	SW	WSW	WSW	SSW	SSW	S	SSW	SSW	SSW	SSW	SSW	SSW	S	S	SSE	S	SSE	SSE	SSE	S	S	S	S	190	S
Sep 16	S	S	S	S	S	S	WSW	SSW	W	N	NNE	NE	NE	NNE	NE	NE	E	ESE	E	ESE	E	ESE	ESE	ESE	153	SSE
Sep 17	ESE	SE	SE	ESE	ESE	SE	S	SE	S	SSW	WSW	WNW	WNW	WNW	NW	NNW	NW	WNW	WNW	WNW	WNW	W	WNW	WNW	261	W
Sep 18	WNW	WNW	WSW	W	W	SSW	SW	SSW	SW	WNW	NNW	NW	WNW	NW	WNW	WNW	W	WNW	WSW	WSW	SW	SSW	SW	W	279	W
Sep 19	WNW	W	WSW	W	W	W	SW	SW	SW	WSW	WSW	WSW	W	W	W	W	W	W	W	SW	WSW	E	S	S	262	W
Sep 20	SSW	WSW	W	W	W	W	WNW	WNW	NW	NW	WNW	WNW	WNW	NW	NW	NNW	N	NNW	NNE	ENE	W	WNW	WNW	NNW	296	WNW
Sep 21	NNW	NW	W	WSW	W	WNW	WNW	SW	SW	SW	SW	WSW	WSW	SW	SW	SW	SW	SW	SSW	SSW	SSW	SSW	SSW	S	234	SW
Sep 22	SSW	SSW	S	S	S	S	S	S	SSW	SSW	S	S	S	S	SSE	SSE	SSE	SE	SE	SE	SE	SSE	SSE	SSE	173	S
Sep 23	SSE	SSE	S	S	S	S	SSE	SSE	S	S	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SE	SE	SE	SE	SE	SE	SSE	160	SSE
Sep 24	SSE	SSE	SSE	SSE	SSE	S	S	S	SSW	SSW	WSW	NNW	N	WNW	WNW	NW	NW	W	WNW	NNW	NNE	WSW	WNW	W	206	SSW
Sep 25	NW	NNW	N	NE	NE	E	E	ESE	ESE	ESE	SE	SE	ESE	ESE	ESE	SE	SE	SE	SE	ESE	ESE	SE	SE	SSE	117	ESE
Sep 26	SSE	SSE	S	S	S	SSE	SSE	S	S	S	SSW	SW	SSW	SW	SW	SSW	W	W	W	WNW	W	W	W	WSW	211	SSW
Sep 27	W	SW	SW	SW	WSW	WSW	WSW	WSW	W	W	W	WNW	WNW	NNW	W	NW	W	WSW	W	WNW	NNW	N	NNW	NW	275	W
Sep 28	N	NNE	NNE	N	NNW	NNW	NNW	NNE	NNE	N	N	NNE	NNW	NNW	NNE	N	WNW	WNW	NW	NW	NW	NW	WNW	WNW	334	NNW
Sep 29	W	WNW	NW	NNW	NNE	NNE	NE	NNE	NNE	NE	NE	NE	K	K	K	NNE	NNE	NNE	NNW	N	N	N	NNW	N	3	N
Sep 30	NNW	N	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	ND	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Machine Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.





Lakeland Industry & Community Association

St. Lina Site - September 2023

Summary of Hourly Averages

VECTOR WIND SPEED (VWS) in km/hr & WIND DIRECTION (VWD) in sector

WIND SPEED

Maximum Hourly Value:	19.4	kph	on Sep 23 at hr 12	Hours in Service:	720
Maximum Daily Value:	14.1	kph	on Sep 11	Hours of Data:	695
Minimum Hourly Value:	0.4	kph	on Sep 5 at hr 0	Hours of Missing Data:	25
Minimum Daily Value:	5.1	kph	on Sep 7	Hours of Calibration:	0
Monthly Average:	3.2	kph		Operational Uptime:	96.5

WIND DIRECTION

Monthly Average: 232 degree (SW)

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Sep 1	12.2	8.9	10.1	10.7	10.7	9.0	9.8	8.4	10.7	10.8	12.7	15.9	15.4	15.6	15.2	16.1	13.7	10.8	9.8	9.1	10.0	8.7	8.1	11.6	8.1	16.1	11.4
	NW	WNW	WNW	WNW	WNW	NW	NW	WNW	W	W	W	W	W	WSW	WSW	WSW	WSW	WSW	SW	SW	SW	SW	SW	WSW			
Sep 2	13.6	9.3	12.6	13.3	12.3	15.3	14.9	14.4	11.4	12.1	11.3	12.4	13.5	9.9	10.5	10.6	7.4	6.4	6.9	7.9	7.8	8.9	6.6	7.2	6.4	15.3	10.7
	W	WSW	W	W	W	W	W	W	WNW	WNW	W	W	WNW	WNW	WNW	NW	NW	NW	NNW	WNW	W	W	W	NW			
Sep 3	4.8	3.8	6.1	8.7	8.8	8.5	9.4	9.4	4.2	7.7	6.1	9.6	10.0	9.8	9.7	7.3	4.5	2.5	5.0	6.8	7.4	8.3	7.3	9.5	2.5	10.0	7.3
	NW	NW	SSW	SSW	SSW	SSW	S	SSW	SSE	NNE	NNE	NNE	NE	NE	NE	NNE	NNE	N	NW	NW	NW	NW	WNW	WNW			
Sep 4	9.4	7.1	7.1	7.5	9.7	7.6	6.5	9.3	10.1	10.3	12.2	14.1	12.1	11.8	11.0	12.0	8.3	6.8	5.4	4.7	4.7	4.1	3.9	1.7	1.7	14.1	8.2
	WNW	WNW	NNW	NNW	NW	NNW	NW	NW	NNW	NW	NW	NNW	NW	NNW	NNW	NW	NNW	NNW	NW	NW	NNW	NW	W	WNW			
Sep 5	**0.4**	3.5	6.5	5.0	6.3	8.1	7.8	7.7	8.9	9.3	8.7	8.9	9.2	8.8	9.5	10.3	8.6	7.9	8.6	9.4	9.6	7.9	3.8	10.8	**0.4**	10.8	7.7
	E	S	SW	SW	SSW	S	S	S	S	SSE	SSE	SSE	SE	SSE	SE	SE	SE	SE	ESE	ESE	ESE	SE	S	SE			
Sep 6	7.0	5.6	4.3	3.2	7.4	8.3	6.9	9.7	10.2	11.9	9.6	6.7	7.6	7.5	10.1	10.6	9.0	3.1	1.2	5.1	6.3	6.7	5.8	5.8	1.2	11.9	7.1
	SSE	SSE	SSE	SW	WSW	W	W	W	W	W	W	W	W	W	WSW	W	W	WNW	N	SE	SSE	S	SSW	SW			
Sep 7	6.3	5.7	7.0	1.5	1.9	2.0	2.4	3.9	6.0	4.9	5.0	4.6	2.7	4.2	4.3	9.4	10.1	6.5	3.8	5.8	5.6	5.9	5.9	7.2	1.5	10.1	**5.1**
	W	WNW	WSW	WSW	WSW	S	SSW	SW	WSW	WSW	SW	SW	SSW	WNW	W	W	W	W	WSW	W	WSW	SW	SW	WSW			
Sep 8	7.7	7.3	6.5	6.6	8.9	7.6	6.0	5.7	5.0	4.1	5.7	7.6	9.5	9.1	8.5	6.8	6.6	4.3	5.3	4.5	5.9	6.3	5.5	5.1	4.1	9.5	6.5
	WSW	WSW	SW	W	WSW	WSW	SW	SW	SW	SSW	SW	SSW	WSW	W	W	WNW	WNW	NNW	N	NNE	NE	ENE	E	E			
Sep 9	5.6	6.5	7.6	5.5	7.4	7.0	5.1	5.6	5.6	5.4	5.7	6.2	4.0	1.2	5.0	3.0	2.5	3.4	5.2	5.2	8.2	8.9	9.4	8.5	1.2	9.4	5.7
	ESE	ESE	ESE	ENE	ENE	ENE	ENE	NE	ENE	E	ESE	SE	E	SSE	W	NNW	NE	NE	ENE	E	ESE	SE	SE	SSE			
Sep 10	8.8	8.2	6.1	7.0	7.0	6.6	5.3	4.5	3.8	5.3	4.5	**K**	7.2	8.1	9.6	10.9	9.2	8.4	9.7	13.4	12.5	12.7	14.5	14.0	3.8	14.5	8.6
	S	S	SE	ESE	E	ESE	SE	SSE	S	SSE	S	**K**	SSE	SSE	SSE	SE	SSE	SE	ESE	SE	SE	SSE	SSE	SSE			
Sep 11	13.4	12.3	11.9	11.5	12.1	12.1	11.9	11.6	12.7	14.7	16.9	18.3	18.8	18.4	18.5	17.8	16.0	12.7	10.8	10.6	13.1	14.9	14.1	12.1	10.6	18.8	**14.1**
	S	SSE	SSE	SSE	SSE	S	S	S	S	S	S	S	S	S	S	S	S	SSE	SSE	SSE	SE	SSE	SSE	SSE			
Sep 12	12.0	12.6	13.1	9.5	9.3	7.2	6.6	8.2	6.3	6.7	5.4	3.9	3.2	2.6	4.0	9.2	9.3	8.2	5.9	6.8	7.2	8.1	7.1	5.7	2.6	13.1	7.4
	SSE	S	S	S	SE	SE	SE	SSE	S	WSW	WNW	NNE	NE	SSW	WSW	W	WNW	NW	NW	NW	WNW	WNW	WNW	W			
Sep 13	7.4	6.7	7.0	8.6	8.4	8.0	5.8	9.5	9.4	9.0	7.1	8.2	7.3	12.0	13.8	8.6	6.3	6.6	7.4	7.8	10.5	5.3	7.6	9.3	5.3	13.8	8.2
	WSW	WSW	WSW	W	WSW	WSW	WSW	W	WNW	WNW	W	WNW	WNW	W	W	NNW	WNW	WNW	WNW	WNW	WNW	NW	W	WSW	WSW			
Sep 14	10.7	14.4	13.0	14.2	12.9	12.4	14.7	13.9	15.4	18.0	16.9	13.5	16.1	15.8	14.5	14.0	12.2	9.2	7.2	8.3	8.4	9.4	7.4	5.2	5.2	18.0	12.4
	WSW	W	W	W	WNW	WNW	W	WNW	WNW	WNW	NW	NW	NW	NW	NW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	W			
Sep 15	6.3	7.0	7.0	7.1	6.7	7.7	8.5	7.5	6.9	8.8	8.6	9.2	9.6	11.5	9.7	11.3	11.5	9.2	10.5	12.3	13.4	12.6	12.6	13.1	6.3	13.4	9.5
	WSW	SW	WSW	WSW	SSW	SSW	S	SSW	SSW	SSW	SSW	SSW	SSW	S	S	SSE	S	SSE	SSE	SSE	S	S	S	S			
Sep 16	13.9	15.4	15.0	14.8	11.5	11.4	5.3	2.8	1.9	5.1	4.2	4.8	4.6	3.3	2.9	3.1	1.9	3.3	5.9	7.0	6.4	7.5	9.5	10.3	1.9	15.4	7.2
	S	S	S	S	S	S	WSW	SSW	W	N	NNE	NE	NE	NNE	NE	NE	E	ESE	E	ESE	E	ESE	ESE	ESE			
Sep 17	8.7	10.4	12.9	12.3	9.9	9.3	10.1	10.5	6.1	4.3	5.0	3.6	10.1	12.4	11.1	10.0	10.0	8.1	8.5	8.8	7.9	7.9	7.6	7.2	3.6	12.9	8.9
	ESE	SE	SE	ESE	ESE	SE	S	SE	S	SSW	WSW	WNW	WNW	WNW	NW	NNW	NW	WNW	WNW	WNW	WNW	W	WNW	WNW			
Sep 18	8.5	6.7	6.9	7.6	6.0	7.2	6.5	8.2	7.7	11.1	13.2	16.1	19.1	19.2	13.7	14.0	13.8	10.2	4.1	4.5	5.6	6.8	6.0	8.8	4.1	19.2	9.6
	WNW	WNW	WSW	W	W	SSW	SW	SSW	SW	WNW	NNW	NW	WNW	NW	WNW	WNW	W	WNW	WSW	WSW	SW	SSW	SW	W			
Sep 19	9.1	8.7	8.4	10.2	10.5	7.4	5.8	5.6	6.0	9.9	11.1	17.0	17.3	16.8	18.7	16.4	11.7	6.3	4.4	3.3	1.7	1.4	4.6	2.0	1.4	18.7	8.9
	WNW	W	WSW	W	W	W	SW	SW	SW	WSW	WSW	WSW	W	W	W	W	W	W	W	SW	WSW	E	S	S			
Sep 20	6.4	7.4	9.4	9.6	10.5	8.1	8.6	7.4	6.9	6.6	6.8	7.6	9.3	8.2	9.3	9.4	8.1	6.5	2.8	4.3	5.2	8.4	7.7	4.8	2.8	10.5	7.5
	SSW	WSW	W	W	W	W	WNW	WNW	NW	NW	WNW	WNW	WNW	NW	NW	NNW	N	NNW	NNE	ENE	W	WNW	WNW	NNW			
Sep 21	8.4	9.5	6.0	6.4	7.8	7.4	5.9	4.9	4.6	4.0	5.5	10.4	11.6	9.9	9.9	9.9	9.7	6.8	6.7	10.4	8.6	8.1	8.8	10.0	4.0	11.6	8.0
	NNW	NW	W	WSW	W	WNW	WNW	SW	SW	SW	SW	WSW	WSW	SW	SW	SW	SW	SW	SSW	SSW	SSW	SSW	SSW	S			
Sep 22	10.2	9.7	9.2	9.7	10.7	11.4	10.9	11.0	10.5	9.2	10.8	11.4	12.4	12.2	12.2	13.8	12.2	9.0	10.4	12.2	13.5	12.6	12.6	13.4	9.0	13.8	11.3
	SSW	SSW	S	S	S	S	S	S	SSW	SSW	S	S	S	S	SSE	SSE	SSE	SE	SE	SE	SE	SSE	SSE	SSE			
Sep 23	11.4	12.4	11.9	11.4	12.2	12.7	11.6	11.3	13.3	13.1	15.3	18.2	**19.4**	17.6	17.1	16.8	14.5	13.1	12.1	12.3	13.4	12.8	12.2	14.3	11.3	**19.4**	13.8
	SSE	SSE	S	S	S	S	SSE	SSE	S	S	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SE	SE	SE	SE	SE	SE	SSE			
Sep 24	13.8	13.2	10.4	10.5	10.5	9.5	9.0	8.3	8.9	5.2	5.0	4.1	3.1	5.0	5.8	4.3	3.3	2.8	4.6	4.8	1.9	5.0	7.1	7.2	1.9	13.8	6.8
	SSE	SSE	SSE	SSE	SSE	S	S	S	SSW	SSW	WSW	NNW	N	WNW	WNW	NW	NW	W	WNW	NNW	NNE	WSW	WNW	W			
Sep 25	7.6	6.6	5.4	6.2	8.2	7.3	8.6	8.7	10.7	10.2	11.3	12.6	12.3	14.1	16.0	14.4	13.8	13.6	13.3	13.2	14.5	16.2	14.3	11.9	5.4	16.2	11.3
	NW	NNW	N	NE	NE	E	E	ESE	ESE	ESE	SE	SE	ESE	ESE	ESE	SE	SE	SE	SE	ESE	ESE	SE	SE	SSE				
Sep 26	11.3	10.2	10.8	10.1	10.2	9.6	10.0	11.3	11.2	12.2	8.8	8.0	5.5	6.3	3.1	3.2	11.2	9.3	7.5	8.3	8.2	9.9	9.2	9.3	3.1	12.2	8.9
	SSE	SSE	S	S	S	SSE	SSE	S	S	S	SSW	SW	SSW	SW	SW	SSW	W	W	W	WNW	W	W	W	WSW			
Sep 27	8.8	7.2	7.0	7.6	11.4	10.9	8.8	10.7	11.9	9.1	5.9	5.4	7.7	3.9	5.0	2.5	5.0	6.9	8.8	8.3	6.3	6.4	7.1	10.1	2.5	11.9	7.6
	W	SW	SW	SW	WSW	WSW	WSW	WSW	W	W	W	WNW	WNW	NNW	W	NW	W	WSW	W	WNW	NNW	N	NNW	NW			
Sep 28	7.4	6.9	4.9	5.6	6.0	8.9	8.3	4.3	4.1	3.2	4.8	4.7	6.2	6.2	5.9	5.3	12.2	5.8	5.8	6.9	6.7	7.0	7.1	9.4	3.2	12.2	6.4
	N	NNE	NNE	N	NNW	NNW	NNW	NNE	NNE	N	N	NNE	NNW	NNW	NNE	N	WNW	WNW	NW	NW	NW	NW	WNW	WNW			
Sep 29	7.5	6.1	8.9	9.4	6.3	8.3	9.7	2.4	3.5	5.1	6.8	5.6	**K**	**K**	**K**	9.5	7.7	3.9	4.1	6.2	6.1	5.5	5.9	4.9	2.4	9.7	6.4
	W	WNW	NW	NNW	NNE	NNE	NE	NNE	NNE	NE	NE	NE	**K**	**K**	**K**	NNE	NNE	NNE	NNW	N	N	N	NNW	N			
Sep 30	5.2	4.8	4.6	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	4.6	5.2	NA
	NNW	N	N	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**			

C	Monthly Calibration	**S**	Daily Zero-Span Check	**Q**	Quality Assurance	
K	Collection Error	**ND**	No Data (Machine Not in Service)	**Y**	Routine Maintenance	**P** Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	**NRM**	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Lakeland Industry & Community Association

St. Lina Site - September 2023

Summary of Hour Standard Deviations

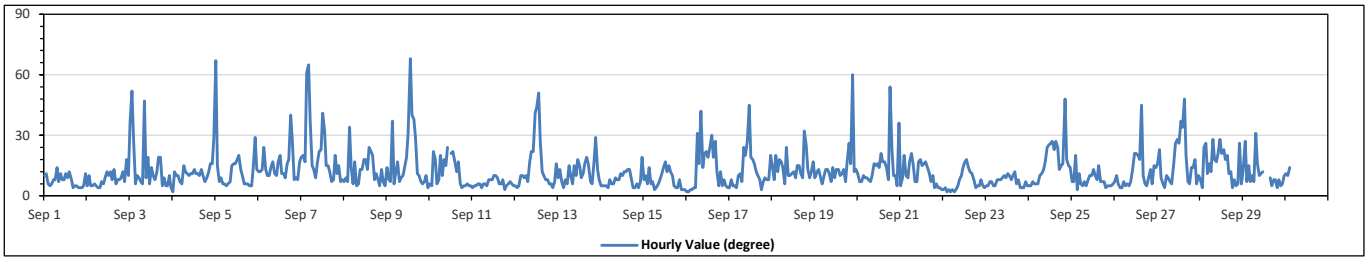
STANDARD DEVIATION WIND DIRECTION (STDWD) in Degree

Maximum Hourly Value:	68 degree on Sep 9 at hr 13	Hours in Service:	720
		Hours of Data:	695
Minimum Hourly Value:	2 degree on Sep 4 at hr 0	Hours of Missing Data:	25
		Hours of Calibration:	0
		Operational Uptime:	96.5

Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
Sep 1	10	11	6	5	6	8	8	14	7	11	8	8	11	9	12	8	4	5	5	4	4	4	5	11	4	14
Sep 2	5	10	5	5	6	5	4	4	7	6	9	12	10	12	8	13	6	8	8	9	12	7	18	10	4	18
Sep 3	36	52	28	6	10	9	7	6	47	9	19	6	14	10	8	12	19	19	5	9	5	5	10	4	4	52
Sep 4	2	12	10	10	7	6	15	12	11	10	11	11	13	11	11	10	13	10	7	9	12	16	16	29	2	29
Sep 5	67	15	7	9	6	6	5	6	7	15	16	16	18	20	13	10	6	6	6	5	5	14	29	13	5	67
Sep 6	12	12	13	24	13	10	10	14	17	11	10	17	20	11	11	9	16	18	40	28	8	9	8	17	8	40
Sep 7	19	20	17	61	65	37	15	13	9	16	22	23	41	32	15	15	12	7	8	20	11	15	7	8	7	65
Sep 8	7	9	7	34	14	6	17	5	6	13	13	18	18	13	24	22	20	8	11	8	5	13	7	5	5	34
Sep 9	14	8	7	37	6	12	17	7	9	10	14	19	31	68	40	38	29	11	10	7	6	7	10	4	4	68
Sep 10	6	5	22	18	6	8	20	10	18	15	24	K	21	22	17	12	17	6	4	5	5	6	5	5	4	24
Sep 11	4	5	5	6	6	4	6	6	5	8	8	8	10	10	9	6	6	8	3	5	6	7	6	5	3	10
Sep 12	5	4	5	10	10	9	10	7	17	22	22	41	44	51	27	12	10	8	8	6	6	4	7	16	4	51
Sep 13	9	13	7	4	8	6	15	10	6	15	10	18	15	9	11	16	19	16	7	6	17	29	13	8	4	29
Sep 14	5	5	5	5	4	8	6	6	9	8	8	11	10	12	12	13	13	9	4	4	6	4	7	19	4	19
Sep 15	8	10	6	14	6	7	3	4	6	8	11	14	17	12	15	12	10	5	4	4	8	3	3	3	3	17
Sep 16	2	2	3	3	4	4	31	16	42	14	21	22	19	24	30	19	27	12	5	12	5	8	5	4	2	42
Sep 17	4	8	5	5	4	10	11	7	24	20	27	45	19	18	16	12	10	8	3	7	9	8	8	20	3	45
Sep 18	15	8	20	12	18	17	14	6	24	10	10	11	12	9	15	15	11	9	32	25	13	9	12	17	6	32
Sep 19	9	12	13	9	6	10	13	13	11	7	14	9	13	13	10	11	13	7	17	26	16	60	12	13	6	60
Sep 20	11	7	7	10	9	9	8	7	10	16	15	16	14	21	17	17	14	8	54	23	10	10	5	36	5	54
Sep 21	5	9	20	10	9	17	21	16	7	7	17	18	15	16	17	14	11	7	10	4	6	4	4	3	3	21
Sep 22	3	4	2	3	2	3	2	3	5	8	10	14	17	18	14	12	11	8	4	5	5	8	5	4	2	18
Sep 23	5	5	7	7	5	5	8	8	8	9	10	9	11	10	8	10	12	6	8	4	4	4	7	5	4	12
Sep 24	5	5	7	6	6	6	10	11	13	17	24	25	26	27	23	27	24	13	15	16	48	18	15	14	5	48
Sep 25	7	7	20	3	11	6	5	7	5	8	10	10	13	10	8	15	7	7	7	4	5	5	5	6	3	20
Sep 26	7	10	6	4	4	7	5	6	5	7	13	21	21	20	18	45	10	6	5	9	13	6	15	14	4	45
Sep 27	16	23	9	6	4	10	9	7	6	15	26	28	26	37	34	48	20	7	6	14	14	18	6	10	4	48
Sep 28	8	4	24	26	11	16	12	28	18	17	21	28	21	23	18	20	11	12	4	8	5	6	26	6	4	28
Sep 29	12	27	7	15	7	10	7	31	16	10	11	12	K	K	K	9	5	8	8	4	8	5	6	10	4	31
Sep 30	11	10	14	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	10	14
Diurnal Minimum	2	2	2	3	2	3	2	3	5	6	8	6	10	9	8	6	4	5	3	4	4	3	3	3		
Diurnal Maximum	67	52	28	61	65	37	31	31	47	22	27	45	44	68	40	48	29	19	54	28	48	60	29	36		

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	ND	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Machine Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



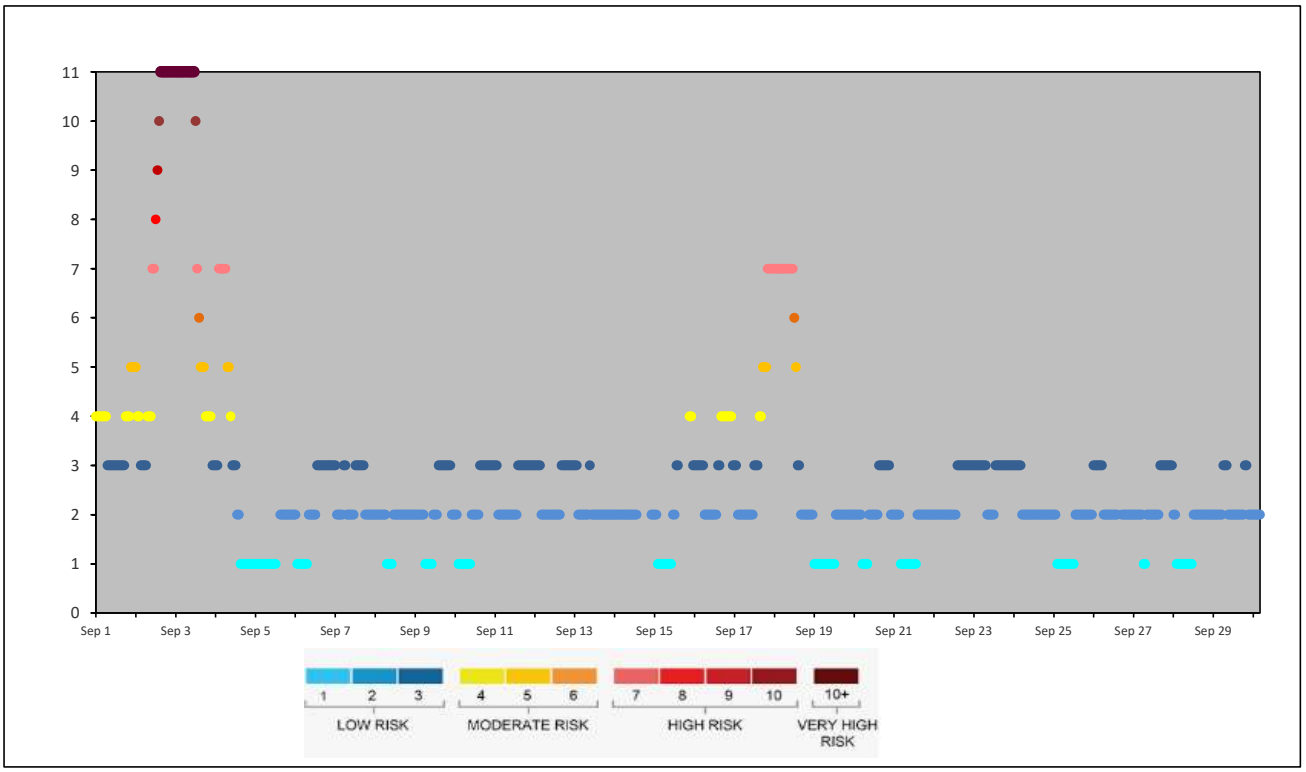
LAC LA BICHE STATION

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Lac La Biche Station - September 2023

AIR QUALITY HEALTH INDEX

Day	Hourly Period Starting at (MST)																							
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Sep 1	4	4	4	4	4	4	4	3	3	3	3	3	3	3	3	3	3	3	4	4	4	5	5	5
Sep 2	5	4	4	3	3	3	3	4	4	4	7	7	8	9	10	11	11	11	11	11	11	11	11	11
Sep 3	11	11	11	11	11	11	11	11	11	11	11	11	10	7	6	5	5	5	4	4	4	4	3	3
Sep 4	3	3	7	7	7	7	7	5	5	4	3	3	3	2	2	1	1	1	1	1	1	1	1	1
Sep 5	1	1	1	1	1	1	1	1	1	1	1	1	1			2	2	2	2	2	2	2	2	2
Sep 6	2	1	1	1	1	1	1	1	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	1
Sep 7	3	2	2	2	2	3	3	2	2	2	2	2	3	3	3	3	3	3	2	2	2	2	2	2
Sep 8	2	2	2	2	2	2	2	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2
Sep 9	2	2	2	2	2	2	1	1	1	1	1	2	2	2	3	3	3	3	3	3	3	3	2	2
Sep 10	2	2	1	1	1	1	1	1	1	1	2	2	2	2	2	3	3	3	3	3	3	3	3	3
Sep 11	3	3	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3
Sep 12	3	3	3	3	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3
Sep 13	3	3	2	2	2	2	2	2	2	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Sep 14	2	2	2	2	2	2	2	2	2	2	2	2	2	2									2	2
Sep 15	2	2	1	1	1	1	1	1	1	1	1	2	2	3	3							4	4	3
Sep 16	3	3	3	3	3	3	2	2	2	2	2	2	2	2	3	3	4	4	4	4	4	4	4	3
Sep 17	3	3	2	2	2	2	2	2	2	2	2	2	3	3	3	4	4	5	5	5	7	7	7	7
Sep 18	7	7	7	7	7	7	7	7	7	7	7	7	6	5	3	3	2	2	2	2	2	2	2	2
Sep 19	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2
Sep 20	2	2	2	2	2	1	1	1	1	2	2	2	2	2	2	3	3	3	3	3	3	3	2	2
Sep 21	2	2	2	2	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2
Sep 22	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3
Sep 23	3	3	3	3	3	3	3	3	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3
Sep 24	3	3	3	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Sep 25	2	2	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2
Sep 26	3	3	3	3	3	3	2	2	2	2	2	2	2	2	2		2	2	2	2	2	2	2	2
Sep 27	2	2	2	2	2	2	1	1	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3
Sep 28	2	2	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2
Sep 29	2	2	2	2	2	2	3	3	3	2	2	2	2	2	2	2	2	2	2	3	3	2	2	2
Sep 30	2	2	2	2	2	2	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2



Lakeland Industry & Community Association

Lac La Biche Station - September 2023

Summary of Hourly Averages

SULPHUR DIOXIDE (SO_2) in ppb

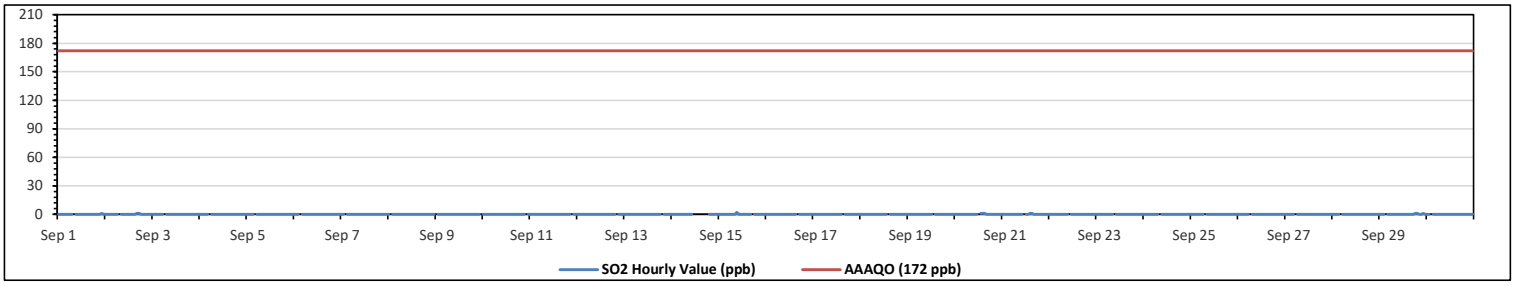
Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 172 ppb, 24-Hour 48 ppb, 30-Day 11 ppb

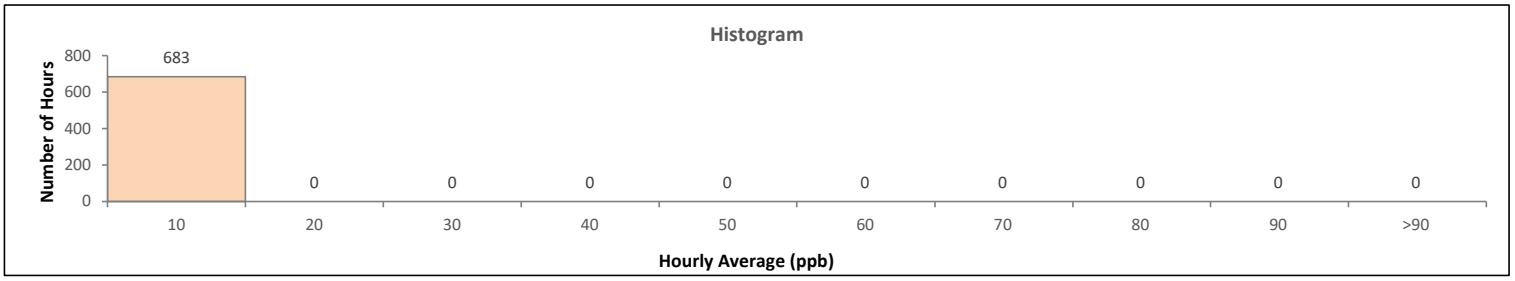
Number of 1-Hour Exceedances:	0	Number of 24-Hour Exceedances:	0	30-Day Exceedence:	0	
Maximum Hourly Value:	2	ppb	on Sep 15 at hr 9	Hours in Service:	720	
Maximum Daily Value:	0.1	ppb	on Sep 20	Hours of Data:	683	
Minimum Hourly Value:	0	ppb	on Sep 1 at hr 0	Hours of Missing Data:	0	
Minimum Daily Value:	0.0	ppb	on Sep 3	Hours of Calibration:	37	
Monthly Average:	0.0	ppb		Operational Uptime:	100.0	

Day	Hourly Period Starting at (MST)																						Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Sep 1	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0.0
Sep 2	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	0.1
Sep 3	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 4	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 5	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 6	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 7	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 8	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 9	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0.0
Sep 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0.0
Sep 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0.0
Sep 12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0.0
Sep 13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0.0
Sep 14	0	0	0	0	0	0	0	0	0	0	0	C	C	C	C	C	C	0	S	0	0	0	0	0	0	0	NA
Sep 15	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	2	0.1
Sep 16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0.0
Sep 17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0.0
Sep 18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 19	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 20	0	0	0	0	0	0	0	0	0	0	0	0	S	1	1	1	0	0	0	0	0	0	0	0	0	1	0.1
Sep 21	0	0	0	0	0	0	0	0	0	0	0	S	0	0	1	1	0	0	0	0	0	0	0	0	0	1	0.1
Sep 22	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 23	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 24	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 25	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 26	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 27	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 28	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 29	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	0	1	0.1
Sep 30	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Diurnal Maximum	0	0	0	0	0	0	0	0	0	2	0	0	0	1	1	1	1	1	1	1	0	0	1	0			
Diurnal Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	ND	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



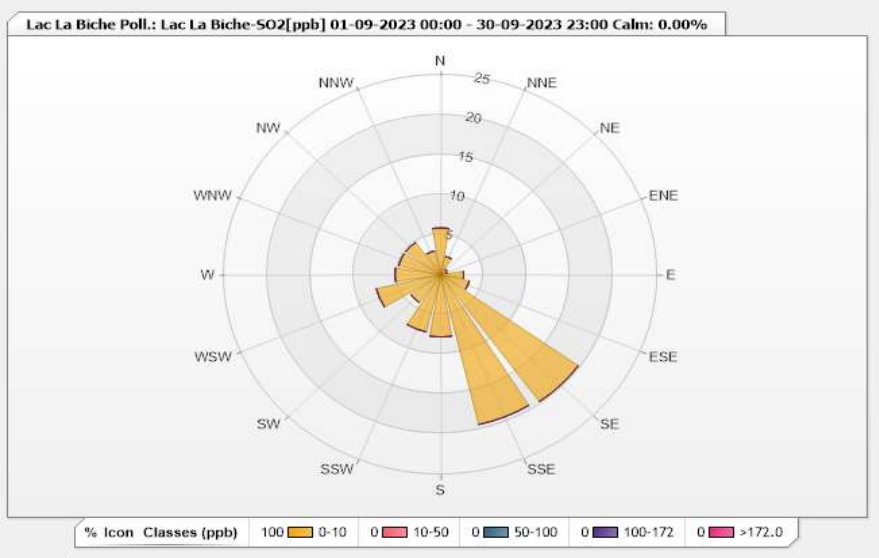


Station: Lac La Biche Poll.: Lac La Biche-SO2[ppb] Monthly: 09-2023

Type: Pollution Rose
Direction: Blowing From (Wind Frequency)
Time Base: 1 - Hour

Calm: 0.00% Valid Data: 94.58% Calm Avg: 0.00 [ppm]

Direction	0-10	10-50	50-100	100-172	>172.0	Total
N	5.87	0	0	0	0	5.87
NNE	2.35	0	0	0	0	2.35
NE	0.88	0	0	0	0	0.88
ENE	0.73	0	0	0	0	0.73
E	2.64	0	0	0	0	2.64
ESE	3.38	0	0	0	0	3.38
SE	19.53	0	0	0	0	19.53
SSE	19.24	0	0	0	0	19.24
S	7.78	0	0	0	0	7.78
SSW	7.34	0	0	0	0	7.34
SW	4.26	0	0	0	0	4.26
WSW	7.64	0	0	0	0	7.64
W	5.29	0	0	0	0	5.29
WNW	4.99	0	0	0	0	4.99
NW	4.99	0	0	0	0	4.99
NNW	3.08	0	0	0	0	3.08
Summary	100	0	0	0	0	100



Lakeland Industry & Community Association

Lac La Biche Station - September 2023

Summary of Hourly Averages

HYDROGEN SULPHIDE (H_2S) in ppb

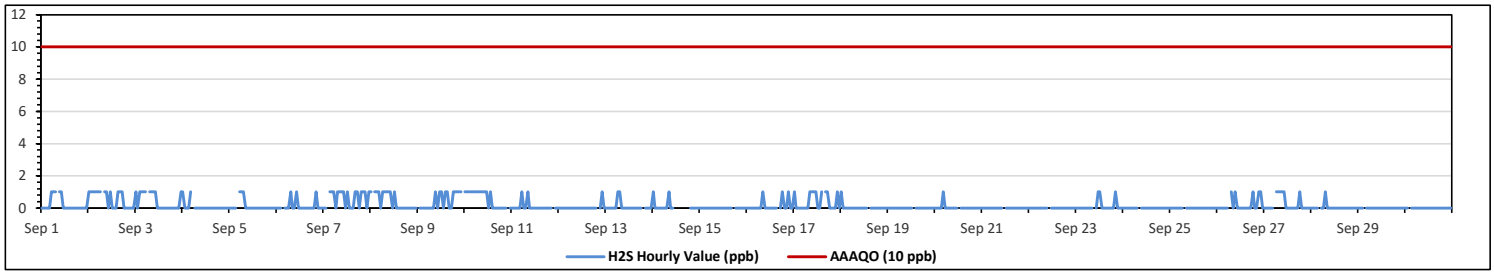
Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 10 ppb, 24-Hour 3 ppb

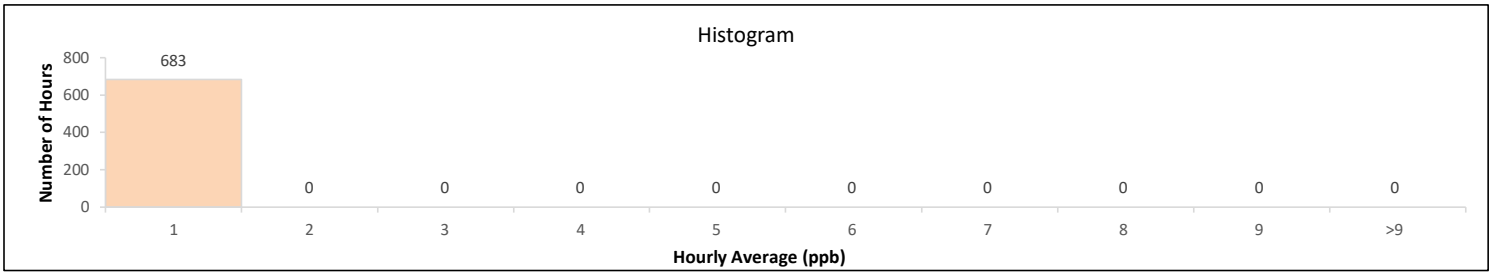
Number of 1-Hour Exceedances:	0	Number of 24-Hour Exceedances:	0		
Maximum Hourly Value:	1 ppb	on Sep 1 at hr 5	Hours in Service:	720	
Maximum Daily Value:	1.0 ppb	on Sep 2	Hours of Data:	683	
Minimum Hourly Value:	0 ppb	on Sep 1 at hr 0	Hours of Missing Data:	0	
Minimum Daily Value:	0.0 ppb	on Sep 1	Hours of Calibration:	37	
Monthly Average:	0.2 ppb		Operational Uptime:	100.0	

Day	Hourly Period Starting at (MST)																						Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Sep 1	0	0	0	0	0	1	1	1	S	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Sep 2	1	1	1	1	1	1	1	S	1	1	0	1	0	0	0	1	1	1	0	0	0	0	0	0	0	1	1.0
Sep 3	1	0	1	1	1	1	S	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0.0
Sep 4	1	0	0	0	1	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Sep 5	0	0	0	0	S	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Sep 6	0	0	0	S	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0.0
Sep 7	0	0	S	1	1	1	0	1	1	1	1	0	1	0	0	0	1	1	0	1	1	1	0	1	0	1	1.0
Sep 8	1	S	1	1	1	0	1	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Sep 9	S	0	0	0	0	0	0	0	0	1	0	1	1	0	1	1	0	0	1	1	1	1	1	S	0	1	0.0
Sep 10	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	0	0	0	0	0	0	0	S	0	0	1	1.0
Sep 11	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	1	0.0
Sep 12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	1	0	0	1	0.0
Sep 13	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	1	0.0
Sep 14	1	0	0	0	0	0	0	0	1	0	0	C	C	C	C	C	C	0	S	0	0	0	0	0	0	1	-
Sep 15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0.0
Sep 16	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	S	0	1	0	0	1	0	0	0	1	0.0
Sep 17	1	0	0	0	0	0	0	0	1	1	1	1	0	0	1	S	1	1	0	0	0	0	1	0	0	1	0.0
Sep 18	1	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	1	0.0
Sep 19	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 20	0	0	0	0	1	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Sep 21	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 22	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 23	0	0	0	0	0	0	0	0	0	S	0	1	1	0	0	0	0	0	0	0	0	1	0	0	0	1	0.0
Sep 24	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 25	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 26	0	0	0	0	0	0	S	1	0	1	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	1	0.0
Sep 27	0	0	0	0	0	S	1	1	1	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0.0
Sep 28	0	0	0	0	S	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Sep 29	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 30	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Diurnal Maximum	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
Diurnal Average	0.3	0.1	0.1	0.2	0.3	0.3	0.3	0.4	0.4	0.3	0.3	0.2	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	ND	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



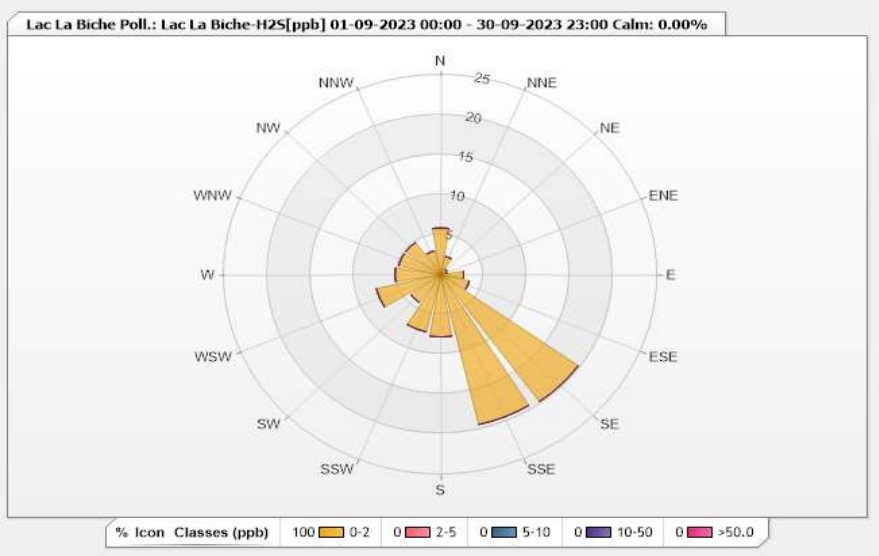


Station: Lac La Biche Poll.: Lac La Biche-H2S[ppb] Monthly: 09-2023

Type: Pollution Rose
Direction: Blowing From (Wind Frequency)
Time Base: 1 - Hour

Calm: 0.00% Valid Data: 94.58% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-50	>50.0	Total
N	5.87	0	0	0	0	5.87
NNE	2.35	0	0	0	0	2.35
NE	0.88	0	0	0	0	0.88
ENE	0.73	0	0	0	0	0.73
E	2.64	0	0	0	0	2.64
ESE	3.38	0	0	0	0	3.38
SE	19.53	0	0	0	0	19.53
SSE	19.24	0	0	0	0	19.24
S	7.78	0	0	0	0	7.78
SSW	7.34	0	0	0	0	7.34
SW	4.26	0	0	0	0	4.26
WSW	7.64	0	0	0	0	7.64
W	5.29	0	0	0	0	5.29
WNW	4.99	0	0	0	0	4.99
NW	4.99	0	0	0	0	4.99
NNW	3.08	0	0	0	0	3.08
Summary	100	0	0	0	0	100



Lakeland Industry & Community Association

Lac La Biche Station - September 2023

Summary of Hourly Averages

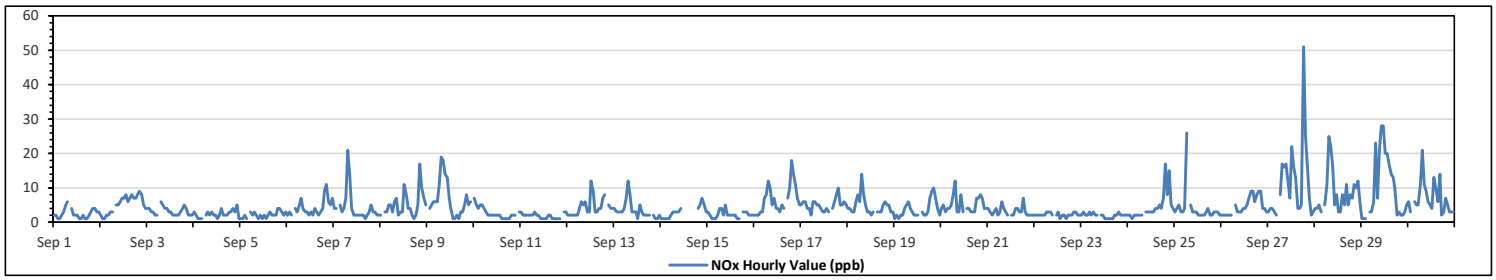
OXIDES OF NITROGEN (NOx) in ppb

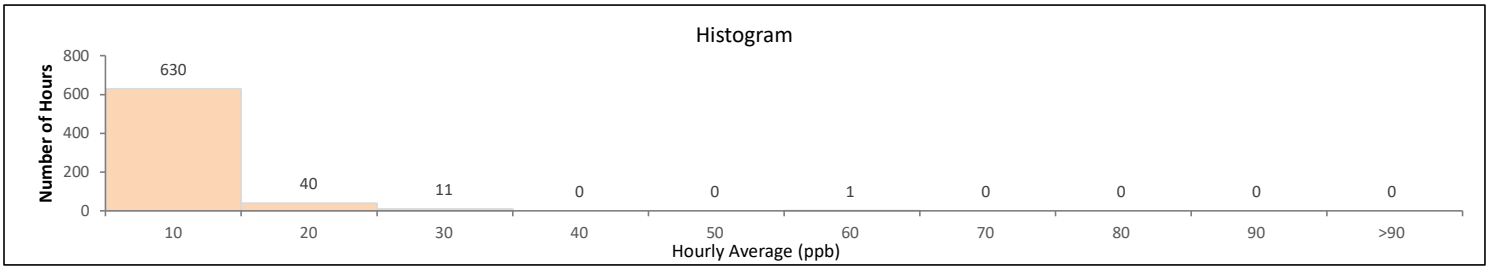
Maximum Hourly Value:	51	ppb	on Sep 27 at hr 18	Hours in Service:	720	
Maximum Daily Value:	11.3	ppb	on Sep 27	Hours of Data:	682	
Minimum Hourly Value:	1	ppb	on Sep 1 at hr 2	Hours of Missing Data:	0	
Minimum Daily Value:	1.8	ppb	on Sep 11	Hours of Calibration:	38	
Monthly Average:	4.5	ppb		Operational Uptime:	100.0	

Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Sep 1	2	2	1	1	2	3	5	6	S	4	2	2	2	1	1	2	1	1	2	3	4	4	3	3	1	6	2.5
Sep 2	2	1	1	2	2	3	3	S	5	5	6	7	7	8	6	7	8	7	7	8	9	8	5	4	1	9	5.3
Sep 3	4	4	3	3	2	2	S	6	5	4	4	3	3	2	2	2	2	3	4	5	4	2	2	2	2	6	3.2
Sep 4	3	2	1	1	1	S	2	3	2	3	2	2	1	2	4	2	2	2	3	3	4	3	5	1	1	5	2.3
Sep 5	1	1	2	1	S	3	2	3	2	1	2	1	2	1	2	3	2	2	2	4	4	3	2	3	1	4	2.1
Sep 6	2	3	2	S	4	3	5	7	4	3	3	2	3	2	4	3	2	3	4	9	11	6	5	7	2	11	4.2
Sep 7	4	4	S	5	3	4	7	21	14	4	2	2	2	2	2	2	1	2	3	5	3	3	2	2	1	21	4.3
Sep 8	2	S	3	3	5	5	3	6	7	2	3	3	11	8	4	4	2	1	2	5	17	10	7	5	1	17	5.1
Sep 9	S	4	5	6	6	6	11	19	18	14	13	7	4	1	1	2	1	3	3	5	8	5	6	S	1	19	6.7
Sep 10	7	5	4	5	5	4	3	2	2	2	2	2	2	2	1	1	1	1	1	2	2	2	S	3	1	7	2.7
Sep 11	3	2	2	2	2	2	2	3	2	2	1	1	1	1	2	2	1	1	1	1	1	S	3	3	1	3	1.8
Sep 12	2	2	2	2	2	2	4	6	5	6	3	3	12	9	3	3	4	4	7	8	S	5	4	4	2	12	4.4
Sep 13	4	3	3	3	3	4	7	12	8	3	3	3	1	5	3	2	2	2	2	S	2	1	1	2	1	12	3.4
Sep 14	1	1	1	1	1	2	3	3	3	3	4	C	C	C	C	C	C	C	S	4	5	7	5	3	1	7	NA
Sep 15	3	2	1	1	1	2	4	4	2	5	2	2	2	2	2	1	1	S	3	3	3	2	2	2	1	5	2.3
Sep 16	2	2	2	3	3	7	8	12	10	5	7	4	4	3	5	4	S	7	10	18	14	11	7	5	2	18	6.7
Sep 17	5	6	6	4	4	2	6	6	5	5	4	3	3	4	3	S	4	6	8	10	5	5	6	5	2	10	5.0
Sep 18	4	4	3	3	6	8	6	14	8	5	3	3	2	3	S	3	3	3	5	6	5	5	3	3	2	14	4.7
Sep 19	1	2	1	2	2	4	5	6	4	3	2	2	2	S	3	2	2	3	7	9	10	7	4	2	1	10	3.7
Sep 20	4	5	3	4	4	5	8	12	3	3	8	3	S	4	4	3	3	3	7	7	8	7	4	4	3	12	5.0
Sep 21	4	3	2	3	4	2	3	6	4	3	2	S	2	2	4	4	3	3	7	3	2	2	2	2	2	7	3.1
Sep 22	2	2	2	2	2	2	3	3	3	2	S	2	3	1	2	2	1	2	2	2	3	3	2	2	1	3	2.2
Sep 23	2	3	2	2	3	2	3	2	2	S	2	2	1	1	1	1	1	2	2	3	2	2	2	2	1	3	2.0
Sep 24	2	2	1	2	2	2	2	2	S	3	3	3	3	3	4	4	5	4	7	17	8	15	5	4	1	17	4.5
Sep 25	3	4	5	3	3	4	26	S	5	3	3	3	2	2	2	2	3	4	2	2	3	3	3	2	2	26	4.0
Sep 26	2	2	2	2	2	2	S	5	3	3	3	4	4	5	7	9	9	6	8	9	9	4	4	3	2	9	4.7
Sep 27	3	4	4	3	2	S	8	17	16	17	12	7	22	16	13	4	4	5	51	25	16	7	2	3	2	51	11.3
Sep 28	4	4	5	3	S	5	11	25	22	16	5	8	3	3	8	5	11	5	8	7	11	10	12	6	3	25	8.6
Sep 29	1	1	1	S	3	3	6	23	7	21	28	28	20	20	17	14	13	10	2	3	2	2	3	5	1	28	10.1
Sep 30	6	3	S	6	5	5	11	21	11	9	6	5	4	13	10	6	14	2	3	7	5	3	3	3	2	21	7.0
Diurnal Maximum	7	6	6	6	6	8	26	25	22	21	28	28	22	20	17	14	14	10	51	25	17	15	12	7			
Diurnal Average	2.9	2.9	2.5	2.8	3.0	3.5	6.0	9.1	6.5	5.5	4.8	4.2	4.6	4.5	4.3	3.5	3.8	3.5	6.0	6.7	6.2	5.1	3.9	3.3			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	ND	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



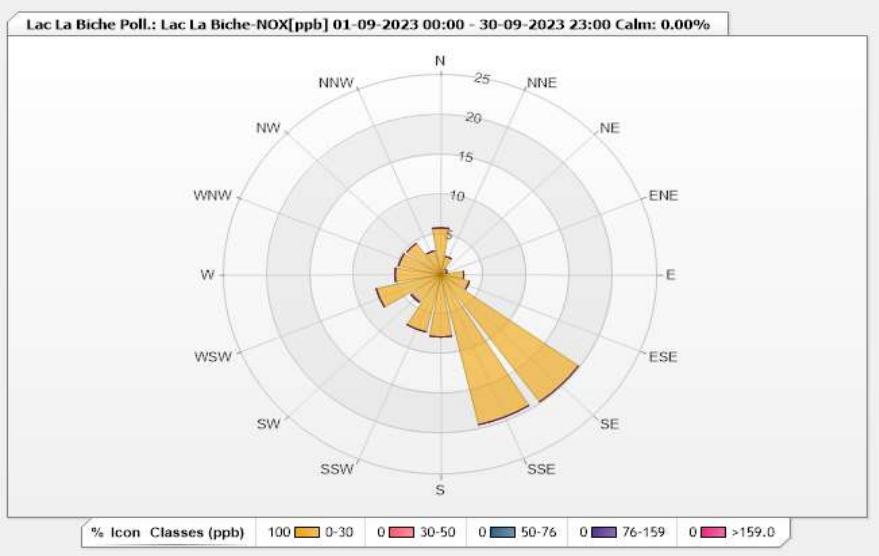


Station: Lac La Biche Poll.: Lac La Biche-NOX[ppb] Monthly: 09-2023

Type: Pollution Rose
Direction: Blowing From (Wind Frequency)
Time Base: 1 - Hour

Calm: 0.00% Valid Data: 94.44% Calm Avg: 0.00 [ppm]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	5.88	0	0	0	0	5.88
NNE	2.35	0	0	0	0	2.35
NE	0.88	0	0	0	0	0.88
ENE	0.74	0	0	0	0	0.74
E	2.65	0	0	0	0	2.65
ESE	3.38	0	0	0	0	3.38
SE	19.56	0	0	0	0	19.56
SSE	19.26	0	0	0	0	19.26
S	7.79	0	0	0	0	7.79
SSW	7.35	0	0	0	0	7.35
SW	4.12	0	0.15	0	0	4.27
WSW	7.65	0	0	0	0	7.65
W	5.29	0	0	0	0	5.29
WNW	5	0	0	0	0	5
NW	4.85	0	0	0	0	4.85
NNW	3.09	0	0	0	0	3.09
Summary	100	0	0.15	0	0	100



Lakeland Industry & Community Association

Lac La Biche Station - September 2023

Summary of Hourly Averages

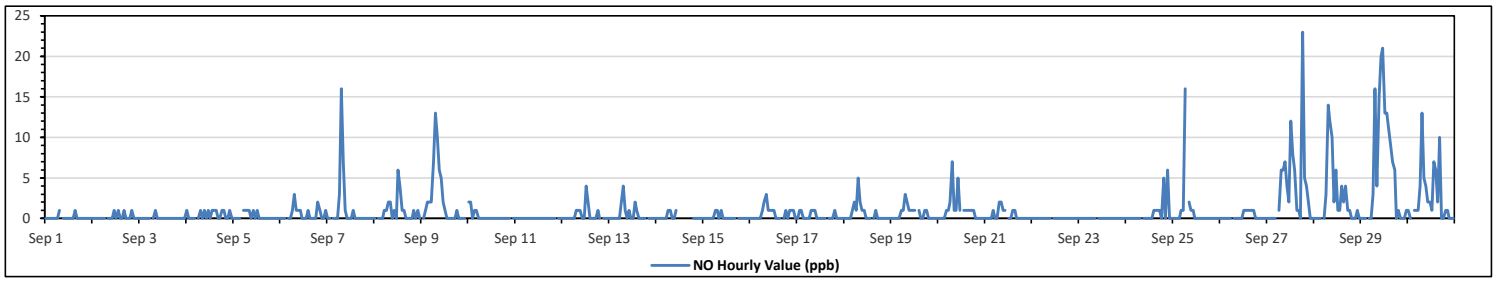
NITRIC OXIDE (NO) in ppb

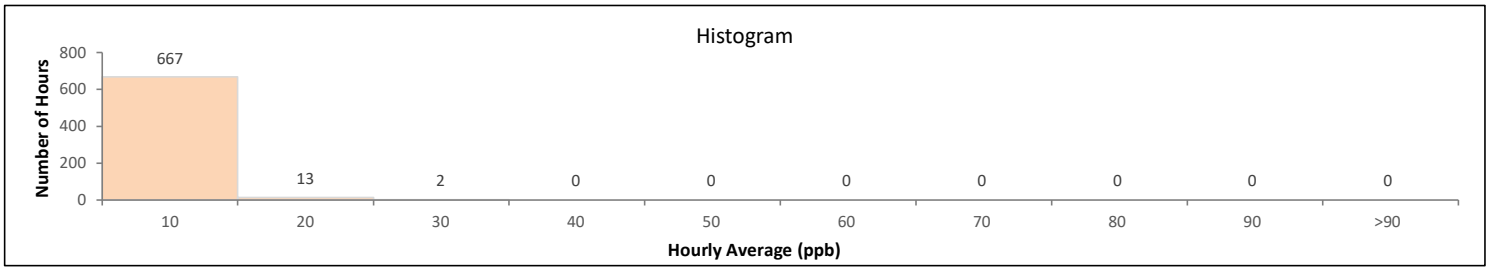
Maximum Hourly Value:	23	ppb	on Sep 27 at hr 18	Hours in Service:	720	
Maximum Daily Value:	6.1	ppb	on Sep 29	Hours of Data:	682	
Minimum Hourly Value:	0	ppb	on Sep 1 at hr 0	Hours of Missing Data:	0	
Minimum Daily Value:	0.0	ppb	on Sep 11	Hours of Calibration:	38	
Monthly Average:	0.9	ppb		Operational Uptime:	100.0	

Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Sep 1	0	0	0	0	0	0	0	1	S	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0.1
Sep 2	0	0	0	0	0	0	0	S	0	0	0	1	0	1	0	0	1	0	0	0	1	0	0	0	0	1	0.2
Sep 3	0	0	0	0	0	0	S	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Sep 4	1	0	0	0	0	S	0	1	0	1	0	1	0	1	1	1	0	0	1	1	0	0	1	0	0	1	0.4
Sep 5	0	0	0	0	S	1	1	1	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0.3
Sep 6	0	0	0	S	0	0	1	3	1	1	1	0	0	0	1	0	0	0	0	2	1	0	0	1	0	3	0.5
Sep 7	0	0	S	0	0	0	3	16	7	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	16	1.2
Sep 8	0	S	0	0	0	1	1	2	2	0	1	0	6	4	1	1	0	0	0	0	1	0	1	0	0	6	0.9
Sep 9	S	0	1	2	2	2	7	13	10	6	5	2	1	0	0	0	0	0	1	0	0	0	0	S	0	13	2.4
Sep 10	2	2	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	2	0.3
Sep 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0.0
Sep 12	0	0	0	0	0	0	0	1	1	1	0	0	4	2	0	0	0	0	1	0	S	0	0	0	0	4	0.4
Sep 13	0	0	0	0	0	0	2	4	1	0	1	0	0	2	1	0	0	0	0	S	0	0	0	0	0	4	0.5
Sep 14	0	0	0	0	0	0	1	1	0	0	1	C	C	C	C	C	C	C	S	0	0	0	0	0	0	1	NA
Sep 15	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	1	0.1
Sep 16	0	0	0	0	0	0	1	2	3	1	1	1	1	0	0	0	S	0	1	0	1	1	1	0	0	3	0.6
Sep 17	0	1	1	0	0	0	0	1	1	1	0	0	0	0	0	S	0	0	0	1	0	0	0	0	0	1	0.3
Sep 18	0	0	0	0	1	2	1	5	2	1	1	0	0	0	S	0	1	0	0	0	0	0	0	0	0	5	0.6
Sep 19	0	0	0	0	0	1	1	3	2	1	1	1	1	S	1	0	0	1	1	0	0	0	0	0	0	3	0.6
Sep 20	0	0	0	0	1	1	2	7	1	1	5	1	S	1	1	1	1	1	1	0	0	0	0	0	0	7	1.1
Sep 21	0	0	0	0	1	0	0	2	2	1	1	S	0	0	1	1	0	0	0	0	0	0	0	0	0	2	0.4
Sep 22	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 23	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 24	0	0	0	0	0	0	0	0	S	0	0	0	0	0	1	1	1	1	0	5	0	6	0	0	0	6	0.7
Sep 25	0	0	0	0	1	1	16	S	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	1.0
Sep 26	0	0	0	0	0	0	S	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	1	0.3
Sep 27	0	0	0	0	0	S	1	6	6	7	4	2	12	8	6	1	1	0	23	5	4	2	0	0	0	23	3.8
Sep 28	0	0	0	0	S	0	3	14	12	10	2	6	1	1	4	2	4	1	1	0	0	0	1	0	0	14	2.7
Sep 29	0	0	0	S	0	0	3	16	4	15	20	21	13	13	11	9	7	6	0	1	0	0	0	1	0	21	6.1
Sep 30	1	0	S	1	1	1	4	13	5	4	2	2	1	7	6	2	10	0	0	1	1	0	0	0	0	13	2.7
Diurnal Maximum	2	2	1	2	2	2	16	16	12	15	20	21	13	13	11	9	10	6	23	5	4	6	1	1			
Diurnal Average	0.1	0.1	0.1	0.1	0.3	0.4	1.8	4.0	2.3	1.9	1.7	1.4	1.5	1.5	1.3	0.8	1.0	0.4	1.0	0.6	0.3	0.3	0.1	0.1			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	ND	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



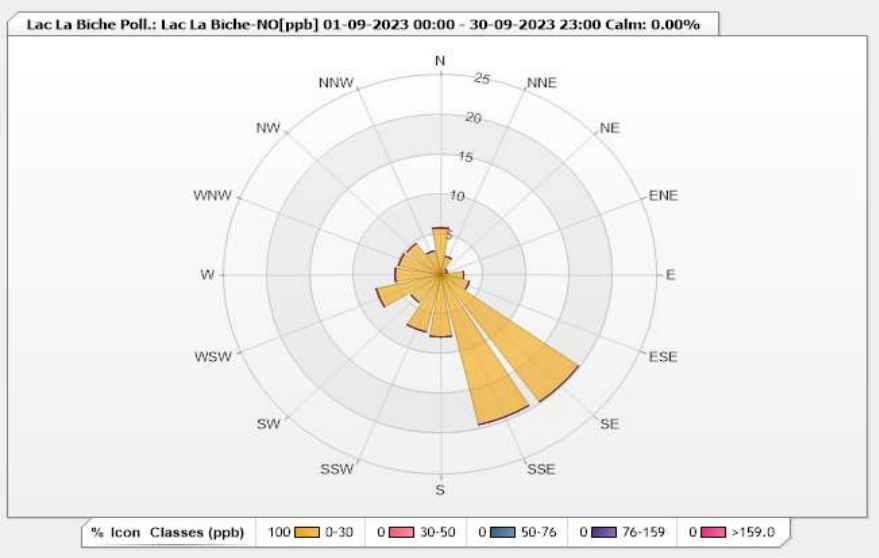


Station: Lac La Biche Poll.: Lac La Biche-NO[ppb] Monthly: 09-2023

Type: Pollution Rose
Direction: Blowing From (Wind Frequency)
Time Base: 1 - Hour

Calm: 0.00% Valid Data: 94.44% Calm Avg: 0.00 [ppm]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	5.88	0	0	0	0	5.88
NNE	2.35	0	0	0	0	2.35
NE	0.88	0	0	0	0	0.88
ENE	0.74	0	0	0	0	0.74
E	2.65	0	0	0	0	2.65
ESE	3.38	0	0	0	0	3.38
SE	19.56	0	0	0	0	19.56
SSE	19.26	0	0	0	0	19.26
S	7.79	0	0	0	0	7.79
SSW	7.35	0	0	0	0	7.35
SW	4.26	0	0	0	0	4.26
WSW	7.65	0	0	0	0	7.65
W	5.29	0	0	0	0	5.29
WNW	5	0	0	0	0	5
NW	4.85	0	0	0	0	4.85
NNW	3.09	0	0	0	0	3.09
Summary	100	0	0	0	0	100



Lakeland Industry & Community Association

Lac La Biche Station - September 2023

Summary of Hourly Averages

NITROGEN DIOXIDE (NO_2) in ppb

Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 159 ppb

Number of 1-Hour Exceedances: 0

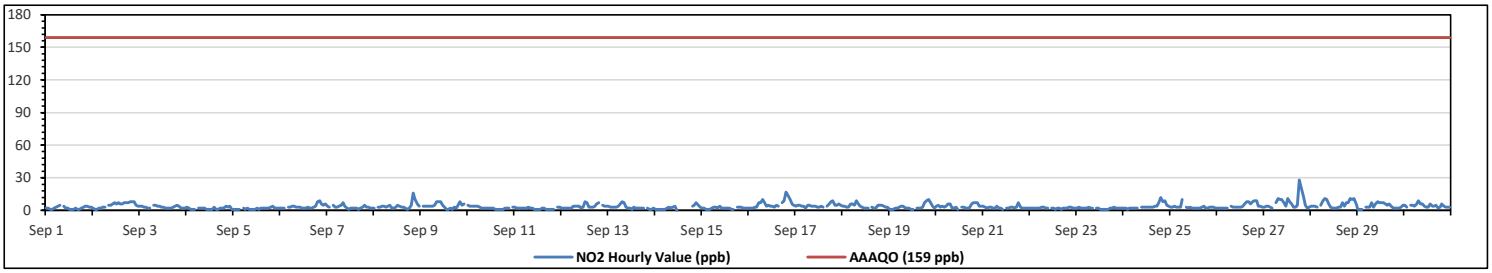
Maximum Hourly Value:	28	ppb	on Sep 27 at hr 18	Hours in Service:	720
Maximum Daily Value:	7.5	ppb	on Sep 27	Hours of Data:	682
Minimum Hourly Value:	1	ppb	on Sep 1 at hr 2	Hours of Missing Data:	0
Minimum Daily Value:	1.7	ppb	on Sep 5	Hours of Calibration:	38
Monthly Average:	3.6	ppb		Operational Uptime:	100.0

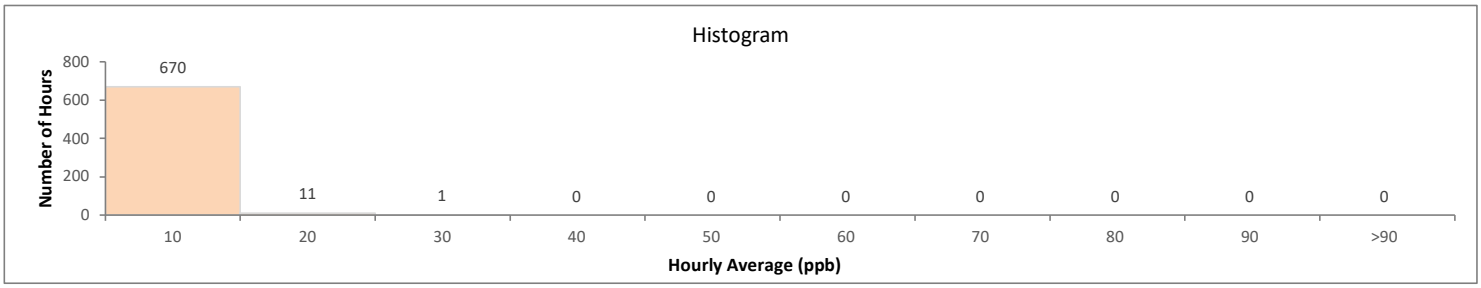
Day	Hourly Period Starting at (MST)																						Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Sep 1	2	2	1	1	2	3	4	5	S	4	2	2	1	1	1	2	1	1	2	3	4	4	3	3	1	5	2.3
Sep 2	2	1	1	2	2	3	3	S	5	5	6	7	6	7	6	6	7	7	7	8	8	8	5	4	1	8	5.0
Sep 3	4	4	3	3	2	2	S	5	5	4	4	3	3	2	2	2	2	3	4	5	4	2	2	2	2	5	3.1
Sep 4	3	2	1	1	1	S	2	2	2	2	1	1	1	1	3	1	1	2	2	2	4	3	4	1	1	4	1.9
Sep 5	1	1	1	1	S	2	1	2	1	1	1	1	2	1	2	2	2	2	2	3	4	2	2	2	1	4	1.7
Sep 6	2	2	2	S	3	3	4	4	3	3	3	2	2	2	3	2	2	3	4	8	9	6	5	6	2	9	3.6
Sep 7	4	3	S	5	3	3	4	5	7	4	2	1	2	2	2	2	1	2	3	5	3	3	2	2	1	7	3.0
Sep 8	2	S	3	3	4	4	3	4	5	2	2	3	5	4	3	3	2	1	2	5	16	10	6	4	1	16	4.2
Sep 9	S	4	4	4	4	4	4	5	8	8	8	5	3	1	1	2	1	3	2	5	8	5	6	S	1	8	4.3
Sep 10	5	4	4	4	4	4	3	2	2	2	2	2	2	2	1	1	1	1	1	2	2	2	S	3	1	5	2.4
Sep 11	3	2	2	2	2	2	2	3	2	2	1	1	1	1	2	2	1	1	1	1	1	S	3	3	1	3	1.8
Sep 12	2	2	2	2	2	2	4	4	4	4	2	3	8	7	3	3	3	4	6	7	S	5	4	4	2	8	3.8
Sep 13	4	3	3	3	3	4	6	8	7	3	2	2	1	3	2	2	2	2	2	S	2	1	1	2	1	8	3.0
Sep 14	1	1	1	1	1	1	2	3	2	3	4	C	C	C	C	C	C	C	S	4	5	7	5	3	1	7	NA
Sep 15	2	2	1	1	1	2	3	3	2	4	2	2	2	2	2	1	1	S	3	3	3	2	2	2	1	4	2.1
Sep 16	2	2	2	3	3	7	7	10	7	4	5	4	4	3	5	4	S	7	9	17	14	10	6	5	2	17	6.1
Sep 17	4	5	5	4	4	2	5	5	4	4	4	3	3	4	3	S	4	6	8	9	5	5	6	5	2	9	4.7
Sep 18	4	4	3	3	6	6	5	9	6	4	3	2	2	2	S	3	2	2	5	5	5	4	3	3	2	9	4.0
Sep 19	1	1	1	2	2	3	4	4	2	2	2	1	1	S	2	2	2	3	7	9	10	7	4	2	1	10	3.2
Sep 20	4	5	3	4	3	4	6	6	2	2	3	1	S	3	3	2	2	2	6	7	7	7	4	4	1	7	3.9
Sep 21	4	3	2	3	3	2	2	4	2	2	1	S	2	2	3	3	2	3	7	3	2	2	2	2	1	7	2.7
Sep 22	2	2	2	2	2	2	3	3	2	2	S	2	2	1	2	2	1	2	2	2	3	3	2	2	1	3	2.1
Sep 23	2	3	2	2	2	2	3	2	2	S	2	2	1	1	1	1	1	2	2	3	2	2	2	2	1	3	1.9
Sep 24	2	2	1	2	2	2	2	2	S	3	3	3	3	3	3	3	4	4	7	12	8	9	5	4	1	12	3.9
Sep 25	3	3	4	3	3	3	10	S	3	2	3	2	2	2	2	2	3	4	2	2	3	3	3	2	2	10	3.0
Sep 26	2	2	2	2	2	2	S	4	3	3	3	3	3	4	6	8	8	6	8	9	9	4	4	3	2	9	4.3
Sep 27	3	4	4	3	2	S	7	11	10	10	7	4	11	8	6	3	3	5	28	20	13	5	2	3	2	28	7.5
Sep 28	4	4	4	3	S	5	9	11	10	6	3	2	2	2	3	3	7	4	7	7	11	10	11	6	2	11	5.8
Sep 29	1	1	1	S	3	3	3	7	3	6	8	7	7	7	6	5	6	4	2	2	2	2	3	5	1	8	4.1
Sep 30	5	3	S	5	5	4	6	9	6	6	4	3	3	6	4	4	5	2	3	6	4	3	3	3	2	9	4.4
Diurnal Maximum	5	5	5	5	6	7	10	11	10	10	8	7	11	8	6	8	8	7	28	20	16	10	11	6			
Diurnal Average	2.8	2.7	2.3	2.6	2.7	3.1	4.2	5.1	4.2	3.7	3.2	2.6	3.0	3.0	2.9	2.7	2.8	3.1	5.0	6.0	5.9	4.7	3.8	3.2			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	ND	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.

Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



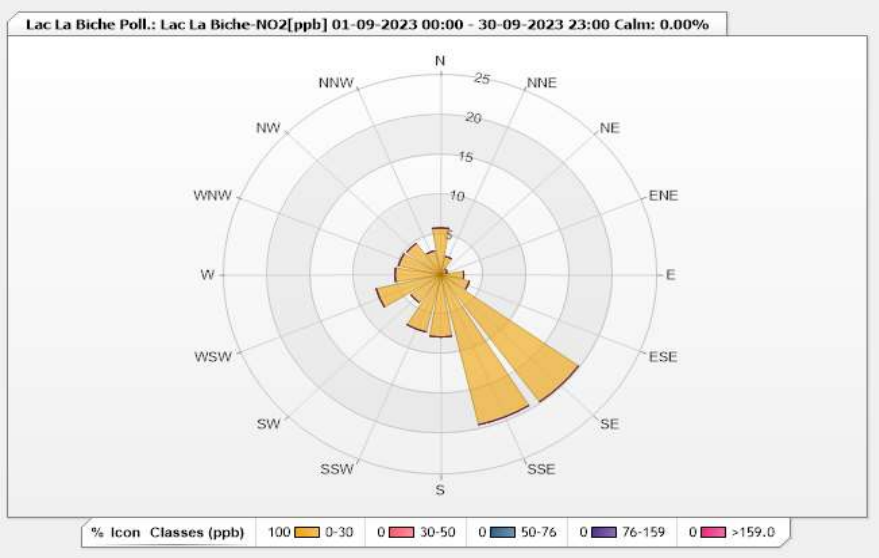


Station: Lac La Biche Poll.: Lac La Biche-NO2[ppb] Monthly: 09-2023

Type: Pollution Rose
Direction: Blowing From (Wind Frequency)
Time Base: 1 - Hour

Calm: 0.00% Valid Data: 94.44% Calm Avg: 0.00 [ppm]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	5.88	0	0	0	0	5.88
NNE	2.35	0	0	0	0	2.35
NE	0.88	0	0	0	0	0.88
ENE	0.74	0	0	0	0	0.74
E	2.65	0	0	0	0	2.65
ESE	3.38	0	0	0	0	3.38
SE	19.56	0	0	0	0	19.56
SSE	19.26	0	0	0	0	19.26
S	7.79	0	0	0	0	7.79
SSW	7.35	0	0	0	0	7.35
SW	4.26	0	0	0	0	4.26
WSW	7.65	0	0	0	0	7.65
W	5.29	0	0	0	0	5.29
WNW	5	0	0	0	0	5
NW	4.85	0	0	0	0	4.85
NNW	3.09	0	0	0	0	3.09
Summary	100	0	0	0	0	100



Lakeland Industry & Community Association

Lac La Biche Station - September 2023

Summary of Hourly Averages

OZONE (O_3) in ppb

Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 76 ppb

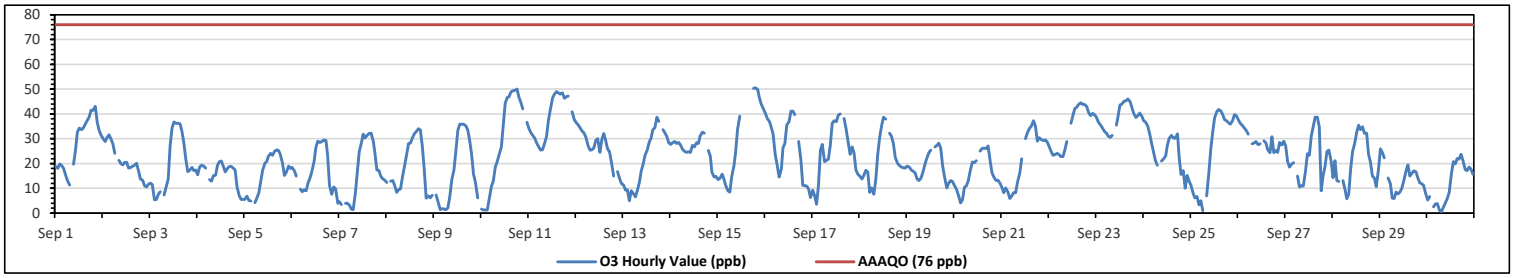
Number of 1-Hour Exceedances: 0

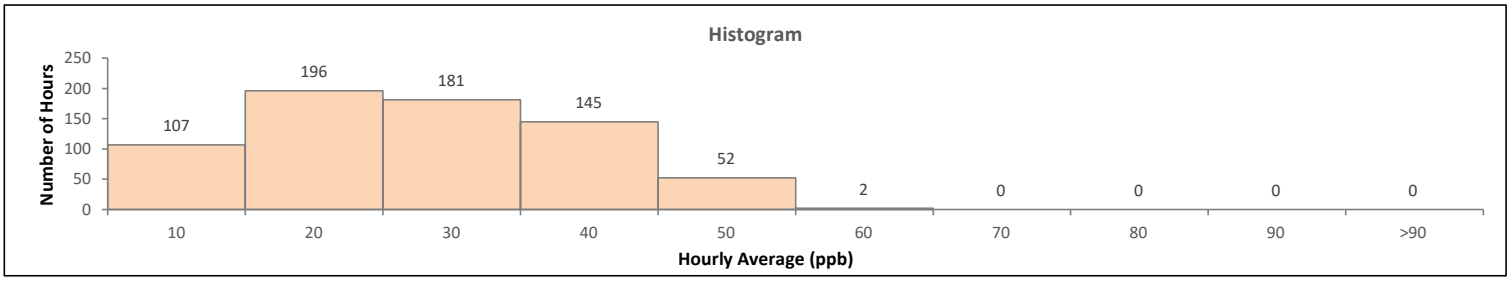
Maximum Hourly Value:	50.6	ppb	on Sep 15 at hr 19	Hours in Service:	720
Maximum Daily Value:	38.6	ppb	on Sep 23	Hours of Data:	683
Minimum Hourly Value:	0.6	ppb	on Sep 30 at hr 7	Hours of Missing Data:	1
Minimum Daily Value:	12.0	ppb	on Sep 30	Hours of Calibration:	36
Monthly Average:	23.0	ppb		Operational Uptime:	99.9

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Sep 1	18.8	18	19.9	19.2	18	15.5	13.2	11.4	S	19.8	25.1	32.7	34.3	33.6	34.5	36	37.4	38.9	41.5	41.5	43.1	36.8	33.4	31.5	11.4	43.1	28.4
Sep 2	30.2	28.9	30.6	31.6	29.9	28	24.2	S	21.3	20	19.5	20.4	20.4	18.1	18.4	18.9	19.3	20.1	17.2	13.7	13.3	11.1	10.5	11.6	10.5	31.6	20.7
Sep 3	12.1	11.5	5.4	5.5	7.6	8.7	S	7.3	10.8	13.8	27.4	34.5	36.8	36.3	36.3	36	32.9	28.1	21.7	16.8	17.3	18.4	17.2	17.4	5.4	36.8	20.0
Sep 4	15.5	18.6	19.4	19	18.2	S	13.6	12.9	15.1	15.4	19.3	20.8	21	18.9	16.6	18	18.8	18.8	18.2	17.4	10.5	7	5.5	5.5	5.5	21.0	15.8
Sep 5	5.5	6.8	5.1	4.9	S	4.2	5.8	8.1	12.7	17.3	20.1	20.9	22.9	24.2	23.4	24.9	25.6	25.3	23.7	20.2	15.2	16.5	18.9	18	4.2	25.6	16.1
Sep 6	18.4	17.2	15	S	9.6	8.6	9.4	9	12.2	14.1	16.9	21	26.2	29	28.5	28.8	29.5	29.3	23.5	11.1	7.5	10.6	9.7	4	4.0	29.5	16.9
Sep 7	4.6	3.4	S	4	4	3	1.6	1.4	8.4	16.7	24.9	28.5	31.9	30.4	31.4	32.1	32.2	28.9	24.2	17.4	17.3	14.7	13.8	13.3	1.4	32.2	16.9
Sep 8	12.4	S	12.9	13.1	10.9	8.4	9.5	9.7	14.7	19.4	23.6	28.2	28.3	30.3	32	33	34	33.5	26.9	17.7	6	7	6.1	7.2	6.0	34.0	18.5
Sep 9	S	7.3	4.6	1.4	1.8	1.7	1.4	2.2	6.9	13.5	17.6	25.2	33.4	35.8	35.9	35.9	35.2	33.5	29.3	23.7	15.7	12.4	6.1	S	1.4	35.9	17.3
Sep 10	1.7	1.2	1.2	1.2	6.4	10.8	13	18.6	20.8	23.6	26.6	35.5	44.2	46.5	47	48.9	49.4	49.6	50	46.7	44.7	42	S	36.6	1.2	50.0	29.0
Sep 11	34.2	32.6	31.3	30.3	28.4	26.6	25.4	25.7	28.1	30.8	37.3	42.5	46.4	47.9	49	48.5	47.9	48.5	46.3	47	47.2	S	40.9	37.6	25.4	49.0	38.3
Sep 12	36.5	35.6	34.4	33.1	32.4	30.7	27.2	25.4	25.5	26.4	29.3	30	24.4	29.7	32.1	29.2	26	24.7	19.7	15	S	16.8	14.2	11.9	11.9	36.5	26.5
Sep 13	11.4	9.3	9.4	5	9	8	6.6	9.2	12.2	16.9	19.8	23.4	25.6	28.6	30.3	33.5	34.6	38.7	37	S	33.7	32.7	30.9	28.4	5.0	38.7	21.5
Sep 14	27.7	28.5	28.8	28.2	28.5	27.4	25.8	24.8	24.4	24.7	24.5	27.3	26.7	28.4	28.1	31	32.7	32.2	S	25.3	23	16.5	14.6	14.8	14.6	32.7	25.8
Sep 15	13.6	14	15.7	13.9	11.2	9.1	8.5	14.8	19.2	24.4	33.6	39.1	C	C	C	C	C	S	50.3	**50.6**	49.9	46.7	43.9	42	8.5	**50.6**	27.8
Sep 16	40.3	38.2	36.9	34.9	32	23.5	19.4	14.5	17.8	26.4	28.1	35.6	36.9	41.2	41.2	39.7	S	28.8	21.6	11.3	11.1	11	9.8	6.3	6.3	41.2	26.4
Sep 17	9.3	7	3.5	11.2	25.2	27.8	20.7	21.3	21.8	27.5	36.2	37.3	36.9	39.5	40	S	38.2	34.2	28.4	23.8	26.7	24.3	17.4	15.7	3.5	40.0	25.0
Sep 18	15	13.8	15.3	17.3	16.6	8.3	10.1	7.6	13.4	23.5	30.4	35	38.7	37.9	S	32.3	31	28.1	22.4	20.1	19.2	18.6	18.3	18.1	7.6	38.7	21.3
Sep 19	18.9	18.6	17.4	16.9	16.2	13.8	13.1	14	16.8	19.9	22.2	24.3	25.4	S	26.6	27.3	28.3	26.2	19.1	14.6	10.1	12.1	13.2	12.7	10.1	28.3	18.6
Sep 20	11.1	9.8	7	4.1	5.3	10.4	10.9	13	17.6	20.6	20.3	21.2	S	25	26.2	26.2	26.1	27	21.5	16.3	14.6	13.2	13.3	12.1	4.1	27.0	16.2
Sep 21	10.4	8.2	10.2	8.5	5.9	7	8.2	8.2	12.5	16.1	22	S	30	32.5	34.1	35.3	37.3	35.1	29	30.5	29.6	29.2	29.5	28.6	5.9	37.3	21.6
Sep 22	26.8	24.9	23.4	23.6	24.1	23.6	22.8	22.8	25.6	28.9	S	36.3	38.9	42.2	42.7	43.8	44.5	43.8	43.8	43.1	40.6	39.3	40.2	39.5	22.8	44.5	34.1
Sep 23	38.9	36.7	35.6	34.5	32.9	32.3	31.1	30.6	31.3	S	35.5	39.5	43.6	44	45.2	45.3	46	44.9	42.8	40.2	38.6	39.3	40.4	39	30.6	46.0	**38.6**
Sep 24	37.2	36.8	35.1	32	28.1	24.2	21.2	19.4	S	21	21.8	23.1	27.2	30.2	31.3	30.3	30.2	32	22.7	15.6	17.2	10	15.2	13	10.0	37.2	25.0
Sep 25	11.3	8.4	6.2	6.7	3.3	5	1	S	7	16.3	26	32.8	38.5	40.8	41.7	41.3	39.9	37.7	37.3	36.5	35.9	37.2	39.7	39.2	1.0	41.7	25.6
Sep 26	37.7	36.3	35.5	34.3	33.2	31.8	S	28	28.3	28.8	27.6	28	NRM	29.1	28.4	25.5	24.3	30.8	24.3	25.3	24.5	28.5	27.4	29	24.3	37.7	29.4
Sep 27	27	20.9	18.6	19.8	20.3	S	15	10.5	11.1	11	16.9	24	23.4	31	34.9	38.7	38.7	34.8	9.1	15.2	18.8	24.8	25.4	21	9.1	38.7	22.2
Sep 28	14.3	21.1	13.2	12.8	S	13.1	9.8	5.8	7.5	17.8	24.7	28.4	32.7	35.5	33.7	34.9	32.3	32.2	23.7	20.5	14.9	14.1	10.7	17.6	5.8	35.5	20.5
Sep 29	26	24.4	22.2	S	14.2	12	6	5.9	8.5	7.7	8.5	10	13.6	17	19.5	15	15.9	17	16.8	14.1	12.2	11.8	11.3	8.1	5.9	26.0	13.8
Sep 30	5.2	6.7	S	2.6	3.7	3.9	1	0.6	2.4	4.1	5.9	8.3	15.9	20.7	19.9	22.1	21.8	23.7	21.3	17.6	17.1	18.6	17.8	15.7	**0.6**	23.7	**12.0**
Diurnal Maximum	40.3	38.2	36.9	34.9	33.2	32.3	31.1	30.6	31.3	30.8	37.3	42.5	46.4	47.9	49.0	48.9	49.4	49.6	50.3	50.6	49.9	46.7	43.9	42.0			
Diurnal Average	19.7	18.8	18.4	16.8	17.0	15.3	13.4	13.7	16.2	19.5	23.8	28.1	30.5	32.3	32.5	32.6	32.5	31.9	28.0	24.4	23.3	21.4	20.5	20.5			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	ND	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



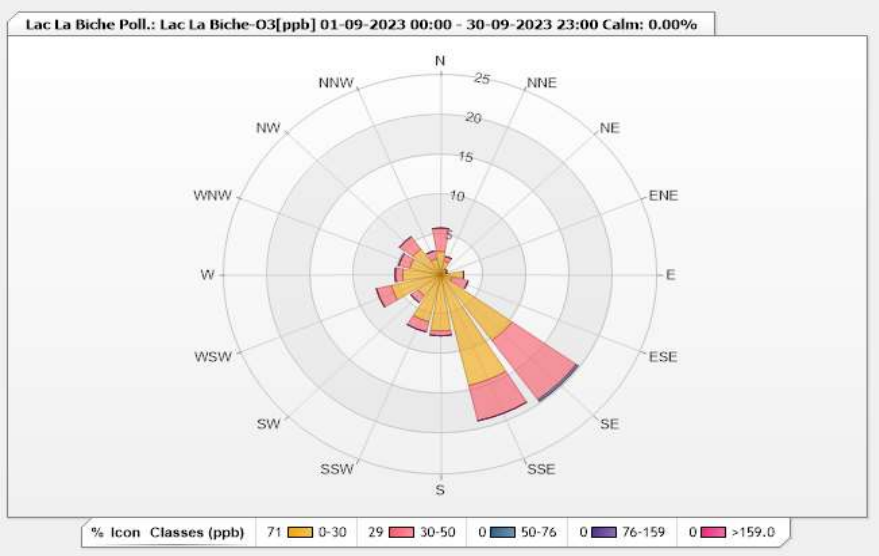


Station: Lac La Biche Poll.: Lac La Biche-O3[ppb] Monthly: 09-2023

Type: Pollution Rose
Direction: Blowing From (Wind Frequency)
Time Base: 1 - Hour

Calm: 0.00% Valid Data: 94.72% Calm Avg: 0.00 [ppm]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	2.93	2.93	0	0	0	5.86
NNE	1.76	0.59	0	0	0	2.35
NE	0.88	0	0	0	0	0.88
ENE	0.73	0	0	0	0	0.73
E	2.64	0	0	0	0	2.64
ESE	1.32	1.91	0	0	0	3.23
SE	10.12	9.09	0.29	0	0	19.5
SSE	14.22	4.55	0	0	0	18.77
S	7.04	0.59	0	0	0	7.63
SSW	6.01	1.32	0	0	0	7.33
SW	3.23	1.03	0	0	0	4.26
WSW	5.87	1.76	0	0	0	7.63
W	4.4	0.88	0	0	0	5.28
WNW	3.67	1.32	0	0	0	4.99
NW	3.96	1.91	0	0	0	5.87
NNW	2.05	1.03	0	0	0	3.08
Summary	70.83	28.91	0.29	0	0	100



Lakeland Industry & Community Association

Lac La Biche Station - September 2023

Summary of Hourly Averages

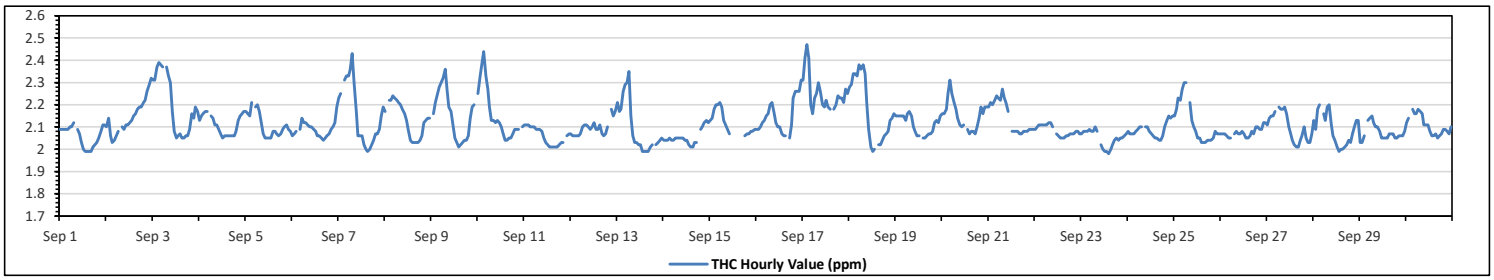
TOTAL HYDROCARBONS (THC) in ppm

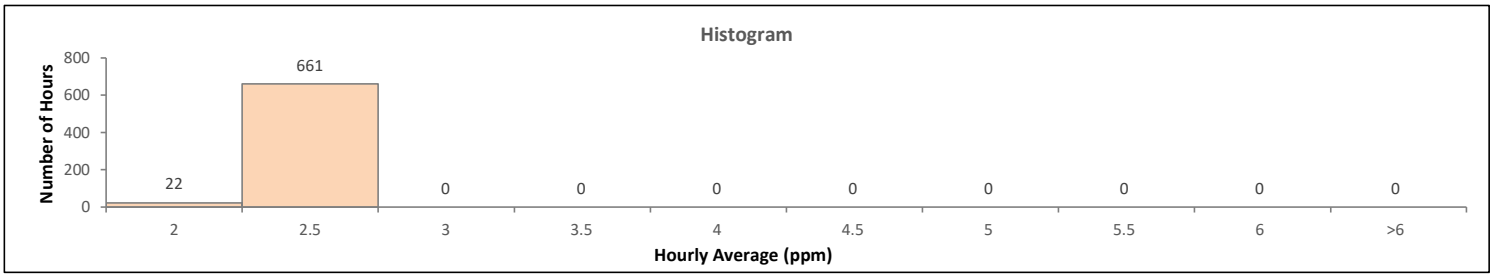
Maximum Hourly Value:	2.47	ppm	on Sep 17 at hr 2	Hours in Service:	720
Maximum Daily Value:	2.25	ppm	on Sep 17	Hours of Data:	683
Minimum Hourly Value:	1.98	ppm	on Sep 23 at hr 14	Hours of Missing Data:	2
Minimum Daily Value:	2.05	ppm	on Sep 23	Hours of Calibration:	35
Monthly Average:	2.12	ppm		Operational Uptime:	99.7

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Sep 1	2.09	2.09	2.09	2.09	2.09	2.10	2.10	2.12	S	2.09	2.07	2.03	2.00	1.99	1.99	1.99	1.99	2.01	2.02	2.03	2.05	2.08	2.11	2.11	1.99	2.12	2.06
Sep 2	2.10	2.14	2.06	2.03	2.04	2.06	2.08	S	2.10	2.09	2.11	2.11	2.12	2.13	2.15	2.16	2.18	2.19	2.19	2.21	2.22	2.26	2.29	2.32	2.03	2.32	2.15
Sep 3	2.31	2.31	2.37	2.39	2.38	2.37	S	2.37	2.33	2.30	2.17	2.08	2.05	2.06	2.07	2.05	2.05	2.06	2.06	2.09	2.16	2.14	2.19	2.17	2.05	2.39	2.20
Sep 4	2.13	2.15	2.16	2.17	2.17	S	2.15	2.14	2.11	2.11	2.09	2.07	2.05	2.06	2.06	2.06	2.06	2.06	2.06	2.08	2.13	2.15	2.16	2.17	2.05	2.17	2.11
Sep 5	2.17	2.16	2.15	2.21	S	2.19	2.20	2.17	2.12	2.07	2.05	2.05	2.05	2.05	2.08	2.08	2.07	2.06	2.07	2.09	2.10	2.11	2.09	2.08	2.05	2.21	2.11
Sep 6	2.06	2.07	2.08	S	2.09	2.14	2.12	2.12	2.11	2.10	2.10	2.09	2.08	2.06	2.06	2.05	2.04	2.05	2.06	2.07	2.09	2.10	2.12	2.19	2.04	2.19	2.09
Sep 7	2.23	2.25	S	2.31	2.33	2.33	2.36	2.43	2.30	2.17	2.06	2.06	2.06	2.02	2.00	1.99	2.00	2.02	2.04	2.07	2.07	2.09	2.15	2.19	1.99	2.43	2.15
Sep 8	2.17	S	2.22	2.22	2.24	2.23	2.22	2.21	2.20	2.18	2.16	2.13	2.09	2.04	2.03	2.03	2.03	2.03	2.04	2.06	2.12	2.13	2.14	2.14	2.03	2.24	2.13
Sep 9	S	2.16	2.21	2.25	2.28	2.30	2.32	2.36	2.26	2.19	2.17	2.11	2.05	2.03	2.01	2.02	2.03	2.04	2.04	2.06	2.14	2.19	2.20	S	2.01	2.36	2.16
Sep 10	2.25	2.33	2.38	2.44	2.33	2.27	2.19	2.13	2.13	2.12	2.13	2.12	2.10	2.07	2.04	2.04	2.05	2.05	2.07	2.09	2.09	2.09	S	2.10	2.04	2.44	2.16
Sep 11	2.11	2.11	2.11	2.10	2.10	2.10	2.09	2.09	2.09	2.08	2.05	2.03	2.02	2.01	2.01	2.01	2.01	2.01	2.02	2.03	2.03	S	2.06	2.07	2.01	2.11	2.06
Sep 12	2.07	2.06	2.06	2.06	2.06	2.07	2.10	2.11	2.11	2.10	2.09	2.10	2.12	2.09	2.09	2.11	2.07	2.06	2.07	2.10	S	2.18	2.15	2.17	2.06	2.18	2.10
Sep 13	2.21	2.17	2.18	2.26	2.29	2.30	2.35	2.15	2.06	2.03	2.03	2.02	2.02	1.99	1.99	1.99	1.99	2.01	2.02	S	2.02	2.03	2.04	2.05	1.99	2.35	2.10
Sep 14	2.04	2.04	2.04	2.05	2.04	2.04	2.05	2.05	2.05	2.05	2.05	2.04	2.04	2.02	2.01	2.01	2.03	2.03	S	2.09	2.10	2.12	2.13	2.12	2.01	2.13	2.05
Sep 15	2.13	2.14	2.18	2.20	2.20	2.21	2.19	2.13	2.11	2.09	2.07	Y	Y	C	C	C	C	S	2.06	2.07	2.07	2.08	2.08	2.09	2.06	2.21	NA
Sep 16	2.09	2.09	2.10	2.12	2.13	2.15	2.16	2.20	2.21	2.16	2.12	2.10	2.10	2.07	2.06	2.06	S	2.05	2.11	2.23	2.26	2.26	2.26	2.31	2.05	2.31	2.15
Sep 17	2.31	2.41	**2.47**	2.41	2.20	2.16	2.23	2.25	2.30	2.26	2.20	2.19	2.22	2.19	2.18	S	2.18	2.20	2.24	2.23	2.23	2.21	2.27	2.25	2.16	**2.47**	**2.25**
Sep 18	2.28	2.29	2.34	2.34	2.33	2.38	2.36	2.38	2.34	2.21	2.09	2.01	1.99	2.00	S	2.02	2.02	2.04	2.06	2.07	2.08	2.13	2.14	2.16	1.99	2.38	2.18
Sep 19	2.15	2.15	2.15	2.15	2.15	2.13	2.16	2.17	2.15	2.10	2.08	2.06	2.06	S	2.05	2.05	2.06	2.07	2.07	2.08	2.12	2.13	2.12	2.15	2.05	2.17	2.11
Sep 20	2.16	2.16	2.18	2.25	2.31	2.25	2.21	2.18	2.14	2.11	2.10	2.11	S	2.09	2.07	2.08	2.08	2.07	2.10	2.14	2.19	2.16	2.19	2.19	2.07	2.31	2.15
Sep 21	2.19	2.21	2.20	2.22	2.24	2.23	2.22	2.27	2.23	2.21	2.17	S	2.08	2.08	2.08	2.08	2.07	2.07	2.08	2.08	2.08	2.09	2.09	2.09	2.07	2.27	2.15
Sep 22	2.09	2.10	2.11	2.11	2.11	2.11	2.11	2.12	2.12	2.10	S	2.07	2.06	2.05	2.05	2.05	2.06	2.06	2.07	2.07	2.07	2.08	2.08	2.07	2.05	2.12	2.08
Sep 23	2.07	2.08	2.08	2.08	2.09	2.08	2.08	2.10	2.08	S	2.02	2.00	1.99	1.99	1.98	2.00	2.02	2.04	2.05	2.04	2.05	2.05	2.06	2.07	1.98	2.10	2.05
Sep 24	2.08	2.07	2.07	2.07	2.08	2.09	2.10	2.10	S	2.10	2.10	2.08	2.07	2.06	2.05	2.05	2.04	2.04	2.06	2.10	2.13	2.15	2.14	2.15	2.04	2.15	2.09
Sep 25	2.15	2.18	2.23	2.22	2.27	2.30	2.30	S	2.21	2.13	2.10	2.08	2.05	2.05	2.03	2.03	2.03	2.04	2.04	2.04	2.05	2.08	2.07	2.07	2.03	2.30	2.12
Sep 26	2.07	2.07	2.07	2.06	2.05	2.05	S	2.07	2.08	2.07	2.07	2.08	2.07	2.05	2.05	2.06	2.08	2.07	2.10	2.10	2.09	2.09	2.12	2.12	2.05	2.12	2.08
Sep 27	2.11	2.14	2.15	2.15	2.17	S	2.19	2.18	2.18	2.19	2.16	2.10	2.07	2.04	2.02	2.01	2.01	2.04	2.06	2.10	2.05	2.03	2.03	2.07	2.01	2.19	2.10
Sep 28	2.13	2.09	2.18	2.20	S	2.16	2.13	2.19	2.20	2.11	2.06	2.04	2.01	1.99	2.00	2.00	2.01	2.02	2.04	2.03	2.07	2.10	2.13	2.13	1.99	2.20	2.09
Sep 29	2.03	2.03	2.06	S	2.13	2.14	2.15	2.12	2.10	2.10	2.08	2.05	2.05	2.05	2.05	2.07	2.07	2.07	2.05	2.05	2.06	2.06	2.06	2.08	2.03	2.15	2.07
Sep 30	2.12	2.14	S	2.18	2.16	2.16	2.18	2.17	2.16	2.11	2.11	2.11	2.08	2.06	2.06	2.07	2.05	2.06	2.07	2.09	2.09	2.08	2.07	2.10	2.05	2.18	2.11
Diurnal Maximum	2.31	2.41	2.47	2.44	2.38	2.38	2.36	2.43	2.34	2.30	2.20	2.19	2.22	2.19	2.18	2.16	2.18	2.20	2.24	2.23	2.26	2.26	2.29	2.32			
Diurnal Average	2.14	2.15	2.17	2.19	2.18	2.18	2.18	2.18	2.16	2.13	2.10	2.08	2.06	2.05	2.05	2.04	2.05	2.06	2.07	2.09	2.10	2.12	2.13	2.14			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance			
K	Collection Error	ND	No Data (Machine Not in Service)	Y	Routine Maintenance	P	Power Failure	
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)					

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



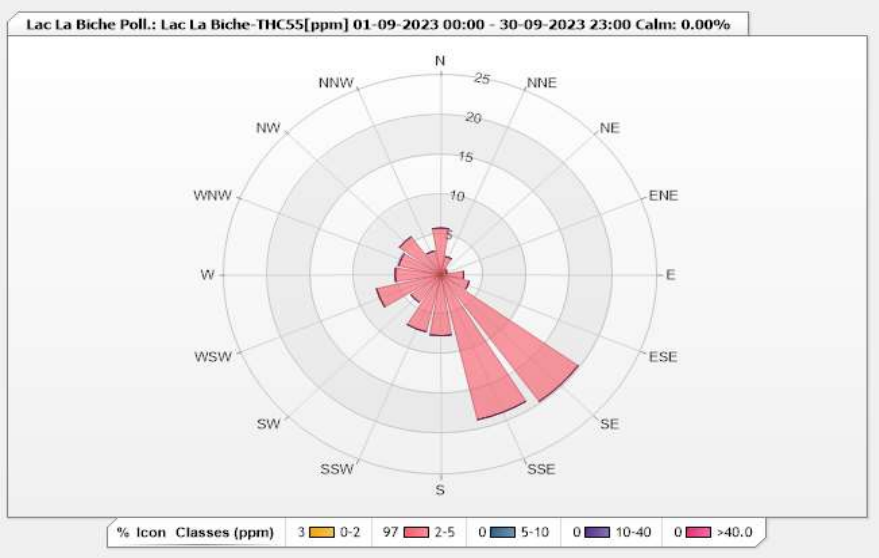


Station: Lac La Biche Poll.: Lac La Biche-THC55[ppm] Monthly: 09-2023

Type: Pollution Rose
Direction: Blowing From (Wind Frequency)
Time Base: 1 - Hour

Calm: 0.00% Valid Data: 94.72% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-40	>40.0	Total
N	0.29	5.57	0	0	0	5.86
NNE	0	2.35	0	0	0	2.35
NE	0	0.88	0	0	0	0.88
ENE	0	0.73	0	0	0	0.73
E	0	2.64	0	0	0	2.64
ESE	0	3.37	0	0	0	3.37
SE	0.15	19.35	0	0	0	19.5
SSE	0.59	18.04	0	0	0	18.63
S	0	7.62	0	0	0	7.62
SSW	0.15	7.18	0	0	0	7.33
SW	0.29	3.96	0	0	0	4.25
WSW	0.44	7.18	0	0	0	7.62
W	0.29	4.99	0	0	0	5.28
WNW	0.59	4.4	0	0	0	4.99
NW	0	5.87	0	0	0	5.87
NNW	0	3.08	0	0	0	3.08
Summary	2.79	97.21	0	0	0	100



Lakeland Industry & Community Association

Lac La Biche Station - September 2023

Summary of Hourly Averages

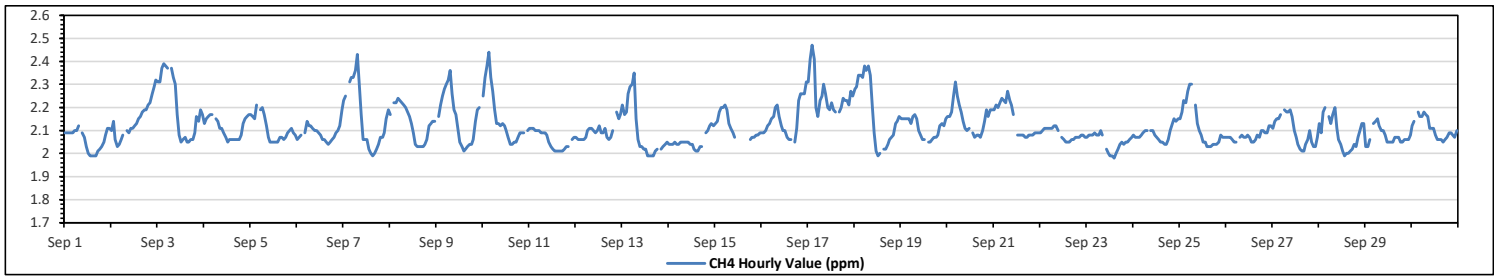
METHANE (CH4) in ppm

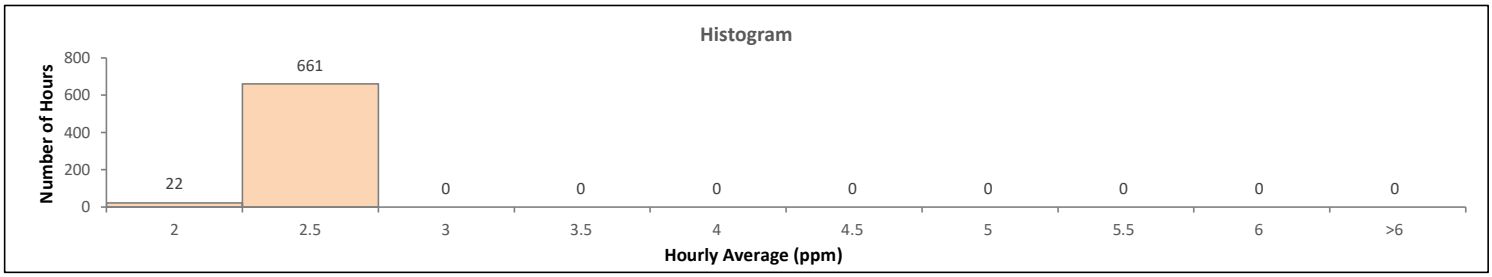
Maximum Hourly Value:	2.47	ppm	on Sep 17 at hr 2	Hours in Service:	720	
Maximum Daily Value:	2.25	ppm	on Sep 17	Hours of Data:	683	
Minimum Hourly Value:	1.98	ppm	on Sep 23 at hr 14	Hours of Missing Data:	2	
Minimum Daily Value:	2.05	ppm	on Sep 23	Hours of Calibration:	35	
Monthly Average:	2.12	ppm		Operational Uptime:	99.7	

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Sep 1	2.09	2.09	2.09	2.09	2.09	2.10	2.10	2.12	S	2.09	2.07	2.03	2.00	1.99	1.99	1.99	1.99	2.01	2.02	2.03	2.05	2.08	2.11	2.11	1.99	2.12	2.06
Sep 2	2.10	2.14	2.06	2.03	2.04	2.06	2.08	S	2.10	2.09	2.11	2.11	2.12	2.13	2.15	2.16	2.18	2.19	2.19	2.21	2.22	2.26	2.29	2.32	2.03	2.32	2.15
Sep 3	2.31	2.31	2.37	2.39	2.38	2.37	S	2.37	2.33	2.30	2.17	2.08	2.05	2.06	2.07	2.05	2.05	2.06	2.06	2.09	2.16	2.14	2.19	2.17	2.05	2.39	2.20
Sep 4	2.13	2.15	2.16	2.17	2.17	S	2.15	2.14	2.11	2.11	2.09	2.07	2.05	2.06	2.06	2.06	2.06	2.06	2.06	2.08	2.13	2.15	2.16	2.17	2.05	2.17	2.11
Sep 5	2.17	2.16	2.15	2.21	S	2.19	2.20	2.17	2.12	2.07	2.05	2.05	2.05	2.05	2.05	2.07	2.07	2.06	2.07	2.09	2.10	2.11	2.09	2.08	2.05	2.21	2.11
Sep 6	2.06	2.07	2.08	S	2.09	2.14	2.12	2.12	2.11	2.10	2.10	2.09	2.08	2.06	2.06	2.05	2.04	2.05	2.06	2.07	2.09	2.10	2.12	2.19	2.04	2.19	2.09
Sep 7	2.23	2.25	S	2.31	2.33	2.33	2.36	2.43	2.30	2.17	2.06	2.06	2.06	2.02	2.00	1.99	2.00	2.02	2.04	2.07	2.07	2.09	2.15	2.19	1.99	2.43	2.15
Sep 8	2.17	S	2.22	2.22	2.24	2.23	2.22	2.21	2.20	2.18	2.16	2.13	2.09	2.04	2.03	2.03	2.03	2.03	2.04	2.06	2.12	2.13	2.14	2.14	2.03	2.24	2.13
Sep 9	S	2.16	2.21	2.25	2.28	2.30	2.32	2.36	2.26	2.19	2.17	2.11	2.05	2.03	2.01	2.02	2.03	2.04	2.04	2.06	2.14	2.19	2.20	S	2.01	2.36	2.16
Sep 10	2.25	2.33	2.38	2.44	2.33	2.27	2.19	2.13	2.13	2.12	2.13	2.12	2.10	2.07	2.04	2.04	2.05	2.05	2.07	2.09	2.09	2.09	S	2.10	2.04	2.44	2.16
Sep 11	2.11	2.11	2.11	2.10	2.10	2.10	2.09	2.09	2.09	2.08	2.05	2.03	2.02	2.01	2.01	2.01	2.01	2.01	2.02	2.03	2.03	S	2.06	2.07	2.01	2.11	2.06
Sep 12	2.07	2.06	2.06	2.06	2.06	2.07	2.10	2.11	2.11	2.10	2.09	2.10	2.12	2.09	2.09	2.11	2.07	2.06	2.07	2.10	S	2.18	2.15	2.17	2.06	2.18	2.10
Sep 13	2.21	2.17	2.18	2.26	2.29	2.30	2.35	2.15	2.06	2.03	2.03	2.02	2.02	1.99	1.99	1.99	1.99	2.01	2.02	S	2.02	2.03	2.04	2.05	1.99	2.35	2.10
Sep 14	2.04	2.04	2.04	2.05	2.04	2.04	2.05	2.05	2.05	2.05	2.05	2.04	2.04	2.02	2.01	2.01	2.03	2.03	S	2.09	2.10	2.12	2.13	2.12	2.01	2.13	2.05
Sep 15	2.13	2.14	2.18	2.20	2.20	2.21	2.19	2.13	2.11	2.09	2.07	Y	Y	C	C	C	C	S	2.06	2.07	2.07	2.08	2.08	2.09	2.06	2.21	NA
Sep 16	2.09	2.09	2.10	2.12	2.13	2.15	2.16	2.20	2.21	2.16	2.12	2.10	2.10	2.07	2.06	2.06	S	2.05	2.11	2.23	2.26	2.26	2.26	2.31	2.05	2.31	2.15
Sep 17	2.31	2.41	**2.47**	2.41	2.20	2.16	2.23	2.25	2.30	2.26	2.20	2.19	2.22	2.19	2.18	S	2.18	2.20	2.24	2.23	2.23	2.21	2.27	2.25	2.16	**2.47**	**2.25**
Sep 18	2.28	2.29	2.34	2.34	2.33	2.38	2.36	2.38	2.34	2.21	2.09	2.01	1.99	2.00	S	2.02	2.02	2.04	2.06	2.07	2.08	2.13	2.14	2.16	1.99	2.38	2.18
Sep 19	2.15	2.15	2.15	2.15	2.15	2.13	2.16	2.17	2.15	2.10	2.08	2.06	2.06	S	2.05	2.05	2.06	2.07	2.07	2.08	2.12	2.13	2.12	2.15	2.05	2.17	2.11
Sep 20	2.16	2.16	2.18	2.25	2.31	2.25	2.21	2.18	2.14	2.11	2.10	2.11	S	2.09	2.07	2.08	2.08	2.07	2.10	2.14	2.19	2.16	2.19	2.19	2.07	2.31	2.15
Sep 21	2.19	2.21	2.20	2.22	2.24	2.23	2.22	2.27	2.23	2.21	2.17	S	2.08	2.08	2.08	2.08	2.07	2.07	2.08	2.08	2.08	2.09	2.09	2.09	2.07	2.27	2.15
Sep 22	2.09	2.10	2.11	2.11	2.11	2.11	2.11	2.12	2.12	2.10	S	2.07	2.06	2.05	2.05	2.05	2.06	2.06	2.07	2.07	2.07	2.08	2.08	2.07	2.05	2.12	2.08
Sep 23	2.07	2.08	2.08	2.08	2.09	2.08	2.08	2.10	2.08	S	2.02	2.00	1.99	1.99	1.98	2.00	2.02	2.04	2.05	2.04	2.05	2.05	2.06	2.07	1.98	2.10	2.05
Sep 24	2.08	2.07	2.07	2.07	2.08	2.09	2.10	2.10	S	2.10	2.10	2.08	2.07	2.06	2.05	2.05	2.04	2.04	2.06	2.10	2.13	2.15	2.14	2.15	2.04	2.15	2.09
Sep 25	2.15	2.18	2.23	2.22	2.27	2.30	2.30	S	2.21	2.13	2.10	2.08	2.05	2.05	2.03	2.03	2.03	2.04	2.04	2.04	2.05	2.08	2.07	2.07	2.03	2.30	2.12
Sep 26	2.07	2.07	2.07	2.06	2.05	2.05	S	2.07	2.08	2.07	2.07	2.08	2.07	2.05	2.05	2.06	2.08	2.07	2.10	2.10	2.09	2.09	2.12	2.12	2.05	2.12	2.08
Sep 27	2.11	2.14	2.15	2.15	2.17	S	2.19	2.18	2.18	2.19	2.16	2.10	2.07	2.04	2.02	2.01	2.01	2.04	2.06	2.10	2.05	2.03	2.03	2.07	2.01	2.19	2.10
Sep 28	2.13	2.09	2.18	2.20	S	2.16	2.13	2.17	2.20	2.11	2.06	2.04	2.01	1.99	2.00	2.00	2.01	2.02	2.04	2.03	2.07	2.10	2.13	2.13	1.99	2.20	2.09
Sep 29	2.03	2.03	2.06	S	2.13	2.14	2.15	2.12	2.10	2.10	2.08	2.05	2.05	2.05	2.05	2.07	2.07	2.07	2.05	2.05	2.06	2.06	2.06	2.08	2.03	2.15	2.07
Sep 30	2.12	2.14	S	2.18	2.16	2.16	2.18	2.17	2.16	2.11	2.11	2.11	2.08	2.06	2.06	2.06	2.05	2.06	2.07	2.09	2.09	2.08	2.07	2.10	2.05	2.18	2.11
Diurnal Maximum	2.31	2.41	2.47	2.44	2.38	2.38	2.36	2.43	2.34	2.30	2.20	2.19	2.22	2.19	2.18	2.16	2.18	2.20	2.24	2.23	2.26	2.26	2.29	2.32			
Diurnal Average	2.14	2.15	2.17	2.19	2.18	2.18	2.18	2.18	2.16	2.13	2.10	2.08	2.06	2.05	2.05	2.04	2.05	2.06	2.07	2.09	2.10	2.12	2.13	2.14			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance			
K	Collection Error	ND	No Data (Machine Not in Service)	Y	Routine Maintenance	P	Power Failure	
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)					

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



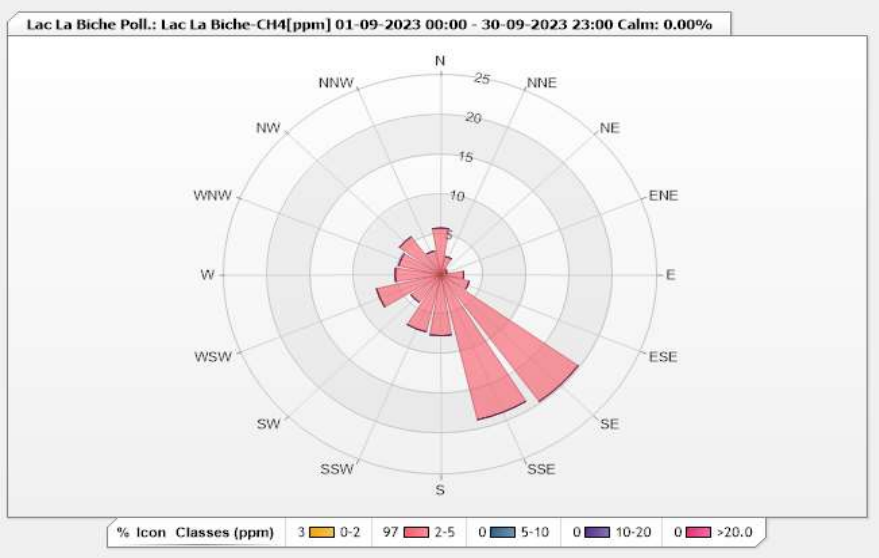


Station: Lac La Biche Poll.: Lac La Biche-CH4[ppm] Monthly: 09-2023

Type: Pollution Rose
Direction: Blowing From (Wind Frequency)
Time Base: 1 - Hour

Calm: 0.00% Valid Data: 94.72% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-20	>20.0	Total
N	0.29	5.57	0	0	0	5.86
NNE	0	2.35	0	0	0	2.35
NE	0	0.88	0	0	0	0.88
ENE	0	0.73	0	0	0	0.73
E	0	2.64	0	0	0	2.64
ESE	0	3.37	0	0	0	3.37
SE	0.15	19.35	0	0	0	19.5
SSE	0.59	18.04	0	0	0	18.63
S	0	7.62	0	0	0	7.62
SSW	0.15	7.18	0	0	0	7.33
SW	0.29	3.96	0	0	0	4.25
WSW	0.44	7.18	0	0	0	7.62
W	0.29	4.99	0	0	0	5.28
WNW	0.59	4.4	0	0	0	4.99
NW	0	5.87	0	0	0	5.87
NNW	0	3.08	0	0	0	3.08
Summary	2.79	97.21	0	0	0	100



Lakeland Industry & Community Association

Lac La Biche Station - September 2023

Summary of Hourly Averages

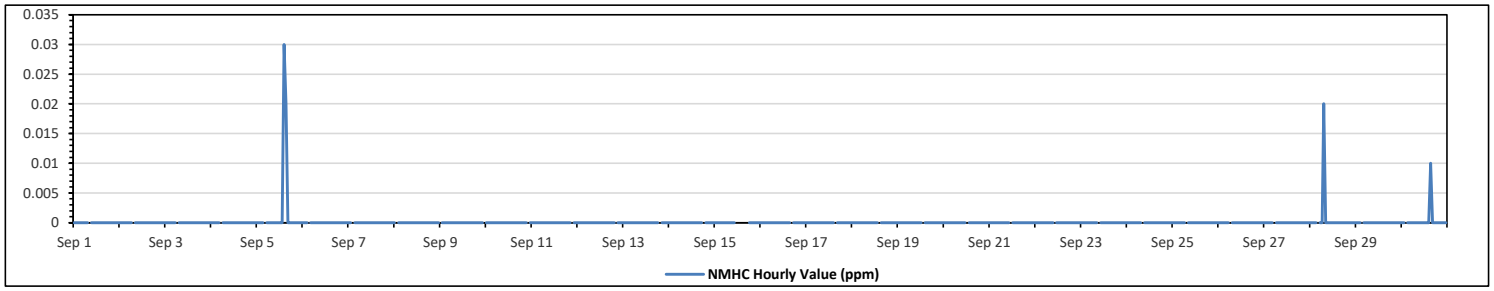
NON-METHANE HYDROCARBONS (NMHC) in ppm

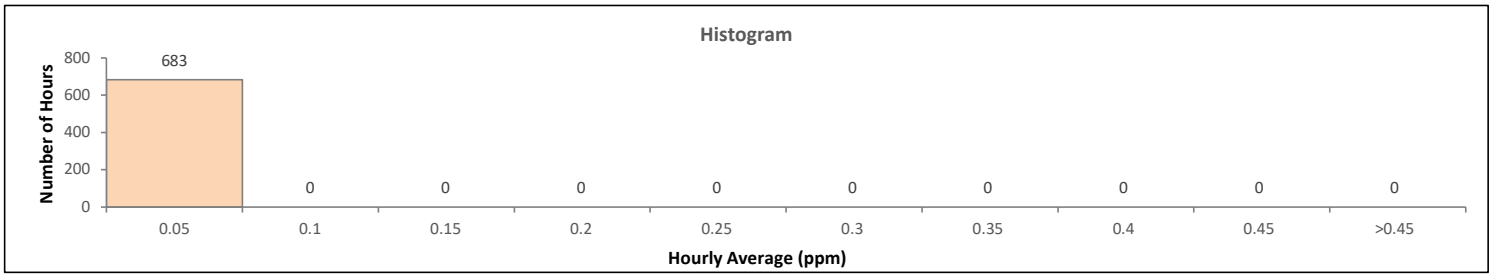
Maximum Hourly Value:	0.03 ppm	on Sep 5 at hr 14	Hours in Service:	720	
Maximum Daily Value:	0.00 ppm	on Sep 5	Hours of Data:	683	
Minimum Hourly Value:	0.00 ppm	on Sep 1 at hr 0	Hours of Missing Data:	2	
Minimum Daily Value:	0.00 ppm	on Sep 1	Hours of Calibration:	35	
Monthly Average:	0.00 ppm		Operational Uptime:	99.7	

Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Sep 1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 3	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 4	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 5	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.03**	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.03**	**0.00**
Sep 6	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 7	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 8	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 9	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00
Sep 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00
Sep 11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00
Sep 12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00
Sep 13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Y	Y	C	C	C	C	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NA
Sep 16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 26	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 27	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 28	0.00	0.00	0.00	0.00	S	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00
Sep 29	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 30	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
Diurnal Maximum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Diurnal Average	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	ND	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



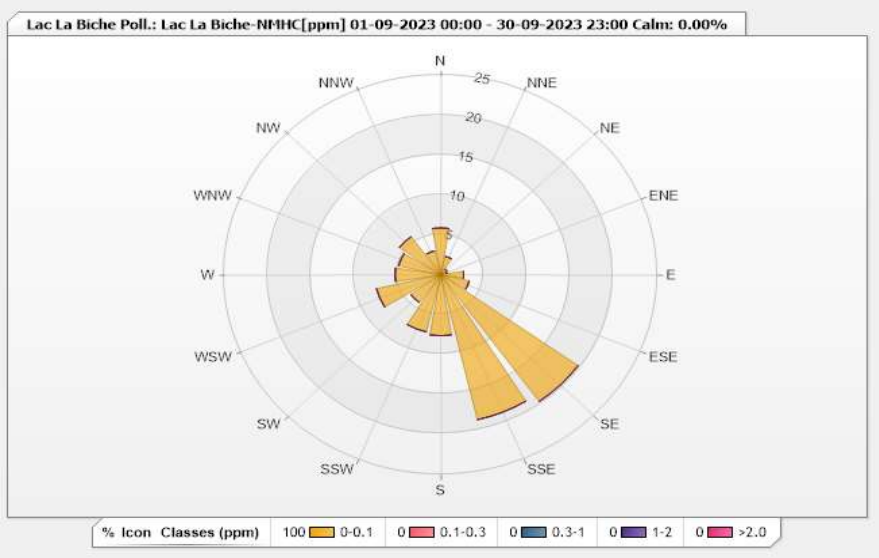


Station: Lac La Biche Poll.: Lac La Biche-NMHC[ppm] Monthly: 09-2023

Type: Pollution Rose
Direction: Blowing From (Wind Frequency)
Time Base: 1 - Hour

Calm: 0.00% Valid Data: 94.72% Calm Avg: 0.00 [ppm]

Direction	0-0.1	0.1-0.3	0.3-1	1-2	>2.0	Total
N	5.87	0	0	0	0	5.87
NNE	2.35	0	0	0	0	2.35
NE	0.88	0	0	0	0	0.88
ENE	0.73	0	0	0	0	0.73
E	2.64	0	0	0	0	2.64
ESE	3.37	0	0	0	0	3.37
SE	19.5	0	0	0	0	19.5
SSE	18.62	0	0	0	0	18.62
S	7.62	0	0	0	0	7.62
SSW	7.33	0	0	0	0	7.33
SW	4.25	0	0	0	0	4.25
WSW	7.62	0	0	0	0	7.62
W	5.28	0	0	0	0	5.28
WNW	4.99	0	0	0	0	4.99
NW	5.87	0	0	0	0	5.87
NNW	3.08	0	0	0	0	3.08
Summary	100	0	0	0	0	100



Lakeland Industry & Community Association

Lac La Biche Station - September 2023

Summary of Hourly Averages

PARTICULATE MATTER 2.5 ($PM_{2.5}$) in µg/m^3

Alberta Ambient Air Quality Guideline (AAAQG): 1-Hour 80 µg/m3, Alberta Ambient Air Quality Objective (AAAQO): 24-Hour 29 µg/m3

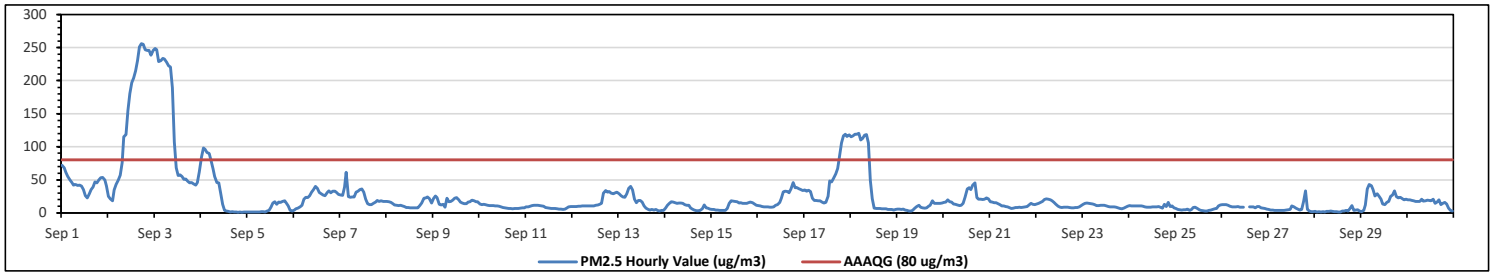
Number of 1-Hour Exceedances: 48 Number of 24-Hour Exceedances: 6

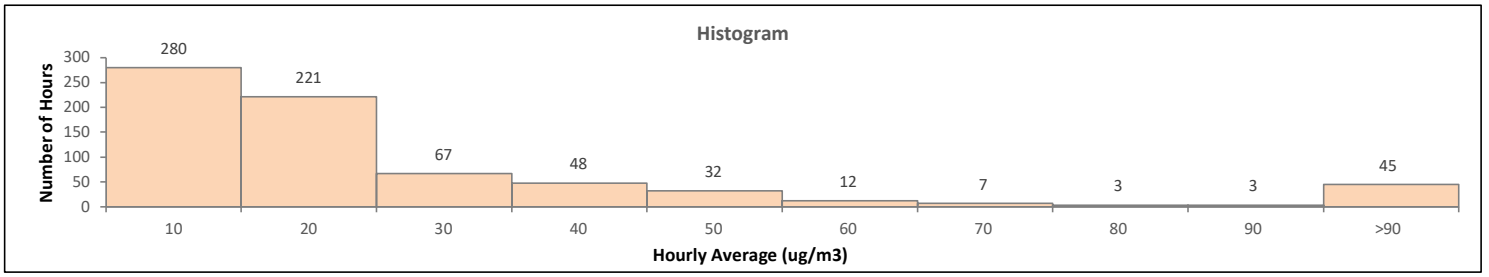
Maximum Hourly Value:	256 µg/m^3 on Sep 2 at hr 17	Hours in Service:	720
Maximum Daily Value:	155.2 µg/m^3 on Sep 2	Hours of Data:	718
Minimum Hourly Value:	1 µg/m^3 on Sep 4 at hr 19	Hours of Missing Data:	0
Minimum Daily Value:	3 µg/m^3 on Sep 28	Hours of Calibration:	2
Monthly Average:	26.3 µg/m^3	Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Sep 1	72	68	61	55	49	46	42	43	41	42	41	35	26	23	28	35	39	47	45	50	53	54	50	41	23	72	45.3
Sep 2	25	21	18	35	43	50	57	76	115	118	155	181	197	204	215	230	251	**256**	255	247	246	246	239	246	18	**256**	**155.2**
Sep 3	249	247	229	230	234	233	228	222	221	189	107	68	57	58	55	51	51	48	45	46	44	42	46	62	42	249	127.5
Sep 4	85	98	96	92	90	79	67	55	46	45	29	13	4	2	2	1	2	1	1	1	1	1	1	1	**1**	98	33.8
Sep 5	1	1	1	1	1	1	1	2	2	1	3	4	9	15	17	13	16	16	17	19	15	10	3	3	1	19	7.2
Sep 6	4	6	7	9	11	21	24	23	26	31	36	40	37	31	29	27	26	31	33	31	33	33	31	28	4	40	25.2
Sep 7	27	26	39	61	24	24	24	24	31	33	35	36	31	21	14	12	12	14	16	19	17	18	17	17	12	61	24.8
Sep 8	17	17	16	14	12	11	11	11	11	10	8	8	8	8	7	8	8	11	15	22	23	24	21	15	7	24	13.1
Sep 9	21	26	23	13	12	13	9	22	17	17	19	22	23	20	16	15	14	14	14	16	17	19	18	17	9	26	17.5
Sep 10	13	12	13	12	11	11	11	11	11	10	10	9	8	7	7	6	6	6	6	6	7	7	7	8	6	13	9.1
Sep 11	9	9	10	11	11	12	11	11	10	10	8	8	7	7	6	6	6	6	6	5	6	7	9	10	5	12	8.4
Sep 12	10	10	10	10	10	10	10	10	10	10	10	10	11	12	13	15	30	34	31	32	30	29	30	31	10	34	17.5
Sep 13	29	26	24	23	29	37	40	35	21	15	19	19	16	10	7	5	4	5	4	5	4	3	4	4	3	40	16.2
Sep 14	7	12	14	17	16	15	14	15	15	14	12	11	12	8	6	4	3	3	4	6	12	8	7	6	3	17	10.0
Sep 15	5	5	4	4	4	4	4	4	6	14	18	18	17	17	15	15	14	14	14	15	16	15	13	12	4	18	11.2
Sep 16	11	10	10	9	9	9	9	9	9	11	12	16	22	32	33	32	30	36	46	38	38	37	35	34	9	46	22.4
Sep 17	35	33	34	32	22	19	19	18	18	16	15	16	25	48	47	52	59	67	83	106	116	119	116	118	15	119	51.4
Sep 18	115	116	119	119	120	110	113	118	118	106	49	22	7	6	6	6	6	6	6	5	5	5	4	5	4	120	53.9
Sep 19	6	6	5	6	4	3	3	3	4	7	10	11	8	7	7	8	10	12	18	14	15	15	14	15	3	18	8.8
Sep 20	16	16	20	17	16	14	13	12	11	11	14	23	36	38	35	42	45	23	21	21	20	21	23	21	11	45	22.0
Sep 21	17	16	15	15	14	12	10	10	10	9	8	7	7	8	8	8	8	9	9	10	12	14	13	13	7	17	10.9
Sep 22	13	14	16	18	20	21	21	20	18	16	13	10	8	8	9	9	9	8	7	7	8	8	9	11	7	21	12.5
Sep 23	13	14	15	14	14	13	12	11	11	12	12	12	10	10	9	9	9	9	8	7	6	7	9	10	6	15	10.6
Sep 24	11	11	10	10	10	10	10	10	9	8	9	9	9	9	9	9	9	7	13	10	16	10	10	7	7	16	9.8
Sep 25	7	5	5	4	5	5	6	4	5	8	9	7	5	4	3	3	3	4	4	5	6	6	10	12	3	12	5.5
Sep 26	12	12	12	12	10	9	9	9	9	9	9	9	C	C	9	9	9	8	10	10	8	7	7	6	6	12	9.2
Sep 27	5	4	4	4	4	4	4	4	4	4	5	5	11	9	7	6	4	5	18	33	5	3	2	2	2	33	6.4
Sep 28	2	1	2	1	2	2	2	2	3	2	2	2	1	1	3	3	3	3	7	11	4	4	5	3	1	11	**2.9**
Sep 29	2	3	12	36	43	41	35	25	29	25	21	13	13	16	17	25	27	33	24	23	24	22	20	20	2	43	22.8
Sep 30	20	20	19	18	17	17	17	21	18	19	19	19	18	21	14	16	20	12	14	16	13	7	4	3	3	21	15.9
Diurnal Maximum	249	247	229	230	234	233	228	222	221	189	155	181	197	204	215	230	251	256	255	247	246	246	239	246			
Diurnal Average	28.6	28.9	28.8	30.1	29.0	28.5	27.9	28.0	28.6	27.5	23.8	22.1	22.2	22.7	21.8	22.7	24.5	24.8	26.6	27.9	27.3	26.6	25.8	25.9			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance		
K	Collection Error	ND	No Data (Machine Not in Service)	Y	Routine Maintenance	P	Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)				

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



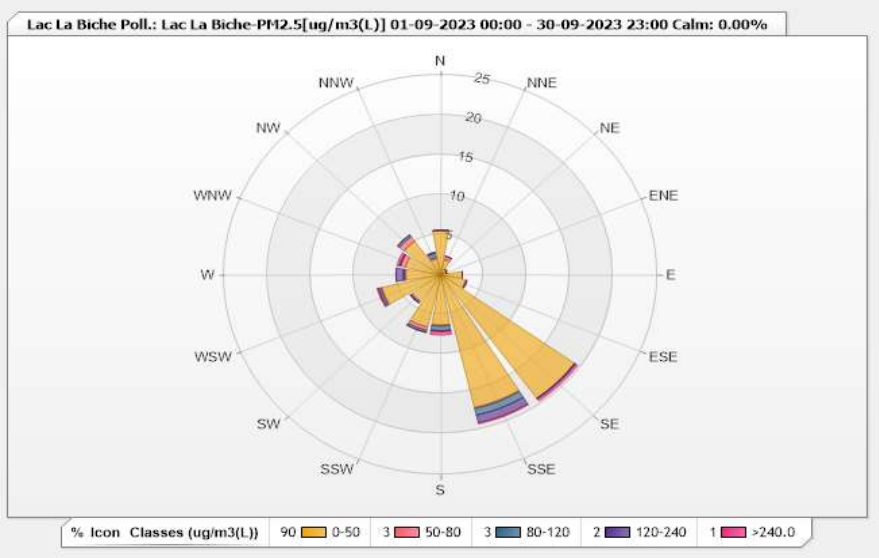


Station: Lac La Biche Poll.: Lac La Biche-PM2.5[ug/m3(L)] Monthly: 09-2023

Type: Pollution Rose
Direction: Blowing From (Wind Frequency)
Time Base: 1 - Hour

Calm: 0.00% Valid Data: 99.31% Calm Avg: 0.00 [ppm]

Direction	0-50	50-80	80-120	120-240	>240.0	Total
N	5.59	0	0	0	0	5.59
NNE	1.96	0.42	0	0	0	2.38
NE	0.84	0	0	0	0	0.84
ENE	0.7	0	0	0	0	0.7
E	2.52	0	0	0	0	2.52
ESE	2.94	0.14	0	0	0	3.08
SE	19.02	0	0	0.14	0.28	19.44
SSE	17.06	0.14	0.84	0.98	0.14	19.16
S	6.29	0.14	0.56	0.14	0.42	7.55
SSW	6.71	0.42	0.28	0	0	7.41
SW	4.06	0.14	0.14	0	0	4.34
WSW	6.99	0.14	0.28	0	0.14	7.55
W	4.06	0.14	0.14	0.84	0	5.18
WNW	4.2	0.56	0.14	0	0.28	5.18
NW	5.17	0.7	0.28	0	0	6.15
NNW	2.1	0.14	0.56	0.14	0	2.94
Summary	90.21	3.08	3.22	2.24	1.26	100



Lakeland Industry & Community Association

Lac La Biche Station - September 2023

Summary of Hourly Averages

RELATIVE HUMIDITY (RH) in %

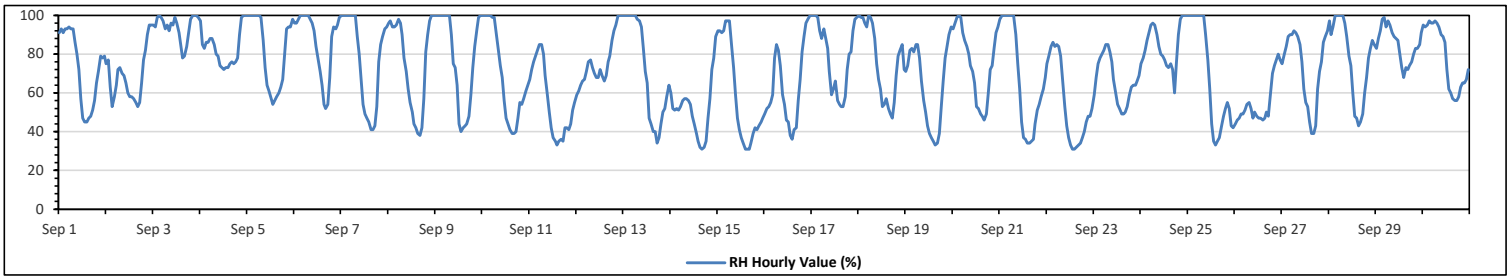
Maximum Hourly Value:	100	%	on Sep 3 at hr 3	Hours in Service:	720	
Maximum Daily Value:	93.9	%	on Sep 3	Hours of Data:	720	
Minimum Hourly Value:	31	%	on Sep 14 at hr 16	Hours of Missing Data:	0	
Minimum Daily Value:	51.6	%	on Sep 14	Hours of Calibration:	0	
Monthly Average:	72.3	%		Operational Uptime:	100.0	

Day	Hourly Period Starting at (MST)																						Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Sep 1	91	93	91	93	93	94	93	93	86	80	72	57	47	45	45	47	48	51	56	65	71	79	78	79	45	94	72.8
Sep 2	75	77	63	53	58	64	72	73	70	69	65	60	58	58	57	55	53	55	65	77	82	90	95	95	53	95	68.3
Sep 3	95	94	99	**100**	99	97	93	95	92	96	95	99	96	91	84	78	79	84	91	98	**100**	**100**	**100**	99	78	**100**	**93.9**
Sep 4	97	85	83	86	86	88	88	85	80	79	74	73	72	73	73	75	76	75	76	78	90	99	**100**	**100**	72	**100**	83.0
Sep 5	**100**	**100**	**100**	**100**	**100**	**100**	**100**	99	87	73	64	61	57	54	56	58	60	63	67	80	93	94	94	98	54	**100**	81.6
Sep 6	96	96	98	**100**	**100**	**100**	**100**	**100**	98	96	92	84	78	71	64	54	52	54	68	89	94	93	95	99	52	**100**	86.3
Sep 7	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	89	80	67	54	49	47	45	41	41	43	53	76	85	89	93	94	41	**100**	76.9
Sep 8	96	97	94	94	95	98	96	90	78	71	62	55	50	44	42	39	38	42	57	81	90	97	**100**	**100**	38	**100**	75.3
Sep 9	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	90	75	73	64	44	40	42	43	44	48	59	73	84	93	99	**100**	40	**100**	78.0
Sep 10	**100**	**100**	**100**	**100**	**100**	99	99	91	82	74	68	56	47	44	41	39	39	40	47	55	54	57	61	64	39	**100**	69.0
Sep 11	67	72	76	79	82	85	85	80	69	59	50	42	37	35	33	35	36	35	42	42	41	44	51	55	33	85	55.5
Sep 12	59	61	64	66	67	71	76	77	73	70	68	68	72	69	66	69	76	79	87	92	95	**100**	**100**	**100**	59	**100**	76.0
Sep 13	**100**	**100**	**100**	**100**	**100**	**100**	**100**	98	97	94	83	71	65	47	44	40	40	34	37	44	50	52	58	64	34	**100**	71.6
Sep 14	60	52	51	52	51	53	56	57	57	56	54	48	44	39	35	32	**31**	32	35	47	57	72	78	89	**31**	89	**51.6**
Sep 15	92	92	91	92	97	97	97	84	73	59	47	41	37	34	**31**	**31**	**31**	34	39	42	41	43	45	47	**31**	97	59.0
Sep 16	49	52	53	55	59	78	85	82	74	59	54	46	45	38	36	41	42	56	67	81	89	96	98	**100**	36	**100**	64.0
Sep 17	**100**	**100**	**100**	99	92	88	93	88	83	71	59	62	66	56	54	53	53	58	72	80	81	92	98	99	53	**100**	79.0
Sep 18	**100**	99	99	96	94	**100**	99	96	88	75	67	62	53	54	57	52	49	47	55	69	79	82	85	72	47	**100**	76.2
Sep 19	71	74	82	83	81	85	85	78	66	56	50	43	39	37	35	33	34	39	53	66	78	84	90	94	33	94	64.0
Sep 20	93	96	99	**100**	99	91	87	84	80	74	71	65	53	52	49	48	46	49	60	72	74	83	91	94	46	**100**	75.4
Sep 21	98	**100**	**100**	**100**	**100**	**100**	**100**	**100**	90	75	62	45	37	36	34	34	35	36	44	51	54	58	62	68	34	**100**	67.5
Sep 22	75	79	84	86	84	85	84	79	67	53	43	37	33	**31**	**31**	32	33	34	37	40	45	48	48	52	**31**	86	55.0
Sep 23	59	68	75	78	80	82	85	85	81	76	67	60	54	52	49	49	50	53	59	63	64	64	66	69	49	85	66.2
Sep 24	75	78	82	87	91	95	96	95	90	84	80	79	77	74	73	75	72	60	76	90	98	**100**	**100**	**100**	60	**100**	84.5
Sep 25	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	90	77	62	44	35	33	35	37	43	48	52	55	52	43	42	33	**100**	68.7
Sep 26	44	46	47	49	49	51	54	55	52	47	50	48	47	47	46	47	50	48	60	70	74	77	80	77	44	80	54.8
Sep 27	75	80	84	89	90	90	92	91	89	85	76	62	55	53	45	39	39	43	62	71	76	86	89	92	39	92	73.0
Sep 28	97	90	94	**100**	**100**	**100**	**100**	**100**	96	89	79	74	60	48	47	43	45	49	60	68	78	83	87	85	43	**100**	78.0
Sep 29	83	88	92	98	99	94	97	95	91	89	88	87	80	73	68	73	72	74	76	80	83	83	85	91	68	99	85.0
Sep 30	95	94	95	97	96	96	97	96	94	90	89	86	72	62	60	57	56	56	58	63	65	65	67	72	56	97	78.3
Diurnal Maximum	100	100	100	100	100	100	100	100	100	96	95	99	96	91	84	78	79	84	91	98	100	100	100	100			
Diurnal Average	84.7	85.4	86.5	87.7	88.1	89.4	90.3	88.2	82.1	74.8	68.2	61.7	55.6	51.3	49.2	48.2	48.6	50.5	58.9	68.5	74.0	78.5	81.2	83.0			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance		
K	Collection Error	ND	No Data (Machine Not in Service)	Y	Routine Maintenance	P	Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)				

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.

Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



Lakeland Industry & Community Association

Lac La Biche Station - September 2023

Summary of Hourly Averages

BAROMETRIC PRESSURE (BP) in millibar

Maximum Hourly Value:	959	mb	on Sep 9 at hr 8	Hours in Service:	720	
Maximum Daily Value:	958	mb	on Sep 9	Hours of Data:	720	
Minimum Hourly Value:	934	mb	on Sep 1 at hr 22	Hours of Missing Data:	0	
Minimum Daily Value:	938	mb	on Sep 17	Hours of Calibration:	0	
Monthly Average:	946	mb		Operational Uptime:	100.0	

Day	Hourly Period Starting at (MST)																							Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Sep 1	940	941	941	941	942	942	942	942	942	942	942	941	941	940	939	937	937	936	936	935	935	935	**934**	**934**	**934**	942	939
Sep 2	**934**	**934**	**934**	**934**	935	935	936	936	937	937	938	938	938	939	939	939	940	940	940	941	941	941	941	941	**934**	941	938
Sep 3	941	941	941	940	940	940	940	940	940	941	941	940	940	939	939	939	939	939	939	940	940	940	940	941	939	941	940
Sep 4	941	942	942	943	944	944	944	945	945	946	946	946	947	947	947	948	948	948	949	949	949	949	949	950	941	950	946
Sep 5	950	950	950	950	950	950	951	951	951	951	950	950	949	949	948	948	947	947	947	946	946	946	945	945	945	951	949
Sep 6	945	944	944	944	944	944	944	945	945	945	945	945	945	944	944	944	944	944	944	944	944	945	945	945	944	945	944
Sep 7	945	945	945	945	945	946	946	946	947	947	947	947	947	947	947	947	947	947	947	948	948	949	949	950	945	950	947
Sep 8	950	950	950	951	951	951	952	952	953	953	953	953	953	953	953	953	954	954	954	955	956	956	956	956	950	956	953
Sep 9	957	957	957	957	958	958	958	958	**959**	**959**	**959**	**959**	**959**	958	958	958	958	958	958	958	958	958	958	957	957	**959**	**958**
Sep 10	958	958	957	957	957	957	957	957	957	957	956	956	956	955	955	954	954	953	953	953	953	953	953	953	953	958	955
Sep 11	952	952	952	952	952	951	951	951	950	950	949	948	948	947	947	947	946	946	946	946	946	945	945	945	945	952	949
Sep 12	945	945	944	944	944	944	944	944	944	944	943	943	943	943	943	943	942	942	942	942	942	942	942	942	942	945	943
Sep 13	942	942	942	942	943	942	943	943	943	944	944	943	943	943	943	943	943	944	944	946	946	946	946	946	942	946	944
Sep 14	946	946	946	947	947	948	948	948	949	950	950	950	950	950	950	950	950	951	951	951	951	952	952	952	946	952	949
Sep 15	952	952	952	951	951	951	951	951	951	950	950	950	949	948	947	947	946	945	945	945	944	944	944	944	944	952	948
Sep 16	944	944	944	944	944	945	945	946	946	947	947	947	946	946	946	946	945	945	945	945	944	944	943	943	943	947	945
Sep 17	942	941	941	940	939	938	938	938	938	938	937	937	937	937	937	936	936	936	937	937	937	936	936	936	936	942	**938**
Sep 18	936	936	936	936	936	935	935	936	936	937	938	937	938	938	939	939	939	940	940	940	940	940	941	941	935	941	938
Sep 19	941	941	941	942	942	942	942	942	943	943	942	942	942	942	941	942	942	942	942	943	943	943	943	943	941	943	942
Sep 20	944	944	945	945	946	946	947	948	948	949	949	949	949	949	949	950	950	951	952	952	953	953	953	954	944	954	949
Sep 21	954	954	954	954	955	955	955	955	955	955	955	955	954	954	953	953	952	952	952	952	952	952	952	952	952	955	954
Sep 22	952	952	952	952	952	952	952	952	952	952	952	951	950	950	949	949	948	948	947	947	947	947	947	947	947	952	950
Sep 23	947	946	946	946	946	946	946	946	946	945	945	944	944	943	943	942	942	942	942	941	941	941	941	941	941	947	944
Sep 24	940	940	940	941	941	941	941	941	942	942	943	943	943	943	944	944	944	945	945	945	945	946	946	947	940	947	943
Sep 25	947	948	948	948	948	949	949	949	949	949	949	949	948	947	947	946	946	945	944	944	943	942	942	941	941	949	947
Sep 26	941	940	940	940	940	940	940	940	940	940	940	940	939	939	939	939	939	939	940	940	940	940	940	941	939	941	940
Sep 27	941	941	941	941	941	941	941	942	941	941	942	941	941	941	941	940	940	941	941	941	942	942	942	942	940	942	941
Sep 28	942	942	942	942	942	942	942	942	942	942	942	942	942	941	941	941	941	941	942	942	942	942	942	942	941	942	942
Sep 29	942	942	943	943	943	943	944	944	944	945	945	945	946	946	946	947	947	948	948	949	949	950	950	951	942	951	946
Sep 30	951	951	952	952	953	953	953	954	954	955	955	955	955	955	955	955	955	956	956	956	956	956	956	956	951	956	954
Diurnal Maximum	958	958	957	957	958	958	958	958	959	959	959	959	959	958	958	958	958	958	958	958	958	958	958	957			
Diurnal Average	945	945	945	945	946	946	946	946	946	947	946	946	946	946	946	946	945	946	946	946	946	946	946	946			

C	Monthly Calibration	**S**	Daily Zero-Span Check	**Q**	Quality Assurance	
K	Collection Error	**ND**	No Data (Machine Not in Service)	**Y**	Routine Maintenance	**P** Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	**NRM**	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

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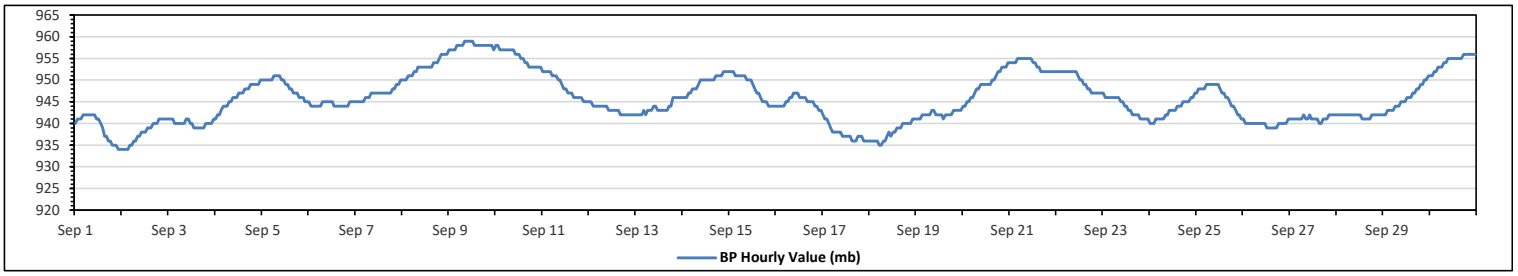
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



Lakeland Industry & Community Association

Lac La Biche Station - September 2023

Summary of Hourly Averages

AMBIENT TEMPERATURE (AT) in Degree Celsius

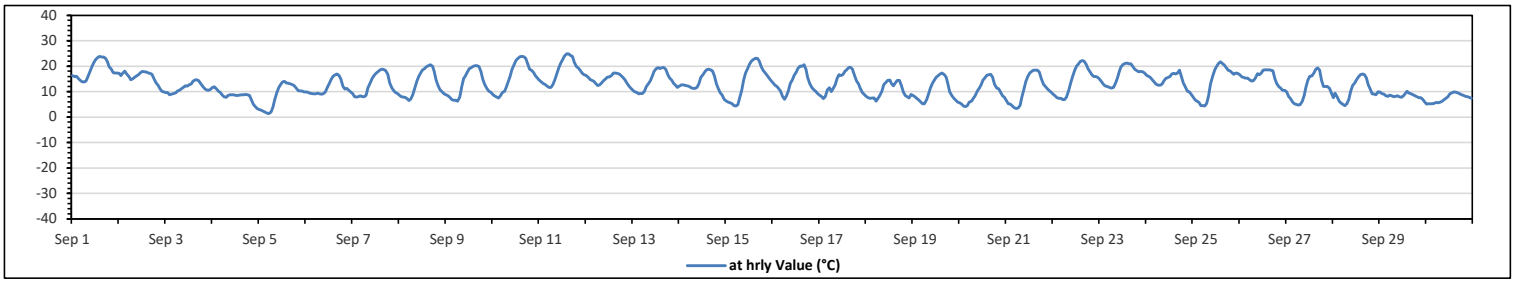
Maximum Hourly Value:	24.8	°C	on Sep 11 at hr 14	Hours in Service:	720
Maximum Daily Value:	18.6	°C	on Sep 1	Hours of Data:	720
Minimum Hourly Value:	1.3	°C	on Sep 5 at hr 5	Hours of Missing Data:	0
Minimum Daily Value:	7.4	°C	on Sep 30	Hours of Calibration:	0
Monthly Average:	12.8	°C		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																							Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Sep 1	16.3	16	16.1	15.1	14.5	13.9	13.7	14.1	16	17.8	19.7	21.3	22.6	23.3	23.8	23.6	23.6	23	21.7	19.9	18.8	17.5	17.4	17.4	13.7	23.8	**18.6**
Sep 2	17.2	16.3	17.3	18.1	16.9	15.9	14.7	15	15.7	16.2	16.7	17.5	17.9	17.8	17.7	17.4	17.2	16.8	15.1	13.5	12.5	11.1	10.1	9.9	9.9	18.1	15.6
Sep 3	9.6	9.6	8.7	9	9.3	9.5	10.3	10.5	11.1	11.6	12.3	12.2	12.7	13.1	14	14.6	14.7	14.3	13.1	12	11.1	10.7	10.6	10.9	8.7	14.7	11.5
Sep 4	11.6	11.9	11.1	10.2	9.6	8.8	8	7.8	8.5	8.7	8.7	8.7	8.5	8.5	8.6	8.7	8.8	8.9	8.8	8.5	7	5	4.1	3.3	3.3	11.9	8.4
Sep 5	3	2.7	2.3	1.9	1.6	**1.3**	2	3.9	7	9.5	11.5	12.8	13.8	14	13.5	13.3	13.1	12.8	12.4	11.5	10.4	10.3	10.3	9.9	**1.3**	14.0	8.5
Sep 6	9.9	9.7	9.4	9.3	9.1	9.2	9.4	9.1	9	9.2	9.9	11.6	13.2	14.9	16.1	16.5	16.9	16.4	15	12.1	11	11.2	10.5	9.9	9.0	16.9	11.6
Sep 7	9.3	8.1	7.9	8.1	8.3	8.1	8	8.5	11.5	13.4	15.1	16.3	17.2	17.8	18.5	18.8	18.7	18.3	16.8	13.4	11.6	10.7	9.7	9.3	7.9	18.8	12.6
Sep 8	8.6	8	7.9	7.8	7.2	6.5	7.1	8.8	11.6	14.1	16.1	17.5	18.4	19	19.8	20.3	20.6	20	17.9	14.5	12.4	10.8	9.9	9.2	6.5	20.6	13.1
Sep 9	8.7	8.3	7.8	6.9	6.7	6.6	6.3	7.9	11.9	15.1	16.1	17.6	19	19.5	20	20.2	20.3	19.9	17.9	14.8	12.8	11.1	10.1	9.7	6.3	20.3	13.1
Sep 10	8.9	8.3	7.9	7.5	8.4	9.6	10.2	11.6	13.7	15.9	18.7	20.7	22.4	23	23.7	23.8	23.7	23	20.9	18.9	18.3	17.5	16.3	15.4	7.5	23.8	16.2
Sep 11	14.6	13.8	13.2	12.8	12.2	11.7	11.6	12.8	14.7	17	19.6	21.4	22.8	24	**24.8**	**24.8**	24.3	23.8	21.5	20	19.3	18.5	17.3	16.6	11.6	**24.8**	18.0
Sep 12	16.3	15.7	14.9	14.4	14	13.2	12.4	12.6	13.5	14.4	15	15.7	15.8	16.3	17.3	17.4	17.2	16.9	16.3	15.6	14.7	13.5	12.3	11.2	11.2	17.4	14.9
Sep 13	10.5	9.9	9.7	9.1	9.3	9.3	10.1	12	13	14.2	15.9	17.9	19	19.5	19	19.4	19.4	18.7	16.7	15.3	14.5	13.3	12.4	11.7	9.1	19.5	14.2
Sep 14	12.2	12.6	12.6	12.4	12.3	12	11.5	11.2	11.2	11.6	13.1	15.5	16.6	17.8	18.6	18.8	18.6	18.1	16.1	13.1	11.1	9.5	8.6	7	7.0	18.8	13.4
Sep 15	6.4	5.8	5.6	5.2	4.5	4.3	4.9	7.8	10.5	14.5	17.3	19.2	20.7	22	22.6	23	23	21.9	19.8	18.3	17.5	16.4	15.4	14.4	4.3	23.0	14.2
Sep 16	13.5	12.5	12	11.2	10.3	8	7	8.3	10.4	13.3	14.6	16.4	17.6	19.2	20.1	20	20.6	18.7	15.6	13.1	11.7	10.8	10.2	9.1	7.0	20.6	13.5
Sep 17	8.6	8.2	7.2	8	10.8	11.5	10	11.2	12.7	15.2	16.6	16.3	16.6	18	18.7	19.4	19.6	18.8	16.2	14.2	13	11.1	9.6	8.9	7.2	19.6	13.4
Sep 18	8.2	7.7	7.3	7.5	7.5	6.2	7.3	8.3	10.1	12.8	13.6	14.4	14.6	13.2	12.3	13.5	14.4	14.4	12.4	9.9	8.5	8.1	7.5	8.9	6.2	14.6	10.4
Sep 19	8.5	8.1	7.2	6.6	6	5.3	5.3	6.9	9.2	11.5	13.3	14.6	15.7	16.3	17	17.3	16.7	15.7	12.6	9.9	8.3	7.4	6.7	5.8	5.3	17.3	10.5
Sep 20	5.6	5.1	4.3	4.2	4.5	5.8	6.2	7.3	8.5	10.2	11.3	12.6	14.6	15.4	16.4	16.6	16.8	15.7	12.9	11.4	11.1	9.7	8.4	7.8	4.2	16.8	10.1
Sep 21	6.5	5.3	5.1	4.5	3.7	3.3	3.6	4.6	7.7	11	14	16	17.4	17.9	18.4	18.5	18.5	17.7	15.2	12.9	12	11.1	10.4	9.7	3.3	18.5	11.0
Sep 22	9	8.4	7.7	7.4	7.3	6.9	6.9	7.9	10.5	13.4	16	18.2	20	20.8	21.8	22.2	21.9	20.8	18.9	17.7	16.6	15.9	16	15.5	6.9	22.2	14.5
Sep 23	14.8	13.7	12.8	12.2	12.1	11.7	11.4	11.7	13.3	15.3	17.9	19.7	20.7	21.1	21.2	21	20.9	20	18.8	18.3	17.8	17.9	17.8	17.3	11.4	21.2	16.6
Sep 24	16.4	16.1	15.5	14.7	13.8	12.9	12.5	12.5	13.1	14.1	15.1	15.6	16	17	17.2	17	17.4	18.4	16	13.4	11.6	10.2	9.8	8.9	8.9	18.4	14.4
Sep 25	8	6.8	6.3	5.7	4.5	4.5	4.3	5.4	8.3	13.1	16.2	18.5	20	21.1	21.7	21.1	20.4	19.4	18.4	18	17.4	16.8	17.4	17.2	4.3	21.7	13.8
Sep 26	16.5	15.8	15.5	15.3	15.3	14.7	14.1	14.3	15.3	17.1	16.7	17.3	18.5	18.6	18.6	18.6	18.5	18.2	15.1	13.2	12.1	11.4	10.6	10.5	10.5	18.6	15.5
Sep 27	9.8	8.2	7.2	6	5.3	5	4.7	4.9	6.2	8.6	11.6	14.4	16.1	16.2	17.4	18.9	19.3	18.4	14.4	12.1	12.1	12.1	11.2	9.4	4.7	19.3	11.2
Sep 28	7.7	9.4	7.9	6.2	5.5	5	4.5	5.3	6.9	10.2	12.4	13.3	14.9	15.9	16.7	17	16.6	15.4	12.6	11	9.1	9	8.8	9.9	4.5	17.0	10.5
Sep 29	9.9	9.3	9	8.3	8.2	8.6	8.4	8	8.2	8.3	8.1	7.8	8.3	9.2	10.2	9.4	9.2	8.8	8.3	8	7.7	7.6	7	6	6.0	10.2	8.4
Sep 30	5.1	5.3	5.3	5.2	5.5	5.7	5.6	5.8	6.3	6.9	7.5	8	9.1	9.5	9.8	9.7	9.5	9.2	8.8	8.5	8.2	8	7.8	7.4	5.1	9.8	**7.4**
Diurnal Maximum	17.2	16.3	17.3	18.1	16.9	15.9	14.7	15.0	16.0	17.8	19.7	21.4	22.8	24.0	24.8	24.8	24.3	23.8	21.7	20.0	19.3	18.5	17.8	17.4			
Diurnal Average	10.4	9.9	9.4	9.0	8.8	8.5	8.4	9.2	10.9	12.8	14.4	15.6	16.7	17.3	17.9	18.0	18.0	17.4	15.5	13.8	12.7	11.8	11.1	10.6			

C	Monthly Calibration	**S**	Daily Zero-Span Check	**Q**	Quality Assurance	
K	Collection Error	**ND**	No Data (Machine Not in Service)	**Y**	Routine Maintenance	**P** Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	**NRM**	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.

Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



Lakeland Industry & Community Association

Lac La Biche Station - September 2023

Summary of Hourly Averages

STATION TEMPERATURE (ST) in Degree Celsius

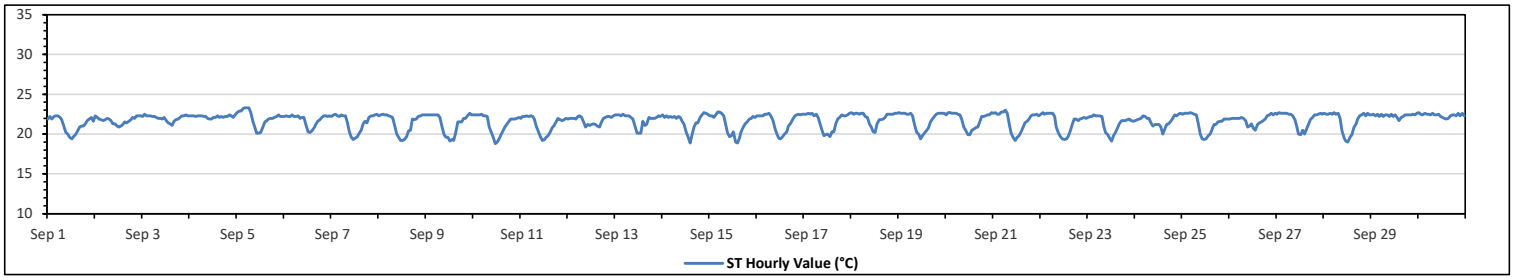
Maximum Hourly Value:	23.3	°C	on Sep 5 at hr 4	Hours in Service:	720
Maximum Daily Value:	22.4	°C	on Sep 30	Hours of Data:	720
Minimum Hourly Value:	18.8	°C	on Sep 10 at hr 11	Hours of Missing Data:	0
Minimum Daily Value:	21.2	°C	on Sep 1	Hours of Calibration:	0
Monthly Average:	21.7	°C		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																							Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Sep 1	21.9	22.2	21.9	22.2	22.3	22.3	22.1	21.8	21.1	20.2	20.0	19.6	19.4	19.7	19.9	20.4	20.9	21.0	21.0	21.3	21.7	21.9	22.1	21.6	19.4	22.3	**21.2**
Sep 2	22.3	22.1	21.9	21.8	21.7	21.8	22.0	21.9	21.7	21.3	21.3	21.0	20.9	21.0	21.2	21.5	21.4	21.6	21.8	22.1	22.0	22.3	22.3	22.3	20.9	22.3	21.7
Sep 3	22.2	22.5	22.3	22.3	22.3	22.2	22.2	22.1	22.0	22.0	21.9	22.1	21.7	21.4	21.3	21.1	21.6	21.8	21.9	22.1	22.3	22.3	22.4	22.3	21.1	22.5	22.0
Sep 4	22.3	22.3	22.3	22.2	22.3	22.3	22.3	22.2	22.2	22.0	21.9	21.9	22.1	22.1	22.3	22.1	22.2	22.1	22.2	22.2	22.4	22.3	22.1	22.4	21.9	22.4	22.2
Sep 5	22.7	22.9	22.9	23.2	**23.3**	**23.3**	**23.3**	22.7	21.5	20.8	20.1	20.1	20.2	20.8	21.5	21.7	21.9	22.0	22.0	22.1	22.2	22.4	22.2	22.2	20.1	**23.3**	22.0
Sep 6	22.2	22.3	22.2	22.2	22.4	22.2	22.2	22.3	22.0	22.1	22.1	21.2	20.3	20.2	20.4	20.8	21.2	21.6	21.8	22.1	22.3	22.3	22.2	22.3	20.2	22.4	21.8
Sep 7	22.2	22.4	22.5	22.3	22.2	22.4	22.3	22.3	21.4	20.3	19.6	19.3	19.5	19.7	20.1	20.5	21.3	21.6	21.4	22.1	22.3	22.3	22.4	22.5	19.3	22.5	21.5
Sep 8	22.3	22.4	22.5	22.4	22.4	22.3	22.2	22.1	21.0	20.0	19.6	19.2	19.2	19.3	19.7	20.4	20.5	21.9	21.8	21.9	22.2	22.3	22.4	22.4	19.2	22.5	21.4
Sep 9	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.1	21.0	19.9	19.6	19.6	19.1	19.3	19.2	20.1	21.5	21.5	21.5	22.0	22.0	22.3	22.6	22.4	19.1	22.6	21.4
Sep 10	22.4	22.4	22.4	22.4	22.5	22.3	22.3	22.2	20.9	20.3	19.7	**18.8**	19.0	19.3	19.9	20.4	20.9	21.3	21.6	21.9	21.9	21.9	22.0	22.1	**18.8**	22.5	21.3
Sep 11	22.0	22.2	22.2	22.3	22.2	22.3	22.2	21.9	21.0	20.3	19.7	19.2	19.3	19.6	19.8	20.3	20.8	21.1	21.6	22.0	21.8	21.7	21.8	22.0	19.2	22.3	21.2
Sep 12	21.9	22.0	22.0	22.0	21.9	22.2	22.3	22.1	21.5	20.9	21.2	21.1	21.2	21.3	21.2	21.0	20.9	21.5	22.0	22.1	22.2	22.2	22.1	22.3	20.9	22.3	21.7
Sep 13	22.4	22.4	22.4	22.3	22.5	22.3	22.3	22.3	22.1	21.9	21.1	20.1	20.1	20.1	21.6	21.1	21.2	22.1	22.0	22.0	22.0	22.1	22.3	22.2	20.1	22.5	21.8
Sep 14	22.4	22.1	22.3	22.1	22.2	22.1	22.2	22.0	22.2	22.1	21.6	21.2	20.2	19.6	18.9	19.9	20.9	21.4	21.4	22.1	22.4	22.7	22.6	22.5	18.9	22.7	21.6
Sep 15	22.3	22.3	22.1	22.4	22.8	22.8	22.6	22.3	21.2	20.1	19.7	19.8	20.3	19.0	18.9	19.5	20.3	20.9	21.3	21.5	21.9	22.0	22.2	22.1	18.9	22.8	21.3
Sep 16	22.3	22.3	22.3	22.3	22.5	22.5	22.6	22.3	21.7	20.7	20.1	19.5	19.4	19.7	20.0	20.3	21.0	21.3	21.8	22.2	22.4	22.5	22.4	22.5	19.4	22.6	21.5
Sep 17	22.5	22.5	22.6	22.5	22.6	22.3	22.5	22.1	21.3	20.5	19.8	19.9	20.0	19.7	20.3	20.3	21.3	21.9	22.1	22.4	22.3	22.3	22.4	22.6	19.7	22.6	21.6
Sep 18	22.7	22.5	22.6	22.6	22.5	22.6	22.6	22.2	22.1	21.3	20.9	20.3	20.2	21.3	21.8	21.8	21.9	22.1	22.5	22.5	22.5	22.5	22.6	22.6	20.2	22.7	22.1
Sep 19	22.7	22.6	22.6	22.6	22.5	22.5	22.6	22.3	21.2	20.2	20.0	19.4	19.8	20.1	20.4	20.8	21.5	21.9	22.2	22.5	22.6	22.6	22.6	22.6	19.4	22.7	21.7
Sep 20	22.4	22.7	22.7	22.6	22.6	22.6	22.5	22.4	21.8	20.9	20.4	19.9	19.9	20.5	20.6	20.8	20.9	21.5	22.2	22.2	22.3	22.4	22.4	22.7	19.9	22.7	21.7
Sep 21	22.6	22.7	22.5	22.5	22.8	22.8	23.0	22.6	21.3	20.1	19.6	19.2	19.6	19.8	20.3	20.8	21.4	21.6	21.9	22.3	22.4	22.4	22.5	22.3	19.2	23.0	21.6
Sep 22	22.5	22.7	22.5	22.6	22.6	22.6	22.6	22.2	20.9	20.1	19.7	19.4	19.3	19.4	19.7	20.3	21.2	21.9	21.9	21.7	21.9	22.0	22.1	22.0	19.3	22.7	21.4
Sep 23	22.1	22.2	22.2	22.4	22.3	22.3	22.3	22.2	21.1	20.2	19.9	19.5	19.1	19.8	20.2	20.7	21.3	21.7	21.7	21.7	21.8	21.9	21.7	21.6	19.1	22.4	21.3
Sep 24	21.7	21.8	21.9	22.0	22.3	22.2	22.0	22.0	21.4	21.0	21.2	21.2	21.2	20.9	20.0	20.6	21.2	21.3	21.6	22.0	22.4	22.3	22.5	22.6	20.0	22.6	21.6
Sep 25	22.5	22.6	22.6	22.6	22.7	22.6	22.5	22.4	21.3	20.0	19.4	19.3	19.4	19.8	20.0	20.6	21.2	21.2	21.5	21.6	21.6	21.9	21.9	21.9	19.3	22.7	21.4
Sep 26	21.9	22.0	22.0	22.0	22.0	22.0	22.1	22.0	21.7	20.9	21.0	21.3	20.7	20.5	21.2	21.4	21.5	21.7	21.9	22.3	22.4	22.6	22.4	22.6	20.5	22.6	21.8
Sep 27	22.5	22.7	22.6	22.6	22.6	22.6	22.5	22.5	22.3	21.8	20.9	20.0	19.9	20.5	20.0	20.7	21.3	21.8	22.1	22.4	22.4	22.5	22.6	22.5	19.9	22.7	21.8
Sep 28	22.6	22.5	22.5	22.6	22.5	22.7	22.5	22.6	22.0	20.4	19.5	19.1	19.0	19.6	19.9	20.8	21.3	21.9	22.3	22.4	22.6	22.3	22.6	22.4	19.0	22.7	21.6
Sep 29	22.4	22.5	22.3	22.5	22.2	22.5	22.2	22.4	22.4	22.2	22.5	22.2	22.4	22.1	21.7	22.1	22.2	22.4	22.4	22.4	22.4	22.5	22.4	22.6	21.7	22.6	22.3
Sep 30	22.7	22.5	22.4	22.6	22.5	22.5	22.4	22.6	22.4	22.4	22.5	22.2	22.1	22.0	21.9	22.0	22.3	22.4	22.4	22.3	22.6	22.3	22.6	22.3	21.9	22.7	**22.4**
Diurnal Maximum	22.7	22.9	22.9	23.2	23.3	23.3	23.3	22.7	22.4	22.4	22.5	22.2	22.4	22.1	22.3	22.1	22.3	22.4	22.5	22.5	22.6	22.7	22.6	22.7			
Diurnal Average	22.3	22.4	22.4	22.4	22.4	22.4	22.4	22.2	21.6	20.9	20.6	20.2	20.2	20.3	20.5	20.8	21.3	21.7	21.9	22.1	22.2	22.3	22.3	22.3			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	ND	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.

Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



Lakeland Industry & Community Association

Lac La Biche Station - September 2023

Summary of Hourly Averages

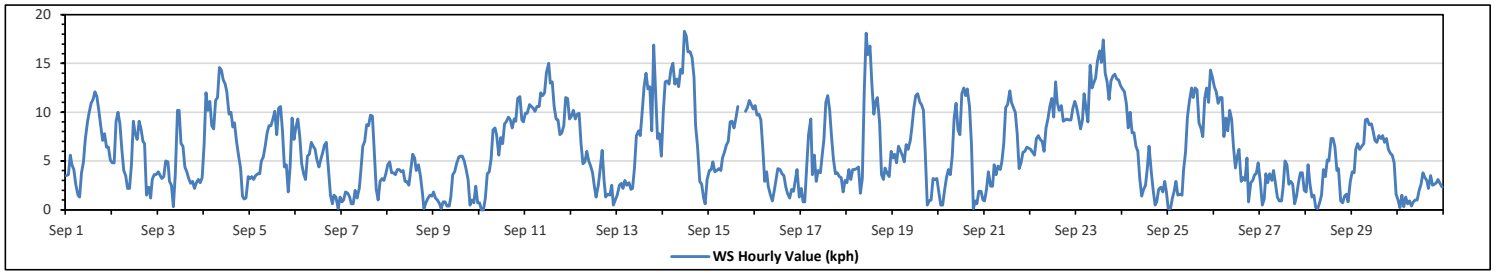
VECTOR WIND SPEED (VWS) in km/hr

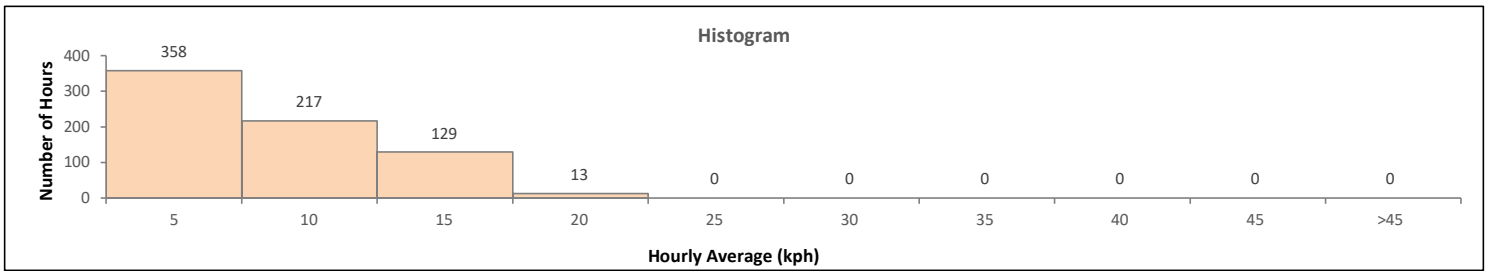
Maximum Hourly Value:	18.3	kph	on Sep 14 at hr 11	Hours in Service:	720	
Maximum Daily Value:	12.7	kph	on Sep 23	Hours of Data:	717	
Minimum Hourly Value:	0.0	kph	on Sep 10 at hr 1	Hours of Missing Data:	0	
Minimum Daily Value:	1.9	kph	on Sep 30	Hours of Calibration:	3	
Monthly Average:	1.8	kph		Operational Uptime:	100.0	

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Sep 1	3.5	3.6	5.6	4.6	4.1	2.6	1.5	1.3	3.8	4.9	7.3	9.1	10.0	10.9	11.3	12.1	11.6	10.2	8.6	7.1	7.8	6.4	6.4	5.1	1.3	12.1	6.6
Sep 2	4.8	4.8	9.1	10.0	8.8	6.2	4.0	3.5	2.2	2.2	4.6	9.1	7.9	7.2	9.1	8.3	7.0	6.8	1.5	2.3	1.2	3.1	3.6	3.6	1.2	10.0	5.5
Sep 3	3.9	3.5	3.2	3.4	5.0	4.9	2.9	2.5	0.3	3.6	10.2	10.2	6.8	6.5	4.4	3.9	3.2	2.7	2.9	2.2	2.8	3.1	2.8	3.3	0.3	10.2	4.1
Sep 4	6.6	12.0	10.2	11.1	8.6	8.3	11.2	11.5	14.6	14.3	13.3	12.9	12.1	9.8	10.0	8.5	8.9	7.1	5.5	4.3	1.4	1.1	1.2	3.4	1.1	14.6	8.7
Sep 5	3.2	3.4	3.1	3.5	3.7	3.7	5.0	5.4	6.5	7.9	8.6	8.6	9.3	10.1	7.7	10.4	10.6	8.1	4.4	4.6	1.8	4.5	9.4	7.2	1.8	10.6	6.3
Sep 6	8.5	9.3	7.5	4.7	3.7	3.1	5.5	5.7	6.9	6.5	6.2	5.2	4.4	5.2	5.9	6.6	6.9	4.0	1.5	0.6	1.5	1.3	0.1	1.3	0.1	9.3	4.7
Sep 7	0.8	1.0	1.8	1.7	1.3	0.6	0.6	2.0	1.2	2.2	4.0	6.5	7.0	8.7	8.6	9.7	9.6	5.9	2.1	1.0	2.9	3.2	3.0	3.7	0.6	9.7	3.7
Sep 8	4.6	4.9	3.8	3.8	3.6	4.1	4.1	3.9	4.0	2.9	2.9	2.5	4.1	5.7	5.3	4.0	4.6	3.5	1.8	0.1	0.7	1.2	1.5	1.4	0.1	5.7	3.3
Sep 9	1.8	1.2	1.0	0.6	0.1	0.8	0.8	0.4	0.4	1.3	3.6	3.9	4.7	5.4	5.5	5.5	5.0	4.1	3.1	0.5	1.0	0.7	2.4	0.7	0.1	5.5	2.3
Sep 10	0.7	**0.0**	**0.0**	1.2	3.7	3.9	5.2	8.2	8.4	7.7	5.6	7.4	6.8	8.8	9.0	9.5	9.2	8.4	9.3	9.1	11.4	11.6	9.2	9.0	**0.0**	11.6	6.8
Sep 11	9.9	9.9	10.8	10.6	10.4	10.1	10.6	10.6	12.0	11.7	12.0	14.1	15.0	13.0	13.1	10.6	9.3	9.2	7.7	7.9	8.6	11.5	11.4	9.3	7.7	15.0	10.8
Sep 12	9.6	10.2	9.3	9.8	9.9	6.8	4.7	4.9	6.0	5.0	4.5	3.8	2.3	1.3	2.5	4.2	6.1	3.0	1.3	1.6	1.5	2.5	0.5	1.0	0.5	10.2	4.7
Sep 13	1.5	2.5	2.7	2.2	3.0	2.5	2.8	2.1	2.2	4.3	7.6	8.1	7.6	10.0	12.6	14.0	12.4	12.6	8.1	16.9	12.1	7.3	7.8	5.5	1.5	16.9	7.0
Sep 14	10.0	13.1	13.2	12.9	14.4	15.0	12.9	13.4	12.6	14.4	14.0	**18.3**	17.8	16.2	16.2	15.6	13.6	8.6	6.5	2.9	2.6	1.2	0.6	3.1	0.6	**18.3**	11.2
Sep 15	4.0	4.1	4.9	3.9	4.0	4.2	4.0	5.3	5.9	6.6	7.0	9.0	9.1	8.4	9.4	10.6	**C**	**C**	**C**	10.1	10.5	11.2	10.8	10.3	3.9	11.2	7.3
Sep 16	10.7	9.7	9.8	9.2	6.3	2.9	3.9	2.4	1.5	0.9	2.0	3.2	4.2	4.1	3.7	3.5	2.3	1.7	1.2	2.1	1.9	2.9	4.1	1.3	0.9	10.7	4.0
Sep 17	2.2	0.8	0.8	4.3	7.7	9.3	3.6	5.6	2.9	4.0	3.8	5.4	7.2	11.0	11.7	10.2	7.4	5.1	3.7	3.8	3.4	3.3	1.8	3.0	0.8	11.7	5.1
Sep 18	2.8	4.1	3.1	4.1	4.1	4.2	4.4	1.7	3.2	12.1	18.1	15.9	16.8	12.8	9.8	11.1	11.5	8.9	3.6	3.1	4.3	3.8	3.4	6.0	1.7	18.1	7.2
Sep 19	5.3	5.7	4.8	6.5	6.0	5.5	4.9	6.7	6.2	7.1	8.5	10.4	11.7	11.9	11.0	10.8	10.2	5.6	0.5	0.9	1.0	3.2	3.1	3.2	0.5	11.9	6.3
Sep 20	1.8	0.5	0.5	2.0	3.3	4.1	3.6	5.5	9.4	10.9	8.2	7.7	11.9	12.5	11.7	12.4	10.6	6.8	0.1	0.9	0.6	1.9	1.9	1.0	0.1	12.5	5.4
Sep 21	0.9	2.1	3.9	2.4	2.4	4.6	3.6	4.5	4.1	4.9	6.8	10.5	10.8	12.2	11.0	10.5	10.0	7.8	4.2	4.8	5.9	6.0	6.4	6.3	0.9	12.2	6.1
Sep 22	6.2	5.9	5.6	7.3	7.6	7.2	7.0	6.0	8.4	9.3	10.6	11.4	9.5	13.1	11.0	10.2	10.7	9.1	9.2	9.3	9.2	9.2	10.4	11.1	5.6	13.1	8.9
Sep 23	10.6	9.6	8.3	9.2	11.9	10.4	9.0	14.8	12.5	13.0	13.5	15.3	16.3	15.1	17.4	14.0	13.1	11.3	13.2	13.7	13.9	13.4	13.3	12.7	8.3	17.4	**12.7**
Sep 24	12.4	12.1	10.9	8.4	10.0	7.9	7.9	6.5	6.0	3.2	1.4	2.1	2.5	4.4	6.5	3.9	2.0	0.5	0.8	2.1	2.3	1.8	2.9	1.9	0.5	12.4	5.0
Sep 25	0.1	0.1	1.2	1.8	2.9	1.5	1.6	1.5	4.1	5.9	9.5	11.1	12.5	11.5	12.5	12.3	8.9	8.4	7.5	11.4	12.5	11.0	14.3	13.6	0.1	14.3	7.4
Sep 26	12.6	12.1	10.9	11.5	11.5	7.5	9.4	8.1	10.2	9.3	6.4	4.3	5.5	6.2	2.9	3.3	3.0	5.3	0.8	2.8	3.0	3.6	3.7	4.8	0.8	12.6	6.6
Sep 27	2.8	0.5	1.1	3.7	2.8	3.7	3.0	4.0	2.7	1.3	0.9	0.9	2.3	5.0	4.6	2.6	2.9	2.6	0.6	1.4	2.8	3.8	3.8	2.0	0.5	5.0	2.6
Sep 28	1.8	4.6	2.6	1.3	1.5	0.2	0.1	0.7	1.5	4.1	3.4	5.1	5.0	7.3	7.3	6.4	4.0	4.2	0.9	0.7	1.4	1.6	0.8	2.9	0.1	7.3	2.9
Sep 29	3.9	3.8	6.2	6.8	6.2	6.5	6.8	9.2	9.3	8.7	8.8	8.1	7.1	6.9	7.6	7.3	7.6	6.9	7.3	6.2	5.8	5.6	4.8	1.6	1.6	9.3	6.6
Sep 30	1.0	0.2	1.5	0.3	1.3	0.6	0.9	0.4	0.8	1.0	1.0	2.0	2.6	3.8	3.3	3.0	2.2	3.5	2.5	2.6	2.8	3.1	2.7	2.3	0.2	3.8	**1.9**
Diurnal Maximum	12.6	13.1	13.2	12.9	14.4	15.0	12.9	14.8	14.6	14.4	18.1	18.3	17.8	16.2	17.4	15.6	13.6	12.6	13.2	16.9	13.9	13.4	14.3	13.6			
Diurnal Average	5.0	5.2	5.2	5.4	5.7	5.1	4.9	5.3	5.7	6.4	7.1	8.1	8.4	8.8	8.8	8.5	7.7	6.3	4.2	4.6	4.6	4.8	4.9	4.7			

C	Monthly Calibration	**S**	Daily Zero-Span Check	**Q**	Quality Assurance		
K	Collection Error	**ND**	No Data (Machine Not in Service)	**Y**	Routine Maintenance	**P**	Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	**NRM**	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)				

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



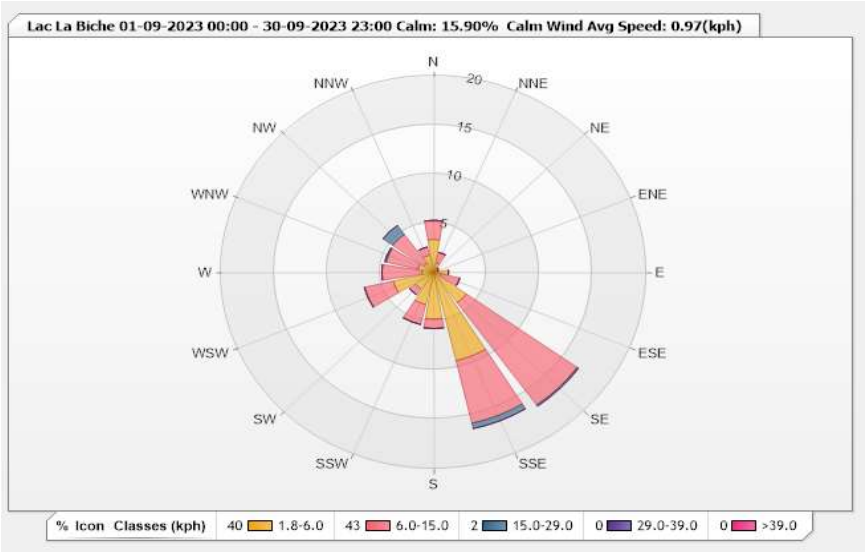


Station: Lac La Biche Monitor: WDS [kph] Monthly: 09-2023

Type: Wind Rose
Direction: Blowing From (Wind Frequency)
Time Base: 1 - Hour

Calm (WS<1.8kph): 15.90% Valid Data: 99.58%

Direction	1.8-6.0	6.0-15.0	15.0-29.0	29.0-39.0	>39.0	Total
N	3.35	1.95	0	0	0	5.3
NNE	0.98	1.12	0	0	0	2.1
NE	0.14	0.42	0	0	0	0.56
ENE	0.42	0	0	0	0	0.42
E	1.39	0	0	0	0	1.39
ESE	0.7	1.81	0	0	0	2.51
SE	3.77	12.83	0.14	0	0	16.74
SSE	9.21	6.56	0.56	0	0	16.33
S	4.74	0.98	0	0	0	5.72
SSW	3.35	2.09	0	0	0	5.44
SW	2.09	0.7	0	0	0	2.79
WSW	3.91	2.79	0	0	0	6.7
W	1.12	3.77	0	0	0	4.89
WNW	1.53	3.07	0.14	0	0	4.74
NW	1.12	3.63	1.12	0	0	5.87
NNW	1.81	0.84	0	0	0	2.65
Summary	39.63	42.56	1.96	0	0	84.15



Lakeland Industry & Community Association

Lac La Biche Station - September 2023

Summary of Hourly Averages

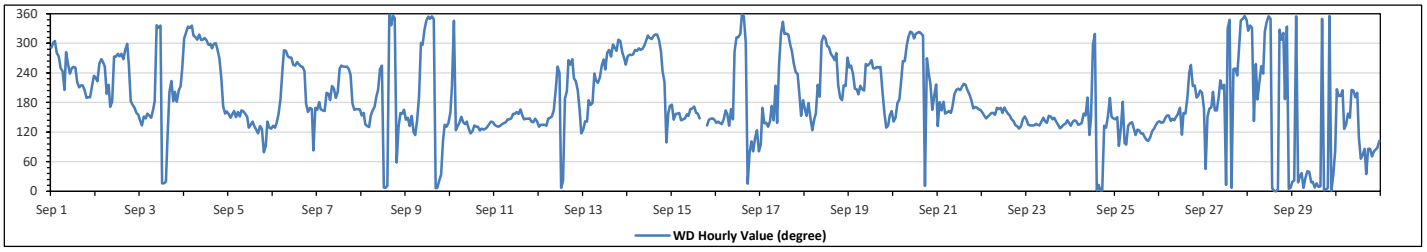
WIND DIRECTION (VWD) in sector

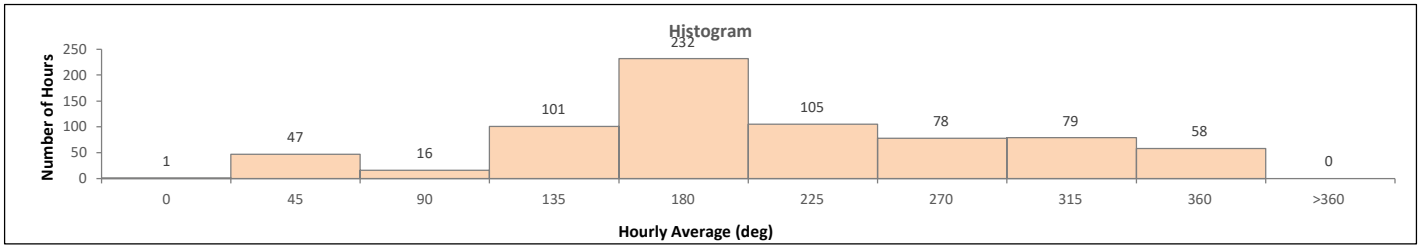
Monthly Average:	183 (S)	degree	
Hours in Service:	720		
Hours of Data:	717		
Hours of Missing Data:	0		
Hours of Calibration:	3		
Operational Uptime:	100.0		

Day	Hourly Period Starting at (MST)																						Daily Average	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Degree	Quadrant
Sep 1	WNW	WNW	WNW	W	W	WSW	WSW	SSW	W	WSW	WSW	WSW	WSW	WSW	SW	SSW	SSW	SSW	SSW	S	S	S	SSW	SW	232	SW
Sep 2	SW	SW	WSW	W	W	WSW	SSW	SW	S	S	W	W	W	W	W	W	WNW	WNW	WSW	S	S	SSE	SSE	SSE	255	WSW
Sep 3	SE	SE	SSE	SE	SSE	SSE	SSE	SSE	S	NNW	NNW	NNW	NNE	NNE	NNE	ESE	SSW	SW	S	SSW	S	SSW	SSW	WSW	160	SSE
Sep 4	NW	NW	NNW	NNW	NNW	NW	NW	NW	NW	NW	NW	NW	NW	WNW	WNW	WNW	WNW	WNW	WNW	W	SW	S	SSE	SSE	309	NW
Sep 5	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SE	SE	SE	SE	SE	ESE	SE	SE	ENE	E	SE	SE	SE	138	SE
Sep 6	SE	SE	SE	SSE	S	WSW	WNW	WNW	W	W	W	WSW	WSW	W	WSW	WSW	WSW	WSW	S	SSE	SSE	SSE	E	SSE	232	SW
Sep 7	SSE	S	SSE	SSE	SSE	SSW	SSW	S	SSW	SSW	S	SSW	WSW	WSW	WSW	WSW	WSW	WSW	SW	S	SSE	SSE	SSE	SSE	223	SW
Sep 8	SSE	SSE	SE	SE	SE	SSE	SSE	S	S	SSW	WSW	WSW	N	N	NNE	N	NNW	N	N	ENE	SE	SSE	SSE	SSE	139	SE
Sep 9	SE	SSE	SE	SSE	ESE	ESE	SE	S	WNW	WNW	NNW	NNW	N	N	N	NNW	N	N	NNE	NE	ESE	SE	SE	SE	5	N
Sep 10	SSE	SSW	NNW	ESE	SE	SE	SSE	SE	SE	SE	SE	ESE	ESE	SE	SE	SE	ESE	SE	SE	SE	SE	SE	SE	SE	132	SE
Sep 11	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SSE	SSE	SSE	SSE	SSE	SSE	SE	SE	SE	SE	SE	SE	SE	SE	146	SE
Sep 12	SE	SE	SE	SE	SE	SE	SSE	SSE	SSE	SSW	WSW	WSW	N	NNE	S	SSW	W	WSW	W	SW	SW	SSW	SSE	ESE	163	SSE
Sep 13	SE	SE	SE	S	S	S	WSW	SW	SW	SW	WSW	W	WSW	W	WNW	W	WNW	WNW	WNW	NW	WNW	W	W	WSW	275	W
Sep 14	W	W	W	W	WNW	WNW	WNW	WNW	WNW	WNW	NW	NW	NW	NW	NW	NW	NW	NW	WNW	WSW	SW	E	SSE	S	296	WNW
Sep 15	S	SE	SSE	SSE	SSE	SE	SE	SE	SSE	SSE	SSE	SSE	S	SSE	SSE	SE	C	C	C	SE	SE	SE	SE	SE	153	SSE
Sep 16	SE	SE	SE	SE	SE	SSE	SSE	SE	SSE	SE	WNW	NW	NW	NW	N	N	WNW	NNE	ENE	E	E	ESE	ESE	E	130	SE
Sep 17	E	SSE	SE	SE	SE	SE	S	SE	SSW	SE	WSW	NW	NNW	NW	NW	NW	WNW	WNW	WSW	WSW	SW	SSW	SSE	S	264	W
Sep 18	SSE	SSE	S	SSE	ESE	SE	SSE	SW	S	WNW	NW	NW	WNW	WNW	W	W	W	W	SSW	S	S	SSW	SSW	W	271	W
Sep 19	WSW	WSW	WSW	SSW	SSW	SSW	SSW	SSW	SSW	WSW	WSW	WSW	W	WSW	WSW	WSW	WSW	WSW	SSW	SSE	SE	SE	SSE	SSE	237	SW
Sep 20	SE	SSE	S	S	SW	W	W	WNW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NNE	W	SW	SW	SSE	SSW	SW	311	NW
Sep 21	SE	S	SSE	S	SSE	SSE	SSE	SSE	S	SSW	SSW	SSW	SSW	SSW	SW	SW	SSW	SSW	S	SSE	S	SSE	SSE	SSE	191	S
Sep 22	SSE	SSE	SE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SE	SE	SE	SE	SE	SE	SE	SSE	153	SSE
Sep 23	SE	SE	SE	SE	SE	SE	SE	SE	SE	SSE	SE	SE	SSE	SSE	SE	SSE	SE	SE	SE	SE	SE	SE	SE	SE	140	SE
Sep 24	SE	SE	SE	SE	SE	SE	SE	SSE	SSE	S	ESE	SSE	WNW	NW	N	NNE	N	N	SE	SSE	S	SSE	SE	SE	139	SE
Sep 25	SE	SSE	E	SE	S	E	E	SE	SE	SE	SE	ESE	SE	ESE	ESE	ESE	ESE	ESE	E	ESE	ESE	SE	SE	SE	122	ESE
Sep 26	SE	SE	SE	SE	SSE	SSE	SE	SE	SE	SSE	SSE	SSE	ESE	SSE	SSE	S	WSW	WSW	SSW	SSW	S	SSW	SSW	SSW	157	SSE
Sep 27	SSE	NE	SSE	SSE	SSE	SSW	SSE	SSE	S	SW	SSW	SW	NNE	NNW	NNW	N	WSW	WSW	SW	WNW	NNW	N	N	NNW	265	W
Sep 28	NW	NNW	NNW	SE	WSW	S	SW	WSW	WSW	NW	NNW	N	N	N	N	N	N	NNW	NW	NW	S	NNW	N	N	346	NNW
Sep 29	NNE	NNE	N	NNE	NNE	NE	N	NNE	NE	NE	NNE	NNE	N	NNE	N	N	N	N	N	N	N	N	NNE	E	16	NNE
Sep 30	SSW	S	S	SSW	SE	SE	SSE	SSE	SSW	SSW	S	SSW	ESE	ENE	ENE	E	NE	E	E	ENE	E	E	E	E	98	E

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	ND	No Data (Machine Not in Service)	Y	Routine Maintenance	P Power Failure
X	InValid Data (Machine Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.





Lakeland Industry & Community Association

Lac La Biche Station - September 2023

Summary of Hourly Averages

VECTOR WIND SPEED (VWS) in km/hr & WIND DIRECTION (VWD) in sector

WIND SPEED

Maximum Hourly Value:	18.3	kph	on Sep 14 at hr 11	Hours in Service:	720
Maximum Daily Value:	12.7	kph	on Sep 23	Hours of Data:	717
Minimum Hourly Value:	0.0	kph	on Sep 10 at hr 1	Hours of Missing Data:	0
Minimum Daily Value:	1.9	kph	on Sep 30	Hours of Calibration:	3
Monthly Average:	1.8	kph		Operational Uptime:	100.0

WIND DIRECTION

Monthly Average: 183 degree (S)

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Sep 1	3.5	3.6	5.6	4.6	4.1	2.6	1.5	1.3	3.8	4.9	7.3	9.1	10.0	10.9	11.3	12.1	11.6	10.2	8.6	7.1	7.8	6.4	6.4	5.1	1.3	12.1	6.6
	WNW	WNW	WNW	W	W	WSW	WSW	SSW	W	WSW	WSW	WSW	WSW	WSW	SW	SSW	SSW	SSW	SSW	S	S	S	SSW	SW			
Sep 2	4.8	4.8	9.1	10.0	8.8	6.2	4.0	3.5	2.2	2.2	4.6	9.1	7.9	7.2	9.1	8.3	7.0	6.8	1.5	2.3	1.2	3.1	3.6	3.6	1.2	10.0	5.5
	SW	SW	WSW	W	W	WSW	SSW	SW	S	S	W	W	W	W	W	W	WNW	WNW	WSW	S	S	SSE	SSE	SSE			
Sep 3	3.9	3.5	3.2	3.4	5.0	4.9	2.9	2.5	0.3	3.6	10.2	10.2	6.8	6.5	4.4	3.9	3.2	2.7	2.9	2.2	2.8	3.1	2.8	3.3	0.3	10.2	4.1
	SE	SE	SSE	SE	SSE	SSE	SSE	SSE	S	NNW	NNW	NNW	NNE	NNE	NNE	ESE	SSW	SW	S	SSW	S	SSW	SSW	WSW			
Sep 4	6.6	12.0	10.2	11.1	8.6	8.3	11.2	11.5	14.6	14.3	13.3	12.9	12.1	9.8	10.0	8.5	8.9	7.1	5.5	4.3	1.4	1.1	1.2	3.4	1.1	14.6	8.7
	NW	NW	NNW	NNW	NNW	NW	NW	NW	NW	NW	NW	NW	NW	WNW	WNW	WNW	WNW	WNW	WNW	W	SW	S	SSE	SSE			
Sep 5	3.2	3.4	3.1	3.5	3.7	3.7	5.0	5.4	6.5	7.9	8.6	8.6	9.3	10.1	7.7	10.4	10.6	8.1	4.4	4.6	1.8	4.5	9.4	7.2	1.8	10.6	6.3
	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SE	SE	SE	SE	SE	ESE	SE	SE	ENE	E	SE	SE	SE			
Sep 6	8.5	9.3	7.5	4.7	3.7	3.1	5.5	5.7	6.9	6.5	6.2	5.2	4.4	5.2	5.9	6.6	6.9	4.0	1.5	0.6	1.5	1.3	0.1	1.3	0.1	9.3	4.7
	SE	SE	SE	SSE	S	WSW	WNW	WNW	W	W	W	WSW	WSW	W	WSW	WSW	WSW	WSW	S	SSE	SSE	SSE	E	SSE			
Sep 7	0.8	1.0	1.8	1.7	1.3	0.6	0.6	2.0	1.2	2.2	4.0	6.5	7.0	8.7	8.6	9.7	9.6	5.9	2.1	1.0	2.9	3.2	3.0	3.7	0.6	9.7	3.7
	SSE	S	SSE	SSE	SSE	SSW	SSW	S	SSW	SSW	S	SSW	WSW	WSW	WSW	WSW	WSW	WSW	SW	S	SSE	SSE	SSE	SSE			
Sep 8	4.6	4.9	3.8	3.8	3.6	4.1	4.1	3.9	4.0	2.9	2.9	2.5	4.1	5.7	5.3	4.0	4.6	3.5	1.8	0.1	0.7	1.2	1.5	1.4	0.1	5.7	3.3
	SSE	SSE	SE	SE	SE	SSE	SSE	S	S	SSW	WSW	WSW	N	N	NNE	N	NNW	N	N	ENE	SE	SSE	SSE	SSE			
Sep 9	1.8	1.2	1.0	0.6	0.1	0.8	0.8	0.4	0.4	1.3	3.6	3.9	4.7	5.4	5.5	5.5	5.0	4.1	3.1	0.5	1.0	0.7	2.4	0.7	0.1	5.5	2.3
	SE	SSE	SE	SSE	ESE	ESE	SE	S	WNW	WNW	NNW	NNW	N	N	N	NNW	N	N	NNE	NE	ESE	SE	SE	SE			
Sep 10	0.7	**0.0**	**0.0**	1.2	3.7	3.9	5.2	8.2	8.4	7.7	5.6	7.4	6.8	8.8	9.0	9.5	9.2	8.4	9.3	9.1	11.4	11.6	9.2	9.0	**0.0**	11.6	6.8
	SSE	SSW	NNW	ESE	SE	SE	SSE	SE	SE	SE	SE	ESE	ESE	SE	SE	SE	ESE	SE	SE	SE	SE	SE	SE	SE			
Sep 11	9.9	9.9	10.8	10.6	10.4	10.1	10.6	10.6	12.0	11.7	12.0	14.1	15.0	13.0	13.1	10.6	9.3	9.2	7.7	7.9	8.6	11.5	11.4	9.3	7.7	15.0	10.8
	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SSE	SSE	SSE	SSE	SSE	SSE	SE	SE	SE	SE	SE	SE	SE	SE			
Sep 12	9.6	10.2	9.3	9.8	9.9	6.8	4.7	4.9	6.0	5.0	4.5	3.8	2.3	1.3	2.5	4.2	6.1	3.0	1.3	1.6	1.5	2.5	0.5	1.0	0.5	10.2	4.7
	SE	SE	SE	SE	SE	SE	SSE	SSE	SSE	SSW	WSW	WSW	N	NNE	S	SSW	W	WSW	W	SW	SW	SSW	SSE	ESE			
Sep 13	1.5	2.5	2.7	2.2	3.0	2.5	2.8	2.1	2.2	4.3	7.6	8.1	7.6	10.0	12.6	14.0	12.4	12.6	8.1	16.9	12.1	7.3	7.8	5.5	1.5	16.9	7.0
	SE	SE	SE	S	S	S	WSW	SW	SW	SW	WSW	W	WSW	W	WNW	W	WNW	WNW	WNW	NW	WNW	W	W	WSW			
Sep 14	10.0	13.1	13.2	12.9	14.4	15.0	12.9	13.4	12.6	14.4	14.0	**18.3**	17.8	16.2	16.2	15.6	13.6	8.6	6.5	2.9	2.6	1.2	0.6	3.1	0.6	**18.3**	11.2
	W	W	W	W	WNW	WNW	WNW	WNW	WNW	WNW	NW	NW	NW	NW	NW	NW	NW	NW	WNW	WSW	SW	E	SSE	S			
Sep 15	4.0	4.1	4.9	3.9	4.0	4.2	4.0	5.3	5.9	6.6	7.0	9.0	9.1	8.4	9.4	10.6	**C**	**C**	**C**	10.1	10.5	11.2	10.8	10.3	3.9	11.2	7.3
	S	SE	SSE	SSE	SSE	SE	SE	SE	SSE	SSE	SSE	SSE	S	SSE	SSE	SE	**C**	**C**	**C**	SE	SE	SE	SE	SE			
Sep 16	10.7	9.7	9.8	9.2	6.3	2.9	3.9	2.4	1.5	0.9	2.0	3.2	4.2	4.1	3.7	3.5	2.3	1.7	1.2	2.1	1.9	2.9	4.1	1.3	0.9	10.7	4.0
	SE	SE	SE	SE	SE	SSE	SSE	SE	SSE	SE	WNW	NW	NW	NW	N	N	WNW	NNE	ENE	E	E	ESE	ESE	E			
Sep 17	2.2	0.8	0.8	4.3	7.7	9.3	3.6	5.6	2.9	4.0	3.8	5.4	7.2	11.0	11.7	10.2	7.4	5.1	3.7	3.8	3.4	3.3	1.8	3.0	0.8	11.7	5.1
	E	SSE	SE	SE	SE	SE	S	SE	SSW	SE	WSW	NW	NNW	NW	NW	NW	WNW	WNW	WSW	WSW	SW	SSW	SSE	S			
Sep 18	2.8	4.1	3.1	4.1	4.1	4.2	4.4	1.7	3.2	12.1	18.1	15.9	16.8	12.8	9.8	11.1	11.5	8.9	3.6	3.1	4.3	3.8	3.4	6.0	1.7	18.1	7.2
	SSE	SSE	S	SSE	ESE	SE	SSE	SW	S	WNW	NW	NW	WNW	WNW	W	W	W	W	SSW	S	S	SSW	SSW	W			
Sep 19	5.3	5.7	4.8	6.5	6.0	5.5	4.9	6.7	6.2	7.1	8.5	10.4	11.7	11.9	11.0	10.8	10.2	5.6	0.5	0.9	1.0	3.2	3.1	3.2	0.5	11.9	6.3
	WSW	WSW	WSW	SSW	SSW	SSW	SSW	SSW	SSW	WSW	WSW	WSW	W	WSW	WSW	WSW	WSW	WSW	SSW	SSE	SE	SE	SSE	SSE			
Sep 20	1.8	0.5	0.5	2.0	3.3	4.1	3.6	5.5	9.4	10.9	8.2	7.7	11.9	12.5	11.7	12.4	10.6	6.8	0.1	0.9	0.6	1.9	1.9	1.0	0.1	12.5	5.4
	SE	SSE	S	S	SW	W	W	WNW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NNE	W	SW	SW	SSE	SSW	SW			
Sep 21	0.9	2.1	3.9	2.4	2.4	4.6	3.6	4.5	4.1	4.9	6.8	10.5	10.8	12.2	11.0	10.5	10.0	7.8	4.2	4.8	5.9	6.0	6.4	6.3	0.9	12.2	6.1
	SE	S	SSE	S	SSE	SSE	SSE	SSE	S	SSW	SSW	SSW	SSW	SSW	SW	SW	SSW	SSW	S	SSE	S	SSE	SSE	SSE			
Sep 22	6.2	5.9	5.6	7.3	7.6	7.2	7.0	6.0	8.4	9.3	10.6	11.4	9.5	13.1	11.0	10.2	10.7	9.1	9.2	9.3	9.2	9.2	10.4	11.1	5.6	13.1	8.9
	SSE	SSE	SE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SE	SE	SE	SE	SE	SE	SE	SSE			
Sep 23	10.6	9.6	8.3	9.2	11.9	10.4	9.0	14.8	12.5	13.0	13.5	15.3	16.3	15.1	17.4	14.0	13.1	11.3	13.2	13.7	13.9	13.4	13.3	12.7	8.3	17.4	**12.7**
	SE	SE	SE	SE	SE	SE	SE	SE	SE	SSE	SE	SE	SSE	SSE	SE	SSE	SE	SE	SE	SE	SE	SE	SE	SE			
Sep 24	12.4	12.1	10.9	8.4	10.0	7.9	7.9	6.5	6.0	3.2	1.4	2.1	2.5	4.4	6.5	3.9	2.0	0.5	0.8	2.1	2.3	1.8	2.9	1.9	0.5	12.4	5.0
	SE	SE	SE	SE	SE	SE	SE	SSE	SSE	S	ESE	SSE	WNW	NW	N	NNE	N	N	SE	SE	SSE	S	SSE	SE			
Sep 25	0.1	0.1	1.2	1.8	2.9	1.5	1.6	1.5	4.1	5.9	9.5	11.1	12.5	11.5	12.5	12.3	8.9	8.4	7.5	11.4	12.5	11.0	14.3	13.6	0.1	14.3	7.4
	SE	SSE	E	SE	S	E	E	SE	SE	SE	SE	ESE	SE	ESE	ESE	ESE	ESE	ESE	E	ESE	ESE	SE	SE	SE			
Sep 26	12.6	12.1	10.9	11.5	11.5	7.5	9.4	8.1	10.2	9.3	6.4	4.3	5.5	6.2	2.9	3.3	3.0	5.3	0.8	2.8	3.0	3.6	3.7	4.8	0.8	12.6	6.6
	SE	SE	SE	SE	SSE	SSE	SE	SE	SE	SSE	SSE	SSE	ESE	SSE	SSE	S	WSW	WSW	SSW	SSW	S	SSW	SSW	SSW			
Sep 27	2.8	0.5	1.1	3.7	2.8	3.7	3.0	4.0	2.7	1.3	0.9	0.9	2.3	5.0	4.6	2.6	2.9	2.6	0.6	1.4	2.8	3.8	3.8	2.0	0.5	5.0	2.6
	SSE	NE	SSE	SSE	SSE	SSW	SSE	SSE	S	SW	SSW	SW	NNE	NNW	NNW	N	WSW	WSW	SW	WNW	NNW	N	N	NNW			
Sep 28	1.8	4.6	2.6	1.3	1.5	0.2	0.1	0.7	1.5	4.1	3.4	5.1	5.0	7.3	7.3	6.4	4.0	4.2	0.9	0.7	1.4	1.6	0.8	2.9	0.1	7.3	2.9
	NW	NNW	NNW	SE	WSW	S	SW	WSW	WSW	NW	NNW	N	N	N	N	N	N	NNW	NW	NW	S	NNW	N	N			
Sep 29	3.9	3.8	6.2	6.8	6.2	6.5	6.8	9.2	9.3	8.7	8.8	8.1	7.1	6.9	7.6	7.3	7.6	6.9	7.3	6.2	5.8	5.6	4.8	1.6	1.6	9.3	6.6
	NNE	NNE	N	NNE	NNE	NE	N	NNE	NE	NE	NNE	NNE	N	NNE	N	N	N	N	N	N	N	N	NNE	E			
Sep 30	1.0	0.2	1.5	0.3	1.3	0.6	0.9	0.4	0.8	1.0	1.0	2.0	2.6	3.8	3.3	3.0	2.2	3.5	2.5	2.6	2.8	3.1	2.7	2.3	0.2	3.8	**1.9**
	SSW	S	S	SSW	SE	SE	SSE	SSE	SSW	SSW	S	SSW	ESE	ENE	ENE	E	NE	E	E	ENE	E	E	E	E			

C	Monthly Calibration	**S**	Daily Zero-Span Check	**Q**	Quality Assurance	
K	Collection Error	**ND**	No Data (Machine Not in Service)	**Y**	Routine Maintenance	**P** Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	**NRM**	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Lakeland Industry & Community Association

Lac La Biche Station - September 2023

Summary of Hour Standard Deviations

STANDARD DEVIATION WIND DIRECTION (STDWD) in Degree

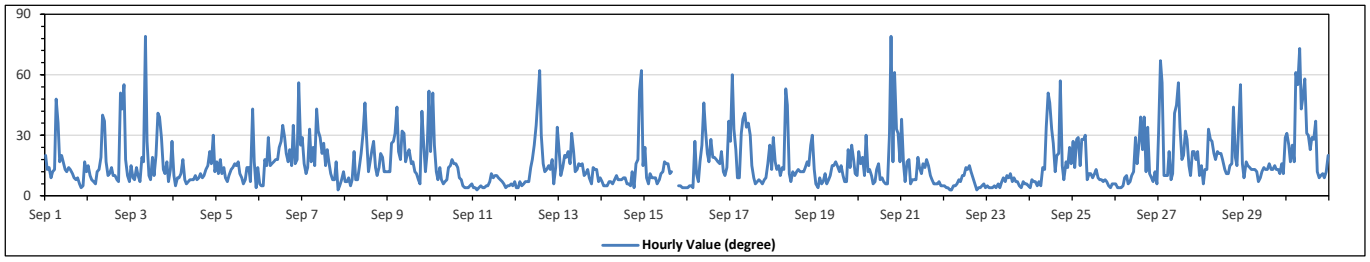
Maximum Hourly Value:	79 degree on Sep 3 at hr 8	Hours in Service:	720
		Hours of Data:	717
Minimum Hourly Value:	3 degree on Sep 7 at hr 20	Hours of Missing Data:	0
		Hours of Calibration:	3
		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
Sep 1	20	13	14	9	12	13	48	36	17	20	17	13	12	14	13	11	9	8	9	6	4	5	17	12	4	48
Sep 2	15	10	8	7	6	12	13	19	40	37	17	10	11	14	10	10	8	7	51	43	55	18	10	7	6	55
Sep 3	15	9	8	14	10	7	19	17	**79**	27	10	8	19	10	20	41	39	29	13	11	17	7	13	27	7	**79**
Sep 4	10	5	9	9	11	18	8	6	7	8	8	8	10	8	9	11	9	10	13	15	22	16	30	12	5	30
Sep 5	17	11	18	11	14	9	7	10	13	14	16	15	17	11	9	6	8	14	14	7	43	17	4	14	4	43
Sep 6	6	5	5	18	15	29	15	16	17	18	18	24	27	35	29	21	17	23	15	35	16	18	56	25	5	56
Sep 7	29	16	11	14	33	17	24	15	43	32	29	21	26	15	23	16	11	8	8	17	**3**	5	8	12	**3**	43
Sep 8	7	7	9	5	8	22	8	8	15	21	31	46	29	12	17	23	27	14	10	14	21	19	12	12	5	46
Sep 9	12	12	26	27	31	44	22	18	32	31	17	21	23	16	17	12	11	8	6	42	27	12	21	52	6	52
Sep 10	22	51	25	12	8	14	8	6	7	8	14	15	18	16	16	14	9	8	5	4	4	4	5	6	4	51
Sep 11	4	4	**3**	4	5	4	4	5	5	7	11	9	10	10	9	8	7	6	4	5	5	6	5	7	**3**	11
Sep 12	4	4	7	5	6	7	7	7	14	18	25	35	47	62	30	16	12	13	15	13	18	6	14	34	4	62
Sep 13	22	10	14	20	19	22	16	31	22	12	13	16	15	16	10	11	13	9	6	14	13	13	7	9	6	31
Sep 14	7	5	5	5	7	7	6	8	10	8	8	8	9	9	6	6	5	12	4	16	18	52	62	15	4	62
Sep 15	24	9	6	11	9	9	9	6	8	11	12	17	16	16	11	12	**C**	**C**	**C**	5	5	4	4	4	4	24
Sep 16	4	5	5	4	27	11	7	17	25	46	33	21	17	28	19	19	18	17	16	22	12	10	14	37	4	46
Sep 17	27	60	33	23	9	9	31	38	41	34	36	30	15	9	6	7	8	7	6	8	9	16	25	13	6	60
Sep 18	29	17	13	15	10	14	13	53	45	11	7	12	10	12	13	12	12	12	14	17	15	25	30	13	7	53
Sep 19	6	4	9	6	7	11	6	8	10	15	15	17	15	12	15	10	7	7	23	14	25	18	11	10	4	25
Sep 20	22	16	19	10	30	12	13	10	6	7	13	16	8	9	7	6	6	30	**79**	17	61	33	31	17	6	**79**
Sep 21	38	16	7	17	18	6	8	8	8	19	14	11	16	14	18	15	10	8	6	6	6	7	5	5	5	38
Sep 22	5	4	4	**3**	**3**	5	5	6	8	7	10	10	14	13	15	12	9	6	**3**	4	4	5	6	4	**3**	15
Sep 23	5	4	4	4	5	4	6	4	7	9	7	10	9	11	7	9	7	7	5	4	7	6	6	5	4	11
Sep 24	4	8	7	7	5	7	5	14	13	34	51	46	33	26	12	20	21	57	15	8	17	14	24	16	4	57
Sep 25	27	14	28	29	15	28	28	30	8	11	11	9	11	13	9	8	8	7	8	7	5	4	6	6	4	30
Sep 26	6	4	4	4	5	9	10	6	7	10	12	29	16	26	39	23	39	12	34	11	9	7	12	6	4	39
Sep 27	31	67	56	10	10	10	22	8	11	41	45	56	34	18	20	32	28	15	10	22	22	18	22	10	8	67
Sep 28	15	6	13	13	33	28	27	21	18	22	21	21	18	13	11	11	15	16	44	19	15	37	55	16	6	55
Sep 29	9	17	15	14	13	13	13	12	7	9	12	14	13	13	16	13	13	15	13	13	11	16	11	29	7	29
Sep 30	31	25	17	25	17	61	55	73	43	50	58	31	30	23	29	28	37	12	9	10	11	9	12	20	9	73
Diurnal Minimum	4	4	3	3	3	4	4	4	5	7	7	8	8	8	6	6	5	6	3	4	3	4	4	4		
Diurnal Maximum	38	67	56	29	33	61	55	73	79	50	58	56	47	62	39	41	39	57	79	43	61	52	62	52		

C	Monthly Calibration	**S**	Daily Zero-Span Check	**Q**	Quality Assurance	
K	Collection Error	**ND**	No Data (Machine Not in Service)	**Y**	Routine Maintenance	**P** Power Failure
X	InValid Data (Machine Malfunction /Recovery)	**NRM**	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.

Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



END OF REPORT

This page, 1 of 1 ends the September 2023 Monthly Ambient Air Quality Monitoring Report.

Lakeland Industry & Community Association

SEPTEMBER 2023

Ambient Air Monitoring Calibration Report

- COLD LAKE SOUTH STATION-

CAL-LICA-202309-01174

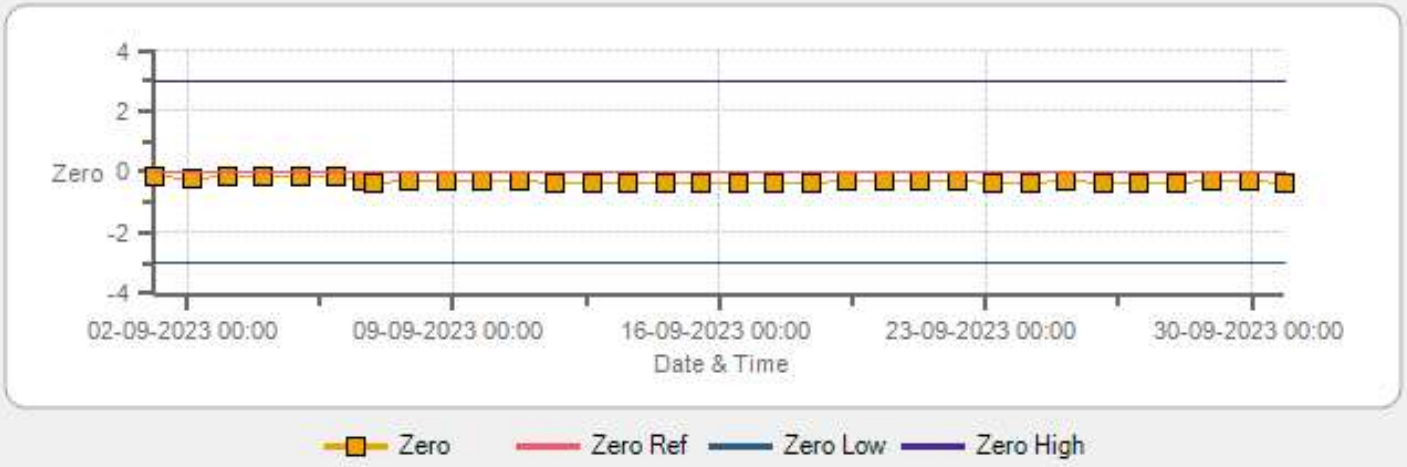
Station Operation and Maintenance:
Bureau Veritas Canada

Data Validation and Report:
LICA / Bureau Veritas Canada

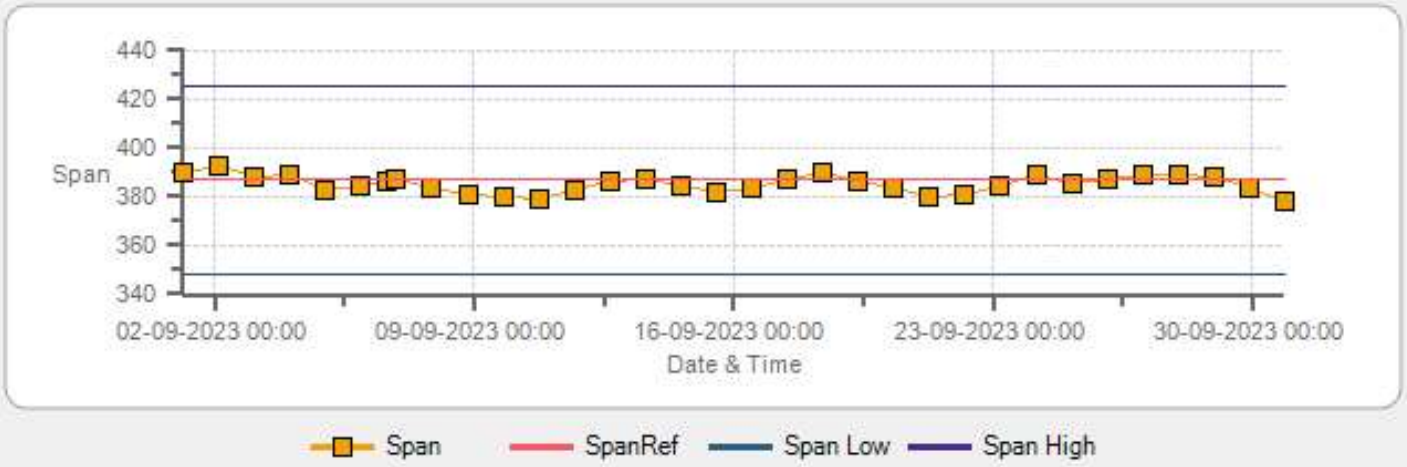
October 17, 2023

DAILY INTERNAL ZERO-SPAN CALIBRATION RECORDS

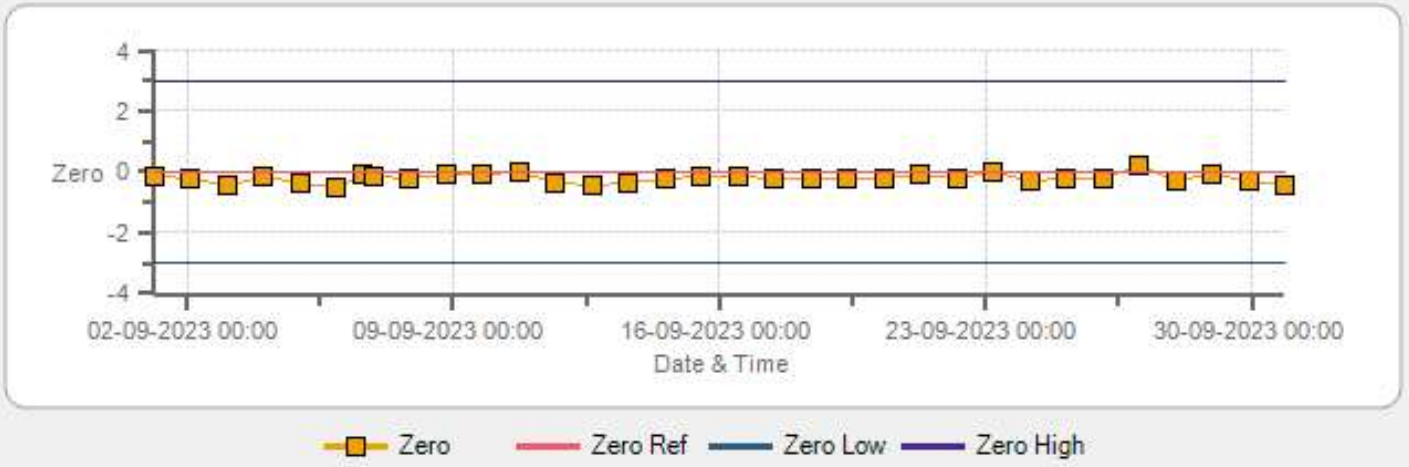
SO2[ppb] Calibration: Cold Lake South Monthly: 09-2023 Type: SpanAndZero - Zero



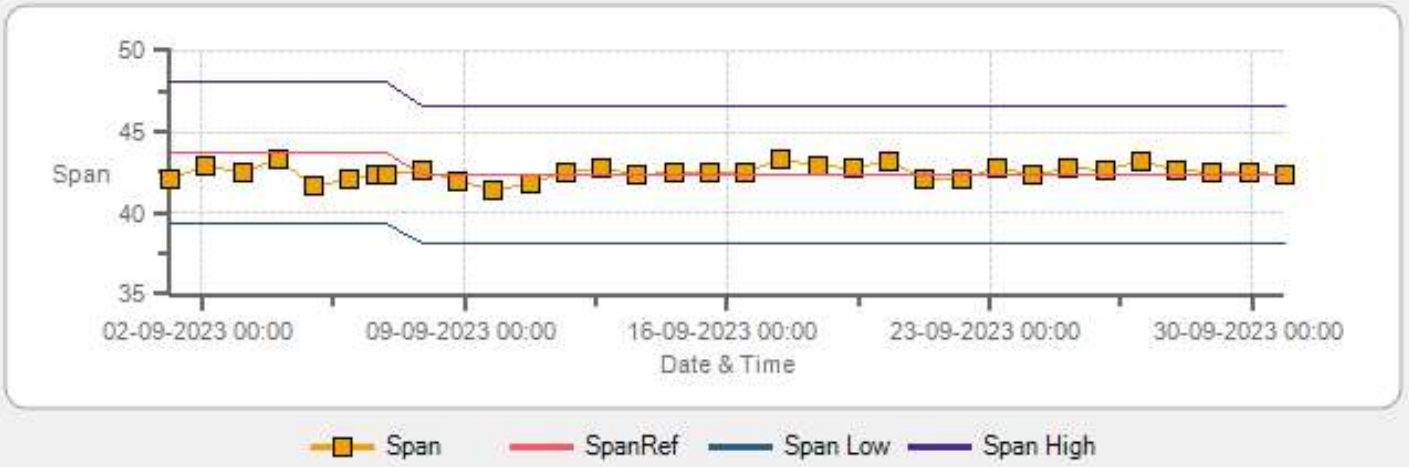
SO2[ppb] Calibration: Cold Lake South Monthly: 09-2023 Type: SpanAndZero - Span



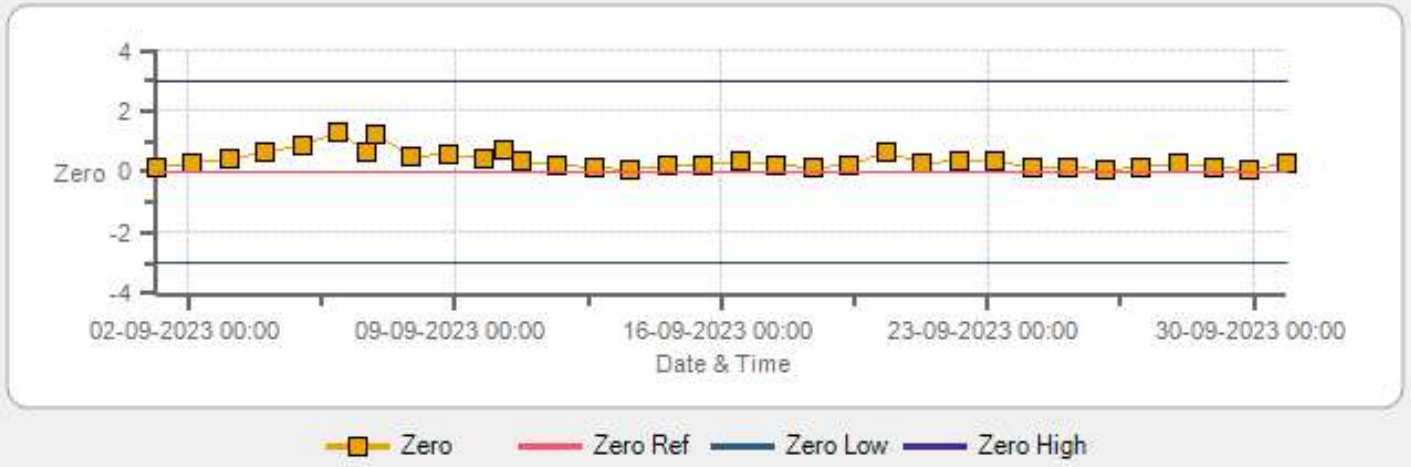
TRS[ppb] Calibration: Cold Lake South Monthly: 09-2023 Type: SpanAndZero - Zero



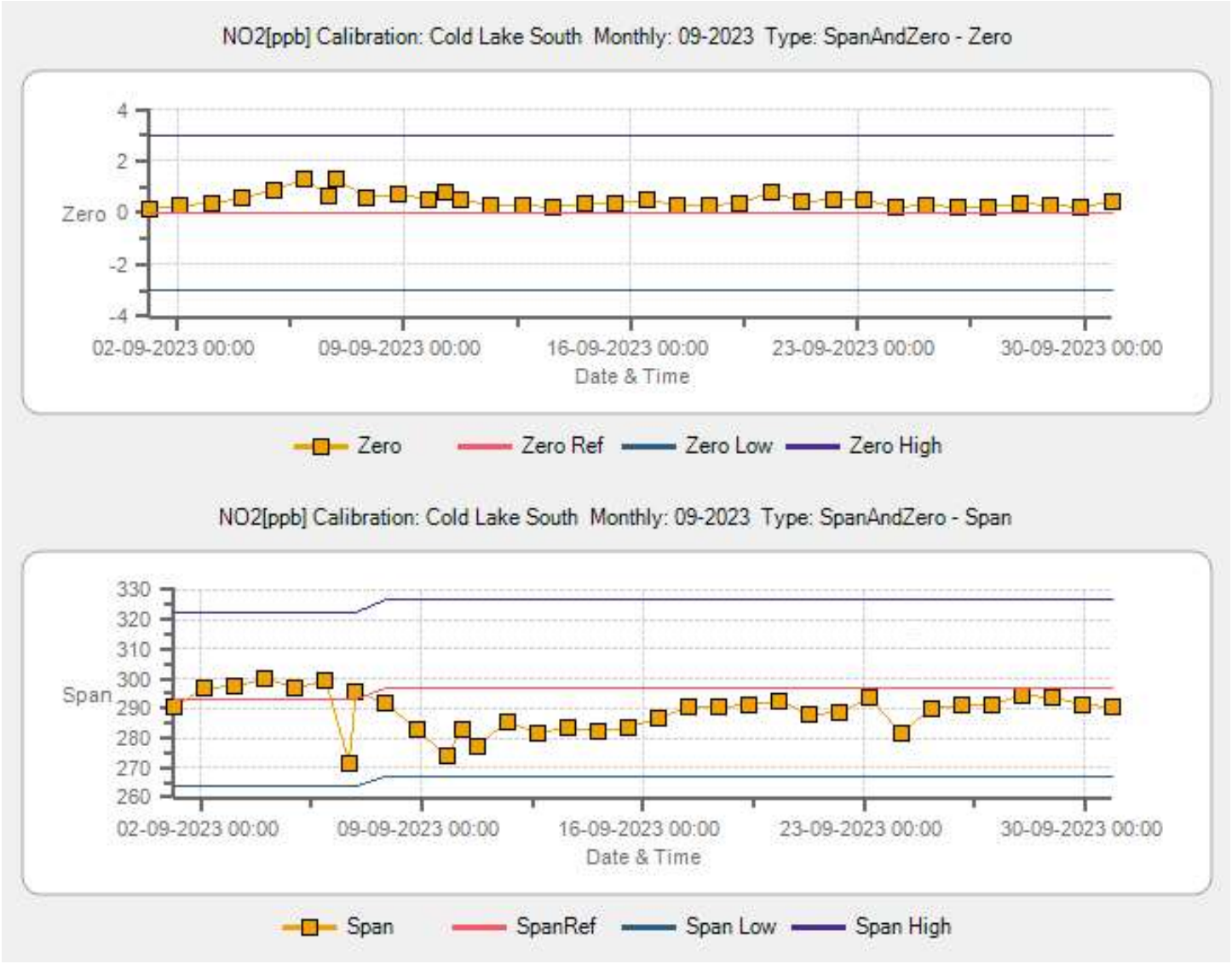
TRS[ppb] Calibration: Cold Lake South Monthly: 09-2023 Type: SpanAndZero - Span

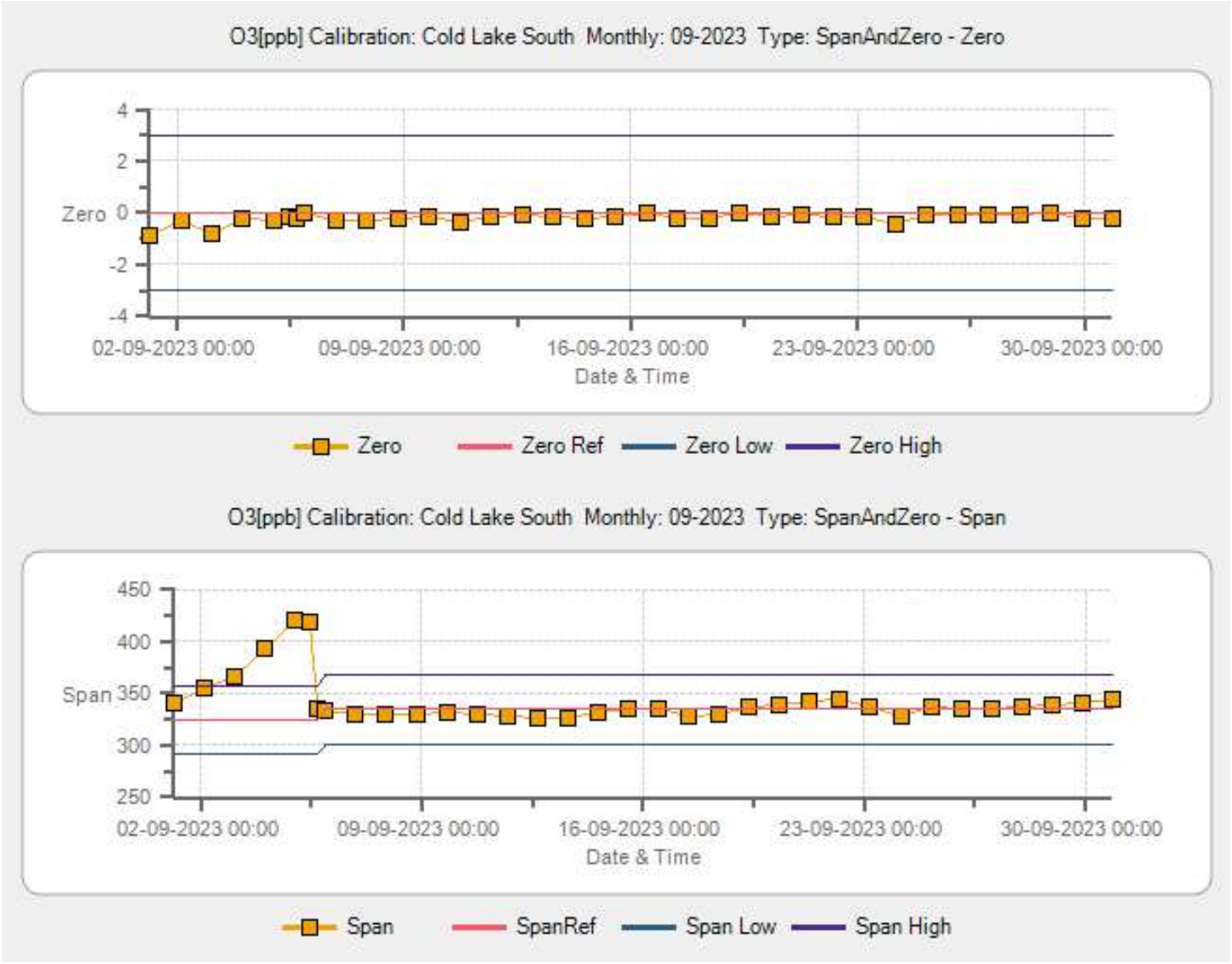


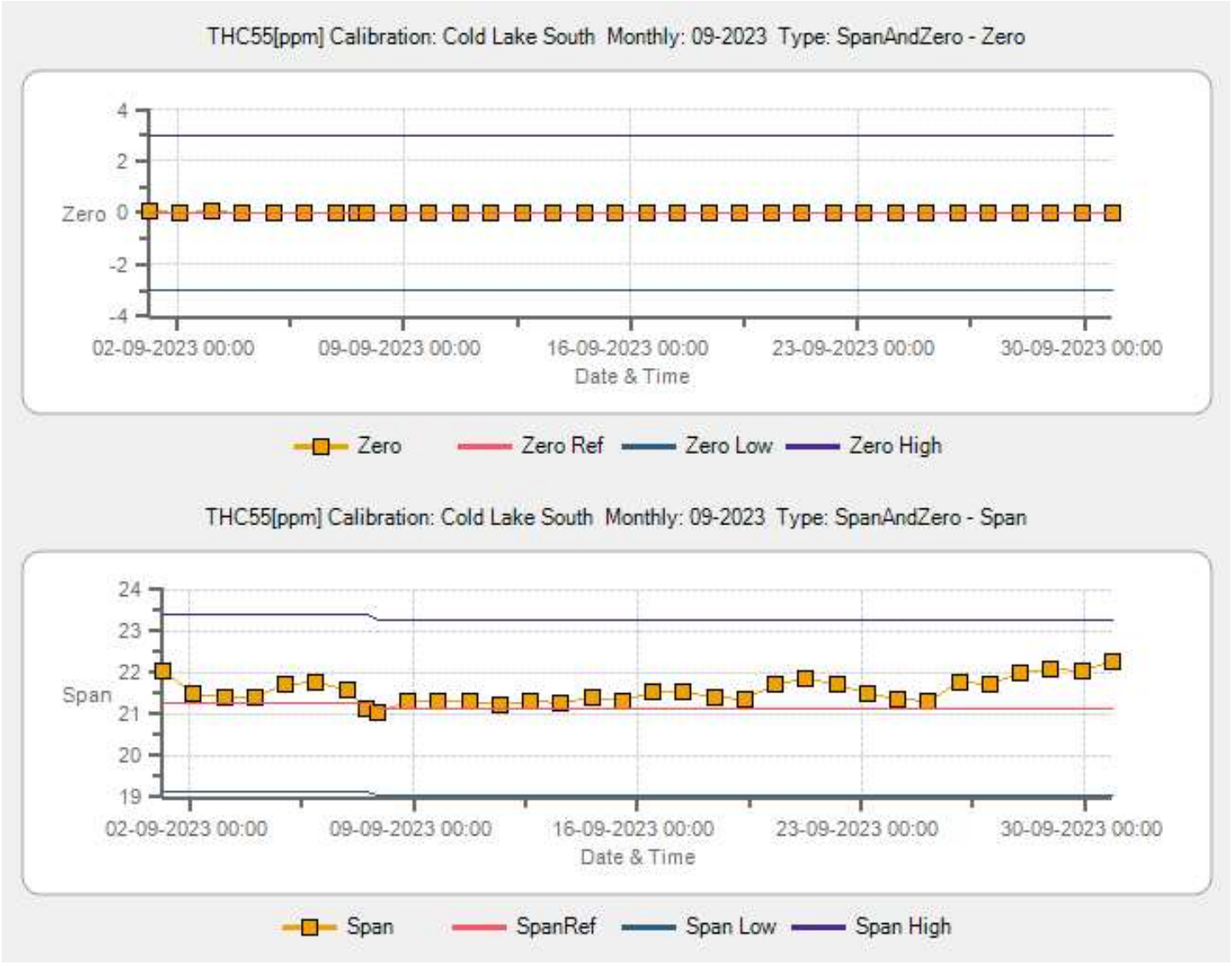
NOX[ppb] Calibration: Cold Lake South Monthly: 09-2023 Type: SpanAndZero - Zero

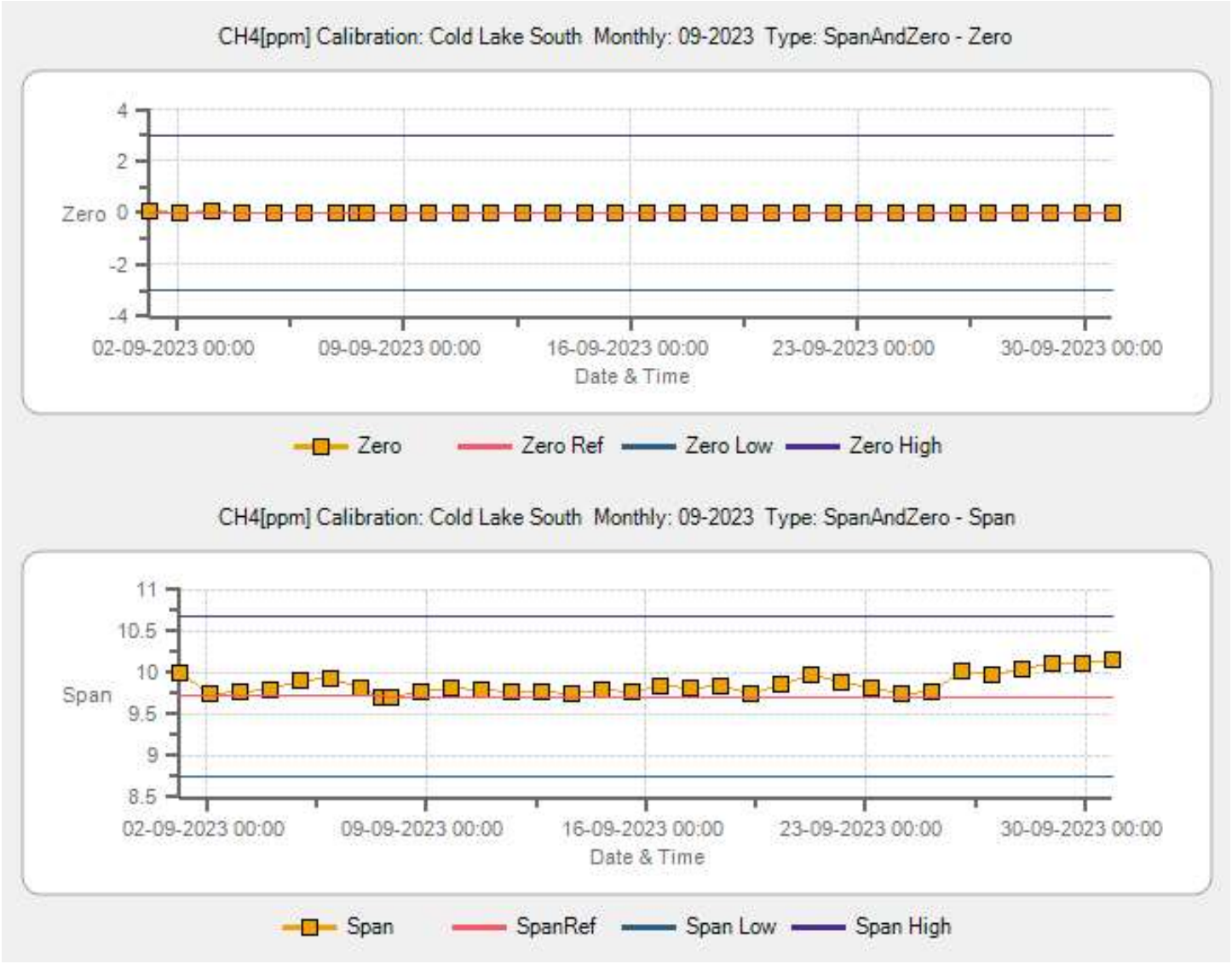


NOX[ppb] Calibration: Cold Lake South Monthly: 09-2023 Type: SpanAndZero - Span


NO2[ppb] Calibration: Cold Lake South Monthly: 09-2023 Type: SpanAndZero - Zero
4
2
Zero 0
-2
-4
02-09-2023 00:00
09-09-2023 00:00
16-09-2023 00:00
23-09-2023 00:00
30-09-2023 00:00
Date & Time
Zero
Zero Ref
Zero Low
Zero High
NO2[ppb] Calibration: Cold Lake South Monthly: 09-2023 Type: SpanAndZero - Span
330
320
310
300
Span 290
280
270
260
02-09-2023 00:00
09-09-2023 00:00
16-09-2023 00:00
23-09-2023 00:00
30-09-2023 00:00
Date & Time
Span
SpanRef
Span Low
Span High


O3[ppb] Calibration: Cold Lake South Monthly: 09-2023 Type: SpanAndZero - Zero
4
2
Zero 0
-2
-4
02-09-2023 00:00
09-09-2023 00:00
16-09-2023 00:00
23-09-2023 00:00
30-09-2023 00:00
Date & Time
Zero
Zero Ref
Zero Low
Zero High
O3[ppb] Calibration: Cold Lake South Monthly: 09-2023 Type: SpanAndZero - Span
450
400
Span 350
300
250
02-09-2023 00:00
09-09-2023 00:00
16-09-2023 00:00
23-09-2023 00:00
30-09-2023 00:00
Date & Time
Span
SpanRef
Span Low
Span High


THC55[ppm] Calibration: Cold Lake South Monthly: 09-2023 Type: SpanAndZero - Zero
4
2
Zero 0
-2
-4
02-09-2023 00:00
09-09-2023 00:00
16-09-2023 00:00
23-09-2023 00:00
30-09-2023 00:00
Date & Time
Zero
Zero Ref
Zero Low
Zero High
THC55[ppm] Calibration: Cold Lake South Monthly: 09-2023 Type: SpanAndZero - Span
24
23
22
Span
21
20
19
02-09-2023 00:00
09-09-2023 00:00
16-09-2023 00:00
23-09-2023 00:00
30-09-2023 00:00
Date & Time
Span
SpanRef
Span Low
Span High


CH4[ppm] Calibration: Cold Lake South Monthly: 09-2023 Type: SpanAndZero - Zero
4
2
Zero 0
-2
-4
02-09-2023 00:00
09-09-2023 00:00
16-09-2023 00:00
23-09-2023 00:00
30-09-2023 00:00
Date & Time
Zero
Zero Ref
Zero Low
Zero High
CH4[ppm] Calibration: Cold Lake South Monthly: 09-2023 Type: SpanAndZero - Span
11
10.5
10
Span
9.5
9
8.5
02-09-2023 00:00
09-09-2023 00:00
16-09-2023 00:00
23-09-2023 00:00
30-09-2023 00:00
Date & Time
Span
SpanRef
Span Low
Span High


NMHC[ppm] Calibration: Cold Lake South Monthly: 09-2023 Type: SpanAndZero - Zero
4
2
Zero 0
-2
-4
02-09-2023 00:00
09-09-2023 00:00
16-09-2023 00:00
23-09-2023 00:00
30-09-2023 00:00
Date & Time
Zero
Zero Ref
Zero Low
Zero High
NMHC[ppm] Calibration: Cold Lake South Monthly: 09-2023 Type: SpanAndZero - Span
13
12
Span
11
10
02-09-2023 00:00
09-09-2023 00:00
16-09-2023 00:00
23-09-2023 00:00
30-09-2023 00:00
Date & Time
Span
SpanRef
Span Low
Span High

MULTI-POINT CALIBRATION RECORDS

SO2 Analyzer Calibration by Dilution

DATE:	06-Sep-2023	PREVIOUS CALIBRATION DATE:	09-Aug-2023
PARAMETER:	SO2	PREVIOUS CORRECTION FACTOR:	0.997
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	CLS	BAROMETRIC (mBar):	948
PURPOSE	Routine	START TIME (MST):	10:21
PERFORMED BY:	Alex Yakupov	END TIME (MST):	14:47

ANALYZER:

MAKE/MODEL	Thermo 43I-TLE	RANGE	500 ppb
SERIAL #	1180260018	FLOW (mL/min)	439
INITIAL		FINAL	
BKG/OFFSET	2.27	BKG/OFFSET	2.45
COEF/SLOPE	0.985	COEF/SLOPE	0.989
Expected (reference) Value	387	Expected (reference) Value	387

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010	MODEL:	T701
ID:	17100415	ID:	132
MFC CALIBRATION DATE:	12-Apr-2023	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	LL 127895	HIGH ID	n/a
CONC (ppm):	50.40	EXPIRY DATE	n/a
CYLINDER (psi):	1100	LOW ID	n/a
EXPIRY DATE	27-Oct-2030	EXPIRY DATE	n/a

CALIBRATION PARAMETERS:

POINT	HIGH	MID	LOW
TARGET	390	190	95
RANGE	300 - 400	150 - 200	50 - 100

SCRUBBER CHECK (15 MINS; TRS/H2S ONLY):

START TIME:	n/a	SO2 Conc (ppb)	n/a
END TIME:	n/a	Analyzer Response (ppb)	n/a

CALIBRATION:

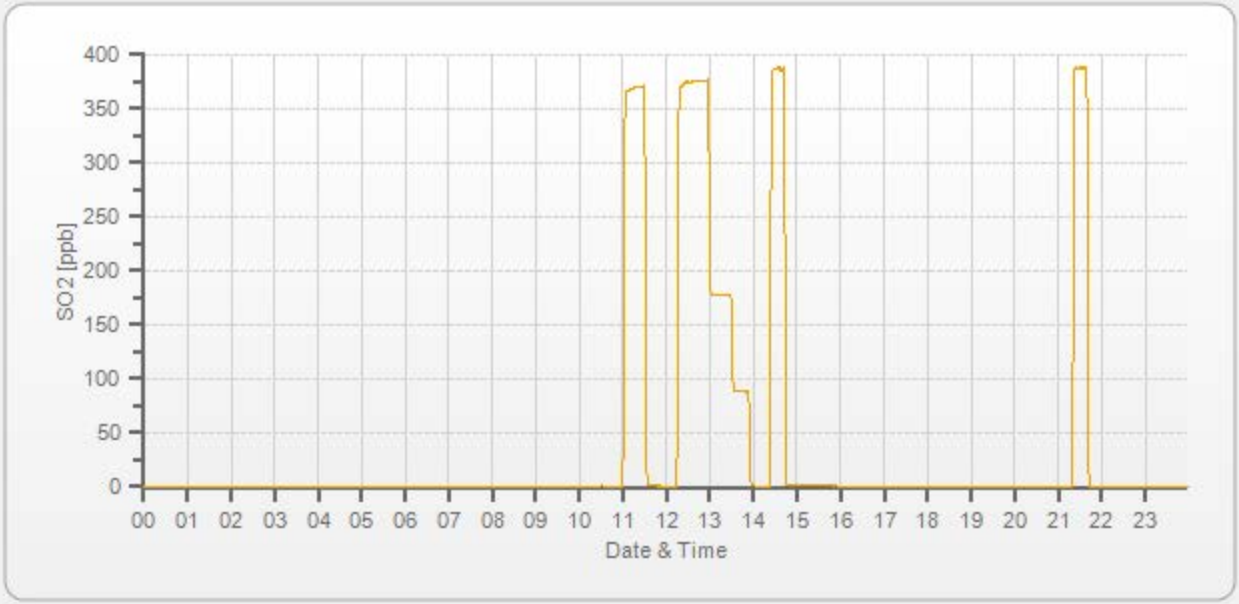
FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
			ACTUAL	INDICATED		Initial	Final
DILUENT	GAS	TOTAL		Initial	Final		
5000		5000	0.00	-0.1	0		
4961	37.20	4998	375.13	370.2	375.4	1.013	0.999
4982	17.60	5000	177.41	n/a	176.8	n/a	1.003
4990	8.80	4999	88.72	n/a	87.6	n/a	1.013

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.002	-0.1%

COMMENTS:

Sample inlet filter was changed.


SO2[ppb] Station: Cold Lake South Daily: 06-09-2023 Type: AVG 1 Min. [1 Min.]
SO2 [ppb]
400
350
300
250
200
150
100
50
0
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23
Date & Time
SO2 [ppb]

TRS Analyzer Calibration by Dilution

DATE:	06-Sep-2023	PREVIOUS CALIBRATION DATE:	09-Aug-2023
PARAMETER:	TRS	PREVIOUS CORRECTION FACTOR:	1.000
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	CLS	BAROMETRIC (mBar):	948
PURPOSE	Routine	START TIME (MST):	10:20
PERFORMED BY:	Alex Yakupov	END TIME (MST):	14:47

ANALYZER:

MAKE/MODEL	Thermo 450i	RANGE	100 ppb
SERIAL #	812728560	FLOW (mL/min)	493
INITIAL		FINAL	
BKG/OFFSET	27.4	BKG/OFFSET	27.4
COEF/SLOPE	1.162	COEF/SLOPE	1.173
Expected (reference) Value	43.7	Expected (reference) Value	42.4

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010 D	MODEL:	T701
ID:	11900613	ID:	132
MFC CALIBRATION DATE:	12-Apr-2023	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	EY 0002287	HIGH ID	n/a
CONC (ppm):	10.10	EXPIRY DATE	n/a
CYLINDER (psi):	300	LOW ID	n/a
EXPIRY DATE	14-Sep-2024	EXPIRY DATE	n/a

CALIBRATION PARAMETERS:

POINT	HIGH	MID	LOW
TARGET	78	38	19
RANGE	60 - 80	30 - 40	10 - 20

SCRUBBER CHECK (15 MINS; TRS/H2S ONLY):

START TIME:	10:24	SO2 Conc (ppb)	380
END TIME:	10:39	Analyzer Response (ppb)	0.0

CALIBRATION:

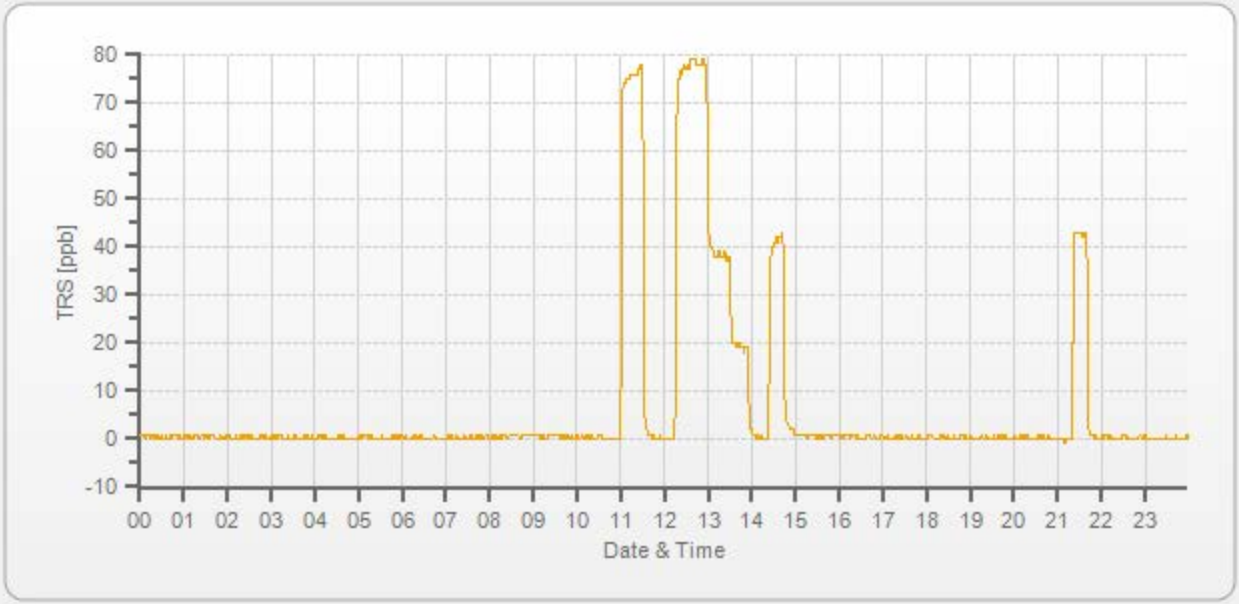
FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
			ACTUAL	INDICATED		Initial	Final
DILUENT	GAS	TOTAL		Initial	Final		
7500		7500	0.00	0	0		
7442	57.90	7500	77.97	76.2	78.2	1.023	0.997
7472	28.20	7500	37.98	n/a	38	n/a	0.999
7486	14.10	7500	18.99	n/a	19	n/a	0.999

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.003	0.0%

COMMENTS:

Sample inlet filter was changed.


TRS[ppb] Station: Cold Lake South Daily: 06-09-2023 Type: AVG 1 Min. [1 Min.]
80
70
60
50
40
30
20
10
0
-10
TRS [ppb]
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23
Date & Time
TRS [ppb]

NOx Calibration by Dilution/Gas-Phase Titration

CALIBRATION:

DATE:	06-Sep-2023	PREVIOUS CALIBRATION DATE:	09-Aug-2023
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	CLS	BAROMETRIC (mBar):	948
PURPOSE	Routine	START TIME (MST):	10:22
PERFORMED BY:	Alex Yakupov	END TIME (MST):	16:44

ANALYZER:

MAKE/MODEL:	Thermo 42i	PREVIOUS CF.	
SERIAL #:	1505664393	NOx	1.001
FLOW (mL/min)	685	NO	1.000
RANGE (ppb)	500	NO2	1.002
GPT FOR O3?		No	

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:		CALIBRATION GAS:			FLOWMETERS (if applicable):	
MAKE:	SABIO	MAKE:	Teledyne	CYLINDER ID:	LL 127895		HIGH ID:	n/a
MODEL:	2010	MODEL:	T701	NO/NOx (PPM):	51.1	51.6	HIGH EXPIRY:	n/a
ID:	17100415	ID:	132	CYLINDER (psi):	1200		LOW ID:	n/a
MFC CALIBRATION DATE:	12-Apr-2023	OXIDIZER ID:	n/a	EXPIRY DATE	27-Oct-2030		LOW EXPIRY:	n/a

CALIBRATION SETTINGS:

INITIAL	NOx	NO	NO2	FINAL	NOx	NO	NO2
BKG/OFFSET:	5.1	5	n/a	BKG/OFFSET:	5.2	5	n/a
SLOPE/COEF/CE:	1.007	1.086	0.999	SLOPE/COEF/CE:	1.007	1.072	0.999

EXPECTED (REFERENCE) VALUE:

INITIAL	NOx	NO	NO2	FINAL	NOx	NO	NO2
	305.0	12.2	293.0		306.0	10.4	297.0

CALIBRATION PARAMETERS:

POINT	NO TARGET (PPB)	NO2 TARGET (PPB)	NO2 RANGE	O3 POINT
HIGH	380	250	230-265	n/a
MID	180	125	115-150	n/a
LOW	90	45	40-55	n/a
EXTRA 1	n/a	n/a	n/a	n/a

NO/NOx CALIBRATION:

FLOW RATE (mL/min)			CONCENTRATION (ppb)									CORRECTION FACTOR (CF.)					
			CALCULATED			INITIAL INDICATED			FINAL INDICATED			INITIAL			FINAL		
DILUENT	GAS	TOTAL	NO	NOx	NO2	NO	NOx	NO2	NO	NOx	NO2	NO	NOx	NO2	NO	NOx	NO2
5000		5000	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0						
4961	37.20	4998	380.3	384.1	3.7	386.1	390.5	4.3	379.6	383.0	3.3	0.985	0.984		1.002	1.003	
4982	17.60	5000	179.9	181.6	1.8	n/a	n/a	n/a	179.9	181.6	1.6	n/a	n/a		1.000	1.000	
4990	8.80	4999	90.0	90.8	0.9	n/a	n/a	n/a	89.9	90.6	0.7	n/a	n/a		1.001	1.003	

GPT CALIBRATION:

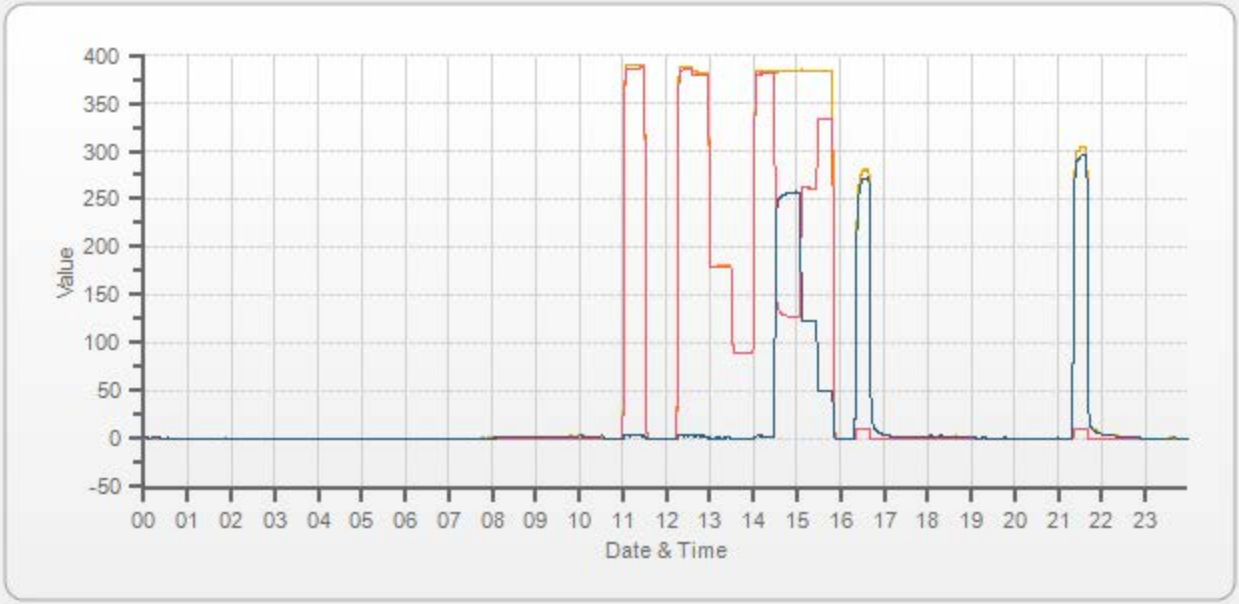
Point	CALIBRATOR			INDICATED (ppb)			NO DROP / O3 Conc (ppb)	NO2 GAIN (ppb)	NO2 Corr. FACTOR	CONV. EFFICIENCY
	GAS	TOTAL	O3 SETPOINT	NO	NOx	NO2				
REFERENCE	37.20	4998	0	381.2	384.4	3.1				
AS-FOUND HIGH	37.20	4998	235	127.1	384.2	257.0	254.1	253.9	1.001	99.92%
ADJUSTED HIGH	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**n/a**	**n/a**	n/a
MID	37.20	4998	110	261.2	384.2	122.9	120	119.8	1.002	99.83%
LOW	37.20	4998	40	333.6	384.6	50.9	47.6	47.8	0.996	100.42%
NO2 adjustment not required.									AVERAGE:	100.06%

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
NO	1.000	0.998	0.03%
NOx	1.000	0.997	0.02%
NO2	1.000	0.998	0.03%

COMMENTS:

Sample inlet filter was changed.


Station: Cold Lake South Daily: 06-09-2023 Type: AVG 1 Min. [1 Min.]
400
350
300
250
200
150
100
50
0
-50
Value
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23
Date & Time
NOX [ppb]
NO [ppb]
NO2 [ppb]

Ozone Calibration by Photometer (Varying UV Lamp)

DATE:	05-Sep-2023	PREVIOUS CALIBRATION DATE:	17-Aug-2023
PARAMETER:	O3	PREVIOUS CORRECTION FACTOR:	0.998
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	CLS	BAROMETRIC (mBar):	953
PURPOSE	Routine	START TIME (MST):	12:29
PERFORMED BY:	Alex Yakupov	END TIME (MST):	16:58

ANALYZER:

MAKE/MODEL	Thermo 49i	RANGE	500 ppb
SERIAL #	1002240371	FLOW (mL/min)	1515
INITIAL		FINAL	
BKG/OFFSET	0.3	BKG/OFFSET	0.2
COEF/SLOPE	1.258	COEF/SLOPE	1.006
Expected (reference) Value	324	Expected (reference) Value	335

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010 D	MODEL:	T701
ID:	11900613	ID:	132
MFC CALIBRATION DATE:	12-Apr-2023	OXIDIZER ID:	n/a
CALIBRATION METHOD:		Photometer (Varying UV Lamp)	
GPT DATE:	n/a	GPT END TIME:	n/a

CALIBRATION PARAMETERS:

POINT	HIGH	MID	LOW
RANGE	300 - 400	150 - 200	50 - 100

CALIBRATION:

FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
			ACTUAL	INDICATED		Initial	Final
DILUENT	GAS	TOTAL		Initial	Final		
5000		5000	0.0	0.0	0.0		
5000		5000	378.0	469.6	375.1	**0.805**	1.008
5000		5000	180.0	n/a	178.0	n/a	1.011
5000		5000	61.0	n/a	60.9	n/a	1.002

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	0.992	0.0%

COMMENTS:

Early monthly calibration because of the span drift.
Zero Air pump was rebuilt.
The High As Found failed (two attempts were made, and the cal gear was reset)


O3[ppb] Station: Cold Lake South Daily: 05-09-2023 Type: AVG 1 Min. [1 Min.]
550
500
450
400
350
300
250
200
150
100
50
0
-50
O3 [ppb]
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23
Date & Time
O3 [ppb]

Methane/Non-Methane Analyzer Calibration by Dilution

CALIBRATION:

DATE:	07-Sep-2023	PREVIOUS CALIBRATION DATE:	10-Aug-2023
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	CLS	BAROMETRIC (mBar):	950
PURPOSE	Routine	START TIME (MST):	09:05
PERFORMED BY:	Alex Yakupov	END TIME (MST):	13:10

ANALYZER:

VALUE	MAKE/MODEL	SERIAL	FLOW (mL/min)
	Thermo 55i	1180930025	1100
PARAMETER:	CH4	NMHC	THC
RANGE (ppm):	20	20	40
PREVIOUS CF:	1.001	0.994	0.998

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:		CALIBRATION GAS:			FLOWMETERS (if applicable):	
MAKE:	SABIO	MAKE:	Teledyne	CYLINDER ID:	LL 23593		HIGH ID:	n/a
MODEL:	2010	MODEL:	T701	CH_4/C_3H_8 (ppm):	603.0	204.0	HIGH EXPIRY:	n/a
ID:	17100415	ID:	134	CYLINDER (psi):	1100		LOW ID:	n/a
MFC CALIBRATION DATE:	12-Apr-2023	OXIDIZER ID:	n/a	EXPIRY DATE	18-Aug-2029		LOW EXPIRY:	n/a

CALIBRATION PARAMETERS:

POINT (CH4/NMHC)	HIGH	MID	LOW	CH4 EQUIVILANCE	
TARGET	14	7	3.5	C_3H_8 as CH_4	561.0
RANGE	12 - 16	6 - 8	2 - 4	THC as CH_4	1164.0

EXPECTED (REFERENCE) VALUE:

INITIAL	CH4	NMHC	THC	FINAL	CH4	NMHC	THC
	9.72	11.56	21.28		9.71	11.42	21.14

CALIBRATION:

FLOW RATE (mL/min)			CONCENTRATION (PPM)									CORRECTION FACTOR (CF.)					
			CALCULATED			INITIAL INDICATED			FINAL INDICATED			INITIAL			FINAL		
DILUENT	GAS	TOTAL	CH4	NMHC	THC	CH4	NMHC	THC	CH4	NMHC	THC	CH4	NMHC	THC	CH4	NMHC	THC
3100		3100	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
3025	74.60	3100	14.51	13.50	28.01	14.53	13.66	28.19	14.48	13.52	28.00	0.999	0.988	0.994	1.002	0.999	1.000
3063	37.30	3100	7.26	6.75	14.01	n/a	n/a	n/a	7.20	6.88	14.09	n/a	n/a	n/a	1.008	0.981	0.994
3081	18.60	3100	3.62	3.37	6.98	n/a	n/a	n/a	3.58	3.52	7.10	n/a	n/a	n/a	1.011	0.956	0.984

LINEAR REGRESSION ANALYSIS:

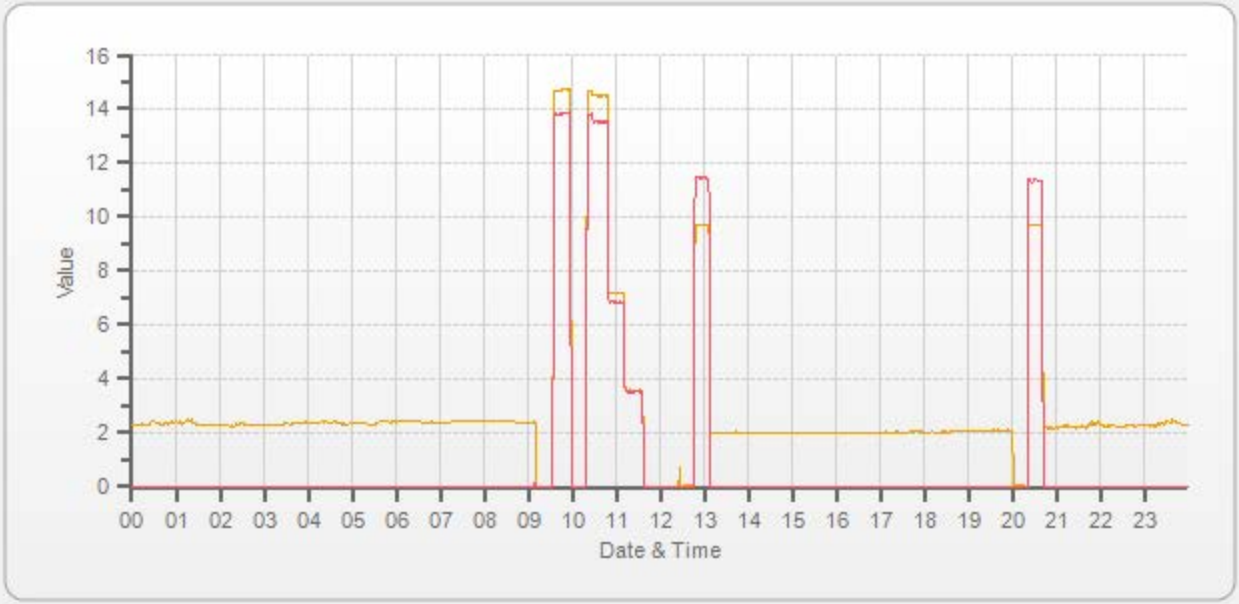
	CORRELATION	SLOPE	INTERCEPT
CH4	1.000	0.998	-0.1%
NMHC	1.000	0.999	0.4%
THC	1.000	0.999	0.2%

Comments:

Sample inlet filter was changed. A new N2 gas cylinder was connected.

Use Zero Chrom? **Yes**

Station: Cold Lake South Daily: 07-09-2023 Type: AVG 1 Min. [1 Min.]



Teledyne T640 Audit/Calibration

Date/Previous Audit Date:	September 25, 2023	August 10, 2023	**Weather Conditions:**	Moderate rain	
Company:	LICA		**Start Time (mst):**	18:16	
Station:	Cold Lake South		**End Time (mst):**	19:08	
Parameter:	PM 2.5		**Performed By/Reviewer:**	Alex Yakupov	Chris Wesson

Instrument Data:

Make/Model:	Teledyne T640	**Serial Number:**	575
Owner:	LICA	**Alarms (detail in comments):**	No

Reference Standards/I.D./Expiry Date:

Flow Standard:	Chinook FTS/#091099 / Nov 03, 2023	**Temperature:**	Vaisala / HM70 / #T1640130/ Jun 26, 2024
Digital Manometer:	Dwyer 475-1 MarkIII/#2/ Nov 25, 2023	**Pressure:**	Fisher / FB 61291/ #130168457/ Mar 20, 2024

DIAGNOSTICS:

Ambient Pressure (mmHg)	710.9	Ambient Temp (°C)	18.1	ASC Heater Duty (%)	0.0
Box Temp (°C)	28.6	Current PMT HV (V)	1429	LED Temp (°C)	37.64
P3 Value	31	PMT Setting (V)	1432	Pump PWM (%)	77
Sample Flow (L/min)	4.98	Sample RH (%RH)	32.5	Sample Temp (°C)	26.1

Monthly Audit/Calibration:

Item:	As-found		As-left		Tolerance
	Reference	T640x	Reference	T640x	
Zero Test (Leak Check)	PM10	0.0	PM10	0.0	0.0 to 0.2
	PM2.5	0.0	PM2.5	0.0	
Ambient Pressure (mmHg)	711.0	711.0	711	711	+/- 10 mm Hg
Ambient Temperature (°C)	18.60	17.9	n/a		+/- 2°C
Sample Flow (L/min)	4.99	5	4.99	5	+/-5% of T640x (e.g., 4.75 – 5.25 lpm)

Additional Monthly Maintenance :	***Completed***
Inlet cleaned?	Yes
Sample tubing inspected (inner and outer)?	Yes

Comments:

n/a

Meteorological System Checklist

Date:	September 7, 2023		
Technician:	Alex Yakupov		
Station:	Cold Lake South		
Unit:	**Make:**	**Model:**	**Serial #:**
Temperature Sensor:	Rotronic	HC2A-S3	20257103
Barometric Pressure Sensor:	MetOne	92	Y23368
Relative Humidity Sensor:	Rotronic	HC2A-S3	20257103
Anemometer:	RM Young	05305AQ	177354
AMBIENT TEMPERATURE SENSOR CHECK			
Parameter:	Temperature @ 2 metres		
Reference Thermometer ID:	Vaisala / HM70 / #T1640130/ Jun 26, 2024		
Reference Temperature (°C):	17.0		
Station - Ambient Temperature (°C):	16.3		
Temperature Difference (°C):	0.7		
BAROMETRIC PRESSURE SENSOR CHECK			
Reference Barometer ID:	Fisher / FB 61291/ #130168457/ Mar 20, 2024		
Reference Pressure - Units/Reading:	millibar	948	
Station Pressure - Units/Reading:	millibar	950	
Pressure Tolerance +/- 15% of error:	806 - 1090	-0.21%	
RELATIVE HUMIDITY (HYGROMETER) SENSOR CHECK			
Reference Hygrometer ID:	Vaisala / HM70 / #T1640130/ Jun 26, 2024		
Reference Hygrometer % RH- Reading:	58.20		
Station Hygrometer % RH- Reading:	61.50		
RH Tolerance +/- 15% of difference:	49.47 - 66.93	-5.7%	
ANEMOMETER - WIND SPEED & WIND DIRECTION SENSOR CHECK			
WIND SPEED		WIND DIRECTION	
Previous check date:	August 10, 2023	Previous check date:	August 10, 2023
Wind Speed Observed (kph):	0 - 10	Wind Direction Observed:	SE
Wind speed on Data Logger (kph):	7.1	Wind Direction on Data Logger:	SE
	Annual audit: Jul 6, 2022	Wind Direction Pass/Fail?:	Pass

Comments

Station (Trailer) temperature vs Reference gauge: 23.9 vs 23.6, Difference = 0.3 degrees. Passed. Wind system: Model 05305AQ. Signal box # 32400

Meteorological Sensor Audit/Calibration

Location Information

Company:	LICA	**Performed By:**	Alex Yakupov
Audit Location:	Cold Lake South	**Reviewed By:**	Chris Wesson
Audit Date:	July 6, 2022	**Start/End Time (mst):**	15:54 / 17:48
Calibration Purpose:	routine annual	**Weather Conditions:**	A few clouds

Wind Sensor Information

Sensor ID Data:		**Sensor Outputs:**	
Sensor Make:	RM Young	**Velocity Voltage Output Range:**	n/a
Sensor Model:	05305AQ	**Velocity Unit Output Range:**	0-200
Serial #:	177354	**Direction Voltage Output Range:**	n/a
Previous Cal/Audit Date:	April 20, 2021	**Direction Unit Output Range:**	0-360

Wind Calibrator Information

Calibrator I.D. and Expiry Date: RM Young 18802 id# CA4744 expires Aug 6, 2022

Wind Speed Audit Data **+/- 2% of the average correction factor is the limit**

RPM	Wind Speed Generated kph	Clockwise Wind Speed kph	Counter Clockwise Wind Speed kph	Correction Factor
0	0	0.0	0.0	-
1000	18.4	18.2	18.2	1.013
2000	36.9	36.6	36.6	1.007
3000	55.3	55.1	55.1	1.003
4000	73.7	73.5	73.5	1.003
5000	92.2	92.1	92.0	1.001
6000	110.6	110.4	110.3	1.002
7000	129.0	128.8	128.8	1.002
8000	147.4	147.3	147.3	1.001
9000	165.9	165.6	165.6	1.002
10000	184.3	184.2	184.2	1.001
		The audit meets AMD requirements.	**Average Correction Factor=**	**1.003**

Wind Direction Audit Data **+/- 3° of the absolute average degrees difference for all points is the limit**

Generated Wind Direction 0-360 (Up)	Generated Wind Direction 360-0 (Down)	Indicated Wind Direction 0-360 (Up)	Indicated Wind Direction 360-0 (Down)	Degrees Difference 0-360 (Up)	Degrees Difference 360-0 (Down)	Average Absolute Degrees Difference
0	355	0	355	0.1	0.0	0.1
30	330	27	329	2.7	1.4	2.0
60	300	58	298	2.4	1.9	2.1
90	270	89	268	1.1	2.1	1.6
120	240	119	239	0.9	1.1	1.0
150	210	148	208	1.6	2.1	1.8
180	180	178	180	2.4	-0.2	1.3
210	150	208	149	2.3	1.1	1.7
240	120	239	119	1.3	0.6	1.0
270	90	268	91	2.2	-1.2	1.7
300	60	298	58	2.3	1.9	2.1
330	30	329	28	1.3	2.5	1.9
355	0	355	0	-0.1	0.1	0.1
The audit meets AMD requirements.			**Average Absolute Degrees Difference=**			**1.4**

Comments:

Output via RMY32400 Serial Interface

End of Report

Lakeland Industry & Community Association

SEPTEMBER 2023

Ambient Air Monitoring Calibration Report

- TAMARACK STATION-

CAL-LICA-202309-01248

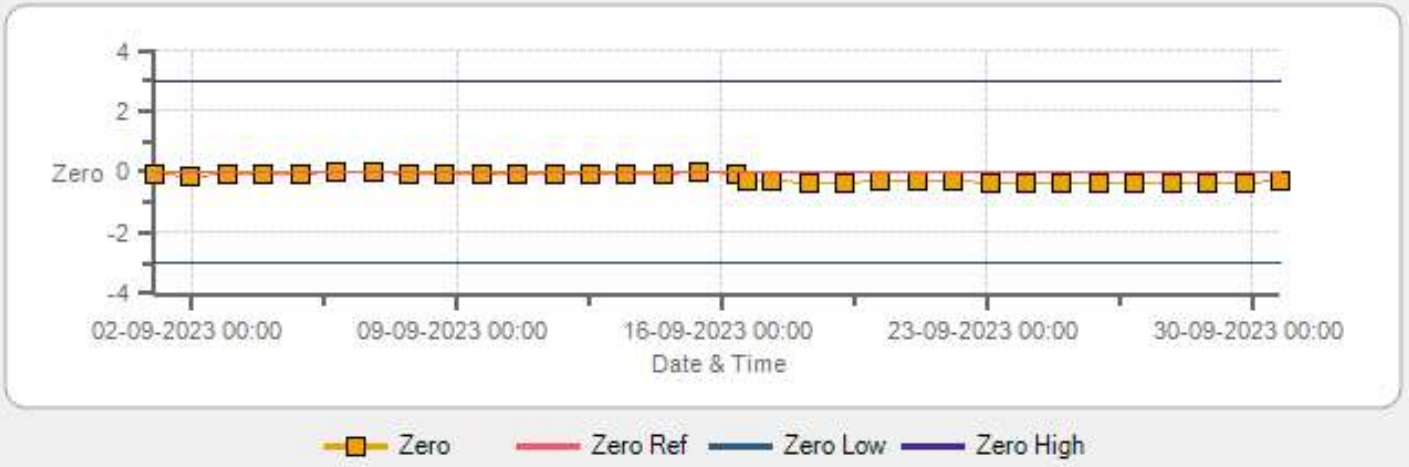
Station Operation and Maintenance:
Bureau Veritas Canada

Data Validation and Report:
LICA / Bureau Veritas Canada

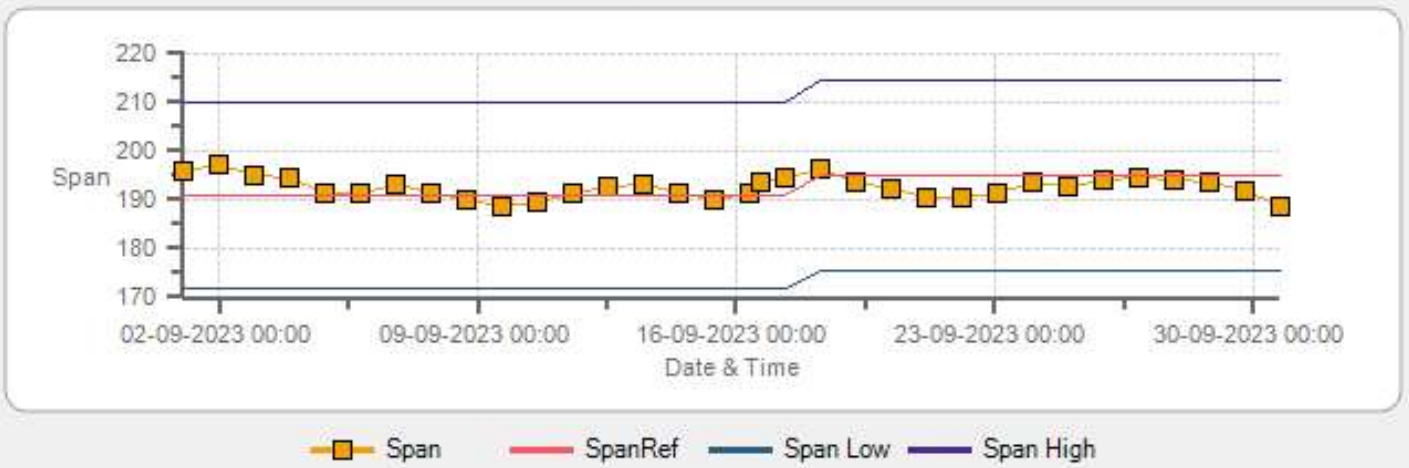
October 17, 2023

DAILY INTERNAL ZERO-SPAN CALIBRATION RECORDS

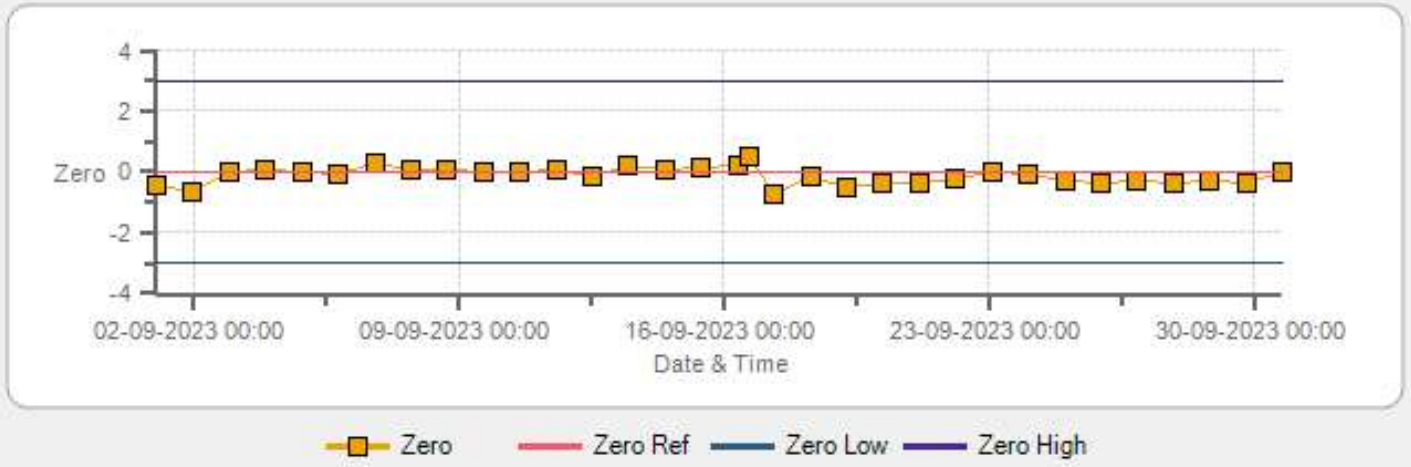
SO2[ppb] Calibration: Tamarack Monthly: 09-2023 Type: SpanAndZero - Zero



SO2[ppb] Calibration: Tamarack Monthly: 09-2023 Type: SpanAndZero - Span

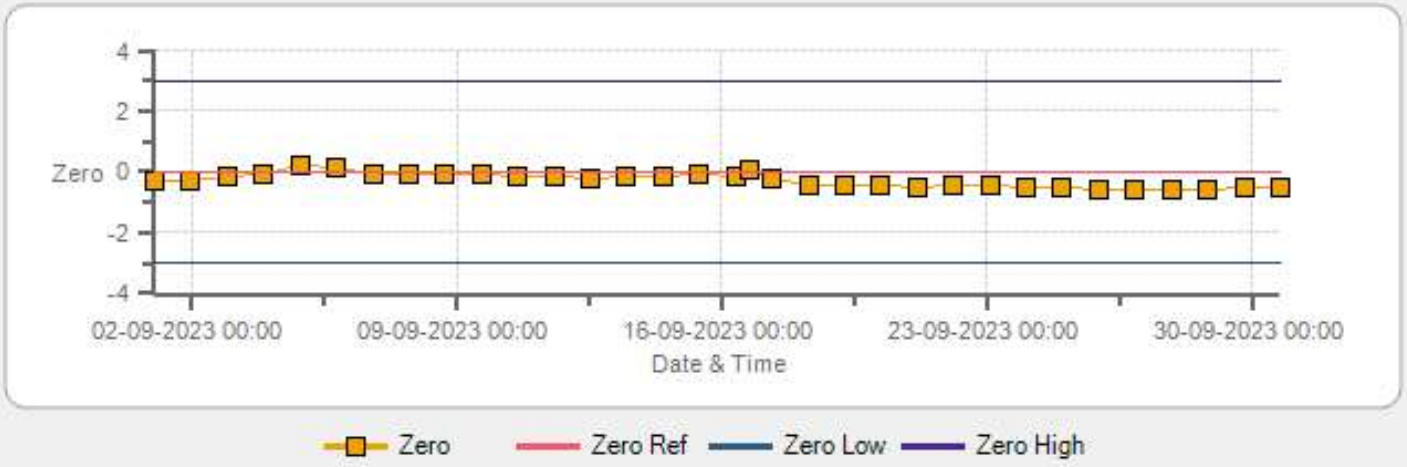


H2S[ppb] Calibration: Tamarack Monthly: 09-2023 Type: SpanAndZero - Zero

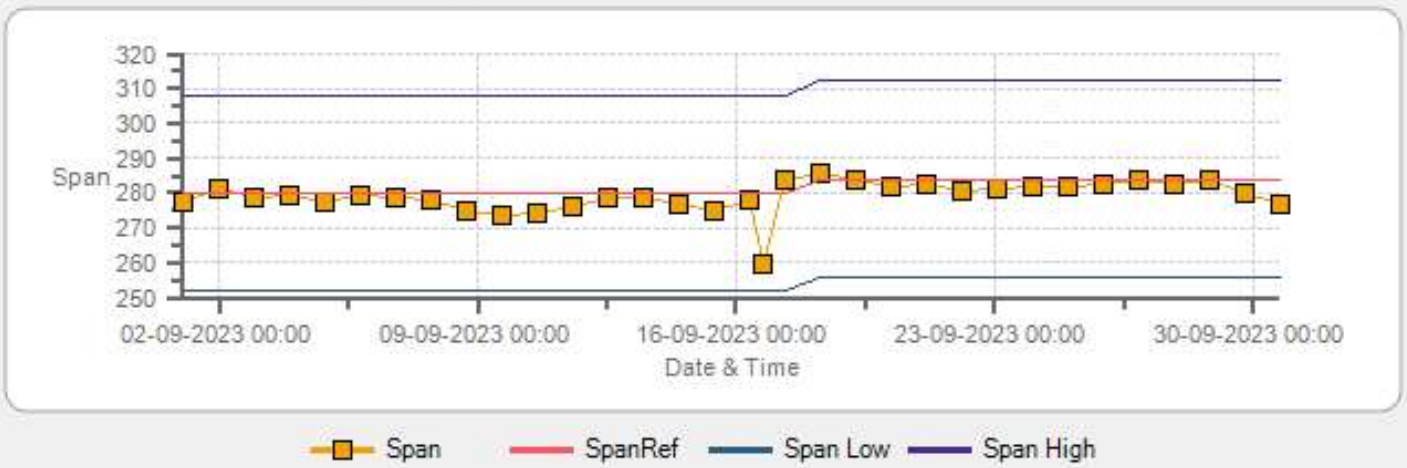


H2S[ppb] Calibration: Tamarack Monthly: 09-2023 Type: SpanAndZero - Span

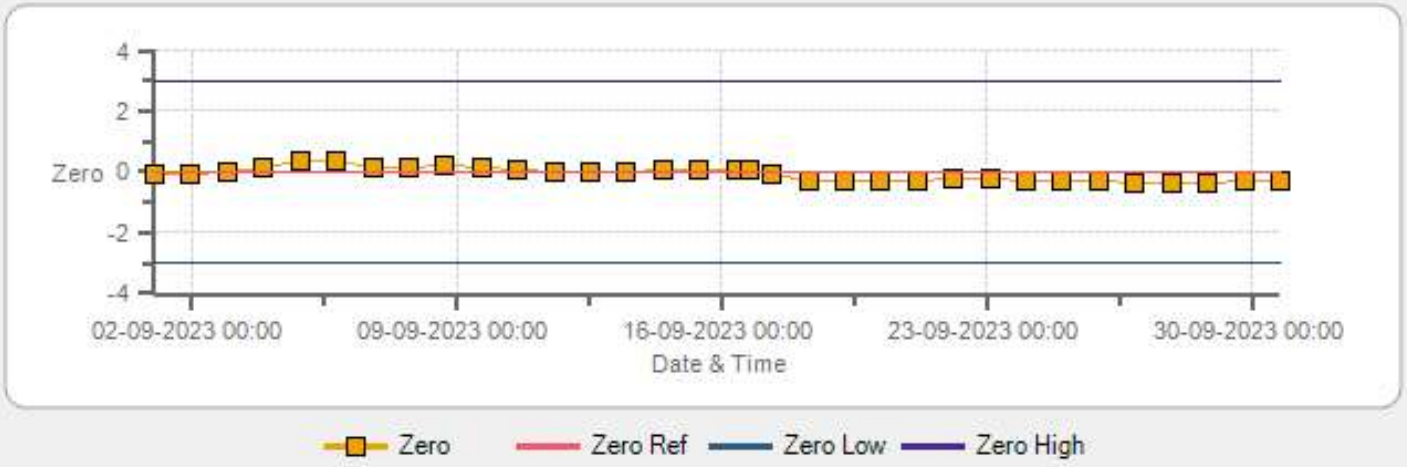
NOX[ppb] Calibration: Tamarack Monthly: 09-2023 Type: SpanAndZero - Zero



NOX[ppb] Calibration: Tamarack Monthly: 09-2023 Type: SpanAndZero - Span



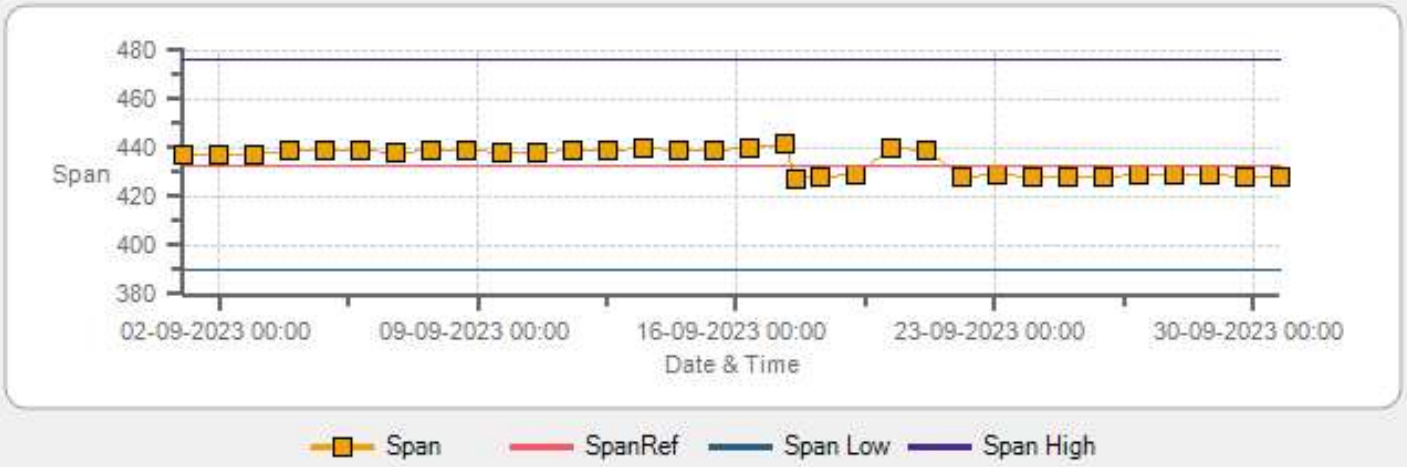
NO2[ppb] Calibration: Tamarack Monthly: 09-2023 Type: SpanAndZero - Zero



NO2[ppb] Calibration: Tamarack Monthly: 09-2023 Type: SpanAndZero - Span

O3[ppb] Calibration: Tamarack Monthly: 09-2023 Type: SpanAndZero - Zero

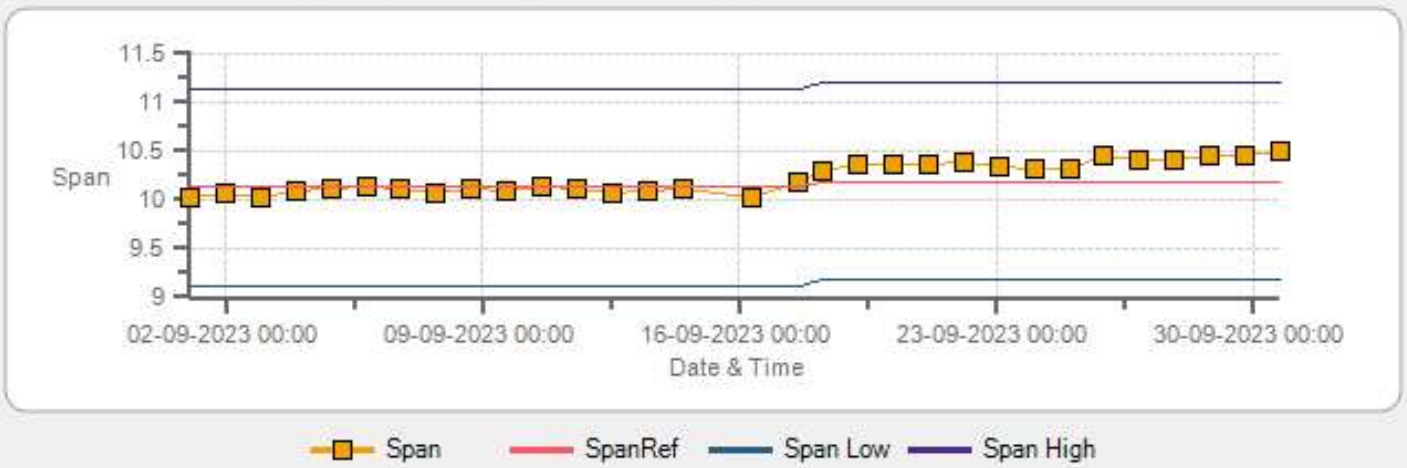
O3[ppb] Calibration: Tamarack Monthly: 09-2023 Type: SpanAndZero - Span



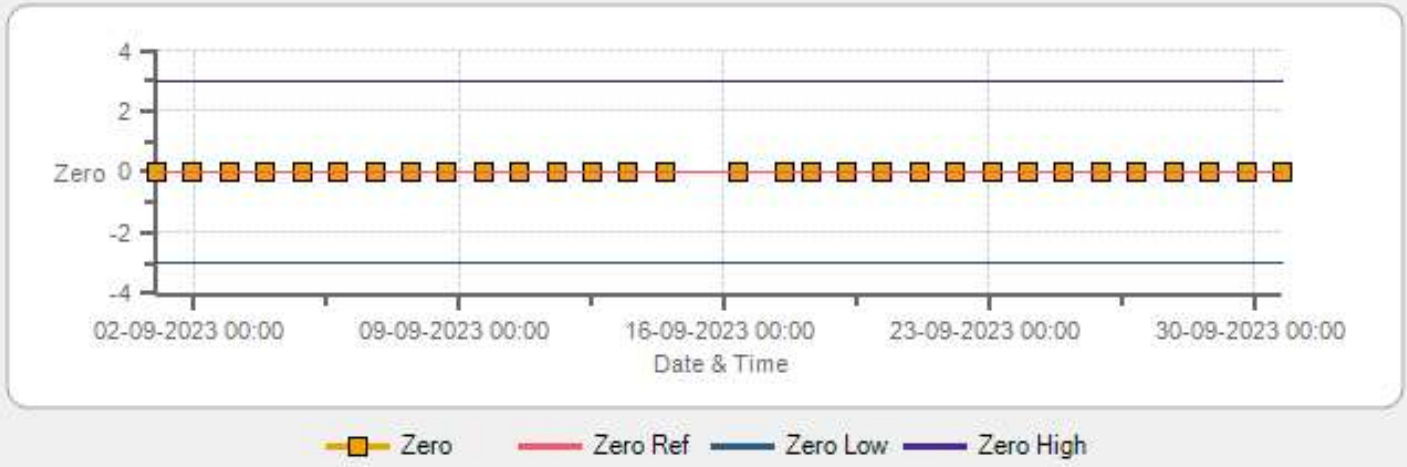

THC55[ppm] Calibration: Tamarack Monthly: 09-2023 Type: SpanAndZero - Zero
4
2
Zero 0
-2
-4
02-09-2023 00:00
09-09-2023 00:00
16-09-2023 00:00
23-09-2023 00:00
30-09-2023 00:00
Date & Time
Zero
Zero Ref
Zero Low
Zero High
THC55[ppm] Calibration: Tamarack Monthly: 09-2023 Type: SpanAndZero - Span
24
23
22
Span 21
20
19
02-09-2023 00:00
09-09-2023 00:00
16-09-2023 00:00
23-09-2023 00:00
30-09-2023 00:00
Date & Time
Span
SpanRef
Span Low
Span High

CH4[ppm] Calibration: Tamarack Monthly: 09-2023 Type: SpanAndZero - Zero

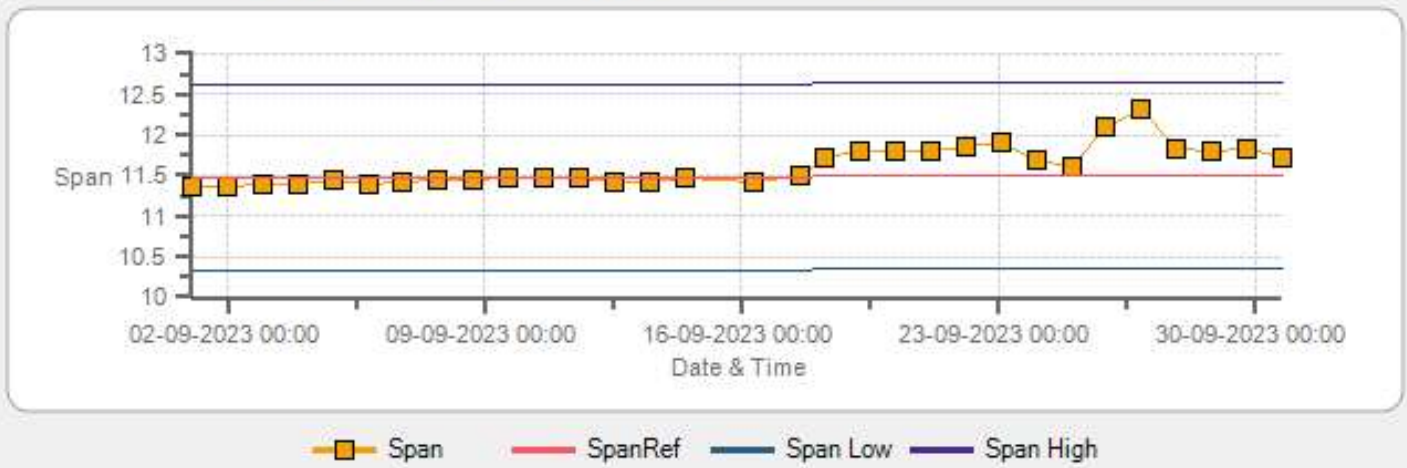
CH4[ppm] Calibration: Tamarack Monthly: 09-2023 Type: SpanAndZero - Span



NMHC[ppm] Calibration: Tamarack Monthly: 09-2023 Type: SpanAndZero - Zero



NMHC[ppm] Calibration: Tamarack Monthly: 09-2023 Type: SpanAndZero - Span



MULTI-POINT CALIBRATION RECORDS

SO2 Analyzer Calibration by Dilution

DATE:	16-Sep-2023	PREVIOUS CALIBRATION DATE:	19-Aug-2023
PARAMETER:	SO2	PREVIOUS CORRECTION FACTOR:	1.002
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	Tamarack	BAROMETRIC (mBar):	944
PURPOSE	Routine	START TIME (MST):	11:04
PERFORMED BY:	Alex Yakupov	END TIME (MST):	16:16

ANALYZER:

MAKE/MODEL	Thermo 43I-TLE	RANGE	500 ppb
SERIAL #	1180930031	FLOW (mL/min)	0
INITIAL		FINAL	
BKG/OFFSET	2.77	BKG/OFFSET	3.08
COEF/SLOPE	1.014	COEF/SLOPE	1.029
Expected (reference) Value	191	Expected (reference) Value	195

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010	MODEL:	T701
ID:	17100415	ID:	132
MFC CALIBRATION DATE:	12-Apr-2023	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	LL 127895	HIGH ID	n/a
CONC (ppm):	50.40	EXPIRY DATE	n/a
CYLINDER (psi):	1100	LOW ID	n/a
EXPIRY DATE	27-Oct-2030	EXPIRY DATE	n/a

CALIBRATION PARAMETERS:

POINT	HIGH	MID	LOW
TARGET	390	190	95
RANGE	300 - 400	150 - 200	50 - 100

SCRUBBER CHECK (15 MINS; TRS/H2S ONLY):

START TIME:	n/a	SO2 Conc (ppb)	n/a
END TIME:	n/a	Analyzer Response (ppb)	n/a

CALIBRATION:

FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
			ACTUAL	INDICATED		Initial	Final
DILUENT	GAS	TOTAL		Initial	Final		
5000		5000	0.00	0	0		
4961	37.20	4998	375.13	368.5	375.4	1.018	0.999
4982	17.60	5000	177.41	n/a	176.3	n/a	1.006
4990	8.80	4999	88.72	n/a	87.2	n/a	1.017

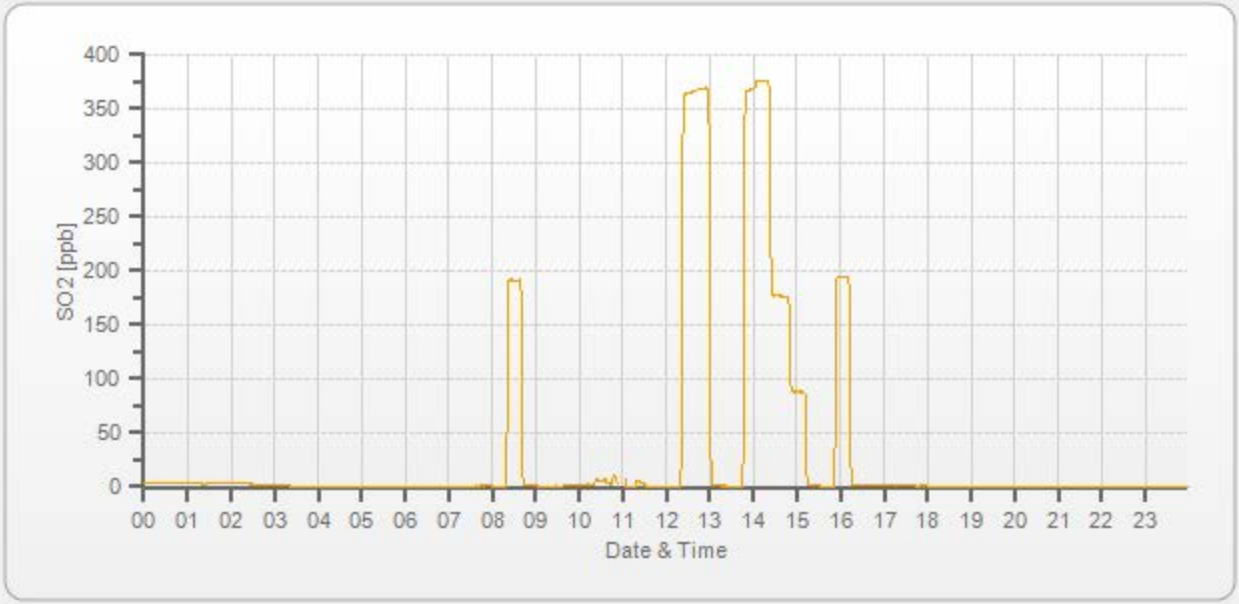
LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.002	-0.2%

COMMENTS:

Sample inlet filter was changed. The analyzer was found with the flow alarm and flow rate at 0.000. Flow sensor failure is suspected. A new flow sensor will be ordered.

SO2[ppb] Station: Tamarack Daily: 16-09-2023 Type: AVG 1 Min. [1 Min.]



H2S Analyzer Calibration by Dilution

DATE:	16-Sep-2023	PREVIOUS CALIBRATION DATE:	19-Aug-2023
PARAMETER:	H2S	PREVIOUS CORRECTION FACTOR:	1.005
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	Tamarack	BAROMETRIC (mBar):	944
PURPOSE	Routine	START TIME (MST):	11:04
PERFORMED BY:	Alex Yakupov	END TIME (MST):	16:16

ANALYZER:

MAKE/MODEL	Thermo 450i	RANGE	100 ppb
SERIAL #	CM 17360005	FLOW (mL/min)	904
INITIAL		FINAL	
BKG/OFFSET	36.3	BKG/OFFSET	37.2
COEF/SLOPE	0.809	COEF/SLOPE	0.82
Expected (reference) Value	44.2	Expected (reference) Value	45.5

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010 D	MODEL:	T701
ID:	11900613	ID:	134
MFC CALIBRATION DATE:	12-Apr-2023	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	EY 0002287	HIGH ID	n/a
CONC (ppm):	10.10	EXPIRY DATE	n/a
CYLINDER (psi):	400	LOW ID	n/a
EXPIRY DATE	14-Sep-2024	EXPIRY DATE	n/a

CALIBRATION PARAMETERS:

POINT	HIGH	MID	LOW
TARGET	78	38	19
RANGE	60 - 80	30 - 40	10 - 20

SCRUBBER CHECK (15 MINS; TRS/H2S ONLY):

START TIME:	11:32	SO2 Conc (ppb)	380
END TIME:	11:47	Analyzer Response (ppb)	0.0

CALIBRATION:

FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
			ACTUAL	INDICATED		Initial	Final
DILUENT	GAS	TOTAL		Initial	Final		
7500		7500	0.00	0.1	0		
7442	57.90	7500	77.97	79.2	77.5	0.986	1.006
7472	28.20	7500	37.98	n/a	37.9	n/a	1.002
7486	14.10	7500	18.99	n/a	18.5	n/a	1.026

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	0.996	-0.1%

COMMENTS:

Sample inlet filter was changed.

H2S[ppb] Station: Tamarack Daily: 16-09-2023 Type: AVG 1 Min. [1 Min.]

NOx Calibration by Dilution/Gas-Phase Titration

CALIBRATION:

DATE:	16-Sep-2023	PREVIOUS CALIBRATION DATE:	19-Aug-2023
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	Tamarack	BAROMETRIC (mBar):	944
PURPOSE	Routine	START TIME (MST):	11:04
PERFORMED BY:	Alex Yakupov	END TIME (MST):	17:59

ANALYZER:

MAKE/MODEL:	Thermo 42i	PREVIOUS CF.	
SERIAL #:	1180930028	NOx	0.999
FLOW (mL/min)	748	NO	0.997
RANGE (ppb)	500	NO2	0.999
GPT FOR O3?		No	

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:		CALIBRATION GAS:			FLOWMETERS (if applicable):	
MAKE:	SABIO	MAKE:	Teledyne	CYLINDER ID:	LL 127895		HIGH ID:	n/a
MODEL:	2010	MODEL:	T701	NO/NOx (PPM):	51.1	51.6	HIGH EXPIRY:	n/a
ID:	17100415	ID:	134	CYLINDER (psi):	1100		LOW ID:	n/a
MFC CALIBRATION DATE:	12-Apr-2023	OXIDIZER ID:	n/a	EXPIRY DATE	27-Oct-2030		LOW EXPIRY:	n/a

CALIBRATION SETTINGS:

INITIAL	NOx	NO	NO2	FINAL	NOx	NO	NO2
BKG/OFFSET:	2.3	2.1	n/a	BKG/OFFSET:	2.6	2.2	n/a
SLOPE/COEF/CE:	1.008	1.133	1	SLOPE/COEF/CE:	1.009	1.153	0.998

EXPECTED (REFERENCE) VALUE:

INITIAL	NOx	NO	NO2	FINAL	NOx	NO	NO2
	280.0	2.8	277.0		284.0	3.2	281.0

CALIBRATION PARAMETERS:

POINT	NO TARGET (PPB)	NO2 TARGET (PPB)	NO2 RANGE	O3 POINT
HIGH	380	250	230-265	n/a
MID	180	125	115-150	n/a
LOW	90	45	40-55	n/a
EXTRA 1	n/a	n/a	n/a	n/a

NO/NOx CALIBRATION:

FLOW RATE (mL/min)			CONCENTRATION (ppb)									CORRECTION FACTOR (CF.)					
			CALCULATED			INITIAL INDICATED			FINAL INDICATED			INITIAL			FINAL		
DILUENT	GAS	TOTAL	NO	NOx	NO2	NO	NOx	NO2	NO	NOx	NO2	NO	NOx	NO2	NO	NOx	NO2
5000		5000	0.0	0.0	0.0	-0.1	0.9	1.0	0.0	0.0	0.0						
4961	37.10	4998	379.3	383.0	3.7	374.2	377.7	3.6	380.0	383.3	3.4	1.013	1.017		0.998	0.999	
4982	17.60	5000	179.9	181.6	1.8	n/a	n/a	n/a	179.4	181.4	2.0	n/a	n/a		1.003	1.001	
4990	8.80	4999	90.0	90.8	0.9	n/a	n/a	n/a	89.6	90.4	0.8	n/a	n/a		1.004	1.005	

GPT CALIBRATION:

Point	CALIBRATOR			INDICATED (ppb)			NO DROP / O3 Conc (ppb)	NO2 GAIN (ppb)	NO2 Corr. FACTOR	CONV. EFFICIENCY
	GAS	TOTAL	O3 SETPOINT	NO	NOx	NO2				
REFERENCE	37.10	4997	0	380.3	383.4	3.1				
AS-FOUND HIGH	37.10	4997	235	126.7	382.5	255.8	253.6	252.7	1.004	99.65%
ADJUSTED HIGH	37.10	4997	235	126.1	383.6	257.5	254.2	254.4	0.999	100.08%
MID	37.10	4997	110	259.9	384.0	124.2	120.4	121.1	0.994	100.58%
LOW	37.10	4997	40	332.3	384.0	51.7	48	48.6	0.988	101.25%
NO2 COEF/CONVERTER EFFICIENCY ADJUSTED									AVERAGE:	100.64%

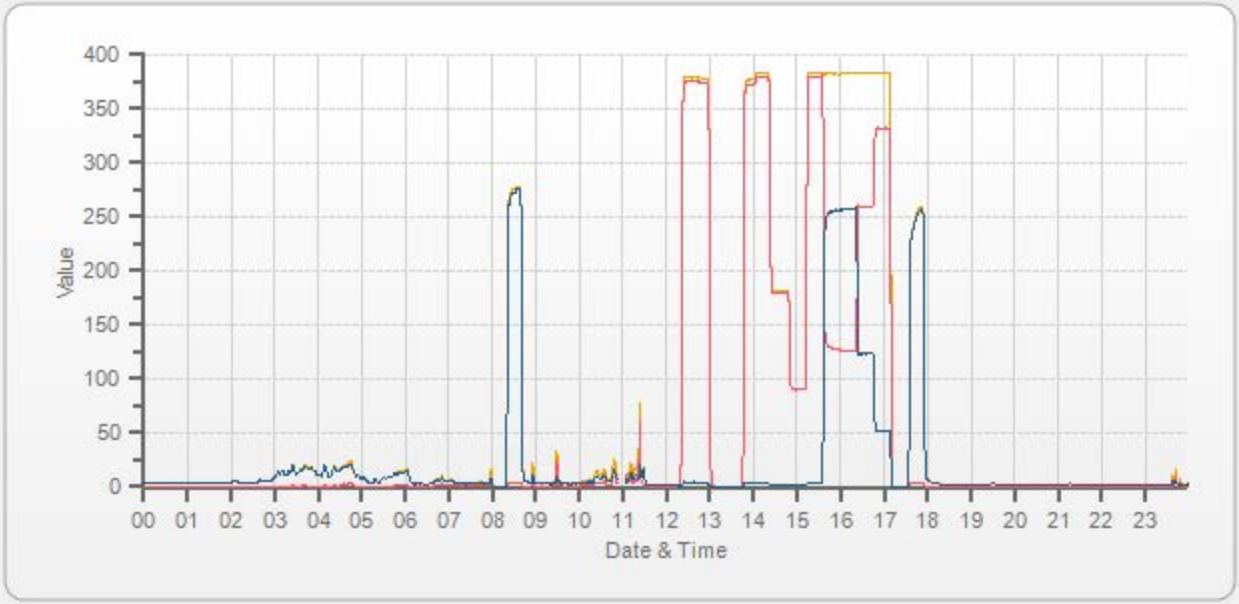
LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
NO	1.000	1.002	-0.08%
NOx	1.000	1.001	-0.06%
NO2	1.000	0.998	0.16%

COMMENTS:

Sample inlet filter was changed.

Station: Tamarack Daily: 16-09-2023 Type: AVG 1 Min. [1 Min.]



Ozone Calibration by Photometer (Varying UV Lamp)

DATE:	17-Sep-2023	PREVIOUS CALIBRATION DATE:	20-Aug-2023
PARAMETER:	O3	PREVIOUS CORRECTION FACTOR:	0.999
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	Tamarack	BAROMETRIC (mBar):	929
PURPOSE	Routine	START TIME (MST):	10:17
PERFORMED BY:	Alex Yakupov	END TIME (MST):	14:47

ANALYZER:

MAKE/MODEL	Thermo 49iQ	RANGE	500 ppb
SERIAL #	1202068570	FLOW (mL/min)	1340
INITIAL		FINAL	
BKG/OFFSET	5	BKG/OFFSET	3.3
COEF/SLOPE	1.033	COEF/SLOPE	1.03
Expected (reference) Value	433	Expected (reference) Value	433

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010 D	MODEL:	T701
ID:	11900613	ID:	134
MFC CALIBRATION DATE:	12-Apr-2023	OXIDIZER ID:	n/a
CALIBRATION METHOD:		Photometer (Varying UV Lamp)	
GPT DATE:	n/a	GPT END TIME:	n/a

CALIBRATION PARAMETERS:

POINT	HIGH	MID	LOW
RANGE	300 - 400	150 - 200	50 - 100

CALIBRATION:

FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
			ACTUAL	INDICATED		Initial	Final
DILUENT	GAS	TOTAL		Initial	Final		
5000		5000	0.0	-0.9	0.0		
5000		5000	378.0	375.0	377.8	1.006	1.001
5000		5000	180.0	n/a	180.4	n/a	0.998
5000		5000	61.0	n/a	61.5	n/a	0.992

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	0.999	0.1%

COMMENTS:

10:56 - 11:28 calibrator issue. The calibration gear was reset. Sample inlet filter was changed.

O3[ppb] Station: Tamarack Daily: 17-09-2023 Type: AVG 1 Min. [1 Min.]

Methane/Non-Methane Analyzer Calibration by Dilution

CALIBRATION:

DATE:	17-Sep-2023	PREVIOUS CALIBRATION DATE:	n/a
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	Tamarack	BAROMETRIC (mBar):	929
PURPOSE	Install/Post-Repair	START TIME (MST):	10:15
PERFORMED BY:	Alex Yakupov	END TIME (MST):	14:46

ANALYZER:

VALUE	MAKE/MODEL	SERIAL	FLOW (mL/min)
	Thermo 55i	1180030034	1190
PARAMETER:	CH4	NMHC	THC
RANGE (ppm):	20	20	40
PREVIOUS CF:	n/a	n/a	n/a

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:		CALIBRATION GAS:			FLOWMETERS (if applicable):	
MAKE:	SABIO	MAKE:	Teledyne	CYLINDER ID:	LL 23593		HIGH ID:	n/a
MODEL:	2010	MODEL:	T701	CH_4/C_3H_8 (ppm):	603.0	204.0	HIGH EXPIRY:	n/a
ID:	17100415	ID:	132	CYLINDER (psi):	1100		LOW ID:	n/a
MFC CALIBRATION DATE:	12-Apr-2023	OXIDIZER ID:	115	EXPIRY DATE	18-Aug-2029		LOW EXPIRY:	n/a

CALIBRATION PARAMETERS:

POINT (CH4/NMHC)	HIGH	MID	LOW	CH4 EQUIVILANCE	
TARGET	14	7	3.5	C_3H_8 as CH_4	561.0
RANGE	12 - 16	6 - 8	2 - 4	THC as CH_4	1164.0

EXPECTED (REFERENCE) VALUE:

INITIAL	CH4	NMHC	THC	FINAL	CH4	NMHC	THC
	n/a	n/a	n/a		10.19	11.49	21.68

CALIBRATION:

FLOW RATE (mL/min)			CONCENTRATION (PPM)									CORRECTION FACTOR (CF.)					
			CALCULATED			INITIAL INDICATED			FINAL INDICATED			INITIAL			FINAL		
DILUENT	GAS	TOTAL	CH4	NMHC	THC	CH4	NMHC	THC	CH4	NMHC	THC	CH4	NMHC	THC	CH4	NMHC	THC
3100		3100	0.00	0.00	0.00	n/a	n/a	n/a	0.00	0.00	0.00						
3025	74.60	3100	14.51	13.50	28.01	n/a	n/a	n/a	14.52	13.53	28.04	n/a	n/a	n/a	0.999	0.998	0.999
3063	37.30	3100	7.26	6.75	14.01	n/a	n/a	n/a	7.26	6.86	14.12	n/a	n/a	n/a	0.999	0.984	0.992
3081	18.60	3100	3.62	3.37	6.98	n/a	n/a	n/a	3.63	3.43	7.06	n/a	n/a	n/a	0.997	0.981	0.989

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
CH4	1.000	1.000	0.0%
NMHC	1.000	1.002	0.2%
THC	1.000	1.001	0.1%

Comments:

Sample inlet filter was changed.

Use Zero Chrom? **Yes**

Station: Tamarack Daily: 17-09-2023 Type: AVG 1 Min. [1 Min.]

AIR FCD-00055/1
SHARP_0925_Monthly

Thermo 5030 SHARP Monitor Monthly Check

Date:	September 25, 2023	**Performed By/Reviewer:**	Alex Yakupov / Chris Wesson
Company:	LICA	**Start Time (mst):**	12:27
Station Name/Location:	Tamarack	**End Time (mst):**	13:20
Previous Audit Date:	August 20, 2023	**Calibration Purpose:**	routine monthly
Parameter:	PM 2.5	**Weather Conditions:**	Mainly sunny

SHARP Information and Status:

Serial Number:	CM-2209	**Status:**	0.00
Approx Tape remaining:	6/10	**Error Code:**	0.00

Reference Standards:

Air Flow

	Manometer	Orifice	Pressure:	Temperature:
Make:	Dwyer	Chinook	Fisher	Vaisala
Model:	475-1 Mark III	FTS	FB61291	HM70
Serial Number:	#2	91001	130168457	T1640130
Calibration Expiration Date:	November 25, 2023	November 3, 2023	March 20, 2024	June 26, 2024

As found temperature and pressure:

Tolerance +/- 4°C		Tolerance +/- 13.33 hPa	
SHARP T1 °C:	19.7	**SHARP P3 (hPa):**	942.000
Reference °C:	19.0	**Reference (hPa):**	942.000
Difference °C:	-0.7	**Difference (hPa) :**	0.000

As left temperature and pressure (same as above if as found adequate):

Tolerance +/- 4°C		Tolerance +/- 13.33 hPa	
SHARP T1 °C:	19.7	**SHARP P3 (hPa):**	942.000
Reference °C:	19.0	**Reference (hPa):**	942.000
Difference °C:	-0.7	**Difference :**	0.000

As found flows:

Targets: 1000 l/hr / <90%		Flow Tolerance 16.67 lpm +/- 0.67 lpm	
SHARP AirFlow l/hr	1000.00	**SHARP Airflow (l/min)**	16.67
Pump Voltage (%)	47.60	**Reference AirFlow (l/min)**	16.74
		Difference (l/min)	0.07

As left flows (same as above if as found adequate):

Targets: 1000 l/hr / <90%		Flow Tolerance 16.67 lpm +/- 0.67 lpm	
SHARP AirFlow l/hr	1000.00	**SHARP Airflow (l/min)**	16.67
Pump Voltage (%)	47.60	**Reference AirFlow (l/min)**	16.74
		Difference (l/min)	0.07

Inlet Assembly:

	Yes/No?	If No, give reason
PM10 Inlet Cleaned	yes	
PM2.5 Cyclone Cleaned	yes	

Comments:

Leak check: 16.74 vs 16.63, 0.11 < 0.80 lpm, passed.

Meteorological System Checklist

Date:	September 17, 2023		
Technician:	Alex Yakupov		
Station:	Tamarack / Audit time: 14:31 - 15:00		
Unit:	**Make:**	**Model:**	**Serial #:**
Precipitation Sampler:	Met One	387 D	C 13580
Temperature Sensor:	Rotronic	HC2A-S3	20433166
Barometric Pressure Sensor:	MetOne	Part 090D	F4497
Relative Humidity Sensor:	Rotronic	HC2A-S3	20433166
Anemometer:	RM Young	05305VK	161465

PRECIPITATION SENSOR CHECK

Checklist:	**Reply:**	**Comments:**
Is the sensor Level?	yes	
Is the heater operating properly?	yes	
Are the bucket drain holes clean?	yes	
Is the screen on the housing? (screen should be on between July and September	yes	14:37 - 14:43 - water test. Response is timely and accurate.
Is the housing clean?	yes	
Is the area around the housing clean and free from obstacles?	yes	

TIP TEST - Slowly pour water until 10 tip are heard. (10 tips = 1 mm)

# of Tips	**Data Logger Response (mm):**	**Manual Specification = +/- 0.2 mm**
10	1.00	0.00

AMBIENT TEMPERATURE SENSOR CHECK

Parameter:	Temperature @ 2 metres
Reference Thermometer ID:	Vaisala HMP76B #T1640130, Exp. Date: Jun 26, 2024
Reference Temperature (^{o}C):	22.5
Station - Ambient Temperature (^{o}C):	22.0
Temperature Difference (^{o}C):	0.5

BAROMETRIC PRESSURE SENSOR CHECK

Reference Barometer ID:	Fisher / FB 61291/ #130168457/ Mar 20, 2024	
Reference Pressure - Units/Reading:	millibar	928
Station Pressure - Units/Reading:	millibar	927
Pressure Tolerance +/- 15% of error:	789 - 1067	0.11%

RELATIVE HUMIDITY (HYGROMETER) SENSOR CHECK

Reference Hygrometer ID:	Vaisala HMP76B #T1640130, Exp. Date: Jun 26, 2024	
Reference Hygrometer % RH- Reading:	44.60	
Station Hygrometer % RH- Reading:	44.00	
RH Tolerance +/- 15% of difference:	37.91 - 51.29	1.3%

ANEMOMETER - WIND SPEED & WIND DIRECTION SENSOR CHECK

WIND SPEED		WIND DIRECTION	
Previous check date:	August 20, 2023	Previous check date:	August 20, 2023
Wind Speed Observed (kph):	0 to 10	Wind Direction Observed:	SW
Wind speed on Data Logger (kph):	5.2	Wind Direction on Data Logger:	SW
	Annual audit: Sep 17, 2023	Wind Direction Pass/Fail?:	Pass

Comments

Station (Trailer) temperature vs Reference gauge temperature: 23.2 vs 23.1 degrees, difference = 0.1 => Passed.

Meteorological Sensor Audit/Calibration

Location Information

Company:	LICA	**Performed By:**	Alex Yakupov
Audit Location:	Tamarack	**Reviewed By:**	Chris Wesson
Audit Date:	July 26, 2022	**Start/End Time (mst):**	16:01 / 17:14
Calibration Purpose:	routine annual	**Weather Conditions:**	Mix of sun and clouds

Wind Sensor Information

Sensor ID Data:		**Sensor Outputs:**	
Sensor Make:	RM Young	**Velocity Voltage Output Range:**	0-1
Sensor Model:	05305VK	**Velocity Unit Output Range:**	0-200
Serial #:	161465	**Direction Voltage Output Range:**	0-1
Previous Cal/Audit Date:	September 20, 2021	**Direction Unit Output Range:**	0-360

Wind Calibrator Information

Calibrator I.D. and Expiry Date: Model 18860-90/18802 SN: CA 4744, expires - Aug 6, 2022

Wind Speed Audit Data **+/- 2% of the average correction factor is the limit**

RPM	Wind Speed Generated kph	Clockwise Wind Speed kph	Counter Clockwise Wind Speed kph	Correction Factor
0	0	0.1	0.1	-
1000	18.4	18.5	18.5	0.996
2000	36.9	36.9	36.9	0.999
3000	55.3	55.4	55.4	0.998
4000	73.7	73.9	73.9	0.998
5000	92.2	92.5	92.4	0.997
6000	110.6	111.0	111.0	0.996
7000	129.0	129.5	129.5	0.996
8000	147.4	148.1	148.1	0.996
9000	165.9	166.7	166.7	0.995
10000	184.3	185.2	185.2	0.995
		The audit meets AMD requirements.	**Average Correction Factor=**	**0.997**

Wind Direction Audit Data **+/- 3° of the absolute average degrees difference for all points is the limit**

Generated Wind Direction 0-360 (Up)	Generated Wind Direction 360-0 (Down)	Indicated Wind Direction 0-360 (Up)	Indicated Wind Direction 360-0 (Down)	Degrees Difference 0-360 (Up)	Degrees Difference 360-0 (Down)	Average Absolute Degrees Difference
0	355	3	355	2.7	-0.1	1.4
30	330	34	331	-4.1	-1.3	2.7
60	300	64	301	-4.3	-1.0	2.7
90	270	95	272	-4.7	-1.5	3.1
120	240	125	242	-4.6	-2.2	3.4
150	210	154	213	-4.4	-3.4	3.9
180	180	184	185	-4.4	-4.6	4.5
210	150	213	153	-2.7	-3.2	2.9
240	120	242	125	-1.6	-4.6	3.1
270	90	270	94	-0.1	-4.0	2.1
300	60	300	63	0.2	-3.3	1.7
330	30	330	32	-0.4	-1.6	1.0
355	0	355	3	-0.1	2.7	1.4
The audit meets AMD requirements.			**Average Absolute Degrees Difference=**			**2.6**

Comments:

n/a

Meteorological Sensor Audit/Calibration

Location Information

Company:	LICA	**Performed By:**	Alex Yakupov
Audit Location:	Tamarack	**Reviewed By:**	Chris Wesson
Audit Date:	September 17, 2023	**Start/End Time (mst):**	15:01 / 17:09
Calibration Purpose:	routine annual	**Weather Conditions:**	Mainly sunny

Wind Sensor Information

Sensor ID Data:		**Sensor Outputs:**	
Sensor Make:	RM Young	**Velocity Voltage Output Range:**	0-1
Sensor Model:	05305VK	**Velocity Unit Output Range:**	0-200
Serial #:	161465	**Direction Voltage Output Range:**	0-1
Previous Cal/Audit Date:	July 26, 2022	**Direction Unit Output Range:**	0-360

Wind Calibrator Information

Calibrator I.D. and Expiry Date: Model 18860-90/18802 SN: CA 4744, expires - Oct 18, 2024

Wind Speed Audit Data **+/- 2% of the average correction factor is the limit**

RPM	Wind Speed Generated kph	Clockwise Wind Speed kph	Counter Clockwise Wind Speed kph	Correction Factor
0	0	0.1	0.1	-
1000	18.4	18.5	18.5	0.996
2000	36.9	37.0	36.9	0.998
3000	55.3	55.4	55.4	0.998
4000	73.7	73.9	73.9	0.998
5000	92.2	92.5	92.5	0.996
6000	110.6	111.0	111.0	0.996
7000	129.0	129.6	129.6	0.995
8000	147.4	148.1	148.1	0.996
9000	165.9	166.7	166.7	0.995
10000	184.3	185.2	185.2	0.995
		The audit meets AMD requirements.	**Average Correction Factor=**	**0.996**

Wind Direction Audit Data **+/- 3° of the absolute average degrees difference for all points is the limit**

Generated Wind Direction 0-360 (Up)	Generated Wind Direction 360-0 (Down)	Indicated Wind Direction 0-360 (Up)	Indicated Wind Direction 360-0 (Down)	Degrees Difference 0-360 (Up)	Degrees Difference 360-0 (Down)	Average Absolute Degrees Difference
0	355	0	354	0.3	0.8	0.6
30	330	31	331	-0.8	-0.7	0.7
60	300	61	301	-1.4	-0.8	1.1
90	270	94	271	-3.5	-1.0	2.3
120	240	123	242	-2.8	-1.5	2.2
150	210	152	212	-2.3	-2.4	2.4
180	180	182	183	-1.9	-3.4	2.7
210	150	212	155	-2.2	-4.5	3.3
240	120	241	124	-0.7	-4.1	2.4
270	90	270	95	-0.4	-4.8	2.6
300	60	301	64	-0.5	-3.6	2.1
330	30	329	34	0.7	-3.5	2.1
355	0	354	0	0.8	0.4	0.6
The audit meets AMD requirements.			**Average Absolute Degrees Difference=**			**1.9**

Comments:

n/a

End of Report

Lakeland Industry & Community Association

SEPTEMBER 2023

Ambient Air Monitoring Calibration Report

- ST. LINA STATION-

CAL-LICA-202309-01250

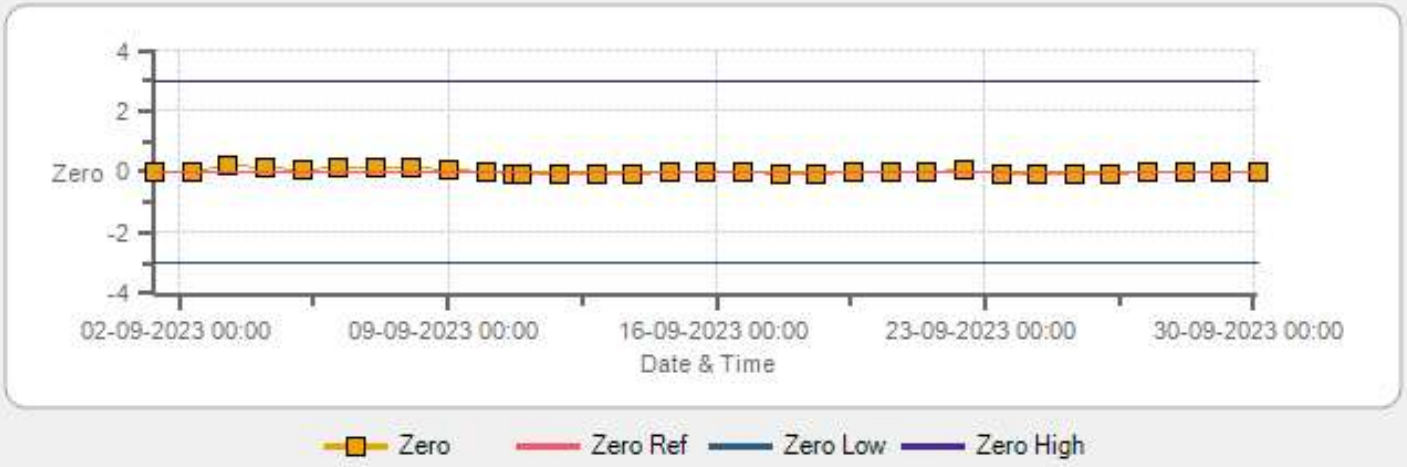
Station Operation and Maintenance:
Bureau Veritas Canada

Data Validation and Report:
LICA / Bureau Veritas Canada

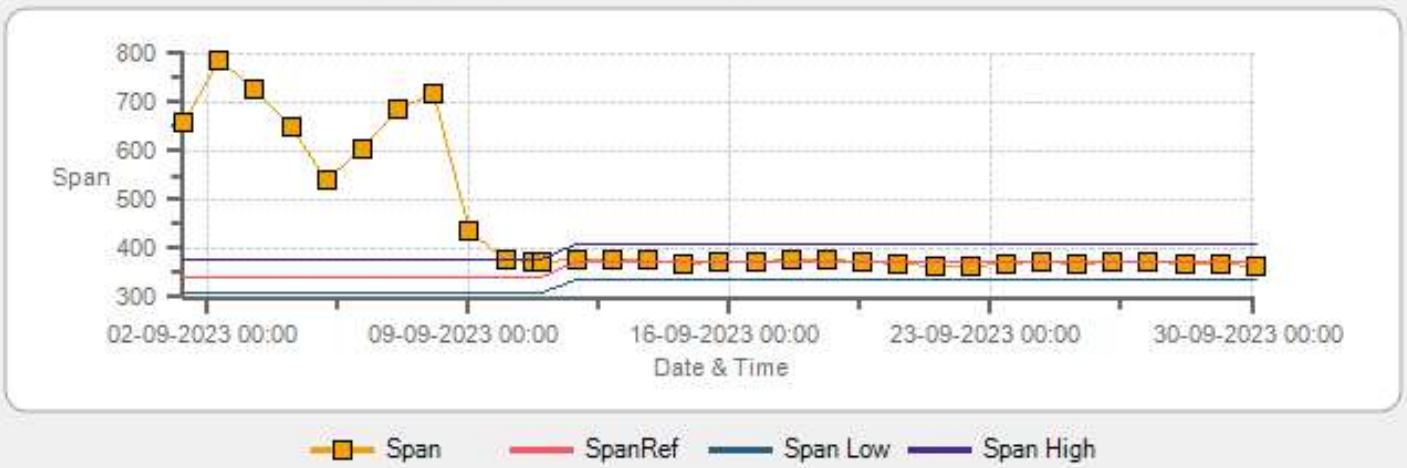
October 17, 2023

DAILY INTERNAL ZERO-SPAN CALIBRATION RECORDS

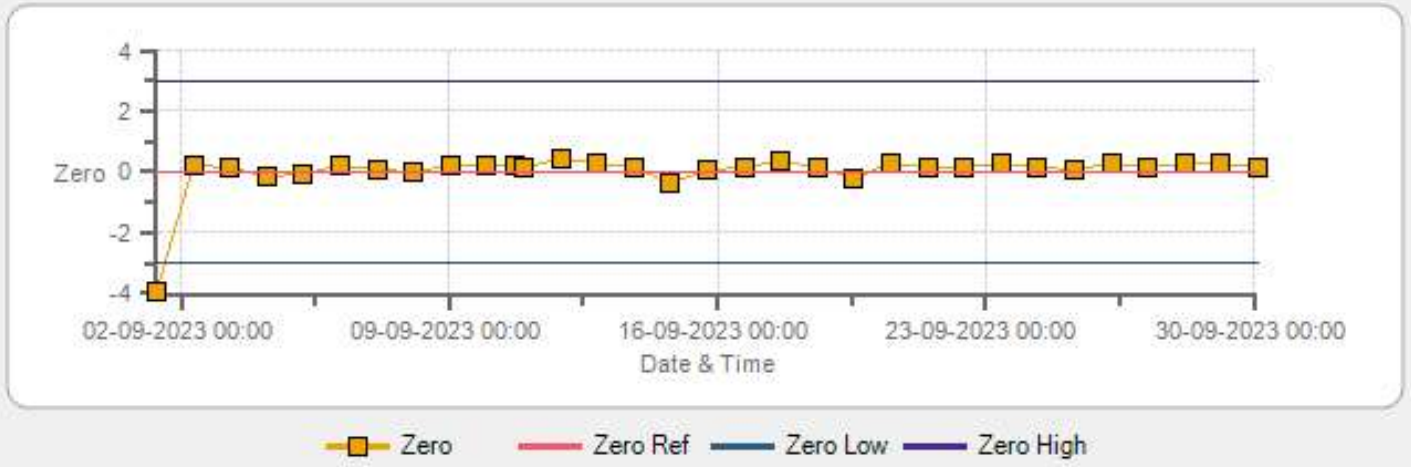
SO2[ppb] Calibration: St. Lina Monthly: 09-2023 Type: SpanAndZero - Zero



SO2[ppb] Calibration: St. Lina Monthly: 09-2023 Type: SpanAndZero - Span

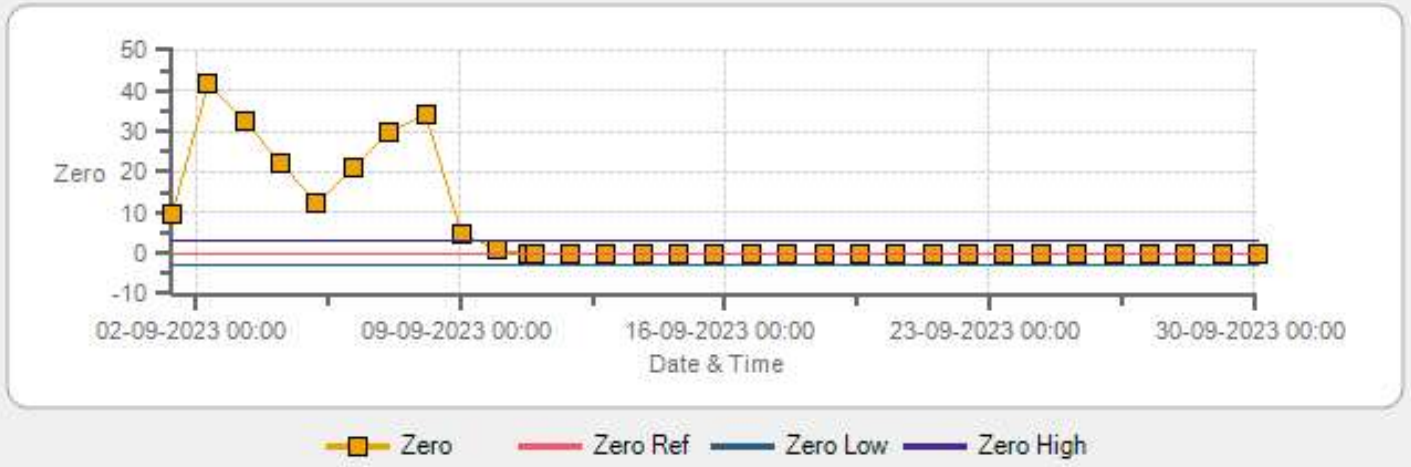


H2S[ppb] Calibration: St. Lina Monthly: 09-2023 Type: SpanAndZero - Zero

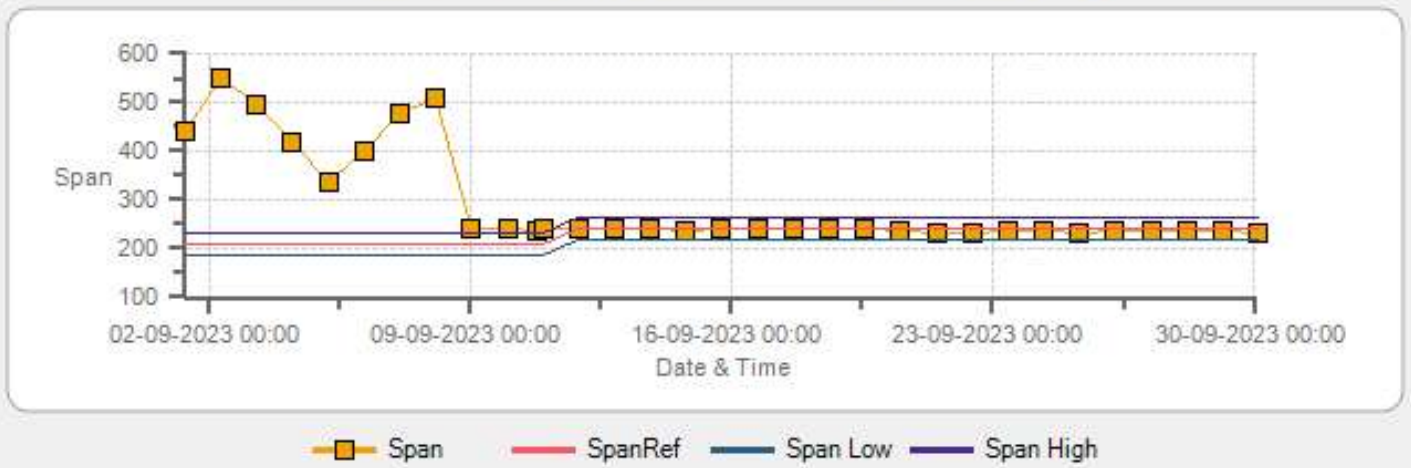


H2S[ppb] Calibration: St. Lina Monthly: 09-2023 Type: SpanAndZero - Span

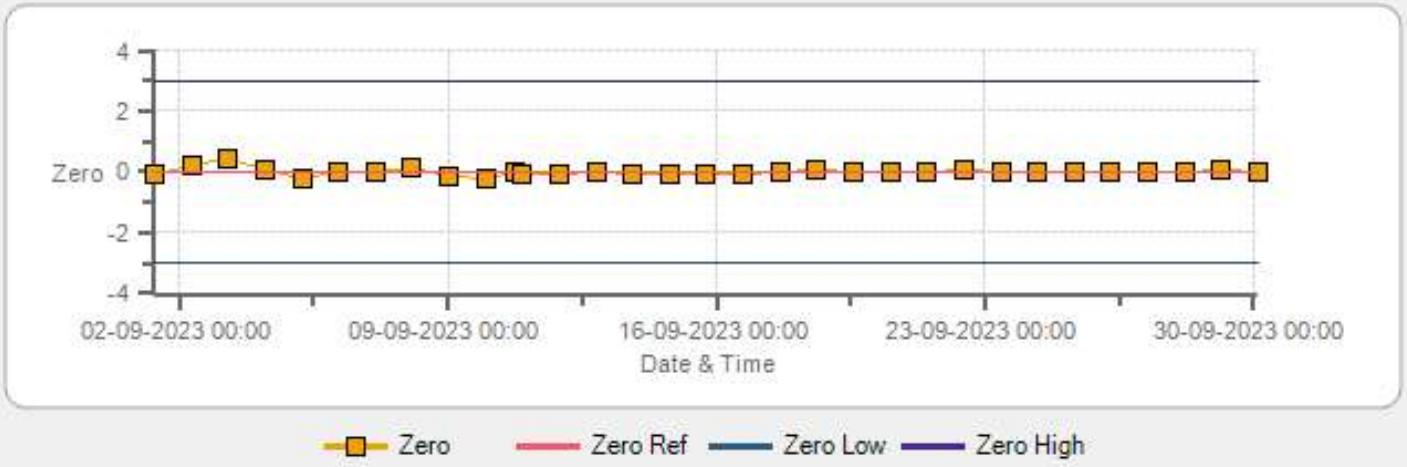
NOX[ppb] Calibration: St. Lina Monthly: 09-2023 Type: SpanAndZero - Zero



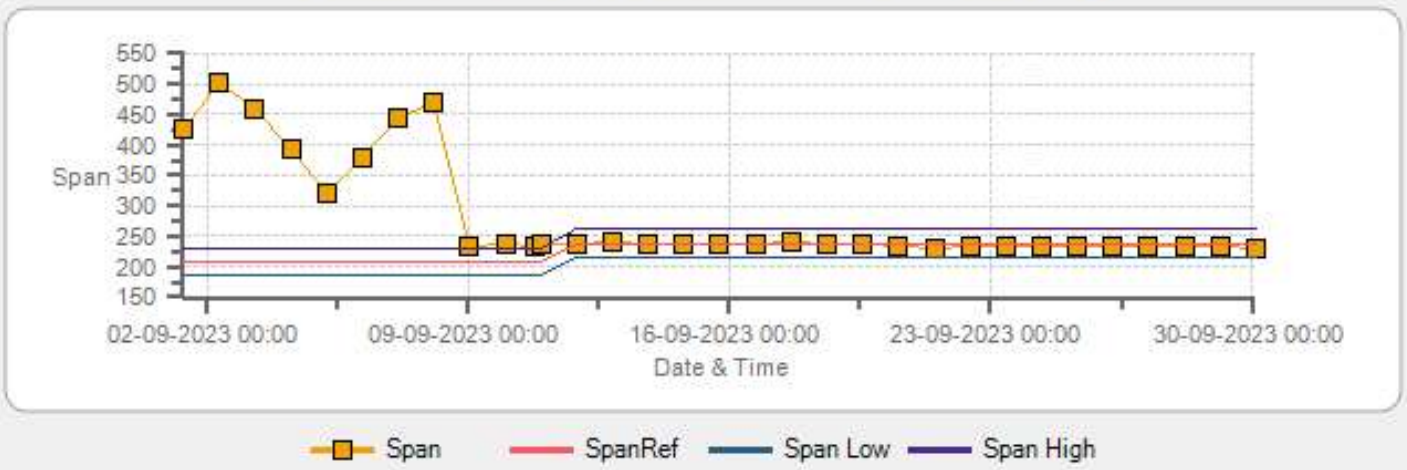
NOX[ppb] Calibration: St. Lina Monthly: 09-2023 Type: SpanAndZero - Span



NO2[ppb] Calibration: St. Lina Monthly: 09-2023 Type: SpanAndZero - Zero

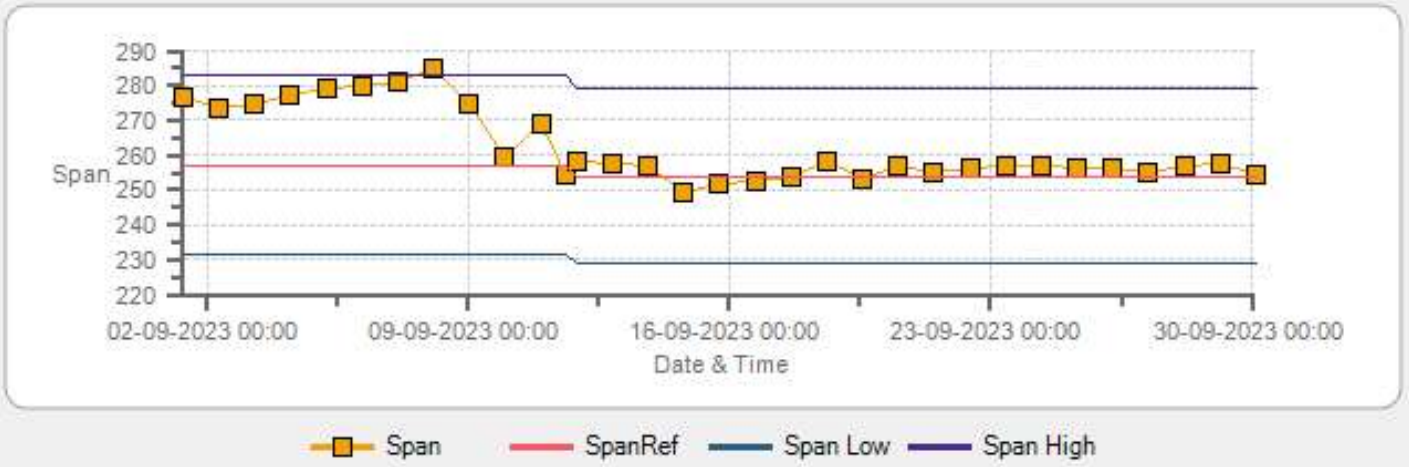


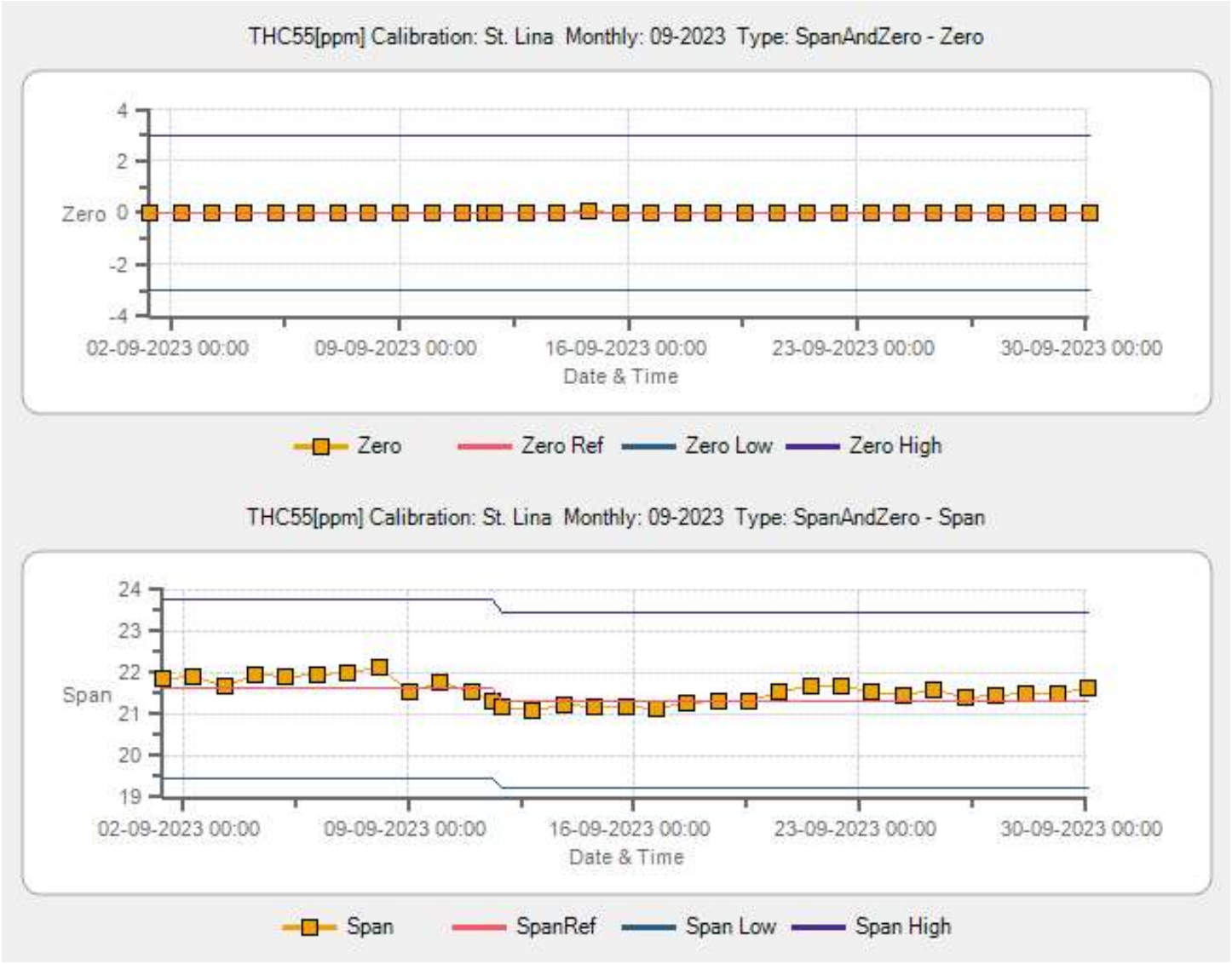
NO2[ppb] Calibration: St. Lina Monthly: 09-2023 Type: SpanAndZero - Span



O3[ppb] Calibration: St. Lina Monthly: 09-2023 Type: SpanAndZero - Zero

O3[ppb] Calibration: St. Lina Monthly: 09-2023 Type: SpanAndZero - Span



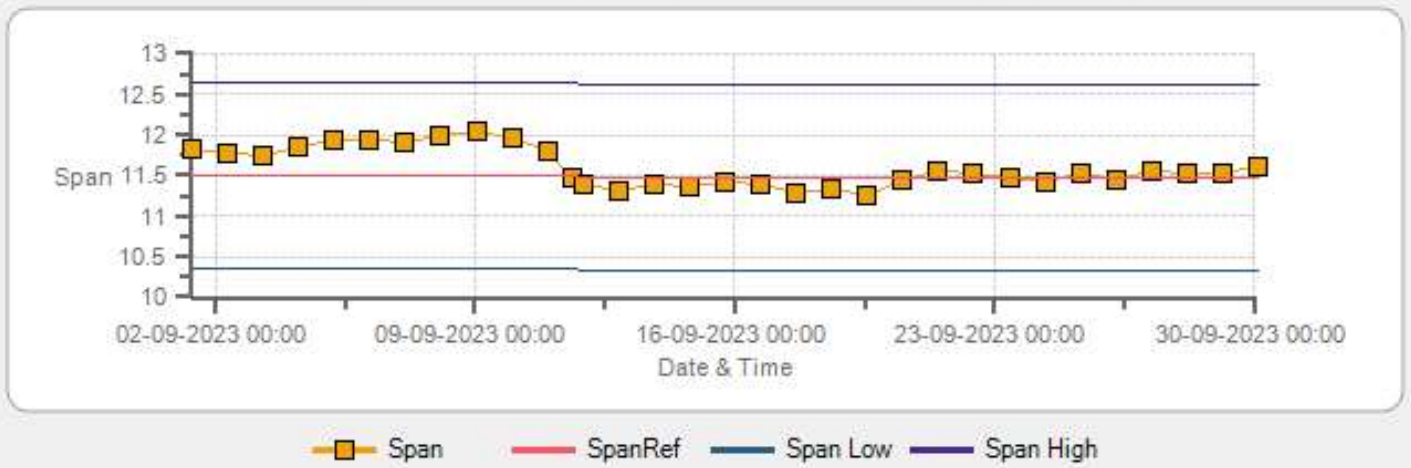

THC55[ppm] Calibration: St. Lina Monthly: 09-2023 Type: SpanAndZero - Zero
4
2
Zero 0
-2
-4
02-09-2023 00:00
09-09-2023 00:00
16-09-2023 00:00
23-09-2023 00:00
30-09-2023 00:00
Date & Time
Zero
Zero Ref
Zero Low
Zero High
THC55[ppm] Calibration: St. Lina Monthly: 09-2023 Type: SpanAndZero - Span
24
23
22
Span
21
20
19
02-09-2023 00:00
09-09-2023 00:00
16-09-2023 00:00
23-09-2023 00:00
30-09-2023 00:00
Date & Time
Span
SpanRef
Span Low
Span High

CH4[ppm] Calibration: St. Lina Monthly: 09-2023 Type: SpanAndZero - Zero

CH4[ppm] Calibration: St. Lina Monthly: 09-2023 Type: SpanAndZero - Span

NMHC[ppm] Calibration: St. Lina Monthly: 09-2023 Type: SpanAndZero - Zero

NMHC[ppm] Calibration: St. Lina Monthly: 09-2023 Type: SpanAndZero - Span



MULTI-POINT CALIBRATION RECORDS

SO2 Analyzer Calibration by Dilution

DATE:	10-Sep-2023	PREVIOUS CALIBRATION DATE:	12-Aug-2023
PARAMETER:	SO2	PREVIOUS CORRECTION FACTOR:	0.999
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	St. Lina	BAROMETRIC (mBar):	927
PURPOSE	Routine	START TIME (MST):	12:10
PERFORMED BY:	Alex Yakupov	END TIME (MST):	17:17

ANALYZER:

MAKE/MODEL	Thermo 43I-TLE	RANGE	500 ppb
SERIAL #	1180930030	FLOW (mL/min)	436
INITIAL		FINAL	
BKG/OFFSET	4.86	BKG/OFFSET	4.78
COEF/SLOPE	1.191	COEF/SLOPE	1.197
Expected (reference) Value	342	Expected (reference) Value	373

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010	MODEL:	T701
ID:	17100415	ID:	132
MFC CALIBRATION DATE:	12-Apr-2023	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	LL 127895	HIGH ID	n/a
CONC (ppm):	50.40	EXPIRY DATE	n/a
CYLINDER (psi):	1000	LOW ID	n/a
EXPIRY DATE	27-Oct-2030	EXPIRY DATE	n/a

CALIBRATION PARAMETERS:

POINT	HIGH	MID	LOW
TARGET	390	190	95
RANGE	300 - 400	150 - 200	50 - 100

SCRUBBER CHECK (15 MINS; TRS/H2S ONLY):

START TIME:	n/a	SO2 Conc (ppb)	n/a
END TIME:	n/a	Analyzer Response (ppb)	n/a

CALIBRATION:

FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
			ACTUAL	INDICATED		Initial	Final
DILUENT	GAS	TOTAL		Initial	Final		
5000		5000	0.00	0	0		
4961	37.20	4998	375.13	371.6	374.7	1.009	1.001
4982	17.60	5000	177.41	n/a	176.4	n/a	1.006
4990	8.80	4999	88.72	n/a	87.7	n/a	1.012

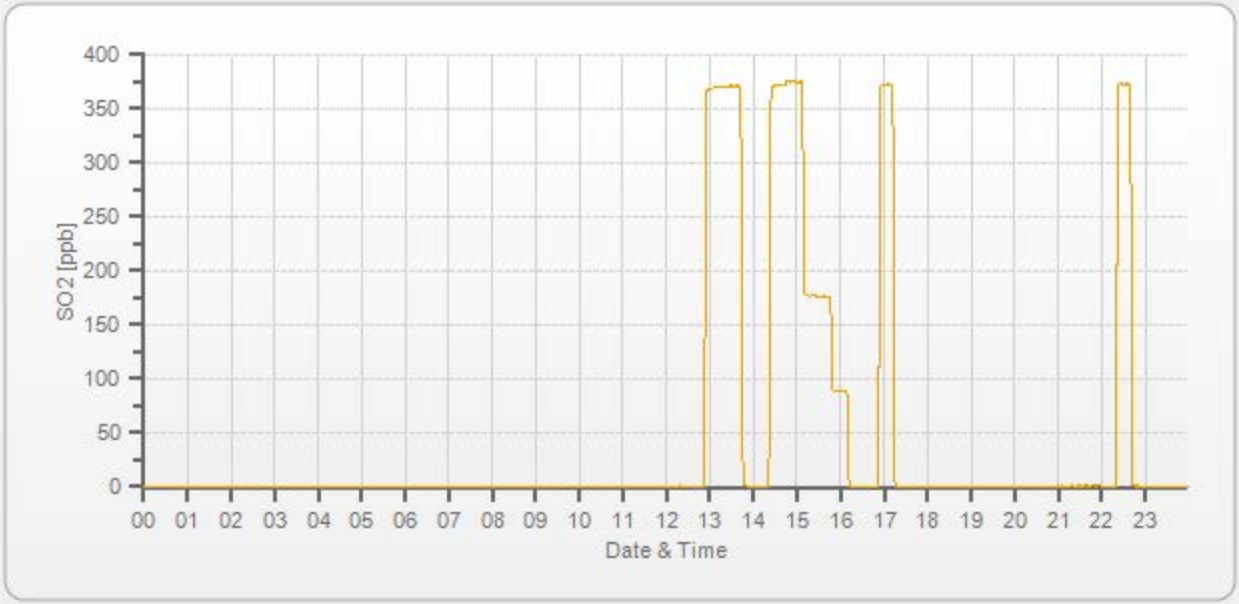
LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.000	-0.1%

COMMENTS:

Sample inlet filter was changed.

SO2[ppb] Station: St. Lina Daily: 10-09-2023 Type: AVG 1 Min. [1 Min.]



H2S Analyzer Calibration by Dilution

DATE:	10-Sep-2023	PREVIOUS CALIBRATION DATE:	12-Aug-2023
PARAMETER:	H2S	PREVIOUS CORRECTION FACTOR:	1.005
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	St. Lina	BAROMETRIC (mBar):	927
PURPOSE	Routine	START TIME (MST):	12:08
PERFORMED BY:	Alex Yakupov	END TIME (MST):	17:17

ANALYZER:

MAKE/MODEL	Teledyne T100	RANGE	100 ppb
SERIAL #	1014	FLOW (mL/min)	521
INITIAL		FINAL	
BKG/OFFSET	12.6	BKG/OFFSET	12.6
COEF/SLOPE	1.004	COEF/SLOPE	1.035
Expected (reference) Value	75.7	Expected (reference) Value	85.3

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010 D	MODEL:	T701
ID:	11900613	ID:	132
MFC CALIBRATION DATE:	12-Apr-2023	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	EY 0002287	HIGH ID	n/a
CONC (ppm):	10.10	EXPIRY DATE	n/a
CYLINDER (psi):	400	LOW ID	n/a
EXPIRY DATE	14-Sep-2024	EXPIRY DATE	n/a

CALIBRATION PARAMETERS:

POINT	HIGH	MID	LOW
TARGET	78	38	19
RANGE	60 - 80	30 - 40	10 - 20

SCRUBBER CHECK (15 MINS; TRS/H2S ONLY):

START TIME:	12:12	SO2 Conc (ppb)	380
END TIME:	12:27	Analyzer Response (ppb)	0.0

CALIBRATION:

FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
			ACTUAL	INDICATED		Initial	Final
DILUENT	GAS	TOTAL		Initial	Final		
7500		7500	0.00	-0.1	0		
7442	57.90	7500	77.97	79.1	78	0.984	1.000
7472	28.20	7500	37.98	n/a	37.7	n/a	1.007
7486	14.10	7500	18.99	n/a	18.9	n/a	1.005

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.000	-0.1%

COMMENTS:

Sample inlet filter was changed.

H2S[ppb] Station: St. Lina Daily: 10-09-2023 Type: AVG 1 Min. [1 Min.]

NOx Calibration by Dilution/Gas-Phase Titration

CALIBRATION:

DATE:	10-Sep-2023	PREVIOUS CALIBRATION DATE:	12-Aug-2023
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	St. Lina	BAROMETRIC (mBar):	927
PURPOSE	Routine	START TIME (MST):	12:12
PERFORMED BY:	Alex Yakupov	END TIME (MST):	18:40

ANALYZER:

MAKE/MODEL:	Thermo 42i	PREVIOUS CF.	
SERIAL #:	1180930029	NOx	1.005
FLOW (mL/min)	820	NO	1.004
RANGE (ppb)	500	NO2	1.000
GPT FOR O3?		No	

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:		CALIBRATION GAS:			FLOWMETERS (if applicable):	
MAKE:	SABIO	MAKE:	Teledyne	CYLINDER ID:	LL 127895		HIGH ID:	n/a
MODEL:	2010	MODEL:	T701	NO/NOx (PPM):	51.1	51.6	HIGH EXPIRY:	n/a
ID:	17100415	ID:	132	CYLINDER (psi):	1000		LOW ID:	n/a
MFC CALIBRATION DATE:	12-Apr-2023	OXIDIZER ID:	n/a	EXPIRY DATE	27-Oct-2030		LOW EXPIRY:	n/a

CALIBRATION SETTINGS:

INITIAL	NOx	NO	NO2	FINAL	NOx	NO	NO2
BKG/OFFSET:	4.5	4.2	n/a	BKG/OFFSET:	4.5	4.4	n/a
SLOPE/COEF/CE:	1.009	0.895	1	SLOPE/COEF/CE:	1.009	0.894	1

EXPECTED (REFERENCE) VALUE:

INITIAL	NOx	NO	NO2	FINAL	NOx	NO	NO2
	209.0	1.8	208.0		240.6	1.7	238.9

CALIBRATION PARAMETERS:

POINT	NO TARGET (PPB)	NO2 TARGET (PPB)	NO2 RANGE	O3 POINT
HIGH	380	250	230-265	n/a
MID	180	125	115-150	n/a
LOW	90	45	40-55	n/a
EXTRA 1	n/a	n/a	n/a	n/a

NO/NOx CALIBRATION:

FLOW RATE (mL/min)			CONCENTRATION (ppb)									CORRECTION FACTOR (CF.)					
			CALCULATED			INITIAL INDICATED			FINAL INDICATED			INITIAL			FINAL		
DILUENT	GAS	TOTAL	NO	NOx	NO2	NO	NOx	NO2	NO	NOx	NO2	NO	NOx	NO2	NO	NOx	NO2
5000		5000	0.0	0.0	0.0	0.2	0.1	-0.1	0.0	0.0	0.0						
4961	37.20	4998	380.3	384.1	3.7	380.3	384.0	3.7	380.4	384.1	3.7	1.001	1.000		1.000	1.000	
4982	17.60	5000	179.9	181.6	1.8	n/a	n/a	n/a	180.5	182.2	1.7	n/a	n/a		0.997	0.997	
4990	8.80	4999	90.0	90.8	0.9	n/a	n/a	n/a	90.1	91.0	0.9	n/a	n/a		0.998	0.998	

GPT CALIBRATION:

Point	CALIBRATOR			INDICATED (ppb)			NO DROP / O3 Conc (ppb)	NO2 GAIN (ppb)	NO2 Corr. FACTOR	CONV. EFFICIENCY
	GAS	TOTAL	O3 SETPOINT	NO	NOx	NO2				
REFERENCE	37.20	4998	0	380.8	384.3	3.5				
AS-FOUND HIGH	37.20	4998	240	128.8	383.8	255.4	252	251.9	1.000	99.96%
ADJUSTED HIGH	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**n/a**	**n/a**	n/a
MID	37.20	4998	125	261.3	384.4	123.1	119.5	119.6	0.999	100.08%
LOW	37.20	4998	45	333.5	384.7	51.2	47.3	47.7	0.992	100.85%
NO2 adjustment not required.									AVERAGE:	100.30%

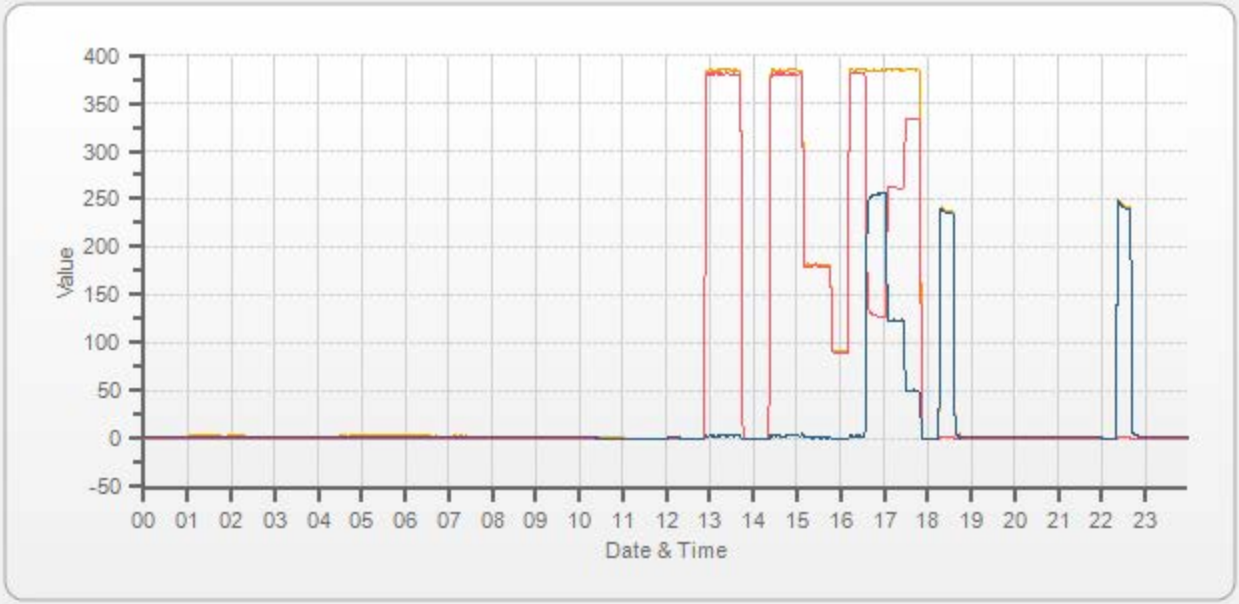
LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
NO	1.000	1.000	0.04%
NOx	1.000	1.000	0.04%
NO2	1.000	0.998	0.09%

COMMENTS:

Sample inlet filter was changed.

Station: St. Lina Daily: 10-09-2023 Type: AVG 1 Min. [1 Min.]



Ozone Calibration by Photometer (Varying UV Lamp)

DATE:	11-Sep-2023	PREVIOUS CALIBRATION DATE:	13-Aug-2023
PARAMETER:	O3	PREVIOUS CORRECTION FACTOR:	1.000
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	St. Lina	BAROMETRIC (mBar):	922
PURPOSE	Routine	START TIME (MST):	10:42
PERFORMED BY:	Alex Yakupov	END TIME (MST):	14:44

ANALYZER:

MAKE/MODEL	Thermo 49iQ	RANGE	500 ppb
SERIAL #	12208316586	FLOW (mL/min)	1.32
INITIAL		FINAL	
BKG/OFFSET	0.4	BKG/OFFSET	0.4
COEF/SLOPE	1.023	COEF/SLOPE	1.017
Expected (reference) Value	257	Expected (reference) Value	254

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010 D	MODEL:	T701
ID:	11900613	ID:	132
MFC CALIBRATION DATE:	12-Apr-2023	OXIDIZER ID:	n/a
CALIBRATION METHOD:		Photometer (Varying UV Lamp)	
GPT DATE:	n/a	GPT END TIME:	n/a

CALIBRATION PARAMETERS:

POINT	HIGH	MID	LOW
RANGE	300 - 400	150 - 200	50 - 100

CALIBRATION:

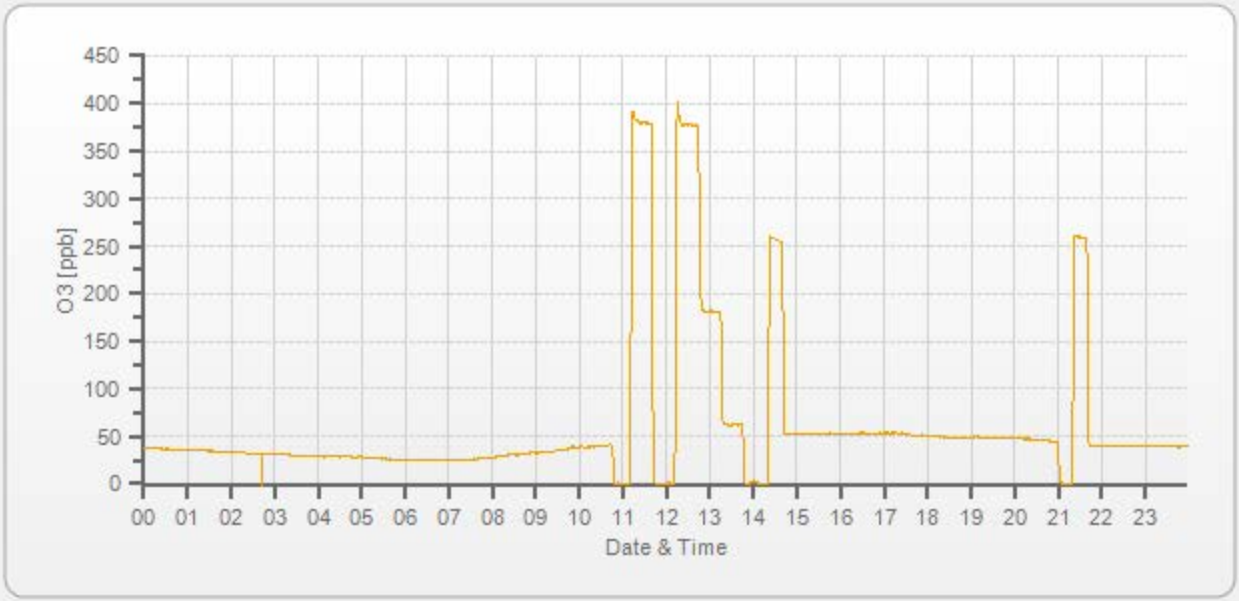
FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
			ACTUAL	INDICATED		Initial	Final
DILUENT	GAS	TOTAL		Initial	Final		
5000		5000	0.0	-0.3	0.0		
5000		5000	378.0	379.1	376.3	0.996	1.005
5000		5000	180.0	n/a	180.2	n/a	0.999
5000		5000	61.0	n/a	61.7	n/a	0.989

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	0.995	0.1%

COMMENTS:

Sampe inlet filter was changed.


O3[ppb] Station: St. Lina Daily: 11-09-2023 Type: AVG 1 Min. [1 Min.]
O3 [ppb]
450
400
350
300
250
200
150
100
50
0
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23
Date & Time
O3 [ppb]

Methane/Non-Methane Analyzer Calibration by Dilution

CALIBRATION:

DATE:	11-Sep-2023	PREVIOUS CALIBRATION DATE:	26-Aug-2023
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	St. Lina	BAROMETRIC (mBar):	922
PURPOSE	Routine	START TIME (MST):	10:43
PERFORMED BY:	Alex Yakupov	END TIME (MST):	14:44

ANALYZER:

VALUE	MAKE/MODEL	SERIAL	FLOW (mL/min)
	Thermo 55i	1236656107	1180
PARAMETER:	CH4	NMHC	THC
RANGE (ppm):	20	20	40
PREVIOUS CF:	0.997	1.001	0.999

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:		CALIBRATION GAS:			FLOWMETERS (if applicable):	
MAKE:	SABIO	MAKE:	Teledyne	CYLINDER ID:	LL 23593		HIGH ID:	n/a
MODEL:	2010	MODEL:	T701	CH_4/C_3H_8 (ppm):	603.0	204.0	HIGH EXPIRY:	n/a
ID:	17100415	ID:	132	CYLINDER (psi):	1000		LOW ID:	n/a
MFC CALIBRATION DATE:	12-Apr-2023	OXIDIZER ID:	115	EXPIRY DATE	18-Aug-2029		LOW EXPIRY:	n/a

CALIBRATION PARAMETERS:

POINT (CH4/NMHC)	HIGH	MID	LOW	CH4 EQUIVILANCE	
TARGET	14	7	3.5	C_3H_8 as CH_4	561.0
RANGE	12 - 16	6 - 8	2 - 4	THC as CH_4	1164.0

EXPECTED (REFERENCE) VALUE:

INITIAL	CH4	NMHC	THC	FINAL	CH4	NMHC	THC
	10.13	11.49	21.62		9.87	11.47	21.34

CALIBRATION:

FLOW RATE (mL/min)			CONCENTRATION (PPM)									CORRECTION FACTOR (CF.)					
			CALCULATED			INITIAL INDICATED			FINAL INDICATED			INITIAL			FINAL		
DILUENT	GAS	TOTAL	CH4	NMHC	THC	CH4	NMHC	THC	CH4	NMHC	THC	CH4	NMHC	THC	CH4	NMHC	THC
3100		3100	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
3025	74.60	3100	14.51	13.50	28.01	14.04	13.99	28.02	14.47	13.49	27.96	1.034	0.965	1.000	1.003	1.001	1.002
3063	37.30	3100	7.26	6.75	14.01	n/a	n/a	n/a	7.29	6.74	14.03	n/a	n/a	n/a	0.995	1.001	0.998
3081	18.60	3100	3.62	3.37	6.98	n/a	n/a	n/a	3.67	3.40	7.07	n/a	n/a	n/a	0.986	0.990	0.988

LINEAR REGRESSION ANALYSIS:

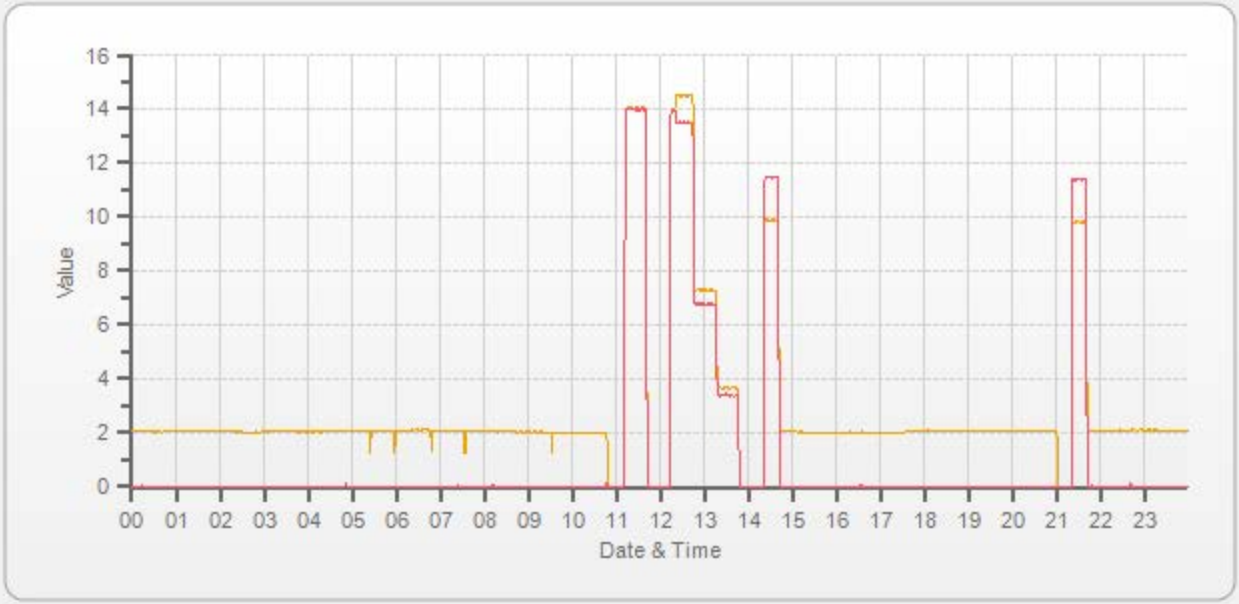
	CORRELATION	SLOPE	INTERCEPT
CH4	1.000	0.996	0.2%
NMHC	1.000	0.998	0.1%
THC	1.000	0.997	0.1%

Comments:

Sample inlet filter was changed. New Span and N2 gas cylinders were connected.

Use Zero Chrom? **Yes**

Station: St. Lina Daily: 11-09-2023 Type: AVG 1 Min. [1 Min.]



Thermo 5030i SHARP Monitor Monthly Check

Date:	September 26, 2023	**Performed By/Reviewer:**	Alex Yakupov / Chris Wesson
Company:	LICA	**Start Time (mst):**	17:17
Station Name/Location:	St. Lina	**End Time (mst):**	18:20
Previous Audit Date:	August 13, 2023	**Calibration Purpose:**	routine monthly
Parameter:	PM 2.5	**Weather Conditions:**	A few clouds

SHARP 5030i Information and Status:

Serial Number: CM 17091001 **Filter Tape Counter** 335

Reference Standards:

	Air Flow			
	Manometer	**Orifice**	**Pressure:**	**Temp / RH:**
Make:	Dwyer	Chinook	Fisher	Vaisala HMP76B
Model:	475-1 Mark III	FTS	FB61291	HMP 76B
Serial Number:	2	91001	130168457	T1640130
Calibration Expiration Date:	November 25, 2023	November 3, 2023	March 20, 2024	June 26, 2024

Ambient Temperature (°C)

	Reference	**SHARP**	**Difference**
#1	19.50	19.1	0.4

Range	Action
< ± 2°C	OK
2-3 °C	Recalibrate
> 3°C	*Fail*

Ambient Relative Humidity (%RH)

As Found:

	Reference	**SHARP**	**Difference**
#1	46.90	48.7	-1.8

Range	Action
< ± 2 %RH	OK
2-5 %RH	Recalibrate
> 5 %RH	*Fail*

Barometric Pressure (mmHg)

As Found:

	Reference	**SHARP**	**Difference**
#1	694.0	694.0	0.0

Range	Action
< ± 10 mmHg	OK
10-12 mmHg	Recalibrate
> 12 mmHg	*Fail*

Flow Audit (L/min)

As Found:

	Reference	**SHARP**
#1	16.75	16.67
#2	16.75	16.66
#3	16.75	16.67
Average	16.75	16.67

% Difference -0.50%

Range	Action
< ± 4%	OK
4-5%	Recalibrate
>5%	*Fail*

Leak Check (L/min)

	Without Leak Check Adapter			**With leak Check Adapter**		
	Reference	**SHARP**	**Difference**	**Reference**	**SHARP**	**Difference**
#1	16.75	16.67	0.08	16.68	16.64	0.04
					LEAK RATE:	**-0.04**

Leak Limit: 0.80 L/min

Meteorological System Checklist

Date:	September 11, 2023		
Technician:	Alex Yakupov / Audit time: 15:01 - 15:47		
Reviewer:	Chris Wesson		
Station:	St. Lina		
Unit:	**Make:**	**Model:**	**Serial #:**
Temperature Sensor:	Rotronic	HC2-S3	20404750
Barometric Pressure Sensor:	Met One	O90D	F4498
Relative Humidity Sensor:	Rotronic	HC2-S3	20404750
Anemometer:	RM Young	05305VK	161466

PRECIPITATION SENSOR CHECK

Checklist:	**Reply:**	**Comments:**
Is the sensor Level?	yes	
Is the heater operating properly?	yes	
Are the bucket drain holes clean?	yes	
Is the screen on the housing? (screen should be on between July and September	yes	15:07 - 15:14 - tests with water (1.0 mm for water)
Is the housing clean?	yes	No issues. Response is timely and accurate.
Is the area around the housing clean and free from obstacles?	yes	

TIP TEST - Slowly pour water until 10 tip are heard. (10 tips = 1 mm)

# of Tips	**Data Logger Response (mm):**	**Manual Specification = +/- 0.2 mm**
10	1.00	TRUE

AMBIENT TEMPERATURE SENSOR CHECK

Parameter:	Temperature @ 2 metres
Reference Thermometer ID:	Vaisala / HM70 / #T1640130, Exp. Date: Jun 26, 2024
Reference Temperature (^{o}C):	23.0
Station - Ambient Temperature (^{o}C):	24.1
Temperature Difference (^{o}C):	1.1

BAROMETRIC PRESSURE SENSOR CHECK

Reference Barometer ID:	Fisher / FB 61291/ #130168457/ Mar 20, 2024	
Reference Pressure - Units/Reading:	millibar	931
Station Pressure - Units/Reading:	millibar	919
Pressure Tolerance +/- 15% of error:	791 - 1071	1.29%

RELATIVE HUMIDITY (HYGROMETER) SENSOR CHECK

Reference Hygrometer ID:	Vaisala / HM70 / #T1640130, Exp. Date: Jun 26, 2024	
Reference Hygrometer % RH- Reading:	30.10	
Station Hygrometer % RH- Reading:	31.80	
RH Tolerance +/- 15% of difference:	25.59 - 34.62	-5.6%

ANEMOMETER - WIND SPEED & WIND DIRECTION SENSOR CHECK

WIND SPEED		WIND DIRECTION	
Previous check date:	August 13, 2023	Previous check date:	August 13, 2023
Wind Speed Observed (kph):	10-20	Wind Direction Observed:	SE
Wind speed on Data Logger (kph):	18.8	Wind Direction on Data Logger:	SE
	Annual audit: Jul 22, 2022	Wind Direction Pass/Fail?:	Pass

Comments

Station (Trailer) temperature vs Reference gauge temperature: 23.4 vs 23.1. Difference: 0.3 degrees. Passed

Meteorological Sensor Audit/Calibration

Location Information

Company:	LICA	**Performed By:**	Alex Yakupov
Audit Location:	St. Lina	**Reviewed By:**	Chris Wesson
Audit Date:	July 22, 2022	**Start/End Time (mst):**	15:07 / 16:23
Calibration Purpose:	routine annual	**Weather Conditions:**	A few clouds

Wind Sensor Information

Sensor ID Data:		**Sensor Outputs:**	
Sensor Make:	RM Young	**Velocity Voltage Output Range:**	0-1
Sensor Model:	05305VK	**Velocity Unit Output Range:**	0-200
Serial #:	161466	**Direction Voltage Output Range:**	0-1
Previous Cal/Audit Date:	March 16, 2021	**Direction Unit Output Range:**	0-360

Wind Calibrator Information

Calibrator I.D. and Expiry Date: Model 18860-90/18802 SN: CA 4744, expires - Aug 6, 2022

Wind Speed Audit Data **+/- 2% of the average correction factor is the limit**

RPM	Wind Speed Generated kph	Clockwise Wind Speed kph	Counter Clockwise Wind Speed kph	Correction Factor
0	0	0.1	0.1	-
1000	18.4	18.5	18.5	0.996
2000	36.9	36.9	37.0	0.998
3000	55.3	55.4	55.5	0.997
4000	73.7	74.1	74.1	0.995
5000	92.2	92.5	92.4	0.997
6000	110.6	111.0	111.0	0.996
7000	129.0	129.4	129.4	0.997
8000	147.4	148.1	148.1	0.996
9000	165.9	166.6	166.6	0.996
10000	184.3	185.1	185.1	0.996
		The audit meets AMD requirements.	**Average Correction Factor=**	**0.996**

Wind Direction Audit Data **+/- 3° of the absolute average degrees difference for all points is the limit**

Generated Wind Direction 0-360 (Up)	Generated Wind Direction 360-0 (Down)	Indicated Wind Direction 0-360 (Up)	Indicated Wind Direction 360-0 (Down)	Degrees Difference 0-360 (Up)	Degrees Difference 360-0 (Down)	Average Absolute Degrees Difference
0	355	0	355	0.4	0.0	0.2
30	330	31	331	-0.6	-0.8	0.7
60	300	62	301	-2.1	-0.6	1.4
90	270	93	270	-2.7	-0.1	1.4
120	240	123	241	-2.9	-1.2	2.1
150	210	152	212	-2.1	-2.1	2.1
180	180	182	183	-2.0	-2.9	2.5
210	150	211	153	-1.2	-2.8	2.0
240	120	241	123	-0.8	-3.1	2.0
270	90	270	93	-0.3	-3.0	1.7
300	60	301	62	-0.8	-2.3	1.6
330	30	331	30	-0.5	-0.4	0.4
355	0	355	1	0.0	0.5	0.3
The audit meets AMD requirements.			**Average Absolute Degrees Difference=**			**1.4**

Comments:

n/a

End of Report

Lakeland Industry & Community Association

SEPTEMBER 2023

Ambient Air Monitoring Calibration Report

- LAC LA BICHE STATION-

CAL-LICA-202309-01690

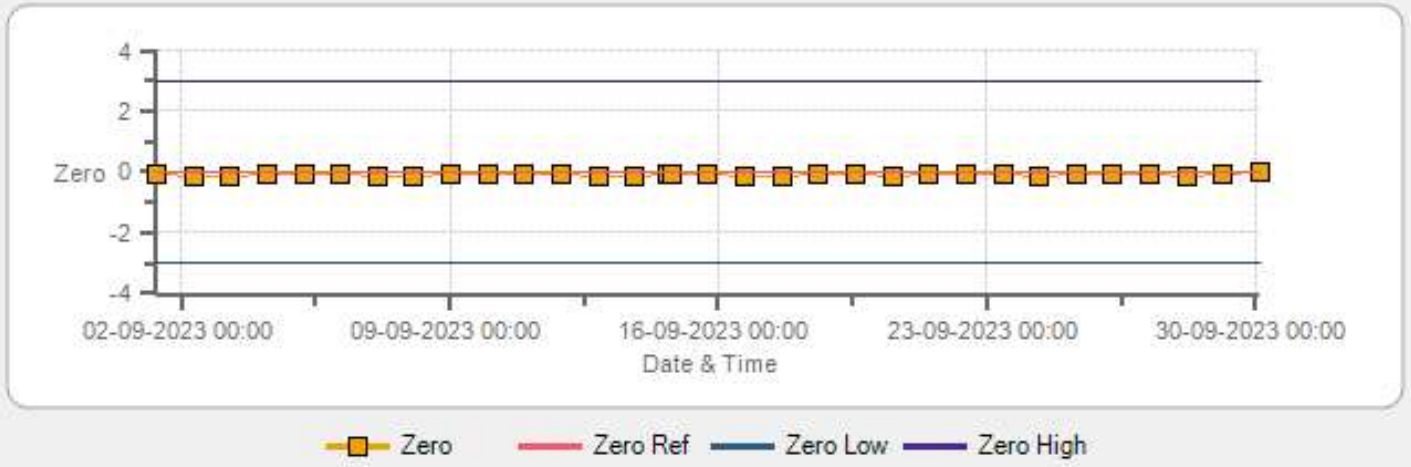
Station Operation and Maintenance:
Bureau Veritas Canada

Data Validation and Report:
LICA / Bureau Veritas Canada

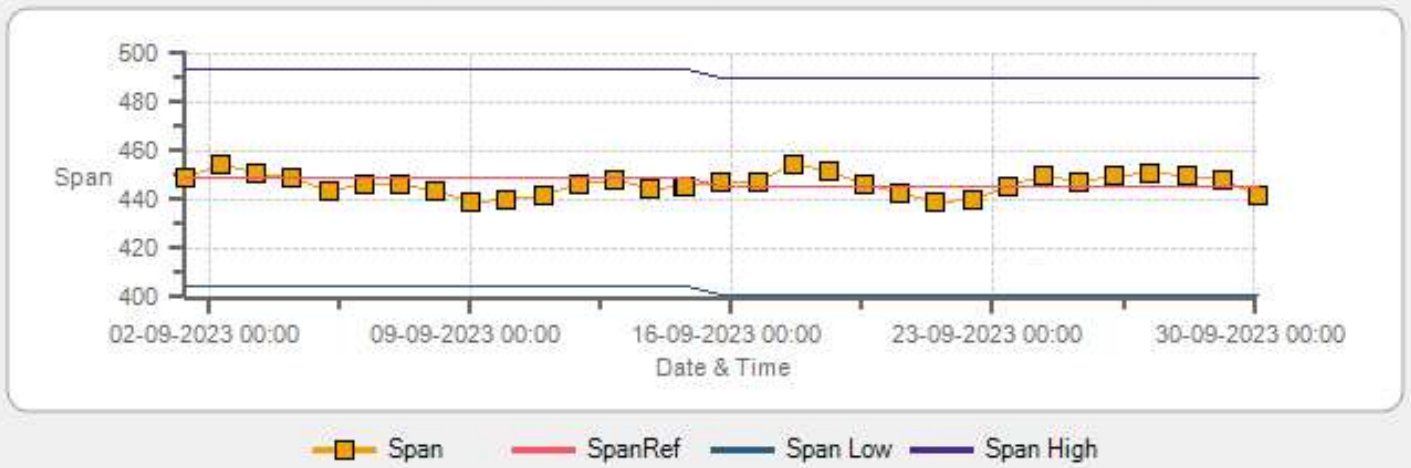
October 17, 2023

DAILY INTERNAL ZERO-SPAN CALIBRATION RECORDS

SO2[ppb] Calibration: Lac La Biche Monthly: 09-2023 Type: SpanAndZero - Zero

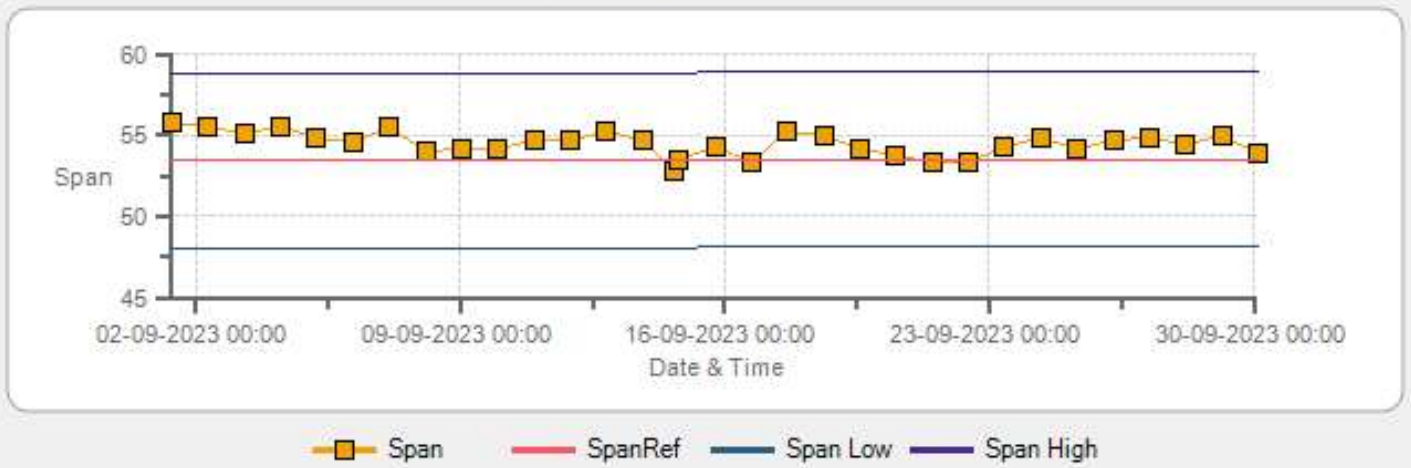


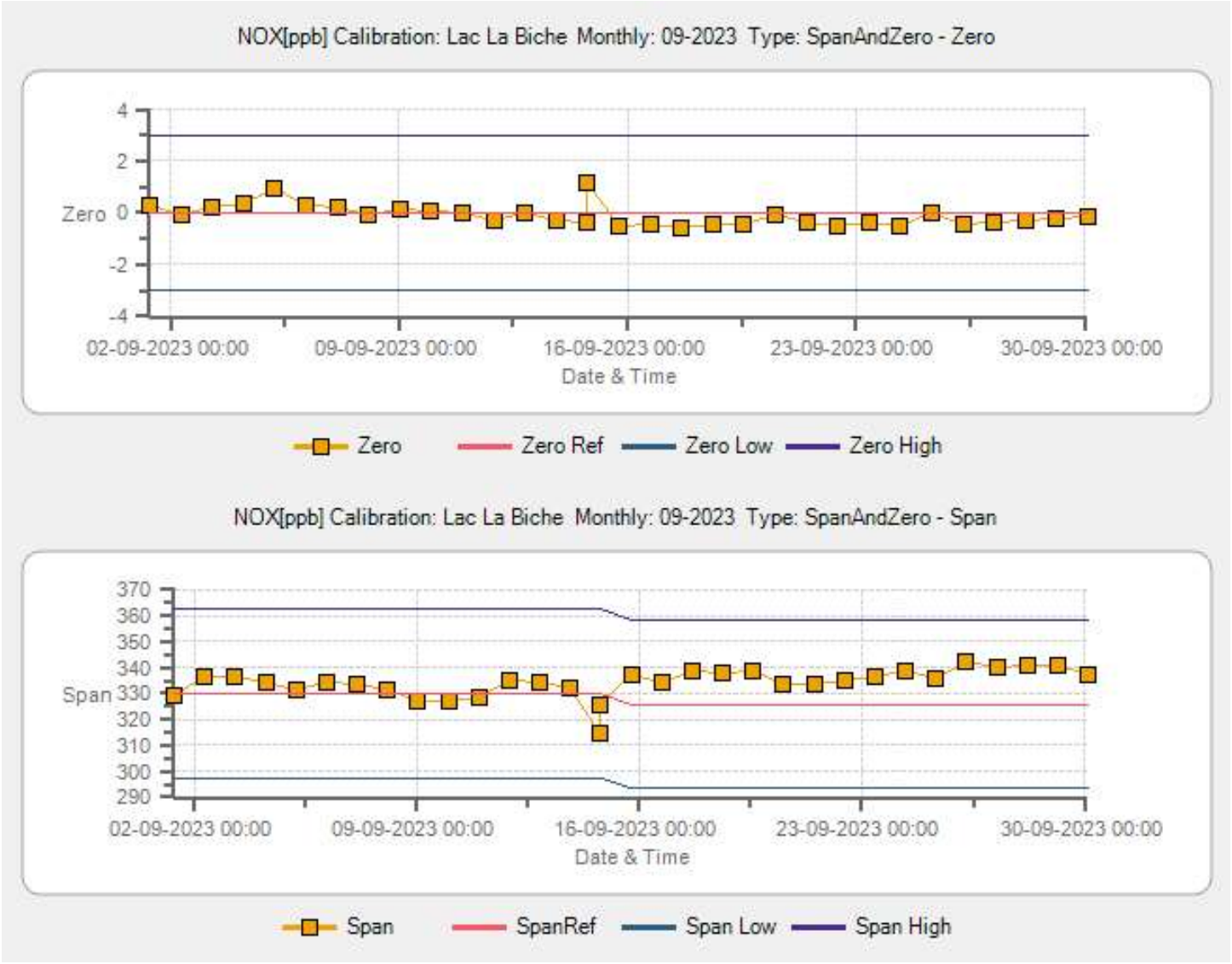
SO2[ppb] Calibration: Lac La Biche Monthly: 09-2023 Type: SpanAndZero - Span



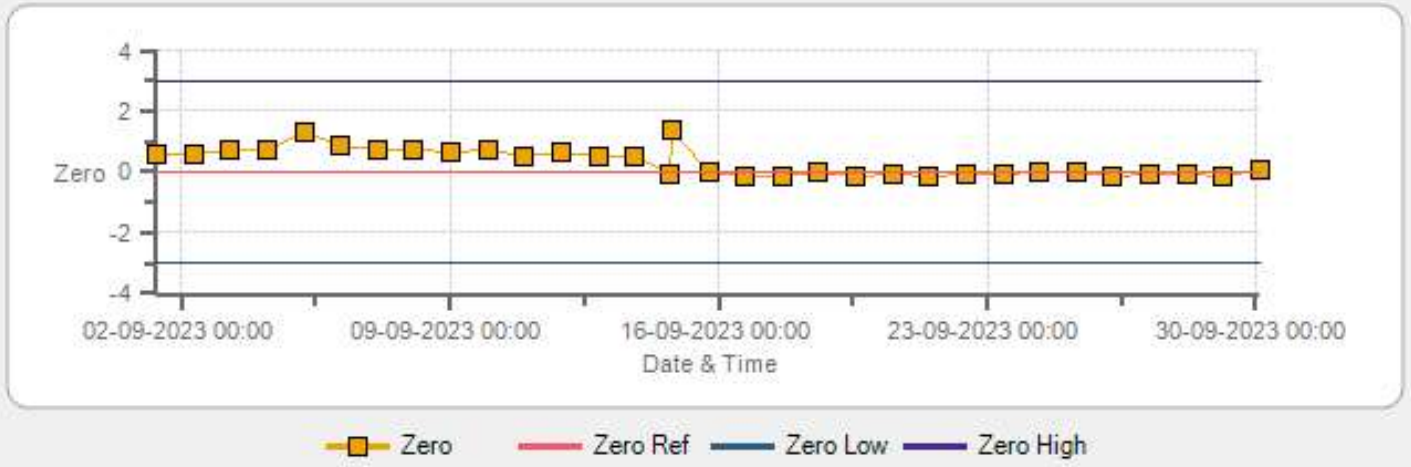
H2S[ppb] Calibration: Lac La Biche Monthly: 09-2023 Type: SpanAndZero - Zero

H2S[ppb] Calibration: Lac La Biche Monthly: 09-2023 Type: SpanAndZero - Span

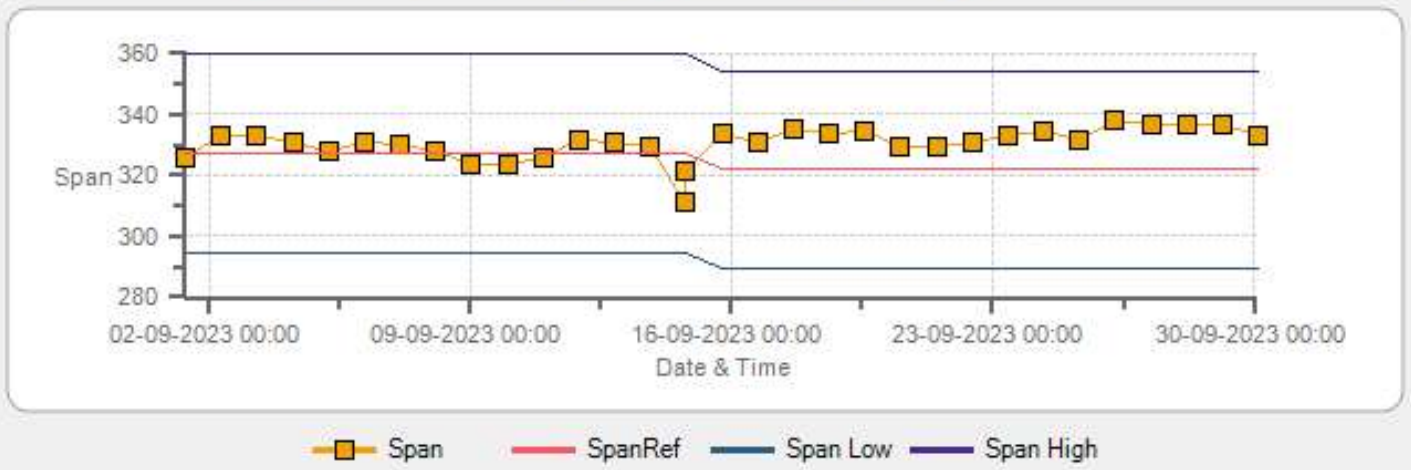


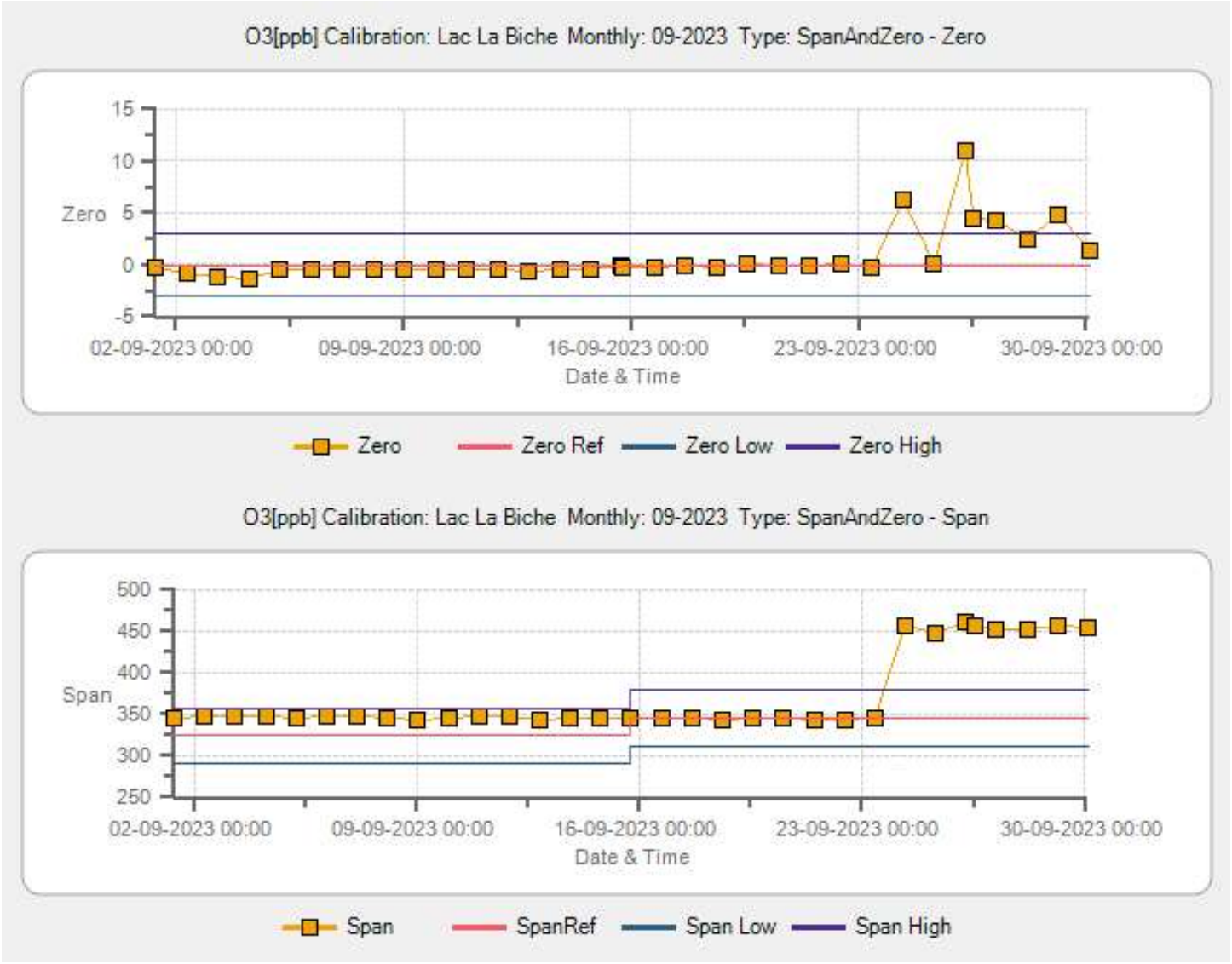

NOX[ppb] Calibration: Lac La Biche Monthly: 09-2023 Type: SpanAndZero - Zero
4
2
Zero 0
-2
-4
02-09-2023 00:00
09-09-2023 00:00
16-09-2023 00:00
23-09-2023 00:00
30-09-2023 00:00
Date & Time
Zero
Zero Ref
Zero Low
Zero High
NOX[ppb] Calibration: Lac La Biche Monthly: 09-2023 Type: SpanAndZero - Span
370
360
350
340
Span 330
320
310
300
290
02-09-2023 00:00
09-09-2023 00:00
16-09-2023 00:00
23-09-2023 00:00
30-09-2023 00:00
Date & Time
Span
SpanRef
Span Low
Span High

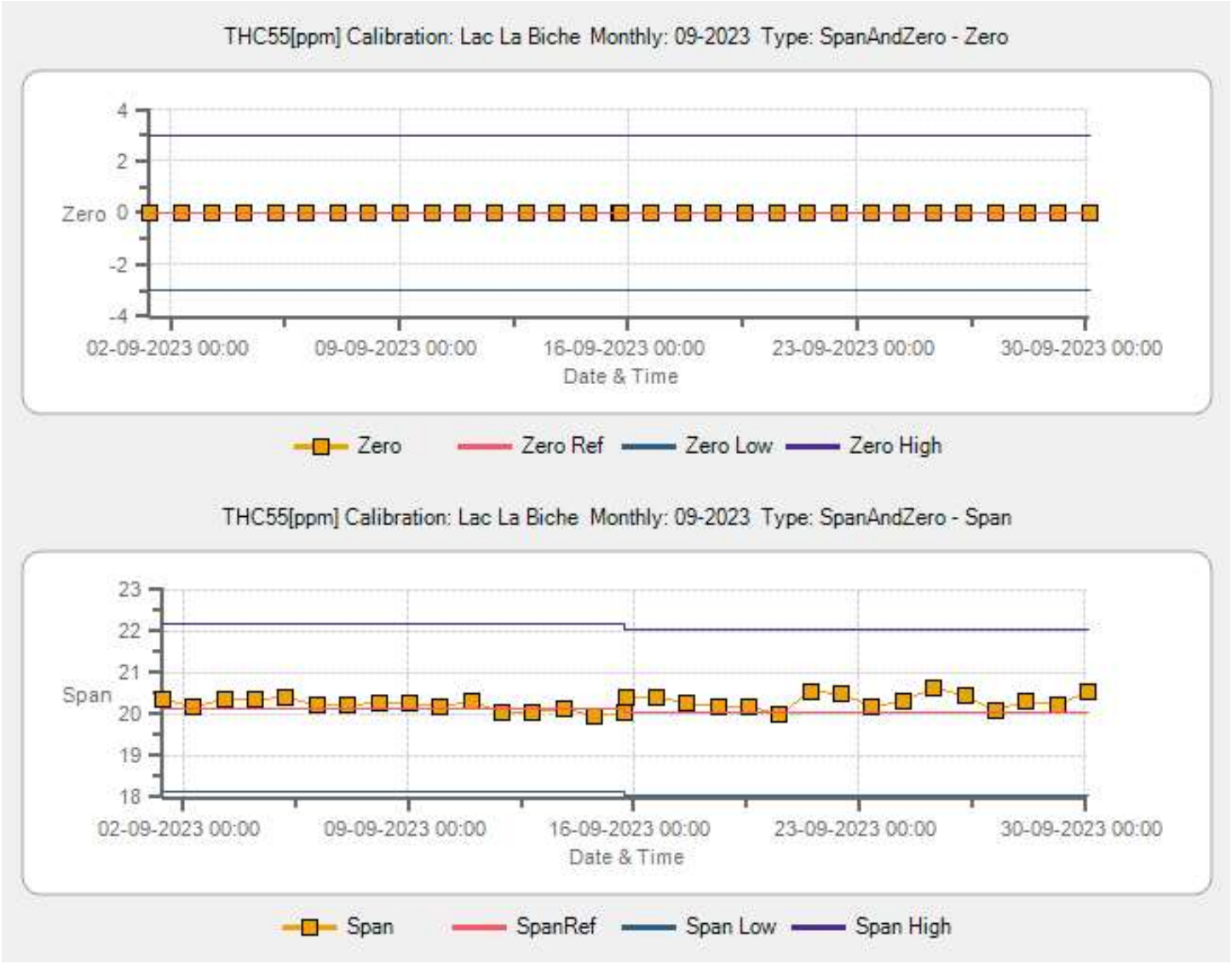
NO2[ppb] Calibration: Lac La Biche Monthly: 09-2023 Type: SpanAndZero - Zero



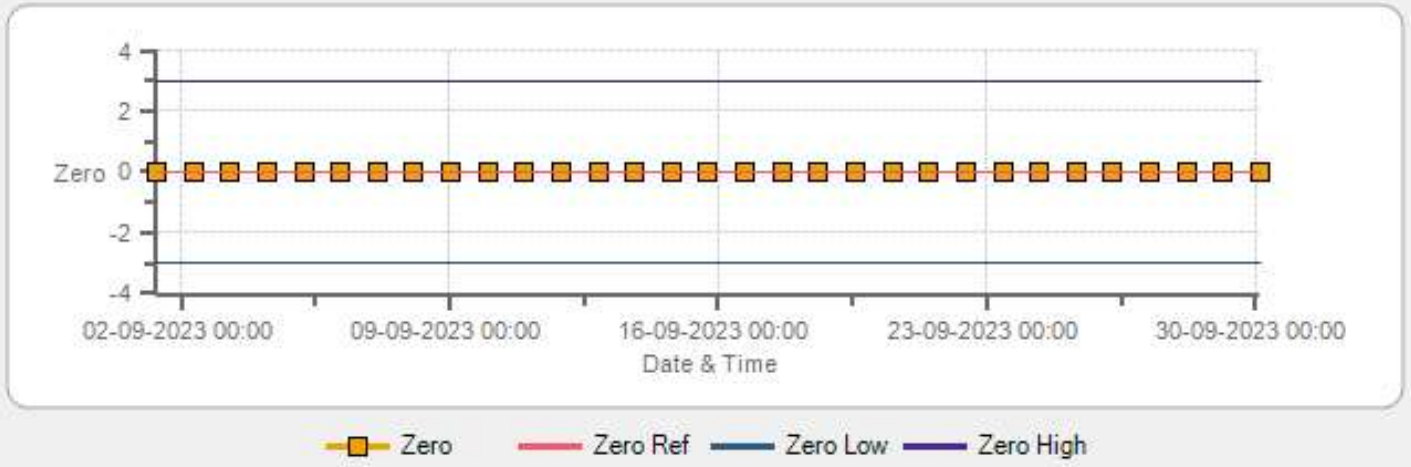
NO2[ppb] Calibration: Lac La Biche Monthly: 09-2023 Type: SpanAndZero - Span




O3[ppb] Calibration: Lac La Biche Monthly: 09-2023 Type: SpanAndZero - Zero
15
10
Zero 5
0
-5
02-09-2023 00:00
09-09-2023 00:00
16-09-2023 00:00
23-09-2023 00:00
30-09-2023 00:00
Date & Time
Zero
Zero Ref
Zero Low
Zero High
O3[ppb] Calibration: Lac La Biche Monthly: 09-2023 Type: SpanAndZero - Span
500
450
400
Span
350
300
250
02-09-2023 00:00
09-09-2023 00:00
16-09-2023 00:00
23-09-2023 00:00
30-09-2023 00:00
Date & Time
Span
SpanRef
Span Low
Span High

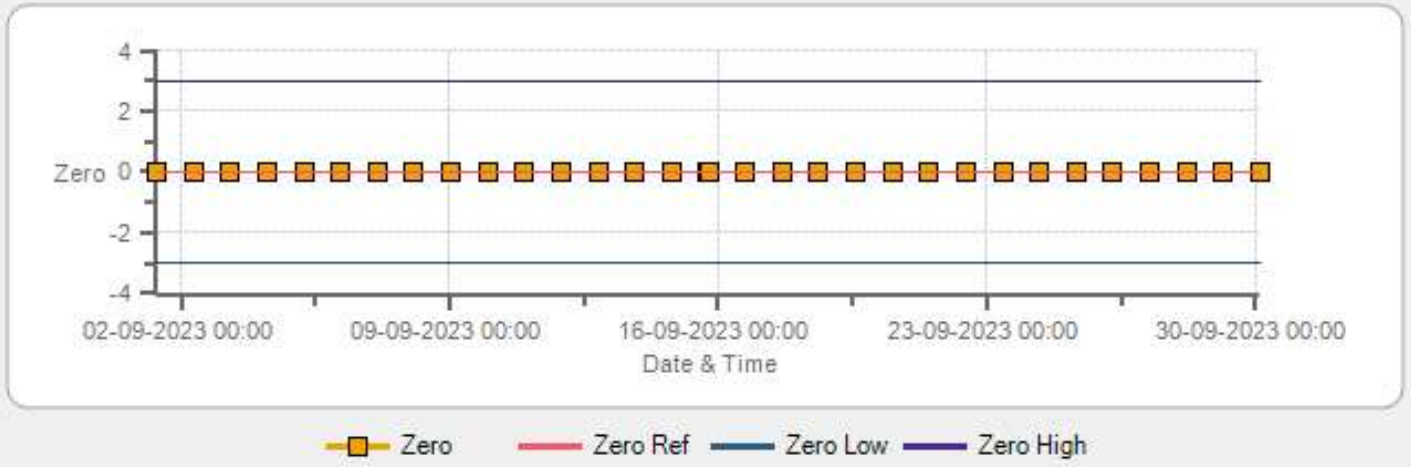

THC55[ppm] Calibration: Lac La Biche Monthly: 09-2023 Type: SpanAndZero - Zero
4
2
Zero 0
-2
-4
02-09-2023 00:00
09-09-2023 00:00
16-09-2023 00:00
23-09-2023 00:00
30-09-2023 00:00
Date & Time
Zero
Zero Ref
Zero Low
Zero High
THC55[ppm] Calibration: Lac La Biche Monthly: 09-2023 Type: SpanAndZero - Span
23
22
21
Span 20
19
18
02-09-2023 00:00
09-09-2023 00:00
16-09-2023 00:00
23-09-2023 00:00
30-09-2023 00:00
Date & Time
Span
SpanRef
Span Low
Span High

CH4[ppm] Calibration: Lac La Biche Monthly: 09-2023 Type: SpanAndZero - Zero

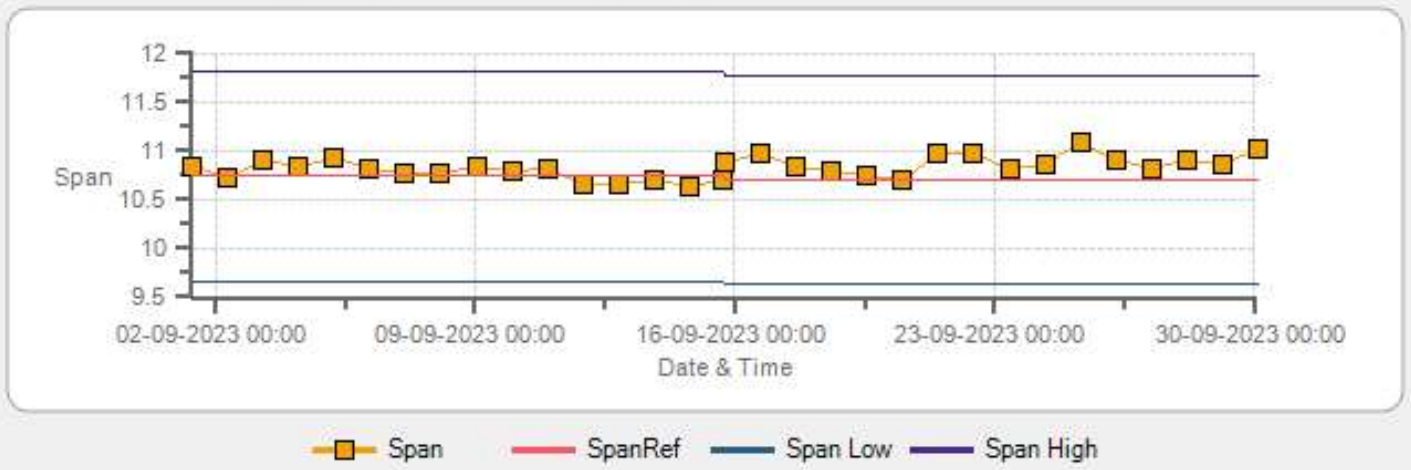


CH4[ppm] Calibration: Lac La Biche Monthly: 09-2023 Type: SpanAndZero - Span

NMHC[ppm] Calibration: Lac La Biche Monthly: 09-2023 Type: SpanAndZero - Zero



NMHC[ppm] Calibration: Lac La Biche Monthly: 09-2023 Type: SpanAndZero - Span



MULTI-POINT CALIBRATION RECORDS

SO2 Analyzer Calibration by Dilution

DATE:	14-Sep-2023	PREVIOUS CALIBRATION DATE:	02-Aug-2023
PARAMETER:	SO2	PREVIOUS CORRECTION FACTOR:	1.002
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	Lac La Biche	BAROMETRIC (mBar):	950
PURPOSE	Routine	START TIME (MST):	11:31
PERFORMED BY:	Alex Yakupov	END TIME (MST):	16:16

ANALYZER:

MAKE/MODEL	Thermo 43I-TLE	RANGE	500 ppb
SERIAL #	1180320043	FLOW (mL/min)	456
INITIAL		FINAL	
BKG/OFFSET	6.88	BKG/OFFSET	6.76
COEF/SLOPE	1.38	COEF/SLOPE	1.396
Expected (reference) Value	449	Expected (reference) Value	445.4

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010	MODEL:	T701
ID:	17100415	ID:	132
MFC CALIBRATION DATE:	12-Apr-2023	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	LL 127895	HIGH ID	n/a
CONC (ppm):	50.40	EXPIRY DATE	n/a
CYLINDER (psi):	1100	LOW ID	n/a
EXPIRY DATE	27-Oct-2030	EXPIRY DATE	n/a

CALIBRATION PARAMETERS:

POINT	HIGH	MID	LOW
TARGET	390	190	95
RANGE	300 - 400	150 - 200	50 - 100

SCRUBBER CHECK (15 MINS; TRS/H2S ONLY):

START TIME:	n/a	SO2 Conc (ppb)	n/a
END TIME:	n/a	Analyzer Response (ppb)	n/a

CALIBRATION:

FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
			ACTUAL	INDICATED		Initial	Final
DILUENT	GAS	TOTAL		Initial	Final		
5000		5000	0.00	-0.11	0		
4961	37.20	4998	375.13	368.05	375.13	1.019	1.000
4982	17.60	5000	177.41	n/a	177.69	n/a	0.998
4990	8.80	4999	88.72	n/a	88.16	n/a	1.006

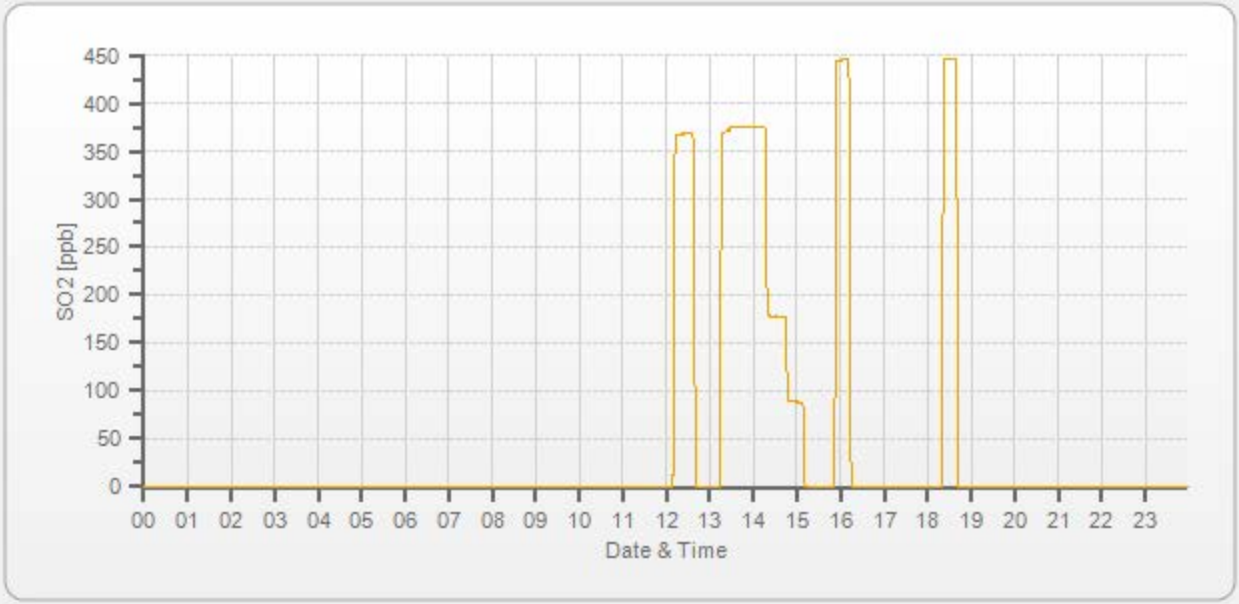
LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.001	0.0%

COMMENTS:

Sample inlet filter was changed.

SO2[ppb] Station: Lac La Biche Daily: 14-09-2023 Type: AVG 1 Min. [1 Min.]



H2S Analyzer Calibration by Dilution

DATE:	14-Sep-2023	PREVIOUS CALIBRATION DATE:	02-Aug-2023
PARAMETER:	H2S	PREVIOUS CORRECTION FACTOR:	0.996
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	Lac La Biche	BAROMETRIC (mBar):	950
PURPOSE	Routine	START TIME (MST):	11:29
PERFORMED BY:	Alex Yakupov	END TIME (MST):	16:16

ANALYZER:

MAKE/MODEL	Thermo 450i	RANGE	100 ppb
SERIAL #	CM17360002	FLOW (mL/min)	929
INITIAL		FINAL	
BKG/OFFSET	82.2	BKG/OFFSET	84.6
COEF/SLOPE	1.003	COEF/SLOPE	1.013
Expected (reference) Value	53.4	Expected (reference) Value	53.5

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010 D	MODEL:	T701
ID:	11900613	ID:	132
MFC CALIBRATION DATE:	12-Apr-2023	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	EY 0002287	HIGH ID	n/a
CONC (ppm):	10.10	EXPIRY DATE	n/a
CYLINDER (psi):	300	LOW ID	n/a
EXPIRY DATE	14-Sep-2024	EXPIRY DATE	n/a

CALIBRATION PARAMETERS:

POINT	HIGH	MID	LOW
TARGET	78	38	19
RANGE	60 - 80	30 - 40	10 - 20

SCRUBBER CHECK (15 MINS; TRS/H2S ONLY):

START TIME:	11:34	SO2 Conc (ppb)	380
END TIME:	11:49	Analyzer Response (ppb)	0.0

CALIBRATION:

FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
			ACTUAL	INDICATED		Initial	Final
DILUENT	GAS	TOTAL		Initial	Final		
7500		7500	0.00	1.4	0		
7442	57.90	7500	77.97	81.1	78.2	0.978	0.997
7472	28.20	7500	37.98	n/a	37.2	n/a	1.021
7486	14.10	7500	18.99	n/a	18.4	n/a	1.032

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.005	-0.4%

COMMENTS:

Sample inlet filter was changed.

H2S[ppb] Station: Lac La Biche Daily: 14-09-2023 Type: AVG 1 Min. [1 Min.]

NOx Calibration by Dilution/Gas-Phase Titration

CALIBRATION:

DATE:	14-Sep-2023	PREVIOUS CALIBRATION DATE:	02-Aug-2023
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	Lac La Biche	BAROMETRIC (mBar):	950
PURPOSE	Routine	START TIME (MST):	11:32
PERFORMED BY:	Alex Yakupov	END TIME (MST):	17:46

ANALYZER:

MAKE/MODEL:	Thermo 42i	PREVIOUS CF.	
SERIAL #:	1180930027	NOx	0.999
FLOW (mL/min)	765	NO	0.999
RANGE (ppb)	500	NO2	0.999
GPT FOR O3?		No	

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:		CALIBRATION GAS:			FLOWMETERS (if applicable):	
MAKE:	SABIO	MAKE:	Teledyne	CYLINDER ID:	LL 127895		HIGH ID:	n/a
MODEL:	2010	MODEL:	T701	NO/NOx (PPM):	51.1	51.6	HIGH EXPIRY:	n/a
ID:	17100415	ID:	132	CYLINDER (psi):	1100		LOW ID:	n/a
MFC CALIBRATION DATE:	12-Apr-2023	OXIDIZER ID:	n/a	EXPIRY DATE	27-Oct-2030		LOW EXPIRY:	n/a

CALIBRATION SETTINGS:

INITIAL	NOx	NO	NO2	FINAL	NOx	NO	NO2
BKG/OFFSET:	8.8	8.7	n/a	BKG/OFFSET:	8.9	8.6	n/a
SLOPE/COEF/CE:	1.008	0.8541	0.998	SLOPE/COEF/CE:	1.007	0.844	0.998

EXPECTED (REFERENCE) VALUE:

INITIAL	NOx	NO	NO2	FINAL	NOx	NO	NO2
	330.0	3.4	327.0		326.0	3.8	322.0

CALIBRATION PARAMETERS:

POINT	NO TARGET (PPB)	NO2 TARGET (PPB)	NO2 RANGE	O3 POINT
HIGH	380	250	230-265	n/a
MID	180	125	115-150	n/a
LOW	90	45	40-55	n/a
EXTRA 1	n/a	n/a	n/a	n/a

NO/NOx CALIBRATION:

FLOW RATE (mL/min)			CONCENTRATION (ppb)									CORRECTION FACTOR (CF.)					
			CALCULATED			INITIAL INDICATED			FINAL INDICATED			INITIAL			FINAL		
DILUENT	GAS	TOTAL	NO	NOx	NO2	NO	NOx	NO2	NO	NOx	NO2	NO	NOx	NO2	NO	NOx	NO2
5000		5000	0.0	0.0	0.0	-0.3	0.1	0.4	0.0	0.0	0.0						
4961	37.20	4998	380.3	384.1	3.7	378.9	383.3	4.4	379.8	384.5	4.6	1.003	1.002		1.001	0.999	
4982	17.60	5000	179.9	181.6	1.8	n/a	n/a	n/a	179.6	180.8	1.3	n/a	n/a		1.002	1.005	
4990	8.80	4999	90.0	90.8	0.9	n/a	n/a	n/a	89.6	89.8	0.2	n/a	n/a		1.004	1.012	

GPT CALIBRATION:

Point	CALIBRATOR			INDICATED (ppb)			NO DROP / O3 Conc (ppb)	NO2 GAIN (ppb)	NO2 Corr. FACTOR	CONV. EFFICIENCY
	GAS	TOTAL	O3 SETPOINT	NO	NOx	NO2				
REFERENCE	37.20	4998	0	381.4	384.2	2.8				
AS-FOUND HIGH	37.20	4998	235	124.6	384.3	259.7	256.8	256.9	1.000	100.04%
ADJUSTED HIGH	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**n/a**	**n/a**	n/a
MID	37.20	4998	110	261.9	386.5	124.6	119.5	121.8	0.981	101.92%
LOW	37.20	4998	40	334.3	386.2	51.9	47.1	49.1	0.959	104.25%
NO2 adjustment not required.									AVERAGE:	102.07%

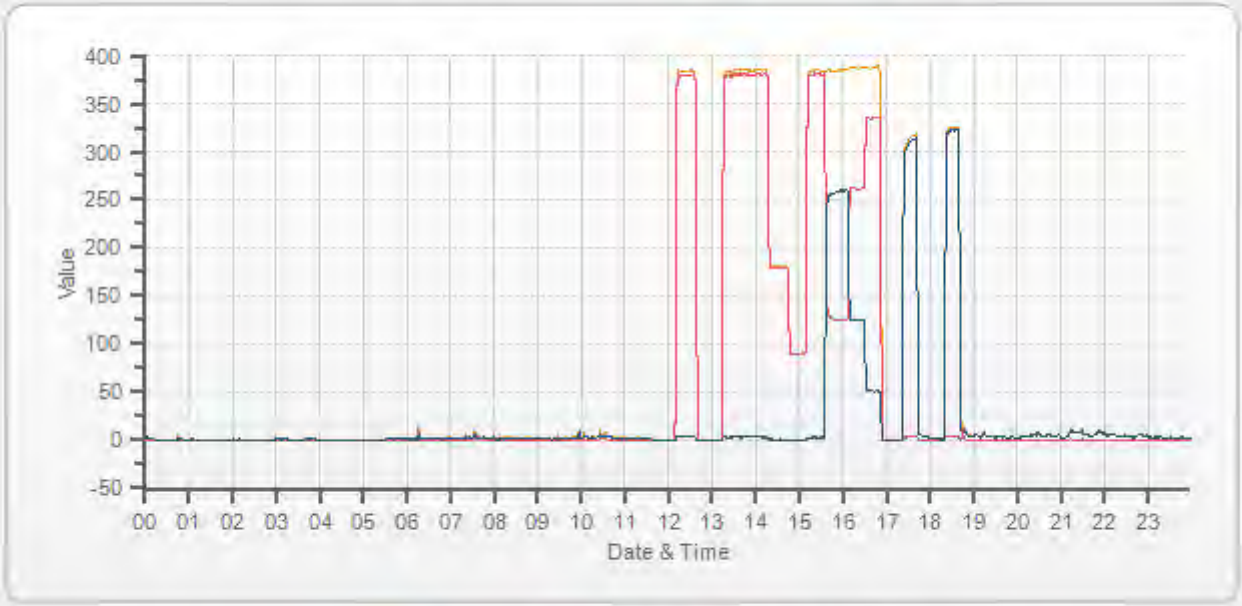
LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
NO	1.000	0.999	-0.02%
NOx	1.000	1.002	-0.14%
NO2	1.000	0.990	0.57%

COMMENTS:

Sample inlet filter was changed.

Station: Lac La Biche Daily: 14-09-2023 Type: AVG 1 Min. [1 Min.]



Ozone Calibration by Photometer (Varying UV Lamp)

DATE:	15-Sep-2023	PREVIOUS CALIBRATION DATE:	03-Aug-2023
PARAMETER:	O3	PREVIOUS CORRECTION FACTOR:	1.003
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	Lac La Biche	BAROMETRIC (mBar):	949
PURPOSE	Routine	START TIME (MST):	12:40
PERFORMED BY:	Alex Yakupov	END TIME (MST):	16:34

ANALYZER:

MAKE/MODEL	Thermo 49i	RANGE	500 ppb
SERIAL #	1002240372	FLOW (mL/min)	1439
INITIAL		FINAL	
BKG/OFFSET	0.2	BKG/OFFSET	0
COEF/SLOPE	1.032	COEF/SLOPE	1.027
Expected (reference) Value	324	Expected (reference) Value	346

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010 D	MODEL:	T701
ID:	11900613	ID:	132
MFC CALIBRATION DATE:	12-Apr-2023	OXIDIZER ID:	n/a
CALIBRATION METHOD:		Photometer (Varying UV Lamp)	
GPT DATE:	n/a	GPT END TIME:	n/a

CALIBRATION PARAMETERS:

POINT	HIGH	MID	LOW
RANGE	300 - 400	150 - 200	50 - 100

CALIBRATION:

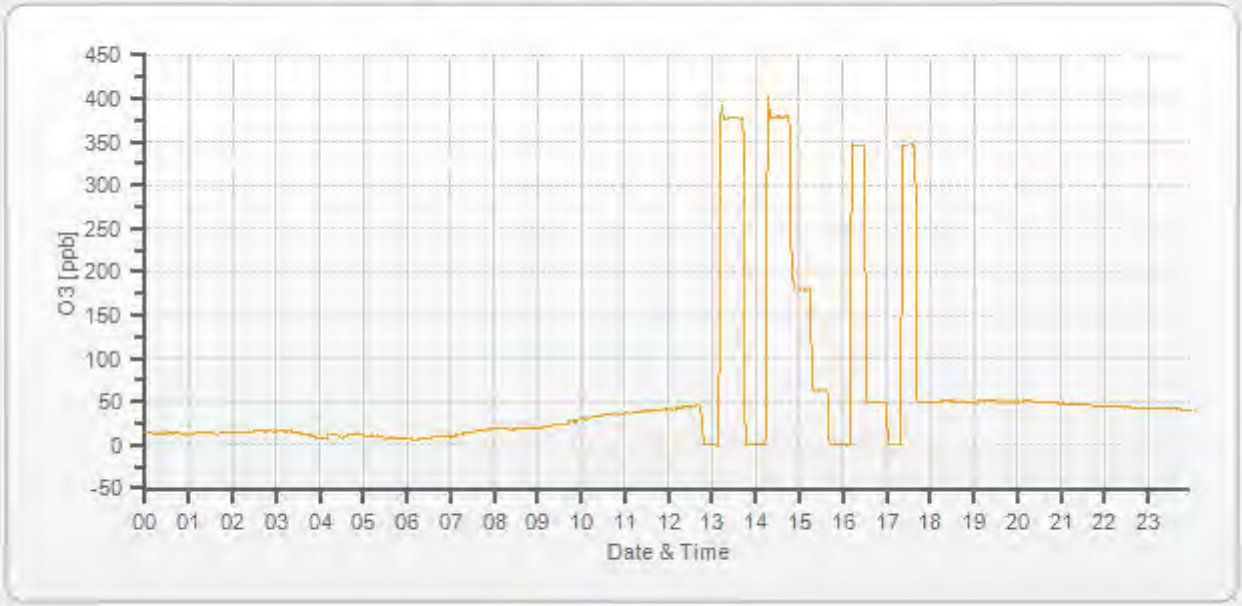
FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
			ACTUAL	INDICATED		Initial	Final
DILUENT	GAS	TOTAL		Initial	Final		
5000		5000	0.0	-0.2	0.0		
5000		5000	378.0	377.8	378.7	1.000	0.998
5000		5000	180.0	n/a	180.5	n/a	0.997
5000		5000	61.0	n/a	61.4	n/a	0.993

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.002	0.0%

COMMENTS:

Sample inlet filter was changed.


O3[ppb] Station: Lac La Biche Daily: 15-09-2023 Type: AVG 1 Min. [1 Min.]
O3 [ppb]
450
400
350
300
250
200
150
100
50
0
-50
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23
Date & Time
O3 [ppb]

Methane/Non-Methane Analyzer Calibration by Dilution

CALIBRATION:

DATE:	15-Sep-2023	PREVIOUS CALIBRATION DATE:	03-Aug-2023
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	Lac La Biche	BAROMETRIC (mBar):	949
PURPOSE	Routine	START TIME (MST):	12:39
PERFORMED BY:	Alex Yakupov	END TIME (MST):	16:34

ANALYZER:

VALUE	MAKE/MODEL	SERIAL	FLOW (mL/min)
	Thermo 55i	1180320044	1018
PARAMETER:	CH4	NMHC	THC
RANGE (ppm):	20	20	40
PREVIOUS CF:	1.001	0.997	0.999

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:		CALIBRATION GAS:			FLOWMETERS (if applicable):	
MAKE:	SABIO	MAKE:	Teledyne	CYLINDER ID:	LL 23593		HIGH ID:	n/a
MODEL:	2010	MODEL:	T701	CH_4/C_3H_8 (ppm):	603.0	204.0	HIGH EXPIRY:	n/a
ID:	17100415	ID:	134	CYLINDER (psi):	1100		LOW ID:	n/a
MFC CALIBRATION DATE:	12-Apr-2023	OXIDIZER ID:	n/a	EXPIRY DATE	18-Aug-2029		LOW EXPIRY:	n/a

CALIBRATION PARAMETERS:

POINT (CH4/NMHC)	HIGH	MID	LOW	CH4 EQUIVILANCE	
TARGET	14	7	3.5	C_3H_8 as CH_4	561.0
RANGE	12 - 16	6 - 8	2 - 4	THC as CH_4	1164.0

EXPECTED (REFERENCE) VALUE:

INITIAL	CH4	NMHC	THC	FINAL	CH4	NMHC	THC
	9.40	10.74	20.15		9.34	10.70	20.04

CALIBRATION:

FLOW RATE (mL/min)			CONCENTRATION (PPM)									CORRECTION FACTOR (CF.)					
			CALCULATED			INITIAL INDICATED			FINAL INDICATED			INITIAL			FINAL		
DILUENT	GAS	TOTAL	CH4	NMHC	THC	CH4	NMHC	THC	CH4	NMHC	THC	CH4	NMHC	THC	CH4	NMHC	THC
3100		3100	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
3025	74.60	3100	14.51	13.50	28.01	14.10	12.98	27.08	14.52	13.54	28.06	1.029	1.040	1.034	0.999	0.997	0.998
3063	37.30	3100	7.26	6.75	14.01	n/a	n/a	n/a	7.23	6.77	13.99	n/a	n/a	n/a	1.004	0.997	1.001
3081	18.60	3100	3.62	3.37	6.98	n/a	n/a	n/a	3.61	3.35	6.97	n/a	n/a	n/a	1.002	1.005	1.002

LINEAR REGRESSION ANALYSIS:

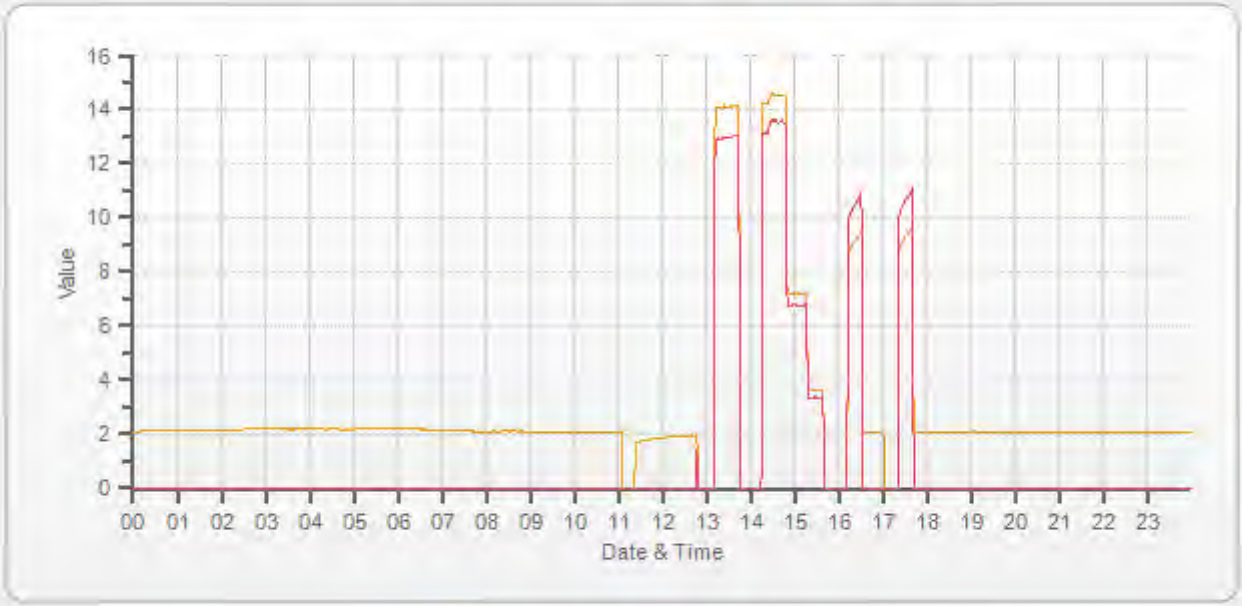
	CORRELATION	SLOPE	INTERCEPT
CH4	1.000	1.001	-0.1%
NMHC	1.000	1.004	-0.1%
THC	1.000	1.002	0.0%

Comments:

Sample inlet filter was changed. H2 generator maintenance was completed before calibration. Desiccant cartridge was renewed.

Use Zero Chrom? **Yes**

Station: Lac La Biche Daily: 15-09-2023 Type: AVG 1 Min. [1 Min.]



Thermo 5030i SHARP Monitor Monthly Check

Date:	September 26, 2023	**Performed By/Reviewer:**	Alex Yakupov / Chris Wesson
Company:	LICA	**Start Time (mst):**	12:35
Station Name/Location:	Lac La Biche	**End Time (mst):**	13:47
Previous Audit Date:	August 3, 2023	**Calibration Purpose:**	routine monthly
Parameter:	PM 2.5	**Weather Conditions:**	A few clouds

SHARP 5030i Information and Status:

Serial Number: CM 17071016 **Filter Tape Counter** 481

Reference Standards:

	Air Flow			
	Manometer	**Orifice**	**Pressure:**	**Temp / RH:**
Make:	Dwyer	Chinook	Fisher Scientific	Vaisala HMP76B
Model:	475-1 Mark III	FTS	FB 61291	HMP 76B
Serial Number:	2	91001	130168457	T1640130
Calibration Expiration Date:	November 25, 2023	November 3, 2023	March 20, 2024	June 26, 2024

Ambient Temperature (°C)

	Reference	SHARP	Difference
#1	20.30	19.3	1.0

Range	Action
< ± 2°C	OK
2-3 °C	Recalibrate
> 3°C	*Fail*

Ambient Relative Humidity (%RH)

As Found:

	Reference	SHARP	Difference
#1	47.30	48.9	-1.6

Range	Action
< ± 2 %RH	OK
2-5 %RH	Recalibrate
> 5 %RH	*Fail*

Barometric Pressure (mmHg)

As Found:

	Reference	SHARP	Difference
#1	702.0	701.9	0.1

Range	Action
< ± 10 mmHg	OK
10-12 mmHg	Recalibrate
> 12 mmHg	*Fail*

Flow Audit (L/min)

As Found:

	Reference	SHARP
#1	16.72	16.67
#2	16.72	16.67
#3	16.72	16.67
Average	16.72	16.67

% Difference -0.30%

Range	Action
< ± 4%	OK
4-5%	Recalibrate
>5%	*Fail*

Leak Check (L/min)

	Without Leak Check Adapter			With leak Check Adapter			
	Reference	**SHARP**	**Difference**	**Reference**	**SHARP**	**Difference**	
#1	16.72	16.67	0.05	16.62	16.67	-0.05	*Leak Limit: 0.80 L/min*
					LEAK RATE:	**-0.10**	

Meteorological System Checklist

Date:	September 15, 2023		
Technician:	Alex Yakupov		
Station:	Lac La Biche		
Unit:	**Make:**	**Model:**	**Serial #:**
Temperature Sensor:	Rotronic	HC2A-S3	20357518
Barometric Pressure Sensor:	MetOne	92	Y23360
Relative Humidity Sensor:	Rotronic	HC2A-S3	20357518
Anemometer:	RM Young	05305VK	56778
AMBIENT TEMPERATURE SENSOR CHECK			
Parameter:	Temperature @ 2 metres		
Reference Thermometer ID:	Vaisala / HM70 / #T1640130/ Jun 26, 2024		
Reference Temperature (°C):	24.8		
Station - Ambient Temperature (°C):	23.1		
Temperature Difference (°C):	1.7		
BAROMETRIC PRESSURE SENSOR CHECK			
Reference Barometer ID:	Fisher Scientific / FB 61291 / #130168457/ Mar 20, 2024		
Reference Pressure - Units/Reading:	millibar	943	
Station Pressure - Units/Reading:	millibar	946	
Pressure Tolerance +/- 15% of error:	802 - 1084	-0.32%	
RELATIVE HUMIDITY (HYGROMETER) SENSOR CHECK			
Reference Hygrometer ID:	Vaisala / HM70 / #T1640130/ Jun 14, 2023		
Reference Hygrometer % RH- Reading:	34.60		
Station Hygrometer % RH- Reading:	30.20		
RH Tolerance +/- 15% of difference:	29.41 - 39.79	12.7%	
ANEMOMETER - WIND SPEED & WIND DIRECTION SENSOR CHECK			
WIND SPEED		WIND DIRECTION	
Previous check date:	August 3, 2023	Previous check date:	August 3, 2023
Wind Speed Observed (kph):	10-20	Wind Direction Observed:	SE
Wind speed on Data Logger (kph):	13.8	Wind Direction on Data Logger:	SE
	Annual audit: Sep 15, 2023	Wind Direction Pass/Fail?:	Pass

Comments

Station (Trailer) temperature vs Reference gauge: 20.1 vs 20.3 - passed.

Meteorological Sensor Audit/Calibration

Location Information

Company:	LICA	**Performed By:**	Alex Yakupov
Audit Location:	Lac La Biche	**Reviewed By:**	Chris Wesson
Audit Date:	May 9, 2022	**Start/End Time (mst):**	17:47/18:45
Calibration Purpose:	installation	**Weather Conditions:**	A few clouds

Wind Sensor Information

Sensor ID Data:		**Sensor Outputs:**	
Sensor Make:	RM Young	**Velocity Voltage Output Range:**	0-1
Sensor Model:	05305VK	**Velocity Unit Output Range:**	0-200
Serial #:	56778	**Direction Voltage Output Range:**	0-1
Previous Cal/Audit Date:	n/a	**Direction Unit Output Range:**	0-360

Wind Calibrator Information

Calibrator I.D. and Expiry Date: RM Young 18802 id# CA 4744 expires August 6, 2022

Wind Speed Audit Data **+/- 2% of the average correction factor is the limit**

RPM	Wind Speed Generated kph	Clockwise Wind Speed kph	Counter Clockwise Wind Speed kph	Correction Factor
0	0	0.1	0.1	-
1000	18.4	18.4	18.4	1.002
2000	36.9	36.9	36.9	0.999
3000	55.3	55.3	55.3	1.000
4000	73.7	73.8	73.8	0.999
5000	92.2	92.2	92.2	0.999
6000	110.6	110.6	110.6	1.000
7000	129.0	129.1	129.1	0.999
8000	147.4	147.5	147.5	1.000
9000	165.9	165.9	166.0	1.000
10000	184.3	184.3	184.4	1.000
		The audit meets AMD requirements.	**Average Correction Factor=**	**1.000**

Wind Direction Audit Data **+/- 3° of the absolute average degrees difference for all points is the limit**

Generated Wind Direction 0-360 (Up)	Generated Wind Direction 360-0 (Down)	Indicated Wind Direction 0-360 (Up)	Indicated Wind Direction 360-0 (Down)	Degrees Difference 0-360 (Up)	Degrees Difference 360-0 (Down)	Average Absolute Degrees Difference
0	355	1	356	1.0	-1.0	1.0
30	330	30	331	-0.4	-1.4	0.9
60	300	61	301	-1.1	-1.2	1.2
90	270	92	272	-2.1	-1.7	1.9
120	240	121	240	-1.4	-0.2	0.8
150	210	152	211	-2.1	-1.3	1.7
180	180	182	181	-2.0	-1.3	1.7
210	150	212	153	-2.1	-2.5	2.3
240	120	241	122	-1.4	-2.3	1.9
270	90	271	92	-1.4	-2.1	1.7
300	60	300	61	-0.1	-1.2	0.7
330	30	330	31	-0.2	-1.2	0.7
355	0	356	1	-1.0	0.6	0.8
The audit meets AMD requirements.			**Average Absolute Degrees Difference=**			**1.3**

Comments:

No issues.

Meteorological Sensor Audit/Calibration

Location Information

Company:	LICA	**Performed By:**	Alex Yakupov
Audit Location:	Lac La Biche	**Reviewed By:**	Chris Wesson
Audit Date:	September 15, 2023	**Start/End Time (mst):**	16:41 / 18:22
Calibration Purpose:	routine annual	**Weather Conditions:**	Mainly sunny

Wind Sensor Information

Sensor ID Data:		**Sensor Outputs:**	
Sensor Make:	RM Young	**Velocity Voltage Output Range:**	0-1
Sensor Model:	05305VK	**Velocity Unit Output Range:**	0-200
Serial #:	56778	**Direction Voltage Output Range:**	0-1
Previous Cal/Audit Date:	May 9, 2022	**Direction Unit Output Range:**	0-360

Wind Calibrator Information

Calibrator I.D. and Expiry Date: RM Young 18802 id# CA 4744 expires October 18, 2024

Wind Speed Audit Data **+/- 2% of the average correction factor is the limit**

RPM	Wind Speed Generated kph	Clockwise Wind Speed kph	Counter Clockwise Wind Speed kph	Correction Factor
0	0	0.1	0.1	-
1000	18.4	18.4	18.4	1.002
2000	36.9	36.9	36.9	0.999
3000	55.3	55.4	55.4	0.998
4000	73.7	73.8	73.8	0.999
5000	92.2	92.2	92.3	0.999
6000	110.6	110.7	110.7	0.999
7000	129.0	129.2	129.2	0.999
8000	147.4	147.7	147.7	0.998
9000	165.9	166.1	166.1	0.999
10000	184.3	184.6	184.6	0.998
		The audit meets AMD requirements.	**Average Correction Factor=**	**0.999**

Wind Direction Audit Data **+/- 3° of the absolute average degrees difference for all points is the limit**

Generated Wind Direction 0-360 (Up)	Generated Wind Direction 360-0 (Down)	Indicated Wind Direction 0-360 (Up)	Indicated Wind Direction 360-0 (Down)	Degrees Difference 0-360 (Up)	Degrees Difference 360-0 (Down)	Average Absolute Degrees Difference
0	355	1	355	1.0	-0.1	0.6
30	330	31	331	-1.4	-0.9	1.1
60	300	63	301	-3.3	-1.1	2.2
90	270	93	272	-3.2	-1.9	2.5
120	240	123	242	-3.4	-2.0	2.7
150	210	154	212	-3.9	-1.6	2.8
180	180	182	183	-2.4	-2.9	2.7
210	150	212	152	-2.3	-2.2	2.3
240	120	242	124	-1.6	-4.1	2.8
270	90	270	94	-0.3	-3.9	2.1
300	60	300	64	0.0	-4.2	2.1
330	30	330	33	0.0	-2.7	1.4
355	0	355	2	-0.1	1.6	0.9
The audit meets AMD requirements.			**Average Absolute Degrees Difference=**			**2.0**

Comments:

No issues.

End of Report

Parameter	Method & Procedure
SULPHUR DIOXIDE (SO_2)	Bureau Veritas EMS SOP-00209: Ambient Sulphur Monitoring
HYDROGEN SULPHIDE (H_2S)	Bureau Veritas EMS SOP-00209: Ambient Sulphur Monitoring
TOTAL HYDROCARBONS (THC), METHANE (CH4), NON-METHANE(NMHC)	Bureau Veritas EMS SOP-00001: Methane, Non-Methane Hydrocarbon Analyzer Monitoring
OXIDES OF NITROGEN (NOx), NITRIC OXIDE (NO) & NITROGEN DIOXIDE (NO_2)	Bureau Veritas EMS SOP-00213: Ambient NO/NO_2/NOx Monitoring
OZONE (O3)	Bureau Veritas EMS SOP-00212: Ambient O3 Monitoring
PARTICULATE MATTER < 2.5 MICRONS ($PM_{2.5}$)	Bureau Veritas EMS SOP-00010: Thermo Model 5030 SHARP Monitor & EMS SOP-00015: Teledyne API PM Monitor Model T640
WIND SPEED (WS) & WIND DIRECTION (WD)	Bureau Veritas EMS SOP-00013: RM Young Wind Monitor Calibration
RELATIVE HUMIDITY (RH)	Operation Manual
BAROMETRIC PRESSURE (BP)	Operation Manual
AMBIENT TEMPERATURE (AmbTPX)	Operation Manual
STATION TEMPERATURE (StnTPX)	Operation Manual
PRECIPITATION	Bureau Veritas EMS SOP-00242: Precipitation Collector Installation / Maintenance